The assessment of the effects of small-scale development proposals on the transport network

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Executive summary

The NZ Transport Agency (the Transport Agency) contracted Trips Database Bureau to research whether the transportation effects of small-scale developments can be identified and whether undertaking an assessment of these effects is warranted.

Purpose and objectives

The purpose of this research project was to investigate whether the transportation effects of small-scale developments should be assessed through a formal transport assessment and if so, would such an exercise be cost effective, pragmatic and provide value for money?

The specific objectives of the research were to:

- Clearly define the term 'small-scale' development and how this relates to the developments which fall below the lower thresholds currently used for assessment.
- Undertake a review of New Zealand and international literature to understand what tools and methods are currently used to assess the effect of small-scale developments and what costs and benefits have been demonstrated through these assessments.
- Investigate existing and emerging network performance management practices and the impact the research might have on them, as well as the impact these practices and tools might have on the research.
- Identify and understand the key drivers behind the need for the assessment of effects of small-scale development on the transportation network.
- Determine if the assessment of the effects of small-scale developments is warranted, and if so develop a set of guidelines to assist in delivering a safe and efficient road network throughout New Zealand.

Assessment

A review of transportation assessment requirements in New Zealand, and overseas, confirms there is no specific definition or classification for 'small-scale developments'. Therefore, in the context of this research, small-scale developments are treated as those that fall under existing thresholds for transport assessments and integrated transport assessments in relation to their size or scale.

The literature review identified many similarities between New Zealand and international assessments of transportation impacts. For instance, the thresholds for transport assessments are typically based on the size of the development and/or the anticipated traffic generation. Smaller sized developments warrant a less extensive transport assessment as their impacts are considered less significant compared with those of a larger sized development of similar land use.

Although the thresholds for transport assessment vary in New Zealand and in other overseas countries, the purposes of assessments are generally consistent. These include ascertaining the operational conditions on the adjacent road network, determining the effects on traffic conditions and safety of the site and subsequently identifying whether transportation improvements or mitigation measures are required to maintain the operational standards.

The key difference in New Zealand compared with overseas is no transport assessment is required for developments that fall under specified thresholds. In the UK, completion of a transport assessment form is

compulsory regardless of the size of the proposed development. The form is used by the statutory authority to identify applications where further information on the transport impacts of the proposal is required, even if the proposal is below the relevant size. The differences could be attributed to the different planning systems or framework and the role of the respective statutory authority in each country or location.

Any requirements for additional assessment of small-scale developments need to be carefully considered. If implemented, the assessment should be done in a way that does not contravene objectives seeking to simplify and reduce the prescriptiveness of development controls. The national planning template is potentially one way a consistent approach towards the requirement and matters for assessment for small-scale developments could be implemented in New Zealand.

The assessment in this report includes an analysis of strengths, weaknesses, opportunities and threats (SWOT). This SWOT analysis, which is based in part on responses received from a range of stakeholders, indicates the assessment of small-scale developments could achieve or at least contribute to achieving better integration between transport and land use planning. However, some stakeholders considered there is already too much regulation, and requiring transport assessments for small-scale developments would increase their costs and lead to further delay. The costs likely to be incurred by consenting authorities and developers are not necessarily going to be proportional to the size of the development and will largely be dependent on the context of the development and the nature of the activity.

Additional considerations are likely to be required when establishing if a small-scale development requires a transport assessment, regardless of the style, size or format of such an assessment. Based on stakeholder and expert feedback, these considerations are expected to include the following:

- Does the development trigger restricted discretionary (or worse) status as a result of non-compliance with regard to the traffic and transportation rules of a district plan?
- Is a safety and/or accessibility assessment required?
- Are heavy vehicles a high proportion of the trips generated by the development?
- What is the status of the surrounding transport network (ie the adjacent road hierarchy) and the sensitivity of the receiving environment (existing level of service)?
- How will the proposed development contribute to and/or impact on safety, efficiency, travel time, accessibility and resilience?

The ‘additional considerations’ outlined above are likely to be helpful when determining whether or not a small-scale development does indeed require a transport assessment. The level of transport effects caused by a land use activity is dependent on the characteristics of the land use and the location of the proposed activity within the transport network. Therefore, the contextual considerations will be the key drivers behind any requirement for assessment, more so than the hypothetical thresholds.

Following the presentation of the research to the Steering Group and subsequent discussions on the merits of developing guidelines for assessing small-scale developments, consensus was reached on a number of points and it was unanimously agreed not to develop prescriptive guidelines for the transportation industry.

Conclusions

The key conclusions arising from this research are as follows:

- Any requirement for assessments should focus on effects/outcomes and therefore be linked to the context rather than establishing thresholds for assessment.
- Any threshold approach will inevitably result in applications just below the threshold to avoid the need for assessment or to minimise costs.
- It is unreasonable to require assessments to be prepared for all small-scale developments at the resource consent stage of the planning process because in many cases the costs would be unwarranted as the assessment could have negligible benefit.
- Network performance expectations concerning whether effects should be considered acceptable are not well articulated or understood.
- The assessment of developments should take the network operating framework into consideration to align with the 'one network' approach, rather than looking at individual sites, routes or modes.
- The likely cost implications of requiring an assessment are significant and include the cost of time delays to developers, the cost of statutory changes including application costs and intangible costs such as those associated with the risk of a development being turned down.

While cumulative effects were not investigated in detail within the scope of this research, they were addressed at a high level and were a recurring theme in discussions with stakeholders. Conclusions addressing cumulative effects are as follows:

- Cumulative effects are most effectively managed at a strategic level in the planning process (ie district plan and plan changes) and not at the application stage. More emphasis should be placed on managing cumulative effects within the planning process and further investigation is recommended to determine how this can be most effectively achieved.
- Cumulative effects are difficult to assess at the resource consent stage. In the absence of clear guidance to manage cumulative effects in the planning process, it is recommended consents could be approved up to the limits specified in the district plan and then no more development should occur or assessments undertaken thereof.

Recommendations

The following recommendations arose from the research:

- Consideration for a transport assessment should be based on the potential effects or outcomes in the context of the individual development rather than adopting assessment thresholds for various land uses.
- Planning authorities and all transport and road controlling authorities are encouraged to consider cumulative effects at a strategic level in the planning process (ie district plan and plan changes).
- Additional work is recommended to establish guidance towards satisfactorily addressing cumulative effects at the appropriate stage in the planning process rather than requiring individual assessment for each development.

Abstract

The national integrated transport assessment guidelines used by practitioners in New Zealand only provide guidance for the assessment of significant sized developments, setting out the approach to be taken with varying assessment levels relative to size. It is becoming increasingly evident there are cases when small-scale developments, which do not trigger the lower thresholds for assessment, are having an effect either individually or cumulatively on the transportation network. In these instances, it may be necessary for the impacts of these small-scale developments to be assessed in an appropriate manner.

This research investigated if and how the potential effects of small-scale developments should be identified and in doing so has provided an opportunity to fully understand if the absence of national guidelines is limiting the opportunity for effective network management and land use planning. Both Auckland and Christchurch have gone through a process of identifying appropriate thresholds that will trigger the need for an integrated transport assessment through a high trip generator rule. This has resulted in extensive discussions amongst practitioners regarding the appropriate extent of assessment based on the size, scale and location of development. This research assists the debate by resolving a number of core issues.

1 Introduction

The NZ Transport Agency ('the Transport Agency') contracted Trips Database Bureau (TDB) to research whether the effects of small-scale developments can be identified and whether undertaking an assessment of these effects is warranted.

Currently in New Zealand there are no definitive guidelines or resources that address whether transport assessments are required to assess the effects (including cumulative effects) of small-scale developments. Existing integrated transport assessment (ITA) guidelines provide methodologies for evaluating the effects of developments that exceed defined thresholds. However, for developments falling below the lower thresholds there is no obligation for the effects to be assessed. These small-scale developments will typically only be assessed if they do not meet specific transport rules of the relevant district plan.

The purpose of this research project was to investigate whether the effects of small-scale developments should be assessed and if so, would such an exercise be cost effective, pragmatic and provide value for money?

The specific objectives of the research were to:

- Clearly define the term 'small-scale' development and how this relates to the developments which fall below the lower thresholds currently used for assessment.
- Undertake a review of New Zealand and international literature to understand what tools and methods are currently used to assess the effect of small-scale developments and what costs and benefits have been demonstrated through these assessments.
- Investigate existing and emerging network performance management practices and the impact the research might have on them, as well as the impact these practices and tools might have on the research.
- Identify and understand the key drivers behind the need for the assessment of effects of small-scale development on the transportation network.
- Determine if the assessment of the effects of small-scale developments is warranted, and if so develop a set of guidelines to assist in delivering a safe and efficient road network throughout New Zealand.

There is an increasing focus on providing and maintaining a road network that operates as effectively, efficiently and safely as possible. This research sought to identify if and how small-scale developments impacted on the ability to provide an effective, efficient and safe road network, and whether an absence of assessment has resulted in a contravention of these objectives.

A 'one network' approach is being taken across the roles and responsibilities of the road controlling authorities (RCAs) to better address the needs of users and provide a more consistent road network while offering improved integration between land use and transport planning. A key aspect of this research was to understand how small-scale developments fitted within this approach and what impact they had on strategic planning and activity management planning.

The research also investigated if the required assessment would impact on the current drive for increased efficiency and effectiveness within local consenting authorities. If guidelines were found to be necessary, then it was vital they were easy to use and the time, costs and effort to assess these small-scale developments reflected their size, nature and often shorter timescales for delivery along with smaller budgets.

Key elements of the research were to determine where the responsibility for evaluating the effects should lie, when the assessment should take place, and whether the assessment should form part of the consenting process or be outside it. Legislative implications were established to ensure any guidelines developed did not contravene the existing legislative requirement of the Resource Management Act 1991 (RMA). Under current legislation, development can essentially occur on a first-come first-served basis, whereby development may be restricted as a result of the effects of previous development. It was vital that any proposed guidelines developed for evaluating the effects of small-scale developments could work effectively within the context of New Zealand's regulatory structure.

This report provides an evidence-based assessment, including consideration of international and national practice, to provide clear guidelines of what is required and how this will align with the existing ITA guidelines and network management practices. The contents of the report are itemised in section 1.3.

1.1 The New Zealand planning context

In New Zealand, a number of statutes govern land use and transport planning. Under 'common law' any public road can be used for access by any permitted or consented land use activity, although there are some exceptions, for example where there are heavy vehicle weight limits, or local/limited access. The principal statutes include the:

- Resource Management Act 1991 (RMA)
- Land Transport Act 1998 (LTA)
- Land Transport Management Act 2003 (LTMA)
- Local Government Act 2002 (LGA)
- Public Transport Management Act 2008
- Government Roading Powers Act 1989.

Of specific relevance to this research is the RMA.

1.1.1 Resource Management Act (RMA)

The purpose of the RMA is 'to promote the sustainable management of natural and physical resources' (s5(1)).

Sustainable management means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing, and for their health and safety while

1 Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations.

2 Safeguarding the life-supporting capacity of air, water, soil and ecosystems.

3 Avoiding, remedying, or mitigating any adverse effects of activities on the environment (s5(2)).

1.1.2 District plans

The purpose of district plans, under s72 of the RMA, is to assist territorial local authorities (TLAs) carry out their functions in order to achieve the purpose of the Act. District plans are concerned with the use and development of land and set out the policies and rules an authority will use to manage the use of land in its area. An activity that does not meet any of the rules is required to obtain consent.

1.1.3 Resource consents

Resource consent activity types are defined in s77A (2) of the RMA and are generally described as:

- permitted activities
- controlled activities
- restricted discretionary activities
- discretionary activities
- non-complying activities
- prohibited activities.

A description for each of the resource consent activity types can be found in s87A of the RMA.

1.1.4 Plan changes and variations

Plan changes and variations relate to changes to the regional and district plans or regional policy statements (RPSs). These may be initiated by the council or through a private plan change and may involve changes to zones, objectives and policies, or zone boundaries (Abley et al 2010). A private plan change is initiated by the proponent of the plan change while district plan variations can only be initiated by councils and are proposed as a change to the plan while it is in the 'proposed' phase. Plan changes are typically written for an unlimited duration unless the rules within the plan change allow for changes over time (Abley et al 2010).

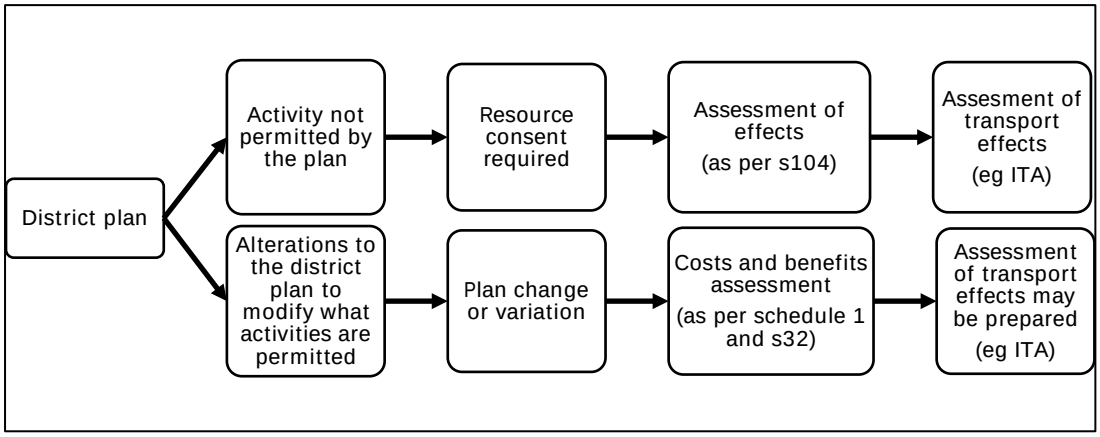
1.1.5 RMA requirement for assessment of transport effects

In terms of a change to a district plan, schedule 1 of the RMA requires an explanation of the purpose of, and reasons for the change, an assessment of the environmental effects anticipated and an evaluation report prepared in accordance with s32. S32 examines the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the Act; and whether the provisions proposed are the most appropriate way to achieve the objectives by identifying other reasonably practicable options for achieving the objectives; and assessing the efficiency and effectiveness of the provisions in achieving the objectives. As part of this assessment there is a requirement to identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions.

For resource consents s104 of the RMA requires, subject to part 2, regard to be had to any actual and potential effects on the environment; any relevant provisions of a national environmental standard, other regulations, a national policy statement, a regional policy statement or a plan; and any other matter considered relevant and reasonably necessary to determine the application.

It is these two processes that typically provide the regulatory trigger for assessing the transport effects of developments. The relationship between these processes is illustrated in figure 1.1.

Figure 1.1 Relationship between district plans and assessment of transportation effects



1.2 Terminology

There is a variety of terminology for transportation effects assessment, including:

- transportation assessment
- integrated transport assessment (ITA)
- traffic and transport assessment (TTA)
- transport impact assessment
- traffic impact assessment
- traffic impact analysis
- traffic report.

This research uses the generic term ‘transport assessment’ to capture all the above terminologies. Where a specific reference to an ITA is included in the report, this refers exclusively to an integrated transport assessment.

1.3 Report structure

The report is organised into chapters as follows:

- Chapter 2: New Zealand literature review
- Chapter 3: International literature review
- Chapter 4: Comparison of New Zealand and overseas practice
- Chapter 5: Stakeholder and expert Interviews
- Chapter 6: Requirements for guidelines
- Chapter 7: Discussion
- Chapter 8: Recommendation
- Chapter 9: References.

2 New Zealand literature review

An initial part of this research was to undertake a review of New Zealand literature and the various transport assessment requirements of TLAs throughout New Zealand. This chapter sets out the:

- varying transport assessment guidelines and requirements from a selection of TLAs including Auckland, Christchurch, Hamilton and Tauranga. These TLAs were chosen as they all provide clear guidance to practitioners
- thresholds set down by the TLAs for each activity type, which trigger the need for transport assessment
- similarities and differences between the approaches taken by TLAs when assessing the impact of developments on the transportation network.
- potential synergies that exist between the objectives of the research and strategic approaches taken by the Transport Agency towards the management and operation of the road network.

2.1 National guidance

2.1.1 Transit New Zealand 2007

Appendix 5C ('Integrated transport assessment') of the *Planning policy manual for integrated planning and development of state highways, version 1* (Transit NZ 2007) is particularly relevant to this literature review. The manual includes the definition and purpose of an ITA. It also provides indicative thresholds for ITAs based on the type of activity and the scale of development.

Although the manual is under review by the Transport Agency at the time of writing this report, additional guidance is provided in the research undertaken by Abley et al (2010) which is discussed in the following section.

2.1.2 NZ Transport Agency 2010

Research undertaken by Abley et al (2010), commissioned by the Transport Agency, provides a methodology for assessing the effects of a development proposal within the context of the New Zealand regulatory structure. The research included a literature review, a series of national practitioner workshops, and a national survey of practitioners' and decision-makers' requirements, to form an understanding of existing practices in other countries and in New Zealand at that time. It also formed the basis for developing national guidelines for undertaking ITAs.

The scope and content for four different levels of ITA were developed as part of this research. The four levels of scope include 'simple', 'moderate', 'broad' and 'extensive'. The definitions for each of these are shown in table 2.1.

Table 2.1 ITA scope definition (from Abley et al 2010)

ITA scope	Geographic	Policy
Simple	Expected to have an effect within the site and at the interface with the transport network	Expected to be compliant with statutory rules
Moderate	Expected to have an effect over a small area or neighbourhood	Expected to align with local policies
Broad	Expected to have an effect over a larger area, e.g. part of or a whole suburb	Expected to align with local and regional policies and objectives
Extensive	Expected to have impacts over a wide area, district or region	Expected to align with regional and national policies, objectives and visions.

Abley et al (2010) describe the content for each ITA as:

- A simple ITA may be modest because generally small proposals will have limited impacts and hence their scope is narrow. A simple ITA would consider impacts such as access, on-site provisions and/or safety issues.
- A moderate ITA will include impacts additional to those of a simple ITA that are related to the adjacent streets, and may include an assessment of the nearest main intersections. A moderate ITA may consider land use characteristics and zoning provision for the area in the district plan. It could include some local site modelling including pedestrian effects, and on-site and off-site vehicular traffic.
- A broad ITA will have increasing impacts beyond those in a moderate ITA. Considerations could be extended to include adjacent blocks, including access from other important traffic generators nearby plus other more seemingly remote network streets and intersections. This could require strategic assessment of the location, evaluation of neighbouring land uses, consideration of a range of travel modes, surveys and more extensive modelling. It may also extend to an assessment of matters such as the degree of effect on other road users or improving traffic facilities, including such matters as changing traffic signal phasing.
- An extensive ITA has the widest consideration of issues, and could include district or larger regional matters. More extensive transportation modelling is likely to be needed. The possible assumptions and associated variables might also be very wide and more complex. This scale of assessment will need to consider district and regional effects in the context of longer-term planning objectives.

Abley et al (2010) do not provide definitive thresholds for when an ITA is required, but do summarise the international range of thresholds related to the scale of different land uses. The report also provides guidance on the scope of an ITA based on geographic and policy considerations.

Abley et al (2010) acknowledge that the boundary of assessment will depend on the sensitivity of the adjacent road network to changes in travel demands. Thus while a general ‘rule of thumb’ may indicate that changes in flows below a certain percentage may be deemed to be insignificant, a particular area may by sensitive to smaller changes if it is operating very close to or above its theoretical capacity. In essence the guiding principle from this research is that assessments should be tailored to the circumstance of the site and the sensitivity of the receiving environment.

2.2 Territorial local authorities

2.2.1 Auckland

2.2.1.1 Auckland Regional Transport Authority (ARTA) guidelines

The Auckland Regional Transport Authority (ARTA) (2007) guidelines (which have been superseded by the Auckland Transport (2015) guidelines) provided some indicative thresholds regarding the size and scale of a development where an ITA might be appropriate. These thresholds included:

- 100 or more dwellings
- 1,000m^2 and above gross retail floor space
- 2,500m^2 and above gross office floor space
- 5,000m^2 and above gross industrial floor space
- 10,000m^2 and above gross warehousing floor space.

However, the ARTA guidelines stated the 'planning authority has the discretion to require a full integrated transport assessment even if the development falls below these guidelines'. It is noted this could only be the case if:

- the proposal was not a permitted activity, or
- that traffic assessment was part of any controlled or restricted discretionary status, or
- the proposal was fully discretionary or non-complying.

Some developments that fell below the indicative thresholds in terms of their size and scale, might still have required a full ITA due to the perceived impacts on the network given their location and the status of the surrounding network. Under the ARTA guidelines the need for an ITA was assessed during the scoping discussions with the local planning authority.

The ARTA guidelines also noted an ITA would be required for developments that fall below the guidelines where there were 'significant committed or approved developments in the area, which will have a cumulative impact on a particular transport corridors and/or system'.

2.2.1.2 Proposed Auckland Unitary Plan

Trip generation thresholds triggering the requirement for an ITA were provided in the notified version of the *Proposed Auckland unitary plan* (PAUP) (Auckland Council 2013). These thresholds have been modified during the mediation and hearing process and table 2.2 summarises the differences. This rule is not proposed to apply to activities located within the city centre, metropolitan, town centre or terrace housing and apartment zones. Nor does it apply to the city centre fringe office overlay that applies to areas of the mixed-use zone and local centre zone. This approach is consistent with the strategy to encourage growth in the centres, with the areas targeted for intensification excluded from the trip generation threshold rule. The threshold rates were set based on a particular land use activity generating 60 vehicle trips in a peak hour, or where the scale of a development is likely to create pedestrian activity that needs to be considered.

Activity	Trip generation threshold PAUP as notified	Trip generation threshold recommended following hearing.[1]
Residential (dwellings)	30 dwellings	60 dwellings
Residential (retirement village)	30 units or apartments	100 units or apartments
Retirement village (visitor accommodation)	30 units	60 units
Retail	500m² gross floor area (GFA)	500m² GFA
Retail – drive through		100m² GFA
Office	1,250m² GFA	3,000m² GFA
Educational uses – primary	100 students	100 students
Educational uses – secondary		200 students
Educational uses – tertiary		300 students
Industrial activities – warehousing and storage	5,000m² GFA	12,000m² GFA
Other industrial activities	2,500m² GFA	6,000m² GFA
General trip generation	-	60 vehicles in the peak hour

Table 2.2 Trip generation thresholds recommended within the PAUP

The thresholds trigger the requirement for a restricted discretionary resource consent. If the trip generation thresholds are triggered, the proposal is a restricted discretionary activity where the following two assessment criteria apply:

1 The effects on the function and the safe and efficient operation of the transport network including pedestrian movement, particularly at peak traffic times

2 The implementation of mitigation measures proposed to address adverse effects which may include measures such as travel planning, providing alternatives to private vehicle trips including accessibility to public transport, staging development, or contributing to improvements to the local transport network.

The only reference to transport assessments and ITAs in the PAUP as it is currently drafted is in the special information requirements. This states a transport assessment may be required when the relevant trip generation threshold is exceeded, and an ITA may be required when the proposal is for a plan change, notice of requirement, a structure plan or a non-complying resource consent and the proposal will generate 100 vehicles per hour or more. The relevant excerpt is reproduced below:

> *The council may require applications which affect the transport network including proposals which exceed the trip generation threshold, to include a transport assessment prepared by a suitably qualified transport planner or traffic engineer.*
>
> *Any new activity or change to an existing activity, which is not specifically provided for in the activity tables in the applicable zone or is a non-complying land use activity, and which will generate 100 vehicles or more (any hour) may need to include an Integrated Transport*

[1] As at the time of writing this report the Auckland Council is currently in the process of receiving recommendations from Independent Hearings Panel and the council is scheduled to notify its decision in August 2016.

Assessment prepared in accordance with the Auckland Transport ITA Guidelines in force at the time of the application.'[2]

Where an application does not meet other transport-related rules of the PAUP, such as shortfall of parking, an assessment of the transport effects relating to the particular breach is required.

2.2.1.3 Auckland Transport ITA guidelines

Auckland Transport (2015) has prepared a set of ITA guidelines which present the trip generation thresholds as per the notified version of the PAUP. These guidelines state an ITA is required where an application exceeds the thresholds for an ITA and is a:

- plan change
- notice of requirement
- structure plan
- resource consent application for land use or subdivision which is not specifically provided for as a controlled, restricted discretionary, or discretionary activity in the relevant zone (eg non-complying)
- framework plan.

The main objective of an ITA is to ensure the transportation effects of a new development proposal are well considered. This means the ITA will contain an emphasis on efficiency, safety and accessibility to and from the development by all transport modes where practical; and the adverse transport effects of the development have been effectively avoided, remedied or mitigated (Auckland Transport 2016). This is consistent with the PAUP transport objective, which is to ensure the development provides access between the road and activities by facilitating the effective, efficient and safe operation of the transport network.

A transport assessment is expected to be narrower in scope, being tailored to the particular breach of the PAUP rules in each case and would not be expected to be prepared in accordance with an ITA (Auckland Transport 2015).

2.2.2 Christchurch City

The transport chapter of the *Christchurch proposed replacement district plan* (pRDP) (Christchurch City Council 2015a) became operative on 18 December 2015. The pRDP transport chapter includes the requirement to prepare a basic or full ITA when a proposal triggers certain thresholds. These are known as high trip generating activities and are assessed as either a controlled or restricted discretionary activity depending on its size and whether the activity is anticipated in the zone.

At present the thresholds apply to all zones except the central city zone which is currently undergoing a separate hearings process. Nevertheless, it is likely the same or very similar high trip generating activity thresholds will apply to proposals within the central city.

The thresholds, which were modified during the mediation and hearings process, are shown in table 2.3. These thresholds have generally been developed by converting the 50 vehicles per hour (vph)/250 vehicles per day (vpd) for the basic ITA and 120vph/1,000vpd for the full ITA to appropriate units for the activities based on standard trip generation rates for each activity type.

[2] PAUP, chapter G, rule G1.4.

Table 2.3 ITA thresholds (adapted from Christchurch City Council 2015a)

Activity	Basic ITA threshold	Full ITA threshold
Education activity (schools)	More than 150 students	More than 450 students
Education activity (pre-school)	More than 50 children	More than 150 children
Education activity (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 (other)	More than 5,000m² GFA	More than 10,000m² GFA
Industrial activities (warehousing and distribution activities)	More than 10,000m² GFA	More than 20,000m² GFA
Office	More than 1,750m² GFA	More than 4,000m² GFA
Residential activity	More than 60 units	More than 120 units
Retail activity (excluding factory shops and retail park zones, trade suppliers and food and beverage outlets)	More than 500m² gross leasable floor area (GLFA)	More than 1,000m² GLFA and / or in a local or neighbourhood centre where the total area of development over any three-year period exceeds 1,000m² GLFA
Retail activity (factory shops and retail park zones but excluding trade suppliers and food and beverage outlets)	More than 1,000m² GLFA	More than 2,000m² GLFA
Any other activities	More than 50 vehicle trips per peak hour or 250 heavy vehicle trips per day (whichever is met first). 'Peak hour' are those hours between 3pm and 7pm on a weekday.	More than 120 vehicle trips per peak hour or 1,000 vehicle trips per day (whichever is met first). 'Peak hour' are those hours between 3pm and 7pm on a weekday.

In addition to the thresholds specified in table 2.3 there are other considerations where proposals with direct vehicle access from a state highway, a major arterial road or across a railway line require a full ITA even if they only trigger the basic ITA thresholds. This is illustrated in figure 2.1.

The need for ITAs supports one of the transportation objectives in the Christchurch pRDP (Christchurch City Council 2015a) which is for an integrated transport system for Christchurch District that (amongst other aspects):

- is safe for all transport modes
- is managed using the one network approach
- supports safe, healthy and liveable communities by maximising integration with land use.

The scope of assessment for a basic and full ITA is based on the matters of control shown in table 2.4. A basic ITA is required for smaller scale proposals that are expected to have noticeable impact on the transport network but not significant enough to justify a full ITA assessment, and a full ITA is required for larger developments that are deemed to have considerable impact on the transport network. Proposed developments that fall below the basic ITA thresholds will not require an ITA; however, an assessment of effects will be required for any breaches of the transport rules. It is noted parking requirements are not included as a matter of control because they are included as a separate transport rule.

Figure 2.1 Matters of control or discretion that apply to each activity (Christchurch City Council 2015a)

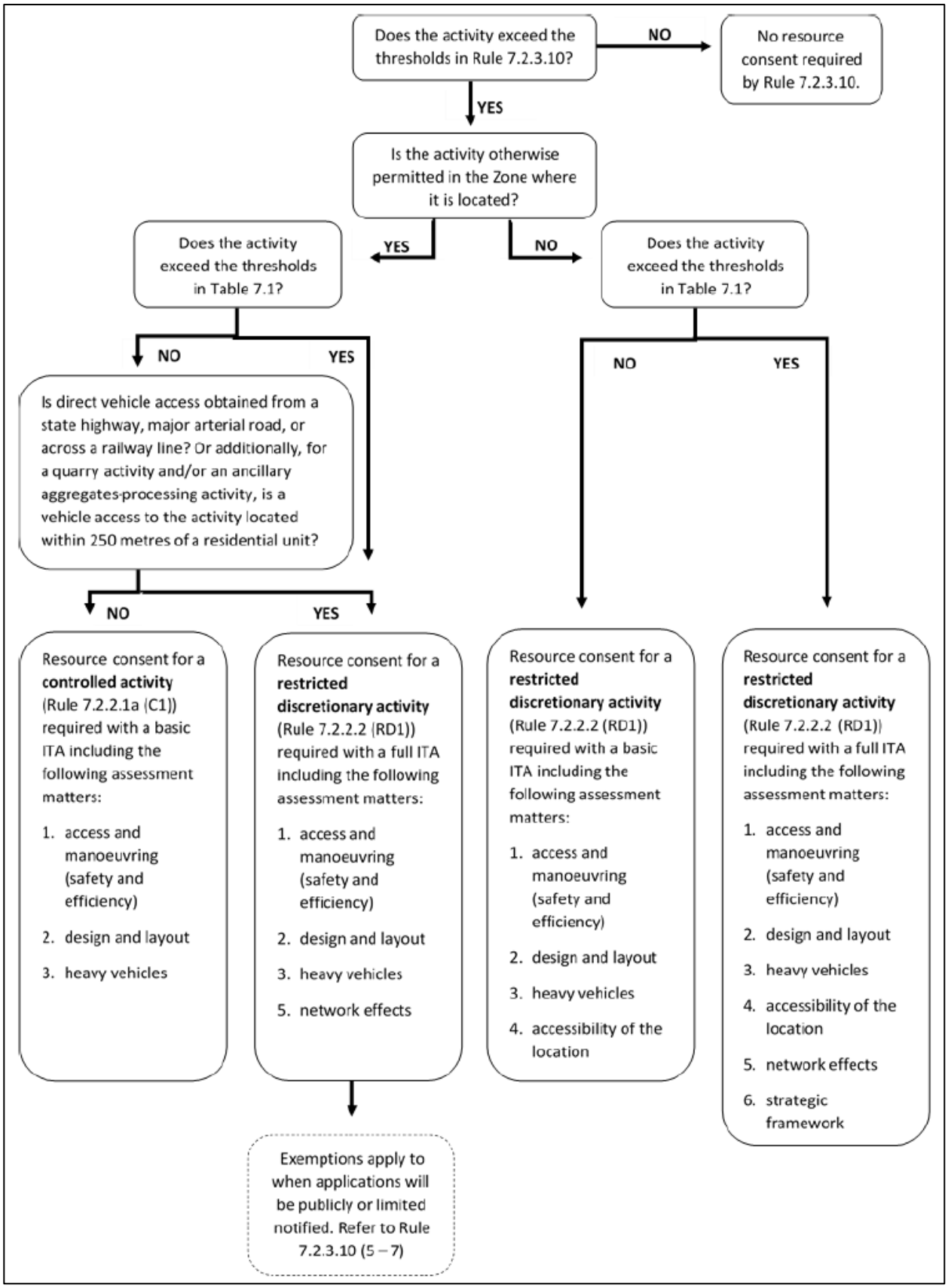


Table 2.4 Matters of control or discretion (Christchurch City Council 2015a)

Matters of control or discretion		Activities that are otherwise permitted in the zone's activity status table		Activities that are not permitted in the zone's activity status table	
		Basic ITA/ controlled activity	Full ITA	Basic ITA	Full ITA
1	Access and manoeuvring (safety and efficiency)	Yes	Yes	Yes	Yes
2	Design and layout	Yes	Yes	Yes	Yes
3	Heavy vehicles	Yes	Yes	Yes	Yes
4	Accessibility of the location			Yes	Yes
5	Network effects		Yes		Yes
6	Strategic framework				Yes

Matter 1 (access and manoeuvring) in table 2.4 refers to whether the provision of access and on-site manoeuvring associated with the activity affects the safety, efficiency and accessibility of the site and the transport network. This matter is concerned with effects on and immediately off the site. In contrast, matter 5 (network effects) refers to whether measures are proposed to adequately mitigate the actual or potential effects on the transport network arising from the anticipated trip generation from the proposed activity. It also includes consideration of cumulative effects with other activity in the vicinity. This matter is only applicable to proposals that trigger the higher threshold and therefore require a full ITA.

2.2.2.1 Christchurch ITA guidelines

Christchurch City Council has also prepared *Draft integrated transport assessment guidelines* (Christchurch City Council 2015b) to provide guidance to applicants on how to prepare an ITA including when and why an ITA is required. These guidelines reflect the high trip generator thresholds in the district plan; however, the scope of the basic and full ITAs does not align with the assessment matters within the plan.

2.2.3 Hamilton City Council

The *Hamilton proposed district plan* (Hamilton City Council 2014) is in the appeal resolution stage at the time of writing this report. The *Hamilton city operative district plan* (Hamilton City Council 2012) requires an ITA to be prepared in accordance with the ITA provisions of the NZ Transport Agency (2007) *Planning policy manual* for any subdivisions for urban purposes. There is no other specific trigger for an ITA in this plan.

The key drivers behind the need for the assessment of transport effects under the proposed district plan can be derived from the rules and overarching objectives[3] which require the preparation of an ITA. The outcomes of these objectives seek an integrated multi-modal transport network that meets national, regional and local transport needs and is:

- responsive
- efficient

[3] Proposed Hamilton City plan, rule 25.14.4.3 and objective 25.14.2.1

- affordable
- safe
- accessible
- sustainable
- integrated with land use.

The proposed Hamilton District Plan was notified in 2012 and the council's decision on the plan was released in July 2014. The plan includes triggers for a 'simple' and 'broad' ITA (Hamilton City Council 2014). The 'simple' and 'broad' ITAs generally follow the approach specified in Abley et al (2010). A simple or broad ITA will be required if the proposed development meets the thresholds of one or more of the following triggers:

- trip generation
- specific activity
- area specific
- new vehicle access
- existing vehicle access.

The trip generation triggers are shown in table 2.5 and take into account whether or not the location of the development is on 'sensitive' parts of the transport network. Hamilton City Council has derived the sensitive transport network from a number of factors including the strategic network, transport corridors with cycle lanes and/or bus routes and transport corridors within or adjoining the central city zone.

Table 2.5 Trip generation thresholds (adapted from Hamilton City Council 2014)

Activity	Trip generation of activity (vpd = vehicles per day)						
	All areas other than sensitive transport network			Sensitive transport network			All areas
	LOW <100 vpd	MEDIUM 100 to 499 vpd	HIGH 500 to 1499 vpd	LOW <100 vpd	MEDIUM 100 to 249 vpd	HIGH 250 to 1,499 vpd	SIGNIFICANT >1,500 vpd
Any permitted activity in the relevant zone	–	–	Simple ITA required	–	–	Simple ITA required	Broad ITA required
Any restricted discretionary activity in the relevant zone	–	Simple ITA required	Broad ITA required	–	Simple ITA required	Broad ITA required	Broad ITA required
Any activity in the central city zone	–	–	–	–	–	–	Broad ITA required

In conjunction with the trip generation thresholds, a conversion table is provided for converting threshold /unit equivalents to vehicle trip generation[4]. This is intended to be used for screening proposals to identify whether an ITA is required or not.

The specific activity trigger relates to particular new activities including schools, hospitals, transport depots, drive-through services, emergency service facilities (with traffic control signals controlling access) and transport corridors. If the proposed development is for one of these specific activity types it will

[4] Hamilton City Council (2014, appendix 1–5, table 15-3c: Integrated transport assessment vehicles per day conversion table)

trigger the need for a 'broad' ITA. A 'simple' ITA is required for an emergency service facility without traffic control signals controlling access.

The area specific trigger relates to any new activity within a defined area identified in the district plan which exceeds 14.1 trips/hectare/morning peak hour or 15 trips/hectare/afternoon peak hour. If these peak hour trip rates are exceeded, then a 'broad' ITA is required.

A new vehicle access will trigger a 'broad' ITA if the vehicle access is to a part of the strategic network, major arterial transport corridor, or from any of the specified zones. A 'broad' ITA is also required for any subdivision, use or development requiring a new railway level crossing access.

An ITA is required where a proposal will increase use of an existing vehicle access by more than 100 vehicles per day. This applies to existing vehicle accesses with access to the strategic network or a major arterial transport corridor, or where the proposal takes access across an existing railway level crossing. Unless the relevant road controlling authority or KiwiRail provides written confirmation that an ITA is unnecessary, a 'broad' ITA is required for any restricted discretionary activity (including subdivision) and a 'simple' ITA for any permitted activity within the relevant zone.

Essentially, developments which will generate fewer than 100 vehicle movements per day and do not meet activity specific, area specific and new or existing vehicle access triggers, will be exempt from assessment.

2.2.4 Tauranga City Council

One of the transportation objectives of the *Tauranga city plan* (Tauranga City Council 2013) is to maintain a sustainable transport network. The provisions of the city plan aim to ensure the transport-related effects of developments do not compromise the integrated, safe, sustainable and efficient function of the transport network within the sub-region.

The Tauranga City Plan requires an ITA for a restricted discretionary activity, relevant to the scale of the development to be submitted with an application for resource consent. There are four levels of detail for transport assessment comprising 'basic', 'neighbourhood', 'local area' and 'wide area' assessments. The corresponding thresholds, shown in table 2.6, are all based on the number of new or additional on-site car parks area proposed as part of the development. Car parking spaces have been used as a proxy for traffic generation by Tauranga City Council.

Table 2.6 Thresholds for transportation assessments in the Tauranga City Plan

Assessment	Threshold
Basic	Provision of 25 to 30 new or additional on-site car parking spaces
Neighbourhood	Provision of 31 to 40 new or additional on-site car parking spaces
Local area	Provision of 41 to 50 new or additional on-site car parking spaces
Wide area	Provision of 51 or more new or additional on-site car parking spaces

Tauranga City Council (2013) provides a description for each transportation assessment as follows:

- A basic assessment will consist of a brief assessment of how the development complies with the relevant transportation rules and identify any potential adverse effects on the transport network and any measure required to avoid, remedy or mitigate those adverse effects.
- A neighbourhood assessment will discuss the transport effects on the transport network and identify existing conditions and compare the predicted effects of the development. Any measures required to avoid, remedy or mitigate adverse effects should be identified.

- A local area assessment will discuss the transport effects relating to the transport network (including the function of roads as identified in the road hierarchy) surrounding the site. As a guide the scope of the assessment may extend up to a kilometre away from the application site. Any measures required to avoid, remedy or mitigate adverse effects should be identified.
- A wide area assessment will discuss the transport effects relating to the transport network (including the function of roads as identified in the road hierarchy) surrounding the site. This type of assessment should be submitted when the transport effects are expected to cover an extensive area. This type of assessment is most likely to be required for large retail developments. Any measures required to avoid, remedy or mitigate adverse effects should be identified.

A proposal in Tauranga with less than 25 new or additional on-site car parking spaces would be considered a permitted development and would not require a transport assessment provided it does not breach any of the other transport related rules of the city plan.

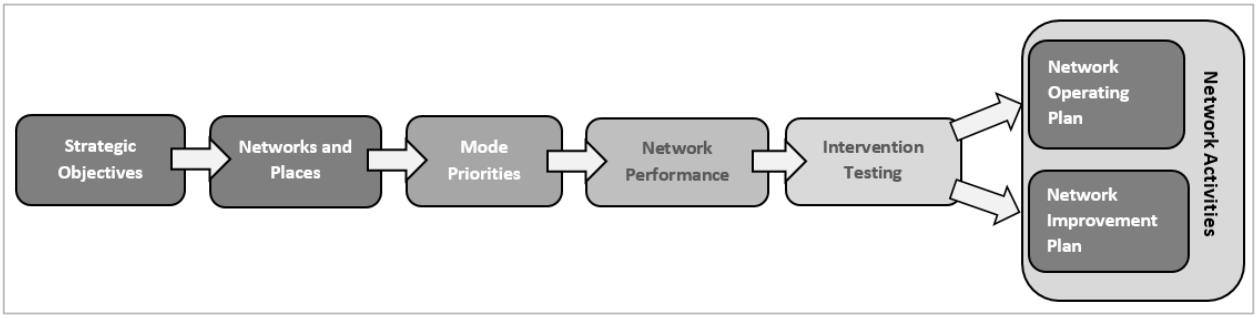
2.3 Strategic context

2.3.1 Network operating framework and One Network Road Classification system

Previously throughout New Zealand there have been a variety of approaches taken by RCAs to network operation planning and network performance management. More recently the Transport Agency has introduced the network operating framework which is increasingly being used throughout New Zealand. The network operating framework provides a 'one network' approach to Transport Agency planning practices rather than looking at individual sites, routes or modes and involves all stakeholders working collaboratively. By taking this joint approach and assigning priority to different modes, at particular times of the day on specific key routes in relation to land use types the framework aims to ensure the best use of the transport network (Worts et al 2013).

The framework process provides a clear link between the strategic objectives and network activities as shown in figure 2.2. The process focuses on network operating plans that provide a framework and an understanding of the trade-offs associated with the day-to-day operation of the network and proposed changes to the network.

Figure 2.2 Network operating framework process (adapted from Hamilton City Council et al 2015)



A key part of the framework process is the definition of activity centres and key destinations in the context of the overall network. This is achieved by identifying existing and future land uses, trip generators, key destinations and projected growth of land uses (Hewitt and Moslih 2013). There is no reference to or specific guidance on how small-scale developments should be accounted for during this phase of the process. However, the effects of small-scale developments, either individually or

cumulatively, could potentially be included during this phase of the framework. The network operating framework also relies on a number of other elements such as an agreed road user hierarchy, the identification and development of appropriate levels of service standards and infrastructure standards.

All this data is used to inform the network operating and network improvement plans, which show how the performance of the network is expected to change over time. This in turn can contribute towards identifying and addressing the short, medium and long-term needs in terms of the funding and investment requirements for future growth as well as identifying how existing transport infrastructure can be best utilised (Hewitt and Moslih 2013).

Hewitt and Moslih (2013) discuss the 'operating gap', that is the difference between the actual performance measured for each mode and the target performance of the mode at each location when considering the importance of place and time of day for each mode, which is typically encompassed in the network improvement plan.

There are also clear linkages between the key drivers and the objectives of the One Network Road Classification (ONRC) which include:

- value for money
- safety
- resilience
- amenity
- travel time reliability
- accessibility.

The ONRC categorises roads based on the current functions they perform as part of an integrated national network. The classification aims to help local government and the Transport Agency to plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way throughout the country (The Road Efficiency Group 2013). The ONRC is based on a functional classification, where there are set criteria and thresholds for each road/street category. The highest order road classification is national, which are roads that make the largest contribution to the social and economic wellbeing of New Zealand, down to the lowest order road classification of access roads. The criteria used to determine the functional classification of a road are shown in table 2.7.

Table 2.7 ONRC functional classification criteria (adapted from The Road Efficiency Group 2013)

Functional classification		
Movement of people and goods	▲ **Link** | **Place** ▼	Typical daily traffic (AADT)
		Heavy commercial vehicles (daily flows)
		Buses (urban peak)
		Active modes
Economic and social	↑ **Link** | **Place** ↓	Linking places (population)
		Connectivity
		Freight – inland ports/ports
		Airport passenger numbers
		Tourism
		Hospitals

Both movement and economic/social criteria must be met to various extents for each classification. From the arterial category down, the non-movement criteria (linking places, connectivity, freight, airport passengers, tourism and hospitals) should be considered to provide a local 'ground truthing' or qualitative assessment, and in some instances by considering these, this may result in a road moving up one category to reflect the function of the road (The Road Efficiency Group 2013).

The size of individual small-scale developments is unlikely to significantly influence the outcome of a road classification given the required thresholds and variety of criteria used in classifying the network. Any impacts of small-scale development, either individual or cumulative, are more likely to be on the non-movement criteria than the movement criteria. Over time as the ONRC is periodically reviewed the cumulative effects of small-scale developments may result in changes to the function and consequently the classification of roads.

2.4 Case studies

This section considers the PAUP and the Christchurch pRDP in more detail by describing how and why trip generator thresholds were developed in each instance.

2.4.1 Proposed Auckland Unitary Plan (PAUP) [5]

A range of trip generation thresholds was adopted for various land uses, based on the scale of the land use development. These thresholds identified the size of development where the potential traffic effects on the surrounding road network were considered sufficient to warrant consideration and assessment through the resource consent process. Where the trip generation threshold criteria are triggered, it will be necessary to assess the traffic effects arising from a development that generates a certain level of traffic.

The thresholds identified in the PAUP trigger the requirement for a restricted discretionary resource consent to be obtained for high traffic generating activities (provided the activity is not located within the city, metropolitan, town centres and terrace housing and apartment building zones). The assessment of high traffic generating activities enables the effects of these activities on the transport network to be appropriately considered.

The purpose of the triggers is to ensure an appropriate assessment of the traffic effects arising from the development is undertaken. This provides Auckland Council and Auckland Transport with an understanding of how a particular development may affect the operation of the road network. Measures can then be taken to manage or mitigate any adverse effects, thereby protecting the safe and efficient operation of the road network.

The evidence provided to the PAUP hearings recognised that determining the threshold rates can be difficult to quantify as the traffic effects arising from a particular development can vary considerably depending on the nature of the development, the location of the development, and the nature of the immediately surrounding road network.

The threshold rates were set based on a particular land use activity generating 60 vehicle trips in a peak hour, or where the scale of a development is likely to create pedestrian activity that needs to be considered. The trip generation threshold of 60 vehicles per hour was consistent within the 'moderate

[5] The content of this section has been modified from the statement of evidence of Karl Hancock on behalf of Auckland Council (transport – design of parking/loading spaces, access and traffic generation thresholds), 2 June 2015.

impact' trip generation thresholds used by Western Australia, and was consistent with that being recommended at the time in Christchurch.

The evidence noted in some situations 60 vehicles per hour will have a negligible effect on the safety and efficient operation of the surrounding road network but in other situations the effects arising from a trip generation of 60 vehicles per hour could be significant and will require some level of mitigation.

2.4.2 Christchurch Replacement District Plan (pRDP)

The thresholds in the Christchurch pRDP were similarly designed to identify developments large enough to be considered to be a 'high trip generator', justifying either controlled or discretionary resource consent status. However, for this plan, while there is one set of thresholds to determine when a basic transport assessment is required, there are two versions of the scope of the assessment, based on whether the proposed activity is or is not otherwise permitted within that zone.

The thresholds endorsed by the panel for the Christchurch context were based around the smaller, basic transport assessment being required for developments broadly expected to attract more than 50 vehicles/hour during the evening peak. However, there was a caveat which indicated acceptance there should not be a 'one size fits all' approach. Applications requiring a basic transport assessment need not normally be publicly or limited notified, but limited notification will be required (to the Transport Agency and/or KiwiRail) where direct vehicle access is required from a state highway or across a KiwiRail railway line.

A number of expert witness conferencing statements were prepared during the course of the development of the thresholds that were ultimately adopted for the Christchurch pRDP. It is considered important to refer to those statements, as they shed light on some of the discussions that took place and some matters that were considered but not progressed.

- The Expert Conferencing Statement which recorded discussions on 29 April 2015 noted support in principle for the development of high trip generator thresholds that would recognise zoning locations and the anticipated land use activities.
- The second Expert Conferencing Statement relating to discussions on 18 and 21 May 2015 notes work had been carried out to consider such an approach, but only two sets of thresholds/triggers were progressed, one for a 'basic' and a second for a 'full' transport assessment. (However, as noted above, the scope of the assessment criteria differed, according to whether a proposal was noted as permitted or not permitted in the zone's activity status table).
- The second Expert Conferencing Statement noted agreement that the thresholds should be based on vehicles per peak hour, not vehicles per day, and it noted the thresholds should relate to the peak hours of the adjacent network, which will not always be the 'conventional' weekday morning or evening peaks. However, the statement noted disagreement about the thresholds triggering a 'basic' transport assessment, with opinions ranging from 30 to 60 vehicles/hour.
- The third Expert Conferencing Statement relating to discussions on 3 June 2015 provided an updated table of thresholds, with those relating to basic transport assessments generally based on 50 vehicles in the peak hour.
- The second Expert Conferencing Statement considered a different set of thresholds for activities within key activity centres, but this was not progressed beyond that point.

Thus while the Christchurch pRDP ultimately adopted thresholds for basic transport assessments which were largely based on the compromise trigger of around 50 vehicles per hour in the peak hour, it is worthwhile to acknowledge the difference in views over what could be considered a small-scale development. That is a development not expected to give rise to transport effects requiring assessment.

2.5 Summary

The transport assessment thresholds of the local authorities examined in the preceding sections are compared in table 2.8. This illustrates how the thresholds for the different activity types vary among the local authorities in response to local conditions and priorities. The thresholds are based on varying units, the key differences being vehicles per hour or per day, or by floor area or other relevant unit (for example students). Thresholds based on parking spaces apply in Tauranga.

The review of the transportation assessment requirements in New Zealand shows there is no specific definition of small-scale developments. However, small-scale developments could be viewed as those that fall under the thresholds for transport assessment in relation to their size or scale.

The requirement for developments to undergo transport assessments is driven by the overarching transport objectives of the relevant district or city plan. The transport objectives of the various TLAs have common themes and can be categorised into the key drivers of safety, efficiency and accessibility.

When undertaking an assessment of the transport-related effects of a proposal, safety is an important consideration for all developments in all locations and for all modes, whereas consideration of the effects on network efficiency will only be necessary in certain locations and will depend on the function of the adjacent road network. The function will be informed by the hierarchy of the adjacent road network.

Efficiency for vehicles relates to transport network performance and is generally more critical on higher order movement function roads, such as major and minor arterials. Congestion can be viewed as a gap between function and performance and may be an important consideration depending on the function of the road.

Accessibility is generally the consideration of how ‘accessible’ the site is by all modes of transport. The less accessible a development is by active modes or public transport, the more likely its impacts on the adjacent road network may be exacerbated through increased use of private vehicles to access the development.

The trip generation thresholds in Auckland and Christchurch are similar in that they are based on a trip generation of 50 to 60 vehicles per hour. A key difference is that Auckland does not require assessment of proposed activities in zones targeted for intensification. Another key difference is that ITAs are mandated in Christchurch whereas in Auckland they may be required if they exceed the threshold and some discretion applies.

In all plans, proposals that fall below the thresholds do not require a traffic assessment, and these proposals will only be assessed in transport terms if they breach a particular transport-related rule, for example a shortfall in the required number of car parking spaces. In most cases the assessment can then only consider the effects of the particular breach because the proposal will be classed as a controlled or restricted discretionary activity. In general, this means wider network effects will not be assessed in these situations.

Table 2.8 Transport assessment thresholds in New Zealand

Activity	Research report 422	Proposed Auckland Unitary Plan	Proposed Christchurch Replacement District Plan		Proposed Hamilton City District Plan					Tauranga City Plan			
	Median thresh-olds for assess-ment	Transport assessment	Simple ITA	Full ITA	All areas other than sensitive transport network		Sensitive transport network		All areas	Basic assessment	Neighbourhood assessment	Local area assessment	Wide area assessment
					Simple ITA	Broad ITA	Simple ITA	Broad ITA	Broad ITA				
Education activity (pre-school)	100 students	-	50 children	150 children	Any permitted activity in the relevant zone, 500 to 1,499 vpd. Any restricted discretion-ary activity in the relevant zone, 100 to 499 vpd.	Any restricted discretion-ary activity in the relevant zone, 250 to 1,499 vpd.	Any permitted activity in the relevant zone, 100 to 249 vpd. Any restricted discretion-ary activity in the relevant zone, 100 to 1,499 vpd.	Any permitted activity in the relevant zone, 250 to 1,499 vpd.	Any permitted or restricted discretion-ary activity, more than 1,500vpd. Any activity in the central city zone, more than 1,500vpd	Provision of 25–30 new or additional car parking spaces	Provision of 31–40 new or additional car parking spaces	Provision of 41–50 new or additional car parking spaces	Provision of 51+ new or additional car parking spaces
Education (primary)		100 students	150 students	450 students									
Education (secondary)		200 students	150 students	450 students									
Education activity (tertiary education and research activities)		300 students	250 FTE students	750 FTE students									
Health care facility		-	500m² GFA	1000m² GFA									
Industrial activities (other)	7,000m² GFA	6,000m² GFA	5,000m² GFA	10,000m² GFA									
Industrial activities (warehousing and distribution activities)	7,500m² GFA	12,000m² GFA	10,000m² GFA	20,000m² GFA									
Office	3,750m² GFA	3,000m² GFA	1,750m² GFA	4,000m² GFA									

Activity	Research report 422	Proposed Auckland Unitary Plan	Proposed Christchurch Replacement District Plan		Proposed Hamilton City District Plan					Tauranga City Plan			
	Median thresh-olds for assess-ment	Transport assessment	Simple ITA	Full ITA	All areas other than sensitive transport network		Sensitive transport network		All areas	Basic assessment	Neighbourhood assessment	Local area assessment	Wide area assessment
					Simple ITA	Broad ITA	Simple ITA	Broad ITA	Broad ITA				
Residential activity	138 dwellings	60 dwellings 100 units/ apartments 60 units	60 units	120 units									
Retail activity (Excluding factory shops and retail park zones, trade suppliers and food and beverage outlets)	1,750m² GFA	500m² GFA	500m² GLFA	1,000m² GLFA									
Retail activity (factory shops and retail park zones, excluding trade suppliers and food and beverage outlets)	750m² GFA		1,000m² GLFA	2,000m² GLFA									
Retail – drive through	-	100m² GFA	-	-									
Any other activities (vehicle trips)	-	60 vehicles in the peak hour	More than 50vph or 250vpd	More than 120vph or 1,000vpd									

3 International literature review

The international literature review focused on four countries which were identified as having similar transport environments to New Zealand. The countries included in the literature review are:

- Australia
- United Kingdom (UK)
- Ireland
- United States of America (USA).

3.1 Australia

3.1.1 Austroads 2016

The *Guide to traffic management part 12: traffic impacts of development* provides guidance for planners and engineers associated with the design, development and management of a variety of land use (Austroads 2016). This guide aims to ensure consistency in the assessment and treatment of traffic impacts, including addressing the needs of all road users and the effect upon the broader community.

Austroads (2016) states the criteria for a traffic impact assessment may be based on the size of the development, or on the expected level of traffic generation. The guide suggests three assessment levels (based on Western Australia Planning Commission 2006):

- No assessment is generally required if the development generates less than 10vph.
- A traffic impact statement is required if the development generates 10vph to 100vph.
- A traffic impact assessment is required if the development generates more than 100vph.

The Austroads guide also specifies other factors which may trigger a need for a transport impact statement or transport impact assessment including:

- Accessibility for local communities, cyclists, pedestrians, vision and physically impaired people and public transport users.
- Existing or potential safety or traffic problems on the roads serving the proposed development, such as a crash issue, complex intersection geometry, roads operating at or close to capacity.
- The generated traffic applies to one turning movement.
- Significant impact to the current or projected level of service or the operational characteristics of roads that have high traffic growth adjacent to the development.
- Situations where there may be an adverse impact on public transport services.
- Situations where traffic from other existing or proposed abutting developments is likely to compound traffic impacts (eg by increasing or complicating traffic demands due to the locations of existing and proposed driveways/intersections).
- Areas that will have their environmental capacity adversely affected (eg traffic volume, speed or noise in residential areas; sensitive natural environment near the development).
- Developments that will generate a different type of traffic that may require geometric improvements or cause damage to an existing pavement (eg heavy vehicles, buses, road trains).

3.1.2 Western Australian Planning Commission 2006

The Department of Planning, on behalf of Western Australian Planning Commission (WAPC), prepared a document entitled *Transport assessment guidelines for developments* (WAPC 2006). This version was published for trial and evaluation, and has subsequently been replaced by an updated and endorsed 2016 version.

The guide includes indicative thresholds to three levels of assessment based on the land use and expected trip generation during the peak hour, as shown in table 3.1.

Table 3.1 Level of transport assessment required (adapted from Western Australian Planning Commission 2006)

Land use	Low impact	Moderate impact	High impact
	No transport information normally required	Transport statement required	Full transport assessment required
	<10 vehicle trips in the peak hour	10–100 vehicle trips in the peak hour	>100 vehicle trips in the peak hour
Residential	-	10–100 dwellings	>100 dwellings
Schools	-	10–100 students	>100 students
Entertainment venues, restaurants, etc	-	100–1,000 persons (seats) OR 200–2,000m² GFA	>1,000 persons (seats) OR >2,000 m² GFA
Fast food restaurants	-	50–500m² GFA	>500m² GFA
Food retail/shopping centres with a significant food retail content	-	100–1,000m² GFA	>1,000m² GFA
Non-food retail	-	250–2,500m² GFA	>2,500m² GFA
Offices	-	500–5,000m² GFA	>5,000m² GFA
Industrial	-	1000–10,000m² GFA	>10,000m² GFA
Other uses	-	Discuss with approving authority	Discuss with approving authority

Under these guidelines, proposed developments generating less than 10 vehicle trips in the peak hour or less than the lower thresholds for a transport statement, do not require any transport assessment.

A transport statement is a brief statement outlining the transport aspects of the proposal. The intent is to provide sufficient information to demonstrate the proposal would not have an adverse transport impact on the surrounding area. Western Australian Planning Commission 2006 states a transport statement should include an assessment of:

- The accessibility of the development by non-car modes, in accordance with Government's objectives, and its integration with the surrounding areas.
- Site specific issues, agreed with the approving authorities, which may include:
  - the generation of traffic past sensitive uses such as schools and hospitals
  - the generation of traffic on low volume residential roads
  - particular intersections or sections of road that may be adversely affected
  - the potential for rat-running, especially through residential areas

  - issues associated with heavy vehicles generated by the development
  - developments operating outside normal business hours in/near residential areas
  - developments with a potentially high non-car mode share
  - developments close to major transport nodes.
- Existing and potential safety issues including mitigation measures where appropriate.

A transport assessment is a detailed assessment of the transport aspects of the proposal. The assessment should clearly show that the proposal would not result in adverse transport impacts, provides safe and efficient access for all modes and integrates with the surrounding land uses. The individual development transport assessment checklist consists of the following main sections:

- introduction or background information (eg site location)
- development proposal
- existing situation (eg existing land uses and traffic flows)
- changes to surrounding transport networks (eg changes to road network, public transport services, walking and cycling facilities)
- integration with surrounding area (eg adequacy or deficiencies of transport network including remedial measure to address deficiencies)
- analysis of transport network (eg impact on surrounding area, road safety, amenity and traffic management plan where appropriate).

3.1.3 VicRoads 2015

VicRoads has a *Traffic engineering manual*, which provides guidance to practitioners in relation to infrastructure used to manage road users on roads managed by VicRoads. The manual adopts the guidance provided in the *Austroads guide to traffic management part 12: traffic impacts of developments* (Austroads 2016).

A superseded document entitled *Guidelines for transport impact assessment reports for major land use and development proposals* (VicRoads 2006) stated 'major development' proposals required a transport impact assessment report (TIAR). A set of thresholds for what constituted a major development were provided but it was recognised a road authority could also request a TIAR for a land use development proposal that did not exceed the threshold limits but was considered to have an impact on the safety and operational efficiency of the road (VicRoads 2006). These thresholds should normally be applied to peak hours when traffic problems usually occurred; however, other periods might need to be considered if the impact over these periods was likely to be of concern.

3.2 United Kingdom

3.2.1 National guidance

The UK Department for Communities and Local Government (2014a) has prepared guidance for 'transport evidence bases in plan making and decision taking'. The guidance states that when developing the transport evidence base to support a local plan, the cumulative impacts of existing and proposed development on transport networks need to be considered. It also states local planning authorities will need to consider the desired or perceived changes likely to take place in the life of the plan that may

affect the transport network. However, the guidance does not provide specific thresholds for when developments need to be assessed.

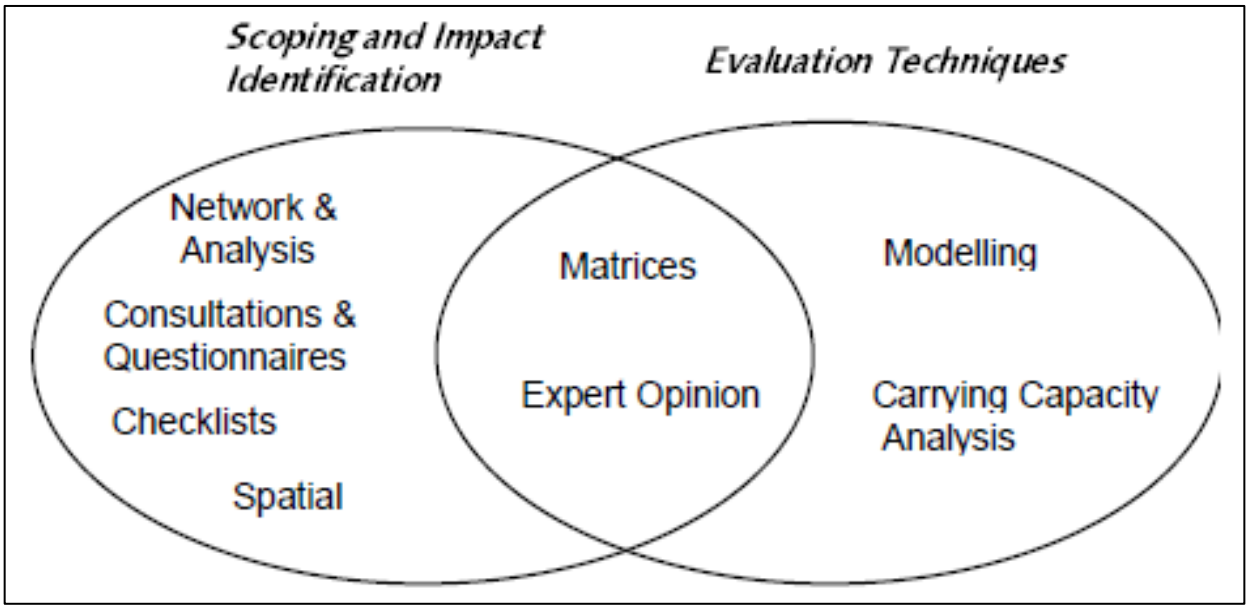
The Department for Communities and Local Government (2014a) states all developments that generate significant amounts of transport movement should be supported by a transport statement or transport assessment. Local planning authorities must decide on a case-by-case basis whether a development proposal would generate a significant quantity of movements. Significance may be a lower threshold where road capacity is already limited or a higher threshold for a development in an area of high public transport accessibility.

The considerations in determining whether a transport assessment or statement is required for a development include (Department for Communities and Local Government 2014a):

- the transport assessment and statement policies (if any) of the local plan
- the scale of the proposed development and its potential for additional trip generation (smaller applications with limited impacts may not need a transport assessment or statement)
- existing intensity of transport use and the availability of public transport
- the proximity to nearby environmental designations or sensitive areas
- the impact on other priorities/strategies (such as promoting walking and cycling)
- the cumulative impacts of multiple developments within a particular area
- whether there are particular types of impacts around which the transport assessment or statement should focus (eg assessing traffic generated at peak times).

The European Commission (1999) prepared a guidance entitled *Guidelines for the assessment of indirect and cumulative impacts as well as impact interactions*. The purpose of the guidelines is to suggest approaches for assessing indirect and cumulative impacts and their interactions. The guidance provides information on eight methods and tools which are categorised into two groups; scoping and impact identification techniques or evaluation techniques as shown in figure 3.1.

Figure 3.1 Methods and tools for assessment of indirect and cumulative impact as well as impact interaction



(European Commission 1999)

The selection of the appropriate method(s) depends on:

- the nature of the impact(s)
- the availability and quality of data
- the availability of resources (time, finance and staff)

The information required to enable the potential indirect and cumulative impacts and impact interactions to be identified and assessed include:

- Information on the proposed development which includes project phasing, the scale of the project, the site layout, ancillary development and proposed mitigation measures.
- Information needed for the assessment of the receiving environment includes establishing the baseline conditions of the affected environment to provide the context for evaluating the impact of a project. Data collection should be focused on determining the current and future status of the environmental resource, historical trends, existing regulatory standards, and development plans and programmes. Establishing the carrying capacity or resource threshold can also assist in assessing the magnitude of indirect and cumulative impacts as well as impact interactions.

3.2.1.1 Superseded guidance

Guidance entitled *Transport evidence bases in plan making and decision making* (Department for Communities and Local Government 2014b) superseded the previous guidance prepared by the Department for Transport et al (2007) *Guidance on transport assessment*. This guidance developed a pro forma intended to assist local planning authorities and local highway authorities to make objective judgements on the transport implications of development proposals and on the appropriate level of assessment. The pre-application form collects details regarding the size, travel characteristics in the vicinity of the development site, likely transport impacts and likely transport mitigation measures.

Prior to the Department for Transport guidance, the Institution of Highways and Transportation (1994) prepared guidance titled *Guidelines for traffic impact assessment*. Briefly this guidance recommended a traffic impact assessment should be produced where:

> *Traffic to and from the development exceeds 10% of the existing two-way traffic flow on the adjoining highway, or*
>
> *Traffic to and from the development exceeds 5% of the existing two-way traffic flow on the adjoining highway, where traffic congestion exists or will exist within the assessment period or in other sensitive locations.'*

3.2.2 Transport for London

Transport for London (TfL) (2006) provides guidance relating to transport assessments for developments within London. TfL does not specify its own set of thresholds for the preparation of transport assessments although it does refer to the DfT guidance which has now been superseded. The approach generally taken by TfL is to determine the level of assessment required through the pre-application process.

3.2.3 Northern Ireland

The UK's Department for Regional Development (DRD) and the Planning Service of the Department of the Environment (DOE) published a transport assessment guide entitled *Transport assessment guidelines for*

development proposals in Northern Ireland (DRD and DOE 2006). The objective of the guide was to assist in the preparation of transport assessments for developments in Northern Ireland.

The guide provides an overview of the purpose of transport assessments and includes a table, which outlines the differences between transport and traffic impact assessments, as shown in table 3.2.

Table 3.2 Transport assessment and traffic impact assessment compared (adapted from DRD and DOE 2006)

	Traffic impact assessment	Transport assessment
Modes considered	Focus on car but others may be included	All modes considered but initial emphasis on walk, cycle and public transport
Transport implications	Comparison to similar developments	Accessibility and mode split analysis
Impacts considered	Road safety and traffic	Accessibility of site by all modes of transport Road safety Environment Traffic and highway impacts Rail, water and air transport
How are negative impacts addressed?	Increase road capacity and add safety features	Comprehensive assessment of access by all travel modes leading to additional walking, cycling and public transport infrastructure and service improvements Travel plans Financial incentives Additional road capacity and safety features

The guide explains a transport assessment form must be completed for all development proposals to enable the statutory planning authority to decide whether a transport assessment is required. Guidance for deciding whether a detailed transport assessment is warranted is also included in the guide and includes a table outlining the size of the development that may trigger a detailed transport assessment based on the type of activity, as shown in table 3.3.

Table 3.3 Transport assessment thresholds (from DRD and DOE 2006)

Use	Thresholds above which a detailed transport assessment may be required
Food retail	1,000m² GFA
Non-food retail	1,000m² GFA
Cinemas and conference facilities	1,000m² GFA
Leisure facilities	1,000m² GFA
Business	2,500m² GFA
Industry	5,000m² GFA
Distribution and warehousing	10,000m² GFA
Hospitals	2,500m² GFA
Higher and further education	2,500m² GFA
Stadiums	1,500 seats
Housing	100 dwellings

The location of the development and the anticipated peak hour trip generation may also trigger a detailed transport assessment. For instance, proposals that are only easily accessible by car or generate 100 or

more vehicle movements in the peak hour will trigger a detailed transport assessment. Issues and mitigation measures which may be applicable to the development must also be considered as part of the initial scoping discussion with the public authority.

3.2.4 Scotland

Transport Scotland developed a document entitled *Transport assessment guidance* (Scotland and Transport Scotland 2012) to assist in the preparation of transport assessments for development proposals in Scotland.

The guide provides policy context, a summary of the transport assessment process and defines the roles of stakeholders (local authorities, Scottish government, developers and public transport operators). It details the scoping stage of a transport assessment and includes a table with indicative size criteria for a transport assessment and travel plan. The indicative size criteria for a transport assessment is consistent with the UK's Department for Regional Development and the Department of the Environment as shown in table 3.3.

A transport assessment form must be completed in conjunction with each planning application. The purpose of this form is to screen out those applications where no further information on the transport impacts of the proposal is required.

A transport assessment will be required where the proposal is likely to have significant transport implications regardless of the size. The planning authorities may require further details where it is considered that the proposals raise significant transport implications. These include:

- site location in a sensitive tourist area
- site location is not consistent with national guidance or accessibility criteria or policy contained in the development plan. These are likely to be sites that are only easily accessible by car
- development is likely to generate traffic at peak times in a congested area or the nearest trunk road junction
- development is likely to generate traffic, particularly heavy vehicles, late at night in a residential area
- development is likely to raise significant concerns over road safety.

The guide acknowledges that there will be relatively small scale developments that could potentially have serious implications, therefore pre-application consultation is required for major developments and is recommended irrespective of the categorisation of development. A transport statement should be prepared for the pre-application consultation.

Within the guide, the scope of a transport statement and a transport assessment are defined. A detailed accessibility analysis and assessment of traffic impacts are not required in a transport statement; however, a transport statement should include:

- the main issues relating to a proposed development. This generally include details of existing conditions and for the proposed development
- the existing transport infrastructure
- travel characteristics associated with the site
- proposed measures to improve the infrastructure and services to encourage sustainable travel to the site.

The guide also states that the content of a transport assessment will vary depending on the location, scale and nature of the proposed development. Generally, a transport assessment should include:

- an assessment of travel characteristics
- a description of adopted measures to influence travel to the site
- a description of the transport impacts of the development in a dynamic network and the proposed mitigation measures.

3.3 Ireland

3.3.1 Ireland National Roads Authority 2014

The Ireland National Roads Authority published a document entitled *Traffic and transport assessment guidelines* (National Roads Authority Ireland 2014).

The guide states that the purpose of traffic and transport assessments is to ensure that proposals promote more efficient use of investment in transportation infrastructure, reduce travel demand and promote road safety.

Also provided within the guide are thresholds for planning applications above which a traffic and transport assessment is recommended. A transport assessment is automatically required if the development exceeds the thresholds in table 3.4 or if the traffic to and from the development exceeds:

- 10% of the traffic flow on the adjoining road, or
- 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive[6].

Table 3.4 Transport assessment thresholds (National Roads Authority Ireland 2014)

Land use	Size
Residential	200 dwellings
Retail and leisure	>1,000m²
Office, education and hospital	>2,500m²
Industrial	> 5,000m²
Distribution and warehousing	>10,000m²

The guide also includes advisory thresholds for traffic and transport assessments where national roads are affected. These are presented in table 3.5.

Table 3.5 Advisory thresholds for transport assessment where national roads are affected

Criteria	
Vehicle movements	100 trips in / out combined in the peak hours for the proposal
	Traffic to and from the development exceeds 10% of turning movements at junctions with and on national roads.
	Traffic to and from the development exceeds 5% of turning movements at junctions if location has potential to become congested or sensitive.

[6] In locations that experience particularly heavy congestion and when traffic flows from a proposed development are less than 5% of the traffic flows on the adjoining road, a transport assessment may still be required.

Criteria		
Size	Retail	1,000m² GFA
	Leisure facilities including hotels, conference centres and cinemas.	1,000m² GFA
	Business	2,500m² GFA
	Industrial	5,000m² GFA
	Distribution and warehousing	10,000m² GFA
	Hospital and education facilities	2,500m² GFA
	Stadiums	1,500-person capacity
	Community facilities including places of worship, community centres	1,000m² GFA
	Housing	50 dwellings within urban areas with a population less than 30,000. 100 dwellings within urban areas with a population equal to or greater than 30,000.
Parking provided	100 on-site parking spaces	

The guide also includes sub-thresholds for developments that may not exceed the thresholds for a transport assessment but may lead to concerns regarding effects on road safety and road infrastructure. A transport assessment should be required if the development meets two or more of the sub-threshold criteria specified in table 3.6.

Table 3.6 Sub- threshold criteria for transport assessment from (National Roads Authority Ireland 2014)

Sub- threshold criteria	
Vehicle movements	The character and total number of trips in/out combined per day are such that as to cause concern
Location	The site is not consistent with national guidance or local plan policy or accessibility criteria contained in the development plan
Other considerations	The development is part of incremental development that will have significant transport implications.
	The development may generate traffic at peak times in a heavily trafficked/ congested area or near a junction with a main traffic route.
	The development may generate traffic, particularly heavy vehicles in a residential area.
	The development is in a tourist area with potential to cause congestion.
	The planning authority considers that the proposal will result in a material change in trip patterns or raises other significant transport implications.

Section 3 of National Roads Authority Ireland (2014) outlines the content of a traffic and transport assessment. The key sections include:

- existing transport conditions including current traffic, critical links, committed transport proposal in the area, and other surrounding proposed development
- a description of the proposed development
- assessment of the impact of the proposed development on the transport network including analysis of the junction capacity

- analysis of cumulative impacts of all committed development in the area
- assessment of the site layout including parking, accessibility and access to the site
- mitigation measures for the transport impacts identified.

3.4 United States of America

A web-based search did not yield any national guidance on assessing developments in the USA. This section summarises relevant guidance provided by a small selection of jurisdictions where the corresponding guidance documents were readily accessible.

3.4.1 Arizona Department of Transportation 2015

The Arizona Department of Transportation (ADOT) publishing various traffic engineering guidelines and processes, and Section 240 of the guide *Traffic impact analysis* (Arizona Department of Transportation 2015) is the most relevant to this research. Section 240 includes guidelines for preparing traffic impact analyses for a new or an expansion of an existing development requesting access or modification of access to the state highway system. The ADOT's objective is to operate a safe and efficient highway system and the requirement for a traffic impact analysis is an approach to achieving the objective.

ADOT's requirement for a traffic impact analysis is predominantly based on traffic generation. A Category I Traffic Impact Analysis is required for developments which generate 100 or more vehicle trips during the peak hour and a Category 2 Traffic Impact Analysis is required for development which generates more than 500 vehicles per hour. Other aspects that could trigger a traffic impact analysis include:

- the existence of any current traffic problems or concerns in the local area such as an offset intersection, overcapacity of segments or intersections, a high number of crashes, etc
- the sensitivity of the adjacent neighbourhoods or other areas where the public may perceive an adverse impact
- impact on access to a state highway, such as proximity of proposed site driveways to existing driveways or intersections
- other specific problems or safety concerns that may be negatively impacted by the proposed development.

3.4.2 Santa Clara Valley Transportation Authority 2014

The Santa Clara Valley Transportation Authority produced a document entitled *Transportation impact analysis guidelines* (Santa Clara Valley Transportation Authority 2014). The guide states the purpose of a transport impact assessment is to evaluate land use decisions in Santa Clara County. This is to ensure the performance of the transportation system is not adversely affected by land use decisions, and the opportunities to minimise impacts and improve the transportation system are identified.

A transport impact assessment must be completed for development proposals expected to generate 100 or more new trips during the peak hours. The contents and methodology of the assessment is also included in this document. Of particular relevance is the need to carry out a future year (cumulative) assessment including an evaluation of the proposed development, committed developments and the expected growth in the area.

3.4.3 City of Issaquah Washington 2015

The City of Issaquah Development Services Department and Public Works Engineering have developed a document entitled *Transportation impact analysis guidelines* (City of Issaquah Development Services Department and Public Works Engineering Department 2015). The applicant is recommended to prepare a preliminary scoping memorandum and consult with the authority to determine whether or not further analyses are needed or whether a transport impact assessment is required.

The guide states a transport impact assessment is generally required when the development generates 30 or more trips during the peak hour. An assessment is also required if the development is a zoning change, or a subdivision. In some cases, an assessment may also be required if the authority finds that the traffic impacts of the development could potentially impact the safe and efficient operation of the existing transportation system, or is located near a sensitive area, a high crash area, or an area with traffic congestion issues.

3.5 Summary

The international literature review has identified that there are similarities among overseas transport assessment guidelines. For instance, peak hour traffic generation of the proposed development is a consideration in Australia, Ireland, UK and US. The size of the proposed development is also a consideration in both Ireland and UK. Interestingly, superseded guidance from the UK and existing Irish guidance includes thresholds for assessment based on the trip generation of the proposal as a proportion of the traffic flow on the frontage road. This approach considers both the scale of the development (trip generation) as well as its location (the characteristics of the frontage road).

There is no formal definition for ‘small scale developments’ identified in other countries. However, ‘small scale developments’ could be regarded as developments that do not require a transport assessment. These could be developments that are under the thresholds summarised in table 3.7.

The key difference is the process of scoping a transport assessment. In the UK, a transport statement form is compulsory for each planning application regardless of the size. This is a similar approach used in the City of Issaquah, Washington where applicants are recommended to complete a preliminary scoping memorandum and consult with the statutory authority to determine the level of transport assessment required (if any). These are viewed as measures used to assess the effects of ‘small scale developments’.

Although there is a slight difference in the approach used to identify the need for a transport assessment, the purpose of transport assessments is generally consistent. That is to assess the effects of the proposed development on the existing transportation environment including any safety implications and subsequently identify whether transportation improvements or mitigation measures are required to maintain the operational standards.

Table 3.7 Overseas transport assessment thresholds

Land use	Australia			Ireland		UK		USA			
				National roads are not affected	National roads are affected			Arizona		Santa Clara Valley	City of Issaquah
	No assess - ment	Transport statement	Transport assess-ment			Transport statement form	Detailed transport assessment	Traffic impact assess-ment (category I)	Traffic impact assess-ment (category II)	Traffic impact assessment	Traffic impact assessment
Food retail	Less than 10vph	10vph to 100vph	100vph or more	1,000m2 GFA		Compulsory for each application regardless of the size to provide an indication of whether further analysis is required.	1,000m2 GFA	100vph to 500vph	500vph or more	100vph (new trips)	30vph or more
Non-food retail							1,000m2 GFA				
Cinemas and conference facilities				1,000m2 GFA			1,000m2 GFA				
Leisure facilities							1,000m2 GFA				
Business				-	2,500m2 GFA		2,500m2 GFA				
Industry				5,000m2 GFA			5,000m2 GFA				
Distribution and warehousing				10,000m2 GFA			10,000m2 GFA				
Hospitals				2,500m2 GFA			2,500m2 GFA				
Higher and further education				2,500m2 GFA			2,500m2 GFA				
Stadiums				-	1,500		1,500 seats				

Land use	Australia			Ireland		UK		USA			
								Arizona		Santa Clara Valley	City of Issaquah
	No assess - ment	Transport statement	Transport assess-ment	National roads are not affected	National roads are affected	Transport statement form	Detailed transport assessment	Traffic impact assess-ment (category I)	Traffic impact assess-ment (category II)	Traffic impact assessment	Traffic impact assessment
					seats						
Housing / residential units				200 dwellings	50 dwellings within urban areas with a population less than 30,000. 100 dwellings within urban areas with a population equal to or greater than 30,000.		100 dwellings				
All activities				Traffic generation exceeds 10% of turning movements at adjacent road or junctions with and on national roads,			100vph or more				

Land use	Australia			Ireland		UK		USA			
				National roads are not affected	National roads are affected			Arizona		Santa Clara Valley	City of Issaquah
	No assess - ment	Transport statement	Transport assess- ment			Transport statement form	Detailed transport assessment	Traffic impact assess- ment (category I)	Traffic impact assess- ment (category II)	Traffic impact assessment	Traffic impact assessment
				OR Traffic generation exceeds 5% of turning movements at location or junction which has potential to be congested or sensitive							
				-	100vph, OR 100 on-site parking spaces						
Other considerations	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes

4 Comparison of New Zealand and overseas practice

4.1 Similarities

The literature review identified many similarities between New Zealand and international assessments of transportation impacts. For instance, the thresholds for transport assessments are typically based on the size of the development and/or the anticipated traffic generation. Smaller sized developments will warrant a less extensive transport assessment as the impacts are considered less significant than those of a larger sized development of similar land use.

Although the thresholds for transport assessment vary in New Zealand and in other overseas countries, the purposes of transportation assessments are generally consistent. These include to ascertain the operational conditions on the adjacent road network, to determine the effects on the traffic conditions and safety of the site and subsequently to identify whether transportation improvements or mitigation measures are required to maintain the operational standards.

4.2 Differences

Although transport assessment thresholds in New Zealand and overseas countries are attributed to the proposed development size and expected peak hour traffic generation, the thresholds are different in New Zealand compared with overseas countries.

The key difference is no transport assessment is required for developments that fall under the thresholds outlined in table 2.8. On the contrary, a transport assessment form in the UK is compulsory regardless of the size of the proposed development and is used by the statutory authority to screen out those applications where further information on the transport impacts of the proposal is required even if the proposal is below the relevant size.

The differences could be attributed to the different planning regulations or framework and the role of the respective statutory authority in each country or location.

5 Stakeholder and expert interviews

The research team contacted a number of key stakeholders and industry experts, identified in agreement with the research Steering Group, to collect the views from transportation, planning and legal practitioners and experts on a range of issues relating to the transport effects of small-scale developments. For the purposes of the reporting in this chapter the broad range of practitioners and experts interviewed are referred to as 'stakeholders' although in the strictest sense not all respondents have been identified as stakeholders.

The broad purpose of the stakeholder consultation was to:

- understand stakeholders' views on the transport effects of small-scale developments, specifically considering both the individual and cumulative effects and whether these need to be assessed
- understand stakeholders' views on what scale of development constitutes 'small'
- determine what matters are critical for assessment should this be required
- understand the potential risks, challenges and benefits from requiring the assessment of the effect on traffic of small-scale developments.

Stakeholder interviews were undertaken with the Transport Agency national and regional representatives, Auckland Transport, Auckland Council, Christchurch City Council, Selwyn District Council, Queenstown Lakes District Council, Wellington City Council, RCA Forum, TBD, New Zealand Planning Institute, Resource Management Law Association (RMLA), Property Council New Zealand, Foodstuffs South Island and VicRoads.

As the initial response rate of stakeholders approached by the research team was low, a questionnaire was circulated more widely to a number of institutions whose members were encouraged to provide feedback via an online SurveyMonkey® survey[7]. A number of stakeholder interviews were also carried out in person in Auckland, Wellington and Christchurch. Additional telephone interviews were conducted with participants outside these main centres or where face-to-face interviews were not able to be scheduled. These interviews generally lasted between 30 and 60 minutes. At each interview, two research team members were present. This enabled one team member to record notes on key points and themes while the other asked the interviewee the agreed set of questions. The responses were then compared and collated with all other responses for reporting purposes.

It is important to note multiple interviews were held with some stakeholder organisations to receive a cross-section of views across the breadth of the organisation. In some instances, not all the questions were raised with each stakeholder interviewee depending on the areas of knowledge and expertise of the interviewee. The questions for each stakeholder group were customised and the opportunity was provided to allow respondents to expand on the topics raised providing additional feedback.

A total of 32 responses were received comprising:

- 16 responses from TDB members predominantly active practitioners and including a retired expert in ITA guidelines
- two responses from Property Council members and one response from a developer

[7] The questionnaire was circulated to the New Zealand Planning Institute, RMLA and Property Council New Zealand; however, only members of the RMLA and Property Council New Zealand responded.

- four responses from RMLA members
- eight responses from the public sector, specifically the Transport Agency, Auckland Council, Auckland Transport and Christchurch City Council
- consensus views from the RCA Forum and VicRoads.

This chapter of the research report summarises the outcomes and learnings arising from these interviews. The responses from stakeholders have been anonymised and aggregated, although they are presented by industry sectors to illustrate differences between groups of respondents.

5.1 TDB members

5.1.1 Is there a need for the transport effects of small-scale developments to be assessed?

In general, the responses from TDB members indicated there were multiple factors to be considered when determining if the transportation effects of small-scale developments needed to be assessed and that the definition of 'small' required further exploration. A number of respondents acknowledged where a 'small' development was permitted, no further assessment was required under the RMA.

Factors identified as influencing whether or not an assessment of a small-scale development should take place included:

- the status of the activity
- a requirement to determine the context/capacity of the existing network (ie if the network was already at capacity then the development might need to be reviewed more carefully)
- the decision should be dependent upon location, land use type, zoning, district plan rules, likely change in traffic patterns and network infrastructure.

A significant number of the respondents agreed the effects should be assessed under certain conditions and not necessarily for every 'small' development. Caveats suggested by respondents included transportation impacts should be assessed at a regional level (district plan and/or zone characteristics), and when there was a cumulative effect of many small-scale developments proposed within the area. One respondent indicated an assessment should always be undertaken for parking supply and access.

A number of TDB members suggested the transportation effects of small-scale developments did not need to be assessed. The reasons given included:

- not being able to identify, isolate and mitigate the effects of small-scale developments
- in-zone activities (anticipated in that location by strategy or plan), should be inconsequential, if land use is permitted in accordance with zoning and the development complies with other rules within the district plan
- not needed within a RMA context.

5.1.2 What are the minimum development thresholds below which the transportation effects could be considered negligible?

TDB members generally considered a specific threshold should not be applied 'across the board' which would be problematic at a national level. References were made to thresholds already established by district plans and the ability of the development to meet parking and access requirements. TDB members

highlighted issues of context and incremental development as key drivers determining whether or not a development should be excluded from assessment. They concluded the decision should be driven by context rather than by a consistent national threshold. Assessment should be dependent upon council zoning and land use.

The respondents identified a variety of thresholds below which the transportation effects were considered negligible, these were:

- an assessment required with 200 residential lots
- commercial developments generating 200 trips per day
- 60 vehicle movements per hour during peaks
- greater than 5% increase in trips on surrounding road network requiring assessment
- not needed when subdividing a residential property providing added traffic, driveway width and road connection fell within same level of provision.

5.1.3 What matters should be considered if assessment is required?

Parking, site access and levels of congestion were raised most frequently as needing consideration, although one respondent noted, 'if an assessment is needed, all matters should be considered'. Additional matters identified included alternative transport modes, vulnerable road users, adjacent road hierarchy, intersection capacity, public transport provision, internal circulation, future scenarios and an understanding of development limits.

Context was a consistent theme, particularly in determining matters for consideration in an urban versus rural location. A lack of flexibility was also noted by one respondent, who stressed consents were not reviewed and a future roading project could alter the status of resource consent. Respondents questioned whether a restricted consent could be granted with a time limit (for example, consent would cease after two years unless the application was reapplied for).

5.1.4 What role does location have in determing potential impacts and necessary assessment?

Most TDB members identified location as being critically important when determining the potential impacts and necessary assessment. They suggested potential traffic and transport impacts of small-scale developments should be considered at the zoning stage.

Activities anticipated in a zone should require a lower level of assessment and if a site was appropriately zoned it could be difficult to enforce an assessment of effects under the RMA. One respondent noted 'it is clear from the RMA that the future environment should be considered, but that there is no need to effectively assess every or any future development that may occur'. They also noted that including traffic generated from sources yet to be consented made sense from a regional perspective. However, when dealing with an RMA assessment there should be little need to include other developments that might occur later (ie not yet zoned) as that responsibility should be part of the assessment of that rezoning proposal.

5.1.5 What should be the extent of the assessment?

A few of the respondents agreed the effects of small-scale developments were likely to extend as far as the closest intersection. However, most mentioned the extent of assessment would depend on the context and scale of the small-scale development.

Respondents consistently noted a 'one-size fits all' approach was not easy to define and professional judgement would always be required. A minority considered small-scale developments should be assessed solely on access, particularly where it was an in-zone development, and where the operation of the access interfered with the operation of an adjacent intersection.

5.1.6 What are the likely adverse effects and how can they be managed?

A large proportion of respondents noted adverse effects of small-scale developments on the operation, performance or maintenance of the road network were predominantly related to cumulative effects. Most felt consequential issues could have been better managed if there had been a requirement for assessment during the consenting process. However, this was not a unanimous stance as a few stated they had not experienced adverse effects and/or did not consider issues could have been better managed.

There was feedback that the resulting cumulative effects of permitted development or development not requiring traffic assessment should be considered by TLAs/RCAs in the initial enabling of that development at the district plan development stage.

5.1.7 Could the assessment of small-scale developments contribute towards providing a safe, efficient and effective road network?

Respondents were not definitive regarding the extent to which the assessment of small-scale development effects would contribute to providing a safe, efficient and effective road network. Some felt better management of the control of the development would only assist network efficiency and safety. Others suggested there would always be a number of small-scale developments needing assessment for minor situations such as a new access for a single dwelling on a major road where sight distances should be considered. However, most expressed a level of uncertainty as to whether or not this could be integrated into the network operating framework.

Respondents who indicated varying levels of opposition stated 'too time consuming and inefficient for negligible benefits' as reasons why they did not support the contribution of small-scale developments towards providing a safe, efficient and effective road network.

5.1.8 Are you aware of existing practices to evaluate individual/cumulative transportation impacts of small-scale developments?

Most respondents stated the assessment process was largely dictated by the relevant district plan requirements although intuition and professional judgement were also noted as being important. Standard traffic impact analyses or the ITA processes were referred to by a few respondents. In terms of cumulative effects, few respondents were aware of assessment processes at a more strategic level such as the zoning of a site.

5.1.9 Are there current practices not used when assessing effects?

Respondents considered best practice to involve using professional judgement in tailoring assessments to each proposal.

Some noted the use of transport models as being inappropriate and/or too costly for the scale of individual small-scale developments. However, when it came to assessing cumulative effects, one respondent stated this should be assessed by councils in their traffic model updates at a broader level.

5.1.10 What risks or challenges are anticipated if assessments are required for small-scale developments?

Respondents identified a number of risks and challenges should assessments be required for small-scale developments. In particular, they noted the cost to councils, rate payers and developers/applicants as an issue given the cost of consenting was already considered high for small-scale developments. Increased costs were seen as unjust where in many cases the costs were unwarranted as the assessment could produce negligible benefits.

Two respondents noted significant challenges when dealing with developments that were consented but not yet built, or with assessing proposals that might not eventuate.

Another consistent theme involved the difficulty of setting rules when individual requirements varied. Respondents considered a district plan should be robust enough to address a variety of matters for small-scale developments.

Furthermore, respondents identified the negative impact of developing land as a risk, particularly when the development was compliant and appropriately zoned.

5.2 Property Council members/developer responses

5.2.1 Is there a need for the transport effects of small-scale developments to be assessed?

Property Council members indicated that generally the transportation effects of small-scale developments did not need to be assessed, as road networks should be in place before allowing for maximum development.

5.2.2 Are specific thresholds or TLA discretion suitable approaches?

Property Council respondents were not consistent in their preferred approach. Neither approach was considered suitable to be applied as a blanket approach for all projects. A differing view put forward expressed specific but realistic thresholds were preferred so TLAs did not uniformly require a consent (adding time and cost to an overly regulated process).

5.2.3 Is there a tendancy to develop below thresholds to avoid assessment?

Despite mixed responses from other Property Council members, one respondent said they did not try to avoid assessment as it was normal for their developments to require assessment to ensure the safety and operation of the site.

5.2.4 If there was a more rigorous assessment for certain locations, would it influence your decision to develop in that location?

Respondents agreed a more rigorous assessment of small-scale developments in certain locations would influence their decision. However, location was critical to their industry (retail) and while assessments were expensive it was important to get the traffic assessment correct.

5.2.5 What risks or challenges are anticipated if assessments are required for small-scale developments?

Most felt regulatory or council involvement contributed to the risk of delay, elevated financial cost and uncertainty. Respondents also expressed concerns there was already too much regulation in the industry, and further assessment would add more frustration, time and cost.

5.2.6 What benefits do you anticipate if assessments are required for small-scale developments?

One respondent said they were already required to carry out assessments for all their developments given the scale and nature of their business. No respondents anticipated any benefits, as they reiterated there was too much regulation and too many processes to go through when trying to undertake development.

5.3 Resource Management Law Association (RMLA)[8] members

5.3.1 Do the transport effects of small-scale developments need to be assessed?

There was general consensus the transportation effects of small scale developments did not need to be assessed although this was noted with strong caveats relating to the location and size of the development, compliance with zoning, specifics regarding traffic generation and safety issues. One respondent noted that if the development was anticipated within the zone then assessment should only be required if the proposal did not comply with a certain transport rule in the relevant district plan.

5.3.2 What are the minimum development thresholds at which the transportation effects could be considered negligible?

Only two respondents answered this question. Both agreed decisions regarding the minimum development thresholds below which the effects could be considered negligible were dependent upon land use, function of the road, compliance with zoning, density and local context.

Where a specific threshold or range was provided, ranges were varied and included:

- assessments required in high-speed rural environments
- dependent upon time and number of movements
- reliant upon modal choice and encouragement of public transport and active modes.

One respondent stated the 'effects don't have to be negligible in order to be excluded from assessment. For example, if a road has a lot of spare capacity a development could double the vehicles on that road and still be acceptable'.

5.3.3 What additional matters should be considered

Only two respondents answered this question. One respondent indicated different matters for different zones were likely to be required. Assessment criteria should be linked back to ensure the policies, objectives and outcomes of a zone could be achieved by the proposed development. This suggested matters would always be dependent on the zone and activity. The following matters were specified by respondents as requiring consideration:

- sight distance
- safety and efficiency of accesses

[8] The disciplines of planning, law and engineering are represented in this section with experience ranging from 10 to 34 years.

- congestion
- public transport accessibility.

5.3.4 What role does location have in determining the potential impacts and how should zoning be taken into account?

Only two respondents answered this question. One respondent indicated permitted activities listed in a zone should be chosen so their traffic effects were generally acceptable, for example a supermarket should not be listed as permitted if the traffic effects of a supermarket would never be acceptable. This would therefore enable the council and the Transport Agency to plan maintenance and upgrades in accordance with the land uses permitted in the corresponding zones.

The second respondent also agreed a development's location had a role in determining the type of assessment required. Transport assessment criteria should be linked back to the location with some criteria carrying more weight depending on that location.

5.3.5 Are specific thresholds or TLA discretion suitable approaches?

All four respondents agreed development thresholds should be specified. Two respondents suggested specific thresholds be developed, as existing TLAs did not have a consistent approach. Council officers gave different advice as to whether or not a transport assessment was required. Another noted once the thresholds for consent were triggered, the council should have discretion to request further information about any relevant matter including transport assessments.

5.3.6 Is there a tendancy to develop below specified thresholds to avoid assessment?

There were three responses to this question. Two respondents agreed there was a tendency to develop below thresholds to avoid the need for assessment. One respondent felt even when a transport assessment had been provided, TLAs did not necessarily agree with their content and consider that the site had traffic issues.

5.3.7 Are you aware of existing practices to evaluate individual/cumulative transportation impacts of small-scale developments?

One respondent noted it depended on a case-by-case basis, and different practices were used including ITA, the Transport Agency and Austroads guidelines and district plan guidance.

5.3.8 How could assessments be undertaken to ensure consistency but with a level of effort appropriate to the scale and size of the development?

One respondent supported rules in a national template plan although another considered a 'one-size' fits all solution to be risky. Other options included leaving decision making to individual TLAs to specifically involve the Transport Agency, as well as providing rules and employing qualified traffic engineers at the council to make reasonably informed decisions. It was also suggested assessment criteria should be linked to the planning and transport objectives of a city/town/district zone.

5.3.9 What risks or challenges are anticipated?

Three respondents mentioned cost as a significant risk if assessment was required for small-scale developments. Another mentioned transport assessments were predictive and someone might later argue

a development was unauthorised if transport associated with the development grew to a level beyond that predicted in the original assessment.

5.3.10 What benefits are anticipated?

Two respondents felt there would be better outcomes for the public, as well as better land use and transport integration and improved council planning through information from the assessment regarding the future transport environment. One respondent did not think there would be any benefits from the assessment of small-scale developments.

5.4 Public sector responses

5.4.1 Do the transport effects of small-scale developments need to be assessed?

Generally, respondents considered small-scale developments did not require assessment; however, this was noted as dependent upon the location and size of the proposed development. One respondent felt small-scale developments should be assessed from a safety and efficiency perspective.

Another respondent said it depended on 'the nature of the development and the existing road environment adjoining it. For example, we may be more interested on what's occurring alongside an arterial road compared with a local street in terms of access'.

One local authority respondent noted the potential effects of small (and large) development were already assessed through the RMA provisions at the time of the district plan review or plan change. The district plan review process was partly reactive to existing growth and partly forward planning to accommodate further growth.

The respondent also stated the requirements for resource consent applications had also recently become more onerous, but had always included the need for traffic assessments (of unspecified format) on a case-by-case basis. The respondent went on to say 'whilst I can see the need for a common approach, and one contributor alluded to templating of district plans, which would hopefully include common meanings, – duplication should be avoided. As such I cannot see an obvious need to assess smaller developments individually'.

5.4.2 What are the minimum development thresholds below which the transportation effects could be considered negligible?

Respondents indicated minimum thresholds would be dependent on the zone and function of the road, number of movements and modal options. Another stated that developments occurring in areas where there were no capacity issues, should not be assessed. Another noted where there were not thresholds specified, professional judgement was used to decide whether an assessment was required.

Where specific thresholds or ranges were identified by the respondents, their responses varied and included:

- anything with trip generation of over 60 vehicles per hour
- more than 60 residential units
- more than 50 vehicle trips per peak hour for mixed use.

Another comment referred to the cumulative effects of adjacent developments and whether the proposed development resulted in a congestion 'tipping point'. The same respondent also noted the use of

equivalent car movements as a trigger was a useful tool for assessment, although having a more direct correlation to heavy vehicle movements would be useful.

5.4.3 What additional matters should be considered?

Respondents noted sight distance, access standards, modal choice, road hierarchy, traffic volumes, level of service of adjacent intersections, safety, efficiency, access and manoeuvring should be considered. One response specified that in congested environments it was important to assess critical matters such as parking supply versus demand.

5.4.4 What role does location have in determining potential impacts?

Location and zoning had strong links although zoning needed to be realistic, market friendly and flexible. For example, impacts on matters such as amenity would be more important in a residential zoned area compared with industrial zones. In urban areas such as city centres and suburban centre zones, one respondent stated the effects of the development parking demand should be assessed even though there was no requirement to provide off-street parking in these zones.

5.4.5 What is an appropriate extent of assessment?

Respondents indicated this should be assessed on a case-by-case basis depending on the scale of the development, the network capacity, road hierarchy and crash history. This might be related to the effects caused by the development or until the incremental effects from the proposal were considered to be negligible.

The strategic network was likely to require assessment within a range of scenarios. Staging could be useful to appreciate the rate of deterioration in network performance.

An assessment around 500m either side of the development was suggested as a suitable range by one respondent whereas another respondent said the assessment should be limited to the access and nearest intersection. Another respondent stated that in a rural context the assessment could extend to where the sealed network starts, as this would bring into account the impact of unsealed roads and dust generation.

5.4.6 What are the adverse effects and how should they be managed?

Respondents noted experiencing cumulative adverse effects; however, the effects needed to be demonstrable for developers to pay up-front costs. It was also noted in one response the aggregated effect of increased volumes of heavy vehicles on the network had significant effects in relation to increased road maintenance, adverse safety issues and dust generation. Another respondent stated where adverse effects had been experienced, this was an issue with the district plan requirements.

5.4.7 Could assessment contribute to providing a safe, efficient and effective road network?

The assessment of small scale developments could contribute towards providing a safe, efficient and effective road network although this did depend on local context and might only contribute to minor improvements.

The network operating framework was not seen as adding value for the assessment of small-scale developments or it was unclear how this could be integrated into the existing framework.

5.4.8 Are the current evaluation practices used?

While it was considered the current process was satisfactory with 'quick turnover', the likelihood of developers aiming to minimise cost and effort was noted. It was generally agreed using transport models for small-scale developments was not justified as they might not operate at a fine enough level or they might be too expensive to use. At a strategic level, one respondent stated transport models were helpful for informing a programme of intersection upgrades.

Resources could sometimes be limited which could result in more focus being placed on large developments with noticeable effects while the small-scale developments generally fell through. There was a desire to have more time/resource to do in-house assessments for these types of developments. Respondents also referred to the existing New Zealand research relating to trips and parking data but felt this was limited and did not necessarily apply to all regions.

5.4.9 What are the anticipated risks or challenges if assessments are required?

Additional cost was considered to be a significant risk if an assessment was required for small-scale developments. Furthermore, small developers could be discouraged and this could go against changes recently made within the RMA to minimise delay and cost for developments. Resource implications and delays to proposals were also noted. The requirement for assessment should be pitched at the right level relative to the size of the small-scale development. The intention should not be for 'Ma and Pa' developers to find the process of subdividing their lot to be cumbersome or more onerous than it should be. The same should apply for any process which could be considered to unnecessarily stifle development, enterprise and economic well-being generally.

5.5 RCA Forum

5.5.1 Is there a need for the transportation effects of small-scale developments to be assessed?

The consensus view from the RCA Forum suggested the transportation effects of small-scale developments needed to be assessed. The forum stated transportation was fundamental to every development and therefore had an effect. This was more obvious in rural networks where, for example, a smallish development like constructing a small substation (to service irrigation or dairying conversion) required intense traffic for a short period, potentially massive loads (transformers), and then hardly anything for the next 25 years.

5.5.2 What are the minimum development thresholds at which the transportation effects could be considered negligible?

Safety of the site and construction is independent of size and scale and it was reiterated the transportation effects of small-scale developments need to be assessed. There was no minimum development threshold (ie scale or size) at which the transportation effects could be considered negligible and therefore be excluded from assessment, as this was based on the effects, not the scale, of the development. The assessment needed to extend to the nearest intersection or until the effects were negligible.

5.5.3 What additional matters should be considered?

The assessment should take into consideration the location, adjacent road hierarchy, level of congestion at that point on the network, effects of intensification from construction or other resultant activity, safety

of access, effects on other users (tourist/cyclists), school bus routes, and any other matter relevant to the specific development or its site.

5.5.4 What role does location have in determining the potential impacts?

The location of the development could have a key role in determining the potential impacts and the level of assessment considered to be necessary for that development. The relevant district plan zoning and anticipated land use activity should reflect this, as well as considering access to the network and amenity.

5.5.5 Could the assessment of small-scale developments contribute to providing a safe, efficient and effective road network?

Such an assessment of small-scale developments could only contribute towards providing a safe, efficient and effective road network, and needed to be integrated into the network operating framework process.

5.5.6 What are the adverse effects and how should they be managed?

The RCA Forum feedback referred to adverse effects on the operation, performance and maintenance of the road network due to the effects of small-scale developments from the installation of substations, irrigation pumping stations, dairy lanes and building pads, and forestry plantation and harvest, although no specific examples were cited. Many of these issues could have been better managed if there was a requirement for assessment during the consenting process. It was reiterated by the forum that such an assessment of small-scale developments could only contribute towards providing a safe, efficient and effective road network, and needed to be integrated into the network operating framework process.

5.5.7 What are the anticipated risks or challenges if assessments are required?

There was a risk assessments could be seen as too time-consuming or complex relative to the scale of the development if it was a relatively small-scale development, and if assessments were required for small scale developments there would be a risk of increased political input into the process.

The RCA Forum response raised concerns there might be a greater risk of poor quality applications by developers or their agents, based on a lack of understanding between their needs for a return and the RCA's long-term asset life expectations.

5.6 Summary of responses

The following is a summary table combining the responses from the different sectors outlined above to provide a consensus view where one exists or to highlight the range of views on each matter. The following stage of the research will interpret the feedback from the stakeholder and expert interviews, and combine these with the learnings from the literature review.

The key messages and consistent themes collated from each of the groups are shown in table 5. 1.

Table 5.1 Summary of key messages from all respondents

Area of discussion/question	Consistent themes	Key messages
Requirement to assess Do the transportation effects for small-scale developments require assessment?	Not a straight forward 'yes or no' answer. Strong suggestions that small-scale developments do not require assessment but that professional judgement should always be applied	The answer is strongly dependent upon location, size of development, compliance with zoning, network capacity, crash history, traffic generation etc. One stakeholder considered the

Area of discussion/question	Consistent themes	Key messages
	and locational factors always taken into consideration. Generally, it was considered by respondents that, dependent upon proposed land use and location, the transportation effects of small-scale developments did not need to be assessed although some respondents disagreed.	transportation effects of small-scale developments needed to be assessed because transportation was fundamental to every development and therefore had an effect, but many others did not consider an assessment was required.
Matters for consideration If assessment is needed, what matters should be taken into consideration?	Parking, site access, levels of congestion, construction and safety matters. Requirement to consider context, especially the case in determining matters for consideration in an urban versus rural location. Different matters for different zones were required; matters would always be dependent on the zone and activity.	Also requiring consideration: Transport modes, vulnerable road users, adjacent road hierarchy, intersection capacity, public transport provision, internal circulation, adjacent road hierarchy, level of congestion at that point on the network, effects of intensification from construction or other resultant activity, safety of access, effects on other all other road users, school bus routes, and any other matter relevant to the specific development or its site. Decisions should consider future scenarios and an understanding of development limits. If an assessment was needed, all matters should be considered.
Minimum development thresholds What is the minimum development threshold at which the transportation effects could be considered negligible and therefore excluded from assessment?	A specific threshold cannot/should not be applied 'across the board'. One respondent considered all developments result in effects therefore no minimum threshold should be applied.	This would be dependent upon the zone and function of the road, number of movements and modal options. Assessment should be dependent upon council zoning and land use.
Specific thresholds or TLA discretion Which approach is preferred, specific threshold or TLA discretion?	No consistent themes in response to this question.	Specific thresholds so that advice was consistent and/or councils did not uniformly require a consent. Neither was suitable as a blanket approach.
Thresholds specified by TLA Where there are development thresholds specified by a TLA, is there a tendency to develop below the threshold?	No consistent themes in response to this question.	Yes. No. Avoid development altogether. Even when an assessment was completed, TLA did not necessarily accept findings.
Location What role does the location of the development have in determining the potential impacts and	Location was critically important and was interlinked with a number of environmental factors such as adjacent road hierarchy, network	Activities anticipated in a zone should require a lower level of assessment. More or less rigorous assessment required dependent upon location

Area of discussion/question	Consistent themes	Key messages
necessary assessment and how should zoning locations and anticipated land use activity be taken into account (if at all)?	capacity, road safety etc.	District plan zoning and anticipated land use activity should reflect the key role location has in determining the potential impacts and necessary assessment (as well as considering access to the network and amenity).
Extent of assessment How far should the assessment extend?	'One-size' approach not easy to state. Should be integrated into one network operating framework,	Minimum extent just to the development access or to the closest intersection. Minimum extent 500m either side of development. Safety of the site and construction are features that are independent of size and scale.
Adverse effects and ability to manage them Have there been adverse effects on the operation/performance/ maintenance of the road network due to the effects of small scale developments (either individually or cumulatively)? Could these issues have been better managed if there was a requirement for assessment during the consenting process?"	Adverse effects predominantly related to cumulative effects which possibly could have been better managed if an assessment during consenting was required. There have been adverse effects on the operation, performance and maintenance of the road network due to the effects of small-scale developments. Many of these issues could have been better managed if there was a requirement for assessment during the consenting process.	Effects need to be demonstrative for developers to pay 'up-front' costs. Adverse effects have been related to the increase in heavy vehicles in rural areas or the effects on parking demand in urban centres. Greater risk or poor quality applications.
Contribution to safety Could the assessment of small scale developments contribute towards providing a safe, efficient and effective road network? Could this be integrated into the network operating framework process?	There will always be small-scale developments that require assessment (for minor situations, eg a new access and associated requirement to assess sight distance). Could contribute but only in a minor way/negligible benefits	Uncertainty if this could be incorporated into the network operating framework process, possibly not. Such an assessment of small scale developments could only contribute towards providing a safe, efficient and effective road network, and needs to be integrated into the network operating framework process.
Existing evaluation practices Currently used practices to evaluate the transportation impacts of small-scale developments	Relatively wide awareness and use of various practices. On a case-by-case basis different practices and tools used. Existing practices used to evaluate the individual and cumulative transportation impacts of small-scale developments rely on professional analysis and inspection. Largely dictated by the requirements of the district plan.	Intuition and professional judgement required alongside tools and practices. Cumulative effects were difficult to assess without undertaking a significant amount of work. Existing practices used when assessing the effects (both cumulative and individual) of developments irrespective of scale.
Risks or challenges	Cost and delay.	District plan should be robust enough

Area of discussion/question	Consistent themes	Key messages
What risks or challenges are anticipated if assessments are required?	Negative impact on the ability to develop land. There was a risk assessments could be seen as too time consuming or complex relative to the scale of a small-scale development.	to address many matters for small scale developments. Already too much regulation. Small developers could be discouraged (contrary to recent RMA changes). There would be a risk of increased political input into the process if assessments were required for small-scale developments. There would also be a greater risk of poor quality applications by developers or their agents, based on a lack of understanding between their needs for a return and the RCA's long-term asset life expectations.
Benefits What benefits are anticipated if assessments are required for small-scale developments?	No consistent themes from respondents.	Better outcomes for public realm. Better outcomes for land use and transport planning. No benefits at all.
Consistency How could assessments be undertaken to ensure consistency in quality, thoroughness and results in a level of effort appropriate to the scale and size of the development?	'One-size' fits all is not appropriate.	Leave decision making to individual TLA. Provide particular rules and employee qualified engineer at council to make decisions.

6 Requirement for guidelines

This chapter seeks to consider fully the merits of guidelines being established for small-scale developments, provide further clarity around the need for assessment and identify potential risks and opportunities that may arise. This chapter includes consideration of:

- the legislative implications and constraints of the RMA with regards to any requirement for the assessment of small-scale developments
- the findings of the national and international literature review along with the stakeholder feedback, presented in a strengths, weaknesses, opportunities and threats (SWOT) analysis
- whether the absence of national guidelines on how small-scale development should be assessed truly limits the opportunity for effective network management and land use planning outcomes
- the anticipated costs, both monetary and time. These have been evaluated to assist in determining if the assessment of small-scale developments can be carried out while being cost effect, pragmatic and providing value for money.

Key conclusions and recommendations presented within this chapter are highlighted in text boxes.

6.1 Legislative considerations

The provisions of the RMA mean the potential effects of small- and large-scale developments can be assessed during district plan reviews, plan changes or development intensification above what is expected within the zone. When writing district plan provisions, local authorities must be mindful of the 'bigger picture' and the relationship of the district plan with regional land transport strategies and long-term plans that set out the strategic direction for the local area. The development of second generation plans are required to look forward, planning for future growth as well as reacting to existing growth.

6.1.1 Cumulative effects

The purpose of the RMA (among other aspects), under s5 of the Act includes '... avoiding, remedying, or mitigating any adverse effects of activities on the environment'. The definition of 'effect' under s2 of the Act, unless context otherwise requires, includes 'any cumulative effects which arises over time or in combination with other effects regardless of the scale, intensity, duration, or frequency of the effect'.

Therefore, the RMA requires district plans to set out a management framework to address effects including cumulative effects. This is reflected in the objectives and policies of district plans, for example the PAUP identifies eight issues of regional significance, one of which is enabling economic well-being. The policy relating to this issue (section 3.1 Commercial and Industrial Growth – Policy 6.d) states new town and local centres will be provided where they 'will avoid adverse effects, both individually and cumulatively with other centres, on the distribution, function, viability and amenity of other centres, and on existing and planned infrastructure including the road network, public transport networks and utilities

There is a lack of clear guidance both nationally and internationally on how to assess and determine the cumulative transport effects of developments. This in turn results in an inconsistent approach being taken towards the type and extent of assessment required for developments and appropriate mitigation, as noted by a number of stakeholder responses.

infrastructure'.

6.1.2 Individual effects

In terms of the requirement for assessment for the individual small-scale developments, this is governed by the status of the proposed activity within the zone. Where an activity is permitted within the zone and complies with the provisions of the relevant district plan, then no further assessment can be required by the consenting authority. Where an activity is non-complying, discretionary, restricted discretionary or controlled, a resource consent is required before the activity can be carried out. This allows the consenting authority to request for either a detailed assessment of effects regarding key matters relevant to that area or in respect of matters to which it has restricted its discretion in the district plan and/or impose conditions.

Therefore, if the rules within the relevant district plan are robust enough in response to important local matters such as site layout and access arrangements for small-scale developments so high levels of compliance are achieved, then no or minimal assessment should be necessary.

During the stakeholder consultation, concerns were raised about the need for assessment making the resource consent application process more onerous and cumbersome. Keeping the resource consent process as simple and straightforward as possible is something which is becoming a key consideration when developing the provisions of second generation plans. For example, the Christchurch pRDP[9] under Objective 3.3.2 – Clarity of Language and Efficiency states the following:

> *The District Plan, through its preparation, change, interpretation and implementation:*
>
> *1 Minimises:*
>
> *a Transaction costs and reliance on resource consent processes.*
>
> *b the number, extent, and prescriptiveness of development controls and design standards in the rules, in order to encourage innovation and choice.*
>
> *2 the requirements for notification and written approval.*
>
> *3 Sets objectives and policies that clearly state the outcomes intended.*
>
> *4 Uses clear, concise language so that the District Plan is easy to understand and use.*

Imposing the need for additional assessments for small-scale developments, could potentially be seen as contravening the objectives which seeks to minimise the number, extent and prescriptiveness of development controls. Particularly when the individual/cumulative effects of small-scale development are not apparent and there is no or limited demonstrable benefit to the transport network as a result of additional assessment.

6.1.3 National planning template

[9] It is noted that the Christchurch proposed Replacement District Plan was prepared under the CERA Act and as such there were specific requirements under the Act in the form of the Order in Council to achieve the sentiments in the objective.

The existing legislative and RMA framework limits the possibility of requiring any additional assessment of small-scale developments above what is already required through district plan provisions. If the requirement to assess small-scale developments is deemed to be warranted, then consideration should be given to the national planning template being developed by the Ministry for the Environment which was introduced through the Resource Legislation Amendment Bill in November 2015 (New Zealand Parliament 2015).

The national planning template will set out requirements or other provisions relating to any aspect of the structure, format, or content of regional policy statements and plans to address matters that the Minister considers are nationally significant or require national consistency. The provisions apply to regional policy statements, regional plans, and district plans. The national planning template may specify:

- the structure and form of regional policy statements and plans
- any of the matters which may be included in a national policy statement (cf. clause 29, inserting new section 45A(2) and (4)) as if the national planning template were a national policy statement
- objectives, policies, methods (including rules), and other provisions that must or may be included in plans
- objectives, policies, methods (but not rules), and other provisions that must or may be included in regional policy statements
- a time frame or time frames for councils to give effect to the whole or part of the national planning template, including different time frames for different local authorities and different parts of the national planning template
- if the national planning template specifies that a rule must or may be included in plans, whether the local authority must review a discharge, coastal, or water permit under section 130 to ensure compliance with the rule (part 1, clause 37, inserting new sections 58B and 58C into the RMA).

Essentially the national planning template will provide a standardised template and a common structure for plans, including a set of common definitions and enable national provisions set through national policy statements and national environmental standards to be clear and consistent. As local government needs to remain responsive to local issues, the national planning template will contain provisions for matters that are nationally significant and where national consistency is required.

> The national planning template could be a mechanism by which any national standard direction regarding the assessment of small-scale developments could be implemented. This would enable a consistent approach towards the requirement and matters for assessment for small-scale developments while recognising each local area could adapt provisions so they are relevant and applicable for their localised network needs. It could also provide a way of relating the objectives of assessment to relevant national strategic direction such as the ONRC or network operating framework.

6.2 SWOT analysis methodology

Following on the national and international literature review, key stakeholder interviews and expert interviews, the research team considered that an analysis of these findings following the SWOT analysis process would provide further useful direction.

A SWOT analysis is an abbreviation for strengths, weaknesses, opportunities and threats and is a structured evaluation method that includes those four elements. A SWOT analysis involves specifying the objective of the project and identifying the internal and external factors that are favourable and unfavourable to achieve that objective, as follows:

- **Strengths:** 'internal' characteristics of the project that give it an advantage and/or are deemed favourable
- **Weaknesses**: 'internal' characteristics that place the project at a disadvantage and/or are deemed unfavourable
- **Opportunities**: 'external' elements that the project could exploit to its advantage
- **Threats**: 'external' elements in the environment that could cause negative issues for project.

The SWOT analysis interrogates the project focus of determining whether or not small scale developments should require an assessment of the transport effects; therefore, the SWOT analysis has been undertaken from the perspective of a project objective/outcome of 'requiring an assessment for all small-scale developments'. The 'internal' or manageable positives and negatives associated with requiring a transport assessment are strengths and weaknesses respectively, and 'external' positive and negative factors associated with requiring a transport assessment are recorded as opportunities and threats respectively. Furthermore, strengths, weaknesses, opportunities and threats are weighted to differentiate between factors that may be perceived as significantly, moderately or slightly (minor) positive or negative.

The detailed SWOT analysis outcomes were drafted by aggregating all findings from the preceding sections of the research and classifying these as significant, moderate or minor. The resultant detailed analysis is essentially a 'raw' SWOT analysis with the results tabled in appendix A of this report and later refined through a workshopping process with the research Steering Group. A summary of the outcomes of the workshop-based analysis are presented in section 6.3.

6.3 SWOT analysis summary

The Steering Group met on 4 May 2016, and considered the draft detailed SWOT analysis presented in appendix A. A number of the issues in the SWOT analysis were identified as negligible, while others were considered to be near duplicates or individual's observations and were therefore discarded.

The SWOT analysis has been narrowed to provide a concise analysis of 17 key issues. There are more on the 'negative' side of the ledger, fewer on the 'positive' side and some sitting in a 'neutral/ negligible' middle ground.

A summation of the full SWOT analysis is provided in table 6.5. The summary brings together the key issues identified in the preceding sections. This indicates that a total of one significant and five moderate positive issues have been identified, along with five significant and one moderate negative issue.

Table 6.1 Summary of SWOT analysis

STRENGTHS			WEAKNESSES	
Significant (0)	**Moderate (1)**	**Negligible (3)**	**Moderate (1)**	**Significant (1)**
	Internal (TLA) and industry experience and capability currently exists	Transport assessments and associated thresholds already exist and are relatively well understood Are guidelines useful? Would facilitate consistent information and requirements A national 'one-size' fits all approach is viewed as problematic by some key stakeholders	Possibly duplicating RMA process	If a permitted activity, assessment cannot be required
OPPORTUNITIES			**THREATS**	
Significant (1)	**Moderate (4)**	**Negligible (2)**	**Moderate**	**Significant (4)**
If timing right could be better outcomes	Better outcomes, innovation Assessment of a development could be considered to be irrespective of size but rather, linked to effects. Specific thresholds scope and unambiguous requirements reduce uncertainty Assessment requirements do not need to be stringent but should be based on effects not size.	If at front end … improved outcomes for land use and transport integration Zoning and requirement for assessment are inextricably linked		Increased costs, time and resourcing required for possibly negligible benefits Negative development outcomes (ability to develop land, cost time, economic etc) Benefits not perceived by developers Existing regulatory requirements are perceived as extensive and obtuse.

6.3.1 Unallocated issues

The Steering Group agreed some of the identified strengths, weaknesses, opportunities and threats were sensitive to context or were very similar to each other. It was therefore concluded the following strengths, weaknesses, opportunities and threats (identified through the stakeholder consultation), were observations, or were largely duplicates of other issues identified and should not be allocated within the summary SWOT analysis:

- It may be argued that developments require some assessment regardless of size.
- District plans must guide decision making.
- Consideration has been given to possible thresholds and areas requiring assessment.
- Precedents exist.
- Existing thresholds differ nationally.
- Cumulative effects need to be demonstrable for developers to pay up-front costs.
- Cumulative effects could be assessed and better managed with positive outcomes.
- General consensus that assessment is not required.

The SWOT analysis has identified one significant opportunity, but six significant threats or weaknesses, in requiring transport assessments for small-scale developments:

Opportunity:

- It could lead to better outcomes.

Threats or weaknesses:

- If a proposed development is a permitted activity, an assessment cannot be required.
- Assessments would lead to increased costs, with time and resourcing required for possibly negligible benefits.
- Assessments could lead to negative development outcomes (ability to develop land, cost time, economic etc).
- Benefits of assessments are not perceived by developers.
- Existing regulatory requirements are perceived as extensive and obtuse.

- General understanding that developments do have transport effects regardless of size.

6.4 Impacts on network management and land use planning outcomes

6.4.1 Network management outcomes

The SWOT analysis lets us clearly examine the potential implications a requirement to assess small-scale developments may have on network management approaches and outcomes. As discussed previously in

section 2.3.1, the network operating framework is an approach to network management that seeks to achieve a one network approach to planning practices.

In terms of network management, there were no identified threats resulting from a requirement for small-scale development assessments. The only real weakness or challenge established by the analysis was how the cumulative effects of a small-scale development could be demonstrated, so any adverse effects on the network could be assessed and included as part of the network operating framework process. Having a clear picture of potential cumulative effects could assist in identifying and addressing the short, medium and long-term needs in terms of funding and investment.

The network operating framework process takes a multi-modal approach to network management and network planning. It is interesting to note the impact any requirement for assessment may have on active modes and public transport was not something raised by stakeholders or apparent in the SWOT analysis. However, it could be argued that when assessing the safety effects of a small-scale development then this could include active modes, for example, assessing the design of a vehicle access so it does not result in adverse effects on pedestrian activity along the frontage road.

From a network management perspective, the consequences of requiring assessments for small-scale developments were generally positive and could contribute (to varying extents) to achieving positive network management outcomes. The transport drivers for consenting authorities, the network operating framework and the ONRC have generally common themes (safety, efficiency and accessibility). Therefore, the requirement to assess developments due to their effects and regardless of size could help to achieve the desired outcomes in relation to safety, efficiency and accessibility at both a wider and localised network level.

Parts of the network where there has been an identified 'operating gap' (that is the difference between the actual performance measured for each mode and the target performance of the mode at each location), could also be used as a determining factor of when and what is required for an assessment of a small-scale development. For instance, an assessment may be required for a small-scale development that may only generate a small number of trips during the peak hour but is located on a heavily congested part of the network. Having undertaken such an assessment, if there are effects it is important to determine if they can be appropriately mitigated. This relates back to the opportunity for all developments to be assessed based on their effects and not necessarily the scale of the development.

6.4.2 Land use planning outcomes

The relationship between transport and land use planning is complex as both can affect each other in a number of significant ways. Land use planning can be defined as the process of managing change in the built and natural environments at different spatial scales to secure sustainable outcomes for communities (Ward et al 2007). An area's development pattern can be dictated largely by the location of transport infrastructure and land use choices. These in turn influence the economic activity, social interaction and the environmental quality of that area.

Existing or future land use planning is also likely to be a key factor governing the level of detail a transport assessment needs to go into if one is considered necessary. One example provided during the stakeholder engagement referred to Riccarton Road in Christchurch, which in recent years has seen a proliferation of motels being developed along its corridor. During this time Riccarton Road, a minor arterial road, has gradually become one of the more congested parts of the network which can be in part

attributed to the cumulative effects of motel development in this area[10]. The local area is largely zoned for low to low-medium density residential development; however, the cumulative effects of such a large number of motels compared with purely private residential development may not have been anticipated.

Similarly, another stakeholder cited poor land use planning regarding the number of small retail developments along Blenheim Road in Christchurch. While these small retail developments have no or minor traffic effects individually, their cumulative effect has significantly affected the efficiency of the corridor[11]. It was considered there needs to be more collaboration between land use planners and traffic engineers to ensure better outcomes.

Land use planning and zoning are intrinsically linked. The policies, objectives and rules within district plans are written to achieve the desired outcomes of a particular zone and the land use within that zone. Any thresholds or assessment criteria proposed for small-scale developments could be specified so they assist in achieving those desired zoning and land use outcomes already set out in the relevant district plan. On the other hand, it must be acknowledged that under the RMA provisions no assessment of the effects is required where activities are permitted or their effects are anticipated within that zone. A number of stakeholders noted instances where poor outcomes have generally been as a result of poor district plan rules (for example the close proximity of a driveway relative to an intersection with no requirement for on-site manoeuvring) and a revision to the rules may be helpful in preventing these poor outcomes from recurring.

The assessment of small-scale developments could result in improved land use and transport integration as well as improved outcomes for the public realm. However, the stakeholder engagement has found that developers' decisions on where to develop can easily be influenced by more rigorous assessment requirements dependent on zoning or land use. This could potentially have the opposite effect on where the district plan wants to see development occur. For example, where intensification occurs this may be where the transport network is nearing capacity, and it could be argued this is where the transport effects of a development need to be assessed. However, more stringent assessment requirements for development in these areas of intensification may dissuade developers, who develop elsewhere, thus contributing to poor land use outcomes.

Through the SWOT analysis it is clear there is potential for the assessment of small-scale developments to achieve or at least contribute to achieving a better integration between transport and land use planning. Careful consideration is needed as to how the requirement for the assessment of small-scale developments is implemented so they do not result in unintended outcomes.

6.5 Costs associated with requiring assessment

The research team circulated another questionnaire to a range of stakeholders via an online SurveyMonkey® survey to TDB members. The survey encouraged feedback regarding the potential costs (monetary or other measures such as time) associated with assessing the effects of small-scale developments based on their experience in the industry. Respondents were also asked to provide examples where a lack of requirement for the assessment of small-scale developments has led to a poor

[10] This was provided as an example through stakeholder feedback and the researchers are not aware of the extent to which individual and/or cumulative effects were assessed through the planning application process.

[11] It is noted that this was provided as an example through stakeholder feedback and the researchers are not aware of the extent to which individual and/or cumulative effects were assessed through the planning application process.

network management or land use planning outcome. A total of five responses were received and this feedback was used to inform this chapter of the research report. Due to the low number of responses, caution is advised as these do not necessarily represent the views of the industry.

6.5.1 Costs for developers

If there was a requirement to assess the transport effects of small-scale developments, respondents quoted costs in the range of two days to two weeks of professional fees which are likely to be incurred by developers. One respondent noted that on occasion a letter from a traffic consultant supporting a small proposal might be accepted by a TLA costing approximately half a day's fees. However, the same respondent also stated a letter without supporting evidence is often meaningless and consequently an ITA is often the most basic form of assessment needed to effectively demonstrate the effects of a proposal adequately.

The costs quoted by respondents correspond with evidence submitted as part of the Christchurch Replacement District Plan Hearing process, which found the average of low and high estimates for a basic ITA could generally be conducted in under two weeks (Nunns 2015). The evidence acknowledged that undertaking an ITA (basic or full) might increase the cost and time required for a development and often longer consenting processes could increase the cost of holding land for development.

The focus of the research was on small-scale developments which can broadly be considered as those developments that fall below the thresholds of basic ITAs. Therefore, the costs quoted in the evidence do not reflect the exact level of effort or costs that might be required for small-scale developments. But if for example the level of effort required for an assessment of a small-scale development is half that of a basic ITA, then costs in the region of two to seven days of fees are likely. Dependent on the overall size and scale of the development this may represent a small or a fairly sizeable proportion of the costs for the small-scale development. This cost would not include any additional fees due to lengthening the consenting timeframes and implications on the fees for holding land/rents etc.

The nature and location of the development can also have a significant bearing on assessment costs. One respondent provided anecdotal evidence in relation to cleanfill and quarry projects, which are usually low traffic generators albeit with a high proportion of heavy vehicles, but due to the rural location of these developments the costs to undertake surveys can be substantial.

There would be an additional resource consent application cost if, for example, the proposal was otherwise permitted (that is, it met all the other district plan rules) but required an assessment as a small-scale development.

Aside from the monetary cost of preparing an assessment, there is also the time involved. Timeframes provided by respondents were in the range of two to three weeks. The length of time involved can depend on the time required to meet, design, report and lodge with council, which is usually followed by some sort of council request for further information (RFI). Council RFIs can result in numerous weeks or months being added to a project before it begins to be developed or built.

Often assessments can be conducted concurrently with other parts of a resource consent application, meaning the requirement to undertake an assessment may not always necessarily result in lengthening the resource consenting process.

6.5.2 Costs for consenting authorities

Respondents were also asked about their experience in relation to the costs likely to be incurred by consenting authorities as a result of having to review and process small-scale development assessments.

One respondent stated if the proposal was so small as to create less than minor effects on the network, then the assessment time was likely to be insignificant and would be carried out as part of the overall engineering assessment for their consent[12]. In their experience, this could amount to half a day's work and be covered by the fees to assess the engineering aspect of a resource consent application.

On the other hand, costs in the order of two days to two weeks of work were quoted by another respondent, where the consenting authority may need to engage the services of a transport consultant to review the proposed development and provide advice.

Where a developer (or their professional advisor) has tried to keep costs to a minimum and therefore cut corners, then comparatively significant costs could be incurred by the consenting authority to ensure the assessment submitted is appropriate. Anecdotally, consenting authorities frequently rely on the hearing process to ensure the assessment is robust; however, the risk is that no one can afford to supply expert submissions in opposition. Therefore, an inadequate assessment has, by default, been good enough.

The aspect of additional time was noted by two respondents as being the key issue for consenting authorities where additional assessments are required, including:

- Additional processing time if files or information need to be retrieved from recall, which can add weeks.
- Often pre-application meetings need to take place; these can take a couple of weeks to arrange and are not always beneficial to the consenting authority or the developer.
- The time associated with the need for other staff/consultants such as planners to engage with the developers' consultant, to manage the project, to consider any advice received and prepare a report.

Regardless of the size of the development, additional time will be imposed on both the consenting authority and the developer if an assessment of the transport effects of the proposal are considered necessary. The length of time may not necessarily be proportional to the scale or size of the proposed development.

[12] The authors note this would imply a resource consent is required for the development for some other reason which may not be the case for a small-scale development if it meets the other rules of the district plan.

7 Conclusions and recommendations

7.1 Conclusions

A review of transportation assessment requirements in New Zealand confirms there is no specific definition or classification for 'small-scale developments'. Therefore, in the context of this research small-scale developments are treated as those that fall under existing thresholds for transport assessments and ITAs in relation to their size or scale.

Any requirements for additional assessment for small-scale developments need to be carefully considered and if implemented should be done in a way that does not contravene objectives that seek to simplify and reduce the prescriptiveness of development controls. The national planning template is potentially one way that a consistent approach towards the requirement and matters for assessment for small-scale developments could be standardised nationally. The template could also provide a way of relating the objectives of assessment of relevant national strategic direction such as the ONRC or network operating framework.

The SWOT analysis demonstrated the assessment of small-scale developments could achieve or at least contribute to achieving a better integration between transport and land use planning. The costs likely to be incurred by consenting authorities and developers are not necessarily going to be proportional to the size of the development and will largely be dependent on the context of the development and the nature of the activity.

Additional consideration is likely to be required when considering whether or not a small-scale development requires a transport assessment regardless of the style, size or format of such an assessment. Based on stakeholder and expert feedback, consideration is expected to include the following:

- Does the development trigger restricted discretionary (or worse) status as a result of non-compliance with regard to the traffic and transportation rules of a district plan?
- Is a safety and/or accessibility assessment required?
- Are heavy vehicles a high proportion of the trips generated by the development?
- What is the status of the surrounding transport network (ie the adjacent road hierarchy) and the sensitivity of the receiving environment (existing level of service)?
- How will the proposed development contribute to and/or impact on safety, efficiency, travel time, accessibility and resilience?

The 'additional considerations' outlined above are likely to be valuable when determining whether or not a small-scale development does indeed require a transport assessment. The level of transport effects caused by a land use activity is dependent on the characteristics of the land use and the location of the proposed activity within the transport network. Therefore, the contextual considerations will be the key drivers behind any requirement for assessment, more so than the application of thresholds.

Following the presentation of the research findings to the research Steering Group and subsequent discussions on the merits of developing guidelines for assessing small-scale developments, consensus was reached on a number of points and it was unanimously agreed not to develop prescriptive guidelines for the industry.

The key conclusions arising from this research as agreed between the research team and Steering Group are as follows:

- Any requirement for assessments should focus on effects/outcomes and therefore be linked to the context rather than through establishing thresholds for assessment.
- Any threshold approach will inevitably result in applications just below the threshold to avoid the need for assessment or to minimise costs.
- It is unreasonable to require assessments to be prepared for all small-scale developments at resource consent stage of the planning process because in many cases the costs would be unwarranted as the assessment could have negligible benefit.
- Network performance expectations concerning whether effects should be considered to be acceptable are not well articulated or understood.
- The assessment of developments should take the network operating framework into consideration to align with the one network approach, rather than looking at individual sites, routes or modes.
- The likely cost implications of requiring an assessment are significant and include the cost of time delays to developers, the cost of statutory changes including application costs and intangible costs such as those associated with the risk a development could be turned down.

While cumulative effects were not investigated in detail within the scope of this research, they were addressed at a high level and were a recurring theme in discussions with stakeholders. Conclusions addressing cumulative effects as agreed between the research team and Steering Group are as follows:

- Cumulative effects are most effectively managed at a strategic level in the planning process (ie district plan and plan changes) and not at the application stage. More emphasis should be placed on managing cumulative effects within the planning process and further investigation is recommended to determine how this can be most effectively achieved.
- Cumulative effects are difficult to assess at resource consent stage. In the absence of clear guidance to manage cumulative effects in the planning process, it is recommended that consents could be approved up to the limits specified in the district plan and then no more development should occur or assessments undertaken thereof.

7.2 Recommendations

The following recommendations arose from this research:

- Consideration for a transport assessment should be based on the potential effects or outcomes in the context of the individual development rather than adopting assessment thresholds for various land uses.
- Planning authorities and all transport and road controlling authorities are encouraged to address cumulative effects at a strategic level in the planning process (ie district plan and plan changes).
- Additional work is recommended to establish guidance towards satisfactorily addressing cumulative effects at plan change stage rather than requiring individual assessment for each development.

8 References

Abley, S, P Durdin and M Douglass (2010) Integrated transport assessment guidelines. *NZ Transport Agency research report 422*. 110pp.

Arizona Department of Transportation (2015) *ADOT traffic engineering guidelines and processes. Section 240 – Traffic impact analysis*.

Auckland Council (2013) *The proposed Auckland unitary plan* (PAUP). Accessed 24 November 2016. http://unitaryplan.aucklandcouncil.govt.nz/Pages/Plan/Book.aspx?exhibit=ProposedAucklandUnitaryPlan

Auckland Regional Transport Authority (ARTA) (2007) Integrated transport assessment guidelines. Auckland: ARTA.

Auckland Transport (2015) *Integrated transport assessment guidelines*.

Auckland Transport (2016) *Preparing an ITA – guidance on how to prepare an ITA, including its purpose, scope, transport modelling and mitigation*. Accessed 14 January 2016. https://at.govt.nz/about-us/reports-publications/integrated-transport-assessment-guidelines/preparing-an-ita/

Austroads (2016) *Guide to traffic management part 12: traffic impacts of development*. Sydney: Austroads. 108pp.

Christchurch City Council (2015a) *The proposed Christchurch replacement district plan*. Accessed 25 November 2016. http://proposeddistrictplan.ccc.govt.nz/Pages/Plan/Book.aspx?exhibit=ProposedDistrictPlan&hid=36201

Christchurch City Council (2015b) *Draft integrated transport assessment guidelines*.

City of Issaquah Development Services Department and Public Works Engineering Department (2015) *Transportation impact analysis guidelines*.

Department for Communities and Local Government (2014a) *Transport assessments and statements | planning practice guidance*. Accessed 11 January 2016. http://planningguidance.communities.gov.uk/blog/guidance/travel-plans-transport-assessments-and-statements-in-decision-taking/transport-assessments-and-statements/

Department for Communities and Local Government (2014b) *Transport evidence bases in plan making and decision taking*. Accessed 11 January 2016. http://planningguidance.communities.gov.uk/blog/guidance/transport-evidence-bases-in-plan-making/

Department for Regional Development & Planning Service of the Department of the Environment (2006) *Transport assessment guidelines for development proposals in Northern Ireland*.

Department for Transport and Department for Communities and Local Government (2007) *Guidance on transport assessment*. London: TSO.

European Commission (1999) *Guidelines for the assessment of indirect and cumulative impacts as well as impact interactions*. Office for Official Publications of the European Communities.

Hamilton City Council (2012) *Hamilton city operative district plan*. Accessed 3 December 2016. www.hamilton.govt.nz/our-council/council-publications/operativedistrictplan/Pages/default.aspx

Hamilton City Council (2014) *Hamilton City Council proposed district plan, volume 1, chapter 25 City-wide – decisions*. Accessed 25 November 2016. www.hamilton.govt.nz/our-council/council-publications/districtplans/PODP/Pages/Contents.aspx

Hamilton City Council, Waikato Regional Council and NZ Transport Agency (2015) *Network operating framework – optimising your network for all modes via a one network approach.*

Hewitt, S and S Moslih (2013) The application of network operations planning framework to assist with congestion management and integrated land use and transport. *Austroads AP-R426-13*. 91pp.

Institution of Highways and Transport (1994) *Guidelines for traffic impact assessment.* London: Institution of Highways and Transport.

Ministry for the Environment (1991) *Resource Management Act 1991*. Accessed 24 November 2016. www.legislation.govt.nz/act/public/1991/0069/latest/whole.html#DLM230265

National Roads Authority Ireland (2014) *Traffic and transport assessment guidelines*.

New Zealand Parliament (2015) *Resource Legislation Amendment Bill 2015*. www.parliament.nz/en-nz/pb/legislation/bills/digests/51PLLaw22981/resource-legislation-amendment-bill-2015-bills-digest

Nunns, PGR (2015) *Statement of evidence on behalf of Christchurch City Council – transport economics*.

Santa Clara Valley Transportation Authority (2014) *Transportation impact analysis guidelines*. Santa Clara Valley Transportation Authority.

Scotland and Transport Scotland (2012) *Transport assessment guidance*, Edinburgh: Scottish Government.

Tauranga City Council (2013) *Tauranga city plan*. Tauranga City Council. Accessed 25 November 2016. https://www.tauranga.govt.nz/documents-reports/councils-regulatory-documents/tauranga-city-plan/city-plan.aspx

The Road Efficiency Group (2013) *Applying the one network road classification guidelines*. Wellington: NZ Transport Agency.

Transit New Zealand (2007) *Planning policy manual for integrated planning and development of state highways*. Wellington: Transit New Zealand.

Transport for London (TfL) (2006) *Transport assessment best practice*. London: TfL.

VicRoads (2006) *Guidelines for transport impact assessment reports – for major land use and development proposals*. Melbourne: VicRoads

Ward, M, J Dixon, B Sadler and J Wilson (2007) *Integrating land use and transport planning*, Wellington: Land Transport NZ. 116pp.

Western Australian Planning Commission (WAPC) (2006) *Transport assessment guidelines for developments*. Goverment of Western Australia.

Worts, C, B White and J Blake (2013) *The use of geospatial to enhance collaborative transport planning*. Hamilton: New Zealand Planning Institute (NZPI).

Appendix A: Detailed SWOT analysis

The methodology for the SWOT analysis is presented in section 6.2 of the report with a concise summary of results presented in section 6.3. Prior to the workshopping the SWOT analysis with the research Steering Group a more detailed set of SWOT analysis outcomes was tabled by aggregating all findings from the preceding sections of the research and classifying these as significant, moderate or minor.

The resultant detailed analysis is essentially a 'raw' SWOT analysis with the results tabled in the following sections.

A1 Strengths: requiring a transport assessment of small-scale developments

The project's strengths are the internal factors likely to be favourable to the success of the project. The table below outlines the 'internal and manageable' aspects of the project that are considered advantages.

Table A.1 Strengths – significant advantage, moderate advantage, minor advantage

Significant advantage	Moderate advantage	Minor advantage
Some council officers are already tasked with determining the need for a transport assessment for a small-scale development. If a requirement to assess small-scale developments is applied, advice from council officers would be consistent throughout the organisation. Safety of a site and construction is independent of size and scale so all developments may require assessment regardless of size. If it is generally accepted there will be situations where a small-scale development requires an assessment, an overall requirement would remove uncertainty about the need for a transport assessment. The transport drivers for most TLAs generally have common themes (safety, efficiency and accessibility). These drivers could be considered as irrespective of the size of a development but rather, suggest that requirements should be linked to the effects of a development.	If a requirement to assess small-scale developments is applied, advice from council officers would be consistent throughout New Zealand. Thresholds for developments already exist and are well established in district plans. If small-scale developments are required to have transport assessments dependent on context and land use, council district plans should be able to strongly direct and guide the requirement for such an assessment. The level of transport assessment required for a small-scale development may vary between developments depending on zoning and land use context, adjacent road network and specific thresholds if applied (for example, simple, moderate, broad and extensive). Industry capability appears sufficient to meet increased demand to undertake minor, small and moderate transport assessments if required.	National (and international) experience strongly suggests the purpose of a transport assessment is generally consistently understood. A requirement for all developments, regardless of size, to be assessed for the effects of transport would result in a reduction in the ability of developers to develop 'just below' thresholds. Possible thresholds and ranges for small-scale developments have been stated by some key stakeholders (although varied in response). The definition and purpose of transport assessments is relatively well understood by developers, TLAs and the wider industry. There is the potential for thresholds and/or assessment criteria to be linked back to district plans to ensure the policies, objectives and outcomes of a zone can be achieved by the proposed development (the assessment criteria should be such that the objectives of the zoning can be achieved).

A.2 Weaknesses: requiring a transport assessment of small scale developments

The project's weaknesses are the internal factors deemed as likely to be unfavourable to the success of the project. Table A.2 outlines the internal aspects of the project that are considered disadvantages.

Table A.2 Weaknesses – significant weakness, moderate weakness, minor weakness

Significant weakness	Moderate weakness	Minor weakness
In-zone activities (anticipated in the location by strategy or plan), should be inconsequential if land use is permitted in accordance with zoning and the development complies with other rules within the district plan. Key stakeholders who have indicated opposition to the requirement for small-scale developments to have transport assessments have stated the benefits of assessment are negligible when weighted against the cost and time required to undertake an assessment. There would probably be additional cost and resourcing requirements for developers which is likely to be viewed as unwarranted if the development indicates no or negligible effects.	There is doubt a specific threshold could be applied 'across the board' and application of this could be problematic at a national level. A national template could create a 'one-size' fits all scenario which is generally agreed as being undesirable. Could be seen to contravene emerging policies/objectives that seek to minimise the number of assessments required and keep the RMA process as straightforward as possible. There would probably be additional cost and resourcing requirements for councils (and therefore ratepayers) which may be viewed as unwarranted if the development indicates negligible effects. Cumulative adverse effects need to be demonstrable for developers to pay up-front costs. May be difficult to set thresholds and rules when the individual requirements for small-scale developments vary so greatly.	There is a view that potential effects of small-scale developments are already assessed at the time of a district plan review, the requirement to further assess could be perceived as duplication. Existing thresholds, while consistently attributed to proposed development size and traffic generation, differ notably nationally and internationally.

A3 Opportunities: requiring a transport assessment of small scale developments

The opportunities related to the project are the external factors deemed as potentially having a positive contribution to and enabling the success of the project. Table A.3 outlines the external elements of the project considered to be to its advantage.

Table A.3 Opportunities – significant opportunity, moderate opportunity, minor opportunity

Significant opportunity	Moderate opportunity	Minor opportunity
There is an opportunity to consider the requirement for an assessment to always be undertaken in relation to certain areas, for example, parking, access and safety. Transport is generally considered to be a fundamental component of every development and therefore has an effect and should be assessed. Specific and realistic thresholds may be preferred by some developers so they know exactly what is required prior to consent (and do not uniformly require an assessment regardless of development specifics). A perception that there is not a consistent approach to the requirement to assess small-scale developments could be addressed by a specific threshold. This could address an internal (TLA) perception and a national perception. Would provide the opportunity for all development proposals to be assessed based on the effects and not the scale of the development.	Requiring an assessment for small-scale developments has the potential to result in improved outcomes for the public realm, better land use and transport integration and improved council planning. Feedback from some stakeholders is that the effects of small-scale developments should be assessed under certain conditions. There is an opportunity for transportation impacts to be assessed when there is a cumulative effect of many small-scale developments proposed within the area. The cumulative effects and consequential issues of small-scale developments could possibly be better managed with the requirement for assessment during the consenting stage. A narrower scope in assessment requirements may be more palatable to developers if clearly understood in advance of development. Precedents exist internationally requiring the assessment of smaller developments such as the use of traffic impact statements and transport statements.	The need for an assessment could be dependent on council zoning; this is already established in existing district plans. Indicative support appears to exist for zoning context to be the key driver to determine the requirement to assess. This may defend the requirement for small-scale developments to be assessed (although possibly with different levels of assessment dependent on zoning and land use). There is the potential for better management of the control of development to assist with providing a safer, more efficient and more effective road network. Information related to future traffic generation, particularly in relation to the cumulative effects of small scale developments, could be used to inform network operating and network improvement plans that show how the performance of the network is expected to change over time.

A4 Threats: requiring a transport assessment of small scale developments

The threats related to this project are the external factors deemed as potentially having a negative impact on the successes of the project. Table A.4 outlines the external elements of the project that are considered to disadvantage the project.

Table A.4 Threats – significant threat, moderate threat, minor threat

Significant threat	Moderate threat	Minor threat
Currently, if a small-scale development is 'permitted' then no further assessment can be required under the context of the RMA. If a site is zoned appropriately it could be difficult to justify an assessment of traffic effects. A general consensus amongst key stakeholders, within all sectors[13], is that a transport assessment is not required for small-scale development. The cost of consenting is already viewed as substantial. The time taken to work through the consenting process is already viewed as substantial. The requirement to assess small-scale developments could have a negative impact (or the perception of a negative impact), on the ability to develop land; particularly when the development complies and is appropriately zoned.	Developers could avoid development altogether and choose to invest elsewhere, for example, adjoining local authority or in extreme cases offshore. There is a perception the current political climate is extremely supportive of development and developers, a rule that may be perceived as having a negative impact on development and/or developers may not be palatable to central government. Some developers consider there are no benefits associated with increased requirements. There is already a perception of too much regulation and too many processes when trying to undertake developments. A requirement to assess small-scale developments and the subsequent process could be considered as unnecessarily stifling development, enterprise and economic development.	Developers' decision making regarding location may be influenced by a more rigorous requirement to assess if dependent upon zoning and or land use.

[13] See summary of stakeholder and expert interviews

Appendix B: Glossary

AADT	annual average daily traffic volume
ADOT	Arizona Department of Transportation
ARTA	Auckland Regional Transport Authority
DfT	Department for Transport (UK)
DOE	Department of Environment (UK)
DRD	Department for Regional Development (UK)
GFA	gross floor area
GLFA	gross leasable floor area
FTE	full-time equivalent
ITA	integrated transport assessment
LGA	Local Government Act 2002
LTA	Land Transport Act 1988
LTMA	Land Transport Management Act 2003 (LTMA)
ONRC	One Network Road Classification
PAUP	Proposed Auckland Unitary Plan
pRDP	proposed Replacement District Plan (Christchurch)
RCA	road controlling authority
RFI	request for further information
RMA	Resource Management Act 1991
RMLA	Resource Management Law Association
RPS	regional policy statement
SWOT	strengths, weaknesses, opportunities, and threats
TDB	Trips Database Bureau Inc
TfL	Transport for London
TIAR	transport impact assessment report
TLAs	territorial local authorities
Transport Agency	New Zealand Transport Agency
TTA	traffic and transport assessment
UK	United Kingdom
USA	United States of America
VicRoads	Road Corporation of Victoria
vph	vehicles per hour
vpd	vehicles per day
WAPC	Western Australian Planning Commission