

Managing road safety and efficiency under the *Resource Management Act 1991*

The way forward

Best practice guideline



Managing road safety and
efficiency under the *Resource
Management Act 1991*:
The way forward

Best practice guideline

March 2007

© 2007, Land Transport New Zealand, www.landtransport.govt.nz

ISBN 978-0-478-28966-4

Copyright information

This publication is copyright © Land Transport New Zealand. Material in it may be reproduced for personal or in-house use without formal permission or charge, provided suitable acknowledgement is made to this publication and Land Transport New Zealand as the source. Requests and enquiries about the reproduction of material in this publication for any other purpose should be made to:

Manager, Information
Land Transport New Zealand
PO Box 2840
Wellington 6140

The permission to reproduce material in this publication does not extend to any material for which the copyright is identified as being held by a third party. Authorisation to reproduce material belonging to a third party must be obtained from the copyright holder(s) concerned.

More information ...

Land Transport New Zealand
Published March 2007

ISBN 978-0-478-28966-4

If you have further queries, contact our call centre on (freephone) 0800 699 000 or write to us:

Land Transport New Zealand
PO Box 2840
Wellington 6140

This document is available on Land Transport New Zealand's website at **www.landtransport.govt.nz**

Contents

- Preface i
- Executive summary ii
- 1 Introduction 1**
 - 1.1 Introduction 1
 - 1.2 The BPG 1
- 2 Background 2**
 - 2.1 Evolution of the BPG 2
 - 2.2 BPG development and consultation 3
- 3 Purpose 4**
 - 3.1 BPG’s purpose 4
 - 3.2 Targeted users 4
 - 3.3 Benefits 4
 - 3.4 How the BPG will be useful 5
 - 3.4.1 How local authorities can use the BPG 5
 - 3.4.2 How developers can use the BPG 5
 - 3.5 Planned outcome – improved road network environment 5
- 4 Structure of the best practice guideline 6**
- 5 Issue identification 7**
 - 5.1 Safety and efficiency 7
 - 5.2 Examples of activities affecting road management 8
 - 5.3 Issue breakdown 8
- 6 Plan provisions 10**
 - 6.1 Section 32 of the RMA 10
 - 6.2 Section 75 of the RMA 11
 - 6.3 Typical plan issue identification and deficiencies 12
 - 6.3.1 Section 32 12
 - 6.3.2 Issues 12
 - 6.3.3 Objectives 12
 - 6.3.4 Policies 12
 - 6.3.5 Methods 13
 - 6.3.6 Rules 14
 - 6.3.7 Anticipated environmental results 14
 - 6.3.8 Monitoring 14
- 7 Individual issue assessment 15**
 - 7.1 Group 1 – generic rural/urban issues 16
 - 7.1.1 Issue 1 – access 16
 - 7.1.2 Issue 2 – commercial/residential conflict 19
 - 7.1.3 Issue 3 – linkages 20
 - 7.1.4 Issue 4 – road and subdivision design 21
 - 7.1.5 Issue 5 – parking/loading/servicing 24
 - 7.1.6 Issue 6 – signs 25
 - 7.1.7 Issue 7 – glare/lighting 27
 - 7.1.8 Issue 8 – cross-local authority boundary issues 29
 - 7.1.9 Issue 9 – transport options/mobility restrictions 30

7.2	Group 2 – rural issues	32
7.2.1	Issue 10 – town boundaries.....	32
7.2.2	Issue 11 – ad hoc development.....	33
7.2.3	Issue 12 – frost/ice build-up.....	35
7.3	Group 3 – urban issues.....	37
7.3.1	Issue 13 – vibration/noise.....	37
7.3.2	Issue 14 – pedestrian/cycle facilities.....	38
8	Assessing resource consents/ guideline for applicants	40
8.1	Definition of objectives and issues	40
8.2	Pre-processing	40
8.3	Processing and evaluation	41
8.4	Conditions	42
8.5	Monitoring of applications	43
9	Best practice examples	44
10	Conclusion.....	45
	Appendix 1 – best practice in district plan provisions	46
	Appendix 2 – best practice in resource consent processing – road safety and efficiency considerations, and typical checklist items	52
	Appendix 3 – reference material.....	54

Preface

The need for this guideline was identified by a number of local authority engineers who approached Land Transport New Zealand (Land Transport NZ) for assistance. They complained that their district plans did not contain the appropriate provisions to allow them to adequately manage road safety on their networks.

As detailed in section 2.1 of this guideline, Land Transport NZ undertook a project to identify whether there was a problem, and given the problem, what was the best solution. An industry working group determined that there was a problem and that a guideline was the best way forward.

During the course of the development of the guideline, the working group realised that the guideline should cover all the objectives of the *New Zealand Transport Strategy (NZTS)*, not just one component of one of its objectives. However, the working group noted that there are a lot of data available on road safety effects but there are very little data available on the other objectives of the NZTS.

Therefore, the working group made a tactical decision to complete this guideline in the knowledge that it is only part of the equation. It may be some considerable time before a body of research has been developed around the other objectives of the NZTS. When that has happened, then a complete guideline will be written, and this present guideline will form just one chapter of that complete guideline.

Executive summary

What this guideline is about

Land Transport NZ and other roading authorities have become increasingly concerned over escalating pressures to meet road safety and efficiency demands as a result of the downstream and cumulative impacts of development. This development may have been caused either by permissiveness or deficiencies in district plans, or as a consequence of consents to resource consent applications. For example, Land Transport NZ is often requested to fight a rearguard action to tackle concerns over road safety and efficiency 'after the event', when a development that caused the problems has already been constructed.

District plans around the country are in a state of flux, ie, they can be changed or varied at any time, or they may be in the statutory review process. This process provides opportunities for these plans to be scrutinised and can be a vehicle for bolstering them in how they address road safety and efficiency concerns.

Recent investigations undertaken by Land Transport NZ have revealed that while local territorial authorities (councils) often identify road safety and efficiency in their issues, objectives and policies, these provisions are frequently not comprehensively followed through into 'methods of implementation', and even less so into 'anticipated environmental outcomes' or 'monitoring' provisions.

Nevertheless, some significant provisions were identified by Transfund New Zealand (Transfund NZ), which is now incorporated into Land Transport NZ, in its 2002 assessment of current district plans (Transfund NZ, 2002). This is enhanced by recommendations contained within relevant road policy documents. Feedback from key organisations has also been canvassed and reviewed. The outcome of this assembled existing knowledge has been the development of this best practice guideline.

Its use to you

This document targets two main user groups: councils, and developers and their consultants.

Councils can be guided by this document when assessing provisions within their respective plans. It provides discussion on various ways to address road safety and efficiency, and contains examples of relevant plan provisions.

It will also be useful to councils when assessing applications for resource consent. The guideline describes relevant informational requirements, and provides a basis against which to assess road safety and efficiency flow-on effects.

Developers and their consultants will find this document useful in their early discussions with councils over pending resource consent applications and identifying the need for particular issues to be addressed that may not be readily apparent.

1 Introduction

1.1 Introduction

Land Transport NZ, in conjunction with Transit New Zealand (Transit) and Local Government New Zealand (LGNZ), has initiated a process to develop and introduce a best practice guideline into local planning practice to address road safety and efficiency issues associated with land-based development.

A three-stage process has been undertaken to consult widely with key parties and develop a best practice guideline.

1.2 The best practice guideline

The guideline identifies two important planning areas that deal with road safety and efficiency:

1. the review of resource management plans (district plans) and any changes or variations to them
2. the lodgement of applications for resource consent to councils.

The guideline is intended to assist councils and developers in their roles under the *Resource Management Act 1991* (RMA). It identifies typical safety and efficiency parameters associated with the road environment and identifies measures that can be adopted to address potential adverse impacts on them.

In addition, the guideline provides a background against which to assess early queries regarding proposed development and assessment of the application itself.

The guideline is not intended to develop standards or detail designs for addressing the road safety and efficiency issues addressed in district plans. It will cross-reference where appropriate standards are available, but will not itself go to that level of detail. The main focus is to provide best practice for inclusion in district plans to meet gaps found by Land Transport NZ investigations and to identify methods for implementing policies and objectives, and monitor approaches.

2 Background

2.1 Evolution of the best practice guideline

Land Transport NZ's role in the transport industry is wide ranging. It includes the provision of funding for the construction and maintenance of state highways and local roads, funding for passenger transport services (such as commuter trains, buses and ferries) and funding for alternatives to road transport (such as rail freight and barging). It also includes the assessment of walking and cycling projects, and funding of projects that support regional development.

Through carrying out these functions, Land Transport NZ received concerns by other key parties in the roading industry regarding managing road safety and efficiency in New Zealand. In particular, Land Transport NZ noted the potential influence district plans could play in addressing road safety and efficiency issues before the issues are exacerbated by further land-based development.

This guideline evolved from a primary concern expressed to Land Transport NZ by key parties in the roading industry over demands for new roads, or improvements to existing roads, arising from the adverse effects of development on road safety and efficiency.

Addressing adverse effects of development on road safety and efficiency after the development has already occurred requires essentially retrospective action. That is, because of problems arising from development (either permitted through district plans or from the implementation of resource consents), remedial action becomes necessary to ensure the roading system can still meet appropriate safety and efficiency standards. If development is allowed in the wrong place, remedial action may be ineffective or very expensive, and therefore may not meet the cost-benefit ratio required for road improvements to be funded.

The funding of new roads and improvements to existing roads has also been influenced by recent changes to the *Local Government Act 2002* (LGA) and, in particular, how local authorities can take financial contributions and development contributions for developments. Previously, the district plan was required to outline when financial contributions were to be taken and the criteria for determining how much the contributions would be. Now councils are required to prepare long-term council community plans (LTCCP) that provide a strategic approach to community facilities and infrastructure. Annual plans prepared by councils are the mechanism to fund the community facilities and infrastructure included in the LTCCP. There are now opportunities for these mechanisms to be used to fund roading projects to address the effects of land-based development on the safe and efficient operation of roads, with the developers contributing to the costs.

A holistic approach to protecting road safety and efficiency demands that any new development must make adequate provision to ensure it does not impose subsequent downstream problems on the road network.

District plans contain planning instruments that may provide for activities that directly affect road safety and efficiency. By the same token, district plans also have the ability to require mechanisms to be implemented to address any adverse effects in a manner that avoids, remedies or mitigates them.

This BPG has been developed in acknowledgement of the overriding tenet of the RMA to sustainably manage resources and to therefore ensure district plan provisions do not provide for activities that will compromise safety or efficiency of the roading network.

2.2 Best practice guideline development and consultation

There is already a wealth of information in the public arena about road management, and their safety and efficiency parameters.

Stage 1 of the development of the guideline involved examining a range of existing relevant guidelines and texts, as well as a review of provisions within a sample of district plans. Options for filling the identified 'deficiencies' and enhancing the use of 'good' provisions in district plans were reported back to Land Transport NZ and its working group at the conclusion of stage 1.

The industry working group comprised representatives from key organisations, ie, local government (engineers and planners), Transit, Land Transport NZ and consultants.

The findings of stage 1 essentially highlighted that:

... although councils have recognised there are issues relating to road safety and efficiency and have adopted appropriate objectives and policies, there is a need for plans to adopt better methods to implement the objectives and policies, and to monitor the plan provisions to ensure they are addressing the issues defined. (Transfund NZ, 2002)

Stage 1 was used as a basis to prepare a draft guideline in stage 2. This draft was then circulated to the working group and key stakeholders for further input before its finalisation in stage 3.

3 Purpose

3.1 Purpose of the best practice guideline

The purpose of the guideline is to help territorial local authorities review their district plans to ensure good planning provisions are included to address roading safety and efficiency issues.

It does not seek to critically analyse the district plans reviewed in stage 1. Instead, it draws on the general conclusions of stage 1, as well as information available from other relevant sources. It provides a background against which to assess projects to provide for overall greater road safety and efficiency.

Impacts need to be considered not just in terms of the road that any particular development may directly front onto, but also potential impact on adjoining roads and the overall road hierarchy. A broad-based view to road safety and efficiency is warranted under the legislative regime to wisely manage resources, particularly those of regional and national importance.

In addition, the guideline aims to ensure that the internal layouts of developments are safe for all users. While the internal layouts of developments are not part of the road network, if the internal layouts are easy and safe to use, it will encourage people to use them rather than parking and manoeuvring on the nearby road.

3.2 Targeted users

This guideline is targeted primarily to two groups:

1. local territorial authorities (councils)
2. potential resource consent applicants (developers and their consultants).

3.3 Benefits

As resource management decisions makers, councils stand to benefit from practices that will make their decision-making task easier and more readily transparent and that will clearly reflect a consistency in approach in considering any proposal that may impact on safety and efficiency within the road network.

As parties whose proposed activities often have significant cost and timing implications, applicants (developers) stand to benefit during the resource consent process from an early awareness of councils' likely informational requirements, enabling them to avoid time delays in providing additional information. Also, by being able to provide all required information, their applications are likely to be processed more quickly.

3.4 How the guideline will be useful

3.4.1 How local authorities can use the guideline

Local authorities can use the guideline to:

- scrutinise the provisions within their district plans. The district plan provisions can be comprehensive and integrated in such a manner that they provide a strong hierarchical basis from which to control forward-planned development. The guideline highlights these types of provisions
- undertake safety audits of individual major development projects. Detailed assessment by council traffic engineers or consultants may be appropriate. The guideline can be included in other planning mechanisms, such as internal-procedure guidelines for forming assessment criteria for evaluating resource consents
- signal to potential developers that a particular project should be scrutinised by traffic engineers to determine actual and potential impacts on the roading network
- consider whether appropriate development contributions are important to offset the cost to the general public of necessary roading improvements.

3.4.2 How developers can use the guideline

Developers can use the guideline:

- as a basis for early liaison with councils when discussing a tentative development and the informational requirements to accompany an application
- to provide a basis for preparing the assessment of environmental effects (AEE) as part of a formal application to their council.

There is an interrelationship between provisions in the district plan and applications for resource consent. The requirements in the district plan will affect the quality of information provided in any AEE.

If important issues or provisions are omitted or deficient in the district plan, applicants who consult it may not fully consider all the relevant effects of their proposal.

3.5 Planned outcome – improved road network environment

It is hoped that the widespread adoption of this guideline will complement other initiatives to improve the road network environment and reduce requests to Land Transport NZ to fund roading projects that have arisen from declining safety and efficiency standards caused by development. It is acknowledged that this is a long-term aim and that there is likely to always be cumulative effects associated with development that will impact on road safety and efficiency.

4 Structure of the best practice guideline

This guideline is divided into five parts.

Section 5 describes the primary issue of road safety and efficiency, and how this appears to be typically dealt with in current district plans.

Secondary issues are then introduced in broad categories, with generic issues identified separately from rural and urban ones where possible.

This grouping has been made to avoid repetition by addressing each and every issue separately in recognition that many of the issues have very similar considerations. Irrespective of this, there is a significant degree of overlap and interrelationship between all the issues and provisions included in the district plan to deal with them.

Section 6 generally outlines how road safety and efficiency issues can be specifically addressed within the context of district plan provisions. The emphasis in this section is to identify key elements within different sections in district plans, such as objectives and rules, and describe their characteristics.

The findings of a review of a sample of district plans are also revealed, focusing on typical strategies and deficiencies in dealing with road safety and efficiency.

Section 7 assesses the issue groupings and expands on the key considerations of each.

Section 8 discusses road safety and efficiency in the context of the consideration of applications for resource consent. This relates to the appraisal of a proposal when informally posed to councils, as well as any evaluation through the formal planning process.

Section 9 highlights examples of 'good' provisions and discusses appropriate measures generally. This is extended by reference to examples in appendices 1 and 2.

5 Issue identification

5.1 Safety and efficiency

District plans need to clearly identify the issues of concern within particular environments and also deal with issues associated with cumulative effects (Ministry for the Environment, 1997). With respect to road safety and efficiency matters, there is a range of valid considerations. Many of these are described in documents produced by parties such as Transit and Land Transport NZ (see appendix 3).

While Transit is responsible for state highways only, the objective of Land Transport NZ is to allocate resources in a way that contributes to an integrated, safe, responsive and sustainable land transport system. In meeting its objective, Land Transport NZ must exhibit a sense of social and environmental responsibility, which includes:

- avoiding, to the extent reasonable in the circumstances, adverse effects on the environment
- ensuring, to the extent practicable, that persons or organisations preparing land transport programmes
 - take into account the views of affected communities
 - give early and full consideration to land transport options and alternatives in a manner that contributes to the aforementioned objectives
 - provide early and full opportunities for persons and organisations to contribute to the development of land transport programmes.

The National Land Transport Programme (NLTP) is the mechanism through which Land Transport NZ allocates funds. Currently, the allocation is across the following output groups: maintenance and construction of the road network; provision of passenger transport services; alternatives to roading (efficient alternatives to the provision or maintenance of roads); regional development funding for regions that have acute transport needs; and promotion of walking and cycling.

The provision of funding for the safety and efficiency of roads are therefore at the core of Land Transport NZ's tasks. Decisions to upgrade or provide new roads (and which ones) must be weighed against demands for alternative forms of transport and the regional competition for funds.

Land Transport NZ has authorised this best practice guideline to provide positive input into addressing the safety and efficiency of roads in New Zealand through district plans. The guideline's purpose is to exchange information and provide updates for working groups, legislation, standards and guidelines, highway and procurement strategies, and other issues relevant to road-controlling authorities and other member organisations.

5.2 Examples of activities affecting road management

The following examples illustrate the integrated nature of how one activity or development can impact on the safety or efficiency of a major through-route:

- Sealing roads on a pre-existing but substandard alignment, thereby increasing the operating speed but maintaining the existing substandard alignment.
- Continuing piecemeal expansion of residential subdivision with inadequate provision for a 'distributor network'.
- Site-specific intersection improvements along routes that are not well integrated with the remainder of the route in terms of design, safety and capacity.
- Developments and subdivisions that are remote from arterial routes, generating traffic volumes that then exceed the safe design capacity of the intersections linking them to the arterial system.
- Major developments of large generators of traffic, such as shopping malls, multi-storey carparks and stadiums, that are inappropriately accessed directly or indirectly off main arterial routes.

5.3 Issue breakdown

The issues identified as appropriate for specific consideration in this guideline are categorised into groupings of activities with similar types of effects.

Group 1 Generic rural/urban issues

Issue 1	Access
Issue 2	Conflicts between commercial and residential activities
Issue 3 (linkages)	Provision and access to public facilities Linkages/cohesion between developments Public access to coasts, lakes and rivers
Issue 4	Road/subdivision design
Issue 5	Parking/loading/servicing
Issue 6	Signs
Issue 7	Glare/lighting
Issue 8	Cross-local authority boundary issues
Issue 9	Transport options/mobility restrictions

Group 2 Rural issues

Issue 10 (boundaries)	Rural townships on main transport corridors
Issue 11 (ad hoc development)	Roadside stalls Tourist-related commercial activities Rural recreation activities Retail development/expansion (downstream/cumulative effects) High-volume retailing activities Service/industrial activities
Issue 12	Shading and frosts on susceptible roads

Group 3 Urban issues

Issue 13	Vibration/noise
Issue 14	Pedestrian/cycle facilities

This list is not exhaustive in identifying matters associated with road safety and efficiency. Clearly, there are other issues that can also be addressed in district plans and applications for resource consents, such as control over roadside vegetation.

6 Plan provisions

One of the key ways to encourage the resource management process to be cost effective is to have as much relevant information included in policy statements and plans as possible (Ministry for the Environment, 1999:67).

Including relevant and meaningful information within plans will assist the community and potential applicants to better understand what is required of them, and will expedite the subsequent assessment by councils of applications for resource consent.

6.1 Section 32 of the RMA

Section 32 of the *Resource Management Act 1991* (RMA) imposes a rigour on councils, requiring them to utilise the range of tools available to them in seeking sustainable resource management. The reasons for and against an option and its benefits and costs must be examined, and decisions must take into account necessity, effectiveness and efficiency.

The Ministry for the Environment publication *What are the options? A Guide to using section 32 of the RMA* is very useful in this regard. It describes in detail how to carry out section 32 analyses for objectives, policies and methods.

There is no need to replicate this information here. The document is readily available from the Ministry for the Environment or its website (www.mfe.govt.nz). It is sufficient to reiterate that the document includes recommended good practice throughout the process of undertaking section 32 analyses. These analyses, which are the duty of local authorities, should evaluate alternative means of achieving a desired end result, including using measures outside of the district plan, such as internal council procedures, education and liaison.

Road safety and efficiency are significant and complex resource management issues warranting appropriate consideration. A section 32 analysis, which specifically addresses road safety and efficiency, should be carried out.

Good practice requires a strategic view of road safety and efficiency to be employed to reflect the cross-boundary and hierarchical nature of roads as a distributor network.

The discussions that follow seek to add to the section 32 best practice process already identified by the Ministry for the Environment. It does so by targeting an appraisal of district plan provisions relating to road safety and efficiency. The general recognition should be that land uses adjacent to road networks *can* impact on the safety and efficiency of roads.

6.2 Section 75 of the RMA

Section 75 of the RMA requires each district plan to include:

- significant resource management issues of the district
- objectives to be achieved by the plan
- policies in regard to the issues and objectives, and associated explanations
- methods to implement the policies, including any rules
- principal reasons for adopting the objectives, policies and methods
- information to be submitted with resource consent applications
- environmental results anticipated from the implementation of the policies and methods
- processes for dealing with cross-boundary issues
- procedures for reviewing matters and monitoring the effectiveness of the plan in achieving its objectives and policies.

The issues, identified in section 5 of this report, are assessed below in terms of these plan divisions. These divisions are itemised and briefly explained.

- Issues – find out if resource management issues are of significance.
- Objectives – seek to resolve the issue by stating desired environmental outcomes and determine the necessity of its inclusion in the district plan.
- Policies – take action steps that have a realistic chance of achieving the objectives.
- Methods – evaluate alternative options with an open mind; determine those that are appropriate, necessary and effective in achieving the objective; identify significant benefits/costs; and give reasons for method adoption.
- Rules – support the objectives and policies.
- Anticipated results – state the anticipated environmental results that are specific and tangible, and provide a basis for subsequent monitoring.
- Monitoring/review – state how the results will be monitored and used.

This guideline does not try to emulate a section 32 analysis for the issues it discusses. Instead, it identifies important elements that will require inclusion in any section 32 assessment.

6.3 Typical plan issue identification and deficiencies

With respect to road safety and efficiency, a review of a sample of district plans revealed the following typical strategies and deficiencies.

6.3.1 Section 32

These are often not done and where they are done, they:

- vary greatly in quality
- are not always clear in how certain provisions are tied to specific outcomes or monitoring provisions.

6.3.2 Issues

The district plans all identify some issues relating to road and transportation matters. Typical issues identified include:

- traffic access effects on flow and the subsequent effects on traffic safety
- the effects of land use on the efficiency and safety of the transport network
- the need to protect infrastructure from the effects of other activities
- that the roading network has a variety of users.

There was general recognition that:

- land use adjacent to roading networks impact on the safety and efficiency of those networks
- effects of traffic access are two sided and are generated when there are a variety of users who may differ in the way they each view and/or use the roading network, which may cause conflict.

6.3.3 Objectives

The district plans contain some objectives in relation to the identified issues of roading and transportation, typically focusing on:

- roading networks that safely and efficiently provide for different users
- minimising conflicts between land uses and the roading network
- ensuring the effects of parking on the road network are minimised
- maintaining safe and efficient access
- the location of access points to avoid affecting the safe and efficient functioning of the road.

6.3.4 Policies

The policies in the district plans tend to paraphrase the RMA and may:

- have the appearance of rules

- define time limits
- mention the data sources that will be used to assess the success of the policy
- be subject to political influences related to whether policies are relevant, such as costs, practicality and community needs and/or priorities.

6.3.5 Methods

The methods typically used in the district plans are tried and true that use clear and precise standards to determine whether an activity is permitted or not, ie:

- zone rules
- roading hierarchy.

The second most frequent methods include:

- financial contributions
- designations for existing and/or new roads
- performance and engineering standards.

The next most common methods include:

- council works programmes
- transport strategies
- district-wide rules
- liaison
- education material
- use of resource consent applications
- advocacy and promotion.

Less common methods typically rely on the provisions in other documents outside of the district plan, such as:

- structure plans
- development manuals
- specific investigations
- road assessment and maintenance management (RAMM) assessments
- traffic impact studies
- specified documents outside of the plan process, such as Transit's standards and bylaws, and Land Transport NZ guidelines
- local bylaws.

6.3.6 Rules

Rules in the district plans typically cover six main areas:

1. performance standards for vehicle crossings, including sight visibility
2. loading areas
3. distance of vehicle crossings from an intersection
4. access off a lesser-ranked road where access onto two roads is available
5. car parking standards
6. financial and development contributions relating to safety and efficiency.

Typically, the district plans had no rules directly addressing the control of activities that generate major traffic movements. However, some:

- specified that 'major traffic activities' fronting highways require resource consent
- referred to a particular section of the plan, but connection between the issues, objectives, policies and the rules may be lost.

6.3.7 Anticipated environmental results

The district plans typically mention road/traffic safety but:

- do not carry on to specific monitoring provisions
- tend to be non-specific in terms of what they relate to and not provide a satisfactory measurable conclusion to an issue.

6.3.8 Monitoring

The district plans typically did not provide for monitoring, but monitoring may:

- refer to statistics, such as the number of motor vehicle accidents, to determine whether the objectives, policies and methods are having any significant effect or loss in the level of service
- be undertaken in relation to traffic management and road safety, but not specified in the plan.

In summary, the existing district plans sampled indicate they generally adopt a range of objectives and policies, with methods relying heavily on zone rules, a roading hierarchy and performance standards. A significant deficiency in performance standards is that they are often arbitrary and consequently do not sufficiently address the environmental effects they are meant to control. Anticipated environmental results are often not formulated, while monitoring provisions are rarely incorporated. Accordingly, district plans can be readily improved upon, which will result in better outcomes for both councils and applicants.

7 Individual issue assessment

Section 5 highlights a range of road safety and efficiency issues that can be provided for in district plans. The ways in which these matters can be addressed within the contextual breakdown of district plans are outlined in section 6. The gap between what can be provided and what is typically being provided has therefore been highlighted.

To provide more specific discussion and direction, this section elaborates on how the broad range of issues can be addressed within the different sections of district plans.

This section is linked to section 9, which identifies 'good' provisions and recommended sample provisions. This discussion draws significantly on safety and efficiency assessments and findings available in existing documents.

The wording used in the discussion below is indicative only. Precise wording, and the correlation between objectives, policies, rules, etc, should align itself with the recommendations of best practice guides such as those put out by the Ministry for the Environment.

The Ministry for the Environment has published a variety of best practice guides, such as *Drafting issues, objectives, policies and methods in regional policy statements and district plans*.

The provisions discussed below relate to all arterial roads and not just state highways. This is partly because existing major local roads may in the future gain state highway status or require the attention of Land Transport NZ for some other reason. Any intensification of development fronting or impacting on these roads is important because of the interrelated nature of the roading network.

For this reason, the provisions can be even more generalised and refer to all roads (not just arterial roads) if the instance dictates this is appropriate.

The issues addressed in this section were determined by the industry working group and are not exhaustive. It should also be noted that the issues are not addressed in priority order. For those issues not covered in this BPG, such as control over roadside vegetation, the discussion provides a general guide to how other associated issues require due consideration.

Appendix 3 provides a list of references for more information.

7.1 Group 1 – generic rural/urban issues

7.1.1 Issue 1 – access

Issues

Arterial roads are principally 'through' roads for transporting goods and people. Their safe and efficient operation can be adversely affected as access demands increase, and the type and frequency of movements on and off the road change.

The most significant direct effect from adjacent activities on the safety and efficiency of arterial roads is turning traffic associated with access and side roads, and access across arterial roads by pedestrians and cyclists

All other effects, such as driver distraction, are of lesser significance (Transit New Zealand, 2000: 37).

Access to and from arterial roads has a significant adverse effect on the safe and efficient operation of the road system by creating additional conflict points and potentially reducing the safe operating speed of traffic and increasing the frequency of crashes.

The subdivision and development of land adjacent to arterial roads increases the demand for access. In rural areas, there are lower volumes of traffic than in urban areas but generally higher operating speeds.

Urban areas have lower operating speeds but higher volumes of traffic. Most urban crashes happen at intersections and driveways (Transit New Zealand, 2000: 40). Urban areas have much more development and greater demands for access.

It is possible to identify urban/rural roads that are 'at risk' in terms of future land developments and the associated demand for access affecting their safety and efficiency. 'At risk' roads are typically in the rural/urban fringe; have higher operating speeds than urban roads; have traffic volumes that mean they are currently safe and efficient, but have urban-type activities close by with the likelihood of future pressure for more urban activities and more access demands that would affect the overall safety and efficiency of these roads. The limited access roads (LAR) provisions can be used to manage access to these roads.

Objectives

The objectives of addressing this issue in district plans are to ensure that:

- activities are located and designed to avoid, remedy or mitigate the effects of traffic-generation points on the safety and efficiency of the road network
- access points are appropriately located and designed so as to avoid, remedy or mitigate any adverse effects on the safety and efficiency of road network.

Policies

Some recommended policies include:

- have all local road intersections and property accesses that adjoin arterial roads located and designed to comply as far as possible with engineering performance standards (such as the Austroads standards)
- make 'at risk' sections of arterial roads LAR
- protect arterial roads from inappropriately located and designed access to developments at the stage of zoning land by giving such activities an appropriate activity status, and ensure the adverse effects of adjacent developments are avoided, remedied or mitigated
- ensure that every site has access that provides safe entry and exit for vehicles, pedestrians and cyclists (all road users) from the site to a road, without compromising the safety or efficiency of the road network
- ensure that the costs of road improvements required as a result of ongoing development are equitably applied.

It should also be noted that policies relating to issue 5 (section 7.1.5), for internal site design matters that affect access, are relevant to this issue.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- declaring arterial roads at the edges of the rural settlements as LAR where pressures for intensification and new access points are likely to be felt. Controls through zoning and minimum lot sizes could also control access numbers on the approaches to rural settlements instead of LAR
- developing new side roads and encouraging the sharing of accesses that are appropriately located
- having corridor management agreements or access management structure plans for arterial roads
- promoting covenants and voluntary agreements relating to access
- considering constructing segregation strips to prevent direct property access to and from arterial roads where appropriate
- including in plans location-specific rules relating to particular developments.

A corridor management agreement can provide and protect road amenities, road services and certain carriageway features on arterial roads. It does not replace or remove any of the existing statutory obligations, legal rights or obligations of the roading authority, councils or any other relevant agency, such as the network utility operator (Transit New Zealand, 2000:41). This method would benefit from location-specific access provisions contained in district plans to guide developers intending to incorporate them into their developments.

Rules

Examples of specific rules in relation to state highways are given in appendix 1. Other areas that require rules include:

- encouraging developments to gain access to a side road where it is reasonably practicable
- the number, location and control of access points
- controlling activities that generate major traffic movements, eg, 'major traffic activities' fronting highways require resource consent
- controlling access and intersection spacing, sign distances, design and construction, including gradient
- requiring on-site manoeuvring and turning so vehicles do not reverse out onto arterial roads
- promoting a road hierarchy
- location-specific rules relating to sections of road defined as 'at risk'.

Anticipated results

Anticipated results include:

- avoiding inappropriately located and inappropriately designed access points that may have an adverse effect on the safety and efficiency of arterial roads
- potential establishment of new areas of LAR.

Monitoring

Councils should monitor the demand for and creation of all new access points and the requirements to upgrade existing ones, and should assess these against appropriate standards, such as design, spacing, construction.

In particular, monitoring could look at the:

- effects of where activities are located
- effects of access on traffic conditions
- extent to which activities overflow
- subsequent mitigation by road design.

The possible indicators to monitor are the number of:

- accidents arising from access onto arterial roads
- crossings on arterial roads
- crossings on local roads.

7.1.2 Issue 2 – commercial/residential conflict

Issues

This issue relates to conflicts between commercial and residential activity regarding concerns over access, parking, vehicle manoeuvring, and pedestrian and cycle activity. The issue of ad hoc development of commercial enterprises within a predominantly residential area is a concern that echoes those expressed in issue 1 above. In particular, commercial activities attracting high traffic volumes (such as shopping centres) or increased movements of heavy vehicles (such as packing houses or courier depots) can cause traffic conflicts in a predominately residential-type environment.

Objectives

Residential and commercial development should be encouraged in suitable areas where they are unlikely to conflict with each other, and thereby lower the safety and efficiency levels of roads.

Policies

Some recommended policies include ensuring that:

- commercial activities generating significant traffic volumes are located in such a way that traffic has access to classes of roads that are able to receive the increase in traffic volumes without reducing safety or efficiency
- access points are designed so that traffic access and egress points avoid or mitigate adverse effects on the safety and efficiency of the road network.

Methods

District plans should consider all the methods outlined in section 6 above. An additional method could be considering pedestrian linkages and potential conflicts.

Rules

Councils could consider including in their district plans rules that covered:

- vehicle-oriented commercial activities (such as drive-ins and supermarkets) in terms of access design, location and construction
- ensuring adequate space for on-site parking, queuing, loading and manoeuvring
- internal access; separating or controlling pedestrian/motor vehicle interactions
- the provision of pedestrian access facilities through large car parking areas
- the provision of cycle parking.

Anticipated results

Anticipated results include a safer and more efficient road network and minimised conflict between pedestrians and vehicles.

Monitoring

Councils should monitor:

- the development of access points regarding standards required in the district plan
- resource consent applications for variations to rules and reasons for applications.

A possible indicator to monitor is the number of accidents involving access and manoeuvring from commercial activities in residential areas.

7.1.3 Issue 3 – linkages

Issues

Roads provide the vehicle linkages between areas targeted by the public. They should also cater for ease of access by those who cannot readily access a location by another means, eg, where someone is wheelchair bound or the location is remote and other means of transport are not appropriate or available. The latter is often the case with public access to sites along coasts, lakes or rivers. Similarly, roads provide the major linkages between significant developments, including other public facilities.

A holistic approach to linkages recognises the importance of the road hierarchy in providing for transport efficiencies and safety. The greater traffic volume that can be carried by arterial roads promotes energy efficiency, as well as more efficient use of time. Local roads, by being relieved of through-traffic, are able to provide access to more immediate localities and assist to maintain safety on arterial roads. The road hierarchy should also define the cycling routes and pedestrian linkages.

The hierarchy minimises delays and accidents, and makes the best use of the substantial investment in the road network. Efficient use of the hierarchy may delay the need for extra road construction or improvement in the district.

This issue links in closely with issue 4 below.

Objectives

- To ensure that public access to facilities is provided by roads in a safe and efficient manner.
- To plan and manage a safe and efficient road network, while minimising conflict between traffic, land activities and people by adopting a hierarchy of roads.

Policies

Policies can be general, eg:

- to protect and enhance the ability of the transport infrastructure to provide for transport needs
- to promote a safe and sustainable transport system that provides for ease of access for all people while avoiding, remedying or mitigating adverse effects on the environment
- to implement appropriate performance standards.

Policies can be specific, eg:

- to classify all roads according to their function
- to use the road hierarchy to implement appropriate performance standards for nearby activities to control adverse impacts on the road network.

Methods

District plans should consider all the methods outlined in section 6 above. An additional method could be developing and maintaining a road hierarchy.

Rules

Councils could consider including in their district plan rules that covered:

- maintaining the road hierarchy, including rules relating to access location and design, and off-street parking provision
- the control of activities generating high vehicle numbers in relation to roads in the hierarchy.

Anticipated results

Anticipated results include safer roads and the use of roads appropriate to their status in the hierarchy, eg, access or through-route roads.

Monitoring

Accident statistics signalling conflict between different types of traffic can be monitored.

Accident statistics can also be used to monitor crash rates on the road hierarchy generally, relating to intersections and mid-block access.

The level of service can be monitored to ensure levels are not compromised.

Possible indicators:

- the number of accidents involving cars versus trucks
- the number of commercial (truck/van) movements in residential streets.

7.1.4 Issue 4 – road and subdivision design

Issues

Each road has some element of providing access or being an artery for 'through' traffic. A hierarchy exists, whether formally acknowledged within district plans or not, with arterial routes at the top level performing a predominantly through-route function, while small local roads are focused on providing immediate access to the locality.

It must be recognised that the position of any road within a hierarchy is not static. As frontage activities and developments further afield occur, the function of a road may change. This may swing one way or another between predominantly providing for access or for through traffic.

Any subdivision may potentially lead to an increase in traffic attracted to an area, whether or not that is the intention of the present owner or occupier, because the activities on the land are likely to increase.

The relationship between frontage activity and subdivisional development, and road capacity and safety is very clear. Each frontage and/or intersection manoeuvre has an impact several times greater than the equivalent 'through' movement (Transfund New Zealand, 2000). Development that is not on the arterial frontage (eg, down a side road) can also significantly impact on road efficiency and safety.

The development of ad hoc subdivision in rural areas is clearly related to issues 3 and 12. However, of particular note is the manner in which subdivisions are planned to link into the road network. Typically, one designated intersection is created. The location of this intersection, its standard of construction, relationship to other intersections, frontage development on either side and the overall impact on demands on nearby roads due to stepped-up increase in vehicular movements are all relevant considerations.

Councils are also concerned over the contribution of developers to costs incurred by road-controlling authorities who have to deal with any new immediate and/or downstream effects.

While it may be advantageous in terms of safety to limit access to one road, this potentially raises other safety issues, such as creating large areas of development with only one access point, which may be blocked during emergencies.

The LGA now makes provision for development contributions that could be used to obtain payment for any upgrading required due to growth caused by the development.

Ribbon or strip development also becomes an urban issue where retail development is allowed to spread down arterial roads into other zones. It impacts on the frontage road by reducing safety and efficiency.

District plans are the main instrument for controlling subdivisions. If a subdivider is to have limitations placed on access or street layout to ensure inappropriate access from arterial roads is avoided, then councils need to have the necessary provisions in their district plans.

Objectives

Proposals for development should take into account the status of frontage roads in the road hierarchy, and evaluate their effects in terms of the safe and efficient functioning of the road network in the vicinity.

District plans provide a mechanism to reflect the changing status of roads within the hierarchy. This has implications for design of the road and the overall role it plays in the road network, and the standard of design of the accesses and intersections with the road.

Similarly, district plans can acknowledge that roads within the hierarchy will be adversely impacted by activities that place inappropriate demands on them.

Policies

Examples of appropriate provisions relating to subdivisions are outlined in appendix 1. Local authorities will also have detailed subdivisions codes that can be cross-referenced in district plan policies.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- ensuring the safety auditing of significant land-development projects and activities before resource consents being granted, where impact on the arterial road network is likely to be an issue
- setting appropriate standards for access and intersection design
- minimising direct access onto arterial roads
- developing and maintaining a road hierarchy and rules controlling such things as vehicle access to roads, road widths, standards of construction, according to the status of the road
- preparing neighbourhood transport-management plans
- having development contributions.

Rules

Examples of rules are included in appendix 1. Other examples use:

- clauses such as 'The layout of roads shall, as appropriate for their position in the roading hierarchy, ensure that people, vehicles and goods can move safely, efficiently and effectively ...' to ensure traffic safety is a key consideration in new road design
- words such as 'to accommodate the level of vehicle use anticipated ...' to enable the consideration of future traffic flows to be factored into a design. (However, it is noted that the Environment Court has made a ruling that the environment has to be the environment as it exists at the time of the application and therefore consideration of future traffic flows may not be legally possible.)

Anticipated results

Anticipated results include a safer and more efficient land transport network.

Monitoring

The council should monitor the:

- construction of roads/intersections to the standards required by their district plan
- need for safety networks to accommodate development.

Possible indicators:

- similar indicators to issue 1
- 90 percent of housing should be within 500 metres walking distance of a bus route.

7.1.5 Issue 5 – parking/loading/servicing

Issues

Parking, loading and turning operations should not involve any vehicle manoeuvring that detracts from road safety or efficiency. In other words, traffic activity on sites should not overflow onto the adjoining road.

Objectives

Activities should provide adequate facilities and manoeuvring on-site or, if necessary, off-site to avoid using the carriageway curbside and avoid potential conflict with through-traffic, other traffic accessing the site, and pedestrians and cyclists. This includes visits to the site by service vehicles.

Policies

Sites should provide adequate on-site parking, loading and turning for vehicles, including provision for vehicles to enter and leave in a forward direction, or have sufficient access to those facilities to avoid any adverse effects on the safe and efficient operation of the road network. Any use of off-site facilities should not compromise pedestrian or vehicle safety, or the safe and efficient operation of the road network.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- providing parking off-site, where there is insufficient space for on-site parking, subject to a legally binding covenant or agreement to lease parking elsewhere
- considering council-provided carparks in the vicinity of the activity or a cash contribution in lieu of part of all of the parking requirement
- considering whether parking/loading can be provided in a joint fashion
- considering whether the site is regularly serviced by public transport
- considering whether shared parking can be provided for two activities that have differing hours of operation
- where off-site parking is provided, considering pedestrian access back to the site (eg, it should not be on the opposite side of an arterial route).

Rules

Rules could include:

- requiring parking, loading and manoeuvring to be provided on-site
- specifying requirements for loading, parking and manoeuvring according to the activity, including rules relating to queuing
- requiring that vehicles should be able to conveniently enter and exit in a forward direction, with no reversing from driveways

- providing for people with disabilities. However, district plan rules requiring disabled parking spaces cause problems because the RMA allows dispensation from rules through the resource consent process, yet the Building Code requires these spaces regardless. District plans should not contain rules for facilities that are required by other statutes, but this can lead to other difficulties, ie, they won't be in consent plans
- considering cycle and pedestrian routes through carparks
- requiring internal site design characteristics to avoid activity, such as queuing, parking and reversing, overflowing onto the street – see section 7.6 of the LTSA draft Rules.

Anticipated results

Anticipated results include:

- minimal adverse effects on the safety and efficiency of the road from on-street parking, loading and manoeuvring vehicles
- adequate on-site provision for parking, loading, manoeuvring and any queuing associated with activities, that provides safe and efficient access to the site, and avoids the need for vehicles to reverse onto arterial roads.

Monitoring

Councils should monitor:

- accidents or complaints relating to conflict between kerbside parking, loading or manoeuvring in association with road-frontage activities
- whether or not their district plan parking requirements are adequate through regular surveys.

Possible indicators:

- number of accidents involving parked cars
- number of accidents involving loading or manoeuvring.

7.1.6 Issue 6 – signs

Issues

Signs are important for conveying messages and information. However, they also have the potential to cause driver distraction. Signs can be inappropriate in a number of ways, eg, they could be located too close to intersections, obscure traffic signs, be illegible or contain too much information.

Advertising signs, for example, may cause distractions to drivers and a precautionary approach should be taken in areas of high risk, such as 100 km/h areas and at arterial road intersections.

In urban areas, where speed limits are lower, the distractive effect of signs is less and fewer controls are needed. However, they still should not compete with official road signs or traffic signals for driver attention or confuse the interpretation of essential driver information.

Along rural arterial roads and motorways, it is important to keep advertising to a minimum. They must be clearly legible and interpretable, and appropriately located, and must not mimic traffic signs.

Objectives

To ensure signage is kept to a minimum adjacent to motorways and rural arterial roads, and is appropriately designed and located in all instances to minimise any potential for distraction from the driving task.

Policies

Examples of policies include:

- minimising the adverse effects of signs on the safe and efficient operation of arterial roads
- restricting signs adjacent to higher-speed (70 km/h or greater) sections of arterial roads to those that are necessary and effective and that assist drivers to locate accesses
- ensuring signs are legible and do not confuse the interpretation of official signs and/or traffic signals
- encouraging the removal of old, poorly maintained or superfluous signs
- permitting suitable permanent community signs in lower-speed environments (50 km/h zones) for community services and information
- permitting temporary community signs on road reserves where traffic safety is not compromised
- controlling the location, design and purpose of advertising signs on land adjacent to arterial roads, particularly in areas of conflict.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- educating adjoining landowners, occupiers and developers of the adverse effects of signage on road safety and efficiency
- providing for signs on the state highway reserve as permitted by regulations, bylaws and legislation. Similarly, addressing adverse effects under these provisions and providing appropriate bylaws
- seeking voluntary covenants and agreements with adjacent landowners to control any adverse effects of signs on private land on adjacent arterial roads
- utilising the detailed information included in the Land Transport Safety Authority (LTSA) publication *Advertising signs and road safety design: Location guidelines* when considering resource consent applications
- enforcing compliance of new signs, policing for illegal signs and removal of derelict signs.

Rules

Appendix 1 includes a range of suggested rules in district plans that relate to signs next to state highways. These rules can be less restrictive for roads lower down in the hierarchy.

Anticipated results

Anticipated results include:

- reducing demands for signs in the rural environment and/or adjacent to high-speed sections of road because of the inclusion of clear and reasoned provisions in the district plan
- establishing only those signs that are appropriately located and designed, and that are necessary
- preventing the proliferation of 'remote' advertising adjacent to rural arterials roads and motorways
- removing derelict signs that clutter the road environment
- reducing accidents owing in full or part to driver distraction from signage.

Monitoring

The council should monitor the number of applications for signs, and their nature, to determine whether the plan provisions are unclear or confusing, or require more stringent controls.

Possible indicators:

- number of applications for signs and their nature
- number of accidents that refer to driver distraction

7.1.7 Issue 7 – glare/lighting

Issues

Glare can be a problem when developments are constructed that may dazzle road users at certain times of the day when affected by the sun's rays. The opportunity for glare to become a problem is more likely in intensively developed (urban) areas, such as new office buildings. However, they could also be rural in nature, eg, glasshouses.

With respect to lighting, inappropriately located or high levels of illumination for land-use activities have the potential to distract drivers from driving. Flashing and strobe lights viewable by drivers also present a potential hazard.

In some instances, headlights from vehicles using roads or accesses parallel to a major road can cause confusion for road users.

The effects of lighting are influenced by topography, lighting orientation and type.

Objectives

- Glare that impedes the vision of road users should be avoided.
- Lighting must be of an appropriate type for its purpose and appropriately located for its environment. It should not so intrude into road users' line of vision that it detracts from driving.

Policies

Examples of policies include ensuring that:

- the erection of structures adjacent to roads take into account the possibility of glare from the sun's reflection and that this is avoided, remedied or mitigated
- exterior lighting on all properties (including sports grounds) adjacent to roads is undertaken in such a way that light emission from frontage properties (including security lighting) does not adversely affect driver safety.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- seeking voluntary agreements with relevant landowners/occupiers
- educating and consulting council officers, potential developers and the wider public
- considering mitigation, eg, the glare from vehicles on parallel roads can be mitigated through the use of plantings, fences, walls, mounds and landscaping on the adjacent road reserve
- evaluating the potential effect of glare/lighting in any resource consent application.

Rules

Include rules such as:

- requiring significant sources of outdoor lighting to be directed away from roads
- providing for planting/screening/buffer zones
- requiring lamps to be shielded
- permitting only activities that are not associated with any adverse effect on road users arising from glare.

Anticipated results

Anticipated results include:

- a road network that is not encumbered by lighting or glare that adversely affects road users' vision
- improved road safety.

Monitoring

Possible indicators include the number of accidents in which glare/lighting is a factor.

7.1.8 Issue 8 – cross-local authority boundary issues

Issues

Cross-boundary issues are those resource management concerns that are common between adjacent local territorial authorities. The transport network is a system that overlays council boundaries and would benefit from a consistent approach to management.

The RMA requires councils to investigate common or cross-boundary issues and specify in their plans the processes for dealing with them. Regional land transport strategies also provide a mechanism where regional strategic issues are identified and addressed across boundaries.

Objectives

- The full, effective and consistent integration of resource management planning in relation to the management of land transport across the boundaries of the district.
- Integration of the management of effects arising from use of the road network and effects of the road network.

Policies

Initiate or continue the joint definition and analysis of the interconnectivity of the roading system with adjacent local authorities, and pursue appropriate and consistent resource management policies.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include councils:

- consulting and undertaking joint investigations and analyses relating to managing land transport with adjacent councils
- pursuing consistent resource management policies to address land transport under agreed priorities and processes under district (and regional) plans
- cooperating in the use of joint committees, where appropriate, to achieve the above.

Rules

There should be coordination and consistency of rules between adjacent councils, eg, on access or roading hierarchy.

Anticipated results

- Producing jointly produced transport planning documents, such as regional land transport strategies, and adopting their contents.
- Environmental results that are in accordance with sustainable and integrated management aims of all affected councils.

Monitoring

Councils should monitor:

- the completion of joint-resolution processes, ie, joint document production or joint liaison in the form of committees and/or working parties
- regional land transport strategies and/or combined transport strategies.

Possible indicators include the number of participating joint committees/working parties.

7.1.9 Issue 9 – transport options/mobility restrictions

Issues

The consideration of transport options forms part of local and regional land transport strategies. Where appropriate, this can be implemented through district plan provisions and long-term council community plans.

Older people, children, young people, people with disabilities and others without ready access to a vehicle have transport needs that require consideration. Increased accessibility and mobility are important community goals.

Objectives

- To ensure that subdivision, use or development of land promotes a safe and efficient transport system and does not hinder the range of transport options being provided.
- To ensure that developments for safety and efficiency do not preclude the possibility of passenger transport facilities.
- To provide facilities that help people with disabilities use the transport services.

Policies

- Encourage the provision of direct and short-travel routes by vehicle, cycling and pedestrian modes between living, working, service and recreational areas.
- Ensure the district plan does not unduly restrict the opportunities for viable passenger transport services to be initiated or expanded in the district.
- Provide safe pedestrian and cycle links that connect significant areas of employment, residence and community facilities.
- Avoid establishing activities that generate high levels of pedestrian movement across busy arterial roads unless adequate crossing facilities are provided.
- Avoid establishing activities that have busy access points that inhibit pedestrian and cycle activity (eg, recognise cycle routes and areas of high pedestrian activity when designing and locating driveways).
- Ensure subdivisions and developments take into account wider transport network issues.
- Provide effective capacity to ensure public transport usage is not affected by development.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- specific design criteria for assisting people with disabilities to access transport services
- developing a public transport strategy for an area, including identifying safe routes for people with disabilities (such as blind people), through the regional land transport strategy. The strategy needs to acknowledge the needs of both the disabled and the car-less in terms of access to services
- policies for subdivision design in the district plan that promote arterial roads that cater for public transport.

Rules

Rules could cover requiring:

- cycle parking facilities in car parking areas
- car parking for people with disabilities
- pedestrian links to bus routes (or potential bus routes)
- pedestrian and cycle links through subdivisions.

Anticipated results

- A greater range of public transport choices, including for the mobility impaired.
- Increased accessibility and mobility of the community using transport systems

Monitoring

Councils should:

- assess the public transport choices on option, including routes, patronage, etc, and determine any deficiencies or where capacity has been reached.
- audit transport facilities for provisions for the mobility impaired (such as blind people and people with wheelchairs).

Possible indicators:

- number of transport choices
- number of residents using transport systems
- percentage of residents satisfied with transport options.

7.2 Group 2 – rural issues

7.2.1 Issue 10 – town boundaries

Issue

Rural townships are often traversed by arterial roads. Within townships, speed limits reflect that of urban areas, as do requirements regulating access onto the road and similar characteristics.

However, there are often problems in defining town boundaries, especially with intermittent ribbon development on one or both sides of the arterial road. Ribbon development is the proliferation of access points on the fringe of settlements. More intensified frontage development may be inappropriate where the open road speed limit still applies for traffic approaching the town.

As the density and use of accesses along an arterial road increases, the ability of the road to operate efficiently and safely diminishes.

Objectives

The urban limits of rural townships and their approaches should be clearly defined to road users. Ribbon development along major arterials is inappropriate outside of defined urban areas.

Policies

Examples of policies include:

- promoting the location and form of a built environment that provides a clear and distinctive transition between urban and rural environments
- discouraging ribbon development fronting major arterial routes outside of rural settlements
- providing for activities that require frontage to major arterial routes within urban areas, where appropriate.

Methods

District plans should consider all the methods outlined in section 6 and the methods given for issue 1 (section 7.1.1). Additional methods are:

- encouraging the development of defined 'entrance' points into the rural settlements ('threshold treatments')
- encouraging corridor management plans (these plans deal with a number of operation matters, including access onto highways, road surfaces, the management of new subdivisions adjoining roads, road safety and capacity, asset management, etc)
- providing adequate zoned land within rural settlements to cater for new development.

Rules

Rules could cover:

- the strict enforcement of signage rules to ensure urban-type signage and density does not straggle out into the rural fringe
- encouraging developments to gain access to a side road where it is reasonably practicable
- controlling access and intersection spacing, design and construction
- requiring on-site manoeuvring and turning so vehicles do not reverse out onto arterial roads
- ensuring sight lines are not adversely affected by vegetation or poorly located signs on private property near access points and intersections
- promoting the adoption of a road hierarchy.

Anticipated results

An anticipated result is minimal applications for intensification of access on the outskirts of rural settlements.

Monitoring

Councils should monitor:

- applications for intensification of development on the outskirts of rural settlements
- the use of 'threshold treatments' to define the town boundary
- speeds measured in rural settlements
- accident data.

Possible indicators include:

- density of development (dwellings/hectare) on the outskirts of rural settlements
- number of defined entrance points to rural settlements.

7.2.2 Issue 11 – ad hoc development

Issues

The types of activities relevant to this category include:

- roadside stalls
- tourist-related commercial activities
- rural recreation activities
- retail development/expansion (downstream/cumulative effects)
- high-volume retailing activities
- service/industrial activities.

People involved in these activities tend to want to establish them adjacent to arterial roads to attract customers (tourists/high customer volume targeted). They may seek to do this in the rural environment in an ad hoc manner, which may be inappropriate to the surrounding environment or developments. Activities like these often encourage spur-of-the-moment stopping, are prone to incremental expansion and may, once established, encourage other activities to establish in close proximity.

There is also the issue of people parking and manoeuvring on the side of the road, even when the parking is provided on site, especially where motorists park on the opposite side of the road and run across (eg, roadside stalls).

Objectives

- To avoid the development of inappropriately located and designed access points and activities that generate significant volumes of traffic, and that may have an adverse effect on the safety and efficiency of arterial roads.
- To safety audit land use developments in relation to road safety and efficiency to ensure new or enhanced conflict or capacity problems do not arise.

Policies

- Require all local road intersections and property accesses adjoining arterial roads to be located and designed to comply as far as possible with Austroad standards.
- Declare 'at risk' sections of arterial roads (limited access roads).
- Protect arterial roads from inappropriately located developments and ensure the adverse effects of adjacent developments are remedied or mitigated.
- Avoid, remedy or mitigate adverse effects of high traffic-generating land uses on the community cost of the road network resource of the district.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- safety auditing significant land-development projects and activities before resource consents are granted
- safety auditing land development projects or sections of existing roads.

Audits can be part of internal council processes (Transfund NZ, 2000).

Rules

Rules could cover:

- regulating activities in relation to traffic effects, including the location, scale and timing of activities
- retaining discretion on activities with high effects on traffic on arterial roads
- controlling the number of access points according to the road hierarchy
- encouraging development that generates people into areas where roading hierarchy is designed for that purpose.

Anticipated results

An anticipated result is a reduction in traffic generated by access points.

Monitoring

The council should monitor traffic volumes and accidents.

Possible indicators include the number of accidents involving access/manoeuvring to non-residential activities on arterial roads.

7.2.3 Issue 12 – frost/ice build-up

Issue

Frosts have the potential to be a safety hazard to road users and, in many instances, particular locations are known areas of frost hazard.

Shading of the road by vegetation can prevent the thaw of ice or snow by restricting the sun from evaporating moisture and raising the surface temperature, or by reducing natural airflow. While it may be difficult to prevent ice forming in the first instance, every effort should be made to allow for ice to be able to dissipate during the day.

Objectives

- To avoid, remedy or mitigate the adverse effects of frost or ice forming on road surfaces.
- To ensure that the shading of a road by vegetation and developments does not increase the likelihood of frost or ice forming.

Policies

Examples of policies include:

- managing the planting of vegetation on land adjoining roads in frost-prone areas to reduce the incidence of winter ice on road surfaces
- planning road improvements in frost-prone areas with regard to the potential to improve sunlight on to the road surface, eg, through batter angles.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods can include:

- educating adjoining landowners and occupiers of the adverse effects of vegetation on road safety and efficiency
- using and encouraging other relevant parties to use available legislation to avoid, remedy or mitigate the adverse effects of vegetation adjoining roads, eg, *Public Works Act 1981*, *Resource Management Act 1991*, *Transit New Zealand Act 1989*

- consulting with the Department of Conservation regarding processes to address any adverse effects from shading caused by vegetation with protected status
- advocating appropriate roadside vegetation control, eg, input into the code of practices of forestry companies
- ensuring adequate signs are in place to alert the travelling public to the possibility of frost/ice on the road
- forestry set back rules.

Rules

A useful example is 'vegetation (particularly planted forestry) should not be planted or allowed to grow in a position where it will shade the carriageway during the middle of the day in winter'.

Anticipated results

An anticipated result is increased road safety through the minimisation or avoidance of ice forming on roads and presenting a safety hazard.

Monitoring

Indicators include a:

- reduction in accidents arising from a loss of control by drivers on ice-affected roads
- cessation in complaints over lack of advisory warning signage.

7.3 Group 3 – urban issues

7.3.1 Issue 13 – vibration/noise

Issue

It is clear that, over time, increasing traffic volumes on a road may lead to concerns and complaints over vibration and/or noise. This is more likely to be from the inhabitants of frontage properties and relate to increased volumes of heavy vehicles using the adjacent road.

Objectives

The level of traffic, particularly heavy vehicles, should not be so great that it begins to conflict with frontage development because of the new or increasing incidence of vibration and/or noise. Heavy vehicles should be directed to roads where adjacent development is likely to be compatible with increasing heavy vehicle traffic.

Policies

To link the use of roads by heavy traffic to those roads most suitable for it.

Methods

District plans should consider all the methods outlined in section 6. Additional methods include:

- providing heavy vehicle bypasses where appropriate
- implementing a road hierarchy and identifying higher-level roads as appropriate for heavy vehicle through traffic
- encouraging drivers of heavy vehicles to use heavy vehicle bypasses, eg, through agreements with heavy transport operators
- preparing a regional freight strategy (such as the one being prepared for the Canterbury area) to try to address some of the problems associated with heavy transport.

Rules

Rules could cover:

- encouraging and/or requiring heavy vehicle operators to use particular routes
- discouraging the establishment of development on heavily trafficked routes which are likely to be incompatible with increasing traffic vibration and/or noise.

Anticipated results

- Reducing or avoiding in complaints to roading authorities from the public about vibration and/or noise from heavy traffic.
- Increased usage of targeted heavy traffic routes by heavy traffic operators.

Monitoring

The council should monitor the:

- number and nature of complaints relating to vibration and/or noise
- percentage of heavy vehicles using targeted and non-targeted heavy vehicle routes.

7.3.2 Issue 14 – pedestrian/cycle facilities

Issues

Pedestrian and cycle facilities must be provided for within the road network. They are a critical factor in the interface of alternative forms of transport. Within urban areas, the potential for conflict between pedestrians and cyclists and vehicular traffic is reduced because of slower speed levels and driver awareness of obvious side friction. Pedestrian and cycle routes should also be incorporated in large developments.

In rural areas, however, the requirements for pedestrians and cyclists to cross roads are much less obvious and unpredictable. Irrespective of this, the types of activities described in issue 11 are in locations with a high probability of pedestrian movement. A clear example is where tourist facilities (eg, cafes) are located on one side of a rural road and car parking is on the other side of the road. Cycling on rural roads has also become a popular tourist activity, but there are few provisions for this, such as signs or safe cycling routes.

Objectives

- To develop and maintain a safe road network for pedestrians and cyclists.
- To provide for the safe and convenient movement of pedestrians and cyclists in urban and rural areas.

Policies

- Ensuring safe and convenient access and linkages across the road network are available to pedestrians.
- Ensuring safe and convenient cyclist facilities and services are provided throughout the roading network.

Methods

District plans should consider all the methods outlined in section 6 above. Additional methods include:

- road and subdivision designs that take into account and promote the needs of pedestrians and cyclists
- creating walkways and/or cycleways into a network where adequate pedestrian and cycle access on existing roads is not available, or for separating vehicles and pedestrians
- mapping cycle routes and pedestrian links in the district plan in association with the road hierarchy and rules – councils should retain their discretion and take account of such links to ensure development is consistent with them.

Rules

Rules could cover:

- controlling the effects of new roads relating to the design and location of property access and intersections
- regulating the location and design of subdivisions by reference to impacts on the road network
- regulating the construction of new roads
- regulating the location of activities by reference to their access to types of road in the hierarchy
- ensuring cycling facilities are taken into account in subdivision and development design and location relating to whether the frontage road is part of the cycle network
- ensuring that subdivision roads (where likely to be classified) have cycle facilities included in their design.

Anticipated results

An anticipated result is the safe and convenient location of pedestrian and cycle linkages.

Monitoring

The provision for pedestrian and cyclist movement in development proposals.

8 Assessing resource consents/ guideline for applicants

This section deals with processing applications for resource consent for activities that may adversely impact on road safety and efficiency.

8.1 Definition of objectives and issues

The issues here are twofold:

1. Councils assess a range of issues when considering an application for resource consent.
2. Applicants must meet the information requirements prescribed by councils.

It is therefore important that councils are clear on what information they want, and why and how they plan to evaluate it.

Councils have their own internal procedures for assessing applications. Determining who should assess the application is generally made by the planner who is responsible for that application. This may require scrutiny by a range of council officers, including a traffic engineer. The planner will also undertake an initial assessment to determine if the application has sufficient information.

If the district plan determines that a resource consent is required for an activity, it is because it anticipates that the activity may have some effects that need to be controlled. An assessment of environmental effects (AEE) is required to accompany the application. If the potential effects are known in advance, the proposal can be modified and/or conditions attached to its resource consent to ensure the effects are avoided, remedied or mitigated.

8.2 Pre-processing

Early appraisal of any potential application allows potential problems to be picked up, possibly allowing potential alternatives to be canvassed early on. Alternatively, if significant adverse effects cannot be avoided, remedied or mitigated, councils will be in a position to make informed decisions later on whether to grant the consent.

The development of an internal system of this nature requires developing a checklist. The success of this type of system depends on the planner or person making the initial assessment of an application. For this reason, the system is open to human failure, unless secondary checking systems are in place.

The benefit of such a system is that it provides an opportunity for formal and informal input into projects. When a party discusses a tentative development with council officers, free and targeted advice at this stage can result in substantial cost and time savings further down the processing track.

Potential applicants should be encouraged to discuss their proposals with councils before formally lodging them.

If possible, it may be useful at this stage to consider inspecting a site to better determine the demands that would be made on it and its environment. Subsequent discussion with potential applicants at this stage is likely to ensure that they have a full understanding of the council's perspective on the proposal, which should lead to a better quality application being lodged.

Early and informal discussion with council planners before application lodgement will also give councils an early appreciation of the applicant's goals and understanding of the planning process and its requirements.

A checklist will provide over-the-counter information that is less complex than that contained in the overall district plan. It is still specific enough to give potential applicants a thorough understanding of the ways the proposal will be considered by the council in terms of impacts on road safety and efficiency, and a general feel of where council is coming from.

An information guideline provides factual information to applicants. It does not give advice or opinions, which can potentially be incorrectly interpreted. It can be used in tandem with other best practice guidelines or information sheets provided to applicants, eg, on how to apply for consent and consultation with affected parties, etc. This information sheet can be posted out to applicants who ring the council requesting pre-lodgement information.

This guideline or any checklist is not suitable to be used by an applicant as a substitute to an AEE. However, for controlled or restricted discretionary activities, it can give a clear indication of what the AEE must address by describing those matters over which councils have retained control or discretion. The AEE must include the informational requirements prescribed by district plans and to the level of detail required.

8.3 Processing and evaluation

It is the responsibility of the applicant to provide sufficient and appropriate information in an AEE. The checklist provides for consistency between council officers when checking applications for the accuracy of information provided. If the plan and informational requirements are clear, the officer receiving the application does not have to make any judgement on the suitability or adequacy of the information provided.

The initial check for information to allow the application to be received is a pre-acceptance check. The application's finer detail is subsequently assessed when the application is fully evaluated. If there is any request for additional information at this latter stage, there should be only one, and not a series, of requests. This is where clear provisions in the plan will provide officers with ready reference as to what an application must address.

A detailed checklist will build on the criteria within the district plan (please refer to appendix 2 for an example). The checklist is not a statutory document and does not require public comment. It has no force in law. If the public was to be involved in the development of the checklist, this may raise queries regarding opportunities to influence the process.

It would be good practice to have the development of a checklist that deals with road safety and efficiency matters vetted by a council committee.

While the checklist will have its place, the criteria in the district plan will provide the opportunity for public input.

Applicants should be aware that the provision of adequate information is very important to any decision by a council over whether the application may require notification or not. Adequate information is fundamental to non-notification, the scoping of potentially affected parties and consideration of 'minor' impacts.

Potentially affected parties may not be restricted to direct neighbours, eg, the road controlling authority of the road directly accessed by the development. Nearby road controlling authorities, if they are different parties, should also be considered in terms of the potential wider impact of the proposal on the road network. Some effects (other than those signed away by directly affected parties) may still need to be considered in making the decision on an application. For an application to be non-notified, the effects on the environment must also be minor.

In determining minor effects, there is a strong link to an adequate assessment of environmental effects (AEE).

In determining affected parties, the size and scale of the proposed activity are relevant. However, consideration of downstream and cumulative effects suggest a broad view should be kept and tied to plan provisions that describe a holistic approach to the impact on the road environment. Impacts on individual roads should be viewed in terms of their place in the road hierarchy and potential impact on the network as a whole.

Reports by roading specialists may be required if a council considers a proposed activity may have a significant adverse effect on the environment. A council can commission a review of the information received in the application or commission its own specialist report.

If a specialist report is commissioned, the applicant should be advised first, especially if they are to be charged. They should also be given the chance to provide the information themselves. Agreement over the consultant to be used and guidelines for the work will ensure the findings are acceptable to both the applicant and the council.

8.4 Conditions

After assessing an application, effects that require avoidance, remedying or mitigation may be identified. These can be addressed by way of appropriate conditions.

If they can be agreed between the applicant, council and any other relevant parties, a decision may be able to be made under delegated authority, expediting the consent process.

A review condition provides an opportunity for councils to reassess the consent for particular reasons at some time in the future. In the meantime, the consent holder has certainty over the term of consent.

There are documents already available that provide strong direction on the wording and appropriateness of conditions (see appendix 3).

8.5 Monitoring of applications

Checklists provide good data for monitoring justifications for why some proposals or types of activities are consistently notified or not notified. This will signal to councils whether some activities are in the wrong category of consent in their district plan.

Any requirement to monitor the exercise of any consent or its review is generally associated with the level of adverse effect (Ministry for the Environment, 1999:65). Councils should have a clear link between the data to be gathered and its specific use. Applicants will usually have to pay for some/all monitoring costs. The results can be of some public benefit.

If the anticipated environmental outcomes have not been met, it should be identified why not, eg, with respect to applications for resource consent:

- are they being accepted in an unacceptable standard?
- are there deficiencies in their processing and evaluation?
- have consistent problems kept resurfacing with respect to how particular road safety and/or efficiency issues are being dealt with? Should these be brought to the attention of road controlling authorities?
- has the process adopted by a council to deal with road safety and efficiency issues within its plan, and through the resource consent process, been generally acceptable to the public?
- have council staff found the measures easy to implement and readily understandable, and is the delegation of decision making enhanced?

Monitoring of effects should be incorporated into plan provisions over time as the status of activities and the conditions on activities are reviewed. Therefore, council policy on cost recovery for monitoring will reflect its purpose and apportion costs to the private and public benefit that will result (Ministry for the Environment, 1999:167).

9 Best practice examples

The SMART acronym can be used to assess issues, objectives, policies, methods and anticipated environmental results. SMART stands for Simple, Measurable, Achievable, Relevant and Time Bound.

In the district plans assessed during the development of this BPG, a matrix was developed that gathered information from a variety of plans about the methods currently being used by councils. This gave an indication of the relative use of different provisions.

Those provisions that were considered to be good examples of their kind have been included in appendix 1.

Appendix 1 has then been expanded to include examples considered to be good practice as determined through the development of this BPG. Please note: these are examples only and should be tested against the rigours of a full section 32 analysis.

10 Conclusion

A holistic approach to protecting road safety and efficiency demands that any new development must make adequate provisions to ensure it does not impose subsequent and downstream problems on the road network.

District plans contain planning instruments that may provide for activities that directly affect road safety and efficiency. By the same token, district plans also have the ability to require mechanisms to be implemented to address any adverse effects in a manner that avoids, remedies or mitigates them.

District plans should clearly identify and articulate those issues associated with road safety and efficiency, and provide specific guidance to the council, community and applicants on how they will be addressed. This will assist all parties and promote the sustainable management of the road network by seeking to improve road safety and efficiency.

Appendix 1 – best practice in district plan provisions

Well-considered examples of plan provisions

Listed below are some examples of the way road safety and efficiency matters can be appropriately dealt with in district plans.

Please note: no one policy has all the attributes required, ie, SMART – simple, measurable, achievable, relevant and time bound.

Issues:

'The types of activity that can compromise the overall safety and efficiency of the transport infrastructure include ribbon commercial development along main roads and the location of schools or playgrounds adjacent to main roads ...'

'The continued growth of motor vehicle traffic over the next decade and provision for its growth to ensure that acceptable levels of safety, amenity and mobility are maintained'

'The encouragement of measures that increase traffic safety'

'The multifunctional use of the transport network has the potential to impact on the safe and efficient functioning of the transport network'

Objectives:

'To maintain a safe and efficient transport network that allows the city to function and develop with minimal conflicts between land uses, traffic and people'

'To protect infrastructure resources from the adverse effects of activities located adjacent to, or in association with, the facility'

'Minimise conflicts between land use and the roading network, while providing for mobility, and safe and efficient ingress and egress to roads'

'A safe and efficient roading network which recognises and provides for different users'

Policies:

'Giving consideration to the nature of adjacent roads to ensure that entry, exit and manoeuvring of vehicles onto a public road can be conducted safely from all sites in X zone'

'To classify roads in the district according to their proposed function in the road network'

'To have regard to the Land Transport NZ guidelines for the following ...'

'To continue the review accident data to enable 'black spots' and 'black routes' in the road network to be recognised, investigated and improved; and trends to be followed to evaluate the success of safety works undertaken'

'To control the establishment of land-use activities to achieve compatibility with the roads they front by avoiding, remedying or mitigating the effects which each has on the other'

'To ensure that the subdivision activity for urban purposes outside urban areas only occurs following an appropriate assessment of all environmental effects'

'To enable the subdivision of rural land for rural residential purposes provided that ... the subdivision does not cause demand to be made for an extension or upgrading of any road where that extension or upgrading is not in the economic interest of the city'

Methods:

'Requiring resource consents where a new roading network may have a significant effect on the environment'

'Use of traffic-control measures to ensure safe and efficient use of the roading network outside of the district plan process'

'City rules regarding transport ... provision of works and services ... coordination and liaison with transport operators ...'

Rules:

Eg, access

Permitted activities – access to stage highways

*An access to a state highway shall be a **permitted activity** subject to:*

- (i) No legal access is available from another road*
- (ii) The traffic generated through the access to a state highway is less than 100ecm/d*

- (iii) *Compliance with the performance criteria given in Table 1 overleaf regarding sight distance, clearance from intersections and minimum access spacing*
- (iv) *For an access with less than 30ecm/d, the vehicle crossing is to be designed and formed in accordance with Diagram C overleaf.*
- (v) *For an access with between 30 and 100ecm/d the vehicle crossing and localised road widening is to be designed and formed in accordance with Diagram D overleaf*
- (vi) *Provision for manoeuvring on site, so that no reverse manoeuvring onto the state highway is required.*
- (vii) *Do not allow new additional access unless it is a close one*
- (viii) *Development access in accordance with land use and subdivision criteria in the plan – land use, not subdivision, is a permitted activity*

Restricted discretionary activities – access to state highways

*Any access to a state highway unable to meet the performance criteria above shall be a **restricted discretionary activity**. The council's discretion is restricted to matters of access.*

Assessment matters – access to state highways

When considering a resource consent application for access to a state highway as a restricted discretionary activity, council shall include assessment of the following matters:

- (i) *whether the crossing is sufficiently removed from an intersection having regard to traffic volumes on the roads, and any other factors that will prevent conflict and confusion between vehicles turning at the crossing or at the intersection;*
- (ii) *the adequacy of available sight distances having regard to the 85th percentile speed of vehicles on the road;*
- (iii) *whether there is a need to separate entry and exit in order to reduce potential traffic confusion and conflict*
- (iv) *whether the physical form of the road will minimise the adverse effects of access (eg, whether the road offers good visibility, whether a solid median barrier will stop unsafe right-hand turns or a flush median will assist right-hand turns, etc)*
- (v) *whether particular mitigation measures, such as a deceleration or turning land, are required due to speed or volume of vehicles on the road;*
- (vi) *the design of the crossing to enable traffic exiting the site to safely enter the traffic stream;*
- (vii) *the location and design of the crossing in relation to pedestrian and cycle safety*
- (viii) *whether there is adequate queuing and parking space on site so that vehicles do not queue over vehicle crossings or on the state highway;*
- (ix) *and potential cumulative effects of extra access points on the function of the state highway;*
- (x) *any relevant accident history of the state highway in the vicinity of the site; and*
- (xi) *the particular traffic characteristics of an existing or proposed activity, including expected traffic generation, types of vehicles, etc.*

On-site manoeuvring

'On-site manoeuvring shall be provided to ensure that no vehicle is required to reverse either onto or off a site where:

- (i) any site has access to a major or minor arterial road*
- (ii) any site has access to a collector road and requires three or more parking spaces ...'*

'Where the location of a vehicle crossing providing for access from the road to any site would be likely to cause a traffic hazard, council may require further or other provision to be made for access to the site or may prohibit such access and any parking or loading'

'Where a site fronts a major or minor arterial road and the site also has frontage to a secondary road, the access to the site shall be provided to the secondary road'

Traffic study

'A traffic impact study shall be prepared for any activity which:

- (i) will have x or more parking spaces*
- (ii) will generate more than x vehicle movements per day*

The traffic impact study shall address the following matters:

- (i) the provision of parking on site, manoeuvring and servicing*
- (ii) provision of egress and ingress*
- (iii) sight visibility distance for access points*
- (iv) impact of access on the existing roading network*
- (v) impact on existing traffic volumes of the roading network'*

Frost/ice

Permitted activities – vegetation on land adjacent to roads

'Vegetation on land adjacent to arterial roads shall be a permitted activity subject to:

In areas where ice can form on roads, vegetation shall not be planted or allow to grow in a position which will shade the carriageway between the hours of 10 am and 2 pm on the shortest day of the year.'

Signs

Permitted activities

The following are permitted activities:

- 1. An 'official' sign; or*
- 2. A 'community' sign; or*
- 3. An 'advertising' sign located*

Either:

- a) adjacent to a state highway with speed restrictions less than 70km/hr; or*
- b) (subject to Transit New Zealand approval) on a state highway with speed restrictions less than 70km/hr; or*
- c) adjacent to a state highway with speed restrictions of 70km/hr or greater meeting all the following standards:*
 - (ix) it is to be located on the site to which it relates;*
 - (x) there shall be only one advertising sign directed at the state highway;*
 - (xi) it is to have a minimum lettering height of 160mm, with font that complies with Land Transport NZ standards 'Advertising Signs and Road Safety : Design and Location Guidelines';*

- (xii) *it must not have more than six words or symbols and no more than 40 characters; and*
- (xiii) *it is to be located so as to provide an unrestricted view to the motorist for a minimum distance of 180m.*

Permitted activities are subject to the following performance criteria:

- (i) *Any sign on or adjacent to a state highway must be located so as not to obscure or confuse the interpretation of official signs or traffic signals on state highways; and*
- (ii) *Any sign or message, other than an official sign, on or adjacent to a state highway must be static (ie, does not move, rotate or include variable message systems).*

Discretionary activities – signs on or adjacent to state highways

*Any sign on or adjacent to a state highway which is unable to meet all of the performance criteria for permitted activities shall be a **discretionary activity***

Assessment matters – signs on or adjacent to state highways

When considering resource consent application for discretionary activities for signs on or adjacent to a state highway, council shall include assessment of the following matters:

- (i) *The extent to which any adverse effects on traffic safety or amenity values are avoided, remedied or mitigated;*
- (ii) *Whether or not the off-site signs are necessary because:*
 - *the safety of drivers would be at a significant risk without it, and*
 - *a complying sign adjacent to the entrance to the subject property would not be seen for the required 180m.*
- (iii) *The manner in which glare from illuminated signs which may be hazardous is avoided or minimised.*

NB:

Official traffic signs – all signs in the traffic regulations and in the ‘Manual of Traffic Signs and Marking’ approved by Land Transport NZ.

Advertising signs and devices – all advertising signs and devices which are visible to or are intended to be seen by road users, whether they are motorists, cyclists or pedestrians. It includes advertising that is:

- *Located within the road boundaries*
- *Located on property near a road*
- *Permanent or fixed*
- *Temporary or moveable*
- *Vehicle-mounted*

Community signs – provide information for or about the community (see Transit New Zealand Planning Policy Manual No. SP/M001 for an expansion of definitions).

Other

‘On a corner site, no building, fence, hedge wall or retaining wall exceeding 1m in height shall be permitted on the triangular part of the site defined by measuring ...’

‘All parking and access must be in accordance with appendix x and x’

Anticipated environmental results:

'An efficient and effective road network allowing the city to function and develop with minimal conflict between land uses, traffic and people is anticipated to produce the following outcomes:

- (i) Improved road safety generally throughout the city*
- (ii) A reduction in the conflicts between land uses and road functions.'*

'Safe and efficient movement of people and goods on the transport network through and within x area of the city.'

'Improved road safety throughout the city.'

Monitoring:

'Improved road safety generally throughout the city' with possible indicators being listed as 'change in the number and severity of accidents before and after road improvements' and 'change in the number and severity of accidents'. The possible source of the data should also be listed.

Appendix 2 – best practice in resource consent processing – road safety and efficiency considerations, and typical checklist items

Typical checklist to address road safety and efficiency issues

NB: This list is not all-inclusive but indicative of the types of factors that can be included.

- Part 2 analysis must conclude that the sustainable management of resources is promoted by the proposed activity.
- An environmental bottom line is the current safety and efficiency associated with any particular road. Consent to an application should not be to the detriment of this environmental bottom line, nor part 2 matters of the RMA.
- All technical matters relating to safety and efficiency should be covered. This will cover matters described within the district plan for each particular council.
- There should be an acknowledgement of limits on in-house skills, which will signal to applicants when a council may need to consider commissioning consultant reports to assess the technical aspects of any application. This will include liaising with the applicant to agree who will be commissioned and the likely costs.
- A specialist report should include if identified effects could (if combined with other effects related to the activity or the site and locality) create different effects from those anticipated or whether any of the effects are likely to change over time. It will also describe possible conditions that may avoid, remedy or mitigate any adverse effects.
- Any request for further information should ideally be a one-off.
- Full information will allow an assessment of who potentially affected parties are. They may not be restricted to direct neighbours, including the road controlling authority of the road directly accessed by the development. Nearby road-controlling authorities, if they are different parties, should also be considered in terms of the potential wider impact of the proposal on the road network. Some effects (other than those signed away by directly affected parties) may still need to be considered in making the decision on an application.
- Specific consideration of potential adverse effects, eg, light spill/glare for adjacent road users, signage distraction, roadside vegetation, vibration or any other nuisance.
- Consultation with relevant roading authorities, eg, Transit in the case of state highways, early in the consent process should be encouraged so potential adverse effects can be identified and addressed in development proposals at an early stage.
- Developers should be made aware of the limited access road (LAR) classification and its implications on the provision or design of any access.

- Developers should be made aware of Transit's expectations under the *Transit Act* for resource consent applications affecting state highways that are LAR and that councils will consult with Transit New Zealand for these applications.
- Applications should be assessed by an officer competent in recognising traffic safety and efficiency considerations, including downstream ramifications.
- Councils can disseminate brochures that outline Transit New Zealand's role and responsibilities. Council officers must be aware of their council's own roading responsibilities.
- Ensure ready communication between council planners and traffic engineers/asset managers regarding time availability to review the application and incorporation of recommended engineering conditions into a resource consent report.
- Have clear procedures for determining which projects should be safety audited, requesting an audit and dealing with the recommendations from the audit. An audit is not a traffic-impact assessment. The latter is typically restricted to parking and traffic generation and may neglect safety issues.

Typical basic information

- Site location.
- Nature of, access to and traffic characteristics of adjoining activities.
- Traffic generation, volumes, types, frequency, lengths of visits, employees, visitors, service and loading vehicles.
- Pedestrian generation, especially young and old, identified separately.
- Parking demand, length of queues.
- Catchment area to be served.
- How estimates were arrived at.
- Access point location, sight distances, distance from intersections, etc.
- Pedestrian access and circulation.
- Parking, loading, and servicing facilities and manoeuvring.
- Location of public transport routes, bus stops.

Appendix 3 – reference material

References

Reference to relevant documents provides a good scope of standards and guideline material. A great deal of work has been undertaken by parties such as Transit New Zealand and Land Transport NZ to assess particular facets of road management. Some of these provide precise examples of useful district plan provisions.

A number of publications have been used in the development of this BPG. Their use is gratefully acknowledged:

Ministry for the Environment, July 2003, *Drafting issues, objectives, policies and methods in regional policy statements and district plans*, ME No. 482

Ministry for the Environment, June 2001, *Effective and enforceable consent conditions*

Ministry for the Environment, July 2000, *What are the options? A guide to using section 32 of the RMA*

Ministry for the Environment, October 1999, *Managing vegetation disturbance activities under the RMA: The way forward – forestry and the RMA: Working paper*

Ministry for the Environment, March 1999, *Auditing assessment of environmental effects – a good practice guide (AEE)*

Ministry for the Environment, October 1997, *To notify or not to notify under the RMA*

Quality planning website, www.qualityplanning.co.nz, *Best practice resources*

Tonkin and Taylor, May 2003, *NZPI Conference – Best practice guidelines for road safety & efficiency information & district plan provisions*

Transfund NZ, July 2002, *Road safety & efficiency information & district plan provisions*, Report No. OG/0207/165

Transfund NZ, June 2003, *National land transport programme 2003/4*

Transfund NZ, Feb 2000, *Scoping study; roading, land use developments and safety audits, report no. RA97/6285*

Transfund NZ, August 2003, website

Transit NZ, Dec 2002, *Guidelines for highway landscaping*

Transit NZ, Nov 1993, *Advertising signs and road safety: Design and location guidelines*

Transit NZ, Dec 1999, *Planning policy manual*

Transit New Zealand, Oct 2000, *Planning policy manual no. SP/M001*

Land Transport Safety Authority, October 1995, *Road safety in effects-based planning: Guidelines for districts: Draft discussion document*

Other relevant publications

Regional land transport strategies

Individual local state highway strategy studies

Land Transport NZ's 10-year funding plan

Land Transport NZ guidelines, eg, RAMM manuals

Transit/Ministry of Transport publications, eg:

Guide to cycle facilities (NRB/UTC: 1985)

Guidelines for planting for road safety

Road and Traffic Standard Series:

RTS 3 – Guidelines for establishing rural selling places

RTS 6 – Guidelines for visibility at driveways

RTS 7 – Advertising signs and road safety: Design and location guidelines

RTS 13 – Road safety guidelines for service stations

RTS 17 – Guidelines for setting speed limits

Other

Australian Standard No. 4282 – 1997 control of obtrusive effects of outdoor lighting

Our contact details

For general enquires, or more information about Land Transport New Zealand, please email

info@landtransport.govt.nz

www.landtransport.govt.nz

National Office

Telephone 04 931 8700 Fax 04 931 8701
Level 4, NZ Post House
7 Waterloo Quay
PO Box 2840, Wellington

Northern Region

Auckland Office

Telephone 09 969 9800 Fax 09 969 9813
Level 6, 1 Queen Street
Private Bag 106602, Auckland

Midland Region

Hamilton Office

Telephone 07 958 7840 Fax 07 958 7866
183 Collingwood Street
Private Bag 3081, Hamilton

Central Region

Wellington Office

Telephone 04 931 8900 Fax 04 931 8929
Master Builders House
234 Wakefield Street
PO Box 27249, Wellington

Napier Office

Telephone 06 974 5520 Fax 06 974 5529
Level 3, Dunvegan House
215 Hastings Street
PO Box 972, Napier

Palmerston North Office

Telephone 06 953 6296 Fax 06 953 6203
Level 3, IRD Building
Cnr Ashley and Ferguson Streets
PO Box 1947, Palmerston North

Southern Region

Christchurch Office

Telephone 03 964 2866 Fax 03 964 2855
Level 5, BNZ House
129 Hereford Street
PO Box 13364, Christchurch

Dunedin Office

Telephone 03 951 3009 Fax 03 951 3013
AA Centre, 450 Moray Place
PO Box 5245, Dunedin

Transport Registry Centre

Telephone 06 953 6200 Fax 06 953 6411
Level 3, IRD Building
Cnr Ashley and Ferguson Streets
Private Bag, Palmerston North

Call centres

General enquiries	0800 699 000
Driver licensing	0800 822 422
Road user charges	0800 655 644
Motor vehicle registration	0800 108 809
Overdimension permits	0800 683 774