

13 Appendices

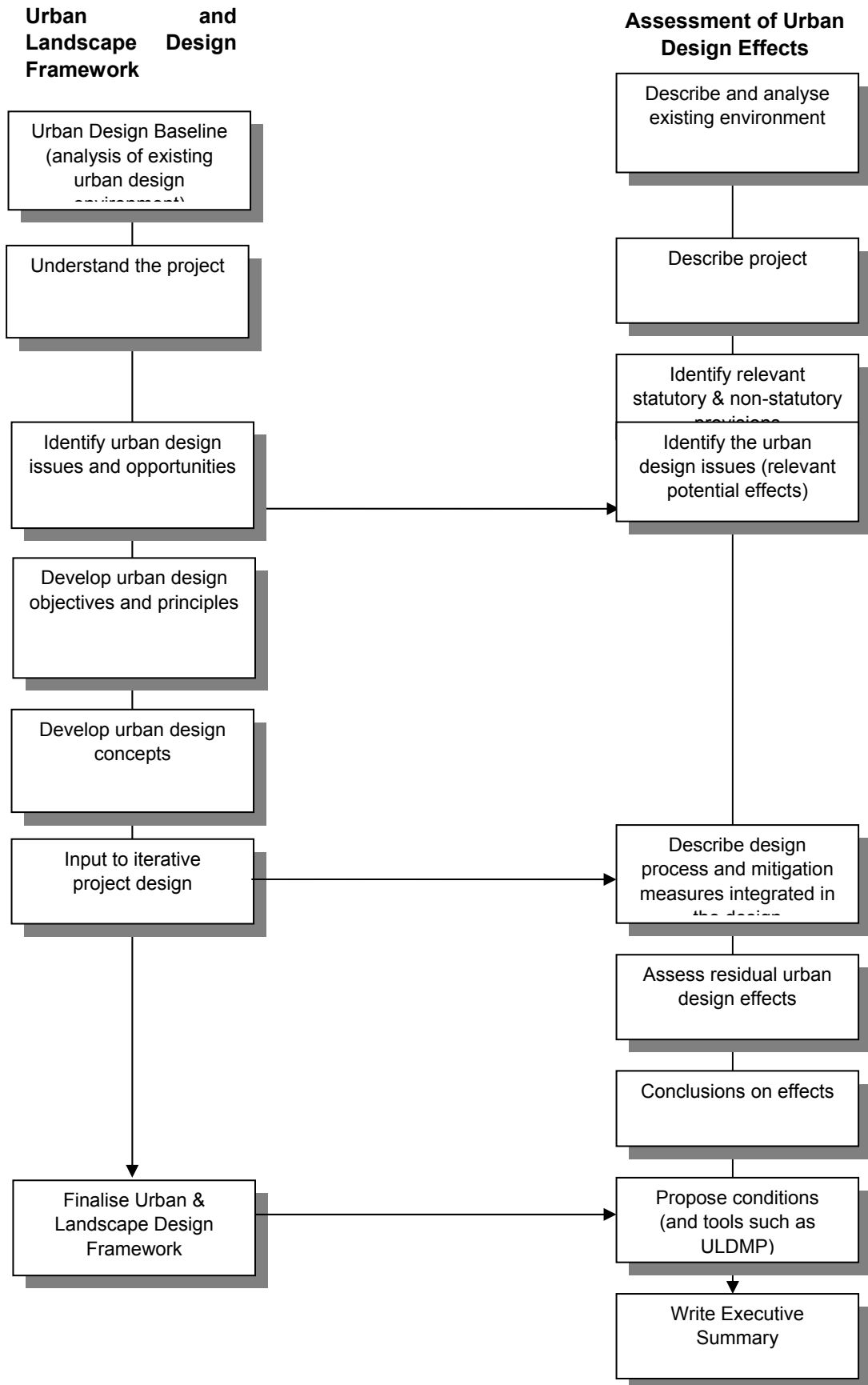
13.1 Appendix 1 - NZTA urban design Assessment guidelines

URBAN DESIGN ASSESSMENT GUIDELINES

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Diagram 1: Generalised Process
Urban Design Work Streams



1 INTRODUCTION

These guidelines cover urban design assessments (**UDA**) for New Zealand Transport Agency (**NZTA**) projects. The NZTA requires urban design input to its projects as part of its Environmental and Social Responsibility Policy. UDAs are technical reports that form part of the Assessment of Environmental Effects (**AEE**) for **resource consent applications** and **Notices of Requirement (NoR)**. They may also form part of the Social and Environmental Assessment (**SEA**) at the Scoping and Scheme Assessment phases, and Outline Plans of Works (**OPW**).

Principles

The purpose of an UDA is to assist the decision-makers⁵. It should be:

- Tailored to the relevant RMA issues;
- Tailored to the specifics of the project;
- Succinct and readable;
- Integrated with the design process (so that the project design itself seeks to avoid, remedy and mitigate adverse effects as far as practicable and opportunities are taken to incorporate positive effects as part of the design⁶) and linked to other disciplines (such as landscape, ecology and civil engineering);

Consistency with Code of Conduct

An UDA should also be consistent with the Code of Conduct for Expert Witnesses⁷ because the assessment will provide the foundation for subsequent evidence. In summary it should:

- Be **impartial**;
- Include **all relevant matters** (including those detrimental to the client);
- Explain the **facts, assumptions** and **reasons** behind the opinions expressed;
- List any **literature** relied on;
- Describe the **methodology**.

Level of Detail

The level of detail should correspond to the scale and significance of the urban design effects the activity may have on the environment (following the principle set out in RMA s88). An UDA for a project with minor effects should be brief, whereas major highway or motorway projects with potentially significant effects require a more comprehensive assessment.

⁵ For instance; District and Regional Councils, Requiring Authorities, the Environment Court, Boards of Inquiry.

⁶ While the RMA does not require an application to have positive effects, decision makers are required to take all effects (positive and adverse) into account.

⁷ Environment Court of New Zealand Practice Notes, Expert Witnesses Code of Conduct, <http://www.justice.govt.nz/courts/environment-court/legislation-and-resources/practice-notes/expert-witness.html> (retrieved 12/03/12)

2 CONTENTS OF AN ASSESSMENT

Organise the UDA under the following **main headings**:

- Executive Summary
- Description of Proposal
- Relevant Statutory and Non-Statutory Provisions
- Existing Environment
- Alternatives
- Design Methodology and Mitigation Measures integrated in the design
- Assessment of (Residual) Urban Design Effects

Such a structure incorporates the matters to be included in an AEE set out in RMA Schedule 4(1). While the UDA is a technical report, the AEE will draw on material from the UDA so it is helpful if the UDA adopts a similar structure.

However the **sub-headings and content** should be tailored to the specifics of each project. For instance, the sub-headings under 'Existing Environment' and 'Urban Design Effects' should reflect the particular context and the urban design issues specific to the project. A common fault is to follow a formulaic approach that does not focus on the pertinent issues. Such an approach is often the result of an uncritical reliance on templates. While the main headings listed above provide a basic structure, an intelligent approach needs to be taken to the sub-headings and content.

Use **appendices** to keep the main UDA succinct. Detailed analysis and background material are best placed in appendices. Similarly the UDA might refer to more detailed material included in an Urban and Landscape Design Framework which can be attached to the UDA.

The UDA should outline the role of the author (or the author's firm) in the project. Urban design should be an integral part throughout the planning and design of a highway project. For efficiency and credibility, it is also preferable if the UDA author (and person who will subsequently give evidence) is a member of the urban design team involved in that design process.

3 THE EXECUTIVE SUMMARY

Include an executive summary to assist the decision-makers:

- Identify the main urban design **issues** (potential effects relevant to RMA considerations);
- Summarise any **alternatives** considered⁸
- Summarise the design measures incorporated into the project to **avoid, remedy or mitigate** potential adverse effects, and similarly summarise measures incorporated into the design that may achieve **positive urban design effects**.
- Summarise the (residual) urban design effects (their **nature** and **magnitude**);
- Provide a **conclusion** with **reasons** on each urban design issue.

The Executive Summary should be a coherent **stand-alone statement**. It may be extracted straight into the AEE, and may be the only part of the UDA some people will read.

An executive summary should be approximately **1-3 pages** depending on complexity of the project.

⁸ Consideration of alternative locations or methods is required where an activity will result in any significant adverse effects on the environment (RMA 4th Schedule). Alternative methods include matters of design. Apart from such requirements, an explanation of the alternatives considered can be a useful way of explaining the rationale for a design.

4 DESCRIPTION OF PROPOSAL

Briefly describe the physical works proposed, highlighting those aspects relevant to urban design. Such aspects are likely to include the general road alignment and basic parameters,⁹ intersections with the local road network, structures,¹⁰ and pedestrian and cycle provisions. The description should not simply repeat the official Project Description (**PD**) (usually prepared by the Planners or Engineers). Rather it should:

- Be **brief** (it may be as short as a paragraph and should be no more than **1 page**);
- Be consistent with the **official project description** which should be referenced; and
- Focus on elements **relevant** to urban design.
- Be factual and not contain subjective statements.

⁹ For instance the number of lanes, whether it is a split carriageway or has a median

¹⁰ For instance any bridges, underpasses, the nature of the median barrier

5 RELEVANT STATUTORY AND NON-STATUTORY PROVISIONS

Because the role of the urban design assessment is to assist the decision makers, it should be written in a way that addresses the matters the decision makers will consider under the RMA. In other words, it is important the author understands the RMA context. It is recommended that the relevant RMA provisions be discussed and clarified with the project planner or lawyer.

As a general guide, matters to be considered when deciding an application for resource consent or a NoR are set out in RMA s104 and s171 respectively, and those relevant to an UDA include:

- **Urban Design Effects** of the proposal;
- Provisions of **Policy Statements or Plans**¹¹ relating to urban design issues;¹²
- **Alternative** locations or methods¹³; and
- **Other relevant matters** (e.g. non-statutory documents such as structure plans, urban design policies)

The matters listed above are subject to **Part 2** of the RMA which has the over-riding purpose of promoting the sustainable management of natural and physical resources, the definition of which includes the ability of communities to provide for their social, economic and cultural well-being and for their health and safety. Those sections of Part 2 likely to be **most relevant** to an UDA are listed below.

Section 5	Purpose and principles of the RMA
Section 7 (b)	The efficient use and development of natural and physical resources
Section 7 (c)	Maintenance and enhancement of amenity values
Section 7 (f)	Maintenance and enhancement of the quality of the environment

Recommended wording to use in relation to the relevant provisions of the RMA is included in the side bar on page (xx). Seek further advice from the project's planner on the relevant provisions of policy statements and plans.

This section of the UDA should typically be **1 to 2 pages** long, highlighting the most pertinent points. More detailed material can be placed in an appendix.

It is stressed that the UDA is not a planning assessment. It is the planner's role to assess the project against the relevant provisions. The purpose for identifying provisions in the UDA is so that the assessment is framed in a way that focuses on the urban design matters that the decision makers will consider.¹⁴

¹¹ There is a hierarchy of statutory documents whose purpose is to give effect to the RMA, including national policy statements, regional policy statements and regional plans, and district plans. Other documents (such as structure plans) can be covered under the 'other matters' heading.

¹² These might include urban design objectives and policies in the policy statements and plans; urban design assessment criteria; and special urban design status such as areas identified as 'character' or 'heritage' areas.

¹³ Where there will be significant adverse effects on the environment.

¹⁴ For instance the UDA should not assess the project against individual objectives and policies. Instead it should identify the relevant themes or topics and address these. One method is to use the topics as headings in the assessment of effects.

6 EXISTING ENVIRONMENT (DESCRIPTION AND EVALUATION)

Defining ‘Urban Design’

Include a definition of the term ‘urban design’.

A recommended definition is contained in the NZ Urban Design Protocol of which NZTA is a signatory:

“Urban design is concerned with the design of the buildings, places, spaces and networks that make up our towns and cities, and the ways people use them. It ranges in scale from a metropolitan region, city or town down to a street, public space or even a single building. Urban design is concerned not just with appearances and built form but with the environmental, economic, social and cultural consequences of design. It is an approach that draws together many different sectors and professions, and it includes both the process of decision-making as well as the outcomes of design.”

The definition highlights that urban design addresses a range of **elements** and **systems** (e.g. circulation networks) that make up urban areas, that it spans **different scales**, that it is concerned with the **functioning** of such elements and systems (not just their appearance), and that it is a **design process** integrating a number of disciplines. NZTA’s Urban Design Policy contains the following definition that covers similar matters, and also defines urban design in a way that covers aspects of **rural** as well as **urban** settings.

“Urban design involves the design and placement of buildings, roads and open spaces in towns and cities to create desirable places in which to live, work and play. On a large scale it is concerned with urban and rural structure, the pattern of buildings, open space, and movement networks. On a small scale, it is concerned with urban and rural character and function and how roads, open space, and buildings interact, appear and function.”

Analysing the Existing Urban Design Environment

Describe the urban design environment highlighting those aspects relevant to the project. Determining which aspects are relevant requires critical judgement. Where relevant, refer to the more detailed assessment of the urban and rural context in the Project’s Urban and Landscape Design Framework. The following table lists typical factors that might be relevant.

Typical headings	sub-	Typical factors
Underlying environment	natural	<ul style="list-style-type: none"> • Topography, geomorphology, streams and coastal edges • Vegetation • Natural features • Landmarks (relevant in terms of way-finding legibility and views from the highway) <p>This overlaps with the Landscape and Visual Assessment. However, it is likely to be relevant to explain the response of the built environment to the underlying setting in urban areas, as well as the structure of rural settlement and road patterns.</p>
Connectivity		<ul style="list-style-type: none"> • Circulation patterns (main destinations and generators, neighbourhood centres and catchment boundaries) • Existing network and pattern of streets (e.g. grid, curvilinear, following topography) including existing connectedness or severance • Pedestrian and cycle circulation (including consideration of existing routes, local generators such as schools and shopping areas)
Land use activities		<ul style="list-style-type: none"> • Nature and spatial distribution of land use activities • District Plan zoning • Functional aspects (reliance on access to or visibility from

	<p>highway, reliance of a commercial area to passing traffic or to connections with a customer catchment)</p> <ul style="list-style-type: none"> • Character
Built Form	<ul style="list-style-type: none"> • Street types (for instance urban streets with building frontage to the property boundary, suburban streets with typical front and side setbacks, rural roads) • Grain (characteristic lot size and pattern, and extent of building coverage -may include figure/ground analysis) • Buildings (typology, materials, scale, characteristic age and design) • Rural land use type, typical elements and scale of land units.
Amenity	<ul style="list-style-type: none"> • Visual quality • Tranquillity • Perceived safety (e.g. separation of pedestrians from fast moving traffic) • Sun exposure (especially where the Project will create shading effects) • Aspect and views

However, the description and analysis of the existing environment should be more than simply a catalogue of factors. The writer should exercise judgement in highlighting the **pertinent** factors: Those that are important to the functioning and character (or 'sense of place') of an area. Also, focus on those aspects likely to be relevant to assessing effects.

As discussed above, the subheadings of this section of the UDA should reflect the particular context, and are likely to vary from one place to another.

The 'Existing Environment' section of an UDA should typically be **2 – 5 pages**¹⁵ depending on the extent and complexity of the project area. It might usefully refer to diagrams and photos contained in the Project's ULDF illustrating aspects such as circulation, land use, and built form. The description should reference overlapping disciplines, in particular the landscape and visual assessment, to avoid unnecessary duplication.

¹⁵ It may be longer on the largest or most complex projects.

7 ALTERNATIVES

The RMA requires that alternative locations and methods be taken into account where there will be significant adverse effects of a proposal on the environment.

The alternative locations (e.g. route alignments) and methods (e.g. bridge v tunnel) that may have been considered should be included where it fundamentally affects the urban design assessment. For instance, assessment of alternative alignments will be a fundamental aspect of a NoR where the new road cuts across an existing street network, requires removal of existing buildings or bypasses a settlement. On the other hand, discussion of alternative details (e.g. alternative bridge designs) might best be addressed in the 'Design and Mitigation Measures' section.

The 'Alternatives' section of the UDA should:

- Summarise the **major** alternatives considered;
- Compare and contrast the **relative urban design effects**¹⁶ for the alternatives; and
- Provide **reasons for the preferred option** in urban design terms. The preferred option may not be the best in urban design terms given that selection of the preferred option entails several other factors. In such cases briefly summarise the reasons the preferred option was selected.

¹⁶ The relative nature and magnitude of the different effects.

8 DESIGN PROCESS AND MITIGATION MEASURES INTEGRATED IN THE DESIGN

This section should address those measures proposed to **avoid or reduce** actual or potential effects. In other words it should discuss those measures **incorporated into the design** of a proposed project. Positive design incorporated into projects is often overlooked because of the tendency to focus on 'mitigation' measures. It is important that such measures be explained and taken into considerations. The purpose and principle of the RMA includes 'avoiding, remedying and mitigating' any adverse effects and, as discussed above, 'effects' include both positive and adverse effects.

This section should explain the design process and the overall design in a comprehensive manner. In other words it can take a more holistic approach than the reductive approach taken when discussing mitigation of individual effects.

'Best Practice'

An example of the 'Design Process and Mitigation Measures' section might include the following:

- (a) An outline of the extent to which urban design matters were considered **throughout the design process** –for example from route selection through to design details;
- (b) Reference to an urban design '**context analysis**' as part of the design process. (Such context analyses identify urban design values and issues, and design opportunities to avoid potential adverse effects and should be contained within the Project's ULDF);
- (c) A summary of urban design **input to the iterative design process** including:
 - The design decisions taken or measures adopted to **avoid** potential adverse effects where practicable;
 - Opportunities taken to incorporate **positive urban design principles and concepts** into the design;
 - Urban design measures taken to **remedy** and **mitigate** residual adverse effects¹⁷; and
 - **Alternative design methods** that might have been considered e.g. the alternative designs considered for a bridge.
- (d) A **description of the urban design** including:
 - The **overall concept**;
 - How the design is resolved at **different scales**, such as how it responds to broad urban patterns and functions, as well as detailed elements of the project;
 - The extent to which design attention has been applied to **all elements of the project** (as far as practicable) to collectively reduce potential adverse effects; and
 - The integration of urban design with other disciplines (such as landscape, ecology, civil and structural engineering) including any **cross-over benefits**; and
 - Reference to the 'Urban and Landscape Design Framework' (**ULDF**).
- (e) Proposed conditions (see below) to provide sufficient certainty the works will be carried out and therefore the effects can be confidently predicted.

Conditions, UDLFs and LUDMPs

If a proposed design element is relied upon for the UDA's conclusions, it must either be incorporated in the approved plans for the project (which will be given effect to by a condition) or covered by a separate condition.

In some instances the conditions may refer to an '**Urban and Landscape Design Management Plan**' (**ULDMP**) to be prepared to control implementation of certain aspects of the project. The

¹⁷ Such measures might include design within the corridor (barriers, highway furniture, edge treatment, structures), and measures to repair recreation links and street connectivity beyond the project corridor, where relevant.

conditions should outline the contents of such a ULDMP and include sufficient information on the design principles, standards and techniques to be incorporated to provide sufficient certainty of eventual outcome for the decision makers.

Conditions may link the ULDMP to the **Urban and Landscape Design Framework (ULDF)** prepared in response to NZTA's urban design and landscape policies. For instance conditions may require the detailed treatment of noise walls to be in accordance with the principles and concepts in the ULDF. Care must be taken, however, that the ULDF does not tie the implementation into impractical requirements and that the conditions allow sufficient flexibility for design improvements during detailed design.

Conditions may also require that nominated stakeholders be consulted in the development of the ULDMP or specific aspects of it (e.g. noise walls, gateway treatment, cycle path)

The design and mitigation section of the UDA can typically use bullet points to summarise matters already discussed. It should normally be in the order of **3-5 pages**, and should reference other documents such as the 'Urban and Landscape Design Framework' where relevant.

9 ASSESSMENT OF (RESIDUAL) URBAN DESIGN EFFECTS

Identifying Urban Design Issues

List the main urban design issues at the start of the 'Effects' section and use these as the subheadings for this section of the UDA. An 'issue' is an effect in the context of a statutory provision. For example:

<i>RMA provision</i>	<i>Examples of Urban Design Issues</i> ¹⁸
s7(b) efficient use and development	<p>Effects on surrounding area</p> <ul style="list-style-type: none"> Existing, zoned or planned land use activities no longer viable as a result of the Project Severance of areas with complimentary activities (e.g. severance of town centre, industrial area, parts of a farm) Severance of local street network Disruption of access to individual properties Positive connectivity enhancements along the highway
s7(c) amenity values	<p>Effects on surrounding area</p> <ul style="list-style-type: none"> Visual effects of road and structures (especially flyovers, bridges, noise walls, retaining walls) Detraction from 'sense of place' Positive effects of reduction of traffic on local streets <p>Effects from the road</p> <ul style="list-style-type: none"> Amenity of road corridor itself (e.g. visual quality of structures) Views to and experience of adjacent landscape or urban area Effects on way-finding legibility
S7(f) quality of the environment	<ul style="list-style-type: none"> CPTED effects (e.g. effects of pedestrian underpasses) Reduced or improved connectivity for pedestrians, cyclists and local vehicular traffic along or across the highway Severance of recreational pedestrian and cycle paths Positive effects of new paths parallel with new highway

Typical Sub-headings

The subheadings of the effects section should reflect the urban design issues rather than the RMA provisions. (It is the planner's role to analyse the RMA provisions taking into account other disciplines).¹⁹ Typical ways of organising the discussion on effects may be:

- Effects on land use activities
- Effects on connectivity
- Effects on urban or rural form
- Effects on amenity from surrounding areas
- Effects on amenity for future road users

However, the topics may vary depending on circumstance. A critical task of the urban design expert is to identify those relevant to the particular context and project. The author of the UDA should take

¹⁸ This list is not by any means exhaustive.

¹⁹ Note that urban design effects do not fall neatly into provisions of the RMA. For instance severance of a street network may relate to each of s7(b), s7(c), and s7(f).

an intelligent approach to organising the material in a way that best explains the effects. The author should also bear in mind the following:

- Effects include **potential** as well as actual effects. A potential effect might be avoided (or reduced) by measures taken in the design, which the UDA should explain;
- Effects include **positive** as well as adverse effects²⁰. While assessments typically focus on adverse effects, positive effects are also a relevant consideration²¹ and should be discussed.²² (It is also worth noting that RMA sections 7(c) and 7(f) require particular regard should be had to the maintenance **and enhancement** of amenity values and the quality of the environment respectively);
- Effects include **temporary** as well as permanent effects (for example amenity effects are typically amplified during construction); and
- Effects also include **cumulative** effects which will arise over time or in combination with other effects.

Analysing Effects



Describe the precise **nature** of the effect. For instance change is not an effect per se. What is the actual effect on activities, circulation, form and amenity? State whether the effects are positive or negative.

Evaluate the **magnitude** of the effect. For example, the magnitude of effect of severing a street pattern would take into account the proportion of the network affected, whether the severance is on the centre or fringe of the network, the effectiveness of alternative connections. The magnitude of amenity effects of a structure would take into account the design quality of the structure, its visibility, and significance of the location. Use a **relative scale** to rank magnitude. The following 5 point scale is suggested: It is symmetrical around a 'moderate' middle score, uses neutral ('objective') descriptors that can be applied to a range of effects.²³ However, always provide the reasons to justify the assessment.

low	moderate-low	moderate	moderate-high	high
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Discuss measures taken to mitigate each adverse effect: While such an approach is reductionist (i.e. it reduces what should be a comprehensive design into separate mitigation measures), it helps decision-makers to consider each effect and its mitigation as part of their step-by-step deliberations. However, the comprehensive nature of the design can be described under the heading 'Design and Mitigation Measures' (see below).

Conclusions on each Urban Design Issue

Finally, provide an overall appraisal on the effects in relation to each urban design issue including:

- A summary of the **nature** and **magnitude** of urban design effects;
- An appraisal of the **likely effectiveness** of the mitigation measures; and
- A **professional opinion** on whether the effects will be 'acceptable' or 'not acceptable' in urban design terms. The reasons for the opinion should be stated: For example taking into

²⁰ RMA section 3.

²¹ For instance, RMA s104 and s171 relating to applications for resource consents and notices of requirement respectively. Note that positive effects are **not** relevant to decisions on notification.

²² However such positive effects should also be described in an impartial way. Avoid creating an impression that the author of the UDA is an advocate.

²³ Always specify any scale used.

account the context, the nature and magnitude of adverse and positive effects, and the mitigation. It is useful to qualify such an opinion with an acknowledgement that urban design is only one aspect to be taken into account: The purpose of the professional opinion is to assist the decision makers in their overall weighing of issues.

The 'Urban Design Effects' section is the main part of an UDA. Its length will vary depending on the complexity of the project and urban design issues. It might typically be between **5-25 pages**, although it may be longer for the most complex projects.

Side Bars

Recommended standard text for the part of the 'Relevant Statutory and Non-Statutory Provisions' section which addresses the provisions of the RMA itself

"Both a notice of requirement for a designation and an application for resource consent must, among other things, provide information as to the effects that a proposed Project would have on the environment and the ways in which any adverse effects would be mitigated. For resource consent applications this assessment

- is required to be undertaken to a level of detail which corresponds with the scale and significance of the effects that the activity may have on the environment; and
- Is specifically required to include consideration of landscape and visual effects and effects on both the immediate neighbourhood and, where relevant, the wider community.

When considering a notice of requirement for a designation or an application for resource consent a Council, Board of Inquiry or the Environment Court must, "subject to Part 2 of the RMA", consider (among other things):

- The effects on the environment of allowing the requirement or activity.
- Any relevant provisions of an operative or proposed RMA plan or regional policy statement; and
- Any other matter they consider relevant.

Under Part 2 of the RMA they must, among other things:

- Have particular regard to:
 - The maintenance and enhancement of amenity values
 - The maintenance and enhancement of the quality of the environment.
 - Any finite characteristics of natural and physical resources.

NZTA Policies and Guidelines (to be updated to reflect new suite of policies and guides)

The following NZTA documents are relevant to landscape matters:

<i>NZTA Documents</i>	<i>Description</i>
Environmental and Social Responsibility Policy	High level policy which includes NZTA's over-arching goal of promoting an accessible and safe transport system that contributes positively to NZ's economy, society and environment, and a commitment to acting in an environmentally and socially responsible manner. The Policy requires NZTA to integrate good urban design into all of its activities.
Urban Design Policy	High level policy which includes the following: <ul style="list-style-type: none"> • Urban design is more than aesthetics: It concerns the structure and form of urban and rural landscapes including circulation, activities and form; • Urban design is to be a central component of NZTA projects; and • Urban design is to be integral to the design process from project conception through to detail design.
Urban and Landscape Design Frameworks	Describes the following in more detail: <ul style="list-style-type: none"> • The requirement to prepare Urban and Landscape Design Framework (ULDF) for NZTA projects; • Content of an ULDF; and • The role of ULDF at different stages of the design process.
Urban Design Principles	Design principles and guidance notes relating to specific elements including: <ul style="list-style-type: none"> • Underpasses • Noise Walls • Road Bridges • Pedestrian Bridges • Landscape Design
Urban Design Professional Services Guide	Describes requirements, deliverables and design processes relating to urban design professional services. It includes a requirement for design to be integrated with the overall project design, and integral to the design process from start to finish.