THE APPLICATION OF THE STRATEGIC ASSESSMENT APPROACH
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1 INTRODUCTION

This paper describes the application of a strategic assessment approach to major infrastructure projects. This comprises:

- A description of the strategic assessment approach used to formulate the Greater Christchurch Urban Development Strategy and give relevant aspects statutory backing through the Regional Policy Statement
- The intent of strategic assessment for streamlining approvals that meet strategic criteria
- The use of tiered assessments in California which incorporates strategic assessment into its impact assessment procedures
- Examples of the application of strategic assessments in Western Australia to facilitate expeditious project approvals while addressing environmental sustainability
- The use of strategic assessment in developing a Canterbury Water Management Strategy to provide guidance to the future of water management in the Canterbury region
- The general applicability of strategic assessments for facilitating infrastructure programmes while addressing environmental effects.

2 THE GREATER CHRISTCHURCH URBAN DEVELOPMENT STRATEGY

Collaborative Approach

As Greater Christchurch continues to grow, increasing pressure is placed on the area’s ability to cater efficiently and effectively for its expanding population. The Greater Christchurch Urban Development Strategy (UDS) is a collaborative means for addressing these pressures. The UDS is a non-statutory process involving the three tiers of government: the three territorial authorities (Christchurch City and Selwyn and Waimakariri Districts), regional government (Environment Canterbury), and, central government (Transit NZ).

The Greater Christchurch area includes the eastern parts of Waimakariri and Selwyn District Councils and the urban areas of Christchurch City Council including the Lyttelton Harbour Basin (refer Figure1).
The Strategy is a new way for the UDS partners and the community to work together. It considers the complexity and relationships of issues around land use, transport, and infrastructure including community facilities, while incorporating social, health, cultural, economic, and environmental values. It is a proactive, collaborative approach to achieving Community Outcomes.

The approach contrasts with RMA practice of statutory requirements and processes where proposed plans are presented by local authorities for public submission and resolution through adversarial hearings and court processes. Rather by the agencies and the community working together to achieve an agreed Strategy through a non-statutory process, the agreed Strategy is given statutory backing through the Regional Policy Statement (Jenkins, 2005).

Development Opportunities and Constraints

The initial work examined the opportunities for development and the key constraints for development that are relevant to future growth of the Greater Christchurch area.

Two of the significant constraints are the recharge area for the aquifers that provide Christchurch’s drinking water supply which does not require treatment to meet public health requirements, and Christchurch Airport and its projected noise footprint (Figure 2).

Other constraints that were taken into account included:
- Port Hills
- Floodplains
- Ecological systems
- Strategic Infrastructure
Four settlement pattern options for managing future growth were developed during 2004-5 and consulted on. These options were:

- **Business as Usual** (Figure 3): This settlement pattern would continue with the current trends of development spreading out around the Greater Christchurch area in new subdivisions (about 80%), with some housing in urban renewal developments (about 20%). Councils would continue to pursue independent growth strategies.

- **Option A** (Figure 4): This concentrates development within Christchurch City and the larger towns in the surrounding districts (Rangiora, Kaiapoi and Rolleston). There is a greater focus on redevelopment with 60% of development from urban renewal and 40% from new subdivisions.

- **Option B** (Figure 5): This balances future urban development between existing built areas with some expansion into adjacent areas. New housing would be 40% urban renewal and 60% new subdivisions.

- **Option C** (Figure 6): This disperses development out around the Greater Christchurch area away from established urban areas. New housing would be 90% new subdivisions and 10% urban renewal.
The options were developed and assessed according to the following criteria:

• Economic Well-being: the future economy and distribution; access to employment and commercial activity; public cost (or benefit); and private cost.
• Social Well-being: community identity and social cohesion; residential quality; community health; community education and learning; and, access to open space.
• Cultural Well-being: cultural identity; and, heritage well-being.
• Environmental Well-being: impacts on energy use; impacts on air emissions; impacts on water; impacts on land; impacts on strategic infrastructure; and, risks from natural hazards.

As a means of further understanding the options assessment, key indicators were developed to provide a comparison between the options. These indicators were:

• Infrastructure costs
• Private costs (transport)
• Transport choice and access
• Community identity
• Housing choice
• Average section size
• Parks and open space
• Air emissions
• Transport energy use
• Water demand (residential), and
• Land required for development.

The issues and options were put out for public consultation in April 2005. The key pages of the feedback form showing the comparison of options is shown in Figure 7. Over 3,250 submissions were received. A total of 22 community meetings were held during the consultation period.

Option A was the preferred choice, with 62% of the submissions received supporting this settlement pattern. It also scored the highest in the assessment undertaken. Option A involves a more concentrated development pattern including a focus on well-defined urban centres.
Strategy Finalisation and Statutory Backing

Following the consultation on options the proposed settlement pattern was initiated during two week-long design workshops. Based on these workshops and subsequent analyses the Strategy proposes 71% of Greater Christchurch’s growth would be accommodated in Christchurch City, with the remaining 29% in Selwyn and Waimakariri Districts.

Components of the settlement pattern needed statutory backing which is being provided by incorporating those components in a Variation to Regional Policy Statement (Environment Canterbury, 2007). Objectives have been set for:

- Urban consolidation
- Character and sustainability
- Recognising constraints on urban growth
- Integration of land use, infrastructure and funding
- Recognising key activity centres
- Providing adequate land for future business activities
- Integration of transport infrastructure and land use, and
- Protection of strategic infrastructure.

Of particular significance are the definition of the distribution and location of future development, and, the definition of the locations of key activity centres. This is fundamental to the local government planning of infrastructure, such as water supply, sewerage and stormwater, and to the planning of transport.
corridors for public passenger transport and roading. It also provides greater certainty for the development industry on where to invest for future development. Figure 8 depicts the spatial definition of the Greater Christchurch Urban Development Strategy.

FIGURE 8: SPATIAL DEFINITION OF URBAN DEVELOPMENT STRATEGY
3 INTENT OF STRATEGIC ASSESSMENT

The resource consent process for evaluating proposals creates uncertainty and delay for applicants at the time of high investment risk exposure and limited flexibility to incorporate changes to meet environmental requirements. It is preferable to define as many of the environmental design requirements as possible prior to the development of the applicant’s proposal.

The current emphasis in New Zealand is on project level assessment. However, it is possible to have an alternative emphasis of dealing with critical issues in advance of the detailed design of applicants’ proposals. Rather than rely on project level and assessment, the alternative involving strategic assessment is:

- Development of national and regional policies defining issues and conditions (where possible) in advance of development;

- Make the option of strategic assessment available to applicants at the feasibility stage of development projects to identify critical issues related to whether a project can proceed; and

- The project level assessment then becomes a compliance statement to confirm the requirements of the strategic assessment and mitigation approaches to non-critical issues.

The approval process flow chart is shown in Figure 9. This shows the need for national and regional policies and strategies to indicate projects in the national and regional interest. It also shows the strategic assessment at the feasibility stage to determine the critical “go/no go” issues before the significant investment by applicants in specific projects. The intent of the Greater Christchurch Urban Development Strategy is to provide the regional framework for future urban development projects.

There would have been value in the case of Project Aqua to have the strategic issues for a national energy strategy defined, and the allocation of the Waitaki River flows between uses determined, before the $45 million project expenditure and $55 million on land acquisition had occurred.

In the case of transmission systems in New Zealand, there would be value in strategic assessment of energy delivery options, transmission line route alignments and effects of high voltage transmission. This strategic assessment should occur before major investment in project design and land acquisition.

The use of strategic assessment has been in place in California for many years. It is also used in Canada. It has been incorporated in Western Australian legislation and has also been used successfully on a non-statutory basis.
4 CALIFORNIAN FRAMEWORK

The California Environmental Quality Act has incorporated the concept of tiered assessment. The first tier covers general issues in a broad programme-oriented analysis. The second tier focuses on specific issues related to the action within a programme being evaluated. The second tier only needs to address issues not addressed in first tier. Tiering was designed to streamline assessments by allowing agencies to focus on the issues that are ready for decision making and deferring further detail until the strategic approach or overall plan had been agreed (Bass and Herson, 1994). CEQA defines a number of types of first tier assessments (environmental impact reports) including Master EIR, Program EIR, General Plan EIR and Staged EIR.

Master EIR

A Master EIR may be prepared for a general plan, a specific plan, a project consisting of smaller projects to be implemented in phases, a regulation to be implemented by subsequent projects, a project pursuant to or furthering a redevelopment plan or a state highway or transit project subject to multiple rules or approvals. A Master EIR must describe and present sufficient information about anticipated subsequent projects within its scope.

The content needs to address:
- Anticipated future projects as part of programme or master plan
- Preliminary evaluation of project-specific impacts
• Assessment of cumulative effects
• Assessment of growth-inducing impacts
• Identification of significant irreversible changes

Subsequent Projects

For subsequent projects the applicant needs to prepare an “Initial Study”. If this study indicates that the project’s effects have been adequately covered in the Master EIR then it must provide public notice of findings and its intent to carry out the requirements of the Master EIR. If the Initial Study identifies additional effects that are capable of being mitigated then it must prepare a “Mitigated Negative Declaration” committing to undertake the required mitigation. If there are additional project-specific effects that were not addressed in the Master EIR then a “Focused EIR” is required analysing those effects not addressed in the Master EIR.

5 WESTERN AUSTRALIAN EXAMPLES

Strategic Assessment of Industrial Sites

There had been problems with land use planning around industrial facilities where encroachment of residential development led to residents’ complaints about noise, air pollution and amenity. It also constrained the ability for industry to expand, as well as constraining current operations. Strategic assessment of new industrial estates near major industry centres of Geraldton, Karratha and Port Hedland were undertaken. This process identified areas of suitable industrial land and associated infrastructure corridors. It also estimated, for likely industries, the air and noise emissions and wastewater treatment requirements. The strategic assessment process then estimated the separation requirements between the industrial estate and sensitive land uses, such as residential development. The industrial estate and buffer zones were defined in statutory zoning or purchased by government to prevent encroachment by incompatible land uses.

Furthermore, the infrastructure requirements were strategically assessed for each site. At the Geraldton site there was a concern about wastewater treatment ponds over limestone. A groundwater study of the region was undertaken to determine whether this represented a fatal flaw for that location. The study indicated how the situation could be managed and appropriate conditions specified for future developments. At the Maitland site, near Karratha, roading and pipeline corridors were defined and port infrastructure requirements identified. Investigations of port sites and channel dredging requirements were then commenced.

The concept was to define environmentally acceptable sites for industrial development in advance of specific proposals. Strategic assessment also addressed the issues of cumulative impact of multiple developments. Development proposals that were consistent with the strategic assessments
would be able to proceed without the uncertainty of site acceptability and the
delay of the resource consent process.

Strategic assessments of statutory land use plans were also introduced in
legislation. This process identified the environmental requirements associated
with proposed land uses. Subsequent development proposals which met these
requirements could proceed with the equivalent of “non-notification”, saving time
and providing certainty. There was still the opportunity for developments not
anticipated in the land use plan to be considered through the normal consenting
process.

**Irrigation Development in the Kimberley**

Strategic assessment of major development proposals was also introduced. One example was a major irrigation development for sugar based on the Ord
River Dam. The development depended on the use of “black” soils. However
these same soils were the most significant for biodiversity conservation. Before
proceeding with irrigation design it was necessary to resolve this critical “go/no
go” issue. A key part of the strategic assessment was the development of a
regional biodiversity conservation strategy covering the Kimberley region in both
Western Australia and the Northern Territory. This resolved what areas of black
soils could be developed for irrigation downstream of the Ord River Dam. Detailed design of the irrigation scheme then commenced. With the fall of sugar
prices, the project did not proceed on economic grounds. However, the
strategic assessment identified how irrigation development and biodiversity
conservation could proceed in a compatible fashion and this issue was resolved
without the applicant having to redesign the irrigation scheme. Rather, the
biodiversity requirements were able to be built into the scheme at the design
stage.

**6 CANTERBURY WATER MANAGEMENT STRATEGY**

With the sustainability limits of the current methods of extraction being reached
in Canterbury and with the continuing demand for water, water availability is a
major regional issue. The demand is mainly driven by land use change to
irrigated agriculture with concerns for the effect of land use intensification on
regional water quality.

Current resource management consent applications for water takes, storage
and irrigation proposals are highly contentious. With the legalistic style of RMA
process, the decision making has become highly adversarial. As an alternative
to this applicant-driven approach to regional water management, a non-
statutory collaborative process to develop a regional strategy was established.
Because this process involves the water management responsibilities of the
regional council and the development and land use responsibilities of territorial
authorities, it was appropriate for this strategic approach to be sponsored by the
Canterbury Mayoral Forum which comprises the mayors and chief executives of
territorial authorities and the chair and chief executive of the regional council.
The Canterbury Water Management Strategy is an initiative that builds on a comprehensive process which began in 2002 with a water study undertaken by Environment Canterbury, Ministry of Agriculture and Forestry and Ministry for the Environment.

The strategy, once completed, will provide a long-term direction for the management of all water in the region. It will combine current and contemplated projects and activities and will consider the integration of infrastructure, environmental flows, water quality, land-use, water allocation, ecosystem protection and demand management. While the strategy is Canterbury-wide, it may include different approaches in different parts of the region.

The preparation of the strategy has been in four stages:

- The first stage looked at potential demands and availability of water resources
- The second stage identified potential water storage options in Canterbury and their hydrological feasibility, including the area they could irrigate and their impacts on river flows
- The third stage involved a preliminary evaluation by stakeholder groups of the environmental, social, cultural and economic impacts of the water storage options identified in stage two. This established that to secure community support for new water storage, rigorous scientific and public consideration was required in the following areas:
  - the impacts of land-use intensification and its effects on water quality
  - mitigation and management systems for water quality
  - methods for maintaining or improving flow variability and low flows in major rivers.
- The study is now in its fourth and final stage, the development of the Canterbury Water Management Strategy. In view of the feedback from stage three, this stage has involved further stakeholder consultation in the latter half of 2008, and in March and April of 2009, and public consultation over May and early June. Submissions closed on 5 June. Over 1000 submissions were received with over 100 heard at public sessions by Steering Group members.

A workshop applied a Sustainability Appraisal Framework to establish sustainability benchmarks for the evaluation of the Canterbury Water Management Strategy (CWMS) leading to a comparison of options:

- Continuing to improve the current approach
- Advance environmental protection before developing significant infrastructure
- Reconfigure consents and infrastructure for protection and repair of the environment, improved reliability of supply and for development
• Advance infrastructure with strong requirements for environmental repair and protection.

The workshop used a novel and innovative application of impact assessment methodologies to establish sustainability bottom lines for agreed evaluation criteria and scored the four options against them. Sub-regional variations were then addressed and a ‘best regional scenario fit’ selected; once again, with reference to the sustainability criteria and the agreed bottom lines.

The purpose of the sustainability appraisal was to assist the Steering Group and their officials review compare the sustainability implications/dimensions of the four alternative water management options, and to identify a single option or combination of options that best fit a sustainable development objective. The work reflects the Local Government Act (2002) (LGA) requirement for local authorities to take a sustainable development approach to its decision making.

However the only approach to give this outcome statutory backing involves taking it through an adversarial RMA process similar to the process followed for the Greater Christchurch Urban Development Strategy. It would be expedient for the strategic assessment process to be incorporated in RMA legislation.

7 GENERAL APPLICABILITY

The approach to strategic assessment for New Zealand would need to be tailored to meet New Zealand’s needs and statutory processes. The success of the approach in California, Canada and Western Australia in dealing with issues upfront and avoiding delay and uncertainty for applicants, while appropriately managing environmental issues, means it may be a way of helping address some of the current concerns associated with the RMA. The experience in Western Australia indicates that strategic assessment could be incorporated with minor changes to the existing legislation.

The concept can be applied to a wide variety of infrastructure strategies and major project feasibility studies. It provides a better comparative assessment of alternatives than project-based assessments. It encourages seeking agreement on a preferred approach and meeting environmental criteria. It provides greater certainty for project-specific assessment within the approved strategic framework.

It is a way of expediting sustainable development without compromising environmental quality.

REFERENCES

