Christchurch City Council's City Plan Monitoring Programme

Documentation of the Process up to September 2000

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Introduction

The Christchurch City Council's original Plan Effectiveness Monitoring programme[1] was developed during the early to mid 1990s in something of a vacuum, with no national guideline to specify how monitoring should be carried out and little local experience for planners to draw upon. While the original intention behind the programme and the actual monitoring framework has remained, aspects of the existing programme have required revision over the years in line with up to date approaches to monitoring and indicator development, and advances in technology and sources of information. This review has resulted in a more manageable programme, which will provide better quality information to assess the effectiveness of the City of Christchurch's City Plan[2].

The following case study has been produced as part of the Ministry for the Environment's Urban Amenity and Plan Effectiveness Monitoring study. It describes:

1. the Councils original approach to Plan Effectiveness Monitoring (as written in the City Plan Notified on June 1995);
2. the process used by the Christchurch City Council to review the original programme and develop its current programme;
3. the benefits of our experiences - this highlights the key components and influences on the programme that we feel need emphasising;
4. the possible future directions for the programme: and
5. relationships with other monitoring programmes.

1. Approach to Monitoring in the Christchurch City's Proposed City Plan

Monitoring the suitability and effectiveness of the District/City Plan is one of a number of monitoring responsibilities specified in section 35 of the Resource Management Act (1991) and is a statutory requirement for councils[3]. The Christchurch City Council provides a general monitoring statement at the beginning of Volume 2 of the City Plan (The Statement of Objectives, Policies and Methods). This monitoring statement outlines the council's approach to meeting its monitoring obligations. Essentially this is a statement of the intent to monitor.

In addition to the General Monitoring Statement, specific monitoring provisions are placed at the end of each set of objectives and policies in Volume 2. *"The placement of the monitoring provisions in this part of the Plan recognises that the task of monitoring is to ensure that the objectives, policies, rules and other methods are contributing to the achievement of environmental outcomes rather than simply implementing rules. The information obtained from monitoring at this level will also:*

- *Assist with the development and review of polices (and objectives)*
- *Provide an information base on key environmental issues in the City; and*

[1] Sometimes referred to in the text as the City Plan Monitoring programme.
[2] Referred to in the text as the City Plan.
[3] The other types of monitoring specified in the RMA (1991) are;
- SOE monitoring
- Consent compliance monitoring and
- Monitoring the exercise of functions, powers or duties that have been delegated or transferred.

- *Reveal specific resource issues that have arisen since the preparation of the Plan"*[4]

The Monitoring Process

The relationship between the monitoring process and the City Plan is diagrammatically represented in Figure 1. The key elements of the monitoring process outlined in the monitoring provisions set out in volume two of the City Plan include:

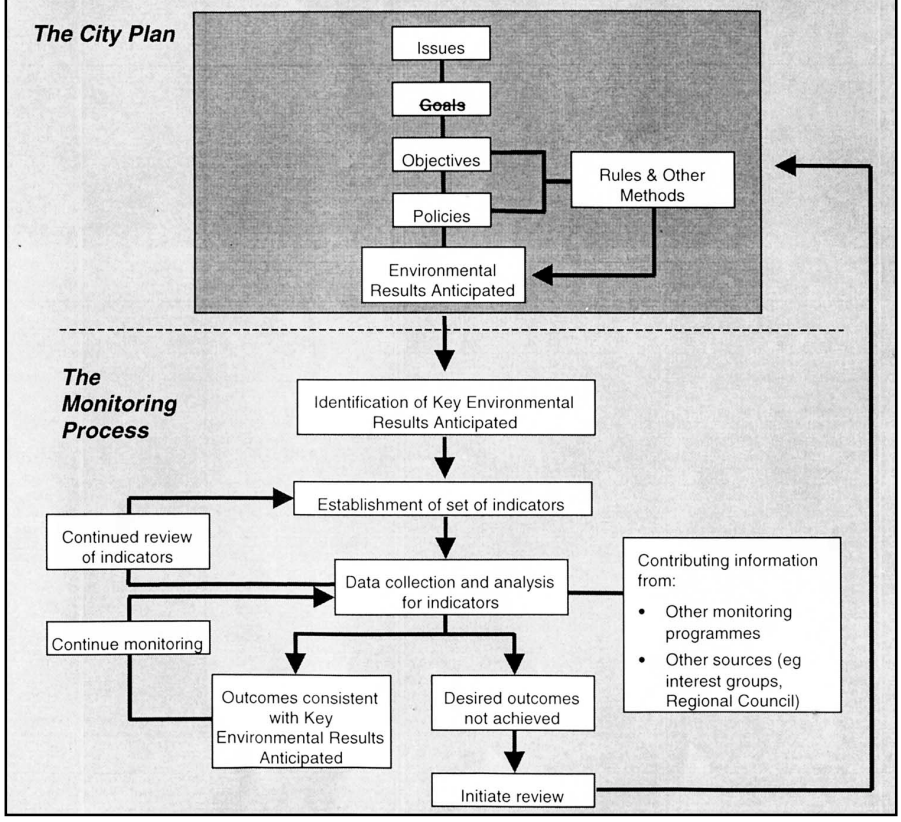
- Key anticipated environmental results (key AERs),
- Possible environmental indicators and
- Possible sources for obtaining monitoring data

An explanation of each of these is as follows:

Key Anticipated Environmental Results (AERs)
For each objective and related group of policies in Volume 2, a number of environmental results anticipated have been identified. Similarly, anticipated results are also included in the Statement of Rules, however these have not been currently considered for monitoring. The environmental results anticipated are the outcomes that the Council wishes to achieve through the objectives and policies and therefore provide a useful basis for monitoring. From them, a number of Key Anticipated Environmental results (Key AERs) have been identified for each main section (a total of 66 throughout Volume 2). These Key AERs define what actually needs to be monitored (Figure 1 and 2).

Often, several other environmental results anticipated identified in the section will contribute to these Key AERs listed in the monitoring provisions. In addition, some environmental results anticipated appear in more than one section but will be monitored only in the sections where it is considered to be a key result. For example, the maintenance of the "Garden City" image of Christchurch is an environmental result anticipated referred to in several sections including Living; Recreation and Open

Figure 1. Diagramatic Representation of the Monitoring Process



Source: City of Christchurch, City Plan, (Amended May 1999).

[4] Christchurch City Plan Volume 2, page 3

Space; and City Identity. However, this result is only monitored in the City Identity section.

Possible Indicators

For each of the key anticipated environmental results, a set of possible indicators has been developed. The indicators measure changes in the environment over time. They provide a way of assessing whether anticipated environmental results are being achieved (the desired outcomes of implementing the Plan) and can highlight gaps, inconsistencies and problems with the district plan. For example, if the outcomes are not in line with the key anticipated environmental results, a review of the different components of the Plan (e.g. rules, issues), and other mechanisms (e.g. neighbourhood improvement programmes) will be initiated. As a result, it may be found, for example, that a particular rule is not an appropriate way of achieving a policy, or the policy itself is inadequate or inappropriate (Figure 1 and 2).

Data Sources

Possible data sources include Council records, information from external organisations such as Statistics New Zealand and customised research. Like the possible indicators, sources of data are subject to review over time, as new forms of information become available (Figure 1 and 2).

Figure 2. Example of Monitoring Provisions in Christchurch City Plan for the Living Section

Key anticipated environmental results	Possible indicators	Data sources
1. Maintenance of the general suburban character and amenity of the majority of the City's living environment.	a) Change in the character of houses in specific areas e.g. • age of houses. • building density.	Valuation NZ data. Census of Population and Dwellings.
	b) Change in population density in specific areas.	Census of Population and Dwellings.
	c) Change in the number of community facilities in or around suburban community focal points.	Valuation NZ data. Community Directories.
	d) Change in proportion and type of buildings with other non-residential uses in selected areas.	Valuation NZ data.
	e) Change in the streetscape, condition and natural features of selected living areas.	Assessments of conditions within a variety of living areas using site visits, photographs, plans and maps. Also use of surveys and/or group interviews.
	f) Change in levels of complaints received about adverse environmental effects such as traffic, noise, glare and outlook.	Complaints register.
	g) Change in ambient noise levels, traffic volume and other adverse environmental effects in residential neighbourhoods.	Noise Monitoring Programme. Traffic counts. Annual Residents Survey. Complaints register.
	h) Changes in residents views of how Christchurch looks from the street.	Annual Residents Survey.
	i) Change in residents views about Christchurch's "Garden City" image.	Annual Residents Survey.
2. A diversity of housing types comprising permanent living accommodation located throughout the City.	a) Change in the number and range of housing types within the City.	Census of Population and Dwellings. Valuation NZ data.
3. Public awareness and involvement in planning and implementing neighbourhood improvements.	a) Levels of public awareness of, involvement in and satisfaction with the neighbourhood improvement process.	Local surveys and/or group interviews.

Source: Christchurch City Council City Plan, Volume 2 The Statement of Objectives, Policies and Methods

2. Review of the Original Plan Effectiveness Monitoring Programme

City Plan Monitoring commenced in 1995 after the Plan was publicly notified. At this stage the programme of data collection closely followed the monitoring provisions laid out in Volume 2 of the Plan. The Christchurch City Council's plan effectiveness monitoring programme was subsequently reassessed during 1996 after concerns were raised about the scale of the existing programme and the quality of its indicators. It was also felt that it was an opportune time to review the whole process given the rapid changes in technology and the increasing analytical capabilities of staff and their growing understanding of monitoring practises and indicator development since the programme was originally established.

The review of the monitoring programme involved RMA monitoring staff and City Plan policy development staff. It was not felt necessary to have any political or community input into the process as the review was solely concerned with technical aspects of the programme.

The review resulted in the following:

- the prioritising of existing Key AERs;
- the redefinition (restating) of a number of existing Key AERs;
- the review of existing indicators and the establishment of a new core set of indicators; (including timeframes for data collection) for priority one Key AERs; and
- the development of a data storage and retrieval system.

Prioritising Key Anticipated Environmental Results for Monitoring

There are a total of 66 Key AERs earmarked for monitoring in the Christchurch's City Plan. However, financial, staffing and time constraints mean that it has not been possible or practical to monitor all of these during the initial programme set up period. As a result these key AERs were prioritised in order to make the programme more manageable and to provide staff with a set of achievable goals.

Initially thirty Key AERs were prioritised for the first stage of City Plan monitoring. These were identified by staff involved in the development of each group of objectives and policies in Volume 2. AERs were prioritised depending on how vital they are to achieving the outcomes of the Plan. Individual staff were asked to provide a rationale for prioritising AERs which could be then be discussed amongst the whole team involved in the review process (Table 1).

In addition a number of AERs, which were not included in the original monitoring provisions, were added to the priority one list because of their importance within the Plan.

Priority two and three Key AERs were also identified for future monitoring and rationales for their inclusion in the programme were provided[5]. It is intended that these will be progressively included in the programme as monitoring procedures are put in place and additional resources become available.

Table 1. Example of the Rationale for Prioritising a Key Anticipated Environmental Result

Original Anticipated Environmental Result	Team Responsible for Objections and Policies	Level of Priority	Rationale
'Maintenance of the general suburban character and amenity of the majority of the City's living environment' AER from Section 11 – Living	Planning Policy City Design and Heritage	one	This result impacts on a large area of the City in a geographic sense (i.e. all the Living 1, Living H and Living 2 zones –covering approximately 9,100 ha). The result affects the immediate residential environment of the majority of the City's residents (i.e. 239,000 people). Important in supporting the strategic aims of the urban growth strategy as a key component of the Plan (i.e. urban consolidation). Many of the regulatory mechanisms (rules) in the Plan seek to influence this environmental result. Monitoring this result will therefore give and insight into the effectiveness of many of the methods of implementation adopted. In many cases rules that apply in zones other than living zones will influence this outcome (ie rules in business zones to control adverse effects beyond the zone boundary on adjoining living zones).

[5] These Key AERs were considered less important but will still require monitoring in the future.

Redefining or Restating of Key Anticipated Environmental Results

Once the Key AERs were prioritised it was found that the wording of some Key AERs was not clear or specific enough to provide a sound basis for monitoring. Many of the Key AERs needed to be redefined or restated because they were either written ambiguously, had terms which needed to be defined or they did not accurately reflect the objectives and policies in the Plan. To rectify this, selected priority one Key AERs were rewritten by planning staff in consultation with staff responsible for monitoring[6]. This made the redefined Key AER very specific allowing more focused indicators to be developed (Table 2).

A plan change or variation was not initiated as a result of the redefining process and the original Key AERs have not been changed in Volume 2 of the Plan. Rather the redefined Key AERs exist as another level of monitoring aimed at aiding indicator development and data collection. However it is expected that subsequent Plan reviews will include changes to the existing monitoring provisions.

Table 2. Redefined Key Anticipated Environmental Result

Existing Key Anticipated Environmental Result (AER) *i.e. as written in the Volume 2 of the Proposed Plan for Christchurch City*	**Clarification / Definition of Existing AER**	**Redefined Key AER** *i.e. clarified to reflect the Plan's desires outcome and therefore enable better measurement.*
'Maintenance of the general suburban character and amenity of the majority of the City's living environment'[7]	***Maintenance:*** Meaning to perpetuate a particular state. In this context the state is the general suburban character. Its seems clear that the Plan wishes that the character of these locations as it exists be generally maintained over the life of the Plan. ***Character:*** The Plan describes what is meant by character by outlining elements that determine it for an area, eg the age, condition and appearance of buildings; the relationship of open space to built form; streetscape; natural features and the overall coherence of the neighbourhood. ***Amenity:*** Open to wide interpretation but essentially is defined by the RMA in the following way; "Amenity Values" means those natural or physical qualities and characteristics of an area that contributes to people's appreciation of its pleasantness, aesthetic coherence and culture and recreational attributes (RMA 1991, Part 1 pg 8). The more significant Determinants of character and amenity for the purpose of monitoring are listed below. These are considered more significant because the plan has	The Plan is seeking: The maintenance of the general suburban character and amenity of the City's Living 1,2 and Living H zones. i.e. • site density /openspace* • site size* • street scene* • type of housing • age of housing • condition of housing • housing density • traffic generation • noise • residential coherence (ration of residential to non-residential activities or degree of non-residential intrusion into the living environment) Note: This Key AER excludes Living 1A-E and Living HA and B *Denotes the most significant elements of general suburban character and amenity for which the Plan has greatest influence.

[6] Every Key AER did not require redefinition
[7] From Monitoring Provisions, Living, Section 11, Vol 2

	greater affect in these areas. • Site density (site size) • Open space (coverage) • Building height • Street scene • Separation from neighbours • Outdoor living space • Sunlight and outlook • Residential coherence • Scale of activity • Retailing • Screening from neighbours • Noise • Hours of operation • Traffic generation • Age of buildings • Condition of buildings • Natural features ***Majority of the City's Living Environment:*** Vol 2 of the Plan defines this as part of the City covered by Living 1, living H and Living 2 zones. In other words the suburban area and hence the reference to general suburban character in describing this result.	

Development of a Core Set of Indicators

After establishing and redefining (where required) the priority one Key AERs, the associated indicators were also reviewed and many were subsequently considered inappropriate. A new core set of indicators was then established for all priority one Key AERs.

The original indicators listed in the Plan were developed in a somewhat ad hoc fashion and were largely chosen because of data availability. In contrast the new core indicators have been based (for the most part) on criteria designed to evaluate and determine good indicators. This criteria was developed by the Ministry for the Environment for the National Indicator Programme (Table 3).

The new core indicators were then prioritised so that steady progress could be made with data collection. The more accessible indicators (i.e. using existing data sources from organisation including Quotable Value New Zealand and Statistics New Zealand etc) were given higher priority over those that required customised research (ie surveys). Indicators which were quantifiable (i.e. number of building consents in suburban parts of the City) were also prioritised above the potentially more subjective, qualitative indicators (ie changes in urban amenity) which are generally more difficult to collect.

As part of the establishment of new core indicators it was agreed that they would be subject to ongoing review, as new forms of data became available, staff analytical skills increased and the Council's data storage and retrieval systems developed.

Table 3. Indicator Selection Criteria

What makes a good indicator?

1. Simple and Robust

2. Policy Relevant:

- Able to monitor the environmental outcomes of environmental Policy and key legislation including the resource Management Act.

3. Analytically Valid:

- developed within a consistent analytical framework:
- able to relate causes, effects and human responses:
- be responsive to environmental change:
- able to detect human induced trends from natural variations:
- responsive to the system being assessed:
- reproducible, based on critical attributes of that system:
- scientifically credible, robust and simple:
- reference to an environmentally threshold, stand or policy goal, to allow progress towards the goal to be measured; and have consistent stands for data collection, analysis and data management.

4. Cost Effective

- limited number of indicators established:
- use existing data and information where possible: and
- simple to monitor

5. Easily understood

- limited in number, simple to interpret, accessible, robust and appealing; and
- Involve agencies, sectors and communities in the development of indicators to promote "ownership" and participation in monitoring and reporting.

Source: Ministry for the Environment National Indicator Programme.

Data Collection, Indicator Metadata and Workplans

Data Collection

Initial data collection for the reviewed programme commenced in 1996. Baseline data collection included, where possible, trend information for a period before the notification of the City Plan. This enabled the assessment of any change that may have occurred as a result of City Plan influences against previous trend information.

At June 2000, there were approximately 130 indicators identified for the 30 priority one Key AERs. Baseline data had been collected for 64 per cent of these indicators. On going data collection has also continued for many of these indicators. The frequency of updating each indicator dataset is dependent on the availability and nature of the dataset, and ranges from one to five years.

Indicator Metadata

In addition to the data collected for the indicators, there is a considerable amount of information that describes each indicator in the programme. This is called Metadata and includes the followings:

- Name
- Datasource(s)
  Includes primary and secondary data sources such as Statistics New Zealand.
- Associated indicators (some indicators relate to more than one AER)
- Staff responsible for the information
  ie the staff member responsible for the indicator information in relation to objectives and policies
- Data collection details
  Includes date of analysis, period data collected for, status of data collection,and timeframe for data collection,
- Location of indicator data

Initially this information was filled out on an indicator cover sheet, then in 1998 it was transferred to the City Plan monitoring database[8]. Figure 5 shows the layout of the key metadata elements in the monitoring database.

Workplans
Work plans were developed for each priority one Key AER. Workplans are composed of two sections. The first containing notes detailing why the Key AER was chosen as a priority one Key AER, the sections of the Plan it related to and clarifications and definitions (this seldom changed after the initially redefining of the Key AERs). The second part, which is now generated as a report from the monitoring database, provides the following data collection information and is updated automatically from the indicator metadata (AN example of a Key AER Workplan is shown in Appendix 2):

- The original Key AER
- The redefined Key AER
- Baseline data collection period
- Proposed data collection frequency
- Data collection status
- Staff responsible for interpretation (i.e. City Plan context)
- Staff responsible for data collection (collection and data analysis)
- Data source
- Associated indicators (in the same section and other parts of the plan)
- Date of analysis

Development of Data Storage and Retrieval Systems

The City Plan Monitoring Programme generates a large (and continuously increasing) amount of information stored in a variety of formats including tables, graphs, databases, maps and technical reports. This raises issues of data accessibility for planning policy and analytical staff, and the co-ordination and efficiency of collecting and updating indicator data and metadata. The Council dealt with these issues by developing an easy to use monitoring database designed to co-ordinate, store, retrieve and generate the many different types of monitoring information handled.

The City Plan Monitoring database was developed in Microsoft Access. Essentially it is a relatively simple relational database which stores indicator metadata and links to the actual datasets and workplan notes, which are stored on the Council's computer network and in a few cases is in hard copy.

The database has the following standard features that can be accessed using forms and reports. It also has the ability to run custom queries (for example selecting all the indicators from the same datasource).

Database features:

- Summary of Key AERs by Section of the Plan, including redefined Key AERs *(Access Reports).*
- Links to workplan notes, containing information on the prioritisation and relationships to the objectives and policies *(Word Documents).*
- Generation of Work Plans which can be summarised by Section of the Plan or Staff member responsible *(Access Reports)*
- Indicator Metadata *(Access Form)*
- Standardised indicator cover sheets to go with any hardcopy indicator information. This includes much of the indicator metadata *(Access Report).*

[8] Described in the Development of Data Storage and Retrieval Systems section.

The advantages of using access is that it doesn't require a high level of programming ability to create the database, including forms and reports, and also provides a reasonable level of security to protect the database and data from corruption and accidental data loss.

The Database Structure

Conceptually the database started off as a hierarchical structure (Figure 3) with the Section of the Plan (objectives and policies) at the top level then cascading through Key AERs to the indicator metadata and data. The database is currently set up this way. However, as other monitoring programmes develop and indicators can be relevant to more than one monitoring programme, the general structure could then be adapted to have the indicator metadata at the core with spokes providing links to each monitoring programme and to the datasets (Figure 4). This could be easily set up in a standard Access database, and our database could easily be altered to meet this need.

The alternative indicator metadata centric structure enables the integration of other monitoring data into a single database, enabling updating and storing indicator data and metadata only once. For example, when the 2001 Census comes out all indicators based on this data source can be selected an updated at the same time independent of the monitoring programme. Users will not need to understand the database structure, as they will interact with the system using forms or reports relating to each specific monitoring programme.

Figure 3. Conceptual diagram of City Plan Monitoring Database structure - hierarchical

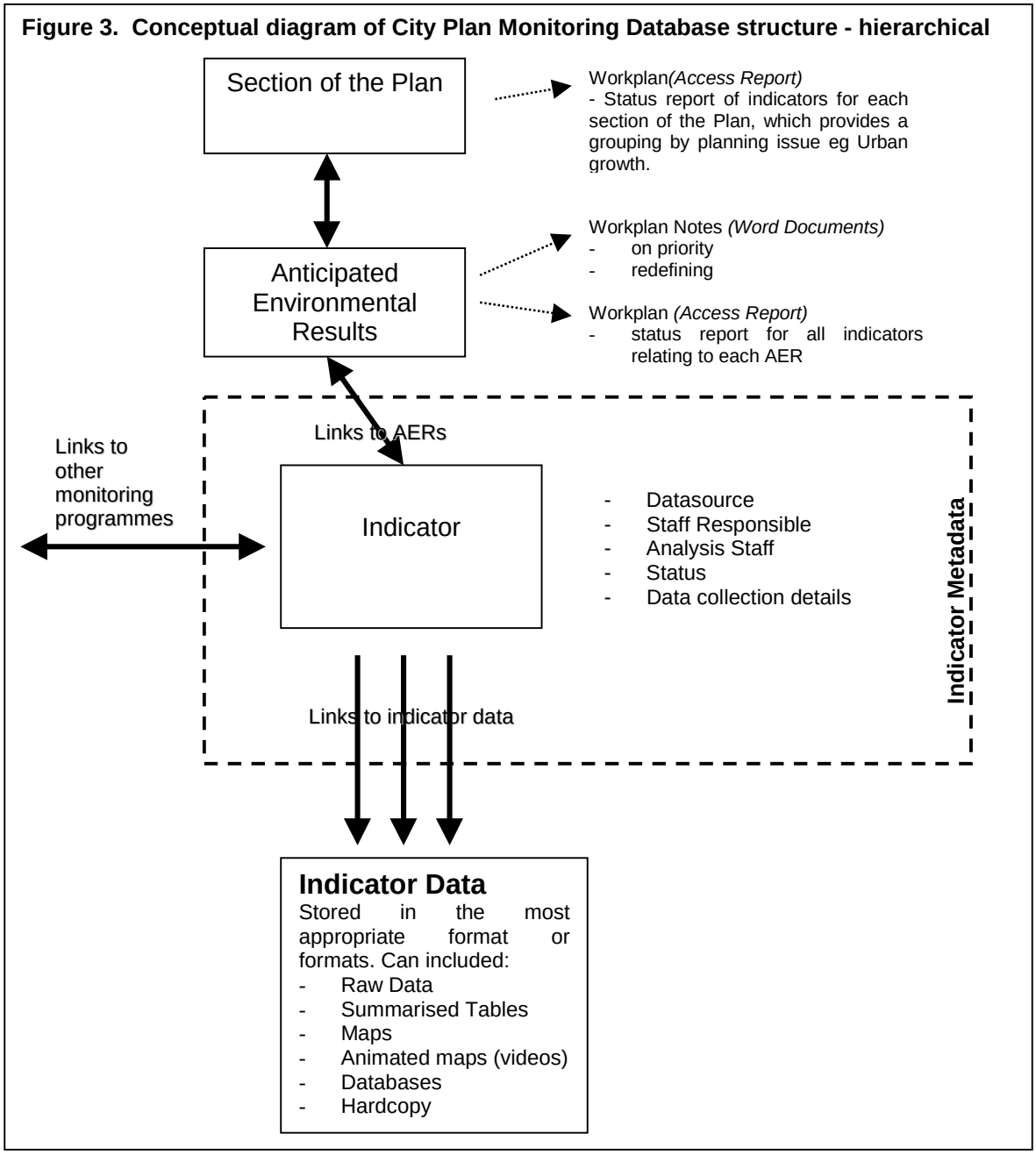


Figure 4. Indicator Metadata Centred Monitoring Database Framework.

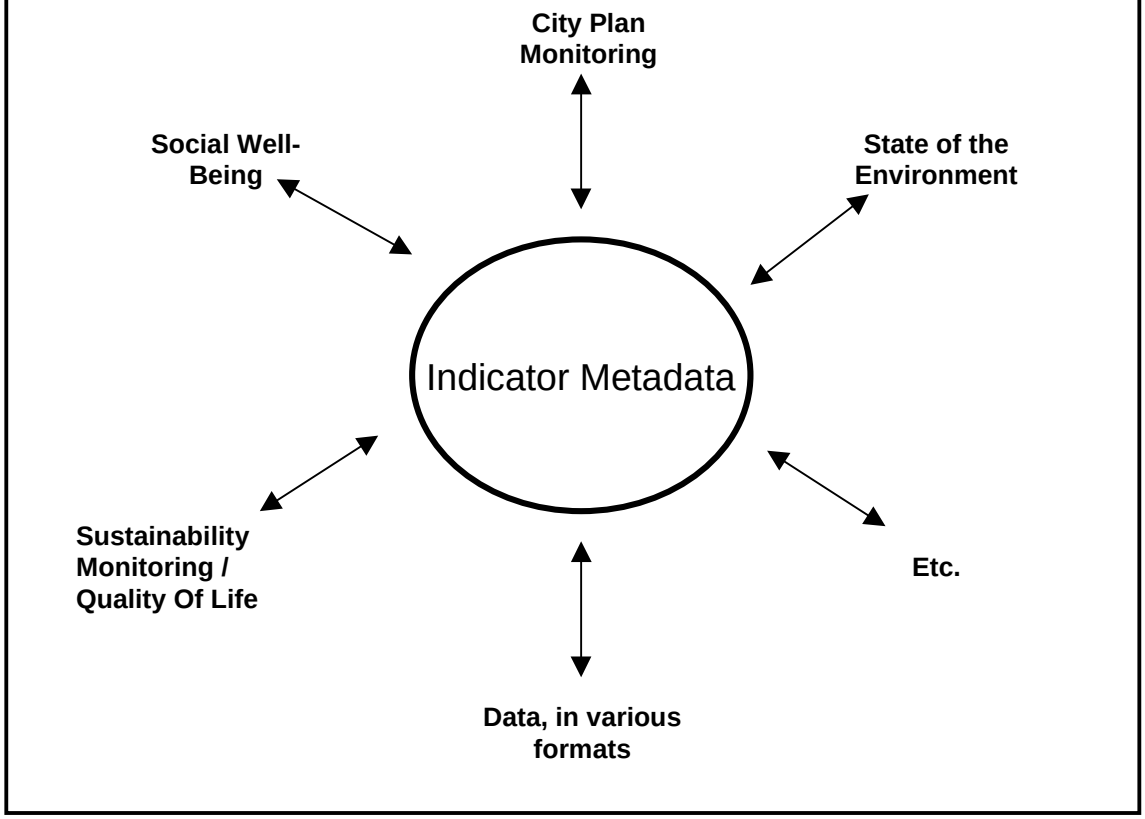
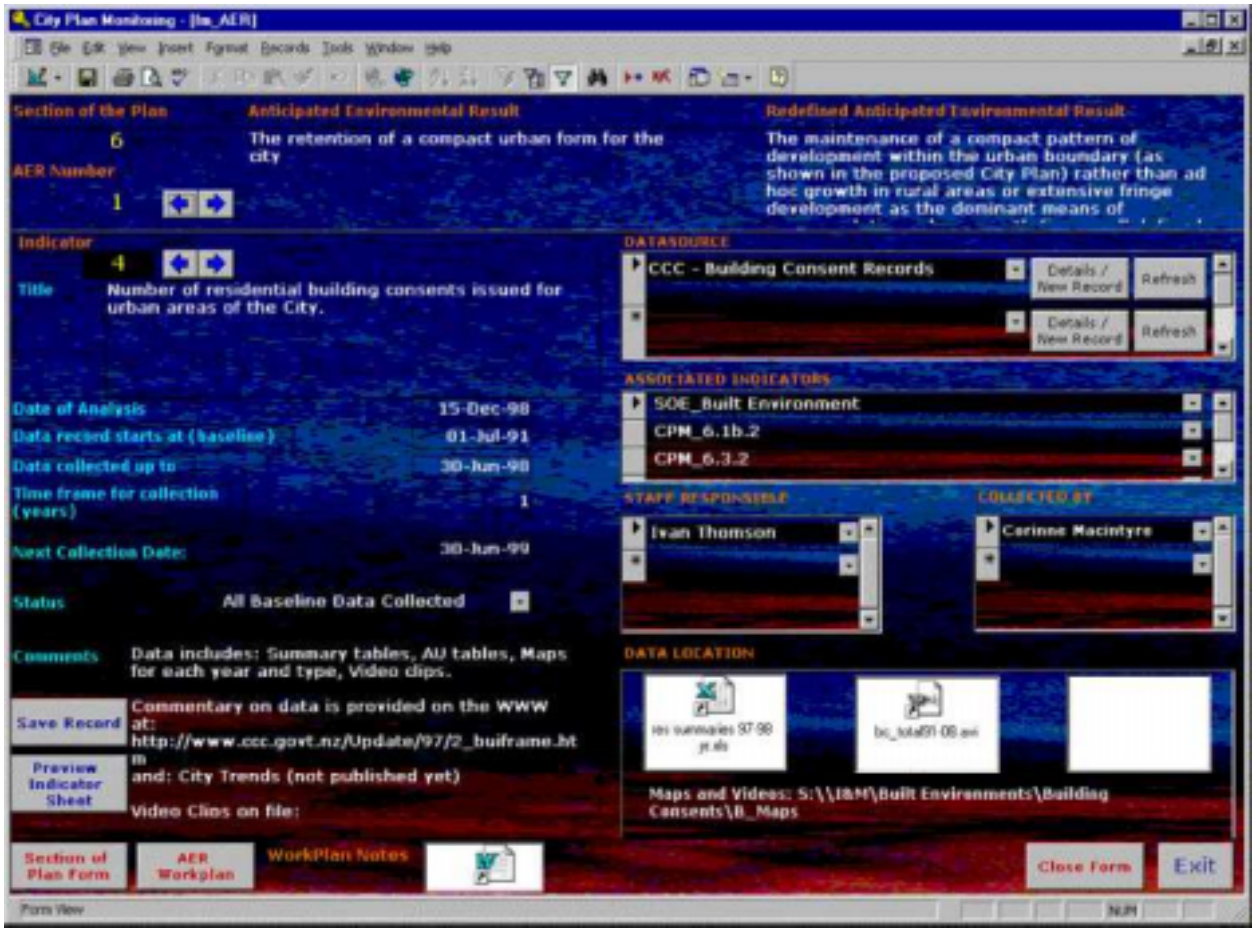


Figure 5. AER Form in Database showing Indicator Metadata and Links to Data



3. The Benefits of our Experience

This section highlights some of the key aspects of the programme we believe are important if you want to run a successful plan effectiveness monitoring programme. Hopefully this will provide others with the benefit of our experience gathered though trail and error as we have developed our monitoring programme and also as a result of external pressures on our programme.

Definitions

It is important that time is spent to fully clarify and define wording in the Key AERs, for example the use of vague words such as "vicinity". Time spent here will enable much better indicator development and targeted data collection. In the example of vicinity this only needs to be clarified in the context of that specific Key AER, and may be different for another Key AER. Other terms, for example "suburban living areas" will need to be consistently defined over the whole programme.

Resourcing

Monitoring requires considerable resources. Staff need plenty of time to undertake monitoring. Adequate funding must be available to purchase data, undertake customised research, and equip staff with appropriate tools. It is pointless developing a monitoring programme if there is inadequate funding. Currently the Christchurch City Council has two full time positions dedicated to both plan effectiveness monitoring and state of the environment monitoring.

The skill set require for a robust monitoring programme

Monitoring should involve a variety of staff with specific skills. The development of a monitoring programme should involve both planners, who have an in-depth knowledge of the contents of the plan (specifically objectives and policies and AERs) and staff with specialist knowledge of information and monitoring processes.

Data collection and analysis should be undertaken by staff who have:

- High level of computer skills including:
  - Standard office software
  - Database querying and design
  - GIS
  - Internet design (possible reporting medium)
- Understanding of data and its suitability /limitations and data sources (including the context in which the data is used and whether it is suitable to be used in this way)
- Strong quantitative research skills
- Creativity and innovation

Staff who have these skills are often in demand for other projects, which can result in less time being spent on plan effectiveness monitoring.

Data collection

This is an enormous task and should not be under estimated[9]. Initially it is important to set what appear to be very easy goals to achieve with data collection. Collection of baseline data often includes setting up the initial systems and contacts to obtain data, collecting historical data, converting hardcopy data to an electronic format often in a GIS, data quality issues, and combining several datasets. Once baseline data has been collected, the on-going updating of the information has to be included in a work programme. Time taken on data collection and updating grows exponentially until the only data collection process occurring is updating the indicators. At this point staff will then be starting to consider reporting and reviewing outcomes.

[9] We initially chose 30 priority one Key AERs to initially monitor. With hindsight this was still too many, we would be inclined to chose between 5 and 10 priority one Key AERs initially to collect baseline data for and set up systems for the ongoing updating of this information before moving to the next level of priority Key AERs. The smaller the resources the fewer the Key AERs that should be monitored. It is much better to monitor the effectiveness of one Key AER well, than a lot of Key AERs poorly.

Staff changes

Monitoring is a long term process, over that time staff will change, resulting in a loss of knowledge and understanding of the programme, how it was set up and the processes involved. It is important that the process is well documented and responsibilities are formally acknowledged.

A monitoring program will constantly change

A monitoring programme is an iterative process that will change as a result a variety of influences included those listed below. However it is important to balance flexibility in a programme with achieving outputs. Some of the influences on a programme are:

- Changes in technology (eg in 1990's the increased use of GIS and the internet)
- Changes in priorities (planning policy driven)
- Increased knowledge as a result of new guidelines, experience from council, national and international monitoring programmes.
- Changes in staff, skills and understanding.
- Review of indicators.

Useful Documents

We have carried out our monitoring programme in a similar way to that proposed by the recent publication: District Plan Monitoring - A guide to getting started (A Sustainable Management Fund Project June 2000, by Opus International Consultants Tracy Berghan and Angela Shaw). This would be a very good guide to follow if you were setting up an effectiveness monitoring programme from scratch.

4. Future Directions

This provides an overview of where we anticipate the City Plan monitoring programme will develop in the next couple of years. However this may be influenced by proposed changes that will result from the current restructuring proposal for the Christchurch City Council. One of the proposed changes is to move the Information and Monitoring Section from the planning policy unit and making it a corporate team with a broader set of responsibilities. This team is currently responsible for carrying out much of the indicator development, and all of the data collection and analysis for this programme. How this will affect the City Plan monitoring programme is uncertain at present.

Ongoing data collection

Indicator data collection and updating will continue. The collection of baseline data will focus on those indicators that are more difficult to collect or will require customised data collection.

Addition of 2nd level priority AERs to the programme

Second and third priority Key AERs will be incorporated into the monitoring programme as the baseline collection for the priority one Key AERs is completed and are being regularly updated.

Ongoing review of AERs and indicators

Key AERs and indicators will continue to be reviewed in light of changing priorities, issues and the development of new data sources and technology.

Establishing the desired parameters for an indicator

To determine if an indicator is consistent with the desired outcomes of the Plan (as expressed by the Key AERs), it is useful to determine the parameters in which the trend information should be within. These can be the direction or slope of a trend, or a threshold which the indicator should not exceed. A constant trend outside these parameters may suggest that a particular desired outcome within the Plan is not being achieved and therefore a review of specific objectives, policies and rules may need to be undertaken. It is important that these parameters are set with consultation between the monitoring and planning staff. Currently these have not been formally identified for any of our indicators.

Reporting
To date no formal reporting process has been agreed upon, but it will most likely take the form of technical reports relating to each set of objectives and policies in the City Plan. These reports may include an overview of the indicator information plus an assessment of the progress made towards achieving each Key AER. Time frames for reporting could vary depending on each Key AER, and would be determined by elements such as the rate of change and the frequency of data collection. For example, there would be no value in reporting more frequently than five yearly on Key AERs with indicators solely based on census data.

Integration of other monitoring programmes into monitoring database
As mentioned earlier there are advantages in co-ordinating and updating indicator data from several monitoring programmes in a centralised database. As other monitoring programmes have indicators developed these will be added to the monitoring database, and forms and reports will be specifically developed to provide summary information for each monitoring programme.

5. Relationship with other Programmes

The City Plan monitoring programme is one of four monitoring programmes (specified in Section 35 of the RMA) to be undertaken by the Council. In addition to these monitoring programmes the Council is also involved in other monitoring programmes at both a local and national level. While each programme has a distinct focus and output, there are often overlaps and data sharing between them.

State of the Environment
We treat the state of the environment and plan effectiveness monitoring programmes as two distinct programmes. There is quite a lot of overlap between the programmes as far as the information used, however the nature of the two programmes are quite different. The state of the environment programme is focused on City wide information and trends, and is presented in a way that is interesting and accessible to the widest possible audience, it is widely used by the community as well as decision makers in the Council. Whereas the City Plan monitoring programme is focused at a smaller spatial scale, for example land use zones, and has a more technical and critical focus and subsequently a more limited audience.

Compliance Monitoring and Monitoring the Exercise of Delegations and Transfers of Functions
Currently our plan effectiveness programme is not linked to either of these types of monitoring. Compliance monitoring may be useful in providing some indicators in the future. We have included several indicators that are based on the Council's complaints register. The complaint register includes activities that have been carried out without a resource consent when they needed one. However we have not used any indicators based on whether the conditions of resource consents have been complied with or not.

National Indicator Programme - Quality of Life
A quality of life indicator project has been initiated by six of the large city councils including Christchurch. Although it's focus is broader than our RMA monitoring programmes, several of the indicators are similar to or are used in our plan effectiveness and state of the environment monitoring programmes. Currently this programme is being run separately from the RMA based monitoring programmes, however as a result of the proposed reorganisation the social research analyst co-ordinating this programme will be combined with the Information and Monitoring staff to form a new Research and Monitoring Team. This could result in a more co-ordinated approach to the data collection and analysis between social and environmental monitoring.

Data collected from other programmes
Data for the plan effectiveness monitoring programme comes from a variety of sources including other monitoring programmes for example Environment Canterbury's air quality and contact recreation water quality monitoring programme. We do not currently undertake any joint monitoring specifically for our City Plan monitoring programme, however there is a reasonably free exchange of data and information between the Councils.

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Appendices:

- **Appendix 1. The General Monitoring Statement from Volume 2 of the City of Christchurch's City Plan.**
- **Appendix 2. Example of Key AER Notes and Work Plan**

Appendix 1.

The General Monitoring Statement from Volume 2 of the City of Christchurch's City Plan.

General monitoring statement

The Resource Management Act sets out the Council 'responsibilities for monitoring. Section 75 requires the Council to monitor the effectiveness of the City Plan as a means of achieving the objectives and policies which have been set out in the Plan. The Council is also required to state the procedures it is going to use to review the main components of the City Plan including the:

- •significant resource management issues;
- •objectives and policies; and
- •rules and other methods.

These specific monitoring provisions are supported by Section 35 which requires the Council to monitor the suitability and effectiveness of the City Plan.

The following discussion outlines the Council 'approach to meeting these monitoring obligations.

Approach to monitoring in the City Plan

Specific monitoring provisions have been included in the Statement of Objectives, Policies and Methods and are set out at the end of each section. The placement of the monitoring provisions in this part of the Plan recognises that the task of monitoring is to ensure that the objectives, policies, rules and other methods are contributing to the achievement of specified environmental outcomes rather than simply implementing rules. The information obtained from monitoring at this level will also:

- assist with the development and review of policies;
- provide an information base on key environmental issues in the City; and
- reveal specific resource issues that have arisen since the preparation of the Plan.

This will contribute to improved management of the City 'resources.

The monitoring process

There is almost unlimited scope for gathering and analysing information for monitoring. However, financial and time constraints mean that it is not possible or desirable to monitor everything. Instead emphasis has been placed on identifying key indicators that will provide valid and useful indicators of change.

For each objective and related group of policies in the Statement of Objectives, Policies and Methods, a number of environmental results anticipated have been identified. Similarly, anticipated results are also included in the Statement of Rules. The environmental results anticipated set out the outcomes sought from implementing the City Plan and therefore provide a useful basis for monitoring. From them, a number of key environmental results have been identified for each section (Figure 1).

Quite often, several other environmental results anticipated identified in the section will contribute to these key results. In addition, some environmental results anticipated appear in more than one section but will be monitored only in the sections where it is considered to be a key result. For example, the maintenance of the "z-óCity "image of Christchurch is an environmental result anticipated referred to in several sections including Living; Recreation and Open Space; and City Identity. However, this result is only monitored in the City Identity section.

For each of the key anticipated environmental results, a set of possible indicators have been developed. These indicators show changes in the state of the environment over time. For example, changes in species diversity in a particular area, population density in different parts of the City, or residents perceptions about whether the City 'image as the "z-óCity "is being maintained or enhanced.

Purpose of monitoring
Part of the process of establishing a set of indicators will be the on-going analysis of data to see whether the indicators chosen provide appropriate information on which to assess whether we are working towards achieving the outcomes desired from implementing the Plan, and at a broader level, the purposes of the Act. Changes in work priorities, funding availability, and circumstances (e.g. an energy crisis) will also influence the monitoring programme. Thus, monitoring must be viewed as a constantly evolving process.

The indicators provide a way of assessing whether we are working towards achieving the anticipated environmental results - the desired outcomes of implementing the Plan. If the outcomes are not in line with the anticipated environmental results, a review of the different components of the Plan (e.g. rules, issues), and other mechanisms (e.g. neighbourhood improvement programmes) will be initiated. As a result, it may be found, for example, that a particular rule is not an appropriate way of achieving a policy, or the policy itself is inadequate or inappropriate.

How monitoring will be undertaken
Information will be collected for this assessment using both qualitative and quantitative techniques, including:

- Council records.
  The Council is required under the Act to keep and monitor some of the information that will be used such as records of all resource consents and a summary of all written complaints. Other examples of information held by the Council include building consent information and traffic counts.

- Statistics New Zealand information.
  This is an important source for business and census information, in particular, as well as demographic and social data.

- Surveys (e.g, field surveys, community attitudes surveys etc).
  The time frame for data collection will vary - information for some indicators will be collected annually (e.g. Council records, works programmes), while information for other indicators will be gathered less frequently (e.g. census data, field surveys).
  There are additional sources of information available which will also contribute to City Plan monitoring including other monitoring strategies and information from other sources. These are briefly discussed below:

- State of Environment Monitoring
  The Council is required to monitor the state of the environment generally (section 35 of the Resource Management Act). It is establishing a separate monitoring programme which incorporates this requirement as well as addressing broader social and economic issues relating to the Council 'wider responsibilities (e.g. in relation to the Local Government Act 1974) and interests (e.g. levels of employment). State of the environment monitoring generally will also help identify specific issues of relevance to the City Plan.

- Resource Consent and Complaints Monitoring
  In addition, the Council has established a programme for monitoring building and resource consents to ensure compliance with consent conditions, also a requirement of the Act. The Council also investigates complaints made about the adverse effects of activities and monitors the type and frequency of complaints. Again, this monitoring programme may assist with City Plan monitoring. For example, if there is non-compliance with consent conditions by a significant number of resource consent holders, a review of related policies, rules, and other methods may be initiated to see if they are appropriate.

In addition to the formal monitoring processes which have been outlined, there are a range of other information sources which the Council can use for monitoring the City Plan.

- Regional Council Monitoring Programme

There are a number of areas that the Canterbury Regional Council has responsibility for monitoring which are of interest to the City Council in relation to its own responsibilities, including:

- air pollution;
- water quality and quantity;
- stream/river flows;
- carbon monoxide emissions;
- public transport use; and
- any other matters that may arise.

The Council will liaise with the Regional Council on a regular basis to obtain information on these issues. The Regional Council intends to prepare an Annual Monitoring Report which will provide a valuable information source.

- On-going Public Consultation

  The City 'Annual Planning Process provides the opportunity for the public to comment on the draft annual plan for each year. In some instances, there may be comments made as part of this process which are relevant to, and may be appropriately integrated into the City Plan.

  The Annual Residents Survey provides another opportunity for the public to express their views on how satisfied they are with Council services and the City generally as a place to live.

- Networks

  The Council will continue to maintain contact with residents and public interest groups throughout the year who may have particular contributions to make to the overall operation of the City Plan. Residents in the City have an important role to play in monitoring as participants and observers in an ever changing environment.

  In addition, the Council keeps correspondence on resource related matters and any matters which may arise through the media relating to resource management issues affecting the City and its environment.

Conclusion

The principle way in which the City Plan will be monitored is through the use of key indicators. These will be used to assess the effectiveness of the City Plan in achieving the stated objectives and policies by monitoring changes in the City over time. They will also be used to review the different components of the Plan. More informal monitoring methods, such as networks and links with other Councils, will also contribute to the monitoring process.

The formal monitoring provisions are included at the end of each section of the Statement of Objectives, Policies and Methods, and the standard format set out below will be used.

More detailed information about the indicators including:

- methods to be used for data collection;
- frequency of data collection;
- availability of data; and
- timing of data collection,

is provided in the monitoring files corresponding with each of the sections in the Statement of Objectives, Policies and Methods. This information is held separately at the Council Offices.

Appendix 2. Example of Key AER Notes and Work Plan

Notes:

Key Anticipated Environmental Result

11.1 'Maintenance of the general suburban character and amenity of the majority of the city's living environment'

Related Objective (Living)
Diverse Living Environments
11.1: A diversity of living environments based on the differing characteristics of the areas of the City.

Related Policies(Living)
Character
11.1.2: To maintain the general character of the suburban living environment.
Densities
11.1.4: To provide for various levels of building density within living areas, taking into account the existing character of these areas, the capacity of infrastructure and strategic objectives of urban consolidation.
Building Height
11.1.5: To provide for different heights of buildings in living environments based on the existing character of an area, on strategic objectives of urban consolidation and to provide a diversity of living environments.

Related Objective (Living)
Non-residential Activities
11.3: Non-residential activities located within living areas which meet community needs, but do not detract from the amenity value of the area.
Related Policies (Living)
Local Community Facilities and Services
11.3.1: To provide for local community facilities and services to locate within living areas, subject to compatibility with the existing character of different parts of the living environment, and maintaining residential coherence and amenity.

Related Objective (Living)
Adverse Effects
11.4: A living environment that is pleasant and within which adverse environmental effects are minimised, while still providing the opportunity for individual expression.
Related Policies (Living)
Open Space
11.4.1: To ensure open space on each site reflects the anticipated character for each living area with respect to the relationship between open space and buildings, and provides the opportunity for outdoor living and tree and garden planting.
Street Scene
11.4.10: To reinforce the "Garden City" image of Christchurch and the different identified characters of the living areas of the City.

Related Objective (City Identity)
Form
4.1: The maintenance and enhancement of natural and physical features and characteristics contributing to the distinctive form of the City.
Related Policies (City Identity)
Suburban Areas and Centres
4.1.3: To maintain and enhance suburban areas for low scale, low density housing in a predominantly open landscape setting, supported by a range of community activities.

Related Objective (City Identity)
Amenity
4.2: A pleasant and attractive City.
Related Policies (City Identity)
Garden City
4.2.1: To recognise and promote the "Garden City" identity, heritage and character of Christchurch**.**
External Appearance of Buildings
4.2.2: To promote, and where appropriate, ensure the harmony and compatibility of buildings**.**
Impact of Noise
4.2.8: To achieve a low ambient level of noise in the City and the protection of the environment from noise that can disturb the peace, comfort or repose of people to the extent that this can be controlled by limiting levels of sound.

Related Objective (Urban Growth)
Urban Consolidation
6.1: To accommodate urban growth through consolidation of the existing urban area.
Related Policies(Urban Growth)
Redevelopment and Infill
6.1.2: To promote development of vacant land, and redevelopment and more intensive use of the urban area as a whole, in a manner consistent with maintaining the character and amenity value of neighbourhoods.

Related Objective (Urban Growth)
Peripheral Urban Growth
6.3: Peripheral urban development of a scale and character consistent with a primary emphasis on urban consolidation, which avoids, remedies or mitigates adverse impacts on water, versatile soils and other natural resources and which makes efficient use of physical infrastructure.
Related Policies (Urban Growth)
Urban Boundary
6.3.1: To ensure peripheral urban growth does not occur in a form detached from current urban boundaries, or which promotes a dispersed and unco-ordinated pattern of development.
Urban Extension
6.3.9: To promote smaller incremental extensions to the urban area distributed over a number of peripheral locations, rather than major extensions in any one area.
Boundaries of Urban Extensions
6.3.10: To favour peripheral development which is contained, at least in part, by a well defined barrier to further outward extension for urban development.

Reasons for Selection as a Priority for Monitoring
- the result impacts a large area of the city in a geographic sense (ie all of the Living 1, H and 2 Zones).

- the result impacts the immediate residential environment of the majority of the city's residents (ie 240,000 people).
- important in supporting the strategic aims of the urban growth strategy as a key component of the plan (ie urban consolidation).
- many of the regulatory mechanisms (rules) in the Plan seek to influence this result. Monitoring will therefore give an insight into the effectiveness of many of the methods of implementation adopted. In many cases rules that apply in zones other than living zones will influence this outcome (eg rules in business zones to control the effects of activities beyond the zone boundary on adjoining living zones).

Clarification/Definitions

Majority of the City's Living Environment: Vol.2 of the Plan defines this as that part of the city covered by the Living 1, Living H and Living 2 Zones, in other words the suburban area and hence the reference to general suburban character in describing the result.

Character: The plan describes what is meant by character by outlining elements that determine it for an area, eg the age, condition, and appearance of buildings; the relationship of open spaces to built form; streetscape; natural features and the overall coherence of the neighbourhood.

Amenity: open to wide interpretation but essentially is defined by the RWA in the following way:
"Amenity Values" means those natural or physical qualities and characteristics of and area that contribute to people's appreciation of its pleasaness, aesthetic coherence and culture and recreational attributes(RMA 1991 Part 1 pg 8)

Maintenance: meaning to perpetuate a particular state, in this context that state is the general suburban character. It seems clear that the plan wishes that the character of these locations as it exists be generally maintained over the life of the plan.

Determinants of character and amenity as they are specifically addressed through standards (rules) in the Plan:

- site density (site size)
- open space (coverage)
- building height
- sunlight and outlook for neighbours
- street scene
- separation from neighbours
- continuous building length
- external appearance (selected SAM areas only)
- outdoor living space
- care of relatives (family flats)
- hazards (coastal)
- scale of activities (non-res.)
- screening from neighbours (non-res.)
- outdoor activities (non-res.)
- retailing (non-res.)
- noise from pre-schools
- settlement size and scale

Non-residential activities only:-

- residential coherence
- site size

- hours of operation
- traffic generation
- storage of heavy vehicles
- boarding of animals retailing

The following apply city-wide and may therefore affect the living environment:-
- *excavation and filling*
- *financial contributions*
- *protected buildings, places and objects*
- *outdoor advertising*
- *relocated buildings*
- *sale of liquor*
- *transport (parking, access and manoeuvring)*
- *subdivision*
- *noise*
- *glare*
- *hazardous substances*
- *ground level concentrations of contaminants*
- *airport protection surfaces*

Other determinants of character that are acknowledged in the Plan, but for which specific standards (rules or other methods) are not set:-
- age of buildings
- condition of buildings (ie structural repair/general appearance)
- natural features (presence or absence)

Of the above, the more significant determinants of general suburban character and amenity for the purposes of monitoring are listed below. These are considered more significant because the Plan has greater affect in these areas.

- **site density**
- **open space**
- **building height**
- **street scene**
- **separation from neighbours**
- **outdoor living space**
- **sunlight and outlook**
- **residential coherence**
- **scale of activity**
- **retailing**
- **screening from neighbours**
- **noise**
- **hours of operation**

- **traffic generation**
- **age of buildings**
- **condition of buildings**
- **natural features**

Having set these determinants it is then a question of setting thresholds relative to each that depict (collectively) the state (ie in this case the general suburban character) that the plan seeks to maintain.

note: It makes sense to set thresholds conservatively. The Plan sets standards that define the bottom lines by which development is guided. However, development very rarely if ever occurs to the maximum permitted by the standards in every instance. For example, a site may be subdivided down to the minimum size permitted, but buildings upon it are unlikely to be built to the maximum height permissible, the maximum coverage, as close to the boundaries as possible etc. The general suburban character therefore reflects not only the influence of past planning controls, but also the extent to which development has occurred within the bounds of those controls. If all development or even the majority of development were to approach the maximum standards permissible the general suburban character would be quite different from what we see in these zones presently. Therefore, in determining what thresholds should apply, say the proportion of properties in the living 1 zone that would typically be above a certain size, setting that threshold must acknowledge that the vast majority of properties are likely to exceed that size, and should continue to in the future if the general character (as exists) is to prevail. **This of course implies that an understanding of the status quo is going to be integral to determining the setting of threshold levels**.

Redefined Anticipated Environmental Result

The Plan is seeking:
Maintenance of the general suburban character and amenity of the City's Living 1, 2 and Living H Zones
ie

- **site density /openspace***
- **site size***
- **street scene***
- type of housing
- age of housing
- condition of housing
- housing density
- traffic generation
- noise
- Residential coherence (ratio of residential to non-residential activities or degree of non-residential intrusion into the living environment)

Note: This AER excludes Living 1A-E and Living HA and B
*Denotes the most significant elements of general suburban character and amenity for which the Plan has greatest influence.

Workplan

11 Living — City Plan Monitoring - Work Plan

Anticipated Environmental Result

1 Maintenance of the general suburban character and amenity of the majority of the city's living environment.

Redefined AER

Maintenance of the general suburban character and amenity of the City's Living 1, 2, 3, 4 and Living H Zones. ie
- site density /openspace*
- site size*
- street scene*
- type of housing
- age of housing
- condition of housing
- housing density
- traffic generation
- noise
- Residential coherence (ratio of residential to non-residential activities or degree of non-residential intrusion into the living environment)

Note: This AER should include amenity information for all living zones.
*Denotes the most significant elements of general suburban character and amenity for which the Plan has greatest influence.

Indicator		Data Collected For	Frequency Collected (years)	Status	Staff Responsible	Collected By	Datasource	Associated Indicators	Date of Analysis
1	Number and type (dwellings and units) of building consents granted for Living 1, 2, 3, 4 and Living H Zones	01-Jul-91 to 30-Jun-98	1	A	Rachael Gurnsey	Vicki Newbury Elizabeth Smith	CCC - Building Consent Records	SOE_Built CPM_6.1.4 CPM_6.1b.2 CPM_6.3.2	09-Sep-98
2	Age of housing for all living zones.	to	5	N	Rachael Gurnsey		VNZ - Property Information	CPM_11.1.3 CPM_11.1.6	
3	Average site density (ratio site coverage/site area) within the Living 1, 2, 3, 4 and Living H Zones	to	5	N	Rachael Gurnsey		VNZ - Property Information		