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indicators

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Urban Amenity

Proposed approach to Indicators for Urban Amenity

Prepared for the Environmental
Performance Indicators Programme of
the Ministry for the Environment by:

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Signposts for sustainability

Your comments are invited on the approach proposed in this document, and expressions of interest for further involvement. Please send your comments, by **Friday 13 August 1999**, to:

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Environmental Performance Indicators

Proposed Approach to Indicators for Urban Amenity

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TABLE OF CONTENTS

1. Overview of the EPI Programme	5
2. Introduction to Urban Amenity Indicators	8
3. Policy Goals	11
4. Summary of Workshop Findings	13
5. Proposed Way Forward - Conceptual Framework	16
6. Next Steps	24
7. Summary of Questions	25
8. References	26
Appendix 1: Key Environmental Indicators.....	27

1. Overview of the EPI Programme

Good information is needed to make good decisions about the environment. This is acknowledged in *The State of New Zealand's Environment* (MfE 1997) released in October 1997. One way of gathering good environmental information is through the use of 'indicators' and 'state of the environment' reporting.

An indicator is something that is measured regularly to show trends or sudden changes in the state of a system, population, or individual. The power of an environmental indicator lies in its ability to tell us how well we are looking after our environment.

Economists have used indicators to monitor the 'health' of the economy for many years. They have watched the fluctuations in economic indicators - such as food prices, and the Gross Domestic Product (GDP) - to show pressures on the economy, the state of the economy, and the effectiveness of any changes in economic policy, or response.

Environmental managers are not so well off. Nationally co-ordinated monitoring and reporting programmes exist for such things as weather, atmospheric ozone, threatened species and toxic marine algae. But the vast majority of environmental monitoring is not co-ordinated or standardised across our nation. Knowledge about environmental impacts is generally poor.

Within a few years, New Zealand will have in place a system to monitor changes in our environment. The Environmental Performance Indicators (EPI) Programme is being co-ordinated by the Ministry for the Environment (MfE). The idea is to build on existing information and monitoring efforts to develop a core set of national environmental performance indicators for use throughout New Zealand.

The Purpose of the Environmental Performance Indicators Programme

The overall purpose of the EPI Programme is to develop and use indicators to measure and report how well we are looking after our environment.

The Government's objectives for the EPI Programme are:

- *to systematically measure the performance of its environmental policies and legislation*
- *to better prioritise policy and improve decision making*
- *to systematically report on the state of New Zealand's environmental assets.*

The indicators discussed in this document comprise one of more than 12 work 'strands' under the EPI Programme. These

strands are loosely based on issues identified in the *Environment 2010 Strategy* [E2010], the Government's strategy on the environment. The current priority is to pilot and implement indicators for air, freshwater, land, ozone, and climate change. At the same time, we need to confirm indicators for the marine environment, terrestrial and freshwater biodiversity, waste, hazardous substances, and toxic contaminants. Indicators for transport, energy, pests, weeds and diseases are to follow.

The EPI Programme is working to include Maori in the development of indicators. The EPI Programme prepared a discussion document specifically for Maori. This discussion document:

- summarises the lessons learned from Maori input into the programme to date;
- seeks Maori endorsement for the core set of indicators already developed;
- proposes indicators that are specifically relevant for Maori.

This discussion document was released at the end of April 1999.

The aim is to have a set of core environmental indicators in place by the turn of the century. This will allow environmental considerations to stand alongside economic and social considerations in the development of sound environmental policy and laws in the new millennium.

Have a look at our website for indicators data and more information about the EPI Programme:

www/mfe.govt.nz/monitoring/indicators.htm

How do we choose only the best indicators?

Development costs mean we need to choose indicators carefully. MfE developed a framework to help with indicators identification. In line with international trends, and particularly following the work of the OECD in this area, this framework defines indices in terms of **Pressure** (on the environment), **State** (describing the condition), or **Response** (describing organised behaviour to reduce, prevent or mitigate undesirable changes). While developing indicators we have refined this P-S-R framework to emphasise environmental policy goals and the key environmental issues facing New Zealand.

We also use criteria for assessing proposed indicators. Indicators should be:

- Measurable with available technology
- Measurable at reasonable cost
- Scientifically defensible
- Easy to interpret and understand
- Policy-relevant.

Who does what under the EPI Programme?

Some data on indicators are already held by central government, regional councils, territorial local authorities, crown research institutes, and iwi. Responsibility for ongoing monitoring will lie with a number of these agencies. However the responsibility to develop, standardise and "nationalise" the Programme rests with MfE.

Benefits of the EPI Programme

The EPI Programme will provide us with better information about the environment, help us to integrate environmental monitoring efforts, and support improved policy decisions. Ultimately, EPIs can help us achieve better environmental outcomes. In this sense, environmental performance indicators are "signposts for sustainability".

New Zealand's Urban Environment

Urban, industrial and transport land covers almost 900,000 hectares - nearly double the current area of crops and orchards, and about 3% of the total land area. Urban areas, as classified by Statistics New Zealand, include any town, suburb or city with more than 1,000 people. They are currently estimated to cover 730,000 hectares while the nation's network of non-urban railways and roads is estimated at 160,000 hectares.

Although the urban population has increased by only 30 percent since 1969, the area of land classed as urban has almost trebled.

When averaged, the rate of urban expansion over the past 25 years has been around 4% per year, increasing from nearly 270,000 hectares in the late 1960s to 730,000 hectares.

Source: *The State of New Zealand's Environment* MfE 1997

2. Introduction to Urban Amenity Indicators

Purpose

The purpose of this document is to produce a *proposal* for discussion by stakeholders on an approach to developing *urban amenity indicators*.

Scope

The 1996 Census revealed that 86% of New Zealand's population lives in urban areas. As a proportion [urban/rural] this puts us ahead of Australia [85%] and the U.S.A [76%] and slightly behind the U.K [89%]. New Zealand's urban population now exceeds 2.8 million people.

For many years, work has attempted to narrow the field of *social* and *urban* indicators so that a consensus can be reached on just how to capture this rather complex indicator problem. Often this work has had a *social policy* orientation. That is, it has been seen to be necessary for the effective development of policy aimed at redressing issues such as poverty, health and educational service disparities, population skills imbalances, and the like. When we look to other countries or multilateral organisations working in the indicator area almost all of them are concentrating their efforts on social policy [health, wealth and welfare] or human settlement/sustainable development [land coverage, transportation, urban design, energy consumption etc.] indicators.

While some of this work is useful in the context of *urban amenity indicators*, the *scope* for the latter under the EPI Programme is not intended to be as wide as the more generic *social policy* indicators. As the EPI Programme is environmentally-orientated, the scope of what is covered under the term *urban amenity* must be narrowed appropriately.

Do you have examples of how this might be done?

Urban amenity is one of those concepts that is remarkable because individually we all know what it is [and often what it is not] but collectively cannot agree what it means. If we cannot agree what it means then the process of agreeing *indicators* becomes even more difficult.

Among the various background influences on the indicator work relevant to the current project are:

- (i) the recommendation of the 1996 OECD review that New Zealand develop a State of the Environment [SOE] reporting procedure in order to monitor the national resource *accounts*

- (ii) the monitoring requirement on local authorities under section 35(2)(a) of the Resource Management Act [RMA]
- (iii) the Minister's general responsibility for establishing methods and mechanisms for improved environmental management
- (iv) the substantial amount of background environmental information held by numerous public and private agencies throughout New Zealand but which remains unintegrated.

Urban amenity is one set of *values* that has been identified by a number of parties as being of particular concern.

EPI Programme

The current project is aimed at defining an approach to the development of agreed *urban* amenity indicators. It is probable that a project examining *rural* and *landscape* amenity indicators will be started once the present project has developed an appropriate *amenity* methodology. The priority being given to *urban* amenity reflects the increasing importance of this concept in the context of Resource Management Act proceedings.

What is the proper boundary for the concept of urban amenity?

One of the difficult questions that this work will need to resolve is the extent to which the Ministry for the Environment pursues the concept of *urban amenity* beyond the bio-physical environment. There is little question that full State of the Environment reporting, for example, requires consideration of the state of the urban environment and that this, in turn, requires some consideration of people's view of environmental amenity. However, for practical reasons, the EPI Programme must define a boundary beyond which it will not pursue amenity. For example, the extent to which urban amenity for MfE's purpose needs to consider matters of employment and ethnic composition within neighbourhoods; or gender equity access to hospital services; or access to educational facilities of a certain standard.

It is clear that to serve the purposes of both State of the Environment reporting and the RMA, the boundary would need to be drawn wider than the current or proposed definition under the RMA. However, the Ministry believes that the definition should only embrace social policy matters to the extent that these have a clearly identifiable environmental implication or effect.

These are difficult boundaries to draw. Response to this question is particularly sought.

Process to date

In May 1998 the Royal Society of New Zealand and MfE sponsored a workshop to test the use of the P-S-R

methodology in the area of urban amenity. That workshop generated some preliminary amenity values that were considered worthy of further development and confirmed the feasibility of using the P-S-R framework. The preliminary conclusions of the workshop are presented in Hill and Spargo, EPI Programme Technical Report No.21, 1998.

Development work on amenity indicators is not confined to MfE alone. A number of territorial authorities have progressed work in this area [Glasson: EPI Programme Technical Report 22] and reported to the Urban Amenity Indicators Workshop [Hill and Spargo: EPI Programme Technical Report 21]. That work is ongoing and will form a useful contribution to be incorporated into the next step of the urban amenity EPI process. However that work has not yet advanced to a stage where it can be consolidated. Furthermore, some of the work, such as the Canterbury Dialogues project on Quality of Life indicators, will need to be re-framed for the purpose of the EPI Programme urban amenity indicator work.

Through the Sustainable Management Fund MfE is working with five territorial authorities in the Wellington region on district plan monitoring. This work has, as one of its outputs, the development of indicators. One of those sets of indicators is likely to be in the area of urban amenity. This work is scheduled to be reported by OPUS International Consultants Ltd in late 1999.

3. Policy Goals

One of the pre-requisite steps in defining targeted indicators [see, for example, Sawicki and Flynn 1996] is agreement on the *policy goal[s]* to be achieved. Clearly without this step, indicators will be imprecise at best, and grossly misleading at worst.

With respect to urban amenity, there is no formal resource management policy goal, although the E2010 Strategy proclaims the vision of “*A clean, healthy, and unique environment, sustaining nature and people’s needs and aspirations*”. The concept of *amenity values* is gaining increasing importance in an RMA context as it is often used in district plans as a basis for establishing regulatory thresholds for new or different activities. Because of this, it is necessary to *approximate* a policy goal.

It is recommended that this goal be defined by reference to the RMA which defines *amenity values* as “*those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes*”.

A suggested policy goal for urban amenity might therefore be:

Do you agree with this goal?

To manage our urban environments in such a way as to maintain or enhance those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

However, such a goal [as stated] remains largely unmeasurable. The key dimensions of the goal therefore remain to be identified and confirmed through the process of moving from issues to indicators.

Readers will be aware that it is proposed to amend the RMA definition by omitting reference to *aesthetic coherence* [Ministry for the Environment 1998]. If that occurs then the proposed working goal definition should be modified accordingly.

Would this amendment require any other changes to the goal?

The above MfE report notes that “*Amenity values are considered important in both rural and urban contexts but are critical to environmental outcomes in urban areas. Urban environments generally have fewer bio-physical attributes to protect and most of the environmental quality and quality of life (sic) are derived through provisions which try to protect amenity values. Amenity provisions, such as tree protection, design and appearance, are relevant to sustainable environmental outcomes.*” [Ministry for the Environment 1998:12]

In addition the Minister has signalled for discussion, the prospect that the definition of *Environment* under the RMA be changed. The effect of this would be to remove the reference to *social and economic conditions* and introduce a new subset:

“(c) *The health, safety, amenity values, and cultural values of people and communities.*”

If this change eventuates then the process of narrowing the definition of urban amenity will proceed even further.

From the above broad amenity goal, which relies upon the relationship between qualities, characteristics and geography, a series of preliminary values were developed by means of an invited participants’ workshop which then formed the basis for specific indicators.

4. Summary of Workshop Findings

The joint Royal Society of New Zealand and MfE workshop held in May 1998 reached some preliminary conclusions regarding urban amenity indicators [refer Technical Report 21:1998] as follows:

- Participants generally agreed with the generic listing of ‘amenity’ values developed by the Office of the Parliamentary Commissioner for the Environment. This listing formed the basis for the workshop sessions [and, with some modification, is provided below].
- The P-S-R framework was applied to the list of urban amenity issues at a broad level to gauge its utility as an approach to such *soft* parameters. Participants agreed that the method was useable although recognised that considerable further work would be necessary in the detailed analysis of each urban amenity topic area in order to define reliable indicators
- It was recognised that we are unlikely to achieve an agreed set of *national* urban amenity values. However, this does not preclude the development of a national *set* of urban amenity indicators for application at the appropriate level of interest [regional, district, neighbourhood].
- The workshop was unable to envisage urban amenity indicators that would provide meaningful or useful management information at the national level. On the other hand, good potential was seen for the development of a *nationally-consistent* set of indicators and methodologies capable of being applied at, for example, the district level. To this end, a standard listing of generic urban amenity issues was suggested, which could be ranked by individual communities of interest to assist in defining resource management issues for development and review of their District (and possibly Regional) planning instruments.
- Participants perceived a multiplication of effort occurring at the district level across New Zealand in investigating and assessing urban amenity issues. Adoption of a nationally-consistent methodology for assessing urban amenity matters was seen to have merit, particularly for smaller local authorities which often have limited resource and expertise available. This information could then be picked up for consideration as part of MfE’s annual monitoring of resource management initiatives.

Do you agree with the use of satisfaction surveys as a means of tracking amenity?

- The use of *satisfaction surveys* for monitoring people's sense of amenity was identified as a plausible method once indicators had been agreed. This would merely entail an extension to the annual residents' survey currently commissioned by many councils to gauge performance and service satisfaction levels in their respective communities. Such surveys have also been used by many councils in setting their strategic plan parameters and gauging responses to various drafts. They therefore have the merit of being a familiar and proven technique. Surveys of residents' values and views would be an important step in defining rankings of and between amenity values/indicators, and are something which local and regional government should be encouraged to pursue on a more widespread basis.

***Do you consider these values sufficient?
Can you identify any others?***

The key urban amenity *values* identified by the workshop were:

1. **Safety** - this composite value includes elements such as personal safety from natural hazards [e.g. landslips and flooding] and generated effects of activities [e.g. proximity to hazardous materials and their use, and traffic accident risk]; occupational safety in workplaces and practices; and social safety [e.g. crime, personal abuse, and injury].
2. **Heritage** - this value includes the cultural heritage in urban settings [including remnant structures and special places and associations]; the historical built heritage of post-contact European urban society [including streetscape]; and natural heritage [which includes all urban biophysical - including geopreservation - sites and structures].
3. **Open Space** - this value has the usual association of personal and community living space [including issues of dwelling density]; the natural landscape [including urban streams and waterways]; vegetation [including urban trees]; reserves and playgrounds; but also the less commonly considered components such as roading corridors and view shafts which contribute to our sense of *visual open space*.
4. **Neighbourhood Issues** - this value or collection of values includes all those matters that constitute a valued neighbourhood and over which neighbourhood disputes tend to emerge. Accordingly it relates to issues such as density, noise, sunlight, privacy, views, traffic, housing variety and design. In some respects this is a *barometer* indicator in that it provides an overall cross-check on some of the elements individually contained within other key indicators.
5. **Mobility and Accessibility** - this value is increasingly important as urban areas become more congested. It relates

to people's ability to get around and from place-to-place for work, general purposes and leisure by a variety of modes of transport [including walking and cycling] and within reasonable time spans.

6. **Healthy Urban Environment** - this value includes issues relating to the general quality of air, land, and water and is particularly focused on the effects of discharges and emissions.

7. **Healthy Communities** - many attributes go into the pot of values that represents a healthy community. These include the quality of living space, entertainment options, the nature of social interactions, the sense of identity and belonging, and the viability or vibrancy of the community. The availability of *choice* is seen to be fundamental to this value. Considerable discussion took place over the extent to which issues of personal health and health provision are relevant to this indicator.

8. **Economy** - the value of economic wellbeing is fundamental to urban amenity. A measure of the economic strength and vitality of communities is therefore important as an early indicator of potential change.

9. **Aesthetics** - the *feel* of urban areas in terms of its form and features is a recurring theme in discussions about urban amenity. This value includes elements of natural and built features, streetscape, design, visual patterns, and vibrancy and novelty.

These values are still very open-ended. Do you have suggestions as to how they might be narrowed?

10. **Infrastructure** - this value is one of the hidden elements that constitute urban amenity and, as such, is more often counted when it *fails* or is perceived to be *under stress*. It includes the components of network utilities [gas, electricity, telecommunications, water supply], roading and transportation [including ports and airports], and solid and liquid waste management.

5. Proposed Way Forward - Conceptual Framework

Some Methodological Issues

As previously indicated, in order to be practical and well-focused the EPI Programme must establish clear and achievable boundaries to its major environmental or resource management domain or topic area. The EPI Programme is not itself especially interested in mainstream social or economic policy. Accordingly the EPI Programme will not pursue the development of what are commonly recognised as social or economic indicators. These will continue to be left to agencies directly involved in, for example, fiscal or welfare policy and the generation of socio-economic statistics. However, indicators proven for those purposes may be used where there is relevant common ground with the goals of the EPI Programme and it is practicable to adopt those indicators.

*Do you agree with this?
If not, why not? What would you include?*

With regard to *urban amenity* it is the environmental and/or resource management implications of this value that are the focus for the EPI Programme, not their social or fiscal policy implications.

The discussion in this section highlights several factors that must be addressed when designing a process for developing amenity indicators. These include:

- the framework
- response models
- typologies
- people -v- place-based approaches
- interpretation
- environmental -v- social amenity
- scale effects
- other countries' work
- the role of the community.

1. Framework: A critical methodological issue to emerge from recent literature on the development of social/urban indicators is the need to establish clearly at the outset the way in which the key bits-and-pieces of the structure work with each other.

Whether one is considering *quality of life* indicators, *social policy* indicators, *cultural wellbeing* indicators, or *urban amenity* indicators, the number and complexity of potential elements are huge. The potential for misinterpretation, misrepresentation and basic methodological errors is equally large. Therefore the way we set up the overall framework

[what are known as the *category* interactions] needs to be very transparent at both the level of the *model* we are working with and the more detailed *indicator* level.

At the end of the day we need to keep reminding ourselves that we are not trying to mirror *reality* with indicators [whether urban amenity ones or others]. The model we adopt is necessarily only a *cartoon* of that reality. However the essence of a good cartoon is that its features are instantly recognisable and transferable. That is also the goal of the indicator framework - to provide an intelligent impression for a defined purpose at a particular point in time.

What sort of framework is appropriate for urban amenity?

In terms of the model framework adopted by the EPI Programme this means adjusting the framework to suit the goal or objective that we are aiming at.

2. Response Models: Essentially there are two sorts of indicator response models - *predictive* and *outcome*.

- Predictive response models determine causal indicators that help us understand what is likely to happen in any particular situation.
- Outcome response models tend to be goal-orientated. That is, they are designed by setting a particular pre-defined outcome. Indicators are then determined that track responses to any intervention[s] we decide to make.

We might think of the *predictive response* model for an identified *pressure* as the pure P-S-R model where we want to anticipate how the system will react naturally without further intervention. Examples might include reactions of the gaming community to a new casino, or the rabbit population to the introduction of a new control agent such as Rabbit Calicivirus Disease.

Alternately, we might think of the *outcome response* model for an identified *pressure* as the interventionist P-S-R model where we want to understand the response in terms of a deliberate intervention or policy goal of some sort. An example of this might be where Government wants to implement policy actions designed to achieve *sustainability*, or some other *goal-based* framework - such as the United Nations Centre for Human Settlements [UNCHS] *Habitat* programme which seeks to achieve quality living conditions. In the New Zealand context, the *sustainable management* purpose of the RMA is one candidate outcome response for which we might want to define indicators.

Do you agree with this?

In the context of *urban amenity* it is likely that we are more interested in an *outcome response* and therefore the indicators should reflect this.

3. An Illustration: By way of illustration, let us consider the urban amenity value of personal safety and the way in which neighbourhood parks are laid out. We might think of the *State* as being the degree of openness of neighbourhood parks and the associated incidence rate of physical assault and abuse within a defined area of the park. The *Pressure* might be the high incidence of use of the area by a category of people known for their involvement in assault and abuse.

The *Response* indicator[s] that we might use will be different depending on what we are trying to achieve. Let us assume that the goal is *reduction in personal assaults in the park* by means of some environmental change.

We might use a *predictive response indicator* if all we want to know is whether putting in additional street lighting, for example, results in fewer incidents of personal abuse. The relationship between incident and lighting coverage can then be monitored. If a correlation is established, we might then confirm the indicator of *lighting per square metre of park* as a predictive response indicator for neighbourhood safety. However, a predictive response indicator will tell us little about the underlying reasons for any change in incidence.

To understand the more subtle reasons for changes in behaviour we would use an *outcome response indicator*. However, if we only monitor assaults and abuse reported by members of the public we could be misled because the incidence rate might tail off for a number of perverse reasons. The reasons might include the increasing avoidance of the area by the public because of its reputation, the lack of reporting for reasons of intimidation, or a perception that nothing is achieved by reporting incidents.

Similarly, monitoring an indicator of the number of persons using the park doesn't necessarily tell us whether the general public is *safer* or simply that more of the "wrong" people are using the park.

The indicator needs to relate the environmental policy response [i.e. improved amenity lighting] to the more global goal of improving overall *neighbourhood* safety in order to capture the real issue. In this case an indicator of the success of the environmental policy response is more likely to be one related to the frequency and period of use of the park by locals, rather than one related simply to the reported incidence of abuse.

4. Typologies: The following typology [Figure 1 overleaf after Maclaren 1996] provides a useful illustration of the different ways in which both frameworks and indicators can be approached. It breaks down the basic framework categories into:

- domain based - i.e. macro-level indicators
- goal based - i.e. purpose directed
- sectoral - i.e. functional
- issues based - i.e. problem orientated
- causal - i.e. multi-dimensional.

Any typology has a degree of arbitrariness in it. Maclaren's serves usefully to remind us that we should be more systematic in the way we design our frameworks so that the results are more robust.

Is this typology helpful?

It is evident by reference to Figure 1 below that the P-S-R model used by the EPI Programme is typologically similar to the so-called causal framework. That is, it's looking to develop policy response indicators that are linked to reductions in the Pressures operating on the various identified States. The P-S-R model mixes and matches domain, goal and issue-based elements in order to measure degrees of movement toward and/or away from a conceptual sense of sustainability.

In the area of *urban amenity* this sustainability threshold is probably more elusive even than it is for other parts of the EPI Programme, and the methodological pitfalls more evident.

Figure 1: Indicator types

DOMAIN BASED		GOAL BASED	
<ul style="list-style-type: none"> • Environment • Economy • Society 		<ul style="list-style-type: none"> • Carrying Capacity • Basic Human Needs • Social Wellbeing 	
SECTORAL		ISSUES BASED	
<ul style="list-style-type: none"> • Housing • Welfare • Recreation • Transportation • Environment • Economic Development 		<ul style="list-style-type: none"> • Urban Sprawl • Solid Waste Management • Crime and Safety • Job Creation • Industrial Pollution 	
CAUSAL			
Conditions	Stresses	Responses	
<ul style="list-style-type: none"> • Air Quality • Unemployment • Human Health 	<ul style="list-style-type: none"> • Automobile Use • Inadequate Education • Air Quality 	<ul style="list-style-type: none"> • High Occupancy Vehicle Lanes • Special Training Programs • Pollution Warnings 	

5. People -v- Place: One of the key relevant pitfalls in this respect is known as the *people-versus-place based conundrum*.

Put simply in the context of, for example, prosperity/poverty policy this *conundrum* is the one of confusing the enhancement or decline in standard of a particular neighbourhood [i.e. place-based assessment] with the same change in the prosperity or poverty of the population as a whole [i.e. people-based assessment]. As we know, the effect of general neighbourhood real estate *improvement* is to change the profile of residents [the so-called *gentrification* of the inner cities] by displacing less well-off residents. In times of relatively rapid in and out migration, if we want to know whether *people* generally are better off we have to measure *their* responses and not the state of the suburbs where they live.

How should we weight the balance between people and place-based amenity?

While the above illustrates a social policy issue, there are quite complex environmental policy issues associated with it. Put simply, more affluent suburbs generally have more diverse environmental amenity. We are faced with a similar conundrum with *urban amenity* but in a slightly different way.

6. Interpretation: It is difficult to interpret accurately a change in amenity value.

At one point in time a particular neighbourhood might signal a degree of satisfaction with its general amenity which is quite different when measured some time later. The interpretative problem with indicators in this context is that we cannot know without further investigation whether the change in satisfaction results from a different balance of residents caused by in and out migration, the same residents who have changed their values, or some combination of this and others factors. This response will be further compounded if significant physical changes to the neighbourhood or its adjacent areas have occurred in the meantime.

Does the amenity indicator need to explain or simply signal a change?

In deciding on the indicators to be used, therefore, we must be very careful not only about the sort of framework to be used but also about how we will interpret, or gain access to an interpretation of, the resulting trends. The reality of urban amenity therefore requires a mix of *objectively* measurable **place-based** indices [number of lights per area of open space; physical capacity of entertainment centres; amount of trip time spent in queues; etc], with *subjectively* measurable **people-based** indices [demographic composition; satisfaction with facilities; perceptions of personal safety; etc].

If you agree with this do you have examples?

7. Environmental -v- Social Amenity: This also raises again the question as to the relationship between

To what extent should the social implications of urban amenity be a consideration?

environmental amenity and social policy indicators [provision of education; health services; employment initiatives; etc]. It is inevitable that the public's sense of urban amenity will be shaped in part by perceptions of access to services and their respective quality. In the RMA context questions of social wellbeing are relevant considerations. The extent to which social wellbeing amenity indicators are relevant for the EPI Programme remains to be established. At this stage it is proposed that amenity be conceived simply as a statement in time of the *fit* between a social reality [the state of a particular neighbourhood] and its *users*.

8. Scale Effects: A further clear message from the literature is that social indicators are very sensitive to *scale effects*. That is, the smaller the unit of measurement [for example, the street or neighbourhood] the more reliable and useful the information represented in terms of a policy or other response.

Take, for example, the manner in which an environmental issue [such as openspace amenity] interacts with questions of personal and public safety. At a city-wide scale we can calculate the number of reported assaults, arrests, and convictions for crimes against persons in areas of public openspace. This enables us to characterise an entire city as having a certain level of public openspace safety on an index across the country. However this might bear little relationship to the safety amenity of a particular neighbourhood within that same city in which either very little criminal activity or, alternately, most of this activity takes place. We need both ends of the scale [i.e. neighbourhood and citywide] to portray the real picture - particularly if the purpose is for the design of an outcome response.

What is the "right" scale for urban amenity?

Scale effect is a very important variable if we are interested in a goal-based, outcome indicator framework. In the area of urban amenity such a framework is particularly appropriate as, through the RMA process, public authorities are continually asked to assess whether an activity enhances or detracts from *an area's* general amenity. This is as true for the development of roads and transmission lines as it is for casinos, schools and waste treatment plants.

Do you agree that we should be consistent with Australian indicators?

9. Australian Indicator Work: A number of agencies internationally are working on urban indicator development. While it is important to be aware of trends further afield we should pay particular attention to work going on over the Tasman because of the many similarities in structure and culture, and the benefits of collaboration.

Environment Australia has recently completed a significant series of reports on *Environmental Indicators for National State of the Environment Reporting*. One of these sets, that for Human Settlements, involved a process of establishing a set of *Proto-Indicators* [derived from existing national and international indicator studies], then applying an agreed set of selection criteria through workshops to finalise a set of *Key Environmental Indicators*. Future work may involve the development of a set of *Core Indicators* to be used for identifying environmental trends at all spatial scales [and across jurisdictions].

Fifteen selection criteria were devised and grouped into five categories for convenience [very similar to the EPI Programme's five criteria] requiring the indicator to be:

- important
- feasible
- credible
- understandable
- useful.

These criteria were used in reducing the 376 proto-indicators to the 104 final Key Environmental Indicators [KEIs] for Human Settlement [refer Appendix 1]. In turn the KEIs are grouped into eleven larger indicators as follows:

- Macro-Level/Exogenous
- Energy
- Water
- Urban Design
- Transport and Accessibility
- Population
- Housing
- Indoor Air Quality
- Environmental Health
- Noise
- Waste.

The 104 indicators are then assigned to one or more of the Condition-Pressure-Response [C-P-R] elements of the

framework used [*refer the abbreviated list in Appendix 1 which is included for information*]. For the purpose of comparison, the C-P-R base is very similar in fact to the P-S-R model used by the EPI Programme.

While this work is more broadly based than the narrower *urban amenity* focus of the present work, many of the KEIs developed can be either absorbed directly or modified to fit into the 10 key urban amenity values already identified above - or into the KEIs being dealt with under other strands of the EPI Programme [waste, environmental health, energy, water and transport].

What is the extent of the role of communities in the development of urban amenity indicators?

10. The Community: An important message from this work - indeed from the neighbourhood indicator work generally - is the need to involve the appropriate community level both in the development of the indicator and in appraising its significance.

For example, by working with its constituent communities the Urban Ecology Coalition [UEC] [Urban Ecology Coalition (Minneapolis):1999] has identified two special types of indicators, which it terms *data poetry indicators* and *deep sustainability indicators*, in addition to the usual *core* and *background* indicators.

UEC uses the term *data poetry* indicators for those symbolic unifying indicators that capture the essence of a complex central idea. An example of this is the *salmon run* which signifies the collective health of the waterways, the state of the fishery, and the state of the local economy. In an amenity sense, such an indicator would prove particularly useful as an indicator of overall amenity - if one could be found locally. In Rotorua, for example, the concept of *Pride* was determined to be a key value in its Strategic Plan development process.

UEC uses the term *deep sustainability* indicators to refer to a community's future aspirations. These are often matters/values on which we are likely to score poorly at present but which need to be monitored over time to measure progress toward the outcome sought. UEC uses the example of the aspiration of closing the neighbourhood income inequality gap (ratio of highest to lowest income). Such an indicator raises the question as to whether amenity should involve more than what exists at present. The RMA speaks of *the foreseeable needs of future generations*. Are the aspirations of communities an essential part of its amenity value?

Should urban amenity be confined to the present?

This work is a useful reminder that, in the context of *urban amenity*, significance is to be found locally.

6. Next Steps

Despite the difficulty in attempting to define *urban amenity*, it is an important concept to communities and is a frequent theme in statutory planning proceedings. For example, in the January 1999 edition of Data Services' Environmental Digest and Law Reports of New Zealand, 445 cases involving issues of *amenity value* are recorded. While few cases actually turn on this issue, its common appeal suggests that it is a matter that ought to be taken seriously.

Do you agree?

Your comment is sought on the following proposed process:

1. Establish a practitioner reference group to oversee the further development of urban amenity indicators;
2. Reference group to confirm a conceptual framework, utility and definition of key values identified so far, and arguments/submissions for additional key values. This task will also require the group to develop and confirm the central policy goal, urban amenity value boundary and address the factors raised in section 5 above;
3. MfE to collate information on existing and proposed amenity indicators experience in New Zealand into an inventory;
4. MfE to develop a set of draft urban amenity indicators maintaining consistency of definition and approach as much as possible with the work being undertaken by Environment Australia;
5. MfE to agree a methodology for pilot trials in three metropolitan centres, to be undertaken in conjunction with the relevant territorial authority at a neighbourhood level;
6. Undertake the three trials;
7. Evaluate and report the findings of those trials;
8. Recommend a set of core urban amenity indicators, definitions and assessment values.
9. Outline a monitoring and evaluation strategy for the indicators.

Does this timeframe seem realistic?

It is anticipated that this process will take between nine and 12 months to complete.

7. Summary of Questions

1. *Do you have examples of how the scope of urban amenity might be narrowed?*
2. *What is the proper boundary for the concept of urban amenity?*
3. *Do you agree with the proposed policy goal?*
4. *Would the Minister's proposed amendment to the definitions under RMA require any other change to the proposed goal?*
5. *Do you agree with the use of satisfaction surveys as a means of tracking urban amenity?*
6. *Are the workshop values sufficient? Can you identify any others?*
7. *Do you have suggestions as to how the workshop values might be narrowed?*
8. *Do you agree that the environmental and/or resource management implications of amenity [rather than their social or fiscal policy ones] should be the focus? If not, why not? What would you include?*
9. *What sort of framework is appropriate for urban amenity?*
10. *Do you agree that outcome response indicators are appropriate for urban amenity?*
11. *How should we weight the balance between people and place-based amenity?*
12. *Does the amenity indicator need to explain or simply signal a change?*
13. *Do you have examples of people and place-based indicators of amenity?*
14. *To what extent should the social implications of urban amenity be a consideration?*
15. *What is the "right" scale for urban amenity?*
16. *Do you agree that we should be consistent with Australian indicators?*
17. *What is the extent of the role of communities in the development of urban amenity indicators?*
18. *Should urban amenity be confined to the present?*
19. *Do you agree with the proposed process?*

Your comments are invited on the approach proposed in this document, and expressions of interest for further involvement. Please send your comments, by **Friday 13 August 1999**, to:

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Appendix 1: Key Environmental Indicators

The following indicators are taken from the Environment Australia programme, *Environmental Indicators for National State of the Environment Reporting 1998*.

Key Environmental Indicators for Human Settlements	C-P-R¹
Macro-Level / Exogenous	
0.1 International Migration to Australia	P
0.2 Gross Domestic Product (GDP)	C
0.3 Globalisation—Economic Dependency	P
0.4 Information Economy	C
Energy	
1.1 Total Energy Use	C
1.2 Energy Use in Industry	C
1.3 Energy Use in Transport	C
1.4 Domestic Energy Use	C
1.5 Commercial Energy Use	C
1.6 Expenditure on Energy Programs	R
1.7 Renewable Energy	R
1.8 Cost of Energy	C
Water	
2.1 Proportion of Settlements Served by Treated Water	C/R
2.2 Municipal Household Water Consumption Patterns	P/C
2.3 Total Annual Water Usage by Sector	P/C
2.4 Sewage Disposed to Water Bodies and Re-used	P/C
2.5 Wastewater Discharged	P/C
2.6 Population Serviced by Treated Wastewater	C/R
2.7 Stormwater Discharged to Receiving Waters	P/C
2.8 Contaminants in Stormwater Discharges	P/C
2.9 Stormwater Recycled	R
2.10 Wastewater Re-used by Type of Application	C/R
2.11 Residential Water Consumption Under Alternative Water Pricing	R
2.12 Investment in Wastewater and Stormwater Technology / Conservation	R
2.13 Community Drinking Water Violations	P/C
Urban Design	
3.1 Stock of Heritage and Cultural Assets	C/R
3.2 Land Converted from Non-Urban to Urban Uses	P
3.3 Public Urban Green Space per Capita	C/R
3.4 Residential Density	P
3.5 Percentage of Medium and High Density Residential Construction	C/R
3.6 Index of Industrial Concentration	C
3.7 Mixed Land Use Ratio	C/R
3.8 Home-based Workers	C
3.9 Physical Assaults in Public Places	C/P
3.10 House Burglaries	C/P
3.11 Indices of Urban Socio-Economic Inequality	P
3.12 Indices of Socio-Spatial Segregation	P
Transport and Accessibility	
4.1 Access to Public Transport Stops	C
4.2 Car Ownership	P
4.3 Perceived Residential Density	P/C
Key Environmental Indicators for Human Settlements	C-P-R

¹ C-P-R refers to the Condition-Pressure-Response model used by Environment Australia.

4.4 Driving Licence Holders by Age and Sex	P
4.5 CBD Parking Supply and Charges	P/R
4.6 Fuel Pricing and Taxing	P/R
4.7 Average Speed by Mode and Distance	C
4.8 Mode Choice by Trip Purpose by Area	C
4.9 Total Time and Distance Travelled	C
4.10 Perceived Daytime Density	P/C
4.11 Economic Costs of Road Accidents	C
4.12 Fuel Consumption per Transport Output	C
4.13 Costs of Congestion	P/C
Population	
5.1 Population and Household Growth Rate	P
5.2 Households in Poverty	C
5.3 Unemployment Rates	C
5.4 Visitor Numbers	P
Housing	
6.1 Floor Area per Person	C
6.2 House Price to Income Ratio	C
6.3 New Dwellings Completed	P/C
6.4 Dwellings Constructed on Greenfield Sites	P/C
6.5 Ranges of Lot Size	P/C/R
6.6 Homelessness	C
6.7 Building Materials Used in Housing/Embodied Energy	P/C/R
6.8 Operating Energy Efficiency	P/C/R
Indoor Air Quality	
7.1 Occupant Satisfaction with Commercial Indoor Air Quality	C
7.2 Mechanical Ventilation Rate of Commercial Buildings	C
7.3 Thermal Comfort in Commercial Buildings	C
7.4 Air Infiltration Rates of New Housing	C
7.5 Proportion of Population Sensitive to Pollutants	C
7.6 Proportion of Adult Smokers with Children	P
7.7 Proportion of Commercial and Recreational Buildings with Smoking Prohibition	R
7.8 Quantity of Asbestos Products Removed from Workplaces	P/R
7.9 Number of Unflued Gas Heaters in Residences and Schools	C
7.10 Number of People Housed in Mobile Buildings	P
7.11 Proportion of Residences with High House Dust Mite Allergen	P/C
7.12 Incidence of Legionnaires' Disease	C
7.13 Production of Low-VOC Emission Building Products	R
7.14 Exposure to Indoor Air	P/C
Environmental Health	
8.1 Bacterial Contamination of Food or Water	P
8.2 Incidence of Vector-borne Diseases	P
8.3 Exposure to Hazardous Chemicals and Wastes	P
8.4 Passive Smoking	P
8.5 Health Literacy and Coping Skills	C
8.6 Depression and Related Disorders	C
8.7 Melanoma of the Skin	C
8.8 Cause Specific Mortality Rates	C
8.9 Mortality Among Indigenous Australians	C
8.10 GP Consultations	C/R
8.11 Hospital Separations, All Causes	C/R
8.12 Health Services Expenditure	R

Key Environmental Indicators for Human Settlements**C-P-R****Noise**

9.1 Exposure to Traffic Noise	C
9.2 Exposure to Aircraft Noise	C
9.3 Exposure to Industrial Noise	C
9.4 Industrial Noise Injuries	C
9.5 Cost of Noise Control	R
9.6 Road Traffic Density	P
9.7 Air Traffic Density	P

Waste

10.1 Domestic Solid Waste Generated	P
10.2 Domestic Solid Waste Disposed to Landfill	P
10.3 Waste Recovered—Recycled	R
10.4 Commercial and Industrial Waste Generated	P
10.5 Energy Recovered from Waste	R
10.6 Proportion of Sludge and Biosolids Re-used	P/R
10.7 Hazardous Waste Generated	P
10.8 Domestic Hazardous Waste Collected	R
10.9 Contaminated Land	P

Note:

1. The Key Indicators listed in this Table are those to have emerged as a result of this study. The process by which they were derived is outlined in the body of this document.
2. C-P-R (Condition-Pressure-Response).