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## Spatial Planning: Evidence and Evaluation James Gardner-Hopkins<sup>1</sup>, Dr Douglas Fairgray<sup>2</sup>

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### Introduction

There is increasing focus on "spatial planning", with high hopes and high expectations for the new Auckland Council's Spatial Plan. There are also some serious questions about the Spatial Plan's role and where it sits relative to the other statutory plans, such as the Long Term Council Community Plan ("LTCCP") and the forthcoming Unitary Plan – particularly as it may be a blueprint (or guinea-pig) for other cities.

According to the Ministry for the Environment ("MfE"), a "Spatial Plan" is a high-level strategy for developing a region that relates to its geography, and seeks to achieve desired broad outcomes. Developed and implemented via collaboration between multiple parties, it provides a mechanism for agreeing joint priorities, actions and investment. One of the key requirements of spatial planning is that it be evidence based.<sup>1</sup>

The Spatial Plan concept signals two important shifts – a stronger emphasis on the spatial nature of urban economies, and a requirement for stronger science to under-pin future planning – the Evidence Base. Inevitably (and as with all planning processes) there will be winners and losers from the Spatial Plan depending on what land is identified for what purposes. Without the ability to challenge through RMA-type appeals processes, the Auckland Council should be able to justify its decisions on the Spatial Plan by reference to this evidence base.

An evidence base suggests more formalised and explicit links between the Spatial Plan document and the technical assessment under-pinning it – including the core information used, the methodologies applied, and the interpretation of results.

In regional and district plans, such assessment is typically contained in non-statutory technical documents. In most cases, understanding of core processes and key findings get into the statutory documents only as explanations and reasons. The focus in council and court decisions is on plan objectives, policies and rules, with an (implicit) assumption that those words accurately reflect the underlying assessment. The specific link to an evidence base will place stronger scrutiny on the validity of the underlying science.

We examine here the types of evidence and the tools which are available to councils, both to support their knowledge of the spatial nature of economies, and to provide a strong evidence base for plans.

### Context and Genesis

The statutory framework for the Auckland Spatial Plan is set out in sections 79 - 80<sup>2</sup> of the Local Government (Auckland Council) Act 2009 ("LGACA"). Although there is no set timeframe for the Council to implement the plan, at the time of writing the release of a draft plan is imminent (by 25 March 2011), with a final plan by December following a period of public consultation.

The statutory purpose of the Spatial Plan is to contribute to Auckland's social, economic, environmental, and cultural well-being through a comprehensive, long-term (ie 20 to 30 year) strategy for Auckland's growth and development. The Spatial Plan will:<sup>3</sup>

- set a strategic direction for Auckland that integrates social, economic, environmental, and cultural objectives;
- outline a high-level development strategy to achieve that direction and those directives;
- enable coordinated infrastructure, services and investment decision-making by the Council and other parties; and
- provide a basis for aligning the implementation plans, regulatory plans, and funding programmes of the Council.

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<sup>1</sup> Ministry for the Environment "Building Competitive Cities: Reform of the urban and infrastructure planning system" (October 2010) ME 1021.

<sup>2</sup> All relevant sections referred to in the text are provided in **Appendix 1**.

<sup>3</sup> Section 79 of the LGACA sets out in more detail what must be included in the plan. See **Appendix 1** for details.

Implicit in these requirements is a drive for more direction and certainty rather than leaving urban development to individual actors (be it the private sector, councils or infrastructure providers). Furthermore, the Government hopes that the evidence base for the Auckland Spatial Plan will:<sup>4</sup>

- provide confidence in land use and other decisions taken by Auckland Council that impact on Government objectives such as housing affordability, and on Government expenditure on transport and other infrastructure and services in Auckland;
- help improve long term planning undertaken by Government agencies and therefore their ability to meet demand for public services, address problems and achieve desired outcomes in Auckland;
- support greater alignment between decisions made by Auckland Council, Government and other parties, for example about land use, transport and location of education and other facilities; and
- provide greater certainty to the private sector.

While the Auckland Spatial Plan will be a new entry into the suite of planning documents, its genesis was not entirely unexpected. The Spatial Plan has arrived in a time of steadily increasing focus on urban form in our towns and cities. The last six to seven years have witnessed the emergence of more explicit provisions outlining desired urban form outcomes in our major urban centres. For example, Christchurch City Council introduced Variation 86 to the district plan in 2004 to check development of retail activity in the city's industrial and business zones – in effect limiting retail growth to certain defined areas to avoid erosion of existing centres' viability. A similar (but so far unsuccessful) effort was made by Hamilton City Council through Variation 21 to direct and control the location for retail and therefore shape urban form in a proactive manner.

Perhaps the clearest forerunner of the Spatial Plan is Change 6 to the Auckland Regional Policy Statement and the associated district plan charges introduced under the Local Government (Auckland) Amendment Act 2004 ("LGAAA"). The LGAAA process seeks to explicitly integrate and align land use and transport policies whilst giving effect to the Auckland Growth strategy. It seeks to support a compact sustainable urban form and manage transport infrastructure. The Metropolitan Urban Limit was to be retained and not extended unless agreed by the ARC. It seems that the bones (and some of the flesh) of a Spatial Plan already exist in Auckland.

It is helpful to note the recent approach of the Environment Court in *Stirling v Christchurch City Council*<sup>5</sup>, when it found that while the effects of a proposed retail development may have only been minor, the proposal did not fit within the district plan as altered by Variation 86's overarching purpose and theme promoting a centres-based approach, and should therefore be declined. Much earlier the Court in *St Lukes v North Shore City Council*<sup>6</sup> approved the spatially-defined concept of the significance of centres in the planning framework. Perhaps where the Spatial Plan seeks to go beyond these approaches is through the integration of all major infrastructure and a clear link (through section 79(4)(f) of the LGACA) to policies, programmes and investments to implement the direction.

The rise of Spatial Plan reflects a global trend towards increased emphasis on spatial planning. For example, Seattle has followed Vancouver in using spatial planning to limit unchecked urban sprawl and effectively manage desirable growth.<sup>7</sup> Other US cities are following suit.<sup>8</sup> Likewise, Queensland's Sustainable Planning Bill 2009 has the hallmarks of the relevant sections of the LGACA. Government policy documents have explicitly indicated that the Auckland Spatial Plan framework is "consistent with international best practice", consciously drawing on international experiences in providing a credible evidence base.

### Process and Status

In preparing<sup>9</sup> and developing the Spatial Plan, the Council is required to involve a range of stakeholders (see section 80 of the LGACA) and "must endeavour to secure and maintain the support and co-operation" of all of these parties in the implementation of the Spatial Plan – a very tall order indeed.

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<sup>4</sup> Department of Internal Affairs "Developing an Evidence Base for the first Auckland Spatial Plan" (28 February 2011).

<sup>5</sup> [2010] NZEnvC 401.

<sup>6</sup> [2001] NZRMA 412.

<sup>7</sup> David Fox "Halting Urban Sprawl: Smart Growth in Vancouver and Seattle" (2010) 33 Boston College International & Comparative Law Review 43.

<sup>8</sup> Edward T Canuel "Supporting Smart Growth Legislation and Audits: An Analysis of US and Canadian Land Planning Theories and Tools" (2005) 13 Michigan State Journal of International Law 309.

<sup>9</sup> The Spatial Plan must also be prepared using the Local Government Act 2002's section 83 "special consultative procedure".

Unlike plans formulated under the RMA, the LGACA provides no rights of appeal in relation to the final form of the spatial plan. Accordingly, early involvement in its preparation is especially important for interested parties. The Council may amend the plan at any time but there is no mandatory requirement to assess or review the plan within a set timeframe.

One of the key legal issues to be resolved for the Spatial Plan is the relationship between it and other planning documents, especially the LTCCP and the forthcoming Auckland Unitary Plan (comprising the former regional plan and district plans). In theory, the Spatial Plan sits at the top of the hierarchy of planning documents, but with no right of appeal it will be interesting to see how the courts reconcile conflicting plans further down the chain. Importantly, there is no statutory requirement for the Unitary Plan to give effect to or even have regard to the Spatial Plan.

Another key issue, which tends to exacerbate the previous issue, is the extent to which the evidence base will affect policy and decision makers in considering the Spatial Plan. With no right of appeal, probably the only way to challenge the Spatial Plan will be by judicial review, which requires a very high standard in order to be successful. The Council can simply indicate that it "had regard" to the evidence - there is no requirement that it chooses the "best" option raised by the evidence. The LGACA statutory requirement to explicitly provide the evidential base "to support decision making for Auckland, including evidence of trends, opportunities, and constraints within Auckland" may ameliorate this problem somewhat, by increasing transparency as to what evidence was actually assessed, but the conclusion that the Council reaches on the basis of this evidence will most likely be unreviewable and unchallengeable (unless plainly ludicrous). As highlighted in the policy paper, "there is not yet a process for Government agencies and other parties to work with the Auckland Council on how the data is appropriately interpreted and the options and assumptions modelled for the Auckland Spatial Plan"<sup>10</sup>. With no indications as to how such a process will be implemented, and no statutory requirement to do so, a situation could occur where we have a Spatial Plan that cannot be subject to review, with an inconsistent Unitary Plan, leaving the courts with a unique issue to resolve. Nowhere else in the country will a non-statutory, but untested, document carry so much weight. There is no guidance for how site-specific departures from the Spatial Plan would be handled. A possible test might be whether a departure would have a precedent effect or materially affect the integrity of the Spatial Plan.

The Government may yet resolve some of the uncertainties – MfE's "Building Competitive Cities" discussion document<sup>11</sup> considers various proposals for legislative changes for the Spatial Plan. The RMA Phase 2 reforms which will incorporate these changes are due later this year. A wide range of options are identified to enhance the effectiveness of the Spatial Plan. These include:

- retain the current framework, which provides flexibility;
- amend the framework so the Spatial Plan incorporates other planning documents to create a single "Supreme" Plan with spatial planning tendencies;
- require RMA plans to either "give effect to", "be consistent with", or "have regard to" the Spatial Plan;
- various options to allow appeal of the Spatial Plan: on points of law only, using a statutorily prescribed consultation process, or requiring an independent specialist to review the plan; or
- provide for the Spatial Plan to be reviewed every three years and also requiring statutory "linkage" with the LTCCP.

It therefore remains to be seen what proposals will be adopted and what the spatial planning landscape will have evolved to look like by the end of 2011.

### **Spatial Planning and the Evidence Base – *Status Quo* or *Brave New World***

Is "spatial planning" really just a matter of emphasis, and will it mean any shift in approach?

The relative locations of different activities are fundamental in urban planning, so there has always been an important spatial component in planning and analysis. To a degree, spatial planning may just mean more explicit emphasis and recognition in statutory documents.

However, it should be more than that. Strong spatial planning requires focus on more than patterns on the ground and effects at interfaces, especially on the many spatial interactions within urban economies – the spatial interaction patterns of day-to-day people and business activity, arising from where things are, what people and businesses need or want to do, how they interact and where and how they travel to do so.

Although fundamental to sustainability and amenity matters, spatial interaction does not always have adequate recognition in plans and decisions – for reasons including limited information, and the often

<sup>10</sup> "Developing an Evidence Base", above n 4.

<sup>11</sup> "Building Competitive Cities", above n 1.

complex analysis required. It is common for statutory plans to have high level objectives which acknowledge spatial interaction – eg to minimise private travel – but little specific attention to the nuts and bolts – eg specific reference to the effect of retail location on household travel efficiency or accessibility. This is understandable, given the RMA’s need to identify effects, and nervousness about the solidity of spatial analysis.

However, the spatial plan approach will inevitably have stronger ‘science’, courtesy of the need for the evidential base, which is more than just information and datasets on a GIS platform. There are (at least) four<sup>12</sup> core aspects to an evidential base:

1. **Information** - relevant and adequate to support the plan;
2. Assessment **methodology** - robust, appropriate, soundly applied;
3. **Interpretation** - robust and relevant to the plan;
4. **Context** - interpretation must have regard to other results and information.

This may seem self-evident, but there are many examples of inadequate evidential bases in non-statutory technical reports, and consequently poor provisions in the statutory documents.

We believe a shift toward more use of science / technical assessment within planning is inevitable, and beneficial. Both RMA and LGA require attention to concepts of community wellbeing, and sustainably managing resources. The location of activity is a core influence on urban efficiency, sustainability, amenity and well-being, especially because of effects on the cost and efficiency of spatial interactions.

The effects of any activity arise from its nature, scale, location, and timing, including its relationships and interactions with other types of activity and other similar activities. There are many different relationships, and typically we have to travel for these, because economic activity tends to concentrate in specific locations - a natural effect of the economics of business activity and location choices, which together with statutory planning (such as Variations 86 and 21), encourages business activity to co-locate. So, interaction has a spatial dimension, and associated costs – time, money, energy and other resources consumed, and emissions and other effects generated – all influenced by where activities are located.

In turn, the costs of spatial interaction are critical drivers of urban sustainability and amenity. The more efficient the spatial interaction, then the greater the positive contribution to sustainability and amenity – fewer resources and time consumed in meeting wants and needs, and correspondingly more time and resources available for things which contribute to people’s amenity.

Hence the importance of good urban form policies and good location decisions. This is not rocket science, and there has long been planning attention (such as LGAAA) to spatial efficiency and the cost of interaction, as affected by urban form. Form can support efficiency in spatial interaction, in relation to travel distance, opportunity for multi-tasking or multi-purpose trips, and opportunity for shared transport especially PT.

Understanding the processes at work is one thing. It is quite another to have the information and technical capabilities to understand likely urban form outcomes, or to examine and compare the effects of different outcomes on sustainability or community amenity or wellbeing to meet the now requirement for an evidential base.

### **Spatial Planning: Evidence and Evaluation**

A range of capabilities continue to emerge, for better information, and stronger methodologies, to better understand and quantify the implications of urban form, for greater credibility and weight in decision-making, and in policy formulation.

#### ***Household Sector Interactions***

There is increasingly better information on people’s spatial activity. This is characterised by a multitude of individual interactions, and while each is in some way unique there are many recurring patterns, well established and widely evident across different cities and towns. Two very important spatial datasets stand out:

- **Ministry of Transport Household Travel Survey**, a comprehensive and ongoing record of travel patterns and purposes, and is subject to increasingly detailed analysis. It shows:

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<sup>12</sup> The Government considers it very important that the Auckland spatial plan is underpinned by a strong evidence base. This means appropriate data, accurate interpretation of this data, and rigorous analysis techniques, contributed to by Government agencies as well as the Auckland Council. (See "Developing an Evidence Base", above n 4.)

- the scope and nature of spatial interaction – for example, households make a lot of trips - around 2.1 billion ‘tours’ each year, around 700 million in Auckland, about 200 million in Wellington;
- establishes that people seek to travel efficiently – over 40% of all tours are multi-purpose, and are concentrated around the place of residence. That is no surprise, but it is important to reinforce the link between efficiency in urban form, and community enablement (including accessibility) and wellbeing;
- **Large card based datasets**, which are becoming available to show spatial nature of household transactions, and identify the spatial patterns of people activity, an important subset of total travel. These indicate travel to shops and services, based on the geographic link between place of residence and place of transaction - where from, where to. There is strict confidentiality in terms of specifics, but the data provides very good aggregate data, to CAU location. It also provides solid time series – over a year or two years, with millions of transactions recorded, to identify patterns and habitual behaviours, with less chance of random aberrations skewing the data.
- **Education travel data**. This is similar for school planning, with a GIS base, linking home location and school, to show the dynamics of school travel

### **Business Sector**

In respect of the Business Sector:

- Business Frame data on the number and location of business activity. This has been around for some time, but progressively improved through such links as the LEED datasets.
- Underlying PIOT and IO type data, to show relationships among businesses.

### **Simple Models**

A general concept in geography dictates that levels of interaction are related to the distance between two objects (such as consumer and marketplace) and the strength of attraction between them. In the case of demand for goods and services, the strength of attraction is influenced by the size and nature of the marketplace (its gravity). This gravity is a very useful concept to guide an understanding of how households travel to access retail and service supply, and analysis of household travel shows very strong spatial patterns that can be used to understand how consumers access markets. These patterns (such as demand distance-decay curves) can be replicated to understand how capacity changes in the supply side (such as new developments) will affect the urban environment. Capacity changes are likely to affect travel efficiency, the location decisions of businesses and households, and accessibility, which is a key determinant of community enablement.

### **Interactive Models**

New Zealand’s regions face the challenges of becoming more sustainable, being internationally competitive and providing high quality of life in an ever changing world. These ideals will not be achieved through a *laissez faire* approach. Instead, policy planners and decision-makers among others will need to actively envisage and define pathways to achieve these aspirations.

To this end, the Sustainable Pathways 2 research programme was funded \$4.3 million by FRST in late 2009. The aim of the programme is to develop an integrative scenario modelling capacity for urban planners in Auckland and Wellington, which illuminates and links the economic, social, environmental and cultural well-beings of urban planning within these cities. The project team consisting of a Massey University led consortium, has three key objectives: (1) mediated modelling, (2) spatially explicit dynamic modelling, and (3) embedding scenario modelling into Council process. A feature of the programme, which runs from October 2009 to September 2015, is that senior practitioners from Auckland Council (Mr G Cooper), Environment Waikato (Dr B Huser) and Greater Wellington (Ms M Thornton) are contracted directly into the programme where they have key leadership roles. This will help to ensure that the ‘modelling science’ and ‘policy practice’ are well connected within the programme.

In the context of this paper, the second objective of spatially explicit dynamic modelling is perhaps most important. It focuses on *integrating* existing Council planning models and tools to look at the trade-offs between the four well-beings under different scenario-based growth pathways. The objective *dynamically* links together the key outputs from the currently used models/tools in Auckland and Wellington in a *spatially explicit* manner (i.e. at a 100m x 100m resolution) across a 30 year time horizon (ie from 2011 to 2041). These include demographic, land use, transport, economic and environmental models/tools. A *systems approach* is adopted that considers the major *feedbacks* within the urban system and reports for each 100m cell key demographic, land use, transport, socio-economic and environmental indicators. The modelling utilises a user-friendly GIS-style interface with

policy relevant, and easily manipulated, levers of change. More about the project can be found at: [www.sustainablepathways.org.nz](http://www.sustainablepathways.org.nz).

### **Conclusion**

The Spatial Plan will be a new planning document, but one which has clear national and international predecessors. At the moment, there are a number of legal uncertainties which the Government may yet resolve, and if not, the courts are required, and now have the tools available, to support the direction and strategy chosen by the people of Auckland.

## APPENDIX 1

### Local Government (Auckland Council Act) 2009:

#### **79 Spatial plan for Auckland**

- (1) The Auckland Council must prepare and adopt a spatial plan for Auckland.
- (2) The purpose of the spatial plan is to contribute to Auckland's social, economic, environmental, and cultural well-being through a comprehensive and effective long-term (20- to 30-year) strategy for Auckland's growth and development.
- (3) For the purposes of subsection (2), the spatial plan will—
  - (a) set a strategic direction for Auckland and its communities that integrates social, economic, environmental, and cultural objectives; and
  - (b) outline a high-level development strategy that will achieve that direction and those objectives; and
  - (c) enable coherent and co-ordinated decision making by the Auckland Council (as the spatial planning agency) and other parties to determine the future location and timing of critical infrastructure, services, and investment within Auckland in accordance with the strategy; and
  - (d) provide a basis for aligning the implementation plans, regulatory plans, and funding programmes of the Auckland Council.
- (4) The spatial plan must—
  - (a) recognise and describe Auckland's role in New Zealand; and
  - (b) visually illustrate how Auckland may develop in the future, including how growth may be sequenced and how infrastructure may be provided; and
  - (c) provide an evidential base to support decision making for Auckland, including evidence of trends, opportunities, and constraints within Auckland; and
  - (d) identify the existing and future location and mix of—
    - (i) residential, business, rural production, and industrial activities within specific geographic areas within Auckland; and
    - (ii) critical infrastructure, services, and investment within Auckland (including, for example, services relating to cultural and social infrastructure, transport, open space, water supply, wastewater, and stormwater, and services managed by network utility operators); and
  - (e) identify nationally and regionally significant—
    - (i) recreational areas and open-space areas within Auckland; and
    - (ii) ecological areas within Auckland that should be protected from development; and
    - (iii) environmental constraints on development within Auckland (for example, flood-prone or unstable land); and
    - (iv) landscapes, areas of historic heritage value, and natural features within Auckland; and
  - (f) identify policies, priorities, land allocations, and programmes and investments to implement the strategic direction and specify how resources will be provided to implement the strategic direction.

#### **80 Development, adoption, and implementation of spatial plan**

- (1) The Auckland Council must involve central government, infrastructure providers (including network utility operators), the communities of Auckland, the private sector, the rural sector, and other parties (as appropriate) throughout the preparation and development of the spatial plan.
- (2) The Auckland Council must adopt the spatial plan in accordance with the special consultative procedure.

- (3) The Auckland Council may amend the spatial plan, at any time, in accordance with subsections (1) and (2).
- (4) The Auckland Council must—
  - (a) make the spatial plan (including any amendments) available for inspection during working hours, free of charge, at—
    - (i) the office of the Auckland Council; and
    - (ii) any other places in Auckland that the Auckland Council, at its discretion, decides are appropriate; and
  - (b) make copies of the plan available, free of charge or for purchase at a reasonable price, from—
    - (i) the office of the Auckland Council; and
    - (ii) any other places in Auckland that the Auckland Council, at its discretion, decides are appropriate; and
  - (c) make copies of the plan available, free of charge, on an Internet site maintained by or on behalf of the Auckland Council.
- (5) The Auckland Council must endeavour to secure and maintain the support and co-operation of central government, infrastructure providers (including network utility operators), the communities of Auckland, the private sector, the rural sector, and other parties (as appropriate) in the implementation of the spatial plan.

### **Local Government Act 2002:**

#### **83 Special consultative procedure**

- (1) Where this Act or any other enactment requires a local authority to use or adopt the special consultative procedure, that local authority must—
  - (a) prepare—
    - (i) a statement of proposal; and
    - (ii) a summary of the information contained in the statement of proposal (which summary must comply with section 89); and
  - (b) include the statement of proposal on the agenda for a meeting of the local authority; and
  - (c) make the statement of proposal available for public inspection at—
    - (i) the principal public office of the local authority; and
    - (ii) such other places as the local authority considers necessary in order to provide all ratepayers and residents of the district with reasonable access to that statement; and
  - (d) distribute in accordance with section 89(c) the summary of the information contained in the statement of proposal; and
  - (e) give public notice, and such other notice as the local authority considers appropriate, of the proposal and the consultation being undertaken; and
  - (f) include in the public notice a statement about how persons interested in the proposal—
    - (i) may obtain the summary of information about the proposal; and
    - (ii) may inspect the full proposal; and
  - (g) include in the public notice a statement of the period within which submissions on the proposal may be made to the local authority; and
  - (h) ensure that any person who makes a submission on the proposal within that period—
    - (i) is sent a written notice acknowledging receipt of that person's submission; and
    - (ii) is given a reasonable opportunity to be heard by the local authority (if that person so requests); and

- (i) ensure that the notice given to a person under paragraph (h)(i) contains information—
    - (i) advising that person of that person's opportunity to be heard; and
    - (ii) explaining how that person may exercise that person's opportunity to be heard; and
  - (j) ensure that, except as otherwise provided by Part 7 of the Local Government Official Information and Meetings Act 1987, every meeting at which submissions are heard or at which the local authority, community board, or committee deliberates on the proposal is open to the public; and
  - (k) subject to the Local Government Official Information and Meetings Act 1987, make all written submissions on the proposal available to the public.
- (2) The period specified in the statement included under subsection (1)(g) must be a period of not less than 1 month beginning with the date of the first publication of the public notice.
- (3) This section does not prevent a local authority from requesting or considering, before making a decision, comment or advice from an officer of the local authority or any other person in respect of the proposal or any submission or both.