



# Planning for Urban Health:

An Analysis of Metropolitan Strategic Planning in Australia

Bachelor of Planning Thesis

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In loving memory of  
Raymond Norman Wheeler  
(1922 - 2011)



# Abstract

How our cities are planned, designed and managed has profound implications for human health. Research indicates that built environments characterised by local destinations, mixed land uses and densities, connected street and transport networks, safe and inviting public spaces, and easy access to fresh and affordable food support health as part of everyday living. These settings are associated with increased physical activity, lower rates of obesity, enhanced social interaction and general community wellbeing. However, despite this knowledge, many of the fundamental characteristics of healthy built environments are absent from cities. At the strategic level, metropolitan planning strategies provide effective frameworks through which urban planners can address human health. This thesis examines the health provisions contained in the metropolitan plans for Australia's largest cities. Drawing on a detailed textual analysis of the plans, it explores the use of key health-related terminology and evaluates the extent to which the plans incorporate a comprehensive suite of intersectoral provisions for human health and wellbeing. The thesis also considers how these provisions will translate into actions and development requirements in lower-order plans, thereby supporting the creation of healthy communities at the local level. The findings indicate that a more holistic, collaborative and evidence-based policy framework is required to adequately position health at the forefront of metropolitan strategic planning in Australia.

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# Abbreviations

ABS	Australian Bureau of Statistics
ATSI	Aboriginal and Torres Strait Islander
BARHII	Bay Area Regional Health Inequalities Initiative
BASIX	Building Sustainability Index
CNCDs	Chronic Non-Communicable Diseases
COAG	Council of Australian Governments
CPTED	Crime Prevention Through Environmental Design
DIP	Department of Infrastructure and Planning, Queensland
DPCD	Department of Planning and Community Development, Victoria
HBEP	Healthy Built Environments Program
HIA	Health Impact Assessment
NHF	National Heart Foundation of Australia
NHS	National Health Service, United Kingdom
NSW	New South Wales
PHLP	Public Health Law and Policy
PIA	Planning Institute of Australia
SEQ	South East Queensland
TOD	Transit-Oriented Development
UNSW	University of New South Wales
WA	Western Australia
WSUD	Water Sensitive Urban Design

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# 1. Introduction

## INTRODUCTION

This chapter offers a concise overview of the thesis in terms of its theoretical and policy context, aims and scope, relevance to planning practice and research, and organisational structure. The chapter initially establishes the context for the research, highlighting the potential for powerful synergies between public health and urban planning in response to rising rates of chronic disease in urban populations. Within this context, metropolitan planning strategies are identified as a strategic tool for intervening to improve health outcomes; however, it is noted that very few studies have so far analysed or evaluated the health-related content of Australia's current suite of metropolitan plans. The thesis, therefore, through its central research question and research aims, directly addresses this significant gap in available research. This introductory chapter also defines the scope of the thesis, which concentrates on the analysis of metropolitan plans for Australia's most populous cities. It then outlines the inherent value of the research for planners and other key stakeholders, and ends with an overview of the thesis' organisational structure, including brief comment on the content of each chapter.

## PROBLEM SETTING

How our cities are planned, designed and managed has important consequences for human health. Research indicates that environments characterised by local destinations, mixed land uses and densities, connected street and transport networks, safe and inviting public spaces, and easy access to fresh and affordable food, support health as part of everyday living (Leck 2006; Mead et al. 2006; Berke et al., 2007; Burke et al. 2008; Barton 2009; Zhang and Lawson 2009; Ewing and Cervero 2010; Renalds et al. 2010). These settings are associated with increased physical activity, lower rates of obesity, enhanced social interaction and general community wellbeing (Kent et al. 2011). However, despite this knowledge, many of the fundamental characteristics of healthy

built environments are currently absent from Australia's major cities. This is contributing to the rise of chronic non-communicable diseases (CNCDs) – such as heart disease, type 2 diabetes, certain cancers and depression – as people fail to meet recommended levels of daily physical activity, adopt healthy eating habits, develop supportive social networks, and find adequate time for rest and relaxation.

CNCDs place a significant burden on society and represent an escalating public health problem. These diseases cause more than half of all deaths worldwide (Daar et al. 2007; World Health Organization [WHO] 2011) and, in Australia, account for nearly 80 per cent of the total burden of disease and injury, and more than two-thirds of all health expenditure (Commonwealth of Australia 2010). As a result, public health professionals and governments, both nationally and internationally, are turning their attention to mitigating the risk factors of CNCDs – namely, physical inactivity, poor diet, excess alcohol consumption, smoking and obesity – through targeted primary prevention measures. In doing so, they acknowledge the need for large-scale environmental changes, noting that 'we must look "up-stream" to how our food is produced, how we lay out our cities, and how we design our homes and buildings' (Jackson 2010, p. xvii).

Urban planning policy – especially strategic policy operating at the metropolitan and regional scale – deals directly with those "up-stream" factors that must be addressed in order to reduce CNCDs and improve the health and wellbeing of communities. In light of the fact that two out of every three Australians now live in a capital city, the Federal Government has recently identified 'health, liveability, and community wellbeing' as one of ten nationally significant policy issues to be addressed in capital city strategic plans (Council of Australian Governments [COAG] 2009). These plans, commonly known as metropolitan planning strategies, provide effective frameworks to address human health due to their long-term outlook, broad spatial ambit and ability to encompass a range of functional policies. They are also seen as effective tools for highlighting the synergies between health and planning, thereby raising the profile of public health within the planning profession, and fostering collaboration between key stakeholders on public health issues (Thompson and Gallico 2005; Mead et al. 2006; Wheeler and Thompson 2010).

Despite the fundamental role metropolitan planning strategies play in supporting human health, there has to date been only limited critique of their health-related provisions. Questions remain as to whether current strategies are adequately responding to the exigent health challenges associated with substantial population growth in urban

areas, an ageing population and the increasing prevalence of CNCDs. There has, arguably, never been a more critical time for metropolitan planning to re-engage with one of its historical partners – public health – in an attempt to create urban environments that are conducive to both human health and community wellbeing.

## CENTRAL RESEARCH QUESTION AND AIMS

This thesis seeks to encourage a realignment of planning and health through its analysis of health provisions in current metropolitan plans.<sup>1</sup> Its central research question, therefore, is this:

**To what extent do Australian metropolitan plans incorporate a comprehensive suite of intersectoral provisions for human health and wellbeing?**

In order to answer this central research question, the thesis has been organised around the following research aims:

1. To locate, quantify and assess key health-related terminology in Australian metropolitan plans;
2. On the basis of this initial assessment, to analyse the nature and extent of health provisions in Australian metropolitan plans; and
3. To consider how effectively selected health provisions will translate into actions and development requirements in lower-order plans.

## SCOPE

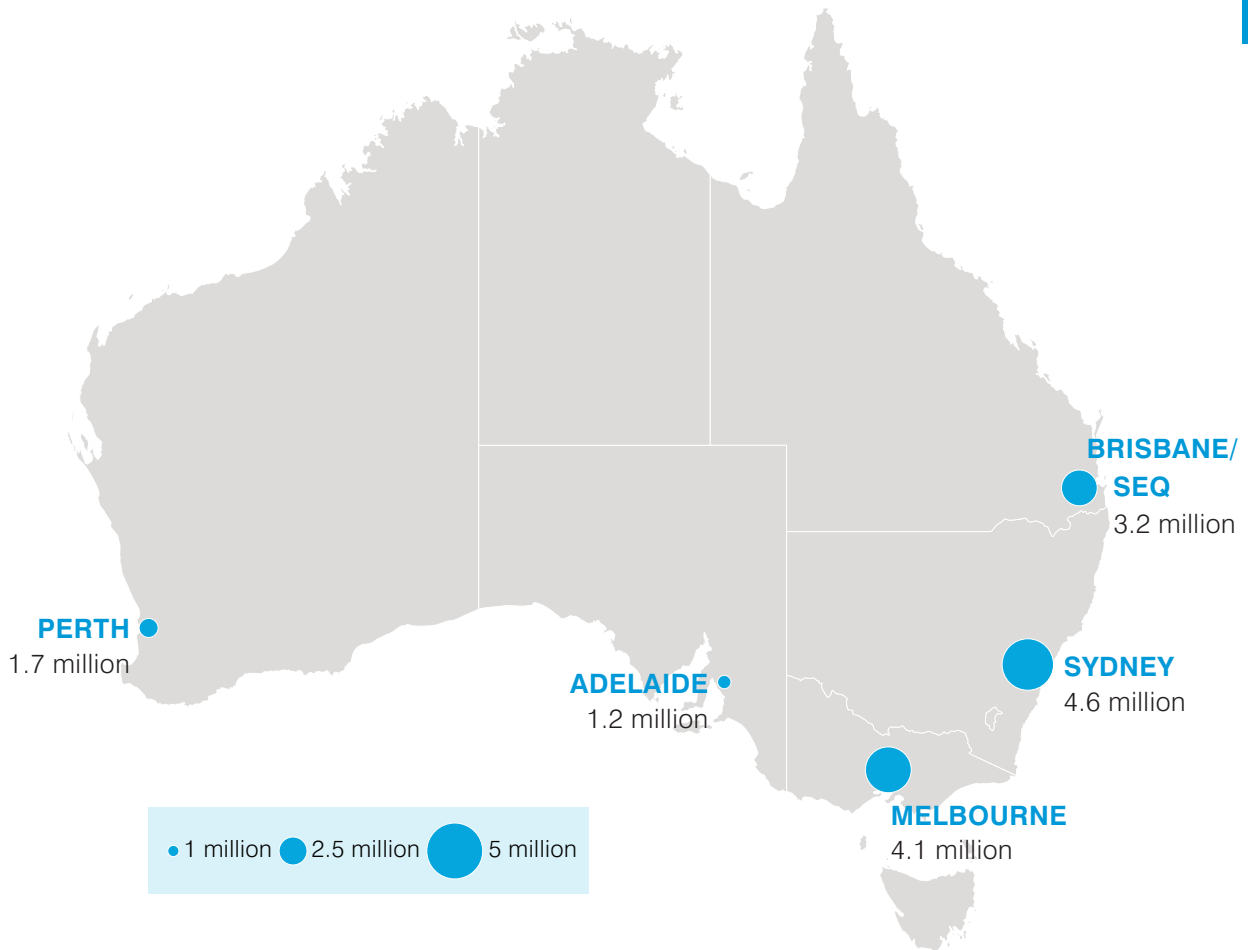
Due to various constraints – particularly in terms of the time available to conduct the research and report the results – the thesis was limited to an analysis of the metropolitan plans for Australia's five most populous cities: Sydney, Melbourne, Brisbane, Perth and Adelaide (see Figure 1.1). These cities account for almost two-thirds of the Australian population (approximately 14.8 million inhabitants) and are expected to accommodate the majority of the nation's future population growth (Australian Bureau of Statistics [ABS] 2011; Department of Infrastructure and Transport 2011). As such, the planning of

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<sup>1</sup> A “health provision” is defined as a policy statement, action or initiative that relates to the planning and/or development of built environments supportive of human health.

these cities is crucial to the nation's future and the long-term health and wellbeing of its citizens.

Figure 1.1: Locations and populations<sup>2</sup> of the selected Australian cities<sup>3</sup>



Source: ABS (2011) and Queensland Treasury (2011)

In relation to research aims two and three, the scope was narrowed further to centre detailed discussion on the metropolitan plans for Melbourne and Brisbane (SEQ). It seemed pertinent to focus on these plans, since they are the first two due for substantial review. Even more important, perhaps, is the fact that these two metropolitan regions are predicted to experience the greatest total population growth of Australia's major cities and urban areas during the next 20-30 years (ABS 2011; Queensland Treasury 2011). Their success or failure in integrating health provisions into planning policy will therefore affect their own populations directly, but may also influence the approach taken by other Australian cities as they too move to review their plans and realign their health and planning objectives.

<sup>2</sup> Estimated residential populations at 30 June 2011.

<sup>3</sup> As the city of Brisbane is governed by the *South East Queensland Regional Plan 2009-2031*, population figures have been included for the South East Queensland (SEQ) region.



It should be noted that whilst the in-depth analysis of the Melbourne and Brisbane (SEQ) Plans' health provisions addresses the issue of implementation, the thesis does not go so far as to evaluate the success of the plans' delivery. This would require a much larger study, and is well beyond the scope of the current thesis. The paucity of research evidence on metropolitan plans and health has, inevitably, limited the scope to a comprehensive analysis of the selected plans' health-related content.

## **SIGNIFICANCE OF THE RESEARCH**

This thesis makes a significant contribution to the limited body of research presently available on metropolitan planning and health. It is the first study to locate and quantify key health-related terminology in multiple Australian metropolitan plans, and assess the extent to which these plans build the strategic policy foundation to support human health and wellbeing in Australia's major urban centres and regions. The current research therefore improves our understanding of healthy urban planning policy by providing a comprehensive inventory and analysis of the health provisions contained in selected Australian metropolitan plans. More practically, it will also help guide state planners and policy-makers as they update their metropolitan plans, by highlighting existing policy gaps and identifying opportunities for strategic interventions on health. The results will also assist local-level planners as they align various plans and policies with the directions articulated in their city's metropolitan plan. More broadly, the research will be of interest to Federal politicians and bureaucrats assessing the extent to which Australia's current metropolitan plans respond to national health objectives; for example, against the health-related components of the COAG criteria for capital city strategic planning (see Appendix A).

Finally, and perhaps most importantly, the research undertaken here may, over time, make a meaningful contribution to the planning and design of the urban communities in which most Australian's now live, work and play. It will achieve this, in part, by raising awareness of the manifest potential for planning to support the development of healthy communities: where streets are dominated by the noise of children playing rather than the passing of cars; where local shops and services are within walking distance of homes and employment centres; where community gardens and public open space offer contact with nature and access to fresh, locally grown, organic food; where a sense of community is not an ideal, or something to be "created",

but a universal characteristic of all local neighbourhoods; and where our way of living enhances the very ecological processes that support and sustain our lives. While metropolitan strategic plans are no simple panacea for the nation's urban ills, they have a crucial role to play, by providing both the inspiration and the practical guidelines for planners as they come increasingly to place health at the forefront of contemporary practice. By providing the first comprehensive analysis of the health provisions contained in existing metropolitan plans, then, the thesis makes a timely contribution to this essential process of change, so critical to Australia's future.

## THESIS STRUCTURE

The thesis consists of eight chapters. **Chapter 1** provides an introduction to the study, defining its context, central research question, research aims and scope. The significance and relevance of the research to urban planners, researchers, political decision-makers and the Australian community more broadly is also discussed, as is the thesis' organisational structure and content. **Chapter 2** orients the thesis in relation to relevant scholarly literature on metropolitan strategic planning, and on the inclusion of health provisions in current planning policy. The second and most substantial part of the chapter is organised thematically around the 'CHESS principles for healthy environments' (Thompson and McCue 2008), which later serve as the analytical framework for the content analysis of the selected metropolitan plans.

**Chapter 3** describes the rationale behind the thesis' research design and data analysis, in response to the central research question, the research aims and the literature reviewed in Chapter 2. It first identifies the primary data sources for the research – the current metropolitan plans for the cities of Sydney, Melbourne, Brisbane, Perth and Adelaide – and then explains why summative content analysis was the most appropriate research method for the analysis of these plans. The chapter also outlines the design and application of research instruments: the specific techniques used to carry out the research.

**Chapter 4**, the first of the results chapters, presents an overview of the quantitative (manifest) content analysis results. It responds directly to the thesis' first research aim, identifying important trends in the location and use of key health-related terminology in the selected metropolitan plans. **Chapter 5** then draws on and extends the findings of Chapter 4, focusing on an in-depth, qualitative (latent) content

analysis of the metropolitan plan for Melbourne: *Melbourne 2030*. The chapter provides a comprehensive analysis of the Plan's manifest *and* latent content, with a particular emphasis on the strengths and weaknesses of its specific provisions for human health and wellbeing. It also considers the translation of these provisions into practical actions in lower-order plans. The analysis in this chapter therefore directly responds to the thesis' second and third research aims. **Chapter 6** also draws on and extends the findings of the quantitative (manifest) content analysis in Chapter 4, this time for the metropolitan plan for the greater Brisbane area: *The South East Queensland Regional Plan 2009-2031*. Like Chapter 5, then, Chapter 6 centres on an in-depth analysis of the strengths and weaknesses of the chosen plan's health provisions and the strategies for their implementation, in direct response to the thesis' second and third research aims.

Finally, **Chapter 7** discusses the results of both the quantitative (manifest) and qualitative (latent) content analyses, focusing on the key themes that emerged from the examination of the plans' health-related content. In particular, Chapter 7 assesses the extent to which the selected metropolitan plans incorporate a comprehensive suite of intersectoral provisions for human health and wellbeing, and how effectively these provisions might translate into practical actions. It then suggests measures to improve metropolitan strategic planning for health, and its implementation, into the future. **Chapter 8** concludes the thesis by responding to its key findings, and affirming the critical role of urban planning in safeguarding the long-term health and wellbeing of Australia's growing urban populations.

## CONCLUSION

This chapter has established the context for the thesis in the immediate need for further research into the health-related content of Australia's metropolitan plans. In response to escalating public health problems, and based on its analysis of health provisions in the plans for Australia's most populous cities, the thesis argues strongly that a fundamental realignment of planning and health is urgently required. The chapter has also defined the thesis' central research question and subsidiary research aims, and emphasised the scope and relevance of the research for urban planners and other key stakeholders. Finally, the chapter outlined the thesis' organisational structure, offering a logical pathway from its opening to the discussion and interpretation of its key findings.

## 2. Literature Review

### INTRODUCTION

As noted in the opening chapter, planning policy – especially strategic policy operating at the metropolitan and regional scale – provides an effective mechanism to address those elements of the built environment that impact upon human health and wellbeing. It can best achieve this by fostering the creation of environments that support health as part of everyday living, by providing access to essential facilities and services, to nutritious and affordable food, and to safe and attractive places where individuals are able to connect with friends and their local community, and experience valuable built and natural landscapes (Gebel et al. 2005; Morris 2006; Burke et al. 2008; Thompson and McCue 2008; Barton 2009; Renalds et al. 2010; Dannenberg et al. 2011; Kent et al. 2011; Wheeler et al. 2011).

This chapter reviews pertinent national and international literature on healthy urban planning, focusing on the inclusion of health provisions in planning policy. Its aim is to ground the central research question and subsidiary research aims in relevant literature, in order to provide the foundation for the analysis and discussion of the selected metropolitan plans in subsequent chapters. Using the ‘CHESS principles for healthy environments’ (Thompson and McCue 2008) as its structural framework, the review draws on national and international literature to answer the question: what health provisions should be considered for inclusion in planning policy? Here, the term “planning policy” is used broadly to encompass the range of statutory and non-statutory plans – from those concerned with entire city regions (for example, regional plans and metropolitan strategies) to local neighbourhoods (for example, local environmental plans and development control plans) – that direct planning actions and decision-making processes. As defined in Chapter 1, a “health provision” is a policy statement, action or initiative that relates to the planning and/or development of built environments supportive of human health.

## WHAT HEALTH PROVISIONS SHOULD BE CONSIDERED FOR INCLUSION IN PLANNING POLICY?

Despite mounting evidence on the critical role urban planning plays in supporting human health and wellbeing, there is currently very little literature on the inclusion of health provisions in planning policy. The most pertinent sources generally take the form of practice guides and checklists. These sources are, on the whole, well grounded in scholarly literature and reflect that literature's high degree of complexity. This complexity in turn necessitated the use of a coherent framework for the review. This was actualised through a thematic organisational structure based on the CHES principles for healthy environments. CHES embodies four over-arching principles – Connected Environments, Healthy Eating Environments, Safe Environments and Sustainable Environments – essential to guarantee healthy populations and places (Thompson and McCue 2008). While other schemas were considered as the basis for the review, the CHES principles were chosen because they are comprehensive and directly relevant to planning policy. The following sections introduce and discuss each of the CHES principles in turn, integrating and critiquing relevant literature along the way.

### Connected Environments

The need to create connected environments is an underlying theme in the literature. Thompson and McCue (2008) believe that this is the most important CHES principle because it relates to the physical and socio-cultural environments that need to be designed and connected for health, as well as to the interdisciplinary environments in which planners work. Effective planning policy is essential to all dimensions of connected environments – physical, socio-cultural and interdisciplinary – and each of these requires a range of specific provisions.

The literature focuses extensively on the physical dimension of 'connected environments'. Of particular importance is the creation of local destinations such as shops, schools, services, open space and recreational facilities (National Heart Foundation of Australia [NHF] 2004; Capon and Blakely 2007 and 2008; Thompson and McCue 2008; Department of Health 2009). The NHF (2004, p. 13) notes, for example, that 'local destinations support mixed-use, walkable neighbourhoods and reduce dependency on the car for short journeys'. The literature suggests that the role of local destinations can be enhanced by policy provisions that promote the following:

- mixed-use residential, commercial and office zoning in designated neighbourhood centres (Barton et al. 2003; NHF 2004; Bay Area Regional Health Inequalities Initiative [BARHII] and Public Health Law and Policy [PHLP] 2007; Wells et al. 2007; Capon and Blakely 2008);
- the integration of new and existing development (Department of Health 2009);
- a variety of land use intensities (Barton et al. 2003; NHF 2004);
- infill development (Department of Health 2009);
- the clustering of land uses at nodal points (for example, childcare and employment centres near transport, and schools and open space near community facilities) (Barton et al. 2003; National Health Service [NHS] 2009);
- the placement of primary schools between neighbourhoods (Wells et al. 2007);
- employment centres that are close to homes and well serviced by public transport (Barton and Tsourou 2000; Capon and Blakely 2007 and 2008); and
- transit-oriented development (BARHII and PHLP 2007; Design for Health 2007).

Furthermore, provisions are needed to support the *use* of local destinations. The objective here would be to create destinations that have a sense of place, are interesting and aesthetically pleasing, and evoke feelings of safety and security, in order to invite people into the public domain (Capon and Blakeley 2007 and 2008; Department of Health 2009; Planning Institute of Australia [PIA] 2009). Wells et al. (2007, p. 44) also argue that a quality public realm should include 'numerous and diverse spaces for groups and individual activity'. As such, the need to involve all community groups in the planning and design of such spaces is paramount (PIA 2009).

Active transport is another vital component of a connected environment and one that is directly dependent on the creation of local destinations. Wells et al. (2007, p. 20) emphasise that 'people walk and cycle more when streets and pedestrian facilities connect with key destinations'. Accordingly, the literature advances a range of provisions associated with the design of footpaths, cycleways and streets, in order to increase accessibility to local destinations and essential services such as public transport. Along with Wells et al. (2007), the Department of Health (2009) and PIA (2009) provide the most comprehensive list of provisions to encourage the development of health-oriented policy in this area; nevertheless, all of the sources examined for this review addressed the issue of active transport in some form or another. Table 2.1 (overleaf) presents the range of provisions identified in the literature, categorised under the following headings: 'Street and Path Connectivity', 'Street and Path Design', 'End-of-Trip Facilities', 'Regulations and Incentives for Use', and 'Funding and Implementation'.

**Table 2.1: Active transport provisions**

<b>POLICY PROVISIONS</b>
<p><b>Street and Path Connectivity</b></p> <ul style="list-style-type: none"> <li>• Direct and multiple routes to key destinations and activity generators;</li> <li>• Universally accessible pedestrian areas (including public plazas, squares and shopping precincts) that connect to surrounding pedestrian and cycle networks;</li> <li>• Extend connections from existing street and path networks;</li> <li>• Adopt a modified grid street layout with geometric linear streets where possible;</li> <li>• Limit use of cul-de-sacs and dead end streets;</li> <li>• Avoid gated communities; and</li> <li>• Ensure pedestrian priority at intersections.</li> </ul>
<p><b>Street and Path Design</b></p> <ul style="list-style-type: none"> <li>• Traffic calming measures, especially around schools, childcare facilities and primary medical facilities;</li> <li>• Designated, marked pedestrian and cycle lanes/networks;</li> <li>• Footpaths on both sides of the street;</li> <li>• Well maintained footpaths;</li> <li>• Sufficient footpath width to allow for shared use;</li> <li>• Buffer zones between roadways and footpaths;</li> <li>• Lighting;</li> <li>• Causal surveillance of pedestrian and cycle networks – for example, by aligning verandas and shop-front windows with streets rather than garages, high solid walls, security shutters and dense vegetation;</li> <li>• Orientation and siting of buildings to create a distinct street frontage;</li> <li>• Paths designed around local natural and built landmarks;</li> <li>• Rest points, street furniture, drinking fountains and shelter along network routes;</li> <li>• Public artwork and landscaping;</li> <li>• Streets bordered with trees;</li> <li>• Way-finding signage;</li> <li>• Paths parallel to roads;</li> <li>• Minimal steep gradients, especially from footpaths to the street;</li> <li>• Safe crossings, including operated lights, clearly marked zebra crossings and refuge islands; and</li> <li>• Paths constructed from durable, non-slip semiporous material where possible.</li> </ul>
<p><b>End-of-Trip Facilities</b></p> <ul style="list-style-type: none"> <li>• Secure cycle stands/parking/lockers, especially at public transport interchanges;</li> <li>• Office shower facilities; and</li> <li>• Toilets and change rooms.</li> </ul>
<p><b>Regulations and Incentives for Use</b></p> <ul style="list-style-type: none"> <li>• Facilities for walking, biking and wheelchairs in all new developments;</li> <li>• ‘Park and bike’ measures;</li> <li>• Shared bicycle systems;</li> <li>• Parking requirements and restrictions on vehicle access in areas with good active and public transport infrastructure; and</li> <li>• Priorities for the interconnection between walking, bicycling and mass transit in land use plans.</li> </ul>
<p><b>Funding and Implementation</b></p> <ul style="list-style-type: none"> <li>• Investment and zoning for pedestrian and cycle infrastructure;</li> <li>• Pedestrian and cycle networks planned from the earliest possible stage in new land development and linked to long term funding strategies.</li> </ul> <p>(Sources: BARHII and PHLP 2007; Blakely 2006; Capon and Blakely 2007 and 2008; Corburn 2009; Department of Health 2009; Design for Health 2007; NHF 2004; NHS 2009; PIA 2009; Robert Wood Johnston Foundation 2009; Thompson and McCue 2008; Wells et al. 2007)</p>

Public transport, like active transport, is closely associated with the creation of local destinations, and is a prominent theme in the literature. Public (or mass) transit is described by Capon and Blakely (2007 and 2008) as good for health, the environment *and* business. When appropriately designed, its presence facilitates the use of more active modes of transport, reduces carbon dioxide emissions and eliminates some of the social costs associated with traffic congestion. Planning policy can facilitate increased use of public transport through the incorporation of targeted health provisions. The NHF (2004), Thompson and McCue (2008) and the Department of Health (2009) all focus on the need to plan and design transport stops carefully. Where possible, these should be located within comfortable walking distance (approximately 500 metres for bus stops and 800 metres for train stations) of housing, employment and other local destinations (Department of Health 2009). Policy provisions are also required to enhance useability, aesthetics and safety. Specific provisions identified in relation to these issues include incentives to focus development around transport nodes (Design for Health 2007; Wells et al. 2007); the integration of transport interchanges with activity generators, pedestrian and cycling networks (PIA 2009); and adequate lighting, signage, seating, shelter and bicycle parking facilities at stops (Department of Health 2009).

Integrated socio-cultural networks are another key dimension of 'connected environments'. Policy provisions that enhance social-cultural connections focus heavily on the design and creation of public spaces, supportive land uses and the provision of services. Once again, the Department of Health (2009) offers a series of insightful provisions for consideration by policy-makers. These include provisions to foster cultural identity and a sense of place (for example, by encouraging public art and public places for community events and festivals), and to facilitate greater social interaction among communities. In addition to venues for community and cultural events, this might also include active mixed-use centres with diverse local employment opportunities, the prohibition of gated residential developments, and provisions that preserve places of natural, historic and cultural significance (for example, planning controls to protect green space and heritage items).

The NHF (2004), Department of Health (2009) and NHS (2009) also highlight the importance of transport, open space and community gardens as facilitators of socio-cultural connections, especially for low-income populations. Community gardens are described as a resource that promotes 'a sense of community spirit and local ownership' (NHF 2004, p. 15) and their presence, along with other local green spaces, is



associated with 'reduced self-reported health symptoms, better self-reported health, and perceived better general health' (Wells et al. 2007, p. 44). In addition, communications infrastructure plays an important role in promoting a healthy, socially and culturally connected environment. It is noteworthy that Blakely (2006) is one of the only authors to examine the role of communications technologies. He argues that global linkages and connections 'should not be after thoughts in community design but components in the conceptualisation and the execution of community plans' (Blakely 2006, p. 25).

The final dimension of a connected environment concerns the interdisciplinary environments in which planners work. Barton and Tsourou (2000, p. 23) recognise that:

in most cases, urban planning agencies are not the only body or even necessarily the main body responsible for the factors related to the health objectives of urban planning, and collaboration is therefore necessary.

Overwhelmingly, the literature advocates collaboration with local communities in planning activities. The need for policy provisions on community participation and consultation is paramount (Barton et al. 2003; Barton and Tsourou 2000; NHF 2004; NHS 2007; Wells et al. 2007; Thompson and McCue 2008; Corburn 2009; Department of Health 2009; NHS 2009; PIA 2009; Robert Wood Johnston Foundation 2009). In *Healthy Places and Spaces*, the national planning guide for designing places for healthy living, the PIA presents a compelling case for the incorporation of community engagement provisions in policy. They emphasise that engagement is a key factor in the successful implementation of health-related policy objectives and that user groups, including children, should be involved in planning and decision-making processes. The need to engage with children is also mentioned by the NHF (2004) and Wells et al. (2007), but is a notable omission in the other sources examined.

Provisions targeting connections with sectors outside the local community are also a necessary component of planning policy. Thompson and McCue (2008) focus, in particular, on the important relationship between the planning and health professions in the formulation of health-oriented policy. This is reinforced in Blakely (2006) and Robert Wood Johnston Foundation (2009). The NHS (2007) and the Robert Wood Johnston Foundation (2009) also recognise a role for Health Impact Assessments (HIAs), which appear to be an emerging consideration for policy makers. Interestingly, BARHII and PHLP (2007) are the only sources that mention the potential for agreements with

developers to provide community facilities, such as parks, that will in turn have flow-on benefits for health. More widely canvassed in the literature is the potential for provisions around joint-use agreements, especially in relation to the use of school facilities for recreational purposes outside of class hours (BARHII and PHLP 2007; Wells et al. 2007; Robert Wood Johnston Foundation 2009).

## Healthy Eating Environments

The second CHES principle is 'healthy eating environments'. Thompson and McCue (2008, p. 9) emphasise that 'making fresh, healthy food easy to find in every local community, at reasonable prices, and an enjoyable part of daily life, is the basis of creating a healthy eating environment'. In most of the sources examined, there are numerous health provisions that address the key elements of healthy eating environments. One such provision is the preservation of land for food production. This can involve the retention of productive agricultural land within close proximity to consumers (Thompson and McCue 2008; Department of Health 2009; Design for Health 2009); the preservation of city farms (NHS 2009), local greenspace networks (Barton et al. 2003) and areas for small-scale community projects (such as gardens and farmers' markets) (Barton and Tsourou 2000; NHS 2009); and the use of nature strips for edible landscaping (Department of Health 2009). Such provisions would enable local access to food that is fresh and affordable, while also reducing greenhouse gas emissions associated with the transportation of food. Provisions targeting land use zoning can further encourage community gardens, and these would, in turn, enable access to fresh food while encouraging community interaction, physical activity and interest in healthy food (Blakely 2006; Thompson and McCue 2008; Capon and Blakely 2007 and 2008).

Provisions in the form of zoning regulations are another mechanism for promoting healthy eating environments. Barton and Tsourou (2000), BARHII and PHLP (2007), Corburn (2009), the Department of Health (2009) and the NHS (2009) target some of the negative effects of contemporary urban environments by suggesting the introduction of regulations that discourage centralisation of shopping facilities and the concentration of fast food outlets, particularly near schools. A more opportunistic approach is also evident in regulations designed to encourage a diversity of shopping facilities in local centres (NHS 2009), the fast-track permitting of grocery stores in under-served areas (BARHII and PHLP 2009; Corburn 2009), growers' markets (especially in low-income

neighbourhoods) (Department of Health 2009), and the relaxing of zoning regulations that make it difficult for supermarkets to move into densely populated areas (Robert Wood Johnston Foundation 2009).

Finally, provisions associated with broader considerations, such as the overall structure and form of urban environments and the availability of transport services, are required to support healthy eating environments. The Department of Health's *Healthy Urban Development Checklist* (2009) takes a holistic approach to the issue of healthy eating environments and includes provisions associated with both urban form and transport services. They advocate an urban form that situates people within comfortable walking distance from healthy food outlets, as well as transport networks that facilitate more efficient access to such outlets. This involves careful planning of transport routes and schedules, and the provision of space to store parcels en route (Department of Health 2009). Unlike the *Healthy Urban Development Checklist* (Department of Health 2009), provisions designed to encourage a healthy eating environment are a notable absence from some other guides, including *Healthy Places and Spaces* (PIA 2009).

## Safe Environments

A safe environment is described as the foundation of a healthy city (Thompson and McCue 2008). Overall, the literature examined for this review addresses this issue in a relatively comprehensive manner. Nearly all sources make some mention of crime prevention, often in the form of Crime Prevention Through Environmental Design (CPTED) principles. In relation to this facet of a safe environment, specific provisions for consideration in planning policy include:

- mixed land uses to encourage greater activity in the public realm (Department of Health 2009; NHS 2009);
- designing for increased natural surveillance and clear sightlines (NHS 2007; Thompson and McCue 2008; Department of Health 2009), through building design (such as windows overlooking footpaths and the presence of front porches) and appropriate landscaping (Department of Health 2009; Robert Wood Johnston Foundation 2009);
- adequate lighting (Corburn 2009; NHS 2009; Robert Wood Johnston Foundation 2009);
- well defined and signposted routes (NHS 2007; Department of Health 2009);

- community facilities for youth and job training (Corburn 2009);
- the rehabilitation of vacant properties (Robert Wood Johnston Foundation 2009);
- restrictions on approvals to new retailers selling alcohol for off-site consumption near high-crime areas, schools and parks (BARHII and PHLP 2007);
- clearly defined public and private spaces (NHS 2007);
- the prohibition of gated communities (NHS 2007); and
- consultation with the local community and law enforcement agencies (NHS 2009).

Care should be taken, however, to avoid over-regulation of the built environment, particularly in relation to children having fun and exploring their surroundings (Capon and Blakeley 2007 and 2008).

Street and road safety is another common theme in the literature relevant to human health, since it has a direct impact on the safe movement of pedestrians, cyclists and users of other modes of active transport. In addition to the provisions relating to crime prevention, planners should consider adopting the following measures:

- traffic calming and management in high pedestrian and biking areas (for example, shared zones, alternate paving or road textures, speed humps, landscaping and signage) (Barton and Tsourou 2000; NHS 2007; Wells et al. 2007; Department of Health 2009; NHS 2009; PIA 2009);
- pedestrian and cycleways that run parallel to roads, have appropriate buffer zones from passing motor vehicles, are free from obstacles, include rest points and address requirements for those with limited mobility (NHF 2004; Wells et al. 2007; Department of Health 2009); and
- the placement of public transport stops in active locations, clearly visible from surrounding development (NHF 2004).

These provisions can be further augmented by others aimed at broader dimensions of safety. Compact, mixed-use development and the clustering of essential services, both of which are designed to increase activity in public spaces, are two examples cited in the literature (BARHII and PHLP 2007; NHS 2007). Barton and Tsourou (2000) also mention access to adequate housing as a component of a safe environment, especially for the very young and the elderly, although this point was not mentioned in any of the other sources examined.

Another notable absence in the literature associated with safe environments is safety from climatic events. An exception is Blakely (2006). Although he fails to address many of the other key components of a safe environment, he does present a very

compelling case for the threat climate change poses to human safety and, consequently, to health. He argues cogently for the need to construct buildings that can withstand severe weather events, including heatwaves, droughts and storms. The NHS (2007) is, otherwise, the only source in the literature examined that provides additional guidance for policy-makers on this issue. It recommends provisions such as sustainable urban drainage systems, restrictions on development in flood prone areas and housing design that maximises opportunities for internal insulation, solar gain and natural ventilation.

## **Sustainable Environments**

A sustainable environment entails both environmental and social sustainability. Understanding the importance of environmental factors on health is an emerging imperative for planners, and requires on-going commitment to research and monitor the impact of policies on health. In a recent Interface in the journal *Planning Theory and Practice*, Capon and Thompson (2010) explored the multifarious health benefits linked to environmental sustainability. They note, however, that while climate change and sustainability are central concerns in contemporary planning practice, human health is not nearly so prominent. They therefore outline the synergies between environmental and human health, and argue persuasively for planning policies and actions linking the two. In line with their findings, the literature examined for this review revealed a general lack of focus on environmental sustainability, although a number of sources do address the issue.

One common theme associated with environmental sustainability in the literature involves health provisions aimed at promoting more sustainable movement patterns. Many of these provisions are similar to those discussed under the 'Connected Environments' CHESS principle, and include compact, mixed-use and transit-oriented development designed to promote active and public transport modes over motor vehicle usage (Barton and Tsourou 2000; BARHII and PHLP 2007; Capon and Blakely 2007 and 2008; Department of Health 2009). Capon and Blakely (2007 and 2008) argue that these provisions improve air quality by reducing motor vehicle emissions, the main source of outdoor air pollutants in Australia. Other provisions that advance more sustainable movement patterns include the reuse and remediation of brownfield areas (BARHII and PHLP 2007 and Design for Health 2007), which are often well-served by existing transport infrastructure in comparison to greenfield areas on the urban fringe, and the

allocation of land, funding and resources for the construction of additional public and active transport options. The design of allotments and buildings represents yet another opportunity to improve environmental sustainability (BARHII and PHLP 2007; NHS 2009).

All of these features of the built environment can be successfully addressed through specific health provisions in planning policy. Along with their focus on promoting more sustainable movement patterns, Capon and Blakely (2008) identified a series of important provisions associated with building design to encourage sustainability. These include solar access and ventilation to minimise the need for artificial lighting and air conditioning, sustainable materials and a capacity for the on-site reuse of water. They also appeal for all communities to have 'a system equivalent to BASIX [the NSW Government's Building Sustainability Index] to guide new retro-fit developments at both the building and neighbourhood levels' (Capon and Blakely 2008, p. 52). Encouragingly, Barton and Tsourou (2000), the NHS (2007), and the Department of Health (2009) also call for the integration of energy-efficiency ratings systems and environmental sustainability criteria in policy. These initiatives should, however, also be supported by the provision of incentives encouraging developers to construct "green" buildings (BARHII and PHLP 2007), and embrace designs aimed at minimising hazards and site contaminants (NHS 2009; Department of Health 2009), protecting ground and surface water (Design for Health 2007), and promoting the use of native vegetation for landscaping (Wells et al. 2007).

Finally, provisions addressing the protection and design of green space have the potential to contribute multiple environmental-health benefits. Regrettably, this issue receives scant attention in most of the literature examined, although Barton et al. (2003) emphatically support provisions to create interlinked greenspace networks in urban areas. Such networks are described as 'an essential habitat for the flora and fauna of urban spaces' (Barton et al. 2003, p. 204) and thus an 'essential backcloth to urban life, helping to maintain the neighbourhood ecosystem in equilibrium' (Barton et al. 2003, p. 203). Fundamental policy provisions on this issue would include parameters for the various functions to be fulfilled by greenspace systems, the acquisition of land in areas of open-space deficit, the establishment of corridors and pathways between existing green spaces and requirements for urban tree plantings (Barton et al. 2003; NHS 2009).

Social sustainability is the second key component of a sustainable environment. Once again, there is a close connection with the 'connected environments' CHES principle and, in particular, with provisions related to connected socio-cultural

environments. The literature agrees in identifying housing as an integral part of a socially sustainable environment. Policy provisions are therefore necessary to establish requirements around housing diversity, affordability and adaptability in local markets. Such provisions should, ideally, promote a mix of housing types, tenures and densities as well as a mixture of land uses (Barton and Tsourou 2000; Blakely 2006; BARHII and PHLP 2007; Design for Health 2007; NHS 2007; Wells et al. 2007; Capon and Blakely 2007 and 2008; Department of Health 2009; NHS 2009; PIA 2009). Not only does this encourage a diversified population, but it also enables people to “age in place” by catering for households with varying levels of income, and at different life-cycle stages. Adaptable (and life-cycle) housing is another associated provision that should be included in policy, and one that could contribute to the overall social sustainability of a locality (Barton and Tsourou 2000; BARHII and PHLP 2007; Wells et al. 2007; Department of Health 2009; PIA 2009). More broadly, Blakely (2006) supports the development of flexible building spaces. He argues for the abandonment of single purpose buildings and a move towards a more economically and socially sustainable approach through the injection of multi-use as the central theme for future building systems. Furthermore, provisions that prioritise the transport needs of vulnerable populations such as seniors, children, people with a disability and low-income residents, are vital components of health-oriented planning policy (Design for Health 2007; PIA 2009).

## CONCLUSION

Utilising the CHESS principles for healthy environments, this chapter has examined the range of health provisions that should be considered for inclusion in planning policy. Despite the lack of scholarly literature in this area, a modest number of national and international sources were identified for analysis and critique. Overall, the literature presents a compelling case for the inclusion of health provisions in planning policy, with a particular emphasis on the need for health provisions to foster safe and connected environments. On the other hand, many sources failed to fully address the relationship between sustainability, healthy eating environments and human health. This was evident in the absence of specific policy guidelines on these important components of a healthy built environment.

Perhaps the greatest challenge for planners is the need to develop connected ways of working. Successful collaboration requires the adoption of consciously

interdisciplinary approaches to both policy development and to the delivery of the full spectrum of health provisions contained in plans and policies. Accordingly, further research is needed around issues of implementation and the benefits of genuine intersectoral collaboration.



# 3. Research Design

## INTRODUCTION

The previous two chapters have presented critical introductory and background material for the research. In particular, Chapter 2 grounded the central research question in relevant literature on healthy urban planning and, more specifically, on the inclusion of health provisions in planning policy. Chapter 3 now outlines the rationale behind the thesis' research design and data analysis, in response to both its overarching aims, and the literature reviewed in the last chapter. It first revisits the thesis' central research question and then identifies the primary data sources, before justifying the selection of a mixed-methods approach as the most suitable research strategy. The chapter also describes the design of specific research instruments – the techniques used to carry out the research – and explains why these were employed. In doing so, the chapter establishes further context for the analysis of the selected metropolitan plans, and discussion of the results, in the following chapters.

## CENTRAL RESEARCH QUESTION AND PRIMARY DATA SOURCES

The goal of this thesis is to answer the central research question articulated in Chapter 1 – namely, to what extent do Australian metropolitan plans incorporate a comprehensive suite of intersectoral provisions for human health and wellbeing? This question reflects the paucity of research evidence on the health content in current Australian metropolitan plans. It also responds to the pressing need to assess whether these plans are laying the strategic policy foundation to support the future health and wellbeing of urban populations in Australia's major cities. In light of the time and resources available, the scope of the study was limited to a quantitative analysis of the metropolitan plans for Australia's five most populous cities, supplemented by further in-depth, qualitative analysis of the Melbourne and Brisbane (SEQ) Plans. Given these parameters, then, the plans identified in Table 3.1 and Figure 3.1 serve as the data sources for the research. At this point, it should also be noted that the research did not require ethics approval.

Table 3.1: Selected Australian metropolitan plans – full and abbreviated titles

CITY	FULL TITLE OF METROPOLITAN PLAN	ABBREVIATED TITLE
Melbourne	<i>Melbourne 2030: Planning for Sustainable Growth</i>	Melbourne Plan
	<i>Melbourne 2030: A Planning Update – Melbourne @ 5 Million</i>	Melbourne Update
Brisbane	<i>South East Queensland Regional Plan 2009-2031</i>	SEQ Plan
Adelaide	<i>The 30-Year Plan for Greater Adelaide: A Volume of the South Australian Planning Strategy</i>	Adelaide Plan
Perth	<i>Directions 2031 and Beyond: Metropolitan Planning Beyond the Horizon</i>	Perth Plan
Sydney	<i>Metropolitan Plan for Sydney 2036</i>	Sydney Plan

Figure 3.1: Selected Australian metropolitan plans – publication timeline



## SELECTION OF RESEARCH METHOD

Due to the nature of the thesis' central research question and research aims, a mixed-methods approach – involving both quantitative and qualitative components – seemed most suitable for the analysis of the selected metropolitan plans. A number of scholars advocate mixed-methods approaches because they enable a deeper understanding of the problem being investigated. In particular, the use of methodological triangulation in a mixed-methods approach enhances the validity of the research findings and conclusions (Patton 2002; Hesse-Biber and Leavy 2006; Babbie 2007; Gaber and Gaber 2007; Neuman 2011). Methodological triangulation posits that multiple research methods, when appropriately selected, designed and operationalised, 'produce a more accurate,

comprehensive and objective representation of the object of study' (Silverman 2006, p. 291). In adopting a mixed-methods approach, researchers may employ "within-method" or "between-method" triangulation (Gaber and Gaber 2007; Oleinik 2011). The first of these – within-method triangulation – is characterised by a single research method consisting of different analytical techniques or strategies, and is the form of triangulation used in this study. After considering a range of potential research methods, summative content analysis was identified as the best means of answering the central research question and achieving the methodological triangulation necessary to guarantee the reliability of the findings. The key characteristics of this research technique, and the reasons for its selection, are discussed in the following section.

### **Summative Content Analysis**

Content analysis is defined as 'a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the context of their use' (Krippendorff 2004, p. 18). Although content analysis has historically been viewed as a quantitative research method, confined to counts of pre-determined textual elements (Weber 1990; Franzosi 2004; Krippendorff 2004; Hsieh and Shannon 2005; Berg 2009), its contemporary application is far more sophisticated and heterogeneous, involving both 'numeric and interpretive means of analysing data' (Schwandt 1997, p. 21). The technique, in other words, has evolved to include analysis of both the quantitative (manifest) and qualitative (latent) content of various forms of communication, enabling researchers to gain a more complete understanding of the data being studied, and their implications. For this reason, many researchers have identified content analysis as a suitable technique for analysing policy documents, especially when employed as part of a mixed-methods approach involving quantitative and qualitative techniques (Willis and Craft 2003; Willis 2006; Gaber and Gaber 2007; Thompson and Gallico 2005; Wheeler and Thompson 2010).

Summative content analysis, then, bridges the divide between quantitative and qualitative research paradigms. As Zhang and Wildemuth (2009, p. 308) note, summative content analysis 'starts with the counting of words or manifest content, then extends to include latent meanings and themes'. This form of content analysis was identified as the most suitable method for the current study because it directly corresponds to the thesis' research aims, which require a comprehensive, in-depth understanding of the selected

metropolitan plans' explicit *and* implicit health content. Summative content analysis was also chosen because it has previously been used in the analysis of Australian metropolitan plans (see Thompson and Gallico 2005 and Wheeler and Thompson 2010), and this would facilitate comparison. The method used in this study closely mirrors that employed by Wheeler and Thompson (2010), although it involves a more refined and sophisticated set of criteria for the analysis of the plans' health-related content. The next section describes the key steps involved in the summative content analysis.

## DEVELOPMENT AND APPLICATION OF RESEARCH METHOD

### Step 1: Preliminary assessment of the data sources

Initially, the five selected metropolitan plans were studied in detail to obtain an understanding of their general structure and content. This in itself was a time-consuming task, given the collective size of the plans (over 1,000 pages in total); however, it provided an opportunity for preliminary insights that were critical in guiding later interpretation of the data. In particular, these insights were used to augment the in-depth analysis of the Melbourne and SEQ Plans, as well as the discussion of metropolitan strategic planning in Australia in Chapter 7.

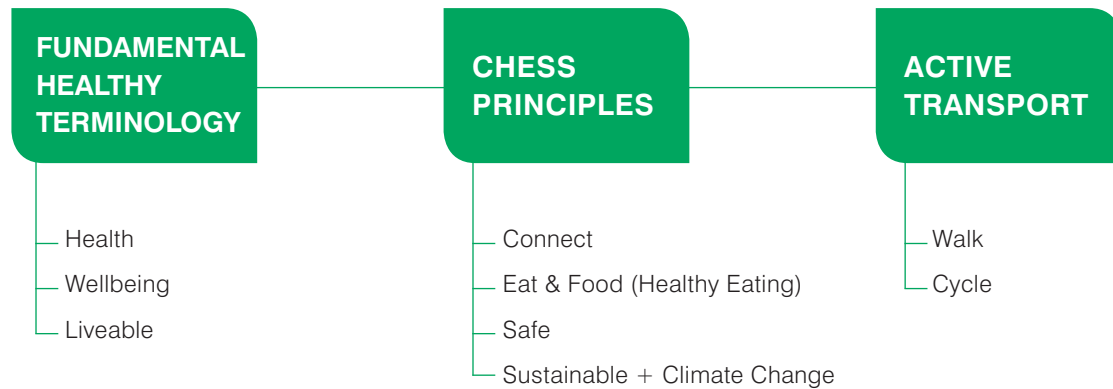
### Step 2: Developing the coding scheme

The next step involved developing the coding scheme for the analysis of the selected metropolitan plans' health-related content. In a summative content analysis, this requires the identification of key search terms prior to data analysis: these may derive from a researcher's own interests, previous research and/or relevant literature (Hsieh and Shannon 2005; O'Brien et al. 2009; Squires 2009). The coding scheme adopted in this study further refines the scheme used by Wheeler and Thompson (2010). It comprises 10 search terms that are taken to be intrinsic to healthy urban planning and health-oriented planning policy. The terms selected include fundamental health terminology (*health, wellbeing* and *liveable*), the four CHES principles (*connected, eat/food, safe* and *sustainable*), and terms for primary modes of active transport (*walk* and *cycle*) (see Figure 3.2).

Following an extensive review of the literature on healthy urban planning, and informal discussion with state strategic planners, the terms *liveable* and *climate change* were added to the original coding scheme developed by Wheeler and Thompson (2010). These additions were justified because of the increased use of these terms in healthy

planning discourse as well as their inclusion in the COAG criteria for future strategic planning of capital cities, where ‘*climate change* mitigation and adaptation’ and ‘health, *liveability* and community wellbeing’ (COAG 2009, p. 20; emphasis added) are identified as nationally significant policy issues (see Appendix A).

Figure 3.2: Content analysis search terms



Having established the coding scheme it was necessary to determine the coding process – the specific manner in which the textual data is coded – to ensure consistency. The detailed process adopted in the current study is outlined in the following step.

**Step 3: Coding the plans’ manifest health content and performing statistical analysis**

The penultimate step involved applying the coding scheme and analysing the manifest content of the five selected metropolitan plans. This commenced with computer-assisted word-searches for the terms identified in Step 2, including variants of these terms (see Table 3.2). As part of this process, each occurrence was systematically recorded in a series of organising tables, which were used to identify the exact location (chapter, section, sub-section and page) of the search term (see Appendix B). The full paragraph in which the occurrence was found was also included in the organising tables to provide additional context, and to facilitate the latent content analysis of the plans. In addition, these tables were used to identify occurrences of the terms located in the plans’ “key sections” (such as their vision statements, strategic directions, and specific policies and actions).<sup>1</sup> This addendum to the method utilised by Wheeler and Thompson (2010) was a result of informal discussions with state strategic planners, who expressed interest in knowing whether or not health-related terminology had been incorporated into the principal sections of the metropolitan plans under analysis.

<sup>1</sup> The “key sections” of each metropolitan plan are detailed in Appendix C.

**Table 3.2: Variants included in the content analysis word-searches**

SEARCH TERM	VARIANT(S)
Health	healthy, healthier and healthiest
Wellbeing	well-being and well being
Liveable	liveability
Connect	connects, connected, connecting, connectivity, connector(s), connection(s), interconnect(s), interconnected, interconnecting, interconnectivity, interconnector, interconnection(s), reconnect(s), reconnected, reconnecting and reconnection(s)
Eat/Food	eats, eating, eater(s), eatery, foods
Safe	safety, safer, safely, safest, safeguard, safeguarding, safeguarded and unsafe
Sustainable	sustainable, sustainably, sustainability and unsustainable
Climate Change	climate changes
Walk	walks, walking, walker(s), walkway(s), walkable and walkability
Cycle	cycles, cycling, cyclist(s), cycleway(s), bicycle, bicycling

In coding for the 10 search terms (and their variants) all occurrences found in titles, headings and sub-headings, body text, dot points, tables, figures and illustrations were included in the organising tables. Occurrences in headers and footers, reference lists, and illustrative elements that were not referred to in the main text of the plan were excluded.

On completion of the word searches, the organising tables were then used to facilitate word-frequency counts of the terms for all five metropolitan plans. In addition, the tables enabled more targeted counts and statistical analysis to be conducted – for example, of the number and percentage of occurrences found in the “key sections” of each plan. The tables presented in the results chapters (Chapters 4-6) and the Appendices (Appendix D, E and F) provide a summary of the word-frequency counts for the selected plans and were used to supplement the latent content analysis. In this sense, the word-frequency counts served as an entre into a deeper, qualitative analysis focused on the implications of the plans’ health-related content.

**Step 4: Performing the latent (qualitative) content analysis**

The final step involved a close reading and analysis of the textual data contained in the organising tables to understand the contextual use of the plans’ health-related terminology. First, key themes in the data were identified, with a particular emphasis on the plans’ policies on human health and wellbeing. Following this, the various strengths

and weaknesses of the plans' health provisions were assessed. This facilitated a comparison of the plans and provided critical insights into the depth of their commitment to the health-related implications of planning policy, whether explicit or implicit. The latent analysis generated such a wealth of data that the detailed discussion of final results was confined to the Melbourne and SEQ Plans (see Chapters 5 and 6).

## CONCLUSION

This chapter has outlined the rationale behind the thesis' research design and data analysis in response to its central research question and research aims, as well as the literature reviewed in Chapter 2. It began by introducing the primary data sources for the research – the current metropolitan plans for Sydney, Melbourne, Brisbane, Perth and Adelaide – and then justified the choice of a mixed-methods approach, summative content analysis, as the most appropriate method for the analysis. The chapter also described specific steps involved in a summative content analysis and how they were employed in the current study. In doing so, the chapter has provided a framework for the analysis of the selected metropolitan plans and subsequent discussion of the results.

# 4. Content Analysis of Australian Metropolitan Plans: Overview

## INTRODUCTION

In the last chapter, summative content analysis was identified as the most appropriate method for answering the central research question outlined in Chapter 1. This chapter, the first of the results chapters, provides an overview of the quantitative (manifest) content analysis results. The following tables and figures offer a straightforward and coherent means to compare and contrast the results of the quantitative analysis for all five metropolitan plans. They also serve as an introduction to the qualitative (latent) content analysis of the Melbourne and SEQ Plans which follows in Chapters 5 and 6. Whilst the inherent limitations of the study prevented an in-depth analysis of the Adelaide, Perth and Sydney Plans, the inclusion of quantitative data on these plans in this chapter has enabled important trends to be identified across all five plans, ensuring the national scope of the study. It should also be noted that there are more detailed tables supplementing the results in this chapter. These are located in Chapters 5 and 6 for the Melbourne and SEQ Plans, and in the Appendices for the Adelaide, Perth and Sydney Plans.

## OVERVIEW OF THE QUANTITATIVE CONTENT ANALYSIS RESULTS

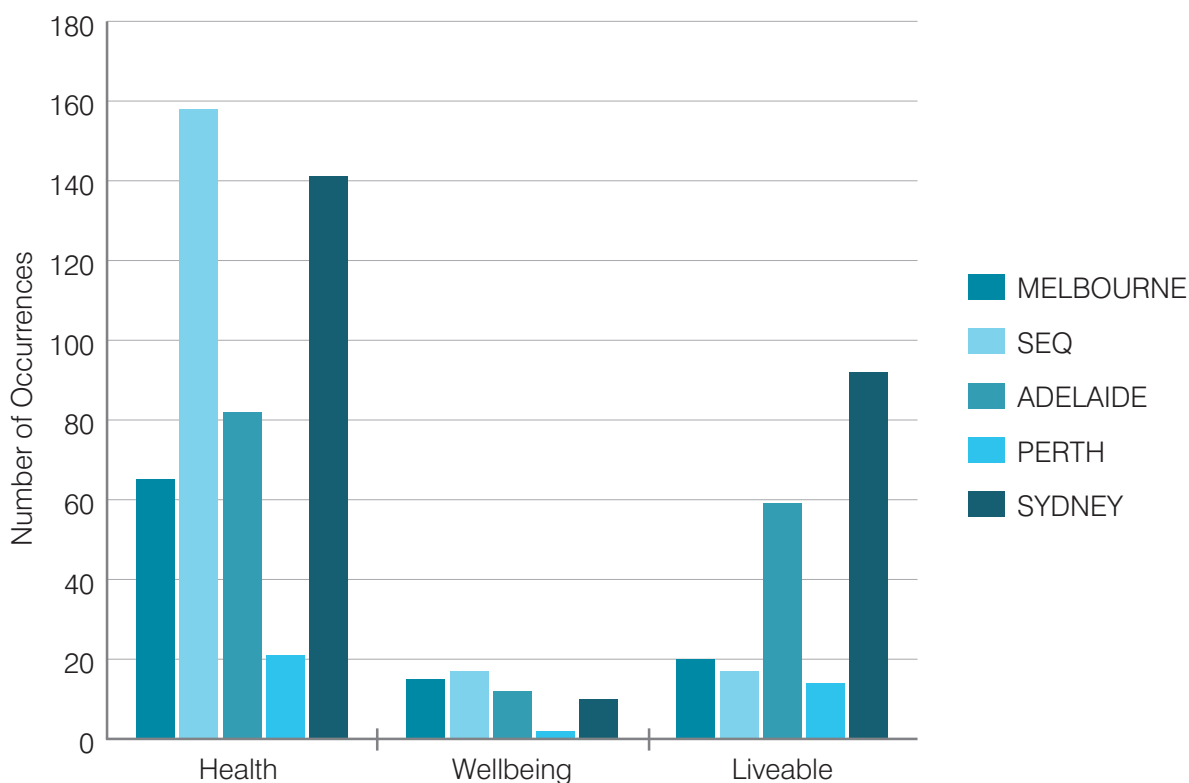
Table 4.1: Word-search total counts – all plans

	MELBOURNE (206 pages)	BRISBANE/SEQ (176 pages)	ADELAIDE (244 pages)	PERTH (112 pages)	SYDNEY (267 pages)
Health	65	158	82	21	142
Wellbeing	15	17	12	2	10
Liveable	20	17	59	14	92
Connect	46	88	61	56	142
Eat/Food	1	12	10	3	21
Safe	101	42	29	14	32
Sustainable	144	123	78	33	127
Climate Change	15	85	87	12	96
Walk	59	40	58	28	107
Cycle	69	42	40	29	52
<b>TOTAL</b>	<b>536</b>	<b>624</b>	<b>516</b>	<b>212</b>	<b>821</b>



Table 4.1 displays the total counts for the 10 word-search terms and their variants for all five metropolitan plans. The largest of the plans, Sydney, has the highest overall count (n=821), followed by SEQ (n=624), Melbourne (n=536), Adelaide (n=516) and Perth (n=212). Further comment is provided on the counts for individual search terms in relation to Figures 4.1-4.3 below.

**Figure 4.1: Word-search total counts (fundamental health terminology) – all plans**



With the exception of the Perth Plan, fundamental health terminology (the terms *health*, *wellbeing* and *liveable*) is a notable feature of all the metropolitan plans (see Figure 4.1). The term *health* is especially prominent in the SEQ (n=158) and Sydney (n=142) Plans; the total count for the SEQ Plan is the highest recorded for any search term. The Adelaide (n=82) and Melbourne (n=65) Plans also contain a high number of occurrences of the term, in contrast to its infrequent use in the Perth Plan: just 21 occurrences. The term *wellbeing* features fairly consistently across the five plans, albeit in low numbers. Once again, an exception to this is the extremely low numbers in the Perth Plan (n=2). A less obvious pattern is evident with the term *liveable*, with low counts recorded for the Melbourne, SEQ and Perth Plans, in comparison to the Adelaide and Sydney Plans, where the counts are higher. This may be due to the increased use of this

term in political, urban planning and public discourse, especially in the last two years.<sup>1</sup> Such a hypothesis would explain why there is a trend towards a higher number of occurrences in more recent metropolitan plans. Thus, the counts for the Sydney (n=92) and Adelaide (n=59) Plans – both released in 2010 – are markedly higher than those recorded for the pre-2010 Plans: Melbourne (n=20) and SEQ (n=17).

**Figure 4.2: Word-search total counts (CHES principles) – all plans**

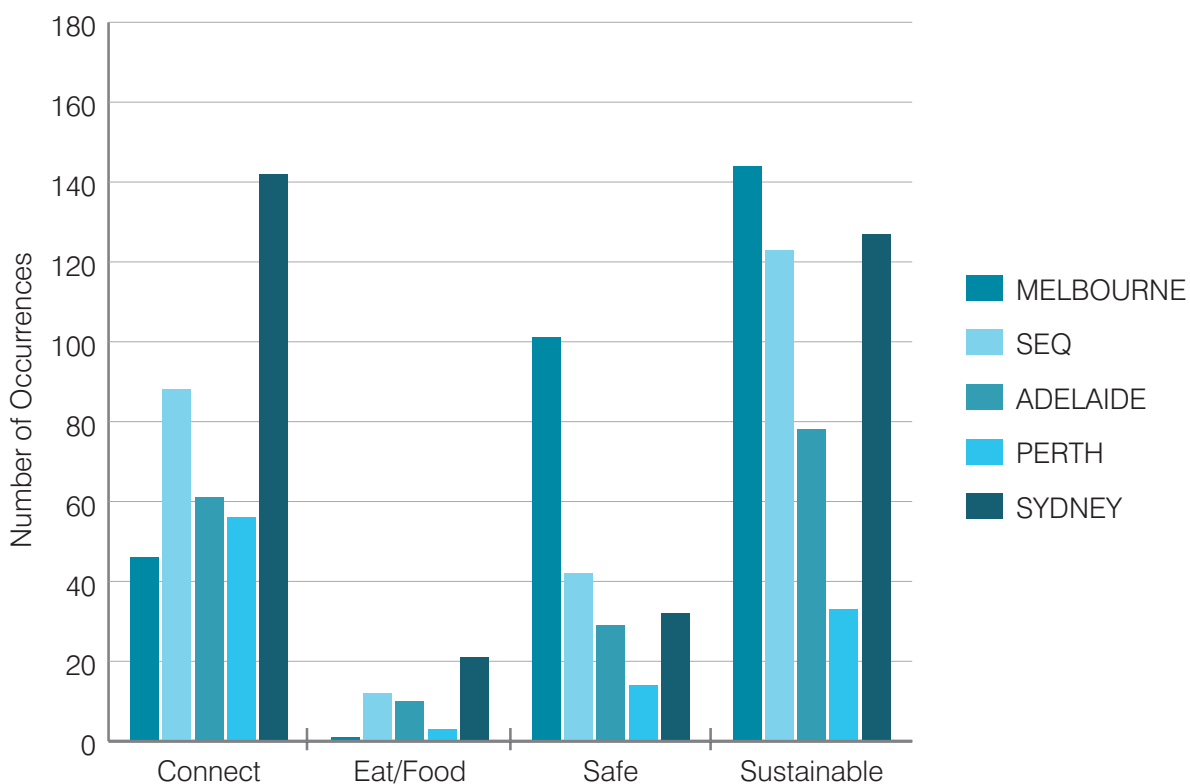


Figure 4.2 reveals significant differences in the counts for the CHES principle terms. The first term, *connect*, appears consistently across all five plans. It occurs most frequently in the Sydney Plan (n=142), but even the lowest counts – for Melbourne (n=46) and Perth (n=56) – are still relatively high. In contrast, there are very few occurrences of the terms *eat* and *food*. The Melbourne and Perth Plans each contain less than five occurrences of these terms, the Adelaide and SEQ Plans less than 15, and the Sydney Plan less than 25. With the noticeable exception of the Melbourne Plan, only moderately higher counts were recorded for the term *safe* across all plans. This anomaly is particularly interesting and warrants further discussion, given the well-established links

<sup>1</sup> The term *liveable*, in particular, has been popularised through the increased use made of liveability and quality of life indices, which rank cities according to characteristics such as safety, accessibility, cultural diversity, education, healthcare, environmental sustainability, housing affordability, design quality and amenity (see, for example, Department of Infrastructure and Transport 2011, pp. 139-202).

between safe environments and people’s propensity to engage in healthy activities such as walking or cycling. The final CHES term, *sustainable*, occurs in very high numbers in the Melbourne (n=144), Sydney (n=127) and SEQ (n=123) Plans. In line with the trend for other terms, the Perth Plan contains the lowest occurrence of the term *sustainable* (n=33).

Figure 4.3: Word-search total counts (climate change and active transport) – all plans

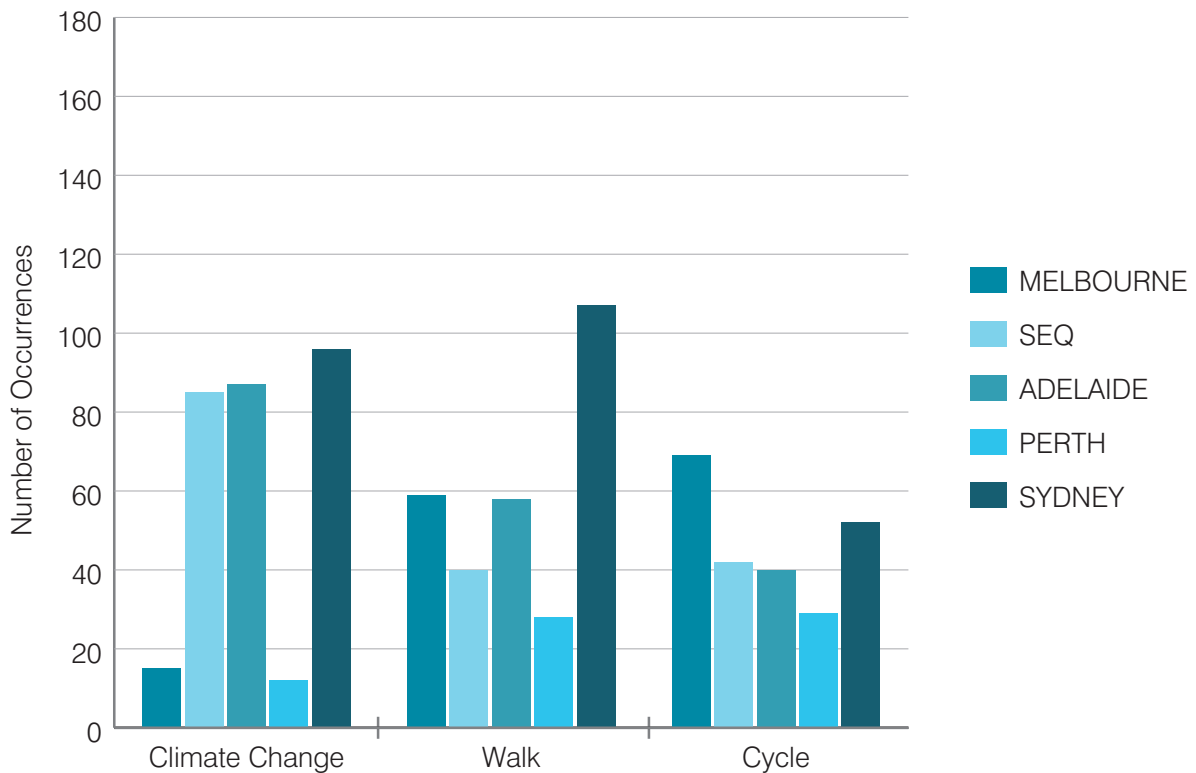


Figure 4.3 depicts significant variation in the number of occurrences of the phrase *climate change* in the five metropolitan plans. At one end of the spectrum the Sydney (n=96), Adelaide (n=87) and SEQ (n=85) Plans all contain a similarly high number of occurrences. This is in stark contrast to the low number of occurrences in the Melbourne (n=15) and Perth (n=12) Plans. While this may be explained, in part, by the Melbourne Plan’s age (released in 2002) and the Perth Plan’s size (just 112 pages), these plans’ minimal references to *climate change* remain puzzling, given the evidence that has been available to policy-makers for some decades on this issue. With the exception of the particularly high number of occurrences of the term *walk* in the Sydney Plan (n=107), there is less disparity for the terms *walk* and *cycle*. As indicated by Figure 4.3, a relatively high and consistent number of occurrences were recorded for both terms across all five plans. These results reflect the broad acceptance of the economic, social, environmental and health benefits of active transport and the need for related policy provisions.

Table 4.2: Word-search key section counts – all plans

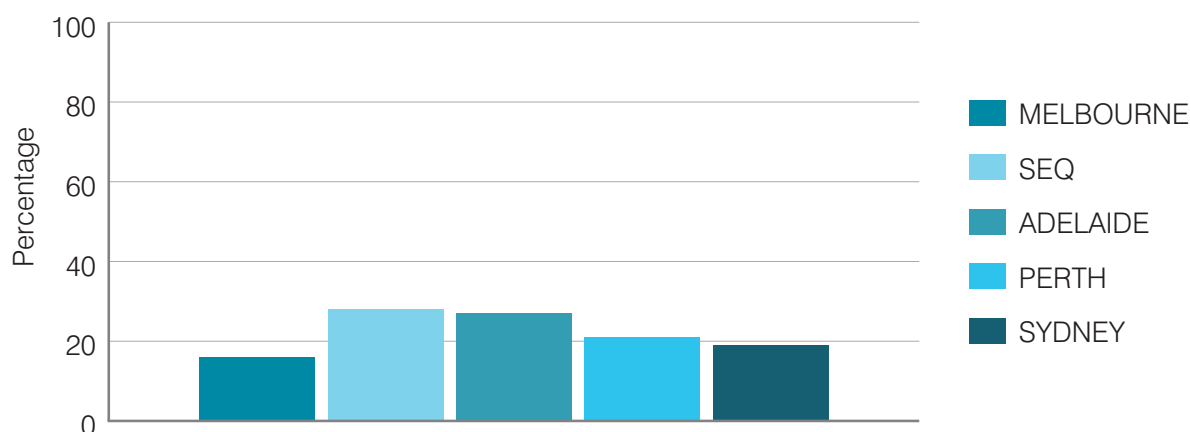
	MELBOURNE	BRISBANE/SEQ	ADELAIDE	PERTH	SYDNEY
Health	7	34	15	4	20
Wellbeing	0	5	4	0	0
Liveable	7	8	10	10	32
Connect	7	22	18	5	33
Eat/Food	0	3	3	0	0
Safe	19	13	16	6	10
Sustainable	23	46	16	11	20
Climate Change	1	25	20	3	21
Walk	9	12	17	0	13
Cycle	14	9	20	6	5
<b>TOTAL</b>	<b>87</b>	<b>177</b>	<b>139</b>	<b>45</b>	<b>154</b>

Table 4.2 presents the number of occurrences for the 10 terms found in the plans' key sections.<sup>2</sup> These results generally mirror the patterns identified for the overall counts (see Table 4.1). Without a more comprehensive qualitative analysis, the full empirical value of the key section counts is difficult to determine. Nonetheless, they offer some preliminary insights into the depth of the plans' commitment to health. Even at this preliminary stage of analysis, for example, higher frequencies of the terms *health*, *connect*, *sustainable* and *climate change* are evident in the key sections of many plans, most notably those for SEQ, Adelaide and Sydney.

More significantly, compared to the overall counts for the plans, a particularly high percentage of occurrences in the SEQ and Adelaide Plans are located in key sections (see Figure 4.4). This suggests policy-makers in these cities have sought to incorporate healthy planning terminology into the principal sections of their plans, whether in vision statements, policies, objectives or specific actions. For the SEQ Plan, a total of 117 of the search terms are contained in key sections, representing 28 per cent of all occurrences; and, for the Adelaide Plan, a total of 139 of the search terms are contained in key sections, representing 27 per cent of all occurrences. In comparison, only 16 per cent of the occurrences in the Melbourne Plan, and 19 per cent in the Sydney Plan, are located in key sections (see Figure 4.4).

<sup>2</sup> See Appendix C.

Figure 4.4: Percentage of occurrences located in key sections – all plans



## CONCLUSION

This chapter has provided a concise overview of the quantitative content analysis results, as a framework for the more detailed analysis to follow. Nevertheless, some general inferences can already be drawn from the data. The overall use of health terminology is very high in the selected metropolitan plans – particularly in the Sydney, SEQ, Melbourne and Adelaide Plans. Key search terms such as *health*, *liveable*, *connect*, *sustainable*, *walk* and *cycle* appear frequently in all five plans, although in lower numbers in the Perth Plan, admittedly the smallest of the five. Of greater significance, perhaps, is the fact that many of the search terms also feature in the plans' key sections, and this might suggest that health considerations are firmly on the metropolitan planning agenda in Australia. This generalisation will, however, need to be qualified in light of the comprehensive analysis of the manifest and latent health content of two of the plans (Melbourne and SEQ) carried out in Chapters 5 and 6. This analysis, in turn, forms the basis for the discussion of metropolitan planning and health in Australia in Chapter 7.

# 5. Content Analysis of *Melbourne 2030*

## INTRODUCTION

Chapter 5 analyses the nature and extent of health provisions in *Melbourne 2030* (the Melbourne Plan). This analysis is facilitated by the quantitative content analysis results, and involves an in-depth examination of the Plan's latent and manifest health content. The chapter is structured around the key terminology used to frame the quantitative content analysis; terminology chosen to capture the most fundamental dimensions of healthy planning policy.

## BACKGROUND

The Victorian Department of Infrastructure released the Melbourne Plan in October 2002. It is based on a series of 12 background and technical reports published between May 2000 and October 2002 as well as an extensive consultation process with government, the private sector and communities living in and around metropolitan Melbourne (Department of Infrastructure 2002). Described as 'a 30-year plan to manage growth and change across metropolitan Melbourne and the surrounding region' (Department of Infrastructure 2002, p. 1), the Melbourne Plan establishes the planning framework to accommodate an additional one million residents and up to 620,000 extra households by the year 2030. It forms part of the State Planning Policy Framework of the Victoria Planning Provisions, which require all councils in the metropolitan region to align local planning schemes with the content of the Plan (Department of Infrastructure 2002).

The Plan's vision reinforces Melbourne's standing as one of the world's most liveable, attractive and prosperous cities. It is structured around a set of 'Principles' and nine 'Key Directions': 'A more compact city'; 'Better management of regional growth'; 'Networks with the regional cities'; 'A more prosperous city'; 'A great place to be'; 'A fairer city'; 'A greener city'; 'Better transport links'; and 'Better planning decisions, careful management'. These directions are supported by a large number of policies and initiatives designed to guide future planning actions, and state and local government

decision-making. The Plan notes, however, that many of its initiatives will ‘be subject to the availability of budget funding’ (Department of Infrastructure 2002, p. 44).

The Plan’s content is organised into seven key chapters. ‘Melbourne 2030 in summary’ follows the preliminary material, such as the foreword and table of contents, and establishes the Plan’s intent. ‘The basis for Melbourne 2030’ identifies the critical issues facing Melbourne over the next two to three decades – including growth management, public infrastructure investment, resource use and the protection of natural environments – and justifies the need for a long-term plan and vision for the city. ‘The scope of Melbourne 2030’ defines the Plan’s relationship with the Victorian planning system and its spatial framework. ‘Focus on Melbourne’ addresses the city’s historical growth patterns and planning challenges, and looks to a future that builds on the city’s existing strengths. ‘The strategic framework’ restates the Plan’s vision and elaborates on its underlying ‘Principles’ and nine ‘Key Directions’. This is followed by the Plan’s largest chapter, ‘Policies and initiatives’, structured according to its ‘Key Directions’, for each of which the Plan lists a range of related policies and implementation initiatives. The final chapter, ‘Implementing Melbourne 2030’ explores critical steps in the implementation of the Plan’s policies and initiatives. It refers to draft implementation plans that accompany the Melbourne Plan and commits to a process of on-going consultation with the community and key stakeholders in Melbourne’s future.

## INCLUSION OF HEALTH PROVISIONS IN THE MELBOURNE PLAN: THE CONTENT ANALYSIS

Table 5.1: Word-search total counts – Melbourne Plan

	Total Count	Number of Occurrences Found in a Key Section	Percentage of Occurrences Found in a Key Section
Health	65	7	11%
Wellbeing	15	0	0%
Liveable	20	7	35%
Connect	46	7	15%
Eat/Food	1	0	0%
Safe	101	19	19%
Sustainable	144	23	16%
Climate Change	15	1	7%
Walk	59	9	15%
Cycle	69	14	20%
<b>OVERALL TOTAL</b>	<b>536</b>	<b>87</b>	<b>16%</b>

Table 5.2: Word-search counts by section – Melbourne Plan

SECTION OF PLAN	WORD SEARCH TERMS AND COUNTS										
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustainable	Climate	Walk	Cycle	
Cover, Foreword & Contents	1	-	2	1	-	1	8	-	-	-	
Vision	-	-	1	-	-	-	-	-	-	-	
Melbourne 2030 in Summary	1	-	3	3	-	5	5	-	2	1	
The Basis for Melbourne 2030	2	-	1	3	-	3	6	-	1	1	
The Scope for Melbourne 2030	-	-	-	2	-	-	-	-	-	-	
Focus on Melbourne	3	-	1	-	-	1	1	-	1	1	
The Strategic Framework	3	-	2	3	-	9	16	-	5	8	
Policies & Initiatives Introduction	-	-	-	-	-	-	-	-	-	-	
1. A More Compact City	11	-	1	4	-	1	2	-	6	5	
2. Better Management of Metropolitan Growth	2	-	-	1	-	4	3	-	-	-	
3. Networks with the Regional Cities	1	-	-	-	-	-	1	-	-	-	
4. A More Prosperous City	3	2	-	2	-	2	1	-	-	1	
5. A Great Place to Be	9	-	9	9	-	44	12	1	18	9	
6. A Fairer City	9	5	-	-	-	4	1	-	-	-	
7. A Greener City	4	1	-	2	1	4	55	12	2	2	
8. Better Transport Links	3	2	-	13	-	7	11	-	16	31	
9. Better Planning Decisions, Careful Management	-	-	-	-	-	-	-	-	-	-	
Implementing Melbourne 2030	1	1	-	-	-	1	7	-	1	1	
Appendices	11	3	-	3	-	15	15	2	7	9	
Addendum	1	-	-	-	-	-	-	-	-	-	
<b>TOTAL</b>	<b>65</b>	<b>15</b>	<b>20</b>	<b>46</b>	<b>1</b>	<b>101</b>	<b>144</b>	<b>15</b>	<b>59</b>	<b>69</b>	



## Fundamental Health Terminology

### *Health and Wellbeing*

The Melbourne Plan contains a total of 65 occurrences of the term *health* and 15 of the term *wellbeing*. The term *health* occurs in most of the Plan's chapters, with 11 per cent (n=7) located in a key section, while no occurrence of the term *wellbeing* appears in any of the Plan's key sections (see Table 5.1). Collectively, the highest concentrations of the terms are found in 'Direction 1 – A more compact city' (n=11), 'Direction 5 – A great place to be' (n=9), 'Direction 6 – A fairer city' (n=14) and in the appendices (n=14) (see Table 5.2).

Although a significant percentage of occurrences relate to the health of the environment and the provision of health services, particularly those found in the Plan's key sections, there is still a strong focus on healthy planning principles and the need to create supportive urban environments for human health and wellbeing. This focus is most notable in policies associated with strengthening the role and function of activity centres: areas that are frequented by people on a regular basis to access essential services (such as transport, employment, shops, and health and community facilities), and to socialise and relax. The Plan puts in place a framework for a more compact city, in which activity centres will support concentrations of higher-density housing (p. 46), mixed-uses (pp. 31, 46, 101), the co-location of services (pp. 46, 101) and public transport (p. 49) – elements which are foundational to the creation of healthy places (Barton and Tsourou 2000; Frank et al. 2003; Croucher et al. 2007; de Chalain and Stephenson 2009; Barton et al. 2010; Dannenberg et al. 2011; Kent et al. 2011; Wheeler et al. 2011). Policy 1.2 (p. 55) specifically encourages the clustering of community facilities in or next to 'Neighbourhood Activity Centres', in order to reduce the reliance on motor vehicles for local trips and to 'encourage walking, cycling and use of local public transport services'. Encouragingly, the Plan delineates a clear hierarchy and network of activity centres, and links its policies and initiatives to integrated performance criteria encompassing social, economic and environmental benchmarks, one of which is to 'maintain and improve public health' (p. 53).

The nexus between activity centres, transport and health is further reinforced in 'Direction 8 – Better transport links', where the Plan outlines a range of policies to enhance structural and operational elements of the city's public transport network. This includes specific initiatives to promote active travel (pp. 158-160) – such as bicycle and

pedestrian networks, end-of-trip facilities, behavioural change programs, and car parking policies – which are aimed at improving environmental sustainability and ‘personal health and social wellbeing’ (p. 160).

A number of the occurrences of the terms *health* and *wellbeing* are also associated with the planning and design of neighbourhoods in new growth areas. There is a concerted effort to address infrastructure and service provision in such areas, thereby supporting the health and wellbeing of new communities from their outset. However, the successful delivery of the Plan’s initiatives in this area will depend on local planning processes and delivery mechanisms. Acknowledgement of this issue, and of the need for health-related provisions in local planning policies, is a positive element of the Plan. Policy 5.5 (p. 102), for example, identifies the role of local policies and community involvement in addressing ‘issues communities identify as important to their health, safety and enjoyment of the local area’. Guided by its focus on neighbourhood design and its emphasis on ‘fostering healthy lifestyles through initiatives such as creating walkable neighbourhoods’ (p. 100), the Melbourne Plan reinforces the important role of planning in creating healthy built environments.

Further action, however, is required if the Melbourne Plan is to realise its full potential in the area of human health. Important health-related terminology needs to be defined, and a health context and rationale included, to frame the Plan’s health objectives and provide common ground on which planners, health professionals and other groups can communicate. More explicit health objectives are also required in the Plan’s key sections; these objectives should then be linked to specific policies, targets, implementation mechanisms, funding arrangements and performance criteria, to ensure the Plan’s objectives are achieved and that their effectiveness can subsequently be evaluated. The scarcity of health terminology in many of the Plan’s principal sections – including the ‘Vision’, ‘Melbourne 2030 in summary’, ‘The strategic framework’ and ‘Implementing Melbourne 2030’ (see Table 5.2) – and the lack of specific mechanisms for the implementation and monitoring of health objectives is indicative of this lack of focus. Further, more attention is needed on issues such as access to healthy food and the health benefits that arise from action on environmental sustainability and climate change. These deficiencies will be addressed in greater detail under the ‘Healthy Eating Environments’, ‘Sustainable Environments’ and ‘Climate Change’ headings below.

## *Liveable*

There are a total of 20 occurrences of the term *liveable* in the Melbourne Plan. Despite this modest overall count, a comparatively high percentage of occurrences (35%, n=7) are found in key sections (see Table 5.1). Most significantly, it is the only search term located in the Plan's vision statement. Beyond the introductory and background chapters, however, there are few occurrences of the term *liveable* in the Plan, with the notable exception of those contained in 'Direction 5 – A great place to be' (n=9) (see Table 5.2).

Melbourne is one of the world's most liveable cities, and the Melbourne Plan attempts to preserve and enhance the qualities and characteristics that contribute to the city's liveability. These include the city's reputation as a hub for sporting, recreational and cultural activities, its public transport system, environmental qualities, surrounding natural landscapes, and high health and safety standards (p. 23). Concentrating future development in strategic redevelopment sites and activity centres is the Plan's preferred strategy for safeguarding the liveability of existing areas (p. 1). This is accompanied by specific policies on urban design, such as Policies 5.1 (p. 92) and 5.5 (p. 100), which address multiple geographical scales and issues, from the design of buildings and streets to entire neighbourhoods and transport networks. The Plan calls for the review and revision of urban design guidelines (Initiative 5.1.2, p. 93), and offers guidance for planning authorities undertaking such tasks (p. 94).

Nevertheless, the Melbourne Plan lacks detail on the challenges posed by urban consolidation policies to both human health and liveability, and says little about how these challenges might be overcome by effective urban design. So while 'liveability', like the term 'health', features as part of the integrated performance criteria for activity centres (p. 53), there is no indication of the specific actions local authorities might pursue to create liveable, higher-density centres. Over time, this may undermine the Plan's ability to attract residents and associated economic activity to such areas.

## **CHES Principles**

### *Connected Environments*

The first CHES principle, 'connected environments', is addressed in the Melbourne Plan, but to varying degrees. The total count for the term *connect* (n=46) is the lowest for the five metropolitan plans under analysis (see Table 4.1) and, as with the Perth Plan,

it seldom features in key sections (see Table 4.2). Occurrences of the term are primarily concentrated in 'Direction 5 - A great place to be' (n=9) and 'Direction 8 – Better transport links' (n=13) (see Table 5.2).

Although the Melbourne Plan has fewer occurrences of the term *connect* than the other Australian metropolitan plans, it still incorporates important provisions with the potential to deliver a more accessible and connected urban environment. The overriding emphasis is on improving transport connectivity to activity centres, and to surrounding regional towns and cities. This desideratum is embodied in Policies 1.1 (p. 46) and 8.1 (p. 146), both of which reflect the Government's intent to reinforce the connectivity of the city's network of activity centres through extensions to the existing rail network and new cross-town bus routes. Integrating transport and land use (p. 138), encouraging mixed-use development in major centres (pp. 47, 48), and improving public transport access to car-based shopping centres (p. 146) are also recognised as key components or facilitators of a connected environment, especially in relation to public transport.

Alongside public transport, the Melbourne Plan identifies the equitable provision of communications infrastructure as a facilitator of socio-cultural connections: '[f]ast, reliable and efficient transport and communications infrastructure is essential to link and *connect* our people, our communities and our businesses' (p. 12; emphasis added). However, too often the Plan justifies its public transport and communications initiatives on economic grounds alone and, in doing so, discounts the wide-ranging potential of such initiatives to improve human and environmental health.

One area where the Plan establishes a more direct link between connectivity and human health is in 'Direction 5 – A great place to be'. Policy 5.5 (p. 100) states that 'neighbourhoods should be created as integrated and interconnected communities, not just as subdivisions' so as to 'build a strong sense of place and community'. Here the Plan outlines a 'sustainable neighbourhood structure' (p. 101) and adopts a set of 'Neighbourhood Principles' (p. 101) that espouse many of the qualities of a physically and socially connected environment: pedestrian-friendly street layouts, local public and active transport services and facilities, a variety of housing types, the clustering of development in centres, safer design principles and a range of open spaces.

The provision of open space is addressed in more detail in subsequent policies, which place a particular emphasis on achieving a more equitable distribution of high quality open space across the metropolitan area (Policy 5.6, p. 103) and rectifying gaps in the existing open space network (Policy 5.7, p. 105). Although admirable, many of the

open space policies do not include detail on how the various initiatives will be funded. Furthermore, there is no acknowledgement of the unique challenges associated with the provision of additional open space in existing centres, which are to accommodate much of Melbourne's future growth.

### *Connected Ways of Working*

'Connected ways of working' is a prominent theme in the Melbourne Plan. Recognition of the need to work with and across multiple disciplines and sectors – including local government, non-government organisations, private industry and the community – is ingrained in a large number of the Plan's policies and initiatives. It is also listed as one of the seven founding principles of the Plan under the heading 'Partnership' on page 29.

There is a particular emphasis on working with local government. The Plan includes explicit policies – such as Policy 9.4, 'Develop a strong partnership with local government' (p. 166) – that signify the Government's intent to collaborate with local councils, particularly in the early stages of implementation. This is further reinforced through initiatives to achieve local government policy alignment with the Plan; these include the planning of activity centres (1.1.2, p. 54), local housing strategies (1.3.4, p. 58), open space distribution, linkages and quality (5.1.7, p. 93 and 5.2.3, p. 103), local cultural activity (5.2.3, p. 95), stormwater management (7.4.4, p. 133), and maintaining local character (3.1.3, p. 74).

The Plan also engages with stakeholders beyond local government, including the community, other government agencies and private industry. The critical role of partnerships is emphasised in initiatives on indigenous and cultural issues, safety, heritage protection, affordable housing, social infrastructure, community transport, and waste minimisation. The imperative to involve the community – in both the implementation *and* ongoing monitoring of the Plan – is further reinforced in 'Direction 9 – Better planning decision, careful management', under Policy 9.5 (p. 167).

The Plan's commitment to 'connected ways of working' could, however, be enhanced through the inclusion of more detail on exactly how partnerships will be established and maintained. While many initiatives emphasise the desirability of collaboration across disciplinary and jurisdictional boundaries, they do not always indicate the party responsible for establishing connections, or a timeframe for action. In relation to the Plan's health content, for example, additional guidelines are required to ensure planners actively collaborate with health professionals and health authorities

when implementing and assessing the Plan's health provisions. Moreover, stronger policies are required to ensure ongoing consultation with vulnerable population groups, including children (or their parents or guardians), the elderly and people with a disability, especially in relation to health considerations.

### *Healthy Eating Environments*

The Melbourne Plan fails to recognise the role of food as part of a healthy urban environment. There are no occurrences of the term *eat* and only one occurrence of the term *food*, which is imbedded within a discussion of sustainability models on page 142 (see Table 5.2). Nevertheless, some of the Plan's policies have the potential to contribute to a healthy eating environment; they are health-implicit in the sense that they support opportunities for local food access and production without directly addressing the issue of healthy food. Policies to preserve agricultural land and urban greenspace – for example, through the establishment of an urban growth boundary (Policy 2.1, p. 60), controls on development in rural areas (Policy 3.2, p. 75), and protection of the city's green wedges and open space networks (Policy 2.4, p. 66 and Policy 5.6, p. 103) – present an opportunity to retain food producing areas within close proximity to consumers, thereby increasing food security and reducing food miles. These provisions will also encourage the development of urban agriculture in the form of city farms and community gardens. More astute local authorities will hopefully recognise and address the explicit health benefits of such health-implicit policies as they revise local planning schemes in accordance with state legislation.

### *Safe Environments*

In contrast to the previous CHESS principle, safety is a prominent and ubiquitous theme in the Melbourne Plan. There are a total of 101 occurrences of the term *safe* – the highest count for the term in all five metropolitan plans – located across the Plan's chapters, including 'Melbourne 2030 in summary', 'The strategic framework', 'Implementing Melbourne 2030' and seven out of the nine Directions (see Table 5.2). Some 19 occurrences are located in key sections, which similarly represent the highest total for the five plans under analysis (see Table 4.2). As with the terms *health*, *liveable* and *connect*, occurrences are concentrated in 'Direction 5 – A great place to be' (n=44). Moderate counts were recorded in other sections, including 'The strategic framework' (n=9), 'Direction 8 – Better transport links' (n=7) and the appendices (n=15) (see Table 5.2).

Many of the Plan's provisions around safety focus on the role of urban form and design in creating safe and attractive places and spaces. It is acknowledged that 'the built environment can make a considerable contribution to safety and perceptions of safety, through the design of buildings and public spaces and the mix of activities therein' (p. 96). Safety is identified early on in the Plan as an equity issue (p. 29) and this provides strong justification for the policies and initiatives contained in specific Directions. These cover key issues, including the design of pedestrian and cycling routes (pp. 102, 152, 158), streets (pp. 64, 119), car parking (p. 32), and public spaces (p. 97), as well as crime prevention (pp. 64, 97, 119) and other factors that contribute to people's perceptions of safety (pp. 64, 96, 97). There is a strong emphasis on designing neighbourhoods that encourage interaction and are inclusive of all user groups, and this is backed by a commitment to work with agencies that play a central role in maintaining high safety standards (for example, the Police and Fire and Emergency Services). The Plan also includes policy provisions on transport safety – covering both road (Policy 8.5, p. 155) and public (Policy 5.3, p. 96) transport – and the safe disposal of waste (Policy 7.2, p. 127).

Despite the extent of the Plan's policy provisions on safety, some gaps still remain. Issues such as housing (for example, the adequate supply of affordable and adaptable housing), safety from climatic events (for example, through restrictions on development in bushfire prone areas) and sun safety require further attention. One encouraging facet of the Plan, however, is the potential for such issues to be addressed at a later stage, through implementation and monitoring initiatives. These include a commitment to establish an interagency forum to improve community safety (Initiative 5.3.2, p. 97), integrate "safer design" guidelines and principles in the planning system (Initiative 5.3.5, p. 97), and develop and apply performance criteria and standards for safety, surveillance, noise, amenity and privacy (Initiative 5.1.3, p. 93).

### *Sustainable Environments*

As with 'safe environments', sustainability is an underlying theme in the Melbourne Plan. The total count for the term *sustainable* (n=144) is the highest for the five metropolitan plans under analysis (see Table 4.1) and there are over 20 occurrences of the term in the Plan's key sections (see Table 5.1). A significant number of occurrences are located in 'Direction 7 – A greener city' (n=55); as well as on the cover, and in the 'Ministers' messages' and 'Contents' (n=8); 'The strategic framework' (n=16); and 'Direction 5 – A



great place to be' (n=12). There are also seven occurrences of the term in the Plan's implementation chapter, which is notable given the low counts recorded for all other search terms in this crucial chapter (see Table 5.2).

The term *sustainable* is prominent from the opening pages of the Melbourne Plan. In addition to its title – *Melbourne 2030: Planning for Sustainable Growth* – there are frequent references to the term in the introductory chapters and 'The strategic framework'. This reflects the high profile of the Plan's many sustainability initiatives, which focus on growth management, urban design, active and public transport, natural resource use, and waste management.

The Plan attempts to manage Melbourne's future growth by concentrating development in activity centres and strategic redevelopment sites. It is argued that a more compact urban form will 'have benefits for sustainability while protecting primary production, major sources of raw materials and valued environmental areas' (p. 33). This will also help 'achieve more sustainable transport' (p. 48) by maximising the use of existing infrastructure and services. Specific policies designed to build up activity centres (Policy 1.1, p. 48), establish an urban growth boundary to limit the city's outward expansion (Policy 2.1, p. 61), and promote the use of sustainable personal transport options (Policy 8.8, p. 160) reinforce these sentiments. There is also an emphasis on social sustainability through initiatives on community transport (Initiative 6.2.3, p. 118), measures to improve access to social infrastructure, particularly in disadvantaged areas (Initiative 6.2.2, p. 118), and housing affordability (Initiatives 6.1.1 - 6.1.7, p. 117).

As has already been noted, the Plan includes numerous provisions on urban and neighbourhood design. The issue of sustainability – both environmental and social – receives direct attention in relation to these topics. Initiative 5.5.3 (p. 101), for example, calls for the application of 'Neighbourhood Principles' in the creation or review of plans for new growth areas and redevelopment sites. These Principles capture the essence of a sustainable environment: a range of housing types and tenures, located in or around centres characterised by a mix of services, community facilities, public open space, environmentally friendly development and design, and local culture and heritage (p. 102). References are also made to the principles of transit-oriented development (TOD), smart growth and water sensitive urban design (WSUD) in the planning and design of new neighbourhoods (pp. 126, 134).

Many of the Plan's sustainability initiatives also concern the management of natural resources and waste. 'Direction 7 – A greener city' contains explicit policies on



water (Policy 7.1, p. 124; Policy 7.4, p. 132 and Policy 7.5, p. 135), air quality (Policy 7.6, p. 137), native habitat and biodiversity conservation (Policy 7.7, p. 139), and the recycling of waste materials (Policy 7.2, p. 127). A strength of the Plan is its desire to complement other government strategies and actions on sustainable development, and to measure its progress against sustainability benchmarks (see, for example, Initiative 7.8.1). Reference is also made to specific targets on waste-water recycling (p. 124) and there is evidence that the Government will support the development of demonstration projects exemplifying best practice in sustainable design (p. 130).

Although the Melbourne Plan establishes a clear and comprehensive policy platform on sustainability, it nevertheless fails to recognise the potential of its policies in this area to influence human health and wellbeing. There are only two instances where sustainability is directly linked to human health or the broader concept of liveability: the first is imbedded in a figure on page 40; the second in a discussion of sustainability models on page 142. This deficiency is also reflected in the distribution of the term *sustainable*. As evident in Table 5.2, there are very few occurrences of the term in Directions 1 or 6, which contain the bulk of the Plan's content on human health and wellbeing. There is, therefore, a need to acknowledge the co-benefits for both the environment *and* human health from action on sustainability and climate change – the latter being the subject of analysis in the following section.

### *Climate Change*

Given the Melbourne Plan's frequent use of the term *sustainable*, and its wide-ranging policy provisions on the topic, the absence of references to *climate change* is surprising. The Plan contains only 15 occurrences of the phrase – and only one of these is found in a key section (see Table 5.1). Furthermore, there are no occurrences in the Plan's background or introductory chapters, which outline the basis and rationale for the Directions. Only three sections contain occurrences of the phrase *climate change*: 'Direction 5 – A great place to be' (n=1), 'Direction 7 – A greener city' (n=12) and the appendices (n=2) (see Table 5.2).

The majority of references to *climate change* are located in Policy 7.3, 'Contribute to national and international efforts to reduce greenhouse gas emissions' (pp. 129-131). And although this policy identifies climate change as 'one of the world's most serious environmental challenges' (p. 129), this is not reflected in specific initiatives on the issue. There are references to the application of energy efficiency standards,

to planning for renewable energy and the need for policy alignment with the *Victorian Greenhouse Strategy* (2002), but there appears to be a lack of urgency to take immediate and comprehensive action in light of ongoing research being conducted or funded by the Government. This is odd given the Plan's reference to rather precise climate change projections for the state of Victoria (p. 131) and the potential for planning to substantially alter many of the human activities that contribute to greenhouse gas emissions, reduced biodiversity, and the depletion of natural resources. As with the term *sustainable*, there is also minimal reference to the potential human health benefits from action on climate change. Recognition of these benefits would give further weight to the Plan's admittedly limited initiatives and provide a sound reason for planners to work alongside all stakeholders, including the community, in their efforts to safeguard Melbourne against the likely impacts of a changing climate.

### Active Transport

Active transport receives comprehensive coverage in the Melbourne Plan. There are a total of 59 occurrences of the term *walk* and 69 of the term *cycle*; the latter represents the highest count for the term *cycle* across all five metropolitan plans (see Table 4.1). Additionally, 15 per cent (n=9) and 20 per cent (n=14) of the occurrences for *walk* and *cycle* are located in key sections (see Table 5.1). Both terms appear relatively frequently in the Plan's principal chapters or major parts, with the exception of the 'Vision' and 'Implementing Melbourne 2030'. The highest concentrations of the terms are found in 'The strategic framework' (n=13), in 'Direction 8 – Better transport links' (n=47), 'Direction 5 – A great place to be' (n=27), and the appendices (n=16)<sup>1</sup> (see Table 5.2).

The Melbourne Plan's policy provisions on active transport are very comprehensive and target many of the factors known to influence the uptake and sustained use of active transport for both recreational and utilitarian purposes. For example, the Plan acknowledges 'the importance of providing safe, attractive and continuous pedestrian and cycling routes' (p. 42) and includes commitments for new public and active transport infrastructure (Initiative 5.7.5, p. 107; Initiative 8.4.2, p. 154; Initiative 8.4.4, p. 154 and Initiative 8.7.1, p. 159), including end-of-trip facilities in commercial buildings (through updated planning and building controls: Initiative 8.7.3, p. 159) and storage for cyclists at transport interchanges (Initiative 8.7.4, p. 159). Further,

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<sup>1</sup> These figures combine totals for the terms *walk* and *cycle*.

these initiatives will be supported through programs and performance standards on safety (Initiative 5.3.1, p. 96 and Initiative 8.3.3, p. 152), as well as the move towards higher density and mixed-use development in and around centres with existing transport infrastructure and services (Policy 1.3, p. 57). The Plan notes that such changes to the city's structure and form will 'encourage walking, cycling and public transport as viable transport alternatives' (p. 57).

Whilst the Plan's policies on active transport specify few targets, funding arrangements or timeframes for action, they are wide-ranging and, if implemented, have the potential to deliver multiple human health and environmental benefits. The synergies between individual and community wellbeing and the health of the environment are well established in relation to the Plan's provisions on active transport. There is recognition that the city's current level of motor vehicle use is unsustainable and that shifts towards public and active transport modes will enhance both environmental outcomes, such as air quality (p. 138), and public health (pp. 42, 158). Whether this can be achieved will depend both on the ability of planners to follow through on the Plan's actions, and on the coordinated support of stakeholders across state and local government, the community, and the private sector.

## **THE MELBOURNE 2030 UPDATE: MELBOURNE @ 5 MILLION**

This final section provides comment on *Melbourne 2030: A Planning Update – Melbourne @ 5 Million* (the Melbourne Update). This document, published by the Victorian Department of Planning and Community Development (DPCD) in December 2008, responds to higher than expected population projections for Melbourne, and to an independent audit of the Melbourne Plan released in March 2008. Rather than replacing the Melbourne Plan, the Update includes 'complementary policy initiatives' and notes 'the two documents should be considered together' (DPCD 2008, p. 2). As such, it reinforces the Melbourne Plan's principles and directions, and its policy elements also form part of the Victoria Planning Provisions.

The underling purpose of the Melbourne Update is to establish a planning strategy to accommodate future population increases, as the city grows to over five million people by the year 2030. Coping with this growth will be achieved through a compact settlement pattern, based on six new CBD-like 'Central Activity Districts'. These Districts, which have been added to the top of the centres typology outlined in

the Melbourne Plan, will 'be the focus of Government planning to help cater for and sustainably manage the anticipated scale of growth and change [in Melbourne]' (DPCD 2008, p. 11). As part of its growth management policies, the Update also explores the possibility of future changes to the city's 'Urban Growth Boundary' and sets specific targets for infill and greenfield development (see, for example, DPCD 2008, p. 3). Given the modest size of the Update (only 36 pages), and its minimal use of health-related terminology, the following analysis groups discussion of all health terminology together.

**Table 5.3: Word-search counts by section – Melbourne Update**

SECTION OF PLAN	WORD SEARCH TERMS AND COUNT									
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustain-able	Climate	Walk	Cycle
Cover, Glossary & Foreword	-	-	2	-	-	-	-	-	-	-
Introduction	-	-	1	-	-	-	-	2	-	-
The Growth Challenge for Melbourne	-	-	1	-	-	-	1	-	-	-
Moving to a Multi-Centre City	-	-	1	1	-	-	1	1	-	-
Central Activities Districts	-	-	-	2	-	-	2	-	1	1
Strategic Expansion of Melbourne	-	-	1	-	-	-	1	-	-	-
Getting the Right Infrastructure in Place	-	-	-	-	-	-	-	-	-	-
Regional Victoria	-	-	1	-	-	-	3	-	-	-
Where to From Here?	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>1</b>

As indicated in Table 5.3, there are no occurrences of the terms *health*, *wellbeing*, *eat*, *food* or *safe*, and only minimal occurrences of the terms *liveable* (n=7), *connect* (n=3), *sustainable* (n=8), *climate change* (n=3), *walk* (n=1), and *cycle* (n=1). As with the Melbourne Plan, protecting the city's liveability, and the quality of life experienced by its residents, is a major determinant of the Update's growth management policies. From its opening pages, the Update argues that 'a refined settlement pattern is needed to ensure that Melbourne remains liveable' (p. 8). However, like the Melbourne Plan before it, the Update fails to explore the challenge higher-density living (particularly in

major centres) poses to the quality of life experienced by residents, if development is not carefully planned. For example, the Melbourne Update contains no measures to provide additional community open space in major centres, either through public funding or developer agreements. Nor does it impose on developers any requirement to ensure higher-density housing is designed in a way that protects its inhabitants from noise and air pollution, which may be significantly higher in centres based around transport interchanges. Within the context of liveability, the Update could also have explored the health benefits associated with well-designed, compact, mixed-use centres.

In relation to 'connected environments', the Update recognises the importance of connecting centres and employment corridors, and notes the impending *Victorian Transport Plan* (since released in December 2008) will align with its key land use elements (p. 2). Once again, however, the Plan passes over the inherent health benefits of creating connected physical environments as well as connected socio-cultural environments. The Update also contains only minimal references to connected ways of working, beyond its on-going commitment to work with local councils and to consult the public about future changes to the 'Urban Growth Boundary' (p. 32).

The term *sustainable* appears in most of the Melbourne Update's major sections and is closely linked to its compact settlement policies. Elements of environmental sustainability, including water, energy and transport efficiency are mentioned within the context of design and development principles, although no link is made to the association between sustainability and human health. Like sustainability, *climate change* is connected to the Update's compact settlement policies and is identified as one of the key challenges shaping Melbourne's urban structure and form (p. 2), but at no point is it explicitly posited as a human health issue. The Update's references to *climate change* also fall outside the ambit of any specific policy measures or targets.

Finally, the terms *walk* and *cycle* are mentioned as part of a discussion of 'Central Activity Districts' and their inter-relationship with the city's public transport network. It is noted that these Districts afford high levels of accessibility, encouraging the use of more active modes of transport (p. 11). The six 'Central Activity Districts' identified in the Update will serve as focal points for investment, which will hopefully include the provision of additional walking and cycling infrastructure. The Update's focus on walking and cycling is therefore welcome, and provides a context for local authorities to plan for the increased use of active modes of transport in major centres such as 'Central Activity Districts'.

## CONCLUSION

This chapter has analysed the nature and extent of health provisions in the Melbourne Plan and its 2008 update, *Melbourne @ 5 Million*. Overall, the Melbourne Plan contains a wide range of provisions with the potential to enhance human health and wellbeing. Its focus on creating a more compact city, in which activity centres will support concentrations of higher density housing, mixed-uses and the co-location of services, is a particular strength. In addition, the Plan affirms the role of urban design in supporting healthy activities, such as walking and cycling, and commits to a process of on-going consultation with local councils, the private sector and community stakeholders. Key dimensions of healthy built environments – including safety, sustainability and active transport – are reinforced through the Plan’s policies and initiatives, which serve to complement other government strategies and actions.

The main weakness of the Plan is evident especially in its opening chapters, where explicit health language is almost entirely absent. More generally, there are no references to relevant literature or statistics on health in order to justify its health-related policies and initiatives, nor does it define key terms such as *health*, *wellbeing*, *liveable* and *active transport*. Furthermore, only one of the selected search terms – *liveable* – appears in the Plan’s vision statement. While this does not necessarily discount the significance of the Plan’s health provisions, it does represent a missed opportunity to frame health as a critical policy issue for Melbourne’s future development, and establish the policy platform for on-going action on health at the local level. The Plan also requires more explicit health provisions in relation to ‘healthy eating environments’, and a clearer focus on the health benefits of action on sustainability and climate change. Unfortunately, the Melbourne Update does little to support the Melbourne Plan’s existing policies and initiatives on human health and wellbeing, or to address its deficiencies. This is evident in the Update’s limited use of health-related terminology, and the absence of associated provisions on human health and wellbeing.

# 6. Content Analysis of the South East Queensland Regional Plan 2009-2031

## INTRODUCTION

Chapter 6 analyses the nature and extent of health provisions in the *South East Queensland Regional Plan 2009-2031* (the SEQ Plan). As with the previous chapter, this analysis is facilitated by the quantitative content analysis results from Chapter 4, involves an in-depth examination of the Plan's latent and manifest health content, and is structured around terminology embodying key dimensions of healthy planning policy.

## BACKGROUND

The Queensland Department of Infrastructure and Planning (DIP) released the SEQ Plan in July 2009. This was preceded by the exhibition of a comprehensive draft, and associated regulatory provisions, in the period between December 2008 and May 2009. Once the government had considered the public submissions received in response to the draft, the Plan was prepared in accordance with the *Integrated Planning Act 1997* (since superseded by the *Sustainable Planning Act 2009*) and replaced the previous plan for the region: the *South East Queensland Regional Plan 2005-2006*. The SEQ Plan further refines the key principles and policies of the 2005 Plan in response to emerging regional growth management issues, such as 'continued high population growth, housing affordability, transport congestion, climate change and employment generation' (DIP 2009, p. 4).

The SEQ region, which consists of 11 city and regional local government areas, covers approximately 35 000 square kilometres, and is Australia's fastest growing urban region (Council of Mayors 2011). Its population is expected to increase from 3.2 million to 4.6 million over the period covered by the Plan (Queensland Treasury 2011), placing significant pressure on the region's infrastructure, public services, development areas, rural lands, natural environment and ecosystems. For this reason the Plan places particular emphasis on sustainable growth management and protecting the region's existing quality of life.

The SEQ Plan is the pre-eminent plan for the region’s future development and provides the statutory framework for planning and development processes. It is structured around six key parts. ‘Part A – Introduction’ puts the plan in context and explains its purpose and extent. ‘Part B – Regional vision and strategic directions’ outlines the desired future for the region and introduces the Plan’s 11 strategic directions. ‘Part C – Regional land use pattern’ establishes the Plan’s regional land use categories, providing the spatial framework for its detailed growth management policies. ‘Part D – Regional policies’ constitutes the bulk of the document and is organised around the 12 key headings listed in Table 6.2 (see D1-D12). Under each heading, the Plan articulates a series of principles, policy statements and programs to guide state and local government decision-making processes and actions. The following analysis makes frequent references to the Plan’s policy statements, which ‘indicate what must be done for the principles to take effect’ (DIP 2009, p. 38), as well as its programs, which ‘identify actions that need to be implemented over the life of the plan’ (DIP 2009, p. 38). The penultimate section, ‘Part E – Implementation and monitoring’, describes the Plan’s relationship with other statutory planning tools, and identifies crucial implementation pathways and monitoring arrangements. At this point, it is noted that the Plan will be subject to a formal review every five years. Finally, the Plan concludes by listing the *South East Queensland 2009-2031 State planning regulatory provisions*.

## INCLUSION OF HEALTH PROVISIONS IN THE SEQ PLAN: THE CONTENT ANALYSIS

Table 6.1: Word-search total counts – SEQ Plan

	Total Count	Number of Occurrences Found in a Key Section	Percentage of Occurrences Found in a Key Section
Health	158	34	22%
Wellbeing	17	5	29%
Liveable	17	8	47%
Connect	88	22	25%
Eat/Food	12	3	25%
Safe	42	13	31%
Sustainable	123	46	37%
Climate Change	85	25	29%
Walk	40	12	30%
Cycle	42	9	21%
<b>OVERALL TOTAL</b>	<b>624</b>	<b>177</b>	<b>28%</b>



Table 6.2: Word-search counts by section – SEQ Plan

SECTION OF PLAN	WORD SEARCH TERMS AND COUNTS										
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustainable	Climate	Walk	Cycle	
Cover, Foreword & Contents	5	-	-	-	-	2	5	4	-	-	
A. Introduction	-	-	1	1	-	-	1	3	-	-	
B. Regional Vision & Strategic Directions	7	-	5	4	-	2	7	5	1	-	
C. Regional Land Use Pattern	34	1	-	11	-	1	5	-	4	6	
D. Regional Policies Introduction	-	-	-	-	-	-	1	1	-	-	
D1. Sustainability & Climate Change	6	1	-	1	-	1	31	44	4	4	
D2. Natural Environment	6	1	-	8	-	1	5	7	-	-	
D3. Regional Landscape	6	1	4	13	1	1	5	2	-	-	
D4. Natural Resources	2	2	-	-	3	-	7	-	-	-	
D5. Rural Futures	7	-	3	-	3	-	17	2	-	-	
D6. Strong Communities	26	5	-	8	3	19	-	3	2	3	
D7. Engaging ATSI Peoples	1	2	-	2	-	-	1	-	-	-	
D8. Compact Settlement	5	-	3	15	-	6	10	2	14	11	
D9. Employment Location	22	-	-	-	-	-	-	-	-	-	
D10. Infrastructure	3	2	-	-	-	3	2	2	-	1	
D11. Water Management	25	2	-	3	1	3	9	5	-	-	
D12. Integrated Transport	2	-	1	21	-	-	8	1	14	16	
E. Implementation & Monitoring	-	-	-	-	-	3	8	2	-	-	
F. SEQRP 2009-2031 Regulatory Provisions	-	-	-	1	-	1	1	1	-	-	
Glossary & Acknowledgements	1	-	-	-	1	-	-	1	1	1	
<b>TOTAL</b>	<b>158</b>	<b>17</b>	<b>17</b>	<b>88</b>	<b>12</b>	<b>42</b>	<b>123</b>	<b>85</b>	<b>40</b>	<b>42</b>	

## Fundamental Health Terminology

### *Health and Wellbeing*

The SEQ Plan articulates a strong and robust policy framework for human health and wellbeing. The Plan contains the highest number of occurrences of the terms *health* (n=158) and *wellbeing* (n=17) of the five metropolitan plans (see Table 4.1) and, as noted in Chapter 4, the count for the term *health* in the SEQ Plan is the highest recorded for any of the 10 search terms. Both terms appear in the majority of the Plan's chapters, as well as in key sections such as the vision statement and specific policies. This prominence is also reflected in the comparatively high number of occurrences of the terms *health* (n=34, 22%) and *wellbeing* (n=5, 29%) in the Plan's key sections (see Tables 4.2 and 6.1). Collectively, the highest concentrations of the terms appear in 'Part C – Regional land use pattern' (n=35), 'Regional policy 6 – Strong communities' (n=31) and 'Regional policy 11 – Water management' (n=27) (see Table 6.2).

One of the SEQ Plan's distinguishing features is the way it contextualises its health-related directions and policies. This is achieved in Part B of the Plan, where reference to the Queensland Government's '2020 vision' for the State – which lists being 'healthy' as one of its five 'ambitions' for communities (p. 10) – provides the primary justification and context for the inclusion of health, and health-related terminology, in the regional vision for SEQ. There are two direct references to health in the regional vision: the first in relation to healthy communities, and the second in relation to the provision of health services (p. 10). The regional vision also makes reference to many of the qualities of a healthy built environment, including accessibility, public transport, open space, local heritage, safety, employment opportunities and sustainable development. Indeed, six out of the 10 search terms appear in the Plan's vision statement and this contributes to the overall tone of the document, which is decidedly more health-oriented than other Australian metropolitan plans. Despite this, the direct health value of the Plan's various policies and programs could have been further reinforced with the inclusion of statistics on key health issues such as obesity and mental illness, as well as research evidence on the association between physical environments and health. And, although health is mentioned in two of the Plan's strategic directions ('Supporting rural production', p. 11 and 'Supporting strong and healthy communities', p. 12), the health implications of other strategic directions, including those on sustainability, climate change and oil supply vulnerability, residential and employment growth, accessibility, smart growth, and

infrastructure provision could have been affirmed at this strategic point in the Plan.

Within the body of the SEQ Plan, 'Regional policy 6 – Strong communities' contains the most explicit policies on human health and wellbeing. Among other things, this policy argues that:

[t]he health of a community is determined by a range of factors including social disadvantage, population characteristics, social cohesion and sense of community, access to social infrastructure, safety and perceptions of safety, housing affordability and density, transport and accessibility, physical activity and the availability of open space, exposure to pollutants and hazards, and climate change. (p. 81)

This is backed by a series of policies and programs covering key dimensions of healthy planning such as housing diversity and “universal design” (Program 6.1.5, p. 78), social infrastructure (Policy 6.2.2, p. 79), safety and crime prevention (Policies 6.3.1, 6.3.2 and 6.3.4, p. 80), walking and cycling (Policy 6.3.2, p. 80), public open space (Policy 6.3.3, p. 80), healthy food access (Program 6.3.8, p. 80), and heritage protection (Policy 6.5.1, p. 83). The Plan also highlights the importance of on-going community involvement in planning processes and decision-making under 'Regional policy 6.4' (p. 82), and calls for the use of Health Impact Assessments (HIAs) to 'identify and manage likely health and community wellbeing effects of development' (Policy 6.3.5, p. 80).

Additional policies in other sections of the Plan complement the suite of explicit, health-related policies in 'Regional policy 6 – Strong communities'. Direct links are made to the health benefits of policies or programs on sustainable development (Regional policy 1.1, p. 40), the natural environment (Regional policy 2, p. 47), managing air quality and noise emissions (Regional policy 2.3, p. 53), community greenspace (Regional policy 3.2, p. 59), outdoor recreation (Regional policy 3.7, p. 66), rural production areas (Regional policy 5, pp. 72, 74), the socio-economic wellbeing of Indigenous Australians (Regional policy 7.3, p. 88), compact settlement (Regional policy 8, p. 90), social infrastructure provision (Regional policy 10.8, p. 130), water quality and supply (Regional policy 11.2, p. 133 and Regional policy 11.4, p. 136), and active transport (Regional policy 12, p. 139). Nevertheless, it is disappointing to note that some critical policies, including 'Regional policy 1 – Sustainability and climate change', 'Regional policy 4 – Natural resources' and 'Regional policy 12 – Integrated transport', contain only

minimal references to human health, despite the manifest potential these policies have to influence health outcomes.

The Plan's compact settlement policies – which align closely with the Melbourne Plan by identifying existing urban centres, high-frequency transit corridors and designated development areas as the primary locations for future urban development – underscore nearly all of the Plan's policies on health. In the notes for 'Regional policy 8 – Compact settlement', the Plan acknowledges that '[c]ontaining urban growth pressures will preserve the region's landscape, open spaces and farmland, and provide significant environmental and health benefits' (p. 90). These benefits will be discussed in more detail in the following section. It is worth noting at this point, however, that well-designed, compact, mixed-use urban areas play a vital role in supporting health as part of everyday living (Frank et al. 2003; Giles-Corti 2007; Barton et al. 2010; Dannenberg et al. 2011; Kent et al. 2011). These areas promote the use of public and active transport over the motor vehicle, thereby reducing levels of physical inactivity and greenhouse gas emissions from transport fuel consumption; enhance access to other essential facilities and services such as employment, public open space and healthy food; and act as a focal point for community activity and social interaction, which in turn builds social capital (Leyden 2003; Cohen et al. 2008; Eicher and Kawachi 2011; Thompson et al. 2011). The prominence of compact settlement policies in the SEQ Plan therefore reflects its awareness of the connection between the physical form of cities and human health.

### *Liveable*

There are a total of 17 occurrences of the term *liveable* in the SEQ Plan. As with the Melbourne Plan, however, a significant percentage of these occurrences (45%, n=8) are located in key sections (see Table 6.1). The term features prominently in the Plan's vision statement and strategic directions (Part B), but is absent from many other sections, including 8 out of twelve 'Regional policies' (Part D), the chapter on implementation and monitoring (Part E), and the glossary, where the inclusion of a definition of the term would have offered a useful focus for the Plan's policies (see Table 6.2).

The SEQ Plan adopts a similar approach to the Melbourne Plan, attempting to protect and enhance the liveability of the region by limiting the city's outward expansion and encouraging a more compact urban form. It is argued this will preserve the qualities and characteristics – such as the rural and natural landscapes – that 'underpin the region's liveability and viability' (p. 11). In order to manage future growth in this way, the

Plan allocates all land within the region to one of three land use categories: the 'Regional Landscape and Rural Production Area', the 'Urban Footprint', and the 'Rural Living Area'. These categories are clearly defined in 'Part C – Regional land use pattern' (pp. 15-16) and reinforced (and legally enforced) through the *South East Queensland Regional Plan 2009-2031 State planning regulatory provisions* (Part F).

The second land use category – the 'Urban Footprint' – performs a particularly vital function in preserving SEQ's liveability. It encompasses 'land that can meet the region's urban development needs to 2031 in a more compact form' and includes 'established urban areas, broadhectare [greenfield] and remnant broadhectare areas that could be suitable for future urban development' (p. 15). Land within the 'Urban Footprint' will accommodate the majority of the region's future development and the Plan sets out how this will occur in a series of 'Sub-regional narratives' (Part C, pp. 17-37), and in policies such as 'Regional policy 8 – Compact settlement'. The latter policy, driven by "smart growth" principles, requires higher density residential development to be located in and around regional activity centres and transit nodes and corridors (Policy 8.1.2, p. 91), and calls for a range of land uses and the co-location of services in activity centres (Policy 8.1.2, p. 91; Policy 8.6.2, p. 96 and Policy 8.8.1, p. 100). It also sets detailed local government dwelling targets for infill development and the redevelopment of existing urban areas (Policy 8.1.1, p. 91), and specifies a minimum net dwelling yield of 15 dwellings per hectare for new residential developments in 'Development Areas' (areas of additional land supply within the Urban Footprint: Policy 8.1.4, p. 91). Collectively, these policies will 'promote liveability' (p. 92) by enhancing access to a range of essential services and facilities such as shops, schools, public open space, active and public transport networks, and employment. They will also help to protect regional landscape values – such as biodiversity, rural production, scenic amenity, non-Indigenous and Indigenous cultural heritage, and outdoor recreation – from impending development pressures.

## **CHES Principles**

### *Connected Environments*

The SEQ Plan recognises the fundamental role of planning in facilitating physical and socio-cultural connections. There are 88 occurrences of the term *connect* – 25 per cent (n=22) of which are located in key sections – and the term features regularly throughout the Plan's chapters (see Tables 6.1 and 6.2). A high number of occurrences are located

in 'Part D – Regional policies', most notably in 'Regional policy 12 – Integrated transport' (n=21), 'Regional policy 8 – Compact settlement' (n=15) and 'Regional policy 3 – Regional landscape' (n=13) (see Table 6.2). These word-search counts reflect the focus of the Plan's policy provisions on 'connected environments', promoting measures to connect communities to each other, to essential services and facilities, and to the regional landscape.

Indeed, connecting communities is a recurring theme in the SEQ Plan and one that is introduced at an early stage through the 'Regional vision': '[t]he vision for SEQ is a region of *interconnected* communities, with excellent accessibility and an extensive and efficient public transport system' (p. 10; emphasis added). To realise its vision, the Plan focuses heavily on integrating land use and transport planning via specific policies on compact development (Regional policy 8.1, p. 91), growth management (Regional policy 8.2, p. 91), activity centres and transit corridors (Regional policy 8.6, p. 96), 'Development Areas' (Regional policy 8.10, p. 104), and land use and transport planning (Regional policy 8.9, p. 101 and Regional policy 12.1, p. 140). Concentrating future growth in activity centres and designated development areas, located within close proximity to existing or planned transport infrastructure and services, is at the heart of the Plan's efforts to connect communities. Alongside this, the Plan also acknowledges the need to sequence (and co-locate) new residential development with social infrastructure (Regional policy 10.8, p. 130), to connect new and existing communities to each other (Policy 6.2.3, p. 79), and to include a broad mix of land uses in centres (Regional policy 8.8, p. 100). These policies are linked to increased levels of safety, urban and streetscape amenity, social interaction, physical activity and community ownership, which all have the potential to contribute to human health outcomes.

A number of regional policies emphasise the community-building role played by public and active transport infrastructure, although many of the Plan's policies in this area lack detail on funding and delivery mechanisms. This is due, in part, to the failure to integrate the SEQ Plan with the region's transport plan: *Connecting SEQ 2031: An Integrated Regional Transport Plan for South East Queensland (Connecting SEQ 2031)* (2011). It is noted that, upon its release, *Connecting SEQ 2031* will 'provide further detail on implementing the integrated transport and land use aspects of the SEQ Plan' (p. 140). However, a lack of explicit policies on key issues including active transport infrastructure (for example, end-of-trip facilities), transport options for the disadvantaged, and the transport needs of vulnerable population groups, has the potential to undermine,

or at least diminish, many of the Plan's policies on 'connected environments'. References to transit-oriented development (TOD) principles (pp. 101, 140), new high-frequency public transport networks (pp. 140, 145), and community-operated transport services (p. 145) offer some hope that local councils will be able to engage with the Plan's transport objectives as they formulate local plans and land use strategies.

The SEQ Plan also focuses on connecting communities to regional landscape areas such as biodiversity and community greenspace networks, waterways and coastal waters, and areas of particular historical, cultural and scenic value. The Plan affirms the role of regional landscape areas in providing socio-cultural, historical and spiritual connections, and incorporates policies and programs to support the preservation and use of such areas. 'Regional policy 3.1' (p. 56), for example, seeks to 'protect, manage and enhance the multiple values of the regional landscape and optimise the contribution these values make to the region's liveability, health, lifestyle and economy'. Policies also address the cultural connections that Indigenous communities have to the regional landscape (Policy 3.6.2, p. 64), and the importance of partnering with stakeholders to coordinate the planning and management of regional landscape areas (Policy 3.2.1, p. 57). Closely associated with these policies is the theme of ecological connectivity. The Plan includes provisions to re-connect wildlife habitats and biodiversity corridors that have 'been extensively fragmented through past development' (p. 48); however, no attention is paid to the associated human health benefits of such actions. This deficiency will be discussed in relation to the 'sustainable environments' CHES principle below.

### *Connected Ways of Working*

'Connected ways of working' is a recurring theme in the SEQ Plan. Policy alignment and integration is seen as critical to establish the framework for collaboration around key initiatives and between primary stakeholders, including the community, private industry, traditional owners, and various levels of government. Many of the Plan's policies are buttressed by federal or state government plans on sustainability, climate change, natural resource management, community greenspace, Indigenous Australians, transport and infrastructure planning. This provides a comprehensive framework and rationale for the Plan's policies and programs on such issues. The adoption of relevant targets from federal and state government plans (see, for example, 'Regional policy 1.2', p. 41) gives further weight to the content of the SEQ Plan and, where there is need to develop new or additional objectives, the Plan advocates 'measurable, achievable and

time-bound' targets that 'relate to the desired regional outcomes of the SEQ Plan' (p. 41). Notwithstanding, there are no specific references to government plans or targets on health issues, and the Plan offers no indication that its healthy planning provisions will be monitored or evaluated through any form of collaboration with health agencies. Such partnerships are necessary to ensure an integrated response to current health challenges, including rising rates of chronic diseases in certain population groups (Northridge et al. 2003; Zenzola 2003; Srinivasan et al. 2003; Thompson and McCue 2008; Barton 2009; ALGA et al. 2011; Freeman et al. 2011; Kent and Thompson 2011; Wheeler et al. 2011).

A particularly encouraging element of the SEQ Plan, on the other hand, is its commitment to involve regional stakeholders in planning and decision-making processes. There is a noticeable emphasis on the need for on-going engagement with community groups, public and private landowners, Aboriginal and Torres Strait Islander (ATSI) peoples, industry, state agencies, and local councils. This is expressed within the context of policies on the natural environment, biodiversity, regional landscape areas, community greenspace, social infrastructure provision, transport and freight. There are also stand-alone regional policies addressing specific stakeholder groups. 'Regional policy 6.4' (p. 82), for example, focuses on 'community engagement, capacity building and identity' and contains provisions to work with new *and* existing communities as the region accommodates significant population growth. Such engagement will be vital as part of the region's transition to a more compact urban form. By working alongside communities, the Government will contribute to residents' understanding and ownership of the SEQ Plan's policies, and support the growth of social capital through stronger social connections.

### *Healthy Eating Environments*

Unfortunately, the multifarious health benefits of creating 'healthy eating environments' are overlooked in the SEQ Plan. Relevant terminology on this CHES principle is almost entirely absent, with no occurrences of the term *eat* and only 12 occurrences of the term *food* recorded across the entire Plan (see Table 6.1). A total of three occurrences of the term *food* are located in key sections, which is only marginally higher or equal to the counts recorded for other metropolitan plans (see Table 4.2). Furthermore, there are no references to the term in the Plan's introduction, vision statement, strategic directions or implementation chapter. The majority of occurrences are embedded in three 'Regional



policies': 'Regional policy 4 – Natural resources' (n=3), 'Regional policy 5 – Rural futures' (n=3) and 'Regional policy 6 – Strong communities' (n=3) (see Table 6.2).

The SEQ Plan thus appears to pay minimal attention to the contribution healthy eating environments play in human health. In the notes for 'Regional policy 6.3 – Healthy and safe communities' the Plan acknowledges that '[s]edentary lifestyles and poor diets result in high obesity levels and poor health' (p. 81). Conserving agricultural land and spaces for urban agriculture is also linked to the availability of 'fresh, quality, seasonal local produce' (p. 81), and to the broader concept of healthy communities. However, the Plan fails to develop a comprehensive policy platform for action based on these truisms. Its policies are limited to protecting the region's ecosystems and productive agricultural land (Policy 4.2.2, p. 68; Policy 4.3.1, p. 71 and Policy 5.2.6, p. 71), planning for the impact of climate change and rising energy costs on food production (Policy 5.2.4, p. 74), and supporting access to local food in urban environments through initiatives such as community gardens and fresh food markets (Program 6.3.8, p. 80). While these policies will contribute to increasing food security and reducing food miles, they lack the implementation mechanisms necessary to drive local initiatives through lower-order plans. For example, the Plan offers no guidelines for local authorities on how land use policies might encourage the use of vacant land for community-based food production, or restrict concentrations of fast-food outlets – especially in low-income areas and around schools. In addition, the Plan does not acknowledge the role active and public transport plays in enabling access to, and the transportation of, healthier food options. These issues require attention as part of the Plan's review and should be informed by consultation with community groups and other stakeholders.

### **Safe Environments**

Unlike the previous CHES principle, safety is a strong and clearly articulated element of the SEQ Plan. There are a total of 42 occurrences of the term *safe*, the majority of which appear in 'Regional policy 6 – Strong communities' (n=19). The term features in many of the Plan's other regional policies, albeit in moderate to low numbers, and is one of only three search terms (along with *sustainable* and *climate change*) found in the Plan's vision statement (Part B), implementation and monitoring chapter (Part E), and regulatory provisions (Part F) (see Table 6.2). The prominence of the term in the Plan's major parts and policies is also reflected in the comparatively high percentage of occurrences in key sections (31%, n= 13) (see Table 6.1).

The SEQ Plan therefore places a high priority on developing safe communities. Its health and safety provisions are inextricably linked: a feature which is anticipated by the inclusion of both terms in the Plan's vision statement – '[t]he regional vision for SEQ is a future where...communities are safe, healthy, accessible and inclusive' (p. 10) – and reflected in the title of one of the Plan's major policies – 'Regional policy 6.3 – Healthy and safe communities'. Not surprisingly, most of the Plan's content on safety is contained within this Policy, which seeks to '[d]evelop healthy and safe environments that encourage community activity, participation and healthy lifestyles, and prevent crime' (p. 80). 'Regional policy 6.3' identifies safety, and perceptions of safety, as major determinants of human health, and notes that pedestrian-oriented design, accessibility and connectivity, sight lines and surveillance, appropriate lighting, venues for community activities, housing diversity, and efficient public transport systems all contribute to community safety (p. 81).

The Plan's policy provisions on safety focus, in particular, on the influence of urban design and transport as modifiers of human behaviour and activity. Specific policies on urban design cover key dimensions of 'safe environments', including the use of crime prevention through environmental design (CPTED) guidelines (Policy 6.3.4, p. 80), the safe design and development of major growth areas (namely, regional activity centres, Development Areas and broadhectare developments) (Policy 6.3.1, p. 80), safe access to public spaces and places (Policy 2.4.4, p. 54), and the reduction of unsafe sun exposure (Policy 6.3.2, p. 80). Additional policies on transport and land-use planning complement the provisions on urban design. Regional policies 8.9 (p. 101) and 12.1 (p. 140), for example, both reinforce the value of an integrated public transport network that enables 'safe and convenient passenger accessibility' and augments 'the interrelationship between land use and transport' (p. 140). Scope is provided for lower-order plans to develop explicit policy on safety by the Plan's statements on road safety (p. 35); safe and accessible footpaths, walkways and cycleways linked to local destinations and facilities (pp. 46, 81); the activation of public spaces and streets (p. 100); and the separation of sensitive land uses from industry and major transport routes (p. 53). The same is true of the Plan's policies on broader issues, including safe drinking water (pp. 59, 137, 138), safe waste disposal (p. 129) and climate-responsive building design (p. 93). The Plan does not, however, mention the need for collaboration with law enforcement agencies, schools, local councils and community groups on safety-related issues, nor does it explicitly address the human health or safety benefits of its policies for sustainability, or for the mitigation of, and adaptation to, climate change.

### *Sustainable Environments*

As in other Australian metropolitan plans, sustainability is an overarching principle of the SEQ Plan. The total number of occurrences of the term *sustainable* is very high (n=123), and is consistent with the counts for both the Melbourne and Sydney Plans. However, unlike these two Plans, a particularly high percentage of occurrences are located in key sections (37% in comparison to 16% for both Melbourne and Sydney) (see Tables 5.1, 6.1 and A5). The term *sustainable* features consistently throughout the SEQ Plan, with the highest number of occurrences in 'Regional policy 1 – Sustainability and climate change' (n=31), 'Regional policy 5 – Rural futures' (n=17) and 'Regional policy 8 – Compact settlement' (n=10). The term also appears more frequently than any other term in principal sections such as 'Part B – Regional vision and strategic directions' (n=7) and 'Part E – Implementation and monitoring' (n=8). Only three sections contain no references to the term: 'Regional direction 6 – Strong communities', the 'Glossary', and the 'Acknowledgements' (see Table 6.2).

The SEQ Plan is, in fact, driven by the imperative to create sustainable environments. In the opening lines of the 'Introduction' the Plan states: '[t]he purpose of the *South East Queensland Regional Plan 2009-2031* is to manage regional growth and change in the most sustainable way' (p. 4). This is reaffirmed in the 'Regional vision', 'Strategic directions' and 'Regional policies', which contain multiple references to sustainability and address its ecological, economic and social implications. The Plan also notes that the Queensland framework for ecologically sustainable decision-making has informed its principles and policies (p. 39), and commits the State to regularly monitoring, evaluating and reporting on its progress towards achieving sustainability (see, for example, 'Regional policy 1.1 – Sustainability monitoring', p. 41 and 'Part E – Implementation and monitoring', p. 153). Unfortunately, however, the Plan's sustainability initiatives are linked overwhelmingly to the health of the natural environment, rural lands and the economy rather than that of its human population. The absence of the term *sustainable* from 'Regional policy 6 – Strong communities' – the policy with the highest number of occurrences of the term *health* – highlights the Plan's failure to link its sustainability and health initiatives. The Plan's policy provisions on sustainability are, nonetheless, very comprehensive and have strong implicit links to human health and wellbeing.

Many of the SEQ Plan's policy provisions in this area, then, focus on sustainable development as a means to protect the region's natural environment and its ecosystem

“services”. Under ‘Regional policy 1.1 – Sustainability principles’ (p. 40) the Plan notes that sustainable development in SEQ should reflect ‘sustainability characteristics’, including compact, mixed-use and transit-oriented development; climate-responsive building design; low levels of water, energy and material consumption; recycling and re-use of natural resources; biodiversity and greenspace networks; protection from natural hazards, including the effects of climate change; local and diverse employment opportunities; the use of renewable energy sources; and the preservation of cultural and landscape heritage. These ‘sustainability characteristics’ are augmented by other policies and programs on natural resource management (Policy 4.1.2, p. 68), the protection of agricultural lands and native forests (Policies 4.2.2 and 4.2.4, p. 68), smart growth (Program 8.3.6, p. 93), community greenspace (Policy 8.4.2, p. 94), and sustainable travel (Policy 12.2.3, p. 145). Although, as previously mentioned, the health implications of these policies are generally not identified explicitly.

The SEQ Plan also develops a multifaceted policy platform on social sustainability. There is a particular emphasis on social infrastructure provision as a means to build sustainable communities. The Plan affirms the importance of planning, coordinating and sequencing the delivery of social infrastructure, in concert with active and public transport infrastructure, in development areas (Regional policy 6.2, p. 79 and Regional policy 10.8, p. 130). As well as this, the Plan identifies rural and Aboriginal and Torres Strait Islander communities as groups in need of specialised and additional social and community infrastructure (pp. 75, 88). Other aspects of the Plan’s policy platform on social sustainability include housing diversity and affordability (Regional policy 8.5, p. 95); planning for an ageing population (Program 6.1.5, p. 78); addressing social and locational disadvantage in communities (Regional policy 6.2, p. 79); cultural heritage and cultural development (Regional policy 6.5, p. 83); and on-going engagement with communities in planning decision-making processes (Regional policy 6.4, p. 82). Encouragingly, the Plan links a number of these initiatives to human health, primarily in its discussion of the characteristics of healthy and safe communities (p. 81), and of the benefits of investing in social infrastructure (p. 130).

### *Climate Change*

Climate change is another predominant theme of the SEQ Plan. There are a total of 85 occurrences of the phrase, and these appear in nearly all of the Plan’s major parts, including ‘Part B – Regional vision and strategic directions’ (n=5), ‘Part E –

Implementation and monitoring' (n=2) and nine out of the 12 regional policies. 'Regional policy 1 – Sustainability and climate change' contains a particularly high number of occurrences (n=44) and is the focus of the Plan's policies and programs on climate change (see Table 6.2). The phrase *climate change* also appears regularly in key sections, such as the vision statement, strategic directions, and specific policies and programs. The key section count for the phrase (n=25) is, notably, the highest for the five selected metropolitan plans (see Table 4.2).

The SEQ Plan's climate change policies seek to both mitigate and adapt to the adverse effects of a changing climate. Its policies are based on the premise that 'urgent action is necessary to stabilise greenhouse gas emissions' (p. 39), which are acknowledged to be the main cause of anthropomorphic climate change. 'Regional policy 1.3' (p. 42) is the locus of the Plan's specific initiatives to mitigate climate change by reducing greenhouse gas emissions. Other policies and programs on climate change are designed to implement these initiatives, including those on reducing transport fuel consumption through more compact settlement patterns and increased provision of active and public transport infrastructure (Policy 1.3.2, p. 42; Regional policy 12.2, p. 145 and Regional policy 12.3, p. 146); improving energy efficiency through better design and construction methods (Policy 1.3.3, p. 45); increasing the provision of renewable energy and the sequestration of carbon dioxide through the planting of trees and retention of vegetation (Policies 1.3.4 and 1.3.5, p. 42 and Policies 10.5.5 and 10.5.6, p. 127); minimising emissions from landfill (Policy 1.3.6, p. 42); aligning regional emissions policies (Program 1.3.7, p. 42); and developing performance criteria on emissions reduction (Program 1.3.8, p. 42).

Another facet of the SEQ Plan's policies in this area relates to its initiatives on climate change adaptation. The Plan highlights the vulnerability of communities and natural ecosystems to 'climate change induced increases in natural hazards' (p. 49), such as floods, bushfires, storm surges and heatwaves. Many of the Plan's policies and programs stress the need to develop adaptation strategies for specific natural hazards (see, for example, Policy 1.4.2, p. 44 and Policy 11.6.1, p. 138), and to pursue intersectoral and integrated policy development and performance monitoring (Programs 1.4.1 and 1.4.5, p. 44). While the Plan mentions the threat climate change poses to 'communities and the natural environment' (p. 44) it does not expand on this to identify or explore associated human health implications. The health co-benefits of climate change mitigation and adaptation policies have been well documented for some time

(Craig et al. 2007; McMichael 2007; WHO 2008; Baum et al. 2009; Gill and Stott 2009; Haines et al. 2009; Woodcock et al. 2009; Capon and Rissel 2010), and need to be acknowledged and addressed as part of a comprehensive policy platform on both climate change and human health.

## Active Transport

The SEQ Plan supports active transport modes such as walking and cycling, although its policy ambit is relatively narrow and its active transport policies lack detail. The Plan contains the second lowest number of occurrences of the terms *walk* (n=40) and *cycle* (n=42) for the five selected metropolitan plans (see Table 4.1), although a reasonably high percentage of occurrences appear in key sections (30% for the term *walk* and 21% for the term *cycle*) (see Table 6.1). The terms often appear within the same phrase (for example, 'walking and cycling networks'), and are primarily concentrated in two regional policies: 'Regional policy 8 – Compact settlement' (n=25) and 'Regional policy 12 – Integrated transport' (n=30).

The SEQ Plan's active transport policies target two critical dimensions of walking and cycling in urban environments: land use and infrastructure provision, recognising the need to 'integrate land use and transport to support walking, cycling and public transport' (p. 96). To achieve this outcome, the Plan seeks to reorientate the city's growth by directing future development into compact, mixed-use activity centres, and other strategic development locations, with good access to public and active transport infrastructure, services and facilities (Policy 1.5.2, p. 46; Policy 8.1.3, p. 91 and Policy 12.1.3, p. 140). Planning and design elements such as connectivity, amenity and safety are identified as determinants of active transport use and addressed in specific policies, including 'Policy 6.3.2' (p. 80) and 'Policy 8.9.7' (p. 101). Other components of the Plan's policy framework recognise associated determinants of both public and active transport use, such as the availability of car parking in major centres (Policy 8.9.6, p. 101), the provision and integration of urban greenspace networks for recreational purposes (Regional policy 8.4, p. 94), and the sequencing of public and active transport infrastructure in new development areas (Regional policy 12.3, p. 146).

A positive element of the SEQ Plan is that it explicitly recognises the health and environmental benefits of its active transport policies. In 'Regional policy 6.3' (p. 81), for example, the Plan identifies safe and accessible walking and cycling routes

and footpaths as key components of ‘healthy and safe communities’ (p. 81). In other sections, it places similar emphasis on the role of active transport in reducing greenhouse gas emissions (p. 43) and increasing the region’s ability to respond to oil supply vulnerability (p. 46). It is also the only metropolitan plan to mention recreational activities such as walking dogs as an important form of physical activity (p. 94).

Although the Plan links its initiatives on active transport to the health of both the environment and its human population, its policies nonetheless lack the necessary detail to comprehensively inform local-level plans. While many of the Plan’s policies contain strategies to encourage walking and cycling, they often fail to address the *specific* facilities, partnerships and design requirements needed to support the use of active modes of transport, especially for utilitarian purposes. There are, for example, no policies on end-of-trip facilities (such as secure bicycle parking, public changing rooms and commercial office shower facilities) for people who choose to actively commute to work. Nor are there policies exploring the potential for shared bicycle schemes or programs targeting vulnerable user-groups such as children and the elderly. The anticipated release of the regional transport plan (pending at the time the Plan was written) has meant that many of the SEQ Plan’s policies lack important details on implementation (for example, on lead agencies, timing and funding) and performance monitoring. A commitment to monitor specific interventions on active transport is essential, and would no doubt present opportunities for planners to work more collaboratively with public health experts in the design and construction of healthier built environments.

## CONCLUSION

The SEQ Plan is a strong and comprehensive policy document, with an impressive range of provisions for human health and wellbeing. Unlike the Melbourne Plan, it establishes a clear context and rationale for its policies and programs on health. This is achieved through the widespread use of explicit health language in its introductory and background chapters, which establish the Plan’s overarching aims and objectives. The Plan’s vision statement, for example, makes two direct references to health and contains six out of the 10 search terms used to frame this study’s content analysis. Although the Plan could have defined key health-related terminology and included relevant statistics on both current and emerging public health problems, it nevertheless establishes a broad platform for future planning actions on health at the regional, sub-



regional and local level. It also links many of its initiatives to associated state policies and performance measurements. Within Part D, the Plan contains explicit policies – such as ‘Regional policy 6.3 – Healthy and safe communities’ – that explore key determinants of health. Specific policies on safety and crime prevention, housing affordability and diversity, open space and outdoor recreation, social infrastructure and disadvantage, active transport, sustainable development, heritage protection, and integrated land use and transport planning reinforce the Plan’s vision for ‘safe, healthy, accessible and inclusive’ communities (p. 10).

Many of these policies, however, could go further to acknowledge implicit links between their area of concern and human health. This relates, in particular, to the Plan’s policies on climate change mitigation and adaptation, and those on sustainability. Additionally, the Plan generally overlooks the importance of creating ‘healthy eating environments’, leaving local authorities with little guidance on ways to improve access to healthy and affordable food. Finally, the Plan’s policy platform on human health could have been strengthened with additional measures on implementation, performance monitoring and intersectoral collaboration. Further consideration of innovative funding arrangements, cross-disciplinary partnerships, targets and on-going community consultation is warranted, and should inform the impending 5-year review of the Plan.



# 7. Discussion

## INTRODUCTION

Chapter 7 draws on key findings from the previous three chapters to reconsider the thesis' central research question: to what extent do Australian metropolitan plans incorporate a comprehensive suite of intersectoral provisions for human health and wellbeing? Given the depth of analysis and discussion in Chapters 5 and 6, there is no need to review all aspects of the plans' health-related content; rather, this chapter focuses on the collective strengths and weaknesses of the plans, and suggests modifications that might be made to enhance the effectiveness of health provisions in metropolitan plans in the future. The discussion is moderated by the scope of the thesis, and focuses in particular on the Melbourne and SEQ Plans; however, the analysis of the Adelaide, Perth and Sydney Plans' manifest content, and preliminary analysis of their latent content, has also been used to supplement the discussion at various points. The chapter concludes with an assessment of the limitations of the current study and with suggestions for further research.

## STRENGTHS AND WEAKNESSES OF THE PLANS

The manifest content analysis carried out for this study provides clear evidence on the prominence of health-related terminology in all five selected metropolitan plans. Nevertheless, substantial disparities emerged once the analysis was refined to include data on the specific sections in which the terms are located. For example, the SEQ and Adelaide Plans contain a higher percentage of occurrences in key sections – such as their vision statements, strategic directions, and specific policies and actions – in comparison to the Melbourne, Perth and Sydney Plans (see Figure 4.4). This suggests significant differences in the plans' prioritisation of matters related to human health.

The inclusion of explicit health language and terminology at the beginning of metropolitan plans, in critical sections such as the vision statement, is essential if the plan is to establish an adequate context and rationale for subsequent policies and

actions on human health. Research indicates that health-related goals and objectives in policy documents raise awareness of public health issues and have a positive impact on health outcomes (APA 2011). A plan's vision statement is particularly significant as it 'sets the tone for the entire document' (Stair et al. 2008, p. 40) and is 'an ideal place to emphasise the value of health' (Stair et al. 2008, p. 28). It is, therefore, not surprising that the SEQ Plan, which contains frequent references to health, and uses other health-related terminology in its vision statement, is a particularly health-oriented document and contains an impressive suite of policies on human health. In comparison, health terminology is almost entirely absent from the Melbourne Plan's vision and strategic directions, and this limits the plan's ability to raise awareness of the synergies between health and planning, and to provide the platform for local-level plans to create healthy built environments.

The inclusion of research evidence and statistics on health is yet another important element in framing and prioritising health in metropolitan plans. With the exception of the Adelaide Plan, references to research on health are minimal in all the plans analysed as part of this study. Roux and Stanley (2010, p. 94) argue that 'plans need to be informed by evidence about existing Australian conditions' and this includes current evidence on public health problems, such as obesity and mental illness. They also need to manifest an awareness of planning's role in creating supportive environments for human health and wellbeing.

Collaborating with public health professionals is one way in which planners can potentially enhance the presence and relevance of health provisions in policy. Research has identified such collaboration as a critical element in supporting healthy planning policy (Barton 2005; Morris 2006; de Chastel 2007; Stair et al. 2008; Barton 2009; Kent et al. 2011). However, as noted by Northridge et al. (2003, p. 557), 'the loss of close collaboration between urban planning and health professionals...has limited the design and implementation of effective interventions and policies that might translate into improved health for urban populations'. Unfortunately, this lack of connection between planning and health is evident in all the current Australian metropolitan plans examined for this study. While these plans contain commitments to work with other government departments and agencies, the private sector, and local communities, they do not explicitly address the need to form partnerships with health professionals in framing policies on health, or to monitor and evaluate the policies' effectiveness.

Another noticeable gap exists in relation to provisions on food and the creation of 'healthy eating environments' in current Australian metropolitan plans. With the exception of the Sydney Plan, the terms *eat* and *food* seldom feature and are very rarely linked to human health. The in-depth analysis of the Melbourne and SEQ Plans, in particular, revealed a substantial lack of explicit policies on 'healthy eating environments'. These plans offer no guidance for local authorities on how policies might facilitate access to healthy food through zoning regulations, the provision of open space for community food production and the planning of transport routes. While food has been identified as 'a key component of the metropolitan strategic planning process' (Budge 2011, pp. 14-15), Australian metropolitan plans are yet to recognise the significance of 'healthy eating environments' to human health and their role in reducing nutrition-related diseases, including obesity, diabetes and bowel cancer.

In contrast to food, and with the exception of the Melbourne and Perth Plans, environmental sustainability *and* climate change, are both firmly on the metropolitan planning agenda in Australia. The plans' policies on these issues are, nevertheless, primarily linked to the health of the natural environment and the economy rather than human populations. In this sense, the plans' policies are health implicit. If implemented, they will clearly benefit human health and wellbeing. However, in order to frame health as a critical policy issue it is essential the plans foreground the explicit health benefits of their sustainability and climate change policies. It is not enough to leave this connection implicit. A recent report by the Australian Department of Climate Change and Energy Efficiency, for example, emphasises that climate change 'poses real and significant threats to the health of Australians, now and into the future' (Hughes and McMichael 2011). These threats, which included higher temperatures, rising sea-levels and the risk of more intense weather events, are major planning issues that should also be identified as health issues in our metropolitan plans. There is, consequently, a need to raise awareness within the planning profession about the links between sustainability, climate change and human health (Capon and Thompson 2010), through collaboration with climate scientists, health professionals and other key researchers.

The existing policy strengths of Australian metropolitan plans, including their provisions on creating connected environments through integrated land use and transport planning, provide a strong base from which to address human health more broadly. All five metropolitan plans stress the value of creating a connected network of activity centres, based around high-quality public transport services and social

infrastructure, and they explicitly link their policies on this issue to human health. The plans also recognise the importance of safety – both real and perceived – in encouraging people to engage in healthy activities and to frequent public spaces and places.

## **LIMITATIONS OF THE STUDY**

Although the study was successful in fulfilling its research aims, it was, nonetheless, limited in scope by the size of the selected metropolitan plans and the quantity of data generated by the content analysis. At the expense of analysing the latent content of all five metropolitan plans, it was decided to centre in-depth analysis on the SEQ and Melbourne Plans, in order to determine the full range and extent of health provisions they contain. While this inevitably limited the scope of the findings, the analysis provided valuable insights into how these two plans use policy to address human health and wellbeing. Further research could therefore be extended to include in-depth analysis on the Adelaide, Perth and Sydney Plans, completing the qualitative (latent) analysis of the plans for Australia's five most populous cities.

The paucity of existing research on metropolitan strategic planning and health also imposed limitations on this study. In the absence of such research, it was necessary to concentrate on identifying the health provisions contained in current metropolitan plans rather than exploring other issues, such as the barriers to including health provisions in metropolitan plans and the challenges associated with the implementation of specific policies on health. These issues, important though they are, were beyond the scope of the present study.

## **AREAS FOR FURTHER RESEARCH**

Although there is an evolving body of research evidence on the links between the built environment and health, there is a need for researchers to analyse and collate this evidence as the basis for recommendations to policy-makers. This will ease the burden on policy-makers faced with the task of interpreting complex research and then translating it into tangible planning policies. Many policy-makers simply do not have the necessary support and resources to develop rigorous, evidence-based policies for health, and this is contributing to policy gaps. Lack of evidence in certain areas of health-related research also contributes to gaps in policy. Simply put, if ample research evidence is not available on a particular dimension of the health-built

environment relationship, policy-makers will be unable to devise sound and effective policy. For example, Kent et al. (2011) highlight a lack of research on the impact of the built environment on healthy eating options in the Australian context, which poses difficulties for policy-makers hoping to justify policy change. This may explain why the metropolitan plans examined in the current study contain few provisions on 'healthy eating environments'. Further research is also warranted on the use of Health Impact Assessments (HIAs), which have been identified as a suitable approach for 'translating much-needed evidence on the determinants of health and health inequalities into policy action' (Harris et al. 2010, p. 526).

## **CONCLUSION**

Drawing on the key findings from the analysis of the selected metropolitan plans' health-related content, this chapter has discussed some of the major strengths and weaknesses of the plans, highlighting the extent of their provisions on human health and wellbeing. The chapter has also discussed the limitations of the current study and suggested areas for future research, including the possibility of extending the findings of this study to include qualitative (latent) analysis of the remaining metropolitan plans.

## 8. Conclusion

It is clear from the findings of this thesis that Australian metropolitan plans recognise the importance of planning for human health and wellbeing. Health-related terminology is present in all the plans analysed in this study, including their key sections. Despite this, the plans would benefit from more explicit health language in their opening chapters – particularly in their vision statements and strategic directions – in order to raise awareness of the synergies between health and planning, and to provide a clearer context for specific policies and actions on human health. Additionally, a broader range of intersectoral policies is needed to reinforce the multifarious human health benefits of environmental sustainability, climate change mitigation and adaptation, healthy eating environments, and collaborative working arrangements between planners, health professionals, the community and other key stakeholders. While all of the plans advocate compact, mixed-use development in specified centres and transport corridors as a means to enhance accessibility and the viability of public and active transport, more is required, including innovative policies to safeguard the health and wellbeing of residents living in such areas. Notwithstanding the plans' deficiencies, in the main they do achieve their most important health objective: to provide a framework for lower-order policies and development controls to support the growth of strong and healthy communities, both now and into the future.

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# Appendices



# Appendix A

## COAG criteria

### NATIONAL OBJECTIVE AND CRITERIA FOR FUTURE STRATEGIC PLANNING OF CAPITAL CITIES

#### Objective

*To ensure Australian cities are globally competitive, productive, sustainable, liveable and socially inclusive and are well placed to meet future challenges and growth.*

#### Criteria

Capital city strategic planning systems should:

1. be integrated: -
  - a) across functions, including land-use and transport planning, economic and infrastructure development, environmental assessment and urban development, and
  - b) across government agencies;
2. provide for a consistent hierarchy of future oriented and publicly available plans, including: -
  - a) long term (for example, 15-30 year) integrated strategic plans,
  - b) medium term (for example, 5-15 year) prioritised infrastructure and land-use plans, and
  - c) near term prioritised infrastructure project pipeline backed by appropriately detailed project plans;
3. provide for nationally-significant economic infrastructure (both new and upgrade of existing) including: -
  - a) transport corridors,
  - b) international gateways,
  - c) intermodal connections,
  - d) major communications and utilities infrastructure, and
  - e) reservation of appropriate lands to support future expansion;
4. address nationally-significant policy issues including: -
  - a) population growth and demographic change,
  - b) productivity and global competitiveness,
  - c) climate change mitigation and adaptation,
  - d) efficient development and use of existing and new infrastructure and other public assets,



- e) connectivity of people to jobs and businesses to markets,
  - f) development of major urban corridors,
  - g) social inclusion,
  - h) health, liveability, and community wellbeing,
  - i) housing affordability, and
  - j) matters of national environmental significance;
5. consider and strengthen the networks between capital cities and major regional centres, and other important domestic and international connections;
  6. provide for planned, sequenced and evidence-based land release and an appropriate balance of infill and greenfields development;
  7. clearly identify priorities for investment and policy effort by governments, and provide an effective framework for private sector investment and innovation;
  8. encourage world-class urban design and architecture; and
  9. provide effective implementation arrangements and supporting mechanisms, including: -
    - a) clear accountabilities, timelines and appropriate performance measures,
    - b) coordination between all three levels of government, with opportunities for Commonwealth and local government input, and linked, streamlined and efficient approval processes including under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*,
    - c) evaluation and review cycles that support the need for balance between flexibility and certainty, including trigger points that identify the need for change in policy settings, and
    - d) appropriate consultation and engagement with external stakeholders, experts and the wider community.

# Appendix B

Example of organising tables used for the content analysis

## Content Analysis: SEQ Regional Plan 2009-2031

### 'HEALTH' Word-Search Results

#### COVER, FOREWORD & CONTENTS

PAGE	SECTION	PARAGRAPH
0	Cover Map Disclaimer	Data sources include: Queensland <b>Health</b>
2	Contents Part D – Regional Policies	6.3 <b>Healthy</b> and Safe Communities
2	Contents Part D – Regional Policies	11.4 Waterway <b>Health</b>
3	Contents List of Maps	Map 15: <b>Health</b> , education and training opportunity areas
3	Contents List of Maps	Map 16: <b>Health</b> , education and training opportunity areas—Greater Brisbane and the Western Corridor

Key Section Count = 2

Section Count = 5

#### PART A – INTRODUCTION

PAGE	SECTION	PARAGRAPH
		No occurrences

Key Section Count = 0

Section Count = 0

#### PART B – REGIONAL VISION & STRATEGIC DIRECTIONS

PAGE	SECTION	PARAGRAPH
10	Regional Vision and Strategic Directions Introduction	The Queensland Government has framed a 2020 vision in <i>Toward Q2: Tomorrow's Queensland</i> around five ambitions for communities across Queensland: <ul style="list-style-type: none"> <li>• <b>Healthy</b>: Make Queenslanders Australia's <b>healthiest</b> people</li> </ul>
10	Regional Vision	The regional vision for SEQ is a future that is sustainable, affordable, prosperous, liveable and resilient to climate change, where: <ul style="list-style-type: none"> <li>• communities are safe, <b>healthy</b>, accessible and inclusive</li> <li>• there are diverse employment opportunities and quality infrastructure and services, including education and <b>health</b></li> </ul>
11	Strategic Directions Supporting Rural Production	Strong and viable rural communities are to be maintained so that they continue to contribute to not only the state's economy, but to the <b>health</b> , character, liveability and self-sufficiency of the region. Rural production lands will be protected from further fragmentation and urban encroachment.
12	Strategic Directions Supporting Strong and Healthy Communities	<b>Support Strong and Healthy Communities</b> <b>Healthy</b> communities will be shaped by the physical and social environment, including: <ul style="list-style-type: none"> <li>• suitable areas for physical activity and exercise</li> <li>• well-connected communities with active transport networks</li> <li>• accessible public spaces for community activity</li> <li>• access to facilities and services</li> <li>• the development of strong community networks.</li> </ul>

Key Section Count = 5

Section Count = 7

1

# Appendix C

## “Key section” criteria used for the content analysis

### **Melbourne 2030 “key section” criteria and key for highlighting:**

- Search term found in the **Vision** statement.
- Search term found in a **Principle** heading or statement.
- Search term found in a **Key Direction** heading.
- Search term found in a **Policy** statement or performance criteria.
- Search term found in an **Initiative** statement.

### **South East Queensland Regional Plan 2009-2031 “key section” criteria and key for highlighting:**

- Search term found in the **Vision** statement.
- Search term found in a **Strategic Direction heading** or supporting text.
- Search term found in a **Regional Policy** heading or **Desired Regional Outcome** statement.
- Search term found in a **Principle** statement.
- Search term found in a **Policy** statement.
- Search term found in a **Program** statement.

### **Metropolitan Plan for Sydney 2036 “key section” criteria and key for highlighting:**

- Search term found in the **Vision** statement (including supporting text on pages 16-17).
- Search term found in a **Strategic Direction** heading, statement, performance indicator or performance measure.
- Search term found in an **Objective** statement.
- Search term found in an **Action** statement.

**The 30-Year Plan for Greater Adelaide “key section” criteria and key for highlighting:**

- Search term found in the **Vision** chapter (pages 56-59 only, which state the objectives and principles of the Plan).
- Search term found in a **Policy** heading.
- Search term found in a **Policy** statement.
- Search term found in a **Target** statement.

**Directions 2031 and Beyond “key section” criteria and key for highlighting:**

- Search term found in the **Vision** statement (including supporting text on page 21).
- Search term found in a **Key Theme** heading, objective statement or implementation initiative.
- Search term found in a **Strategy** statement.

# Appendix D

## Word-search results tables for the Adelaide Plan

Table A1: Word-search total counts – Adelaide Plan

	Total Count	Number of Occurrences Found in a Key Section	Percentage of Occurrences Found in a Key Section
Health	82	15	18%
Wellbeing	12	4	33%
Liveable	59	10	17%
Connect	61	18	30%
Eat/Food	10	3	30%
Safe	29	16	55%
Sustainable	78	16	21%
Climate Change	87	20	23%
Walk	58	17	29%
Cycle	40	20	50%
<b>OVERALL TOTAL</b>	<b>516</b>	<b>139</b>	<b>27%</b>

Table A2: Word-search counts by section – Adelaide Plan

SECTION OF PLAN	WORD SEARCH TERMS AND COUNTS										
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustainable	Climate	Walk	Cycle	
Cover, Foreword & Contents	2	1	2	2	-	1	1	3	2	-	
Overview	2	-	3	3	-	-	2	1	3	1	
Summary	6	1	14	4	-	1	16	14	5	1	
A. The Plan's Role, Function & Rationale	3	1	4	-	-	-	3	3	-	-	
B. The Context for the Plan	16	-	6	5	6	2	5	26	8	3	
C. The Vision for Greater Adelaide	5	-	11	11	-	4	17	12	6	2	
D. Policies & Targets Introduction	1	-	-	-	-	-	-	-	-	-	
D1. New Transit Corridors, Growth Areas, TODs & Activity Centres	1	1	2	5	-	1	-	-	3	2	
D2. Adelaide City Centre	1	-	-	-	-	1	1	-	-	-	
D3. Urban Design	-	-	2	3	-	4	1	1	1	1	
D4. Communities & Social Inclusion	-	-	-	-	-	1	2	-	2	2	
D5. Aboriginal Heritage & Culture	-	-	-	1	-	-	-	-	-	-	
D6. Housing Mix, Affordability & Competitiveness	1	1	1	1	-	-	-	-	-	-	
D7. Affordable Housing	-	-	-	-	-	-	-	-	-	-	
D8. Health & Wellbeing	11	5	-	4	3	2	-	-	5	2	
D9. The Economy & Jobs	-	-	1	-	-	-	-	1	-	-	
D10. Transport	1	-	-	2	-	2	-	-	4	14	
D11. Infrastructure	12	-	-	4	-	2	2	-	-	-	
D12. Biodiversity	4	-	1	1	-	-	-	4	-	-	
D13. Open Space, Sport & Recreation	3	1	2	1	-	4	2	1	10	9	
D14. Climate Change	-	-	5	-	-	-	5	9	-	-	
D15. Water	1	-	-	1	1	-	3	1	-	-	
D16. Emergency Management & Hazard Avoidance	2	1	1	-	-	1	-	3	-	-	
E. Regional Targets & Directions	1	-	-	6	-	2	4	-	3	1	
F. Governance & Implementation	2	-	2	5	-	-	6	3	2	1	
Appendices	5	1	1	1	-	-	4	3	2	-	
Glossary & Acknowledgements	2	-	1	1	-	1	4	2	2	1	
<b>TOTAL</b>	<b>82</b>	<b>12</b>	<b>59</b>	<b>61</b>	<b>10</b>	<b>29</b>	<b>78</b>	<b>87</b>	<b>58</b>	<b>40</b>	

# Appendix E

## Word-search results tables for the Perth Plan

Table A3: Word-search total counts – Perth Plan

	Total Count	Number of Occurrences Found in a Key Section	Percentage of Occurrences Found in a Key Section
Health	21	4	19%
Wellbeing	2	0	0%
Liveable	14	10	71%
Connect	56	5	9%
Eat/Food	3	0	0%
Safe	14	6	43%
Sustainable	33	11	33%
Climate Change	12	3	25%
Walk	28	0	0%
Cycle	29	6	21%
<b>OVERALL TOTAL</b>	<b>212</b>	<b>45</b>	<b>21%</b>

Table A4: Word-search counts by section – Perth Plan

SECTION OF PLAN	WORD SEARCH TERMS AND COUNTS										
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustainable	Climate	Walk	Cycle	
Cover, Foreword & Contents	-	-	2	4	-	-	6	-	-	-	
Executive Summary	1	1	2	4	1	1	2	-	1	-	
Planning for Growth	-	-	-	1	-	-	-	-	-	-	
Planning Beyond 2031	-	-	-	-	-	-	1	1	-	-	
Policy Framework	-	-	-	-	-	-	-	1	-	-	
Strategic Framework	2	-	3	2	-	3	4	1	-	1	
Urban Form	-	-	-	12	-	-	-	-	-	-	
Structural Elements	2	-	1	7	-	-	-	-	3	1	
THEMES & STRATEGIES:											
1. A Liveable City	2	-	3	3	-	6	3	-	3	1	
2. A Prosperous City	-	1	-	1	1	-	-	-	1	1	
3. An Accessible City	9	-	1	8	-	4	5	-	18	16	
4. A Sustainable City	3	-	-	1	1	-	7	8	2	2	
5. A Responsible City	1	-	-	1	-	-	3	-	-	-	
Sub-Regional Areas	-	-	-	11	-	-	-	-	-	2	
Implementation	1	-	2	1	-	-	1	1	-	5	
Monitoring	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL</b>	<b>21</b>	<b>2</b>	<b>14</b>	<b>56</b>	<b>3</b>	<b>14</b>	<b>33</b>	<b>12</b>	<b>28</b>	<b>29</b>	



# Appendix F

## Word-search results tables for the Sydney Plan

Table A5: Word-search total counts – Sydney Plan

	Total Count	Number of Occurrences Found in a Key Section	Percentage of Occurrences Found in a Key Section
Health	142	20	14%
Wellbeing	10	0	0%
Liveable	92	32	35%
Connect	142	33	23%
Eat/Food	21	0	0%
Safe	32	10	31%
Sustainable	127	20	16%
Climate Change	96	21	22%
Walk	107	13	12%
Cycle	52	5	10%
<b>OVERALL TOTAL</b>	<b>821</b>	<b>154</b>	<b>19%</b>

Table A6: Word-search counts by section – Sydney Plan

SECTION OF PLAN	WORD SEARCH TERMS AND COUNTS									
	Health	Wellbeing	Liveable	Connect	Eat/Food	Safe	Sustainable	Climate	Walk	Cycle
Introduction	5	1	16	21	2	1	21	13	8	3
A. Strengthening a City of Cities	18	1	7	40	1	2	7	-	5	4
B. Growing & Renewing Centres	16	-	5	4	1	4	7	-	26	2
C. Transport for a Connected City	4	-	1	21	-	-	5	4	11	16
D. Housing Sydney's Population	1	-	3	2	1	-	5	1	10	1
E. Growing Sydney's Economy	16	-	1	10	-	-	11	4	3	2
F. Balancing Land Uses on the City Fringe	4	-	-	1	15	-	10	4	1	1
G. Tackling Climate Change & Protecting Sydney's Natural Environment	20	-	4	3	-	1	34	46	4	5
H. Achieving Equity, Liveability & Social Inclusion	18	5	23	7	1	11	4	1	5	4
I. Delivering the Plan	2	-	-	1	-	1	5	4	1	1
Summary of Strategic Directions, Objectives & Actions	5	-	4	7	-	2	8	5	3	1
Appendices	33	3	28	25	-	10	10	14	30	12
<b>TOTAL</b>	<b>142</b>	<b>10</b>	<b>92</b>	<b>142</b>	<b>21</b>	<b>32</b>	<b>127</b>	<b>96</b>	<b>107</b>	<b>52</b>

