

Wayfinding in Melbourne

Business case scoping report



City of Melbourne
November 2015

Independent insight.



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EXECUTIVE SUMMARY

Background

This report, prepared by SGS Economics and Planning for the City of Melbourne. The report has two main components: a brief review of the literature to identify documented benefits of improved wayfinding signage, and a description of the steps involved in developing a full business case for an integrated wayfinding system across metropolitan Melbourne. This report builds on the outcomes of a Business Case scoping workshop, held in June 2015, on improving wayfinding systems for Melbourne.

Findings

Benefits of improved wayfinding

A literature review found that investment in improved wayfinding signage has generated a range of benefits in cities comparable to Melbourne. These fell into the five broad categories: transport, social and community, economic, environmental, and urban design benefits. The details of the specific benefits are described in chapter 2. While no published evidence of the ‘administrative benefits’ of integrated wayfinding system were found, it is anticipated that these would comprise a sixth category of benefit.

A review of business cases for wayfinding strategies of the cities of Toronto, London, Birmingham and Edmonton was undertaken to gain a preliminary understanding of the benefits of investing in wayfinding. While no attempt was made to monetise anticipated impacts in a Melbourne context, this review of other business cases indicated that the benefit cost ratios of investment in wayfinding are always positive and can be reasonably high.

Business case development

In order to secure investment for an improved wayfinding signage system for metropolitan Melbourne, the Department of Treasury and Finance (DTF) Investment Lifecycle Process (ILP) must be followed. This process involves several defined steps from business case preparation, through to project funding and finally project delivery.

The next step to progress the development of a business case for improved wayfinding in Melbourne would involve the identification of a Senior Responsible Owner (SRO), typically a Deputy Secretary or Executive within the appropriate State Government Department, to support the project through the Investment Lifecycle Process.

The findings of this report, including the range of identified benefits of improved wayfinding signage, will be used to inform the first stage of the ILP (‘Conceptualise’) by serving as inputs into the Investment Management Standard (IMS) process. Following the IMS process the project might progress to the preparation of a Strategic Assessment and, eventually, a Full Business Case. The steps and approximate costs involved in this processes are described in Chapter 3.

1 INTRODUCTION

1.1 Context

A committee charged with improving signage for visitors in Melbourne was established by the CEOs of the Melbourne Tourism Partnership in 2012. The committee – the Melbourne Visitor Signage Coordinating Committee – comprises representatives of the Maribyrnong, Melbourne, Port Phillip, Stonnington, Yarra and Wyndham City Councils, Tourism Victoria, Public Transport Victoria (PTV) and VicRoads.

The CEOs of the Melbourne Tourism Partnership charged the committee with developing ‘business rules’ to apply to wayfinding signage across metropolitan Melbourne. The City of Melbourne (CoM) leads and manages this collaborative project.

In April 2015, CoM – with the financial support of PTV, the Inner Melbourne Action Plan (IMAP) councils and Wyndham City Council – hosted a 12-day visit to Melbourne of the Programme Manager of Legible London, Transport for London’s (TfL’s) acclaimed wayfinding signage system.

Following TfL’s visit, the committee agreed to investigate, amongst other things, development of a business case outlining expected benefits of improved wayfinding signage, and creation of a single base map for use in wayfinding signage across Melbourne. This approach would involve collaboration by state and local governments.

As a first step in this approach, CoM contracted SGS Economics and Planning (SGS) to facilitate a 3-hour stakeholder workshop to appraise whether there is warrant for a business case to pursue an investment strategy to improve the city’s wayfinding signage system. The workshop took place on 24th June 2015 at the City of Melbourne. It involved the systematic identification of wayfinding signage user groups and their current unmet needs, the benefits that might be derived from investment in an improved system, and the potential form an investment could take. The workshop was attended by a total 18 representatives from CoM, other IMAP councils, VicRoads and SGS. PTV and Tourism Victoria were apologies.

1.2 What is wayfinding signage?

Wayfinding signage is the total system of elements that allow people to navigate within and between streets, precincts, landmarks and transport infrastructure. It is comprised of signs, maps, naming conventions, and graphic elements. Other urban elements that contribute to wayfinding might include lighting, street furniture, public art, design elements such as pavement treatments and new technologies such as digital navigational aids (mobile phones, tablets, websites, interactive maps, etc.).



In his book, *The Image of the City* (1960) Kevin Lynch defined 'wayfinding' as 'a consistent use and organisation of the definite sensory cues from the external environment'. Wayfinding describes the orientating and route decision-making process involved in reaching a destination. It encompasses indoor and outdoor navigating across all types of modes of travel and can be supported by a range of interventions including urban design and built form, landmark recognition, internal structures, landscaping, and tactile paving.

1.3 The problem of wayfinding in Melbourne

The workshop participants suggested Victorians, and visitors to Victoria, face a number of significant challenges as a result of shortcomings of Melbourne's current 'systems' of wayfinding signage (see Table 1 below).

For **vehicle drivers** the key issues identified were the proliferation of signs and the lack of a scheme managing the maintenance of signs. The uncoordinated installation of single issue signs was found to cause both unnecessary clutter and 'information overload' for road users, and in many cases missing or damaged signs go unreported and unaddressed.

The key issues faced by **public transport users** were determined to be a lack of integration between route maps and their context and a lack of information and maps available at exit points. The information available to users regarding orientation and wayfinding beyond any single stretch of travel (for example, upon disembarking at a train station) is generally quite poor.

The key wayfinding concerns for **cyclists** were a lack of signage continuity, the difficulties in making safe route choices and navigational issues resulting from removal from the wider road network. Given the disjointed nature of various sections of the city's bicycle network, cyclists are heavily dependent on signage. In cases where the bicycle network is separated from the wider road network, there can be issues in choosing appropriate cross streets to reach key destinations.

For **walkers** the key issues found were a lack of signage continuity and the associated diminished confidence of pedestrians in following signs to reach their destination. Poor indication of distance and walk times were determined to further limit the scope of destination choices for visitors on foot, or prompt the unnecessary use of alternate transport modes for short distances.

Inconsistencies in base mapping and a lack of information for intermodal travel and wayfinding were identified as significant issues across all modes. The deficiencies in Melbourne's existing wayfinding infrastructure were concluded to cause avoidable delays, frustration and stress. Concerns regarding the use of mobile phones in wayfinding and the potential related issues of distraction were also raised.

1.4 The benefits of improving wayfinding signage

The participants at the June workshop identified a range of potential benefits that might arise from improved wayfinding signage in Melbourne. These included:

- Safety and health
- Environment and liveability
- Brand reputation and tourism
- Other economic benefits and cost savings
- Government relations

Chapter 2 of this report explores the issue of benefits through a review of existing literature and business cases to confirm the range of benefits and identify any empirical evidence of the magnitude of the benefits. At the end of this chapter the monetised benefits, costs and benefit-cost ratios (BCR) of some recent business cases for wayfinding improvements are summarised.

1.5 The Investment Lifecycle Process

On the evidence generated in the workshop there was found to be a clear warrant to undertake formal Investment Logic Mapping (ILM) to test the need for further development of Melbourne's wayfinding signage. ILM is part of the 'Investment Lifecycle Process'. The process must be followed to secure State Government funding. Chapter 4 describes the steps and likely costs involved in pursuing this process through to the Full Business Case stage.

TABLE 1. GAPS AND ISSUES IN THE EXISTING WAYFINDING SYSTEM

Mode of travel	Gaps and issues
Vehicle drivers	<ul style="list-style-type: none">– Info overload as result of single issue signs; clutter– Lack of maintenance/lost signs– Poor articulation of transition between arterial and local roads
Public transport users	<ul style="list-style-type: none">– Exclusive focus on route maps (need context)– Lack of exit or interface maps for wayfinding– Routes named by destination can cause problems e.g. when lines are extended and names change– Unclear information in regards to lines and destinations e.g. limited express trains
Cyclists	<ul style="list-style-type: none">– Lack of information regarding danger– Lack of information regarding pedestrian conflicts– Difficulties in making a route choice– Lack of signage continuity; incomplete/disjointed signage– Relationship to rest of road system/key destinations unclear– Poor cross-street orientation
Walkers	<ul style="list-style-type: none">– Outdated information– Lack of confidence in signage continuity– Confusing information regarding distance/walk times– Potential to identify gradients– Information overload/clutter/choice paradox
All modes	<ul style="list-style-type: none">– Inconsistent maps– Inconsistent design, style and content across modes and areas; poor integration of all modes into the one system– Poor interface/intermodal information

Source: Wayfinding workshop facilitated by SGS, 24th June 2015.

2 BENEFITS OF IMPROVED WAYFINDING

2.1 Introduction

This chapter draws on assessments of the implementation of wayfinding systems across the world, and the broader wayfinding literature, to identify the direct and wider benefits associated with the application of an integrated system of wayfinding signage across a metropolitan region.

This literature review focusses on benefits for pedestrians, cyclist and public transport users. Depending on the nature and scope of the wayfinding signage improvements, it is conceivable that improvements to wayfinding signage would also yield benefits for motorists.

The identified benefits of improved wayfinding fall into five broad categories: transport, social and community, economic, environmental and urban design. There are also likely to be administrative benefits in the form of efficiencies and cost savings for government. These are discussed as a sixth category although no specific evidence of these benefits was identified.

2.2 Transport benefits

Legibility and accessibility

At its core, the purpose of wayfinding signage is to assist with orientation, navigation and route choice. The presence of signs, coupled with user trust in their accuracy and continuity, greatly improves accessibility and results in more positive user experiences.

The 'Legible London' scheme, one of the most widely cited wayfinding signage systems in the world, has seen significant improvements in self-reported pedestrian accessibility. The Legible London scheme was installed as a prototype in 2008, followed by a series of pilots in 2009, and has since been rolled out more widely across Central, Inner and Outer London.

Evaluation of the system in 2013 (SDG, 2014) found that usage of Legible London signage ranged from 1 to over 300 each hour. The central city recorded the highest usage, with the sign outside the Leicester Underground Station averaging over 300 users per hour over the weekend.

While relatively less evaluation has been undertaken on other wayfinding signage improvement schemes such as Walk NYC in New York City, the City of Birmingham's 'Interconnect' project, and Bristol City Council's 'Legible City' program implemented as early as the 1990s, these too have reported high rates of user satisfaction (Bristol City Council, 2003; PentaCityGroup, 2014; Visit England, 2014).

People have been found more likely to use signs if they are less familiar with an area, or if pedestrian routes in an area are more complex (SDG, 2014). Analysis of surveys conducted before and after the city-wide roll-out of the Legible London system found that positive user ratings of signage assisting with wayfinding rose from 65 to 94 per cent (SDG, 2014). The confidence of pedestrians to explore an area also rose, increasing from 60 to 90 per cent.

Overall, Legible London has been found to encourage people – both London residents and visitors – to walk more, further, and to new places (TfL, 2010). This trend has been consistent with wayfinding

projects in other cities, with 82% of people in a Vancouver wayfinding pilot study responding that they were more likely to walk to their destination after consulting one of the maps that had been installed (White, 2014).

Travel time savings

The implementation of Legible London has also been associated with reduced pedestrian travel times. Studies found a 65 per cent reduction in the number of pedestrians becoming lost during their journey (TfL, 2010), and an almost 60 per cent increase in the perceived effectiveness of wayfinding signage in helping to find the shortest route to a destination.

In surveys based on the 2009 Legible London pilots, there was a perceived average journey time reduction of 0.46 minutes per user (TfL, 2010).

Given the value of an individual's time is valued at 15.14 AUD per hour by Austroads (Transport for New South Wales, 2013) this represents significant benefit to the community.

Implications for other transport modes

The implications of improved wayfinding signage also can extend to other transport modes, for instance by providing assistance on intermodal journeys – connections between different transport modes e.g. between PT mode or between PT and walking, or trips 'within' modes.

TransLink, Metro Vancouver's regional transportation authority, is currently developing a wayfinding signage strategy to help passengers plan and execute their transit journeys more easily and efficiently. An evaluation of a prototype wayfinding initiative at bus stops found that positive assessments of the transit system amongst infrequent transit users rose from 49 per cent to 87 per cent as a result of the improved wayfinding signage (applied_, 2014).

In a study of *Value and demand effect of rail service attributes*, Douglas Economics (2006, cited in Litman, 2008) estimated that the willingness to pay for a 10 per cent improvement in information at railway stations could be valued at 0.4 cents per minute of journey time (in 2003 AUD). A 10 per cent improvement to signage was valued at 0.7 cents per minute of journey time. While overall improvements to station information and signage would include non-wayfinding elements, this figure indicates the importance of these factors at transport nodes.

Wayfinding signs for cyclists can have wide benefits, as they can inform riders of routes which are safer or more direct, including where physical barriers may prevent easy recognition of connecting paths (Harridge and Roozenburg, 2014). This can, in turn, expand the usage and visibility of the bicycle network for both cyclists and the wider community.

In a study comparing ridership along two inner-suburban bicycle trails in Victoria (Maribyrnong River and Lower Yarra) by Wigan et al (1998). Despite both trails having very similar maximum flows (over 240 riders per hour), the Lower Yarra Trail recorded a higher number of sections reaching high levels of flow, and for a longer duration. It was concluded that the uneven distribution of flows along the Lower Maribyrnong Trail was to a large degree due to lack of consistent signage and poor linkages.

Where improved wayfinding leads to modal shifts to walking and cycling from another mode, it can be anticipated this will reduce pressure on public transport and congestion on the road network. With better signage, multi-modal trips can also be promoted (SDG, 2012).

2.3 Social and community benefits

Health

Where improved wayfinding signage leads to increased levels of walking and cycling, it has the benefit of reducing the incidence of health issues relating to insufficient physical activity, avoided illness and mortality, and decreased absenteeism from work (TfL, 2015). The value of avoided public health for persons engaging in regular physical activity has been estimated at \$3.02 per person per hour of activity (Trubka et al., 2009) health-related cost savings can be significant.

Safety and security

Fear and anxiety in travellers can be reduced when pedestrians have greater confidence in walking and a lower likelihood of getting lost (SDG, 2012). Wayfinding signage can moreover promote safety by guiding pedestrians through safer walking environments. Increasing levels of foot traffic through improved wayfinding can in turn improve the safety (actual and perceived) through increased passive surveillance of urban environments (SDG, 2012).

2.4 Economic benefits

For tourism and business visits

A more effective signage system has the potential to strengthen the city's reputation and visitor economy, attracting more return visits, creating an expanded tourism sector and drawing more business investment.

Visitor surveys conducted in Cleveland, Ohio in 2012 found that 78 per cent of business travellers regarded ease of getting around as an important factor in their decision to visit the city (applied_, 2014). 57 per cent of respondents in a US study cited by applied_ (2014) agree that 'getting lost' is one of the worst things that can happen on a business trip, and a further 70 per cent suggested getting lost can negatively impact the outcome of their business meeting. Based on this evidence considerable value can likely be placed on the effectiveness of a city's wayfinding system in attracting and supporting business.

In the same Cleveland study 78 per cent of leisure travellers agreed that ease of getting around was an important factor in their decision to visit suggesting an improved wayfinding system can also enhance the image of a city and its attractiveness as a place to visit for tourists (applied_, 2014). In the 'Outline Business Case for a Wayfinding System Strategy for Toronto', Steer Davies Gleave (2012) estimated that improved wayfinding could create a 0.5 per cent increase in visitors through lengthened or overnight stays and repeat visits, estimating that this would result in an approximate \$50 million (CAD) per annum increase in tax revenues for the city.

The provision of wayfinding signage and maps specific to cyclists sends the message that cyclists have been taken into account in the tourism strategies of an area, and thus that cyclists are "welcomed and well-catered for" in that area (Lamont and Causley, 2010: 503). It can further inform other road users that cyclists are likely to be encountered in the area, promoting safety for all users. An Australian-based study found that wayfinding aids were of particular importance to female cycle tourists (Lamont and Causley, 2010).

Considering the high level of recognition that the Legible London has amongst visitors, integrated wayfinding systems further have the potential to become a part of a city's identity (applied_, 2014; SDG, 2014).

For local businesses

Improved wayfinding can benefit the local economy not only by providing direction to specific businesses, but also by improving the street quality in which businesses thrive.

As put forth by applied_ (2014), improving wayfinding is a cost efficient method to promote street quality, and through this, the viability of local businesses. Using 'the Pedestrian Environment Review System (PERS), a method which assesses street quality, the Commission for Architecture and the Built Environment found that just a one point increase on the PERS street quality scale would result in a £25 or 4.9 per cent per sqm increase in street-fronting retail rents per year (CABE Space, 2007). Given the legibility of a street accounts for 5 per cent of a PERS score, improved wayfinding has the potential to benefit the local businesses community in a way that does not require significant and costly capital works.

2.5 Environmental benefits

Reduction in car use and pollution

Given increased walking and cycling mode shares resulting from an improved wayfinding system are partly attributable to shifts from other modes, significant environmental benefits can also be derived from investment in wayfinding, both as a result of the reduction in the number of car trips and in congestion.

The cost of externalities associated with passenger vehicles in urban areas (including noise, air and water pollution, greenhouse gas emissions, 'footprint' impacts on nature and landscapes, and urban separation) were estimated to be \$0.054 per vehicle kilometre travelled (VKT) by Austroads in 2006.

Wayfinding signage that assists vehicular trips is likely to reduce journey lengths and travel times and incidences of motorists (both visitors and locals) getting lost en route. Improving wayfinding for vehicles can help maximise the efficiency in the use of existing road space.

2.6 Urban design benefits

Streetscape and design quality

As discussed above, the PERS tool, which assesses the way a street works as a link, facilitating movement from an origin to a destination, and as a place in its own right, incorporates an assessment of legibility. CABE Space (2007) lists signage and landmarks as contributors to a 'high-quality' street. Moreover, quality of environment and personal security are given a weight of 37 per cent in the calculation of PERS scores, both of which have been suggested to increase with improvements to wayfinding and the associated increase in street activity (SDG, 2012).

In the 2010 evaluation of the Legible London pilots, user opinion of sign quality increased from a 3.2 out of 5 rating to 3.6 (TfL, 2010), indicating that there were improvements to design quality. Moreover, the development of an integrated wayfinding system also provides the opportunity to reduce signage clutter and improve the urban realm. In the Bristol Legible City wayfinding project of the late 1990s, a new citywide pedestrian signage system was able to replace the large number of separate sign systems that had been installed in a 'piecemeal' basis, and a growing number of obsolete and incorrect signs were able to be removed (Bristol City Council, 2003). In the first phase of the project over 120 signs were removed.

2.7 Administrative benefits

While evidence of administrative benefits was not found in this brief review of the literature, it is anticipated that a consistent wayfinding scheme across a large region would result in efficiencies in the delivery of signage infrastructure. Adopting a common wayfinding and signage system across a large area and across a range of organisations should result in cost savings through more efficient and

coordinated design, procurement and delivery. Better coordination might also see a reduction in the total amount of wayfinding infrastructure required (i.e. the total number of maps and signs).

2.8 Costs and benefits from other business cases

Although the monetisation of the benefits and costs associated with wayfinding improvement will vary from city to city, it is instructive to consider the findings of business cases in other jurisdictions.

The business case for the Toronto Wayfinding Strategy found that the project would have a cost-benefit ratio (BCR) of between 0.9 and 2.4, based on consideration of the project costs and *just* the transport benefits (SDG, 2012). Those benefits that were not quantified include improvements to tourist trade, employment, the environment, health and quality of life. The report concluded that the project was likely to repay its cost through transport benefits alone.

The Business Case for the Legible London found the program would have a net present value of £40 million or £339 million (based on low and high benefits scenarios) returning BCRs of 1.5 or 5.3 respectively (applied_, 2014). In this case the monetised benefits included journey time savings, improved public realm/journey quality, and health benefits.

Birmingham's Business Case for a Wayfinding, Signage and Information Package suggested costs of £5.9 million and benefits of £19.6 million, resulting in a net present value of £13.7 million, or a BCR of 3.29 (all in 2010 prices) (Greater Birmingham and Solihull Local Enterprise Partnership, no date).

The Edmonton Wayfinding business case estimated the costs of the program to be between \$9.2 and \$10.9 million (Canadian dollars (applied_, 2014). In this case the benefits were not quantified.

The positive BCR in each case suggests that an evaluation of the benefits of improved wayfinding signage in Melbourne is also likely to result in a favourable economic assessment.

TABLE 2. FROM INTERNATIONAL EXAMPLES

City	Program	Assumption	Benefits (millions)	Costs (millions)	NetPV (millions)	BCR
Toronto	Toronto Wayfinding Strategy	Low benefits	\$17.0	\$19.0	-\$2.0	0.9*
		High benefits	\$46.0	\$19.0	\$27.0	2.4*
London	Legible London	Low benefits	£104.3	£66.8	£37.5	1.6
		High benefits	£340.3	£66.8	£273.5	5.1
Birmingham	Wayfinding, Signage and Information Package		£19.6	£5.9	£13.7	3.3
Edmonton	Pedestrian Focus Wayfinding Strategy	Low costs	Not stated	\$9.2	Not stated	NA
		High costs	Not stated	\$10.9	Not stated	NA

Source: Various – see above.

* In the Toronto business case only the transport benefits were quantified.

2.9 Summary

In summary, the literature reviewed suggests that improved, integrated wayfinding signage can generate a range of social, environmental and economic benefits for cities. Investment in improved wayfinding systems is likely to generate some or all of the following benefits:

- Transport benefits:
 - Improved the legibility and accessibility for pedestrians and cyclists
 - Time savings for walking and cycling journey
 - Improved user experience for public transport journeys and transfers between modes
 - Promote walking and cycling as alternative mode choices to PT and private vehicles

- Social and community benefits:
 - Increases in walking and cycling have wider benefits to the community in terms of health
 - Improved feelings of safety and security
- Economics benefits:
 - Increase visitation by both tourists and business travellers
 - Increased turn-over in more legible street
- Environmental benefits:
 - Reduction in car use and associated externalities
 - More efficient use of road space
- Urban design benefits:
 - Reduced visual clutter
- Administrative benefits:
 - Efficiencies in the delivery of signage infrastructure.

Recent business cases for city-wide improvements to wayfinding systems have all had a positive benefit-cost ratio. It is reasonable to assume that a business case evaluation of a program of investment in wayfinding signage for Melbourne would also result in a favourable economic assessment.

3 BUSINESS CASE DEVELOPMENT

This chapter describes the process and key steps required to develop a business case for a Wayfinding Strategy. This process would need to be followed in order to secure State Government funding for the implementation of the Strategy. To the extent that it is possible, and with the limited information available, indicative costs have been provided for the various steps in the process.

3.1 Introduction

The Department of Treasury and Finance Victoria publishes comprehensive guidelines and templates around the investment planning process. This chapter summarises the ‘need to know’ components of this process and how it would likely apply to the development of a business case for improving wayfinding in Melbourne. The specific pieces of research or inputs that may be required are also identified, along with high level cost estimates, as appropriate.

This information does not replace advice provided by the Department of Treasury and Finance, and it is strongly recommended that those guidelines are thoroughly reviewed by project proponents.

3.2 Overview

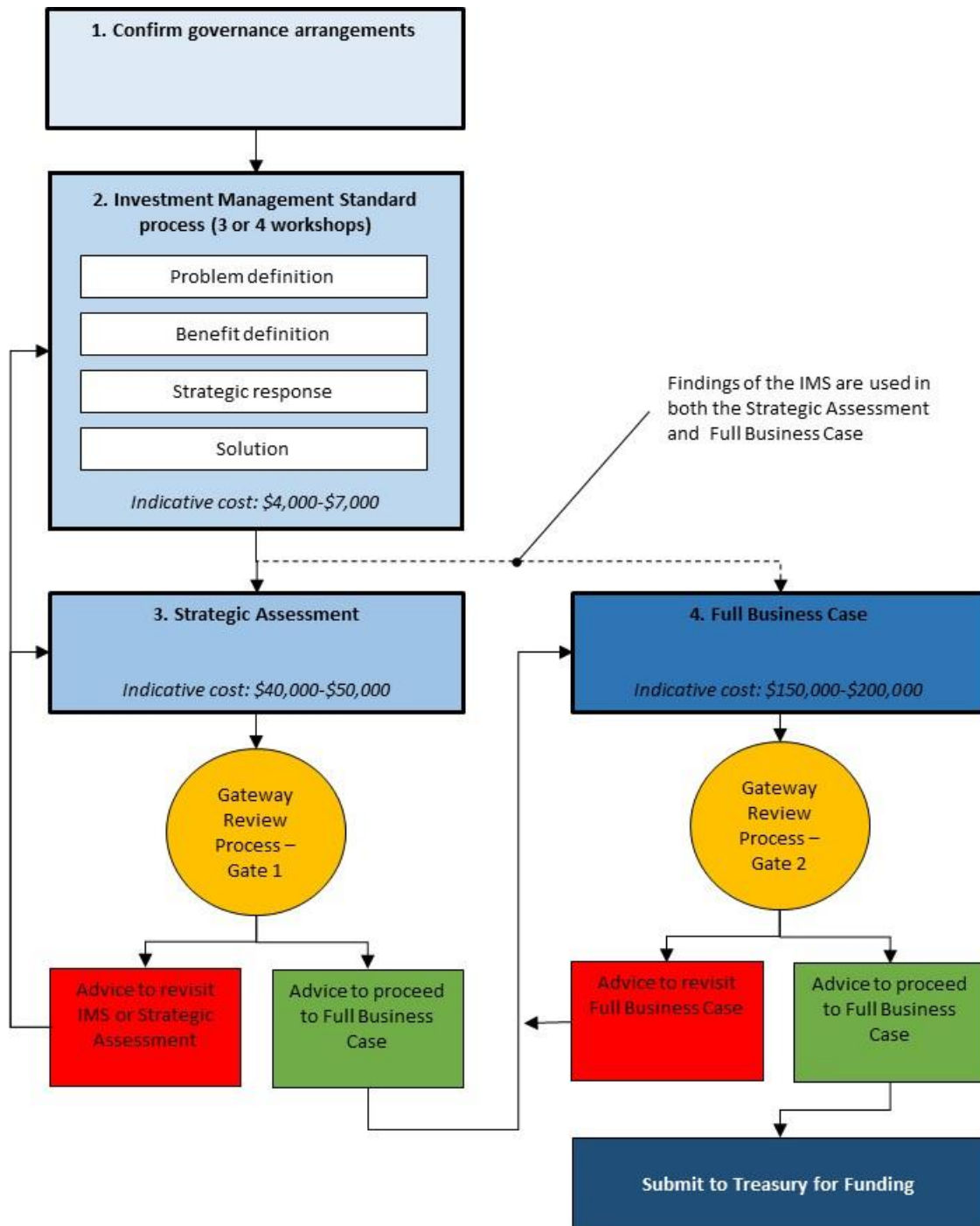
The diagram on the following page depicts the process to develop the improved wayfinding signage concept into a business case to enable a budget bid. The approximate costs involved in each step are shown.

Four elements of this process are discussed in in this chapter:

1. Establishing governance arrangements
2. The Investment Management Standard
3. The Strategic Assessment
4. The Full Business case.

These steps are the first stages of the ‘Investment Lifecycle Process’ (ILP) which is the complete cycle of steps involving the preparation of business cases, project funding and project delivery, as administered by the Department of Treasury and Finance in Victoria. The next section provides an outline of the ILP.

FIGURE 1. INITIAL STAGES OF THE INVESTMENT LIFECYCLE PROCESS



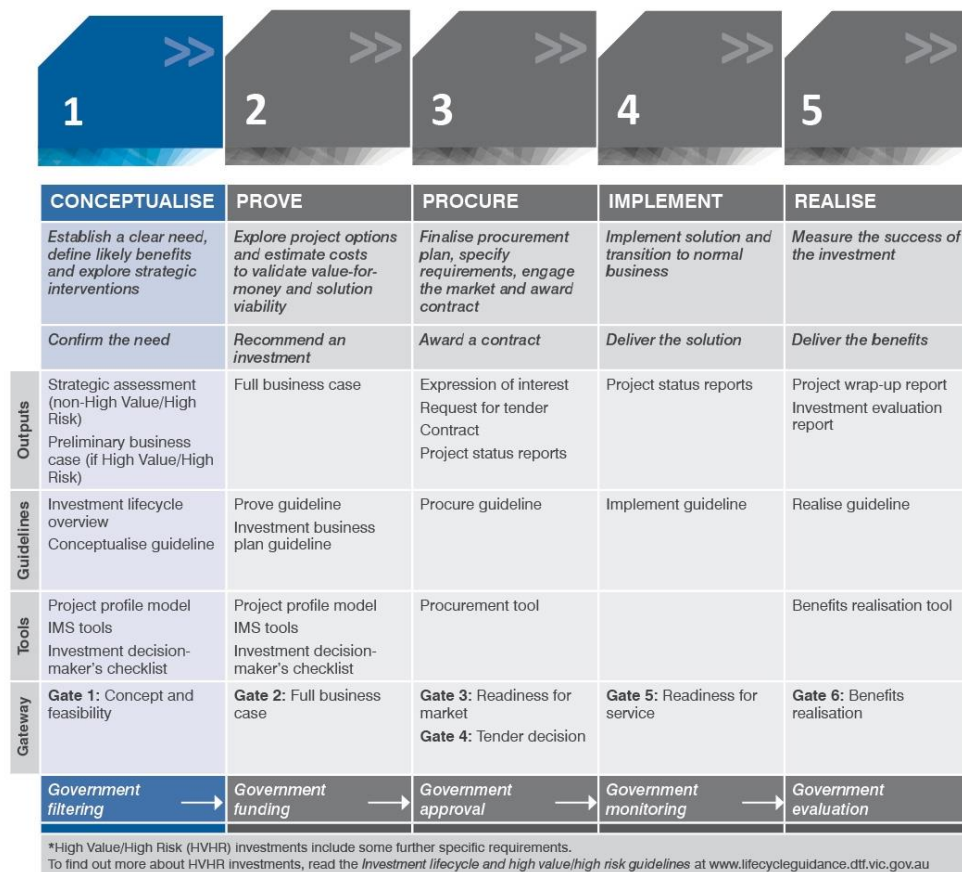
3.3 The Investment Lifecycle Process

The Investment Lifecycle Process (ILP) is the term given to the complete cycle of steps involving the preparation of business cases, project funding and project delivery, as administered by the Department of Treasury and Finance in Victoria. Projects seeking State Government funding through the State Budget process are required to adhere to the ILP. The following diagram depicts the process, from Stage 1 'Conceptualise' through to Stage 5, 'Realise'. The purpose of each stage, key outputs and relevant guidelines are noted. At the bottom of the diagram the 'Gateways' that apply are noted.

The Gateway Review process is a staged process of 'gates' in which outputs are assessed by a Gateway Review team assembled by Treasury. This process, in various formats, is followed throughout State and Federal Government. The intention is to examine projects at key decision points and provide advice on their deliverability. This advice is valuable to all proponents seeking funding, particularly those with limited experience in developing budget bids.

Sections 4.5 and 4.6 below discuss the first two stages of the Investment Lifecycle Process: Conceptualise and Prove. These stages correspond to the Strategic Assessment and a Full Business Case. These outputs are required to formally seek government funding. The three remaining stages relate to project delivery once funding is obtained, and are not discussed in any further detail.

FIGURE 2. INVESTMENT LIFECYCLE PROCESS



Source: <http://www.dtf.vic.gov.au/Investment-Planning-and-Evaluation/Understanding-investment-planning-and-review/What-are-the-investment-lifecycle-and-high-value-high-risk-guidelines/Stage-1-Conceptualise>

3.4 Establish appropriate governance arrangements

A first step is pursuing the development of a business case is to establish a project steering committee or similar governing ‘body’ for the project. The purpose of this committee is to coordinate resourcing and effort towards developing a more detailed wayfinding proposition. A lead within this committee should also be nominated. Ideally the lead will be a senior level manager or director within the same State Government Department as the Project Sponsor (see below).

A Project Sponsor, or Senior Responsible Owner (SRO) needs to be identified. The SRO would have ultimate responsibility for delivering the business case, and the project, if funding is obtained. The SRO is typically a Deputy Secretary or Executive within an appropriate State Government Department. In this case the appropriate departments would most likely be Public Transport Victoria (PTV) or the Department of Economic Development, Jobs, Transport and Resources (DEDJTR). It is essential that the SRO is from State Government and establishing this single point of overall accountability will be critical to a project’s success DTF (2012).

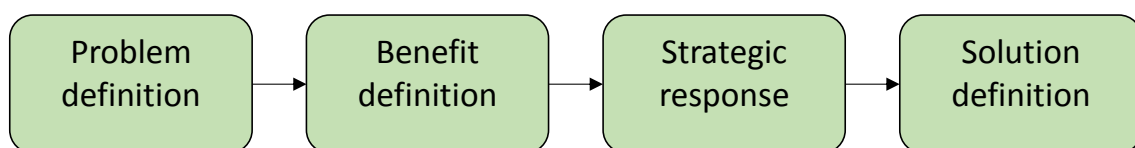
The work to date to pursue the development of a Wayfinding Strategy for Melbourne has involved a range of stakeholders: the City of Melbourne, Tourism Victoria (now Visit Victoria), VicRoads, Public Transport Victoria, the IMAP Councils and Wyndham City Council. This group may be reconfigured to form the project steering committee, with a lead that is from the same Department as the SRO.

3.5 The Investment Management Standard

The Investment Management Standard (IMS) is a series of practices designed to ensure optimal outcomes are achieved in investment decision-making¹. The IMS is an integral part of the Conceptualise and Prove stages of the Investment Lifecycle Process, and is discussed separately here given its importance in shaping projects and these first two steps of the ILP.

The IMS is applied through a series of workshops (one to four, depending the level of complexity) which are facilitated by an Accredited Investment Facilitator. The specific line of enquiry that is followed for all projects is shown in the diagram below and described in more detail below.

FIGURE 3. INVESTMENT MANAGEMENT STANDARD PROCESS



Three workshops are carried out for a typical investment: Problem definition, Benefit definition and Strategic response. A fourth workshop around Solution definition can be run for larger or more complex investments. (An Accredited Investment Facilitator will be able to advise on the number of workshops required.) In the case of applying the IMS to Wayfinding, it is likely three workshops will be required.

Problem definition

The purpose of this first workshop is to answer the following questions:

1. What is the problem that is driving us to consider a new investment (both the cause and effect)?
2. Is there evidence to confirm both the cause and effect of the problem?
3. What benefits can the organisation expect in successfully responding to the problem?

Typically, this workshop is attended by at five to eight attendees, but can be up to 15 if the planned investment is particularly complex. Attendees are not merely project stakeholders – it is necessary to

¹ <http://www.dtf.vic.gov.au/files/f8ef97d4-e229-4459-93aa-a1da00c9985c/Investment-Management-Standard-Dept-Guide.doc>

bring together a group of people who understand the problem and are familiar with any evidence that could be used to substantiate it.

Benefit definition

The benefit definition workshop looks to answer the following questions:

1. What evidence will be needed to demonstrate that the identified problems have been properly addressed?
 - What are the KPIs?
 - Against the KPIs, what measures will be used?
 - What is the current baseline, target values and timelines for these measures?
2. Who will be responsible for delivering the benefits?
3. How will the benefits be tracked and reported?

The attendees from the Problem definition workshop should be in attendance to the Benefit definition workshop, in addition to any participants who will be responsible for providing data to determine whether an investment has delivered intended benefits.

Strategic response

The Strategic response workshop looks at a range of potential responses that could be implemented to address the stated problems and achieve intended benefits. The workshop should answer the following questions:

1. What are the strategic interventions that could be taken to deliver the identified KPIs (and respond to the problem)?
2. How can these interventions be packaged into a range of sensible strategic options?
3. Which strategic option is likely to be the most suitable (on the basis of the benefits delivered, cost, timelines, risks and dis-benefits)?

In addition to the previous workshop participants, the IMS guidelines suggest this workshop involve: and a range of other participants as suggested in the IMS guidelines (DTF, 2012b):

- An innovator and an implementer who can test both the breadth of the proposed interventions and their feasibility; and
- A benefit specialist who has expertise in KPI design and understands what is practical in the subject area.

This is often a challenging workshop for project proponents who enter the IMS process with a specific project or solution in mind. It forces proponents to consider alternative responses to the stated problem and benefits, which may be dissimilar to the proposed project initially driving the process. However, it is a sensible 'cross check' which can ensure that other potentially more efficient responses, or even more comprehensive responses, are considered.

Solution definition

The first three workshops establish the need for an investment and a preferred strategic response.

Solution definition may require a fourth workshop or this may be integrated with the Strategic response workshop. The Solution definition addresses the following questions:

1. What business changes will be needed to implement the strategic response?
2. What assets (if any) will be required to support these business changes?
3. Will the defined solution (expressed as the changes and assets) deliver the investment KPIs identified in the benefit management plan?
4. What costs, risks, timeframes and dis-benefits are associated with the defined solution?

Treasury recommends that the investor, strategist and implementer, and anyone who would be involved in implementing the project should attend the workshop, and that total numbers would be between six and eight.

Investment Management Standard outputs

A range of outputs are generated via the IMS:

- An Investment Logic Map (ILM) which summarises the problem, strategic responses, benefits and solution in one page is developed.²
- A Benefit map is developed, which shows how achieving stated benefits will generate expected KPIs and targets³
- A Benefit Management Plan (BMP) is created, stating which benefits will need to be generated to address stated problems⁴
- A Strategic Options Analysis is developed, which shows the logic of selecting the preferred strategic response⁵
- An Investment Concept Brief is created. This identifies the likely costs, risks, dependencies and deliverables of a preferred solution⁶.

Cost

It is our experience that the cost of an Accredited Investment Facilitator who will run three to four workshops and produce the stated outputs is \$4000-\$7000. This varies depending on the number of workshops that are required. The cost of participants' time is not factored in. Project proponents may elect to engage consultants to manage the IMS process (including sub-contracting or directly providing an Accredited Investment Facilitator) and go onto prepare a Strategic Assessment and potential full Business Case. The cost of this is discussed under the Strategic Assessment section.

3.6 Strategic Assessment

The first formal stage of the Investment Lifecycle Process is the Strategic Assessment (Stage 1: Conceptualise).

A Strategic Assessment provides an initial examination of the problem and how addressing it may generate benefits, within a policy context. The IMS (described above) provides the overarching structure to the Strategic Assessment. That is, the problems, benefits and solution are each be elaborated on within the report.

The intent of a Strategic Assessment is to:

- Identify and properly characterise the problem or service need;
- Define the benefits that would result from fixing the problem or addressing the service need;
- Explore the appropriate strategic response; and
- Outline high level solutions that are deliverable.

(If a project is deemed to be high value/high risk (HVHR), a Preliminary Business Case would be required which has higher information requirements. However, it appears unlikely that the wayfinding strategy project would fall into this category.)

The Strategic Assessment contains four parts.

² http://www.dtf.vic.gov.au/files/74233cc7-7a62-4fb5-8692-a1cc00c1d784/IMS_5-0_FS_ILM-I5_Template.pptx

³ <http://www.dtf.vic.gov.au/files/7bd36894-e1cb-4788-90cc-a1cc00bd72a9/IMS-5-0-FS-Benefit-Management-Plan-Template.pptx>

⁴ <http://www.dtf.vic.gov.au/Publications/Investment-planning-and-evaluation-publications/Investment-management/Benefit-management-plan-template-Initiative>

⁵ <http://www.dtf.vic.gov.au/Publications/Investment-planning-and-evaluation-publications/Investment-management/Strategic-options-analysis-template-Initiative>

⁶ <http://www.dtf.vic.gov.au/files/24e77e7b-794f-4aaa-8be2-a1cc00b69f5c/IMS-5-0-FS-ICB-Template.docx>

Part 1: Problem

The Problem section of the Strategic Assessment explains the problems identified through the IMS and provides evidence of these problems existing. There are four sub-sections to the Problem:

1. Definition of the problem
2. Evidence of the problem
3. Timing considerations, and
4. Consideration of the broader context.

Initial discussions suggest that some problems which may be addressed by the wayfinding strategy include:

- Inconsistent wayfinding and signage negatively impacting the visitor experience to Melbourne
- Lost time due deficient signage and wayfinding infrastructures
- Additional vehicle kilometres travelled (VKT) due deficient signage and wayfinding infrastructures
- Unnecessary resources being expended designing and producing different signage (by various government departments and agencies at the State and Local level, including commissioning external parties).

It is possible that the IMS process will identify different or additional problems that are not outlined above.

At a high level, it could be expected that information from project proponents would be required to provide the evidence base. In particular, estimates of resources expended within government on the design and delivery of various signage formats. Further research would be required to provide rigour on the other identified problems, such as any relevant case studies and high level traffic modelling to determine VKT.

Part 2: Benefits

As with the Problem section, the Benefits section of the Strategic Assessment will require supporting empirical evidence, case studies and relevant literature. The evidence provided in this report of the benefits of improved wayfinding could be repackaged into the Strategic Assessment's 'Benefits' section. However, this is dependent on how these identified benefits align with those confirmed in the IMS. It could be expected that some degree of reworking text would be required.

The sub-sections of the Benefits section are:

1. Benefits to be delivered (including any dis-benefits)
2. Importance of the benefits to Government
3. Evidence of benefit delivery
4. Interdependencies.

Part 3: Strategic Response

This component of the Strategic Assessment elaborates on the ILM to demonstrate how the problems would be addressed and benefits generated by a strategic response. It contains the sub-sections of:

1. Method and criteria
2. Strategic options analysis, and
3. Strategic response (there may be one or two selected)

Whilst this section, like others in the Strategic Assessment, draws from the IMS, it is critical here that the logic used to select a strategic response is explained. Assurance needs to be provided to the Gateway Review Panel that the response selected:

- Addresses stated problems

- Generates identified solutions
- Responds to the policy context, and
- Considers potential cross-government opportunities and issues.

Part 4: Solution

The Solution section explains how a specific project option was identified and selected as a preferred option for funding. It contains the following sub-sections:

1. Solution options considered
2. Details of the recommended solution
3. Cost estimates
4. Procurement strategy
5. Stakeholders
6. Governance arrangements
7. Timelines, and
8. Next steps.

For the purposes of a Strategic Assessment:

- Cost estimates need to be at a high level only and expressed as a cost-range, with any relevant assumptions stated along with any potential changes in output costs
- The Procurement Strategy only needs to be nominated, if known. Evidence is not required for its selection.
- Stakeholders should be identified and how their interests align to the project should be noted. Consultation with all stakeholders is not expected.
- Governance arrangements should be explained to the extent they are material to the project. In the case of the wayfinding strategy, it is believed that this is a material issue and it has been suggested that thought be given to arrangements at the outset of the process as discussed earlier.

A Strategic Assessment is generally submitted to Treasury in December of a calendar year to enable the Gateway Review process to commence. The review will provide useful guidance on the deliverability of the project and whether it should continue to a Full Business Case.

The Strategic Assessment Template is provided as Attachment 1 to this report.

The Gateway Review: Gate 1

A Strategic Assessment is assessed through Gate 1 of the gateway review process, focusing on concept and feasibility. Here, the strategic direction and concept of the proposed investment is assessed against the wider agency, portfolio, or whole of government goals/needs⁷.

In Gate 1, the review panel assesses the Strategic Assessment to determine whether:

- The problem is identified and properly defined
- Benefits that would result from fixing the problem are defined in a SMART (specific, measurable, achievable, relevant and time-bound) way
- An appropriate strategic response is explored, and
- An indicative solution is outlined.

The aim of Gate 1 is to assist the SRO by advising them of:

- Whether the project team has undertaken sufficient work to inform the Strategic Assessment/Preliminary Business Case

⁷ <http://www.dtf.vic.gov.au/Investment-Planning-and-Evaluation/Understanding-investment-planning-and-review/What-is-the-Gateway-review-process/Gateway-key-decision-points>

- Whether the agency has the capacity and capability to transition to the full business case stage.

The timing of Gate 1 should be once the strategic assessment or preliminary business case has been substantially completed but prior to formal submission to DTF or the government for final consideration.

Gate 1 – Concept and Feasibility guidance provides information on the questions the Gateway Review panel aim to answer through Gate 1 (DTF, 2010).

Cost

As noted earlier, the project proponents may elect to engage a consultant to develop the Strategic Assessment before or after the IMS has been developed. The cost of doing this is marginal (the cost of the facilitator would be incurred along with any relevant project management costs). However, there are likely to be benefits from a project management perspective and in terms of understanding the intent and scope of the project if consultants are engaged earlier.

From our experience, the cost of a consultant developing the Strategic Assessment is approximately \$40,000 - \$50,000, inclusive of additional research that would be required. Given that work has been undertaken on scoping potential benefits, this cost may be on the lower end of the range. This cost would include any relevant sub-contracting required to scope up the proposed solution, such as high level design to enable cost estimates to be developed. The Victorian Government has a Professional and Financial Services Panel from which appropriate consultant(s) could be procured.

It is recommended that a Strategic Assessment is commissioned separately to a Full Business Case, given the uncertainty of it progressing through Gate 1.

3.7 Full Business Case

The next stage of the Investment Lifecycle Process is the development of a Full Business Case. A Full Business Case is a substantive exercise, and should only be pursued if the Strategic Assessment passes Gate 1.

In comparison to a Strategic Assessment, a Full Business Case requires:

- The project to be fully scoped, detailed and costed
- Social and environmental impacts to be researched and presented
- Financial and economic analysis of the project options, including a discounted cash flow and cost benefit analysis
- A detailed risk assessment
- Governance and delivery mechanisms to be fully articulated, with demonstrated stakeholder buy-in.

Typically, a Full Business Case is submitted to Treasury for Gate 2 review in April of a calendar year, with funding announcements made in the State Budget Process.

The template of a Business Case is shown in the following text box and provides further guidance on its contents. The Full Business Case Template is provided as Attachment 2 to this report.

Substantive materials, including additional templates and guidance are available via <http://www.lifecycleguidance.dtf.vic.gov.au/>.

The Gateway Review: Gate 2

Gate 2 focuses on the business case and looks to:

- Confirm the business case is robust, that is, it meets the business need, is affordable, achievable, has appropriate options explored and is likely to achieve value-for-money;
- Confirm potential options have been identified and analysed and expert advice has been obtained;
- Confirm the underlying investment logic has been reflected and proven by evidence in the business case and the project remains aligned with the objectives and deliverables of the program and organisation;
- Establish the feasibility study has been completed satisfactorily and a preferred way forward has been developed and decided in dialogue with the market;
- Confirm the market's likely interest has been investigated and appropriate high-level procurement strategies have been considered;
- Ensure there is internal and external authority and support for the project;
- Ensure the major investment and project level risks have been identified and outline risk management plans have been developed;
- Establish the project is likely to deliver its business goals and that it supports wider business change;
- Confirm the scope and requirements specifications are realistic and clear;
- Ensure the full-scale, intended outcomes, timescales and impact of relevant external issues have been considered;
- Ensure there are plans for the next stage, confirm planning assumptions and that the project team can deliver the next stage;
- Confirm overarching and internal business and technical strategies have been considered; and
- Confirm quality and benefit management plans are in place, including key performance indicators for the project and its outcomes. (Source, DTF, no date.)

TEXT BOX: FULL BUSINESS CASE TEMPLATE

Executive summary

1. **Part 1: Problem**
 - 1.1 Background
 - 1.2 Definition of the problem
 - 1.3 Evidence of the problem
 - 1.4 Timing considerations
 - 1.5 Consideration of the broader context
2. **Part 2: Benefits**
 - 2.1 Benefits to be delivered
 - 2.2 Importance of the benefits to Government
 - 2.3 Evidence of benefit delivery
 - 2.4 Interdependencies
3. **Part 3: Strategic response**
 - 3.1 Method and criteria
 - 3.2 Strategic options analysis
 - 3.3 Recommended strategic option
4. **Part 4: Project options analysis**
 - 4.1 Project options considered
 - 4.2 Stakeholder identification and consultation
 - 4.3 Social impacts
 - 4.4 Environmental impacts
 - 4.5 Economic impacts
 - 4.6 Overall evaluation of socio-economic and environmental impacts
 - 4.7 Financial analysis
 - 4.8 Risk comparison
 - 4.9 Integrated analysis and options ranking
5. **Part 5: Deliverability of recommended solution**
 - 5.1 Details of recommended solution
 - 5.2 Commercial and financial
 - 5.3 Management
 - 5.4 Delivery

Appendix A: Benefit Management Plan

Appendix B: Financial data presentation

Appendix C: Sign-off checklist

Costs

It is likely that the cost of engaging consultants to prepare a Full Business Case would be \$150,000 to \$200,000, inclusive of detailed design and costing elements. This cost may vary pending on the amount of work which is prepared internally by government agencies. Some business cases are wholly prepared by Government, but it is often necessary to commission consultants to provide the detailed design, costing and economic evaluation components of a business case.

4 SUMMARY

4.1 Benefits of improved wayfinding signage

The literature suggests a wide range of the benefits flow from investment in improved wayfinding signage in cities. Drawing on international case studies, improved wayfinding was found to have the following benefits:

- Transport benefits derived from improved legibility, accessibility and user experiences for pedestrians and cyclists
- Social and community benefits as a result of improved health and safety outcomes
- Economic benefits derived from increased business and leisure visitation and higher property values
- Environmental benefits derived from a reduction in car use and associated externalities, and
- Urban Design benefits derived from reduced visual clutter and signage quality.

It was anticipated that the development of an integrated wayfinding system would also generate administrative benefits.

Although no attempt was made to monetise these benefits for the Melbourne context, or to compare them to anticipated costs, a review of other business cases suggested that the benefits of improved wayfinding systems typically outweigh the costs and often by a significantly margin. In one case the estimated ratio of benefits to costs was 5:1.

4.2 Business case development

To source funding for improvements to wayfinding signage in Melbourne would require the development of a business case in accordance with the requirements set out in the Investment Lifecycle Process.

The next steps in the process would be to identify an appropriate Project Sponsor (Senior Responsible Owner, or SRO) to support the project through the Investment Lifecycle Process. The SRO is typically a Deputy Secretary or Executive within an appropriate State Government Department.

The information on the benefits of improved wayfinding identified in this report could be used to gain the support of the SRO for the proposal, and could also be used to inform the subsequent stages of the development of the business case: the Investment Management Standard, the Strategic Assessment and the Full Business case.

4.3 Afterword

Although not strictly within the scope of this report, it was noted that additional benefits might be derived from a wayfinding strategy that also addresses the needs of road users and includes digital wayfinding technologies (SDG, 2012). There may be separate additional benefits that would be derived from a broader program of wayfinding improvements that included these elements.

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