A Review Of Plan Melbourne 2017-50

"Living in the hothouse"

Introduction

Plan Melbourne 2017-2050 was an opportunity to plan for the future and realise goals and aspirations proposed for the city. It has an unusually long planning horizon. A lot can change in this time and it is appropriate it be reviewed regularly to confirm the extent to which its goals are being achieved or are realistic in the first place.

In the light of the climate crisis if the plan is to achieve the aspirations and outcomes proposed it must look beyond traditional city planning approaches and frameworks which focus mainly on urban form and planning schemes. The plan must broaden its focus and address other issues on which this plan is silent. It must critically examine future scenarios, risks and threats they pose, particularly to supplies of food, water, and essential goods and services. It must review the concept of liveability more critically and the ways in which it can be addressed. It must review its aspirations/expectations in the light of future scenarios, and the extent to which they are realistic, and the mechanisms used to achieve these goals. It must also critically review the extent to which the plan had delivered the promises laid out when it was first published, measures used to progress it, the extent to which these have been successful or appropriate and the how it proposes to correct shortcomings. It is argued that without revision the current plan will do little to resolve existing problems nor address challenges the city faces in the future.

Future Scenarios - Planning for the Future

It has become increasingly obvious that our rapidly changing world presents a growing list of threats of all kinds. There is increasing agreement that these threats include
- Climate action failure
- Extreme weather
- Biodiversity loss
- Social cohesion erosion
- Livelihood crises
- Infectious diseases
- Human environmental damage
- Natural resource crises
- Debt crises
- Geoeconomic confrontation and wars.

There is concern that many of these present serious challenges and will become increasingly critical in the future. It is also expected all of the above will be mutually reinforcing and have a flow on effect for Melbourne. Whilst many triggers will be social, economic or political in nature, environmental factors will dominate. All of the above and others must be critically evaluated and reviewed as part of the plan. Use of planning scenario models for city planning to build a better understanding of how cities could change in the future is well accepted and must be incorporated as an integral part of the plan.

Climate Change, Global Warming and other Environmental Challenges

Plan Melbourne has identified a wide range of environmental challenges but has underestimated their dimensions, scale and complexity. Nor does it reflect the urgency to act that scientists have declared over many decades and at international Climate Change Conferences. More specifically the plan must respond to the latest warning that there is only a 50% chance of limiting global warming to 3 degrees; a global average which for Australia means 4 degrees and will be unliveable. This warning should remind all planners that climate change must be treated as a top priority, actioned as matter of urgency and must be reflected in Melbourne's city plan.

It is argued this scenario justifies renaming the plan: **Plan Melbourne – 2017-50 Living in the hothouse**. It requires an adaption plan for life on an increasingly inhospitable planet, a world of declining fortunes that supports fewer and fewer people. This has implications for the ability of the city to provide food, water and other essential goods and services, many of which are taken for granted but are essential for the well-being and liveability of the city or even its survival. The current plan outlines some of these but fails to acknowledge the dimensions, scale and complexity of these issues, implications for the city and the urgency to act. There is no adaption plan from the carbon economy that underpins the global economy or strategies for implementation. This has profound implications for all elements of the economy and may result in severe shortages, including energy blackouts in the future. Climate change is recognized by the City of Melbourne and other councils as a major threat, and supported by numerous strategies and plans at a local government level, but a more radical approach is required because emissions continue to rise and environmental indicators overall are not improving.

Provision of Essential Goods and Services including Food

Failure to provide essential goods and services, particularly food and water has been the reason most societies and civilisations have collapsed in the past and will determine a city's fate in the future. Australian food production is largely capital and energy intensive and the task of reducing emissions will become increasingly challenging. The need to reduce emissions and food miles has been acknowledged for many decades but will become increasingly critical

- as global populations increase and yields decline
  - due to climate change and global warming
  - pests and disease increase
  - essential resources required to grow food including topsoil, fresh water, fertilisers, decline because of over exploitation, or become increasingly expensive
  - mass die off of biological agents such as insects including bees, microbes etc
  - because of unsustainable agricultural practices and extensive use of pesticides/herbicides
  - mandated measures by government such as "burp" tax on livestock to reduce greenhouse emissions which reduce food stocks
  - shortages of low or zero emission energy for food production, processing, distribution etc
  - food chains become increasingly stressed or over exploited, particularly fish
- countries/nation states fight over dwindling supplies of food and freshwater.

This reinforces the imperative to grow more food within Melbourne's urban and peri urban area. It also demands new thinking about the way food is produced. The problems facing the food industry

are systemic; a situation that has been described in a report by the Round Table on Global Food Security for The Commission for the Human Future in June 2020, as a system bound to fail.

"The global food system is headed for failure in the mid C21st with catastrophic consequences for all people, nations and for civilisation as a whole. The Round Table agreed that, for this reason the current system must be transformed to one that is safe, sustainable, healthy and fair for all.

Industrial food production, as practiced today, cannot be sustained in the longer run. It causes massive land degradation, wastes water and overuses toxic chemistry; it generates 30% of the world's greenhouse emissions; it is the chief contributor to the loss of two thirds of the world's wild life; it demands crops suited to industrial rather than nutritional needs; it wastes enough food every year to feed 3 billion people; it is exceptionally vulnerable to a changing climate."

The capacity to grow food and feed people is not just a commercial activity; it provides social, cultural and other community values which enriches peoples' lives in many ways. It provides a sense of purpose and place, a relationship with the natural environment and engages people in many ways that have real meaning, helping unite communities and strengthen their resilience. It can also be carried out in diverse ways and at a scale or level that makes it accessible one way or another to everyone.

The challenge for government is to make food production in its diverse forms accessible in a way that meets the needs of the broader community. The need to do this will become increasingly critical as communities everywhere are put under increasing pressure and stress. Plan Melbourne is silent on this and must address it in the plan.

Creation of a Liveable City Environment

Plan Melbourne includes measures to improve liveability but these are expressed in terms of social environment, connectivity, 20' neighbourhoods, well designed and affordable housing for all, but ignores fundamental factors that determine whether people can live in them in the first place.

Human activities are reducing vegetation and canopy cover in all of our cities, resulting in habitat fragmentation, species extinction, biodiversity loss and rising temperatures. Research shows that our cities hold substantially more threatened species than our non-urban areas, and that our broader community doesn't realise the true value of biodiversity and its importance in maintaining a liveable city.

The decline of green canopy also means Australian city dwellers face a much hotter future. Major heatwaves are Australia's deadliest natural hazard, particularly for cities with a lack of trees and large areas of hard paved surfaces, typically dark coloured surfaces (bitumen, concrete, roof tiles etc). This has created heat islands which can make our cities 4–10 degrees Celsius hotter than surrounding rural areas. In these situations fifty degree days which will become increasingly common will become sixty degree days that are unbearable and increasingly unliveable.

In a report, ***Temperature Check: Greening Australia's Warming Cities***, commissioned by the Australian Conservation Foundation, found green spaces in almost all major cities had declined in the last decade. Most of the change is happening on privately-owned land with redevelopment of large blocks into smaller blocks or townhouse developments. The report noted that our capital cities had major work to do to increase vegetation to avoid them becoming unbearable in coming decades as climate change raises temperatures worldwide.

The challenge is particularly severe in new housing developments in Melbourne's northern and western suburbs where houses occupy most of the relatively small allotments and are surrounded by large areas of hard surfaces with few if any trees. Establishing shade trees in these areas, starved

of moisture because of extensive paving is problematic. Even if it is possible to plant trees, roots will cause extensive and widespread damage to housing structures. These new suburbs face a bleak future and will end up becoming unliveable "dead" zones where no one lives.

Heat related deaths in Australian cities has been an issue for decades and rates exceed those recorded for motor vehicle accidents. Victorian health authorities estimated the heatwave preceding the Black Saturday bush fires in 2009 was responsible for up to 374 deaths. In the month prior, during the 2020 bushfires, nearby Penrith in western Sydney was deemed the hottest place on earth reaching a high of 48.9C. The prospect of 50 degree days is not far away and it will not be long before this is repeated regularly in Melbourne. This issue is well understood and addressed in the City of Melbourne's planning. It must also be addressed in a revised Plan Melbourne.

Transport

Plan Melbourne claims that "The city's transport network will need to cater for around 10 million more trips a day – an increase of more than 80%" which assumes continuing population growth and mobility, neither of which is sustainable.

The transport sector is a large and growing source of greenhouse emissions and continues to lag most sectors in emission reductions. A 50% reduction target for road transport GHG emissions (by 2030, based on 2005 levels) is potentially achievable using a combination of extensive behaviour change measures and technological improvements. Getting to zero for this sector is impossible. Active transport is the only mode that can achieve this for personal travel and none of the other modes for travel or transport come close.

The transport paradigm needs a total rethink, particularly for personal travel. As Moriarty and Honnery point out in several articles and a book which have been the subject of a short paper *Hypermobility Hits The Wall* by Bart Hawkins Kreps, originally published by An Outside Chance 23 August 2022,

"The number of passenger kilometres per person per year exploded by a factor of 240 between 1900 and 2018. This overall 240-fold rise is extraordinary, considering the less than five-fold global population increase over the same period. It is even about 30 times the growth in real global GDP."
"The global average for motorized travel is now about 6,300 km per person per year. At the extremes, however, US residents average over 30,000 km per person per year, while in some countries the average is only a few hundred km per person per year.
Could the high degree of mobility now standard in the US be extended to the whole world's population? Not likely. Moriarty calculates that if each person in the world were to travel 30,000 km per year in motorized transport, world transport energy levels alone would be about 668 EJ, greater than global total commercial energy use of 576 EJ for 2018…It should be noted that of all typical modern travel modes, air travel is the most environmentally damaging and least sustainable".

New technology and improved vehicle efficiency will not resolve this problem. The imperative is to travel less and less often and by a large factor. There are numerous ways in which this can be achieved. None are politically easy but must be addressed in a revised Plan Melbourne.

Summary and Conclusions

Plan Melbourne 2017-2050 like most of its predecessors is an aspirational document. It acknowledges some of the challenges confronting the city, population growth, liveability, housing, transport and even climate change and proposes some ways in which these can be addressed, describing Melbourne as "a city of opportunity and choice" with an exciting future. Measures

proposed in the strategy assume significant population and economic growth but nearly all assumptions that underpin this plan are based on a continuation of business as usual. Little attempt has been made to assess global trends, future scenarios and threats these pose for the city. The dimension, scale and complexity of environmental challenges and threats are understated and responses are superficial and totally inadequate. The plan is silent on important issues such as food, water, and the capacity to fund and maintain essential services and infrastructure. Liveability is an important issue and the plan proposes a range of strategies to address it, but remains silent on critical issues that determine the extent to which people can live in their neighbourhoods in the first place, ways in which this can be addressed and mechanisms to achieve this. It is argued that the plan as it stands will do little to resolve existing problems and address challenges the city faces in the future.

Few countries have a national strategy for their cities and only a handful of these "speak meaningfully to both climate action and human development". Melbourne must become one of these, but recognise that adaption will require a profound and radical change in the city and the way it functions. It must also plan for population and economic decline which will become inevitable as the planet becomes locked into an irreversible hot house trajectory. This will demand new strategies driven by very different expectations for the city and a mindset that focus on the essentials for survival ie liveability, provision of essential goods and services including food and water, and maintenance of community cohesion and preservation of institutions that under pin civil society.

This must be supported by a new economy in which people are forced to consume less of everything, including transport, quickly reduce greenhouse emissions and place a high value on the restoration of the biosphere that supports all life (including humanity) on this planet. None of this can be achieved over night. It will require a transition plan from the carbon economy which underpins the global economy.

Whilst a city cannot achieve this on its own, it must reflect all of these in its city plan with actions to achieve measurable outcomes that can be monitored and enable political leaders to be held to account. This will require resources, institutional support and commitment from government to make it happen to ensure it does not end up being yet another city plan that is consigned to the archives and gathers dust. But ultimately the success of a city plan will depend on the quality of leadership provided at all levels of government. Governance can be improved by addressing the decline and functioning of many of the institutions that underpin civil society and governance standards. It can also be improved by facilitating genuine community consultation and engagement and adequate resourcing and powers of institutional bodies such as IBACC and the Ombudsman that have been established to oversee government processes and ensure these are carried effectively to the required standards.

Executive Summary

Plan Melbourne 2017-2050 is an opportunity to plan for the future and realise goals and aspirations proposed for the city. It has an unusually long planning horizon. A lot can change in this time and it is appropriate it be reviewed regularly to confirm the extent to which its goals are being achieved or are realistic in the first place. This paper reviews the current plan with a focus on critical issues that are understated or on which the plan is completely silent.

Plan Melbourne 2017-2050 like most of its predecessors is an aspirational document. It acknowledges some of the challenges confronting the city, population growth, liveability, housing, transport and even climate change sustainability and proposes some ways in which these can be addressed, describing Melbourne as "a city of opportunity and choice" with an exciting future. Measures proposed in this strategy assume significant population and economic growth but nearly all assumptions that underpin this plan are based on continuation of business as usual. Little attempt has been made to assess global trends, future scenarios and the threats these pose for the city. The dimension, scale and complexity of environmental challenges and threats they pose are understated and measures in response, are superficial and totally inadequate. The plan is silent on important issues such as food, water, and the capacity to fund and maintain essential infrastructure and services. Liveability is important and the plan proposes a range of strategies to address it, but remains silent on critical issues that determine the extent to which people can live in their neighbourhoods in the first place, ways in which this can be addressed and mechanisms to achieve this. It is argued that the plan as it stands will do little to resolve existing problems and address challenges the city faces in the future.

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Whilst a city cannot achieve this on its own, it must reflect all of these in its city plan with actions to achieve measurable outcomes that can be monitored and enable political leaders to be held to account. This requires resources, institutional support and commitment from government to make it happen to ensure it does not end up being yet another city plan that is consigned to the archives and gathers dust. But ultimately the success of a city plan will depend on the quality of leadership provided by all levels of government, including the city itself. Governance can be improved by addressing the decline of many of the institutions that underpin civil society and governance standards. It can also be improved by facilitating genuine community consultation and engagement and adequate resourcing and powers of institutional bodies such as IBACC and the Ombudsman that have been established to oversee government processes and ensure these are carried effectively to the required standards.

Transport for Melbourne (TfM)

www.transportformelbourne.org

Submission to

Infrastructure Victoria

30 year Infrastructure Strategy

3 June 2023

About Transport For Melbourne

Transport for Melbourne is a think tank and advocacy group of transport professionals whose mission is to promote an understanding of issues that Melbourne faces and how these can be better addressed. It was established 10 years ago response to what was considered to be a transport crisis. TfM argues that Melbourne needs to change its transport focus to address the major transport and city planning problems it has now. These are fundamental problems of a systemic nature that have been ignored for decades.

TfM has strong links with other transport advocacy organisations and convenes an annual forum which focuses on critical transport and city planning issues and opportunities to apply lessons from other cities that have become models of international best practice.

Introduction

Transport for Melbourne (TfM) welcomes this opportunity to provide input to Infrastructure Victoria's (IV) 30 Year Infrastructure Strategy.

IV has asked:

- How and where should infrastructure be delivered to support fairer access for all Victorians?
- How can infrastructure sustainably drive economic prosperity?
- How can infrastructure help reduce the impacts of climate change, and be adapted to withstand more frequent and extreme weather events?
- How can infrastructure improve Victoria's resilience to future shocks and disruption?

TfM response to these questions are made in the context of future scenarios that must be planned for, recognising that global change will reshape our cities profoundly in the future. It is necessary to understand the kind of risks or threats facing our cities and society more generally and the capacity of people and governments to respond. It is also necessary to ask what our cities will look like, how many people will live in them, where the food will come from to feed them, what jobs have value, what resources will be available to operative essential services and supporting infrastructure and how much of that infrastructure will have value.

Whilst questions posed by IV have relevance in the very short term, a lot will change within a thirty-year planning horizon so it is necessary that all of the questions we have posed be addressed at the outset before any meaningful discussion is made on the questions posed by IV above. This must also be on the understanding that physical infrastructure on its own has no value, that it only exists to support the numerous services people need, like water, drainage, telecommunications, transport, recreation and so on, all of which can and will change in the future and that this must be carried out in a way that is fit for purpose, provided and maintained at least cost and at a scale that can be afforded by the broader community. Whilst much of the discussion and actions proposed in this submission is centred on Melbourne it also applies more generally to the rest of Victoria.

Future Scenarios

It has become increasingly obvious that our rapidly changing world presents a growing list of threats of all kinds. There is increasing agreement that these threats include

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There is concern that many of these present serious challenges and will become increasingly critical in the future. It is also expected all of the above will be mutually reinforcing and have flow on effects. Whilst many triggers will be social, economic or political in nature, environmental factors will dominate.

Many of these are man-made, such as excessive debt and reflect poor governance and decision making, but all have implications for essential services and the infrastructure required to support them and the extent to which these are required or affordable in the future. It is not possible to review all of the above in this submission so the discussion has been limited to three key areas.

Climate Change, Global Warming and other Environmental Challenges

Scientists have recently warned that there is only a 50% chance of limiting global warming to 3 degrees; a global average which for Australia means 4 degrees and will be unliveable.
This requires an adaption plan for life on an increasingly inhospitable planet, a world of declining fortunes that supports fewer and fewer people. This has implications for the city's capacity to provide food, water and other essential goods and services, many of which are taken for granted but are essential for the well-being and liveability of the city or even its survival.

Provision of Essential Goods and Services including Food

Failure to provide essential goods and services, particularly food and water has been the reason most societies and civilisations have collapsed in the past and will determine a city's fate in the future. Australian food production is largely capital and energy intensive and the task of reducing emissions will become increasingly challenging. The need to reduce emissions and food miles has been acknowledged for many decades but will become increasingly critical

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to industrial rather than nutritional needs; it wastes enough food every year to feed 3 billion people; it is exceptionally vulnerable to a changing climate."

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Maintenance of a Liveable City Environment

Human activities are reducing vegetation and canopy cover in all of our cities, resulting in habitat fragmentation, species extinction, biodiversity loss and rising temperatures. Research shows that our cities hold substantially more threatened species than our non-urban areas, and that our broader community doesn't realise the true value of biodiversity and its importance in maintaining a liveable city.

The decline of green canopy also means Australian city dwellers face a much hotter future. Major heatwaves are Australia's deadliest natural hazard, particularly for cities with a lack of trees and large areas of hard paved surfaces, typically dark coloured surfaces (bitumen, concrete, roof tiles etc). This has created heat islands which can make our cities 4–10 degrees Celsius hotter than surrounding rural areas. In these situations fifty degree days which will become increasingly common will become sixty degree days that are unbearable and increasingly unliveable.

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"The global average for motorized travel is now about 6,300 km per person per year. At the extremes, however, US residents average over 30,000 km per person per year, while in some countries the average is only a few hundred km per person per year.

Could the high degree of mobility now standard in the US be extended to the whole world's population? Not likely. Moriarty calculates that if each person in the world were to travel 30,000 km per year in motorized transport, world transport energy levels alone would be about 668 EJ, greater than global total commercial energy use of 576 EJ for 2018…It should be noted that of all typical modern travel modes, air travel is the most environmentally damaging and least sustainable".

New technology and improved vehicle efficiency will not resolve this problem. The imperative is to travel less and less often and by a large factor.

City Futures Summary

Melbourne and (Victoria more generally) faces profound challenges that cannot be ignored and must be planned for. It requires an adaption strategy that must be the foundation for service planning and supporting infrastructure. From an environmental perspective whilst there is an imperative to reduce greenhouse emissions, there is also an imperative to reduce the degradation of the biosphere and demands on the planet's natural resources and a transfer to "greener" energy will not achieve this. It will simply enable the mining of the planet's resources and business as usual to continue.

Few countries have a national strategy for their cities and only a handful of these "speak meaningfully to both climate action and human development". Melbourne must become one of these, but recognise that adaption will require a profound and radical change in the city and the way it functions. It must also plan for population and economic decline which will become inevitable as the planet becomes locked into an irreversible hot house trajectory. This will demand new strategies driven by very different expectations for the city and a mindset that focus on the essentials for survival ie liveability, provision of essential goods and services including food and water, and maintenance of community cohesion and preservation of institutions that under pin civil society.

This must be supported by a new economy in which people are forced to consume less of everything, including transport and other services and supporting infrastructure, quickly reduce greenhouse emissions and place a high value on the restoration of the biosphere that supports all life (including humanity) on this planet. None of this can be achieved over night. It will require a transition plan from the carbon economy which underpins the global economy.

These messages are still largely ignored by politicians and policy makers who continue to believe that environmental challenges can be addressed by emission reduction strategies alone without

interrupting population and economic growth. However sooner or later the impact of global change will demand more drastic action. IV can anticipate the need for more radical change and reflect it in its latest strategy.

Proposed Actions

- Evaluate most likely and worse case scenarios for the future based on mega threats identified above, including risks, implications for population and economic growth, the demand for essential services and supporting infrastructure, the extent to which these can be afforded in the future and likely economic life within the thirty-year planning horizon proposed by IV.
- Maximise use and efficiency/effectiveness of existing infrastructure, the extent to which it promotes better environmental and social outcomes for the broader community before building more
- Reclaim and redevelop outdated or disused infrastructure that promotes unsustainable behaviour and outcomes
- Use this framework to progress detailed assessments of all infrastructure and measures that can be implemented on a case by case basis for Melbourne and Victoria more generally to respond to the questions asked by IV, recognising that there will be no simple single fix solutions.

TfM wishes to qualify the relevance of IV's questions as follows:

- Fairer access is determined by the nature, scope and design of the service and the service plan itself which should in turn provide the basis for the provision and design of supporting infrastructure – not the reverse which is often the case today
- Infrastructure is not the driver of prosperity – it is the service itself and the way it is used that matters
- Infrastructure can be designed in a way that reduces environment impacts by
    - Reducing its scale and demand for natural resources
    - Eliminating inefficient or environmentally damaging use
    - Reducing or even rationing use
    - Reducing energy and material inputs – by design
- All infrastructure is vulnerable to extreme weather events and has a limited life. Appropriate design and construction must be carried out on a case by case basis to standards of best practice and risk which will change over time. There are no magic solutions to address this.

Questions posed by IV largely assume a continuation of business as usual. TfM argues that a new approach is required which reflects an increasingly changing and uncertain world, a world in which humanity will be forced adapt and challenge much of the thinking that persists today about the way humanity lives and its prospects for the future.