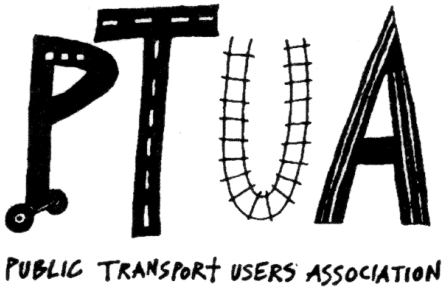


Stories of Growth

Population, Transport and Melbourne's Future

Public Transport Users Association
www.ptua.org.au
November 2018

Summary

For decades the travelling public in Melbourne has suffered from serious deficiencies in the city's transport systems: roads that appear to just become more congested with each passing year, trains and trams that break down or fail to arrive when needed, bus services that are all but nonexistent, and a lack of safe options for walking or cycling.

These problems were fairly easy to attribute to planning and management failures of successive governments and of public authorities. Motorways have been built one after the other, based on forecast benefits that ignore mounting evidence that new roads fail to relieve congestion and instead create more traffic. Until recently, spending on these new roads crowded out any substantial investment in upgrading public transport systems to allow people to escape road congestion. Planners largely ignored the need to provide for public transport, walking and cycling as part of the urban landscape and road traffic system.

Lately, however, attention has shifted to Melbourne's rate of population growth as a cause of transport problems. Surely it would seem, if roads are becoming more congested and trains more overcrowded, it would be due to the record number of people moving into Melbourne every year. Worse, the sheer numbers cause many to doubt that anything now *can* be done about the state of our transport systems unless we can arrest this growth in population. The converse also suggests itself: put the brakes on population and we can make Melbourne an easy place to drive around again.

This paper aims to put the population surge and related transport concerns in broader context, by looking at the history of population and transport use in Melbourne over the past 50 years. This is done with the aid of three key data series: population from ABS data, total vehicle-kilometres travelled on Melbourne roads each year as estimated by BITRE, and PTV data on annual passengers carried on trains, trams and buses.

The data provide a timely reminder that growth in road traffic has far outrun growth in population for most of Melbourne's postwar history. It has done so to the extent that, if Melbourne's current rate of population growth had applied for the entire previous half-century but road use had grown at only the *same* rate as population, we would now be experiencing about 25% *less* traffic—the level that prevailed in 1996 before the construction of Citylink.

Road traffic is now growing a little more slowly than population, but this comes as no relief to Melburnians because it adds to a half-century of cumulative traffic growth—much of it 'induced traffic' from a decades-long effort at increasing road capacity. Meanwhile, public transport use only recently surpassed its 1950s level of patronage, after decades where its role in meeting the travel needs of vast numbers of people in urban areas was quashed by transport policy that encouraged car travel at the expense of public transport.

No matter how large or small its population in future, Melbourne cannot afford to revert to a pattern of road traffic growth outrunning population. Attention must as always be devoted to infrastructure and service plans for competitive public and active transport options (including the multimodal network plan mandated by Victoria's *Transport Integration Act*) so that when public transport patronage next expands by 50% over five years as it did from 2005, this may be welcomed as a planned outcome rather than confronted as a threat to the status quo.

1 Introduction

The growth of Melbourne has emerged as this decade's "barbecue stopper" and a bedrock issue in the 2018 Victorian election. While traffic congestion has been a thorn in the side of Melburnians for as long as car travel has been popular, only in the past few years has population growth been identified so emphatically and so consistently as the cause.

The Transport Opinion Survey (TOPS), conducted regularly since 2010 by the Institute of Transport and Logisitcs Studies at the University of Sydney, illustrates this trend in hard figures. A key question put in this survey to a representative sample of 1000 Australians is what they consider to be the "highest priority issue for transport". Over the past decade, this survey question has provided a convenient barometer of Australians' comparative appetite for new roads or new public transport initiatives, with these two items dominating all other responses until quite recently. By this measure, public transport improvements have consistently led the priority list and have outrated road improvements as a policy priority by at least two to one, a tendency that has been particularly pronounced in Victoria (see Table 1).

But since at least 2016 an entirely different issue has come to prominence, sufficiently novel for TOPS to classify as 'other' but easily identified from countless media reports and vox-pops. There is a clear sense that accelerated population growth in the past decade, driven mainly by migration to Melbourne and Sydney from overseas, poses an existential threat to the livability of these cities and especially to the health of their transport systems. There is profound disillusionment with the idea that investment in transport infrastructure and services can provide any relief from the level of congestion and overcrowding seen on Melbourne's roads, trains, trams and buses in recent times, leading to the conclusion that the only way to restore some degree of comfort is to call a halt on population growth.

Complicating any policy response here is the fact that Australia is a federation, where decisions on overseas migration rest with the Commonwealth, while State governments bear responsibility for urban planning and transport policy. The political temptation is always present to 'pass the buck'—in Victoria's case by acceding to the popular view that (big infrastructure projects aside) little else can be done as long as the population keeps growing, and in Canberra's case by criticising the record of successive Victorian Governments in infrastructure investment. While it's clear both sides have a political case, it's less clear whether the moral case lies with one side or other, or perhaps even both.

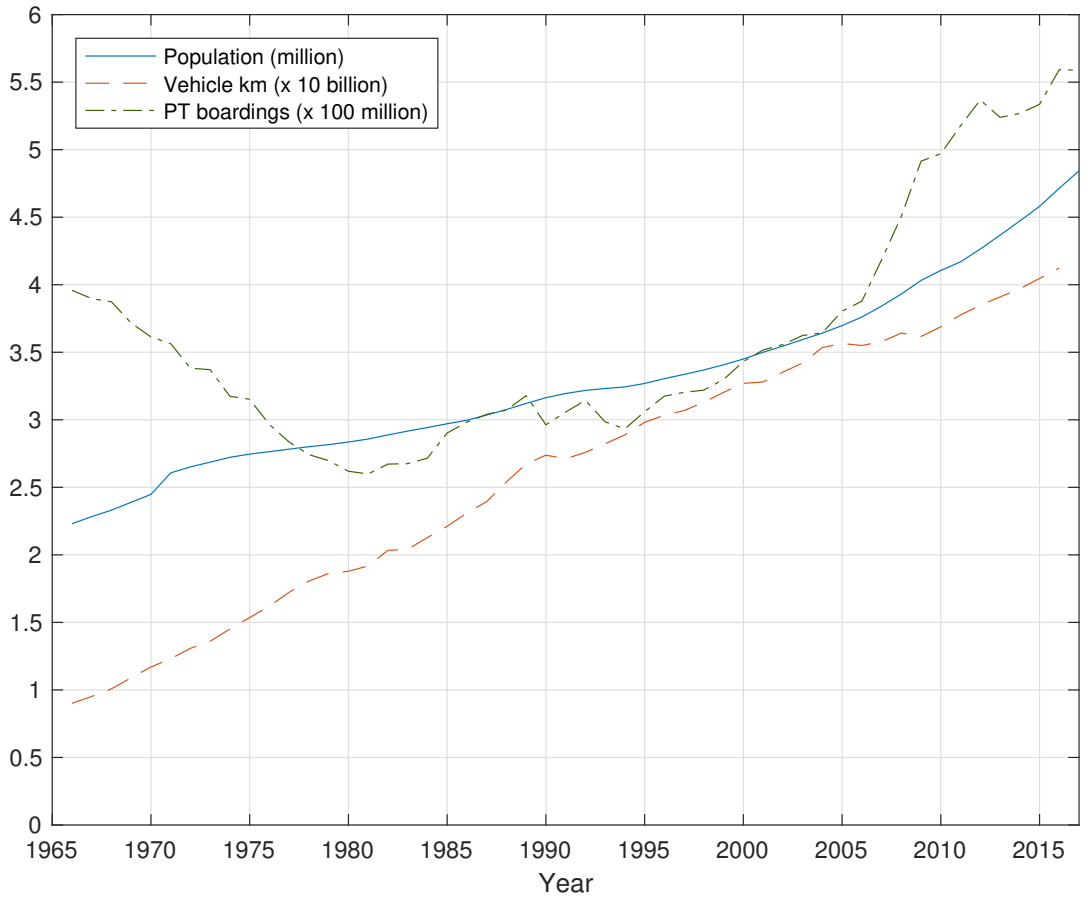
Fortunately, reliable data exist on both Melbourne's population and on various indicators of transport use, going back several decades. This can help shed light on how Melbourne's present-day growth pressures compare with what has happened in the past, and to develop a longer view of the interplay between Melbourne's population growth and the transport system.

It becomes clear the growth figures can tell a whole variety of stories, depending on what time horizon or episode of Melbourne's recent history one chooses as a focus. A simple illustration is provided taking just the aggregate figures for population, road use and public transport use in Melbourne for the past 50 years. These 'growth stories' suggest that if one seeks to use infrastructure to ease the effects of population growth, the *kind* of infrastructure is critical.

Table 1: Victorians' responses to TOPS survey question on "Highest priority transport issue"

	2010	2013	2016
Public transport improvements	73%	65%	36%
Road improvements	11%	21%	18%
Freight / Interstate rail	5%	5%	2%
Economic issues	2%	1%	1%
Environment issues	4%	1%	4%
Other	3%	4%	32%
None / Don't know	2%	3%	7%

Source: Institute of Transport and Logistics Studies, University of Sydney



Source: ABS (population); BITRE yearbooks and RR–124 (vehicle km); PTV / Victoria Budget papers (PT boardings)

Figure 1: Melbourne population, vehicle kilometres and public transport trips, 1966–2017

2 Melbourne's Growth Trajectory

Concrete data on population growth and the accompanying 'burden' on roads and public transport systems in Melbourne are readily available, in the form of year-by-year time series going back at least half a century.

- For population, the Australian Bureau of Statistics (ABS) provides annual population estimates for capital cities as part of its Regional Population Growth data set. The figures for Melbourne 'usual resident' population are available on a year-by-year basis back to 1920, and five-yearly census figures back to 1901.

- For road use, the Commonwealth Bureau of Infrastructure, Transport and Regional Economics (BITRE) provides annual time series of 'vehicle-kilometres travelled' (VKT) within capital cities as part of its annual Infrastructure Statistics Yearbooks. These are available on a financial-year basis from 1970–71 to 2016–17. Further figures published in BITRE Research Report RR–124, *Road vehicle-kilometres travelled: estimation from state and territory fuel sales*, allow the time series for Melbourne to be extended back to financial year 1965–66.

- For public transport use, Public Transport Victoria (PTV) has published historical patronage figures on a financial-year basis going back to 1949–50. These are figures for raw boardings, or 'unlinked trips' in transport planning terms. For recent years, the historical figures can be supplemented with those from the annual Victorian Government Budget papers.

The raw figures for greater Melbourne for the period 1966 to 2017 are plotted in Figure 1, and paint a not unfamiliar picture. Population follows a steady upward curve, which accelerates noticeably

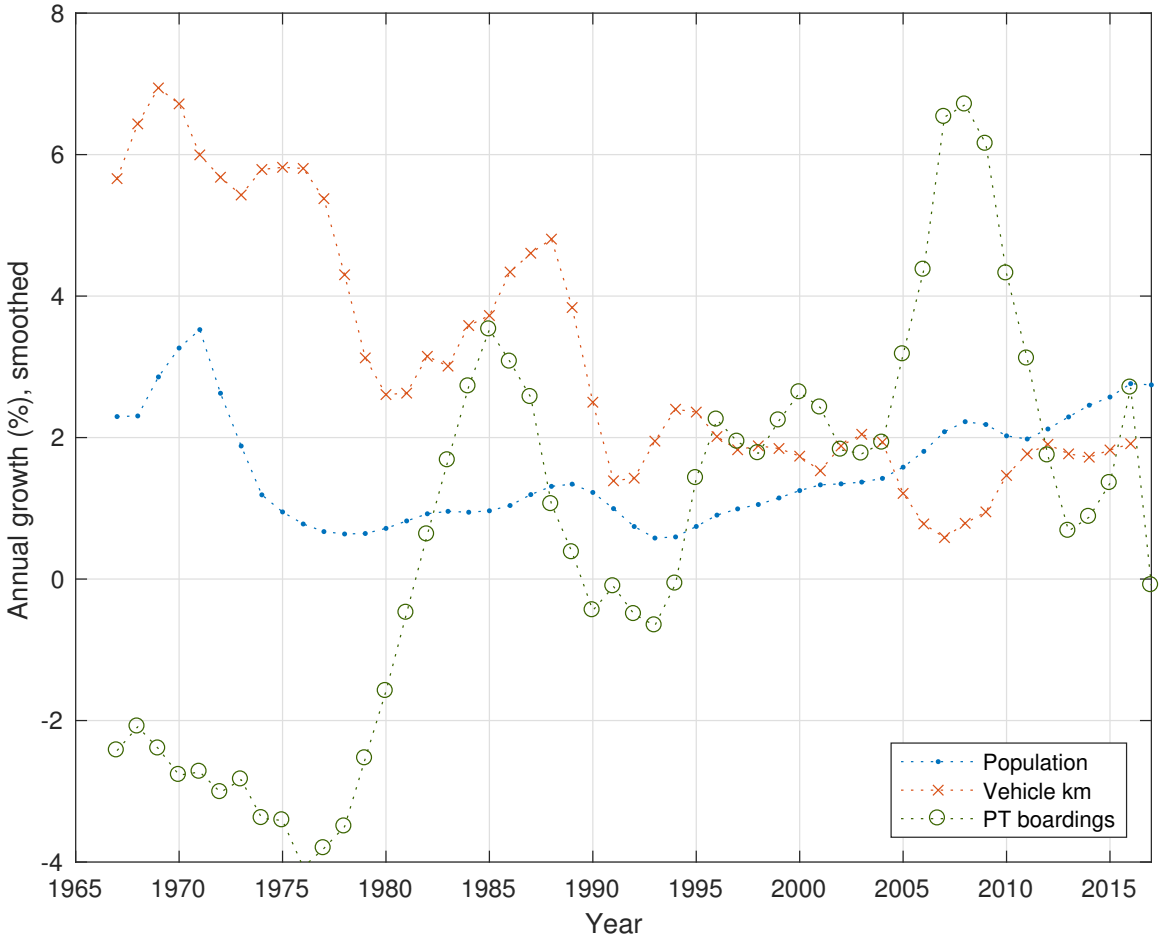


Figure 2: Population and travel growth rates in Melbourne, 1966–2017

from about 2005. It is apparent that had population growth remained at the same rate as during the 1980s and 1990s, Melbourne would have a little over 4 million residents today; as it is, population is considered to have hit the 5 million mark as of August 2018.

VKT, the indicator of private vehicle use, also follows a strong upward trajectory, with slight dips around the early 1990s recession and the 2008 financial crisis. As will be seen however, this rising trajectory of growing traffic conceals some interesting features.

A strong contrast is provided by the time series for public transport use. Uniquely among these indicators it does not show continuous strong growth, but instead tracks the well-documented collapse in public transport patronage through the postwar era. Figure 1 charts only the latter part of this decline; in the early 1950s, public transport use ran consistently at well over 500 million trips annually. As the late Paul Mees observed, while all cities around the world have grappled with the consequences of mass car use, in virtually no other city was the abandonment of public transport as rapid or as deep as in Melbourne. Only in the past decade or so has patronage recovered even in absolute numbers to the levels that prevailed in the 1950s, even though Melbourne's population has grown threefold in that time.

A different perspective on the figures is provided by Figure 2, which plots the annual growth rates in population and transport use.[1] Once again the recent population boom can be seen in the figures, with population growth running at 2% or more each year since around 2007. As Figure 2 shows, growth rates above 2% have not been experienced in Melbourne since the postwar baby boom drew to a close in the early 1970s (and when the population was only half as large).

[1] Smoothing was applied to the growth figures to more clearly delineate multi-year trends over sometimes more erratic year-on-year variations. This was done for each year by averaging the figures for (up to) 3 years prior to and 3 years commencing with the year in question, then dividing the resulting percentage growth by 3 to express on an annual basis.

Valuable context for discussions of population growth is however provided by comparing the growth series in Figure 2 with those for VKT and for public transport boardings. Looking at growth in VKT for example, one notices that it clearly outpaced population growth in every single year from the first available figures in the 1960s until 2004. This is so even accounting for economic events that slowed the growth in car use, notably the oil shock and subsequent recession in the late 1970s, and the early 1990s recession. Subsequent to 2004 the opposite has occurred, with VKT growth consistently running behind growth in the population.

The public transport growth series is the only one to show negative growth, substantially so prior to 1980. Patronage then began a slow recovery, owing in part to the opening of the Melbourne Underground Rail Loop and the introduction of multimodal ticketing in 1981. The recovery went into reverse in the early 1990s with service cuts under the Kirner and Kennett Governments, then resumed with modest service improvements in the late 1990s. Overall, the most striking movement on the positive side of the chart was the quite unanticipated surge in patronage between 2005 and 2010 (at a time when growth in road VKT was also briefly at a record low), of which more will be said below. Since 2010, patronage growth has again been unspectacular—the relatively high growth figure for 2016 followed by the near-zero figure for 2017 is likely a statistical artefact.

How effective has public transport been in catering for Melbourne's population boom, judging by the relative growth rates? Performance since 2010 gives little cause for optimism, and even the modest growth rate seen in the late 1990s would barely keep pace with population in relative terms were it to be replicated today. If our growing population is not to translate automatically into worsening congestion, and instead public transport is to perform its natural function as the transport mode best adapted to carrying large numbers of people beyond easy walking or cycling distance, then planners must build in an expectation that patronage growth will substantially exceed the rate of population growth. This was the case during that brief period from 2005 to 2010, but as that experience showed, our planning system proved incapable of a sustainable response (of which more below).

These observations can be teased out further with the help of further visualisations of the same underlying data. As the following sections discuss, each of these tells a different 'story'—corresponding loosely to three periods of Melbourne's recent history—and sheds light on a different aspect of transport growth in Melbourne relative to population.

3 Growth Story 1: Explosion of Car Use, Public Transport Neglect

The most basic and enduring story to be told is the one where one looks simply at the relative change in population and transport use from a vantage point in the mid-twentieth century. This is depicted in Figure 3, which resembles Figure 1 and presents essentially the same data, but with the series scaled to express each as a percentage of Melbourne's population, road VKT and public transport use as they were in 1966.

Perhaps the most initially striking feature of Figure 3 is the large and growing gap between the road VKT series (dashed red) and the population series (solid blue). This illustrates in dramatic fashion the way growth in private car use and in road traffic has dwarfed the growth in Melbourne's population, even taking the recent boom into account. Far from being a result of recent population growth, Melbourne's congestion is a problem 50 years in the making—indeed more, since road congestion was a pain point for Melbourne motorists even in 1966. (This was the era when new road projects were publicised using 'unclog the arteries' themed TV ads.)

Contrast the indicator of Melbourne public transport use relative to 1966 levels. While population more than doubled and road use increased nearly fivefold over the half-century depicted, the number of trips by public transport has increased by not even 50% over the number of trips taken five decades ago. It was only in 2007 that public transport use even recovered to the 1966 level in absolute terms.

The story told here is a familiar one and underlies the failure of cities, wherever in the world they

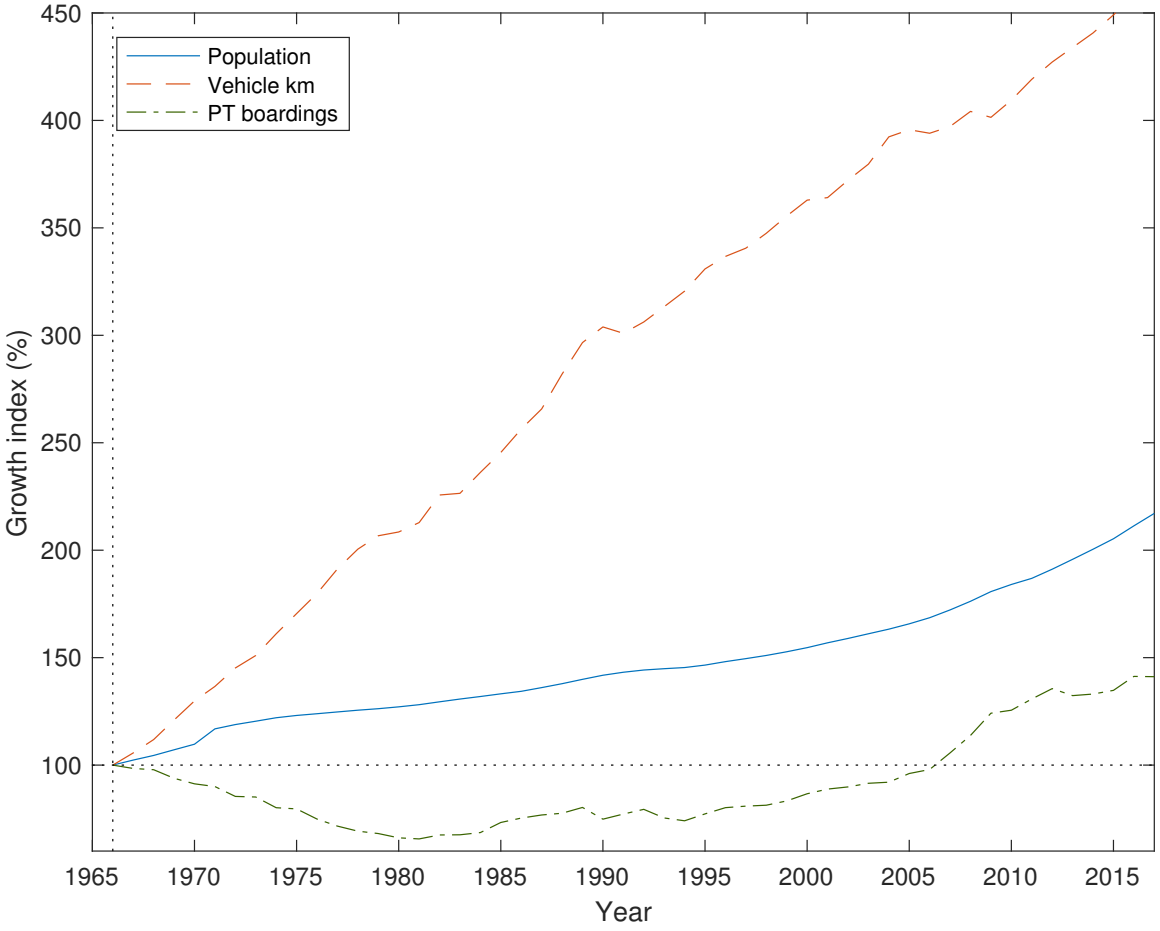


Figure 3: Melbourne population and travel growth, as percentage of 1966 levels

may be, to deal with growing congestion while enacting car-dependent transport policy. Over the past 50 years Melbourne has built hundreds of kilometres of motorways and arterial road widenings with the declared objective of reducing congestion and speeding up car travel. As recent media reports have highlighted[2], and mirroring a similar situation in the USA, this has left Melbourne with a massive expanse of legacy road infrastructure, the maintenance of which takes up an increasing proportion of the annual transport budget. Yet Figure 3 illustrates in dramatic fashion that for the entire period in question, these congestion-busting objectives were utterly defeated by sheer growth in traffic, much of it the 'induced traffic' we now understand to be a rational response to *that very expansion of road capacity*—to the extent that until very recently it far outpaced the growth in Melbourne's population.

To put it another way: suppose that for the *entire 50 years* commencing in 1966, the population of Melbourne had grown at the same 2.5% annual rate being experienced today, but that overall road travel had grown at the *same* rate as the population rather than outpacing it. Compounding over 50 years, both the 'population' and 'VKT' curves in Figure 3 would then be sitting at 350% of the 1966 levels in the year 2016—close to the level that actual VKT reached in 1996, 20 years earlier.

Or suppose that road use had simply followed the *actual* growth of Melbourne's population over the past 50 years (including all the recent increase). VKT would then match population in 2017 at some 220% of its level in 1966—about the level Melbourne's actual road use stood at in 1982.

Of course, holding road traffic growth to such a level would have mandated a continuous investment in public transport, walking and cycling, similar to what many European and Canadian cities undertook in response to burgeoning car traffic problems in the 1960s and 1970s. One can likewise read off Figure 3 that had the postwar collapse in public transport use been averted, and

[2] "Why Victoria is spending billions on infrastructure but still struggling to keep up", *The Age*, 5 November 2018.

patronage instead been encouraged to grow modestly but steadily to track the past 50 years of population growth, that (relatively modest) continous investment would result in the system supporting in 2017 at least 220% of its 1966 patronage level. That would mean a capability to support 880 million passengers annually—in comparison with the neglect that occurred in reality, as a result of which our system struggles to support barely two-thirds of that figure.

It may stretch the imagination to picture a fictional Melbourne in 2018 with a similar population but with traffic levels more typical of those in 1982, or even those in 1996. Naturally it is far from certain to what extent any alternative policy direction would have prevented Melbourne's level of road use growing faster than population. However, the point of this story is really not about Melbourne's past, but its future. While population growth will always have some influence on traffic levels, the greatest factor by far is the slant of transport policy, and the extent to which it reinforces dependence on car and truck travel, and either facilitates or neglects the alternatives.

4 Growth Story 2: Travel Growth Defies Expectations

The period around 2004–2005 is particularly interesting for Melbourne transport patterns. Firstly, it marks the start of a five-year boom in public transport patronage not seen since at least World War II. Secondly it marks the point where, for the first time since reliable records began, road travel failed to grow at a faster rate than population (though it has continued to grow strongly since).

Figure 4 takes a similar approach to Figure 3, but this time plots population, road travel and public transport patronage as a proportion of their levels in the year 2004.

While Figure 4 depicts the same data as previous charts, this particular presentation helps illuminate some important aspects not immediately obvious previously. For example, it is reasonably

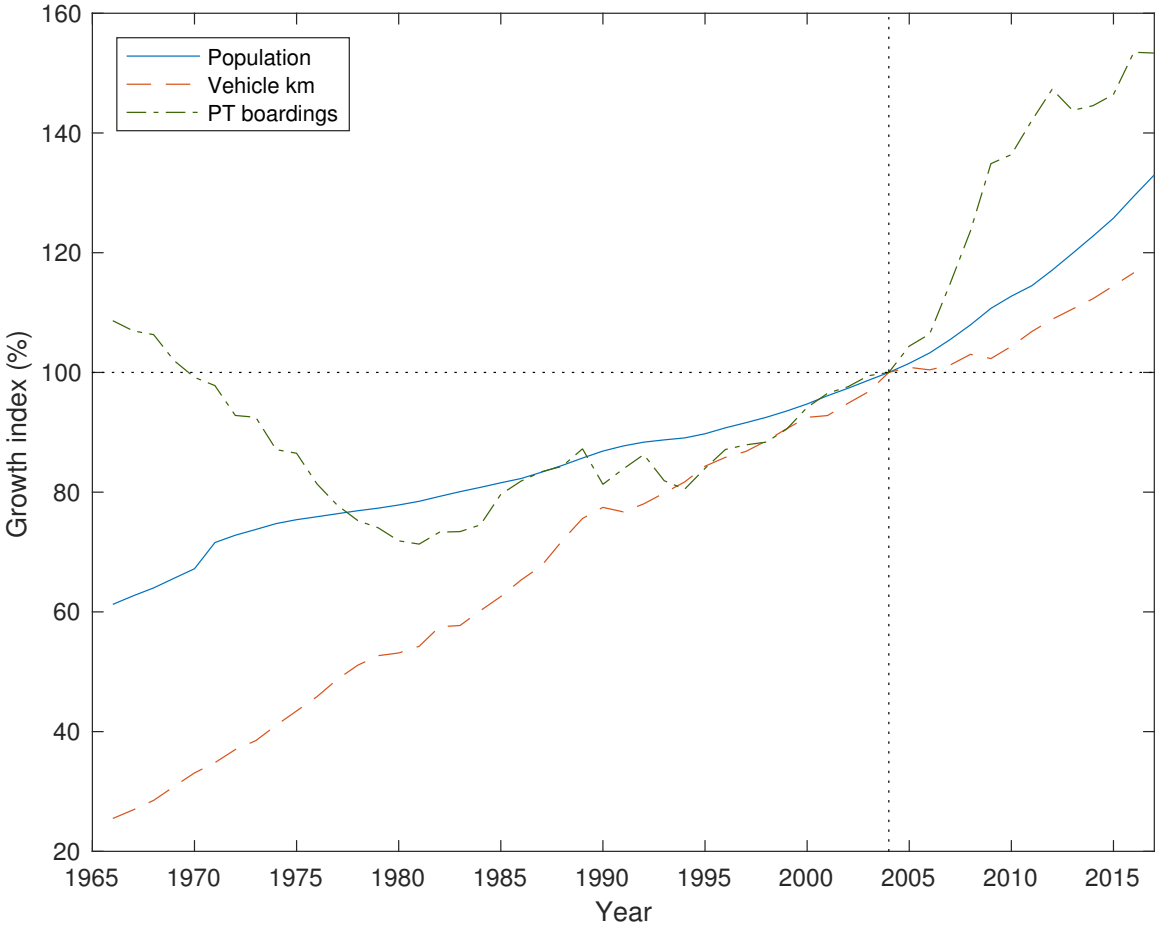


Figure 4: Melbourne population and travel growth, as percentage of 2004 levels

clear from Figure 4 that public transport use, from the start of its recovery after 1980 until 2005, broadly tracked the rate of population growth over that time. While there were episodes of greater or lesser growth (visible in Figure 2 above), the overall trend was for patronage *per capita* to remain constant at the (relatively low) level at which it settled in the early 1980s.

The previous section documented the rapid growth in road VKT that took place during this same period. This meant of course that while public transport use may have kept pace with population, it was nonetheless steadily losing 'mode share' to private car transport. So while public transport use in *absolute* terms reached its nadir around 1980, it reached a minimum as a *share* of motorised travel much later, and was close to this minimum in 2004. (Victorian Budget papers state that public transport journeys to work had fallen to below 9% of motorised trips by the mid-2000s.)

Public transport had of course performed better in the past in both absolute and relative terms: Figure 4 places boardings in 1966 at 110% of the level in 2004. But the falling mode share for public transport over these decades went hand-in-hand with a culture of low expectations in official planning circles, a culture documented and lamented by commentators from J. M. Thomson in *Great Cities and Their Traffic* (Peregrine, 1977) to Paul Mees in *A Very Public Solution* (Melbourne University Press, 2000). This culture left the system entirely unprepared for what happened *after* 2004, when over a little more than five years boardings jumped by almost 50%. This increase was far in excess of population growth at the time (or since) and as previously noted, was without precedent in Melbourne's postwar history.

At the peak of the patronage boom around 2008, the growth rate in overall public transport boardings was just short of 7%, about the same as the annual growth rate in road VKT around 1970 (refer back to Figure 2). It is interesting to contrast the official responses to these two historical events. In 1970, the Bolte Government in Victoria had just released its *Melbourne Transportation Plan*, which all but welcomed the growth in private car travel and proposed to meet it with a Los Angeles-style freeway grid, more than 500km in length and budgeted at several billion 1969 dollars (equivalent to tens of billions today). Leaving aside some projects that were prudently abandoned, most of this freeway network is now either built or planned to be built (the North East Link, for example, appeared in the 1969 plan as freeway F6).

In 2008 the response to the public transport boom—and report after report of overcrowded trains—was initially to deny that any spare capacity existed in the system to cope with the surge. In the 1970s the Underground Rail Loop (itself an outgrowth of the 1969 *Transportation Plan*) was built with the ostensible objective of boosting peak-hour train capacity in central Melbourne. But as Figure 4 makes clear, as of the mid-2000s this claimed capacity had never been tested. A detailed analysis showed that in 2005 every individual train line except Glen Waverley was running fewer peak-hour trains than were forecast in the 1969 plan for the City Loop—indeed many lines were running fewer trains than had *actually* run on those lines in the 1960s. The additional capacity was eventually put to use through two timetable changes in 2009 and 2011, by which point the boom had run its course.

Again one can picture how this story might bave been told differently: how planners may have been better prepared to bring the additional City Loop capacity online as it was needed; to hold surplus rolling stock in reserve instead of prematurely scrapping it in the early 2000s; and only then to reach for solutions with longer lead times, such as the Metro 1 Rail Tunnel. The lesson now appears to have been learned, with track capacity now much more rigorously managed, and with plans now well advanced for the Metro 1 Tunnel, for a fleet of new high-capacity trains, and for improvements to signalling systems to further rboost capacity.

Current plans are designed in principle to respond to another 2005–10 style boom: one that appears to be firmly in the future, notwithstanding the rate of population growth since 2010. It is unclear to what extent the return to a more modest growth in public transport use reflects a lack of confidence by Melburnians in the adequacy in the system—both planning and operational—to respond to high demand growth. By itself, the Metro 1 Tunnel is no match in scale for Bolte's 1969 freeway grid. The Andrews Government's 'suburban rail loop' proposal comes closer in magnitude, but is vulnerable to criticism: it has not emerged from any longer-term strategic planning process, and there is no broader multimodal network plan for trams, buses and active transport to describe

how this would fit seamlessly into the daily travel plan for the average Melbourne resident.

But there is also an optimistic note to sound from Figure 4. From 2005 onwards, the curve depicting total VKT lies entirely below that depicting population growth, and rises at a lesser rate—though of course it still rises. Had VKT instead followed the growth in population from 2004 onward, road traffic would now be more than 30% higher than its 2004 level, instead of just 20% as now. The trajectory post-2004 does suggest that Melbourne is prepared for a further mode shift in favour of public transport, which importantly would result in noticably *less* traffic congestion than one would predict from population growth alone. It is clear however that this will rely on a well-planned public transport system with the reliability and resilience to absorb further growth in demand.

5 Growth Story 3: Reckoning with Population Growth

Lastly, Figure 5 presents the same data as previously, but now with the population and transport use series expressed as percentages of their 2010 levels. The year 2010 is selected as that when Prime Minister Julia Gillard officially repudiated (in letter if not in spirit) the 'big Australia' narrative of the Howard and Rudd Governments, invigorating a 'sustainable population' debate that has grown in intensity since. It also marks an evident end to the boom in public transport patronage that began five years earlier.

More than those told previously, the story here is directed at the future rather than the past. For the period from 2010, the story so far is "business as usual"—with both road VKT and public transport boardings tracking close to but slightly below population growth. However, while the growth is proportionate it does nevertheless represent a sizeable increase in absolute numbers both

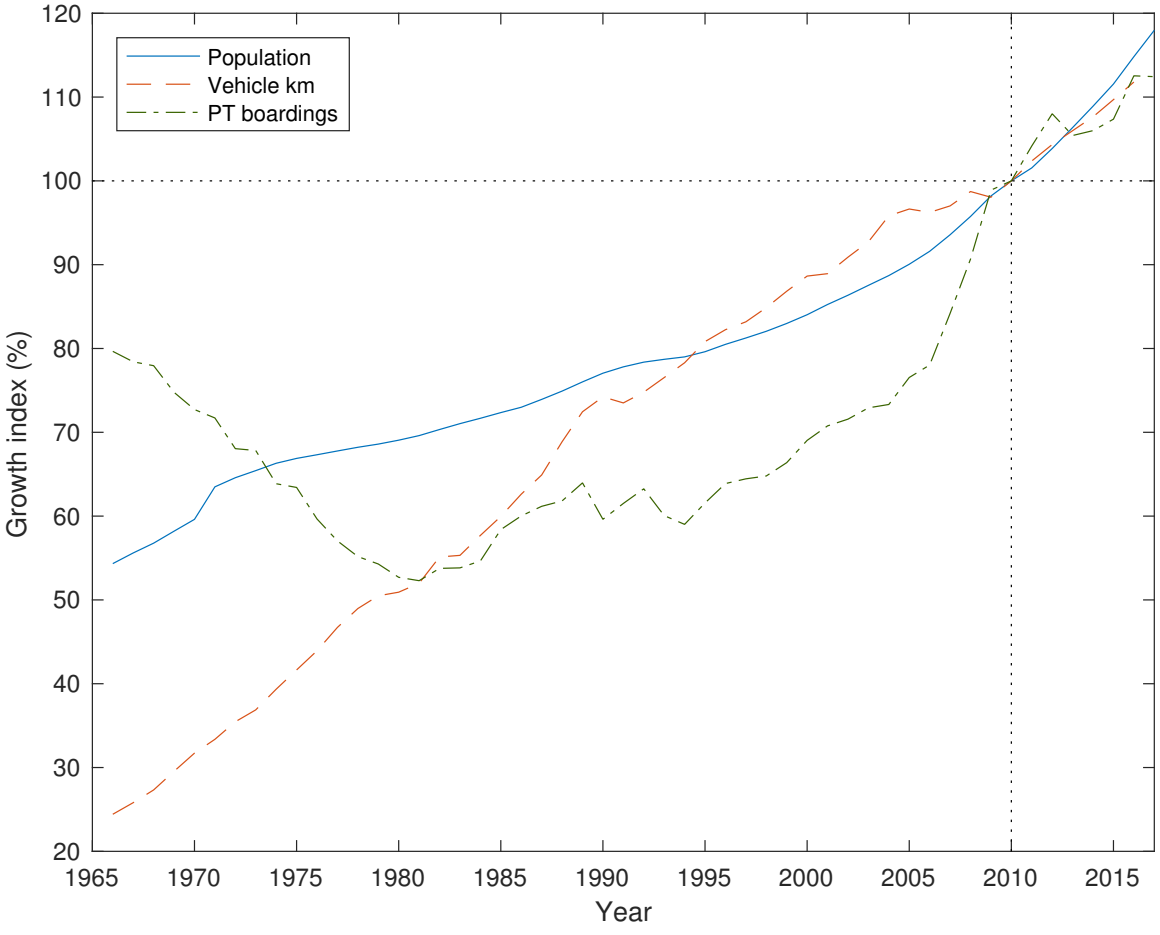


Figure 5: Melbourne population and travel growth, as percentage of 2010 levels

on the roads and on public transport—more than 10% greater since 2010—numbers that will strain the capacity of any infrastructure that does not easily scale with population.

The drawbacks of population growth are most closely and consistently linked with road traffic congestion for a reason. Of all methods of transport (and indeed of almost all our regular day-to-day activities) low-occupancy motor vehicles are by far the most costly in *spatial* terms. When they are the only practical method of transport available, travel rapidly becomes a zero-sum competition for space. It doesn't even take especially large populations or an urban environment for problems to arise: even a few dozen people converging on one rural venue at the same time in single-occupant cars will create a traffic jam. But in urban areas this is a routine occurrence.

Public transport systems have a natural advantage in scaling for large urban populations precisely because they move people by the dozen or hundred rather than one or two at a time. This also means technical improvements that permit a relative handful of additional vehicles in a corridor can have dramatic consequences for public transport. A single timetable change in 2011 that reorganised train running patterns to be more efficient, without laying any new tracks, made it notionally possible for thousands more people to access central Melbourne in peak hour. By itself it added as much passenger capacity as would likely be added by the six-lane West Gate Tunnel, at a fraction of the cost and without any of the destructive effects.

6 Conclusion: Taking Transport Seriously

The challenge posed by Melbourne's recent high popultion growth has lent a new urgency to old policy debates, not least the debate about what kind of city Melbourne aspires to be and how different approaches to urban transport work in favour of or contrary to that goal.

But even if Melbourne's population were to suddenly stop growing tomorrow, the city would still need to confront long-standing problems of widespread traffic congestion and substandard public transport, the cumulative outcome of decades of transport policy aimed at maximising car and truck travel and minimising travel by other modes. To avoid intensifying the competition for space that already blights people's daily lives, road travel will need to be held to a growth rate below that of population, continuing its record since 2004, while public and active transport will need to step up to play to their natural advantages.

Meeting the challenge will require a lot beyond simply investing in infrastructure. Notwithstanding the strategic importance of projects such as the Metro 1 Tunnel, the level crossing removal programme and mooted projects such as the Metro 2 Tunnel (Newport to Clifton Hill) and the Suburban Rail Loop, these form only part of the story. The postwar collapse in public transport use in Melbourne didn't occur due to a lack of infrastructure, but because planners never made the effort to develop a service offering to compete with the attractions of the private automobile. The European and Canadian cities whose planners responded to make public transport more competitive with car travel suffered much lesser declines.

In what is sometimes called the Urban Century, cities that fail to develop public and active transport networks as a competitive alternative to car travel are doomed to suffer worsening congestion, *regardless* of how much population growth they experience. The fundamental problem with a business-as-usual approach is the one summed up by US transport planning consultant Jarrett Walker in regard to American cities:

> My firm works in cities all over the US, and most of them have appallingly low levels of fixed route service compared to potential demand. In most American cities, the quantity of service is growing far slower than population, which means that on average, the availability and usefulness of transit is getting worse. Most cities, in short, are forcing low-income people to buy cars by making that the only way to have a life, *even in places where fixed route service could succeed.*
>
> —Jarrett Walker, "Microtransit: What I think we know". *Human Transit* blog (`www.humantransit.org`), 23 February 2018 (emphasis in original)

By alluding to 'fixed route service' Walker is working in a reference to the current fashion for 'demand-responsive microtransit' as a substitute for 'underperforming' suburban bus services. In most urban areas, Walker explains, this simply replaces a (potential) high-occupancy mode with a low-occupancy one, and intensifies the competition for space. But more practically, Walker also documents that despite the large number of microtransit pilot projects that have been put in place in the US, none have succeeded in achieving a level of performance (in passengers per service hour) remotely approaching that of even an 'underperforming' conventional bus service. Microtransit is not so much competing with private car travel, as just adding to road VKT.

Whether Melbourne grows to a city of 6, 8 or 12 million, or even somehow remains at 5 million, it cannot afford a repeat of the decades between 1966 and 2004 where growth in road travel outruns growth in population while public transport use barely keeps up. Avoiding this fate has very little to do with restraining the growth in Melbourne's population, but it will likely require greater restraint on the political appetite for more urban road capacity. (If past history is any guide, induced traffic is a more potent force even than population growth.) It also mandates the development and implementation of a multimodal transport network plan, of the kind Victoria's *Transport Integration Act* ostensibly requires but which no government has yet produced.

The likely elements of such a plan will by now be familiar: development of bus networks with high frequencies and comprehensive coverage of all suburbs within the urban growth boundary; strategic extensions of rail and tram networks to logical termini in suburban activity centres; upgrades to rail infrastructure to take advantage of all current technology; thorough coordination of disparate transport modes at planning level; and perhaps most critically of all, the development of organisational capacity, advocacy roles and subject-matter expertise within agencies such as Transport for Victoria. Melbourne will then be fit to respond to the next surge in public transport use—one that is not only probable but necessary if the city is to remain liveable in coming decades.