

Quarterly and Monthly Transport Indicators – December 2016

Recommendation

That the Board:

- i. Receives this report.

Executive summary

1. The attached Monthly and Quarterly Indicators Reports provide an overview of AT's performance against its Statement of Intent (SOI) performance measures for November and December 2016 (in a single report) and the December 2016 quarter. The reports also provide supplementary information on the wider Auckland context as well as AT's public transport, road operations and maintenance, and customer response activities.
2. This covering report provides analysis of key trends in AT's operating environment from 2013 to 2016, summarises performance against the existing SOI measures and highlights notable aspects of the Indicators Reports. Over time, on a quarterly basis, we intend to progressively improve the analysis and incorporate a dashboard featuring the Board's agreed Strategic Themes for monitoring performance.

Wider context – trends since 2013

3. This section provides some wider context for the current Indicators Reports and future trends analysis by considering changes in a range of key high-level indicators since 2013¹.

Population growth, migration and employment

4. Auckland has seen rapid population growth over the last three years (see Figure One). As at 30 June 2016, Auckland's estimated population was 1,614,400 - an increase of 121,000, or 8.1 percent, since June 2013. This is the highest rate of growth since at least the mid-nineties.

¹ 2013 has been used as a comparator as it was the base year for the *ATAP Foundation Report*, which provided the most recent major summary of broad transport network trends.

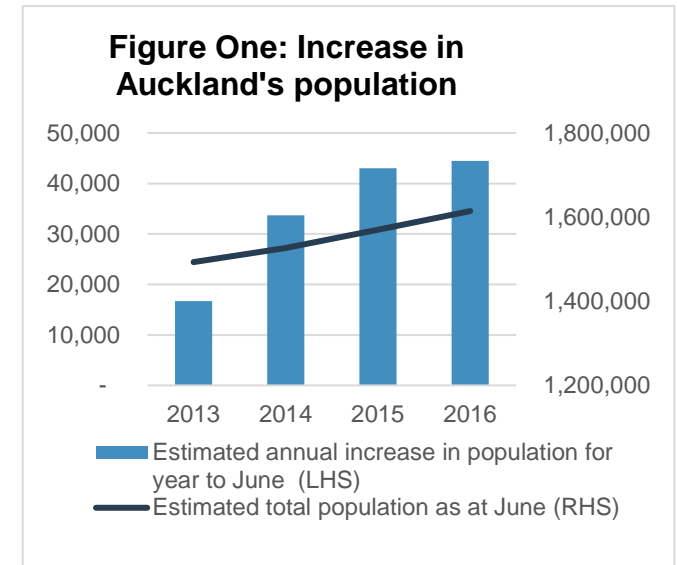
5. Much of Auckland's growth is driven by net migration. 2016 saw record highs in migration to New Zealand, with a net gain of 70,400 people for the 12 months to November. The net migration gain estimated for Auckland was 33,536 or 48 percent of the New Zealand total. Total estimated net migration to Auckland between June 2013 and June 2016 was 76,391.
6. Auckland's increasing labour force is likely to be a key driver of morning peak travel demand. Statistics New Zealand's Labour Force survey data shows an increase of 13.8 percent, or an additional 102,000 people employed, between June 2013 and June 2016. This is the largest absolute increase in employment for the period for which we have data (since December 2003).

Demand for travel: Public transport

7. Between June 2013 and June 2016, total public transport boardings have grown by 15 million or 22 percent, well ahead of the population growth rate, driven largely by additional investment and AT's strong focus on improved services. However, the rate of increase is slowing, particularly in absolute terms, with current gains mostly coming from the rail network.
8. Over the 2013 to 2016 period:
 - estimated² total boardings per capita increased from 46 to 51
 - estimated bus boardings per capita increased from 36 to 37, and
 - estimated per capita rail boardings per capita increased from 7 to 10.

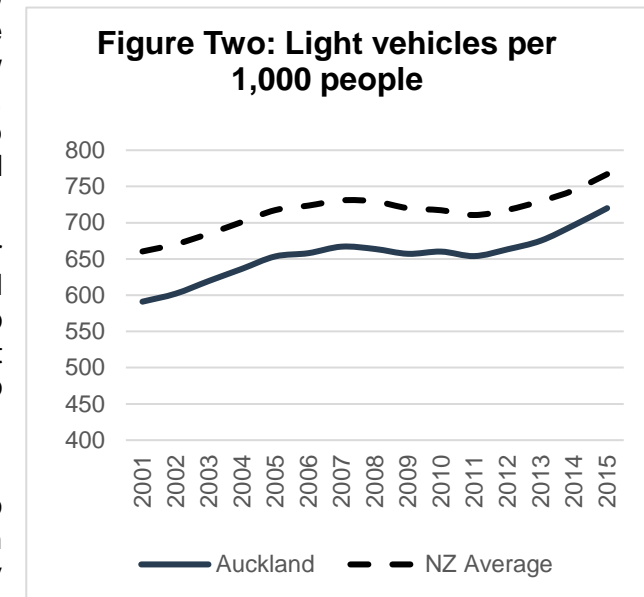
Demand for travel: private vehicles

9. From around 2007 until around 2013, total private vehicle travel in Auckland remained relatively flat as modest increases in population were offset by decreases in per-capita vehicle travel (although peak period travel increased with employment). However, this pattern changed in 2013 when total private travel began to increase again, driven by rapid population growth and possibly assisted by a small recovery in per capita vehicle travel.



² Our estimates of per capita change in travel demand since 2013 are based on Statistics New Zealand's Sub-Regional Population Estimates and therefore are subject to the same estimation issues as the population data.

- Auckland’s light vehicle fleet has increased in size by 12 percent, or 122,000 vehicles, between 2013 and 2015³. As Figure Two shows, ownership rates have increased from 675 to 720 light vehicles per 1000 people and Auckland is now catching up with the New Zealand average of 767 vehicles per 1000 people⁴. Although the distance driven by each vehicle is decreasing over time, this ownership increase suggests that Aucklanders’ love affair with the car has not yet peaked and widespread adoption of vehicle sharing may be some way off.
- Odometer data shows an increase of over one billion vehicle kilometres travelled per annum, from 12.2 billion kilometres travelled per annum to 13.4 billion, for Auckland vehicles between 2012 and 2015⁵. This is an increase of 10 percent compared to estimated population growth of 6.3 percent over the same period. This is the largest increase in total vehicle kilometres travelled since 2001. As noted, these figures also suggest a modest recovery in per capita vehicle travel compared to the 2012 low, but not yet to the high point of 2004 to 2007.
- Total annual regional fuel consumption⁶ has increased from 1,543 million litres to 1,667 million litres between the year to June 2013 and the year to June 2016, an increase of 123 million litres or 8 percent. Per capita consumption effectively remained static at 924 litres of fuel per person per year.



10. Measuring specific private vehicle trips across the network is difficult. However, both the odometer and the fuel consumption data suggest annual vehicle travel has increased by at least 100 million trips since 2013, giving a total increase of 120 to 130 million person trips per year when allowing for average vehicle occupancy.

³ Ministry of Transport, NZ Vehicle Fleet Graphs 2015 V1, Sheet 1.5b.

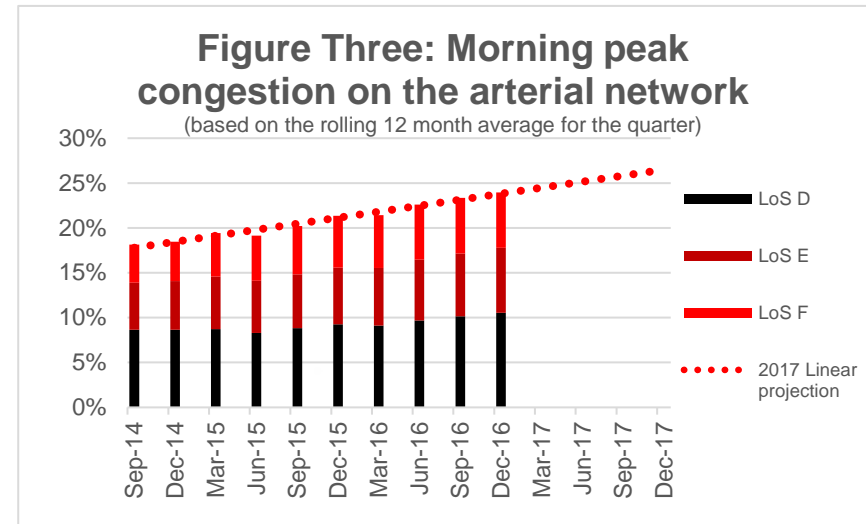
⁴ This is a continuation of a long-run trend, with vehicles per capita increasing by 22 percent since 2001.

⁵ ATAP Supporting Information, page 11. Data for 2013 is yet to be released publicly.

⁶ This includes fuel consumption for non-transport purposes. It is estimated that, across New Zealand, around 70 percent of diesel is used for transport.

Changes in congestion - the likely impact of growth in vehicle travel

11. This rapid growth in private vehicle travel has exceeded AT and NZTA's current ability to increase road network capacity or address demand, leading to increases in congestion⁷. For the December 2016 quarter, a rolling annual average of 24 percent of the arterial network was congested during the morning peak, compared to the 18 percent reported for the December 2014 quarter (see Figure Three).
12. Since 2014, an additional 2.4 per cent of the arterial network on average has become congested each year. Assuming this rate continues, around a third of the arterial network will be congested by around 2020.



Summary of performance against SOI measures

13. Table One provides a summary of performance against SOI targets.

Table One: Performance against SOI targets by Theme	
Prioritise rapid, high frequency public transport	Three SOI measures – three on target to meet performance measure
Transform and elevate customer focus and experience	Eight SOI measures – one on target to exceed performance measure, four on target to meet performance measures, and two not on target to meet performance measure
Build network optimisation and resilience	Eighteen SOI measures – five on target to exceed performance measures, one on target to meet performance measures, nine not on target to meet performance measures and three reported annually with no update this month
Ensure a sustainable funding model	One SOI measure – on target to meet performance measure
Develop creative, adaptive, innovative implementation	Four SOI measures – one on target to meet and three reported annually with no updates this month

⁷ This congestion data is based on AT's network performance monitoring programme (see page 20 of the attached Monthly Indicators Report). Given the new Strategic Themes, we are currently developing a reliability measure for the network, but do not yet have a long time series to report. Available data indicates that more of the arterial network is subject to unreliability (i.e. variable travel times) than congestion. For example, in the month of December 2016, 19 percent of the network was congested during the morning peak, while 34 percent was unreliable.

Highlights from the Quarterly and Monthly reports

14. Key highlights from the Quarterly and Monthly Indicators reports are set out below.
15. Growth in total public transport and rail boardings means that performance for these two measures is now on track to meet respective SOI performance measures, after several months of sitting below the range. This growth appears to be driven in part by the Southern New Network, as relatively larger increases in rail boardings have been reported on the southern and eastern lines. The Southern New Network is expected to improve bus performance, however the impacts are difficult to identify from aggregate region-wide data.
 - Overall public transport patronage totalled 84.8 million boardings for the 12 months to December 2016, an increase of 3.9 per cent, or 3.2 million boardings, on the 12 months to December 2015. Total boardings are now 2.4 per cent lower than the year to date SOI target, but within the 'on target' range.
 - Rail boardings totalled 18.1 million for the 12 months to December 2016, an increase of 17.8 per cent, or 2.7 million boardings, on the 12 months to December 2015. Rail boardings are now 0.5 percent lower than the year to date SOI target, and well within the 'on target' range.
 - Bus boardings totalled 60.6 million for the 12 months to December 2016, an increase of 0.2 per cent, or 0.1 million, on the 12 months to December 2015.
 - Ferry boardings totalled 6 million for the 12 months to December 2016, an increase of 5.6 per cent, or 0.3 million, on the 12 months to December 2015.
16. Boardings on the rapid and frequent network totalled 32.4 million, an increase of 8.5 percent, or 2.5 million boardings, on the 12 months to December 2016. In percentage terms, this increase was faster than the 3.9 percent increase in total boardings. Growth in rapid and frequent boardings was primarily driven by growth in boardings on the rail network.
17. Satisfaction with public transport services has increased significantly over the December quarter to 86%, a three percentage point increase compared to the December 2015 quarter. Rail satisfaction has grown most strongly, increasing by 7 percentage points over the year to reach 90%. Satisfaction with the quality of roads and footpaths has, however, continued to decline – in both cases dropping by three percentage points since December 2015. Meanwhile, satisfaction with road safety has declined slightly over the last two quarters, but remains above the SOI target band.
18. The December 2016 quarter has seen travel times across the ten freight routes monitored for the SOI increase by an average of ten percent since 2015, likely as a result of increases in traffic volumes. Despite a strong focus on optimising the performance, the number of routes not meeting rolling 12-month travel time targets increased from two out of ten in September 2016 to six out of ten in December 2016.
19. Cycling in designated areas continues to grow strongly, and the cumulative cycle count remains well ahead of the trajectory to meet the SOI target. By contrast, recorded cycle movements in the city centre saw only modest growth over the December 2016 quarter and remains below target. A further 5.2 kilometres was added to the cycle network during the December 2016 quarter. Due to some delays, provision of cycle

network capacity is behind on the trajectory to meet the SOI target, but this is expected to recover to be on target by the end of the financial year.



Summary

20. AT has seen a significant change in its operating environment over the last three years as rapid population and employment growth has driven an increase in travel that is equally rapid, if not faster. Thanks to recent investment and attention, growth in public transport boardings has been well ahead of population – primarily due to the success of rail and the busway. However, even with these major gains in public transport, the evidence points to a large absolute increase in total private vehicle travel, which is at least proportional to the growth in population. This has led to a marked increase in peak-period congestion across the arterial network, particularly over the last two years.
21. The December 2016 quarter results reflect this wider context. Public transport and cycling are generally performing within target ranges – although public transport growth is increasingly reliant on growth in rail boardings (this may change as the new bus network is rolled out). Performance against road network targets is, however, generally declining, particularly for freight routes. Under current policy and funding settings, this decline in performance appears likely to continue while population continues its rapid growth.

Attachments

Attachment Number	Description
1	Auckland Transport Quarterly Indicators Report 2016/17 – December 2016
2	Auckland Transport Monthly Indicators Report 2016/17 – December 2016

Document ownership

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