

# **Auckland Transport Alignment Project**

## **Revenue and Expenditure Report**

## Contents

1. Introduction .....	3
2. Approach .....	3
3. Expenditure.....	5
3.1. Historic transport expenditure 2001-2015 .....	5
3.2. Expenditure model.....	5
3.3. Cost estimates for early packages .....	7
3.4. Indicative Package Cost Estimates .....	8
4. Revenue .....	11
4.1. Recent funding levels.....	11
4.2. Funding available from current plans .....	13
4.3. Alternative future revenue scenarios .....	14
5. Funding gap.....	16
5.1. Funding gap estimates.....	16
5.2. Council and NLTF shares of funding gap .....	17
Appendix 1: Revenue Model Assumptions .....	19
Appendix 2: Expenditure Model Assumptions .....	20
Appendix 3: Maintenance, Operations and Renewals Assumptions .....	21

## **Preface**

*This is one of a series of research reports that were prepared as inputs to the Auckland Transport Alignment Project (ATAP). It is one of a number of sources of information that have been considered as part of the project, and which have collectively contributed to the development of the recommended strategic approach. The content of this report may not be fully reflected in the recommended strategic approach, and does not necessarily reflect the views of the individuals involved in ATAP, or the organisations they represent. The material contained in this report should not be construed in any way as policy adopted by any of the ATAP parties. The full set of ATAP reports is available at [www.transport.govt.nz/atap](http://www.transport.govt.nz/atap).*

## 1. Introduction

This Auckland Transport Alignment Project (ATAP) is a joint investigation to test whether better returns from transport investment in Auckland can be achieved over the next 30 years.

The Government and Auckland Council want to identify an aligned strategic approach for the development of Auckland’s transport system that delivers the best possible outcomes for users of the transport system and delivers the best value for money.

The revenue and expenditure workstream has been tasked with estimating the overall level of expenditure associated with the different investment packages developed by ATAP, together with estimates of future revenues. This information has been used to identify the nature, scope and timing of any funding gap between current revenue plans and the expenditure envisaged in the Indicative Package, as outlined in the *Auckland Transport Alignment Project: Recommended Strategic Approach*.

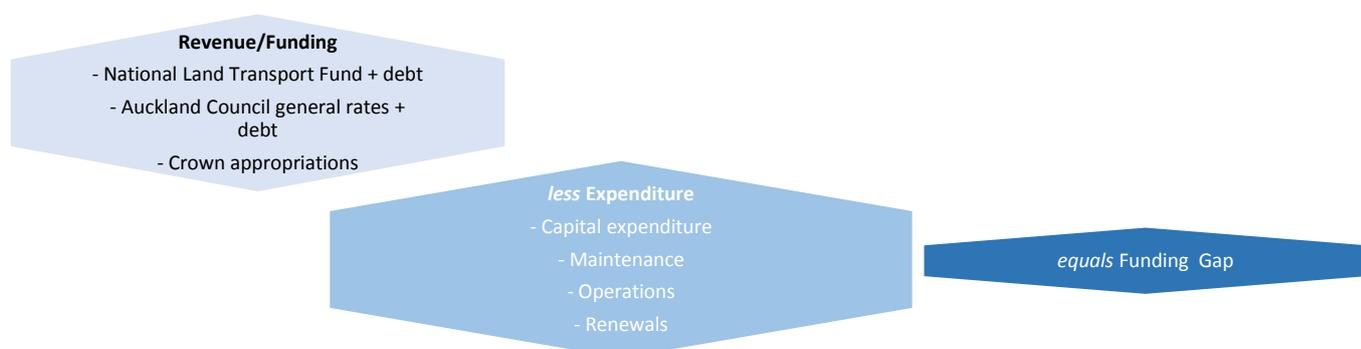
## 2. Approach

An expenditure and revenue model was developed to forecast Auckland’s overall transport financial performance for the 30-year period 2019-2048. The model, which has been externally peer reviewed, comprises interconnected spread sheets of estimated revenue, capital and operating expenditure, which have been used to identify the ATAP funding gap.

As illustrated below in Figure 1, the size of any funding gap is a function of the projected transport funding (also referred to as ‘revenue’), and the expenditure required to deliver the package of projects and on-going costs proposed under the Indicative Package, as outlined in the *ATAP Recommended Strategic Approach*.

The model allows the impact of different revenue and expenditure assumptions to be tested. It has also been used to identify the allocation of the funding gap between the parties under different co-funding assumptions.

**Figure 1: Schema of the expenditure and revenue model**



Unless otherwise stated, all revenues and costs are in 2016 dollars.

For the purposes of ATAP, costs associated with interest on the Council's debt, and an allocation of debt repayments has been excluded for the following reasons:

- They relate to Council expenditure in previous periods;
- The allocation of debt to transport is arbitrary. Debt arises from a shortfall of revenue over expenditure from all Council activities, and there is no objective way of saying which activity gave rise to the shortfall.
- The purpose of debt funding is to defer the impact of the expenditure on ratepayers. In present value terms the cost of debt plus deferred rates is equal to the cost of charging to cost to current rates. In economic terms the cost of debt is therefore nil.
- The interest and debt repayment cost is a cost of deferring rates, not of incurring expenditure on transport projects.

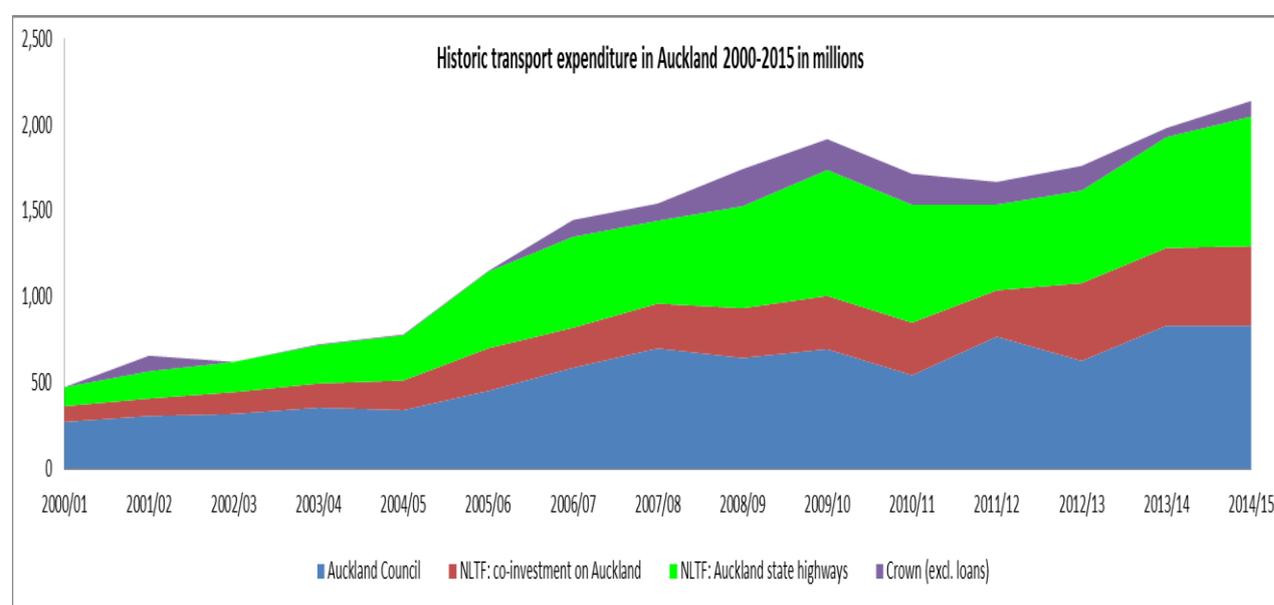
The details and assumptions underlying the individual components of the expenditure and revenue model are discussed in more detail in the following sections.

### 3. Expenditure

#### 3.1. Historic transport expenditure 2001-2015

Figure 2 below highlights the growth in transport related expenditure in Auckland from 2001-2015 in nominal dollars (see Table 1 for details). This historic growth has been as a result of addressing under-investment in transport as well as to accommodate Auckland's population growth. Recent expenditure on transport in Auckland has totalled around \$2 billion per annum.

**Figure 2: Historic spend on transport activities in Auckland 2001-2015 (actual dollars)**



Source: Ministry of Transport

**Table 1: Historic spend on transport activities in Auckland 2001-2015 actual dollars (\$m)**

\$millions	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Auckland Council	275	309	322	358	343	455	590	702	647	698	547	771	630	834	834
NLTF: co-investment on Auckland	91	101	127	141	173	247	232	260	288	309	305	269	451	451	462
NLTF: Auckland state highways	111	158	176	222	262	445	528	481	594	731	686	498	539	644	753
Crown (excl. loans)	0	91	0	5	5	4	98	100	215	179	179	132	143	53	91
	477	660	624	726	783	1,151	1,448	1,544	1,744	1,918	1,716	1,670	1,763	1,983	2,140

#### 3.2. Expenditure model

ATAP has involved an assessment of a number of intervention packages, made up of different combinations of investment. An expenditure model was developed to provide cost

estimates for each of these packages across the three decades covered by ATAP (from 2018/19 to 2047/48), based on cost information from a variety of sources. Some of the cost estimates used for this purpose were refined as the project progressed, especially where the scope of interventions changed. This means that cost comparisons between packages developed at different stages of ATAP need to be treated with caution. Costs were estimated for the following main expenditure categories:

- Capital-improvement expenditure (not including asset renewals)
- Asset renewals
- Maintenance and operations (excluding public transport operations)
- Public transport operating costs

### ***Capital expenditure***

The expenditure model used estimates of capital cost of projects derived from the following sources:

- Business cases for committed and agreed projects.
- Project teams estimated high level costs for new projects
- The Transport for Future Urban Growth (TFUG) business case informed the estimates for the ATAP transport for urban growth costs
- AECOM provided consultant support in estimating new project costs
- Rail development plan costs have been provided from the AT Strategic business case estimates

It should be noted that:

- Costs for Auckland Transport capital projects have been externally reviewed by AECOM and have provided 'midpoint' likelihood estimates.
- Costs for State highway projects are based on 50 percentile high level costs provided by NZTA. These costs have been reviewed by the appropriate senior Auckland Highways Networks Operations manager.

Because capital projects have a long lead time, it will be necessary for some expenditure to be incurred in the first decade for projects that will not be completed and in service until the second decade. To account of this, an allocation of 10% of the capital cost of projects slated for completion in decade 2 was allocated to decade 1. Similarly, 10% of the cost of projects expected to be completed in decade 3 was allocated to decade 2.

### ***Maintenance, Operations and Renewals***

Estimates of future expenditure on maintenance, operations and asset renewals have been prepared by the ATAP Maintenance, Operations and Renewals workstream and documented in the *ATAP Renewals, Operations and Maintenance* report. The workstream collaboratively developed a 30-year projection of the costs necessary to operate, maintain and renew the current and planned future road and transport networks, excluding Kiwi Rail assets.

The level of expenditure on maintenance, operations and renewals is influenced by the scale of the existing network and service levels; and also by the level of investment in new assets and services to deal with growth. This means that the level of expenditure will differ between intervention packages, especially where those package involve a significantly different mix of new investments (with different future maintenance and renewal profiles); or a significant difference in the level of public transport activity (resulting in different level of public transport operating spend on services).

For this reason, public transport operating costs were estimated using a separate cost model which took account of estimates of passenger numbers, farebox revenues and service kilometres for each package, based on patronage outputs from the Auckland Public Transport (APT) model.

The estimates of renewals, operations, maintenance and net public transport costs can be regarded as a conservative estimate of an upper range of costs. The potential for productivity gains through shifting to a ‘fit for purpose’ regime and improved standards setting, as required by GPS 2015, was treated as out of scope for ATAP purposes.

### 3.3. Cost estimates for early packages

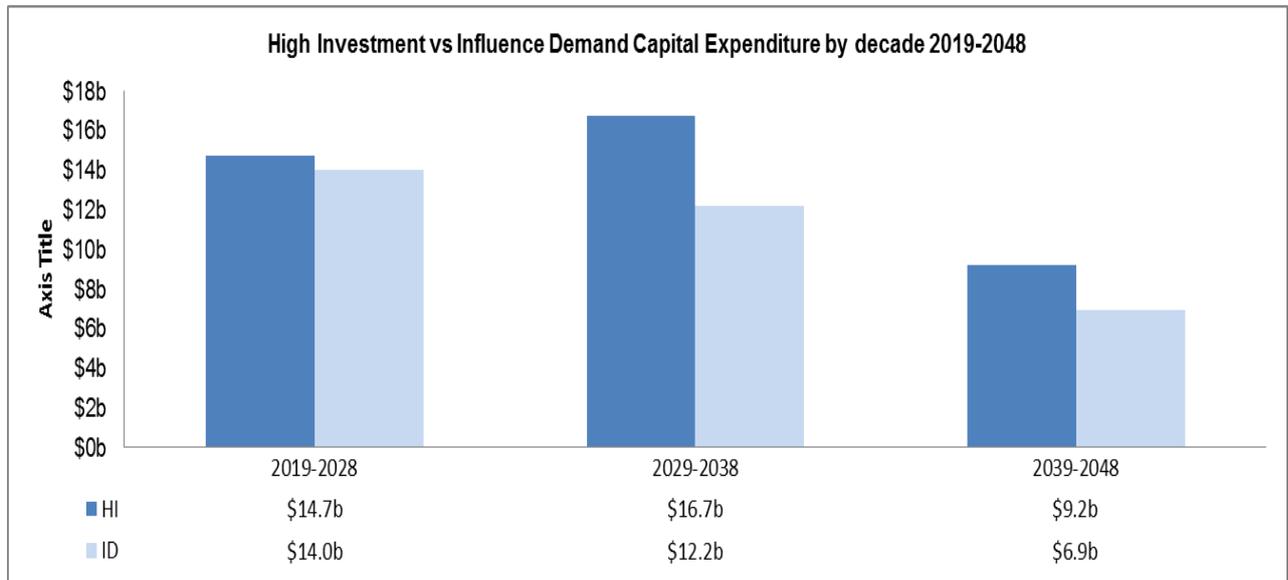
The expenditure model was used to estimate the total 30-year costs for the packages tested as part of the early stages of ATAP. A detailed description of these initial packages is contained in the *Auckland Transport Alignment Project Supporting Information* report.

These early packages included:

- The Auckland Plan Transport Network (APT<sub>N</sub>) which was used to represent “current plans” and evaluated as part of the Foundation Report. This included an estimate for NZTA projects. The escalated capital expenditure for the APT<sub>N</sub> in 2016 dollars is estimated at \$27.8 billion over the 30-year period.
- Round 2 packages, referred to as Employment Centres, Capacity Constraints, and Smarter Pricing. These packages were each designed to have a similar level of total capital expenditure as the APT<sub>N</sub> at approximately \$29.5 billion.
- Round 3 packages tested different levels of capital investment and demand management interventions. Two packages were developed, with different investment profiles:
  - Higher investment (HI) \$40.7 billion capital expenditure
  - Influence demand (ID) \$33.2 billion capital expenditure

Figure 3 shows the difference in total capital expenditure for these two packages over the three decades.

**Figure 3: Capital cost estimates for Round 3 packages: Higher Investment (HI) and Influence Demand (ID) in 2016 dollars (\$b)**



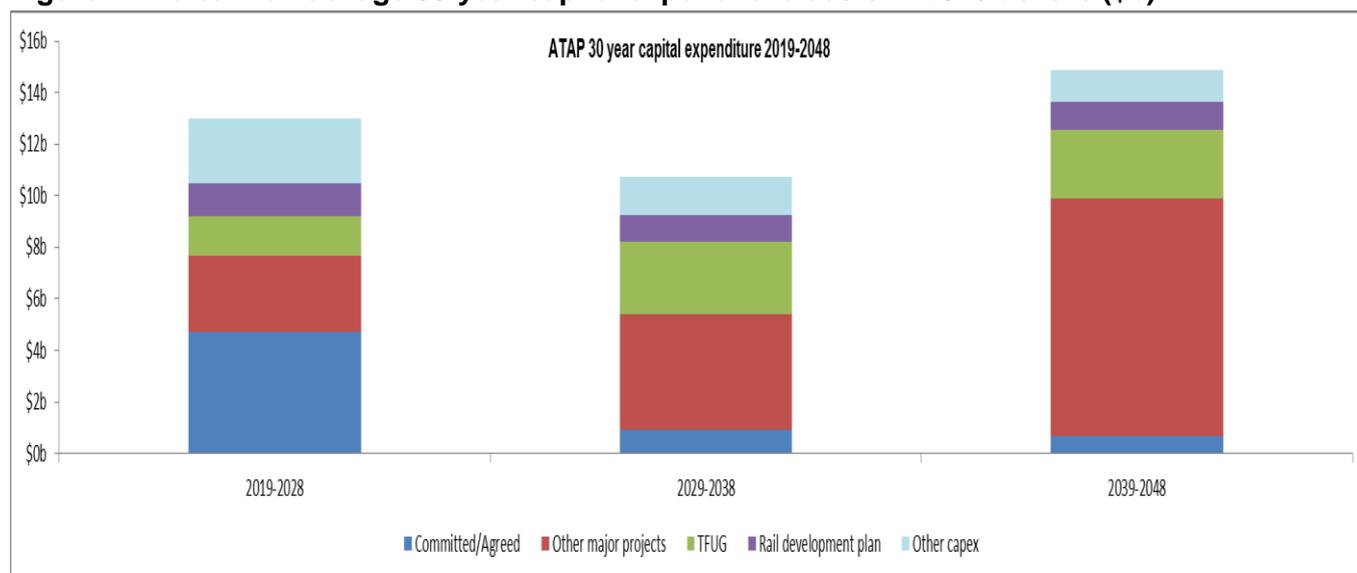
### 3.4. Indicative Package Cost Estimates

The final ATAP report includes an Indicative Package, which identifies the type of transport investments likely to be needed to deliver ATAP’s preferred strategic approach. The Indicative Package includes a significant amount of investment in maintaining and operating the existing transport system, and in continuing to make improvements in safety and active modes through on-going investments in these areas.

The expenditure model provides a 30-year cost estimate of the Indicative Package, as summarised below.

#### ***Capital expenditure***

A total capital expenditure of \$38.6 billion is projected over the 30-year period, as shown in Figure 4 and Table 2. The first decade estimate of \$13 billion is made up of a number of large projects that are either committed or agreed, together with projects that were prioritised for completion in the first decade. As noted above, an allowance of 10% of the cost of projects due to be completed in decade 2 was also included in decade 1.

**Figure 4: Indicative Package 30-year capital expenditure costs in 2016 dollars (\$b)****Table 2: Indicative Package capital expenditure costs in 2016 dollars (\$b)**

	2019-2028	2029-2038	2039-2048	Total Capital Expenditure (30 years)
Committed/Agreed	4.7	0.9	0.7	6.3
Other major projects <sup>1</sup>	3.0	4.5	9.3	16.7
TFUG	1.5	2.8	2.6	7.0
Rail development plan <sup>2</sup>	1.3	1.0	1.1	3.4
Other capex	2.5	1.5	1.3	5.3
<b>Total</b>	<b>\$13.0b</b>	<b>\$10.7b</b>	<b>\$14.9b</b>	<b>\$38.6b</b>

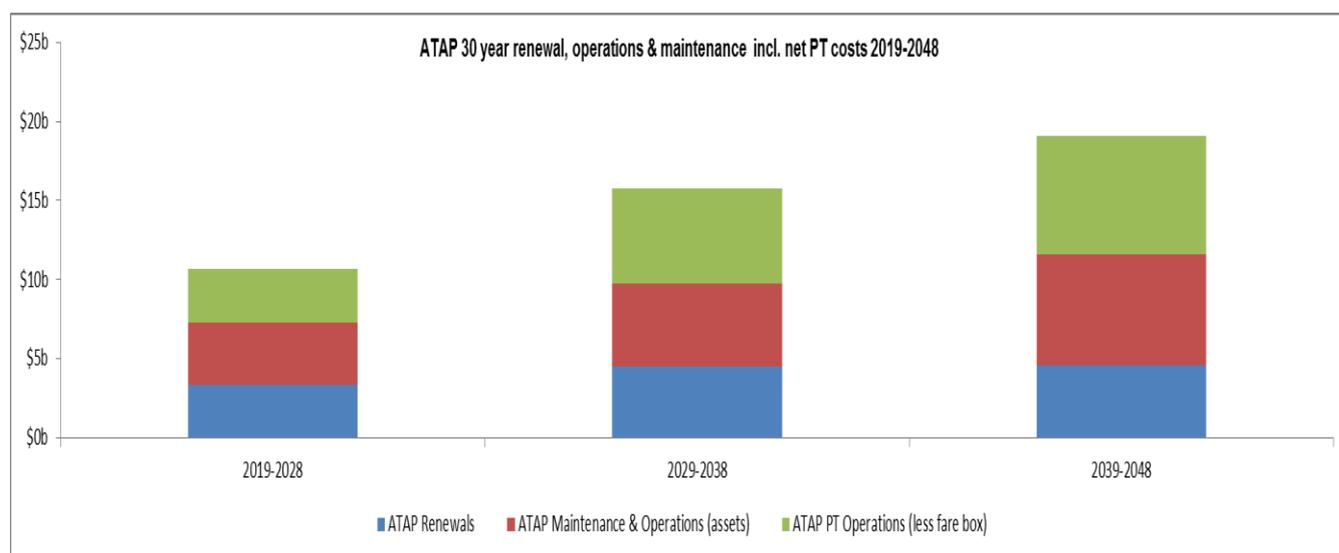
<sup>1</sup> Other major projects are new projects estimated to cost over \$150m to implement.

<sup>2</sup> Part of the rail development plan (\$600m) is included as part of TFUG costs in the TFUG business case. In ATAP these are shown in the rail development plan.

### ***Maintenance, operations and renewals***

Estimated future expenditure on renewals, operations, maintenance and public transport operating costs for the Indicative Package are presented in Figure 5 below.

**Figure 5: Indicative Package: renewals, operations, maintenance and net public transport operating costs in 2016 dollars (\$b)**



### ***Total expenditure***

Table 3 summarises the total projected 30-year expenditure for the Indicative Package.

**Table 3: Total Indicative Package costs in 2016 dollars (\$b)**

	2019-2028	2029-2038	2039-2048	Total ATAP Expenditure
ATAP Indicative Package Capital Expenditure	13.0	10.7	14.9	<b>38.6</b>
ATAP Renewals	3.4	4.5	4.6	<b>12.5</b>
ATAP Maintenance & Operations (assets)	3.9	5.3	7.0	<b>16.1</b>
ATAP PT Operations (less fare box)	3.4	5.9	7.5	<b>16.8</b>
Total	<b>\$23.7b</b>	<b>\$26.4b</b>	<b>\$33.9b</b>	<b>\$84.0b</b>

## 4. Revenue

Transport in Auckland is currently funded from a number of revenue sources (see Figure 2 above). These include:

- Auckland Council, which funds Auckland Transport (AT) to deliver local roads, including active modes, and public transport. This is funded from general rates, dividends, and development contributions. The Council also receives revenues from public transport fares and parking. The Council currently finances much of its capital investment through a combination of external and Crown debt. The financing costs are also met from the revenue sources noted above. Some of this investment qualifies for national grant assistance from the NLTF (co-funding), as discussed below.
- The National Land Transport Fund (NLTF) administered by the NZTA, consisting of the revenue from petrol excise duty, road user charges and motor vehicle registration. These funds are used to support delivery of State highways and road safety (100% funded), and qualifying local roads, public transport, and active modes (co-funded). See Appendix 1 for further explanation of co-funding rates.
- The Crown supplements the NLTF funding by means of appropriations to specific investments, such as electrification of Auckland rail lines and the accelerated State highway package (an interest free loan).

### 4.1. Recent funding levels

#### *Auckland Council funding*

Table 4 shows the amount of transport funding from the Auckland Council over the past four years. A calculation of per capita funding (in 2016 dollars) is also shown. All amounts are exclusive of financing costs to ensure that the focus is on actual cash flows spent on transport activity.

The local component of transport funding was estimated using the published audited accounts for AT, excluding the NLTF co-funding component, plus a further estimate for development contributions.

The published numbers used were for the 4 years 2012-2015 as 2012 was the first full complete year of reporting for AT. The development contributions have been provided by Auckland Council.

**Table 4: Auckland Council funding for transport in Auckland, 2012-2015 (\$m)**

	FY2012	FY2013	FY2014	FY2015
Net operating expenditure	313	255	271	271
Net capital expenditure	496	455	528	566
Total	809	710	799	837
Inflator	1.04	1.03	1.02	1.00
Population (millions)	1.48	1.49	1.52	1.55
Est. per cap local spend on transport	569	488	532	540
Est. per capita development contribution				21
<b><i>Average per capita spend by AC over 2012-2015 plus development contribution</i></b>				<b>\$553</b>

***National Land Transport Fund (NLTF) funding***

Table 5 shows the amount of NLTF funding for transport in the Auckland region over the past four years. A calculation of per capita funding (in 2016 dollars) is also shown.

The information in the table is based on reported transport cash flows from NZTA's Transport Information System which captures all local and national costs. For this exercise only local Auckland costs have been included.

**Table 5: NLTF funding for transport in Auckland, 2012-2015 (\$m)**

	FY2012	FY2013	FY2014	FY2015
Auckland HNO expenditure	491	665	769	783
Local co-funding from the NLTF	238	387	373	360
Total NLTF	729	1,053	1,142	1,143
Inflator	1.04	1.03	1.02	1.00
Population (millions)	1.48	1.49	1.52	1.55
Est. per capita local spend on transport	512	724	761	738
<b><i>Average per capita spend from the NLTF over 2012-2015:</i></b>				<b>\$684</b>

## 4.2. Funding available from current plans

In order to determine the size, nature and timing of any future funding gap, it was necessary to estimate the amount of funding that is likely to be available for transport in Auckland. For the first decade (2018/19 to 2027/28) we used information from existing funding plans to estimate likely revenues, as outlined below.

### ***Auckland Council***

We used Auckland Council's LTP 2015-2025 to identify planned funding for transport for the first 7 years, and this was extrapolated to provide a 10-year estimate.

### ***National Land Transport Fund (NLTF)***

The April 2016 Budgeted Economic Fiscal Update from the Ministry of Transport (MOT) provides the latest estimated available funding from the NLTF over the next 10 years. The Treasury have advised MOT that this forecast should exclude the annual CPI increase. Previously NLTF forecasts included an annual CPI increase, as stated in the guidance from the Government Policy Statement.

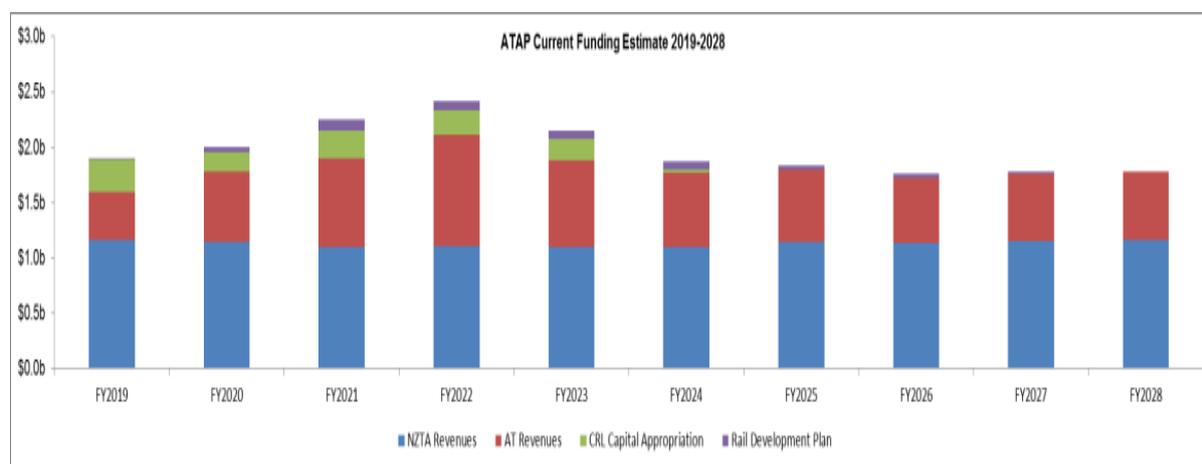
It is assumed for decade 1 that the amount of NLTF funding for transport in Auckland would be in line with the historic allocation.

### ***Crown appropriations***

We have assumed that the Government and Auckland Council will share the costs of the City Rail Link (CRL) on a 50/50 basis. In 2016 dollars the government contribution to the CRL is estimated to be approximately \$1.2b in decade 1 – as advised by AT.

The Auckland Rail Development Plan is expected cost \$3.4b over 30 years. It is expected that the Crown will continue to fund rail network infrastructure projects as it has in the recent past. The Crown appropriation for this activity is estimated to be \$1.6b over 30 years and \$0.5b in decade 1.

Figure 6 and Table 6 show the resulting estimate of funding for decade 1. A total of \$19.7 billion is estimated to be available over the 10-year period.

**Figure 6: Decade 1 funding estimate: “current plans” in 2016 dollars (\$b)****Table 6: Decade 1 funding estimate: “current plans” in 2016 dollars (\$b)**

	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY19-28
NZTA Revenues	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	11.3
AT Revenues	0.4	0.6	0.8	1.0	0.8	0.7	0.7	0.6	0.6	0.6	6.8
CRL Capital Appropriation	0.3	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.2
Rail Development Plan	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.5
<b>Total</b>	<b>\$1.9b</b>	<b>\$2.0b</b>	<b>\$2.3b</b>	<b>\$2.4b</b>	<b>\$2.2b</b>	<b>\$1.9b</b>	<b>\$1.8b</b>	<b>\$1.8b</b>	<b>\$1.8b</b>	<b>\$1.8b</b>	<b>\$19.7b</b>

### 4.3. Alternative future revenue scenarios

The estimates of decade 1 funding based on current plans suggest a lower level of annual funding in later years than has occurred recently. To understand the impacts of different revenue assumptions, the revenue model was used to develop two alternative revenue scenarios, to determine the level of funding that might be considered affordable into the future. Both scenarios were based on the recent levels of funding from Auckland Council and the NLTF, as outlined above.

The two revenue scenarios are:

- Per capita scenario:** the recent per capita level of funding for transport in Auckland from both the Auckland Council and NLTF remains constant over time, meaning that the total level of funding increases in line with population growth. ATAP has used the Statistics New Zealand medium population growth forecast, under which Auckland is predicted to grow by 700 000 people over the next 30 years.<sup>3</sup>

<sup>3</sup>

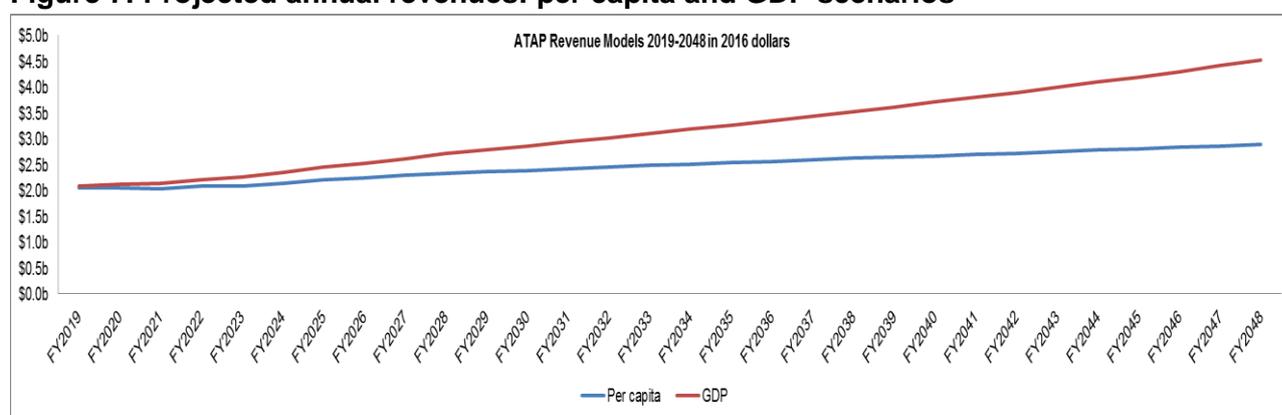
[http://www.stats.govt.nz/browse\\_for\\_stats/population/estimates\\_and\\_projections/SubnationalPopulationProjections\\_HOTP2013\\_base.aspx](http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/SubnationalPopulationProjections_HOTP2013_base.aspx)

- *Regional GDP scenario*: this scenario assumes that the current share of Auckland’s GDP that is invested in transport will be maintained, so that the total funding increases in line with growth in the regional economy. This approach is consistent with long-term historical trends across local government in New Zealand. The Treasury projects 1.5% p.a. real growth in per capita GDP for New Zealand as a whole, so this figure combined with the Department of Statistic’s medium population growth projections for Auckland was used to calculate projected revenue<sup>4</sup>.

Figure 7 illustrates the estimates of future revenue generated by each of the two scenarios. The per capita scenario generates \$74 billion over the 30 years, while the GDP scenario generates \$96 billion over the same period. Estimated revenues within each of three ATAP modelling decades are shown in Table 7.

First decade revenues under both scenarios are higher than the projections based on current plans.

**Figure 7: Projected annual revenues: per capita and GDP scenarios**



**Table 7: Per capita and GDP revenue scenarios by decade 2019-2048 by organisation**

<i>Per capita scenario</i>	2019-2028	2029-2038	2039-2048	Total
NZTA	11.6	13.6	15.1	<b>40.4</b>
AC	9.9	11.3	12.5	<b>33.7</b>
Crown (CRL)	1.2	0.0	0.0	<b>1.2</b>
Akl Rail Development Plan	0.5	0.4	0.7	<b>1.6</b>
<b>Total</b>	<b>\$23.2b</b>	<b>\$25.3b</b>	<b>\$28.4b</b>	<b>\$76.9b</b>
<i>GDP scenario</i>				
NZTA	12.7	17.3	22.3	<b>52.2</b>
AC	10.8	14.2	18.3	<b>43.3</b>
Crown (CRL)	1.2	0.0	0.0	<b>1.2</b>
Akl Rail Development Plan	0.5	0.4	0.7	<b>1.6</b>
<b>Total</b>	<b>\$25.1b</b>	<b>\$31.9b</b>	<b>\$41.3b</b>	<b>\$98.3b</b>

<sup>4</sup> The population projection can be found here: <http://www.treasury.govt.nz/government/fiscalstrategy/model>, and the GDP projection can be found here: <http://www.treasury.govt.nz/government/assets/nzsf/contributionratemodel> (second tab).

## 5. Funding gap

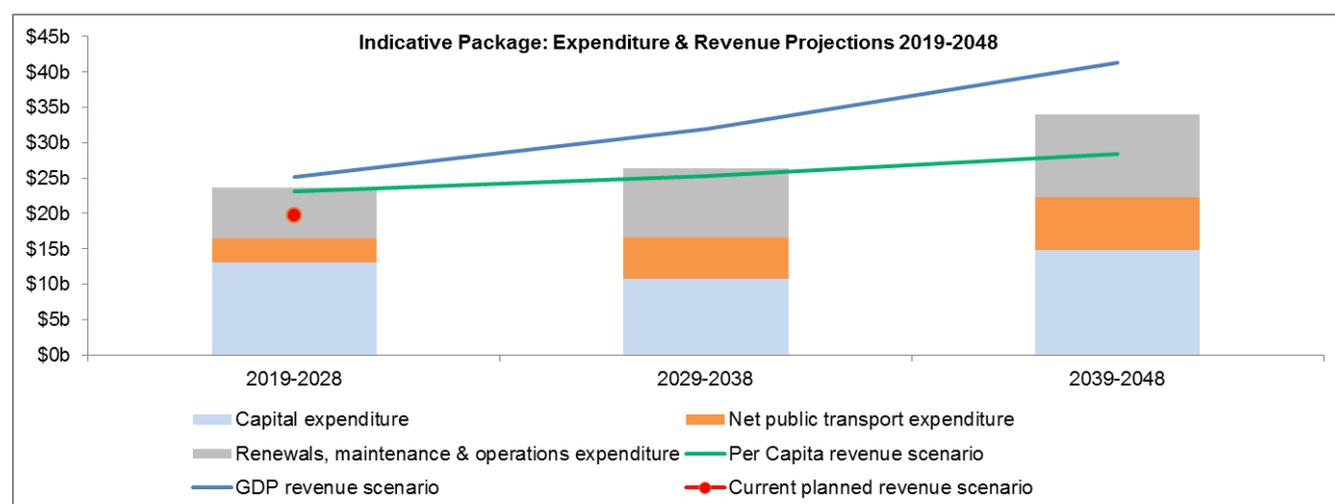
### 5.1. Funding gap estimates

Figure 8 below compares the 30-year expenditure estimates for Indicative Package with the revenue estimates for the per capita and GDP scenarios. The projected revenue from existing funding plans is also shown for the first decade.

The graph shows that estimated expenditure lies within the range of the two future revenue scenarios for each of the three decades. This suggests that the Indicative Package is likely to be affordable, provided funding available for transport in Auckland continues at close to its current share of the regional economy.

However, the difference between estimated expenditure and revenue from current funding plans indicates a \$4 billion funding gap for the Indicative Package in the first decade.

**Figure 8: Indicative Package: expenditure and revenue projections 2019-2048 (\$b)**



**Table 8: Indicative Package: expenditure and revenue projections 2019-2048 in 2016 dollars (\$b)**

<b>Costs</b>	<b>2019-2028</b>	<b>2029-2038</b>	<b>2039-2048</b>	<b>Total</b>
Capital expenditure	13.0	10.7	14.9	<b>38.6</b>
Net public transport expenditure	3.4	5.9	7.5	<b>16.8</b>
Renewals, maintenance & operations expenditure	7.3	9.8	11.6	<b>28.7</b>
<b>Total costs</b>	<b>\$23.7b</b>	<b>\$26.4b</b>	<b>\$33.9b</b>	<b>\$84.0b</b>
<b>Revenue scenarios</b>				
Per Capita revenue scenario	23.2	25.3	28.4	<b>\$76.9b</b>
GDP revenue scenario	25.1	31.9	41.3	<b>\$98.3b</b>
Current planned revenue scenario	19.7			

## 5.2. Council and NLTF shares of funding gap

We have used the revenue and expenditure model to allocate the \$4 billion first decade funding gap between the Auckland Council and the NLTF<sup>5</sup> based on current policies. Their respective shares are influenced the mix of investments and assumptions on the level of co-funding for local transport activities from the NLTF.

State highway activities are 100% funded from the NLTF, while the cost of local land transport activities (for example local roads, public transport) is shared between local government and the NLTF.

The percentage of local land transport funding eligible to be received from the NLTF is called the Funding Assistance Rate (FAR). The normal FAR for Auckland Transport and Auckland Council for the National Land Transport Programme (NLTP) 2015-2018 is 51%.

However not all local transport activities are funded at 51% from the national fund for the following reasons:

- Some transport activities and capital expenditure are not eligible for co-funding from the national fund. The scope of the NLTF is determined by a combination of the Government Policy Statement's approach to use of road taxes, and the NZTAs assessment of which investments will deliver the best possible returns.
- When the NLTP is adopted, each activity class is allocated a funding budget. Available funds are allocated to the investments that deliver the best possible returns to society. Depending on the national prioritisation, funding may not be available for all eligible transport activities. Demand for funds tends to exceed supply, so some projects miss-out on grant funding in any given year. Councils may still choose to proceed with the activity without NLTF contribution.

To understand the implications of FAR on the funding gap, we have used the expenditure and revenue model to estimate shares of the first decade funding gap under two different FAR scenarios:

- A current/historic scenario – based on individual FAR for each transport expenditure type based on recent co-funding percentages, as set out in the table below.
- A full co-investment scenario – assuming all eligible local transport is funded at the rate of 51 percent.

---

<sup>5</sup> Our assumptions in relation to Crown funding for rail network infrastructure are that the Crown will meet the costs, so none of the funding gap has been allocated to the Crown

Table 9 shows the FAR assumptions for the two scenarios, for each type of expenditure.

**Table 9: FAR rates for two co-funding scenarios**

Transport spend type	Scenario 1 – Current FAR over eligible activities	Scenario 2 – Full co-investment of 51% FAR over eligible activities
Capital expenditure	40%	51%
Renewals	32%	51%
Maintenance + operations (assets)	45%	51%
PT Ops	51%	51%

Table 10 presents the allocation of costs in the final indicative package under the FAR scenarios above.

**Table 10: Indicative ATAP Package under co-funding scenarios (\$b, 2016 dollars)**

Final Indicative ATAP package	Current FAR over eligible activities				Full co-investment FAR over eligible activities			
	2019-2028	2029-2038	2039-2048	2019-2048	2019-2028	2029-2038	2039-2048	2019-2048
AC	10.84	12.91	14.84	38.58	9.63	11.44	13.15	34.22
NZTA subsidy to AC	5.53	7.41	8.91	21.85	6.74	8.88	10.60	26.22
NZTA highway allocation	5.66	5.72	9.48	20.86	5.66	5.72	9.48	20.86
CRL Crown appropriation	1.17	0.00	0.00	1.17	1.17	0.00	0.00	1.17
Auckland rail development plan	0.47	0.40	0.70	1.57	0.47	0.40	0.70	1.57
Total	23.66	26.44	33.94	84.04	23.66	26.44	33.94	84.04

### **Decade 1 (2019-2028) funding gap by organisation**

The resulting allocation of the funding gap between the Council and the NLTF under the two FAR scenarios is shown in Table 11 below. Under Scenario 1, based on current average FARs, all of the \$4 billion funding gap would be attributable to the Council. Under Scenario 2, however, the Council's share of the funding gap would be \$2.8 billion, or 70%.

**Table 11: FY2019-FY2028 funding gap by organisation by FAR scenario**

	Scenario 1 FY19-FY28	Scenario 2 FY19-FY28	Variance
NLTF	0.1	(1.1)	1.2
AC	(4.0)	(2.8)	(1.2)
Crown (CRL)	0.0	0.0	0.0
Rail development plan	0.0	0.0	0.0
Total \$billions	<b>(\$3.9)</b>	<b>(\$3.9)</b>	<b>0.0</b>

Both scenarios are based on “current funding arrangements” for different types of projects and existing FARs, which could be changed in the future.

## Appendix 1: Revenue Model Assumptions

Category	Source	Assumptions
<b>Current funding forecast</b>	Ministry of Transport Budgeted Updated Fiscal Update (BEFU), April 2016	<ul style="list-style-type: none"> <li>Auckland receives an allocation of the of the National Land Transport Fund in line with the Statistics NZ forecast population in decade 1.</li> <li>BEFU does not include a CPI adjustment and is in in 2016 dollars.</li> </ul>
	Auckland Council's Regional Long Term Plan (RLTP) funding for transport	<ul style="list-style-type: none"> <li>Funding from general rates &amp; external borrowings in decade 1 per the RLTP.</li> <li>Excludes interest payments for previous debt incurred for transport related activity.</li> </ul>
	Crown appropriations	<ul style="list-style-type: none"> <li>Assumes that Crown will fund 50% of the total CRL cost from 2019 onwards</li> </ul>
<b>Per Capita revenue estimate</b>	Assumed modelled revenue scenarios based on historical organisational transport spend in the Auckland region growing in line with forecast population growth.	<ul style="list-style-type: none"> <li>Annual transport funding will increase in line with Auckland's population growth in 2016 dollars.</li> <li>The basis for the per capita spend on transport is the 2012-2015 historical averages for transport spend by Auckland HNO and Auckland Transport.</li> <li>Auckland HNO costs are based on data obtained from NZTA's Transport Information Online database.</li> <li>AC/AT numbers are derived from AT's published audited annual reports net of any interest payments.</li> <li>Population increases are in line with Statistics NZ medium forecast for Auckland over the next 30 years.</li> </ul>
<b>GDP revenue estimate</b>	Assumed modelled revenue scenario based on historical transport spend in the Auckland region growing in line with region growing in line with forecast population growth.& GDP rate of 1.5% pa.	<ul style="list-style-type: none"> <li>The annual spend on transport in Auckland increases in line with assumed increased level of wealth in the region.</li> <li>Increase of real GDP of 1.5% pa - based on difference between historical regional GDP less 30 year Treasury inflation forecast of 2%.</li> </ul>

## Appendix 2: Expenditure Model Assumptions

Category	Source	Assumptions
<b>ATAP Indicative Package Capital Expenditure</b>	Auckland Highway Network Operations (HNO)/NZ Transport Agency	<ul style="list-style-type: none"> <li>Auckland HNO projects and maintenance, operations and renewals are 100% funded from the National Land Transport Fund.</li> <li>Project capital costs are percentile 50 (P50) estimates.</li> <li>Costs have been agreed at the individual approved organisational level.</li> </ul>
	Auckland Transport Strategy Division	<ul style="list-style-type: none"> <li>Projects are funded at the assumed historic FAR of 40% or the reported FAR of 51%</li> <li>Historically not all AT projects have been co-funded under the constraint of the NLTP activity classes or available funding.</li> <li>Some projects are historically not co-invested in.</li> </ul>
<b>City Rail Link</b>	Auckland Transport Strategy Division	<ul style="list-style-type: none"> <li>Estimated total cost \$1.9b 2019-2028.</li> <li>Crown grant covers \$1.2b/50% of the build cost from 2019 onwards.</li> <li>AT funds \$740m of the estimated cost at 100%.</li> <li>No co-funding from NZTA for CRL.</li> </ul>
<b>Auckland Rail Development Plan</b>	Auckland Transport Strategy Division	<ul style="list-style-type: none"> <li>Costs are for above ground and below ground rail improvements - \$3.4b in total over 30 years.</li> <li>AC/AT fund above ground capital of \$1.8b and this amount is co-funded with NZTA</li> <li>Assumed that Kiwi Rail through the Crown will fund the remaining \$1.4b</li> </ul>
<b>Joint Projects</b>	Auckland Transport Strategy Division	<ul style="list-style-type: none"> <li>ATAP Evaluation work stream haven't identified what the cost to each AO is at this stage.</li> <li>Costs shared 50/50 between AC/AT and NZTA (HNO)</li> <li>AC/AT costs are not co-funded</li> </ul>

### Appendix 3: Maintenance, Operations and Renewals Assumptions

Category	Source	Assumptions
<b>Auckland Transport Renewals</b>	ATAP R, O & M work stream	<ul style="list-style-type: none"> <li>• AT transport renewals optimisation model.</li> <li>• Existing asset renewals plus consequential renewals from new assets being built.</li> <li>• Co-funded at 32% and 51% respectively for eligible renewals for the respective scenarios.</li> </ul>
<b>Auckland Transport Maintenance &amp; Operations (assets)</b>	ATAP R, O & M work stream	<ul style="list-style-type: none"> <li>• Costs remain constant for existing assets.</li> <li>• Consequential assets costs based on past 3 years average costs.</li> <li>• Co-funded at 32% and 51% respectively for eligible maintenance &amp; operations for the respective scenarios.</li> </ul>
<b>Auckland Transport Operations (services)</b>	AT Finance – based on JMAC modelled APT Transport Model	<ul style="list-style-type: none"> <li>• Co-funded at 51% respectively for eligible renewals for the respective scenarios.</li> <li>• PT fare-box recovery has been estimated from APT modelled boarding scenarios.</li> </ul>