

CONFIDENTIAL

AMETI Sequencing Delivery Strategy for Panmure to Botany

Recommendations

That the Board:

- i. Receives the report;
- ii. Approves the recommended sequencing for delivery of the Auckland Manukau Eastern Transport Initiative (AMETI) Panmure to Botany corridor. This consists of sequencing the works for delivery in the following order:
 1. Panmure to Pakuranga Busway;
 2. Pakuranga Town Centre Busway, Bus Station and Reeves Road Flyover, including implementation of bus lanes on sections of Ti Rakau Drive (until the busway can be delivered) and localised widening at Gossamer Drive / Ti Rakau Drive intersection; and
 3. Completion of the Pakuranga to Botany Busway as early as possible.
- iii. Approves that management commence the design and Notice of Requirement phases for the Reeves Road Flyover and Pakuranga to Botany busway during the 2016/17 financial year.
- iv. Notes that:
 1. The Chief Financial Officer will include provision in the capital programme over the next two years to enable item (iii) above.
 2. There is a \$172m shortfall between the current LTP cash flow and the recommended AMETI delivery strategy.
 3. The programme budget will be adjusted in the next LTP to address the \$172m shortfall.

Executive summary

The delivery strategy for the AMETI Panmure to Botany corridor was previously developed by Auckland Transport (AT) and endorsed by the New Zealand Transport Agency (Transport Agency). This consisted of delivering the Reeves Road Flyover followed by the Panmure to Botany Busway.

In mid-2014, the draft Council 2015 – 2025 Long Term Plan (LTP) indicated there would not be sufficient funds to complete the entire AMETI programme by 2025. In lieu of this, AT initiated a review of the strategy in late 2014 to test the sequencing in light of its strategic changes that now express the desire to prioritise rapid transit. Effectively, the work explored the possibility of completing the Pakuranga to Botany Busway faster by delaying investment in the Reeves Road Flyover.

CONFIDENTIAL

In December 2014, the Board was provided with an update indicating that this may be possible. However, this was subject to further technical and funding feasibility work. That work has been completed through a collaborative review process involving AT's investment partners - the Transport Agency and Auckland Council (Council) and supported through more detailed transport modelling work.

That review confirmed the need for a 'network solution' in this area and the results clearly demonstrated that all three key elements¹ in the programme would be required by 2025 to ensure all key arterials in the area perform better than a Do Minimum scenario.

It further highlights that the scope of AMETI should also expand to include investigating what improvements may be needed on Pakuranga Road between Pakuranga and Highland Park to further improve bus journey times between Panmure and Howick.

The Busway between Panmure and Pakuranga should be delivered first as it is the most advanced component, with the Notice of Requirement (NoR) for it formally lodged with Council in March 2016. It is also the section where both the Howick to Panmure and Botany to Panmure bus routes converge.

The preferred sequencing from this process for the Board's consideration is therefore as follows:

- i. The Panmure to Pakuranga Busway to be delivered first as this is currently the most advanced component;
- ii. This should be followed by the Reeves Road Flyover and Pakuranga Town Centre Busway and Bus Station;
- iii. This should be followed by the Pakuranga to Botany Busway.

The optimal time for completing the busway will be as soon as CRL enables additional train frequencies (i.e., capacity) through Panmure. This is programmed for 2023/24 financial year. However, the available funding envelope within the current Long Term Plan (LTP) is inadequate to complete the entire AMETI programme by 2025 (\$172m shortfall). This will impact on our ability to complete the Busway by 2025. Some bus lanes and localised intersection widening measures will therefore need to be implemented on Ti Rakau Drive (at the same time as the Reeves Road Flyover and Pakuranga Town Centre Busway and Bus Station project) to mitigate potential downstream congestion effects as a result of the flyover unlocking the bottleneck at Pakuranga.

Subject to the Board endorsing this report's recommendations, the next steps will be to communicate the Board's decision in accordance with the high level communications plan **attached** in this report; and to proceed with work required to support the lodgement of the NoR for the remaining stages of AMETI, with the aim of lodging this in mid to late 2017.

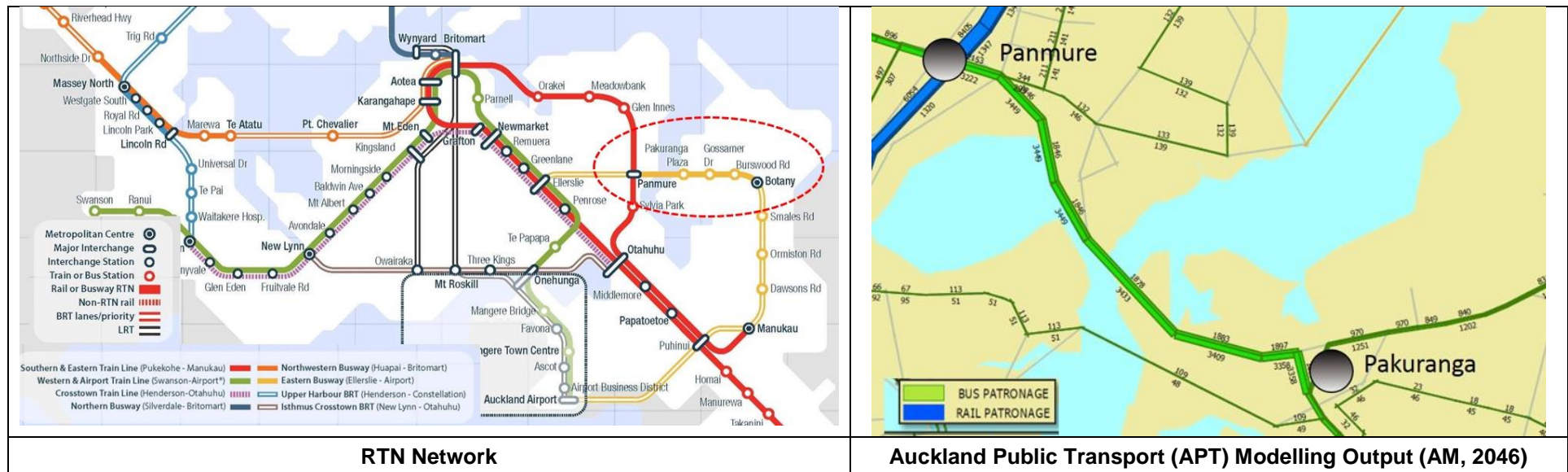
¹ Busway between Panmure and Pakuranga, Reeves Road Flyover, and Busway between Pakuranga and Botany

CONFIDENTIAL

Strategic context

The AMETI programme of works is aimed at increasing public transport mode share; improving transport choice and access to employment and labour; and enabling growth in South East Auckland. A key deliverable is the South Eastern urban busway between Panmure and Botany, which is forecast to carry approximately 5,000² passengers during the morning peak once completed. The corridor is also a critical link in Auckland's Rapid Transit Network (RTN) as illustrated in the diagram below. The Auckland Plan identifies AMETI (together with the East-West Link) as the second most important transport project after the City Rail Link.

Figure 1 – RTN Network and Auckland Passenger Transport (APT) Modelling Results for the South East



The Integrated Transport Plan (2012-2041) and Regional Land Transport Programme (2015-2018) allocates investment funding for AMETI and identifies it as being a significant part to improving the region's transport networks and supporting greater integration between land use and transport.

The annual LTP cashflow allocation will however result in an undeliverable AMETI programme. It does not allow for efficient progression from NoR planning to property acquisition to construction for each stage.

² Auckland Public Transport Model 3: Land Use I9: Scenario 34601: am 2046 CRL_Option_I9_NoCrowd Network: PT PATRONAGE

CONFIDENTIAL

Background

The first phase of the AMETI programme was successfully completed in November 2014 with the opening of the Panmure rail and busway station and Te Horeta Road link. The focus is now on delivering the Panmure to Botany corridor. This consists of two key pieces of infrastructure: the South Eastern busway connecting Panmure, Pakuranga and Botany town centres and the Reeves Road Flyover at Pakuranga. The investigation culminating in these two investment solutions has been reported to and approved by the Board at various times (August 2011, June 2013, July 2013³).

In late 2014, AT initiated a review of the agreed delivery strategy to ensure it still aligned with the Auckland Plan (2012) and new AT strategic vision (expressed through the 2014 Statement of Intent), and still provided best value for money in achieving the desired benefits (increasing public transport mode share, improving transport choice and access to employment and labour; and enabling growth in South East Auckland). It specifically explored options that accelerate the completion of the busway. This identified potential risks with the flyover in terms of providing value for money. It also indicated an alternative busway alignment may be possible at Pakuranga that is not dependent on the flyover, in which case the flyover may be deferred until later in the programme.

In December 2014, the Board was provided with an update indicating that an alternative sequencing for delivering the AMETI programme may be possible, consisting of deferring the flyover to allow earlier completion of the busway to Botany instead. However, this was subject to further technical and funding feasibility work – which has now been completed.

Joint Review of AMETI Sequencing Delivery Strategy⁴

In mid-2015, as part of a joint review - AT, Council and the Transport Agency reconfirmed the overall programme objectives and the problems the programme set out to address.

Various sequencing and timing of options were then developed for the Panmure to Botany corridor to help determine the most optimal sequencing:

- The Base Case: Reeves Road Flyover, followed by Panmure to Pakuranga Busway, followed by the extension of the Busway to Botany.
- Delivery Option 1: Panmure to Pakuranga Busway, followed by Reeves Road Flyover, followed by the extension of the Busway to Botany; and
- Delivery Option 2: Panmure to Pakuranga Busway, followed by the extension of the Busway to Botany, followed by Reeves Road Flyover.

³ AMETI Package 4 – Pakuranga to Botany Completion of Scope Investigation Phase, AT Board August 2011; AMETI - Update on Project construction and planning for future phases, AT Board June 2013; AMETI Package 4 (Pakuranga to Botany) Scheme Assessment, dVAC July 2013.

⁴ Review of AMETI Sequencing Delivery Strategy for Panmure to Botany, April 2016

CONFIDENTIAL

Aside from a difference in sequencing and programme length, Option 2 adopted a different layout at Pakuranga Town Centre – as the delivery timing of the Flyover directly influences what busway alignment is feasible through the Town Centre. The sequencing options and the two Town Centre layouts are shown in **Attachment 1**.

Multi Criteria Evaluation

The options were assessed by AT, the Transport Agency and Council staff against an agreed multi-criteria evaluation framework reflecting the AMETI programme objectives. It assessed the likely different outcomes by 2025 resulting from the different staging options.

The criteria applied were:

1. Economic Efficiency;
2. Transport networks performance;
3. Ability of option to enable 'planned growth in accordance with the Auckland Plan and Proposed Auckland Unitary Plan (PAUP);
4. Ability of option to maximise opportunities or reduce risks;
5. Construction impacts and disruption; and
6. Rating against the Transport Agency's Strategic Fit Assessment.

A summary of the analysis is provided below:

1. **Economic Efficiency:** Options 1 and 2 are equally beneficial for public transport users but Option 1 performs noticeably better for road users (\$62 m). Option 1 requires more capital expenditure than Option 2 in the next 10 years (\$34m Net Present Value or NPV), but this is more than offset by the additional benefit generated (\$63 m NPV).
2. **Transport network performance:** The Flyover is highly effective at diverting traffic (reducing peak traffic volumes on roads adjacent to the Town Centre by up to 40%), offering significant local congestion relief and enabling the public transport, walking and cycling improvements desired at Pakuranga. Whilst Option 2 delivers the completed Busway earlier it is ineffective in addressing congestion on Ti Rakau Drive and Pakuranga Road by 2025. On balance, Option 1 was rated as achieving the highest overall network performance outcomes.
3. **Enabling Desired Growth.** A key differentiator between the options is the integration of the transport improvements with the Pakuranga Town Centre improvements as outlined in the Pakuranga Masterplan (adopted by the Howick Local Board in 2015). Option 1 enables a less intrusive Busway alignment through the Town Centre, as well as other improvements that contribute towards place shaping in the Town Centre, such as 'detuning' Pakuranga Road and new and improved local connections and crossings. The busway alignment in Option 2 creates greater severance on the Town Centre edge. With Option 2, the high traffic volumes also remain on the adjacent roads (Pakuranga Road / Ti Rakau Drive) for longer (beyond 2025) and the problems of poor accessibility and interconnectivity remain unresolved.

CONFIDENTIAL

- 4. Maximising opportunities and reducing risks.** Redevelopment plans for Pakuranga Town Centre are being progressed by the landowner. The Base Case and Option 1 presented the best options for aligning delivery of the full suite of proposed transport works before – or at the same time as - the area was being redeveloped. Deferring the Flyover until after residential intensification has occurred at Pakuranga presents reverse sensitivity consenting risks (even with a designation in place). Introducing the Flyover will however release a bottleneck in an already congested transport network and there is a risk that this may negatively impact on the overall network performance.
- 5. Construction impacts and disruption.** There are significant challenges in constructing the proposed transport solutions in Pakuranga, as well as along the Ti Rakau Drive corridor, as there are no alternative routes to/from the area. Having all corridors leading into/out of Pakuranga Town Centre under construction simultaneously will be highly disruptive to the network in the wider area. Staging the construction in such a way to have only one corridor in construction at any given time may be more advantageous.
- 6. Transport Agency Strategic Fit Assessment.** Strategic fit relates to the problems the proposed transport investments aim to resolve. The AMETI programme has a high strategic fit in this regard, therefore all the options rated 'high' for this criteria as all contain the same strategic transport investments (busway and flyover) when eventually fully delivered (aside from local differences at Pakuranga town centre).

Preferred Option

Sequencing Option 1 was assessed as the option that achieves the highest economic efficiency and is further preferred as it best aligns the construction of the flyover with the proposed redevelopment of the Pakuranga Town Centre. It also gives effect to the outcomes in the adopted Pakuranga Town Centre Masterplan (2015).

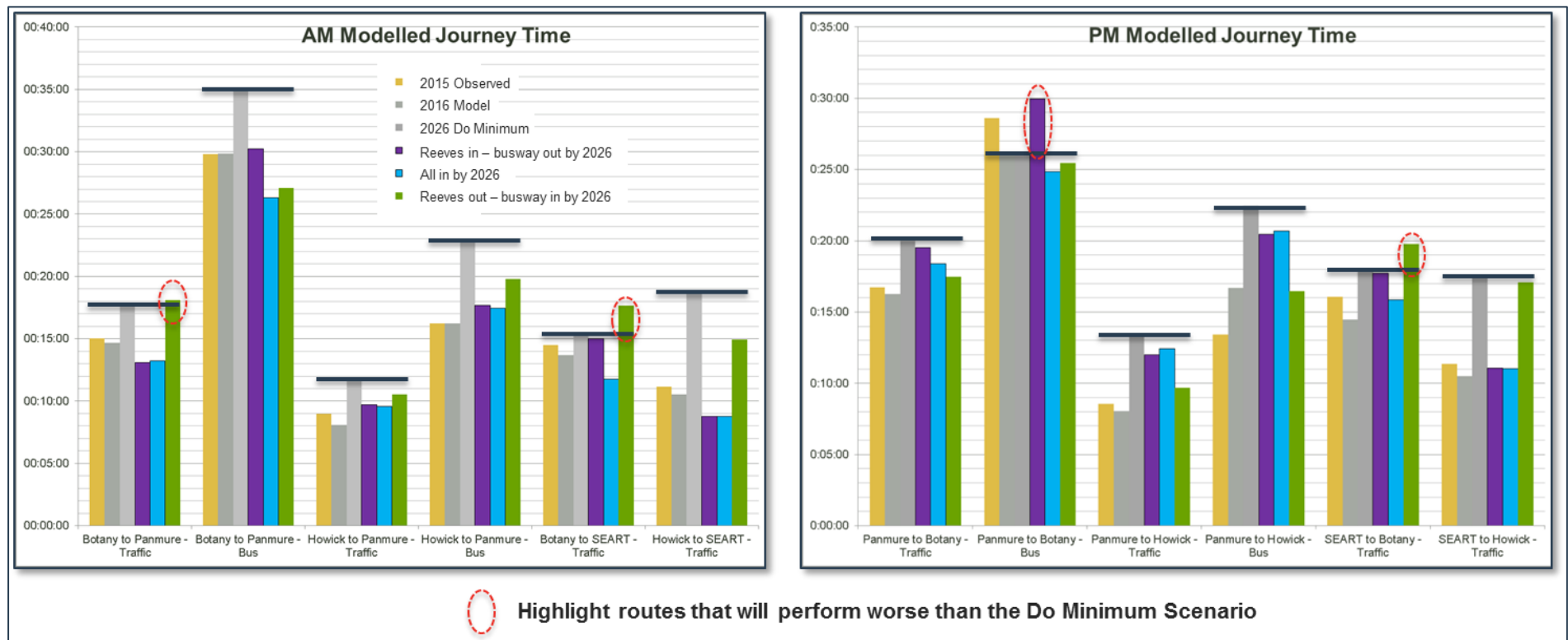
The preferred sequencing option therefore closely resembles Option 1 but has been adjusted to allow for three distinct construction phases (to reduce construction impacts) as well as a more realistic cash flow over the next ten years.

CONFIDENTIAL

Implications of a staged delivery on the wider network

Reeves Road Flyover releases a significant bottleneck in the network and AT therefore collected more data to assess the risk to the performance of the wider network once this element gets introduced. This work was undertaken in collaboration with the Joint Modelling Application Centre (JMAC).

Figure 2 – Transport Modelling Results



The detailed modelling (Figure 2 above) show that the only sequencing that consistently delivers better performance for both general traffic and public transport (taking account of the projected growth to 2026) is a scenario that includes all the programme elements by 2026 (blue bar). Removing either the Flyover (green bar) or the Busway extension (purple bar) from the sequencing prior to 2026 will result in one or more of the key corridors to perform worse than under a Do Minimum scenario (the red circles above show corridors that perform worse than the Do Minimum for a specific option). The Do Minimum is represented by the horizontal line in the chart.

CONFIDENTIAL

Implementing all the elements provides a network that will generally perform better for general vehicles in the 2026 morning peak compared to its performance today (even after absorbing the growth). The afternoon peak will however perform worse than today (after absorbing the growth) but its performance would still be an improvement over the Do Minimum.

Based on this, and the multi criteria assessment it is concluded that:

- The Panmure to Pakuranga Busway should proceed as the next element in the delivery programme (given statutory approvals have been lodged with Council).
- The Flyover and Pakuranga Town Centre Busway and Bus Station needs to be delivered next given the timing alignment with likely land use changes in the town centre and the advanced state of land purchase already undertaken for this element.
- Extending the Busway along Ti Rakau Drive should then follow. However, it is acknowledged that the current funding envelope in the LTP may prevent this from immediately following the Pakuranga Town Centre works, and in that case interim downstream measures are to be included on Ti Rakau Drive to protect bus and traffic journey times until the Busway is completed. Investigation work on this is currently on-going, however, will most likely include sections of bus lanes and localised widening of the Gossamer Drive / Ti Rakau Drive intersection, which is the major 'bottleneck' for this corridor currently and in the future.
- Additional improvements may be needed on Pakuranga Road between Pakuranga and Highland Park to further improve bus journey times between Panmure and Howick.
- The road user benefits provided by the Flyover are not dependent on providing more capacity at the SH1/South Eastern Highway (SEART) on-ramp. However, to potentially release significant wider network benefits, AT- in collaboration with the Transport Agency, are currently looking at the possibility of better connecting Pakuranga, Onehunga and SH20 by linking SEART with the proposed East West Connection. The investigation of this work is still in early stages. Key findings will be presented to the Board in due course.

CONFIDENTIAL

Preferred AMETI Sequencing Delivery Strategy for Panmure to Botany

The preferred sequencing of works for the AMETI Panmure to Botany corridor is outlined in Figure 3 below. This is based on an unconstrained funding scenario but constrained by realistic property acquisition, design, and consenting timelines; resourcing capabilities; and managing construction impacts on the area. Actual delivery will ultimately be determined by the funding made available. However, the sequencing outlined below is considered to be the most optimal way to deliver the programme – regardless of funding constraints.

Figure 3 – Preferred AMETI Delivery Strategy for Panmure to Botany

No.	AMETI Programme Components	Total Cost Estimate	Total still to deliver	Long Term Plan (LTP) 2015 - 2025 - (1st Decade)										
				1	2	3	4	5	6	7	8	9	10	
				15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	
0	Sylvia Park	\$ 23,000,000	\$ 17,000,000	Investigation & Design NOR Lodged & Hearings Property Acquisition - (\$5m left)	Construction (\$14m) 1.5 years									
1	Panmure to Pakuranga busway	\$ 156,000,000	\$ 91,000,000	Design NOR Lodged & Hearings Property Acquisition (\$9m Left)	Construction (\$78m) 3 years									
2	Reeves Road flyover & Targeted Local Works on Pakuranga Road and Ti Rakau Drive	\$ 200,000,000	\$ 139,000,000	Investigation NoR Lodged & Hearings Design Property Acquisition (\$11.5m Left)	Construction (\$114m) 2 years									
3	Pakuranga Town Centre Busway, Busway Station & Other Town Centre Improvements	\$ 52,000,000	\$ 50,000,000	Investigation NoR Lodged & Hearings Design Property Acquisition (\$5m Left)	Construction (\$42m) 1.5 years									
4	Pakuranga to Botany busway	\$ 309,000,000	\$ 289,000,000	Investigation NoR Lodged & Hearings Property Acquisition (\$130m Left)	Construction (\$144m) 3 years									
5	Botany Busway Station	\$ 30,000,000	\$ 30,000,000	Investigation NoR Lodged & Hearings Property Acquisition (\$5m) Design	Construction (\$21m) 1.5 years									
AMETI Programme	AMETI Panmure - Botany Requirements	\$ 770,000,000	\$ 615,000,000	\$ 5,000,000	\$ 33,000,000	\$90,000,000	\$81,000,000	\$88,000,000	\$94,000,000	\$86,000,000	\$73,000,000	\$54,000,000	\$11,000,000	
LTP	LTP June 2015 (47% AC & 53% NLTF - uninflated)	\$443,000,000	\$8,000,000	\$20,000,000	\$30,000,000	\$0	\$5,000,000	\$60,000,000	\$90,000,000	\$63,000,000	\$55,000,000	\$111,000,000		
LTP	Funding Gap / Surplus by year	-\$172,000,000	\$3,000,000	-\$13,000,000	-\$60,000,000	-\$81,000,000	-\$83,000,000	-\$34,000,000	\$4,000,000	-\$10,000,000	\$1,000,000	\$100,000,000		

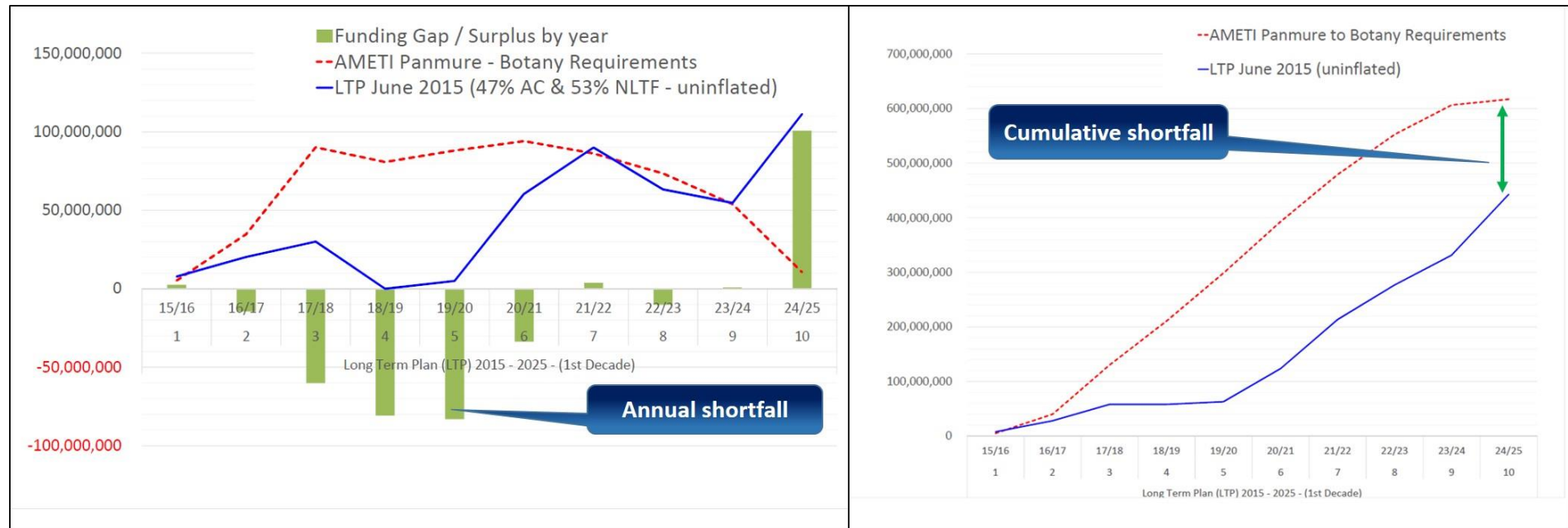
Note that costs shown are estimates only (2015) and may change over time due to a number of factors.

CONFIDENTIAL

Financial Implications

There is a misalignment between the current LTP cash flow and the jointly agreed preferred AMETI delivery strategy, particularly in the first six years (2016/17 to 2020/21). Subject to the Board endorsing the recommendations of this report, there will be a need to adjust the cash flow in the next LTP to match the preferred AMETI delivery strategy better.

Figure 3 – AMETI Panmure to Botany Requirements vs LTP (June 2015) Allocation



Stakeholder Engagement and Communication

The recommended preferred sequencing strategy for the delivery of works on the Panmure to Botany corridor has been jointly agreed by AT's project partners, the Transport Agency and Council. The programme's key political stakeholders were briefed in late 2015 on the delivery strategy review. Further engagement with key stakeholders, directly affected property owners and the community will be carried out following the Board's decision as shown in the communications plan in Attachment 2.

CONFIDENTIAL

Auckland Transport could be perceived by some as doing a U-turn in early 2015 on its position on the Reeves Road Flyover if the recommendation is endorsed and favouring roads over public transport. However, this is likely to be balanced by strong local community and political support for the recommended delivery strategy of delivering the Flyover, followed by the Pakuranga to Botany busway, which is the timing that had been communicated during a number of years prior to 2015.

Next steps

Subject to the Board approving the recommendations of this report, the AMETI team will:

1. Communicate the Board's decision in accordance with the high level communications plan attached in Attachment 2.
2. Proceed with work required to confirm the Consenting Strategy to support the lodgement of the Notice of Requirement (NoR) and Resource Consent for the next stages of AMETI and seek to lodge the necessary approvals in mid-late 2017.

Attachments

Attachment Number	Description
1	The AMETI Delivery Strategy Sequencing Options and the two Pakuranga Town Centre options
2	AMETI Communications Plan for confirmed AMETI Delivery Strategy

CONFIDENTIAL

Document ownership

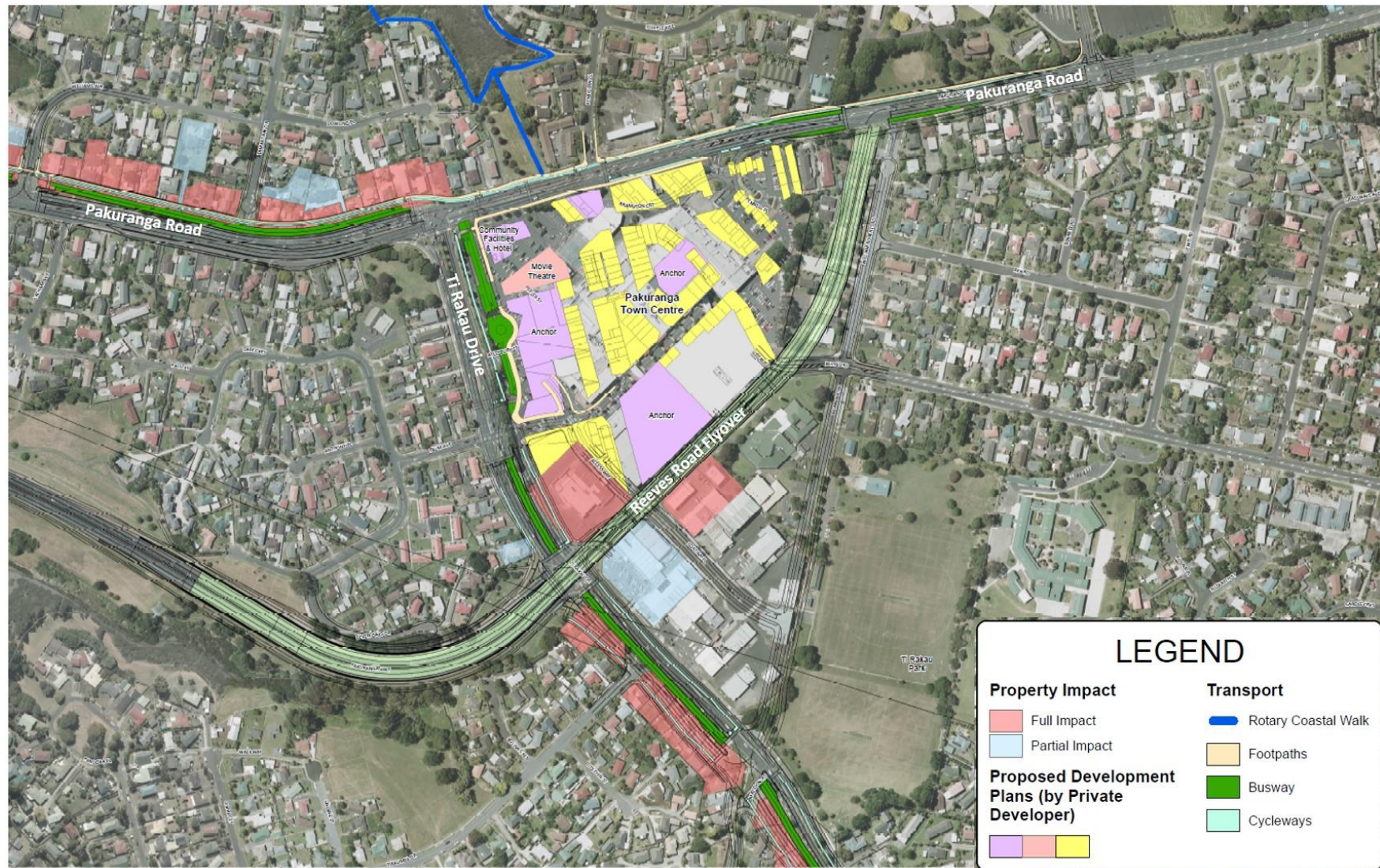
Submitted by	Theunis van Schalkwyk Project Director, Key Strategic Initiatives	
Recommended by	Greg Edmonds Chief Infrastructure Officer	
Recommended by	Peter Clark Chief Strategy Officer	
Approved for submission	David Warburton Chief Executive	

Glossary

Acronym	Description
AMETI	Auckland Manukau Eastern Transport Initiative
APT	Auckland Passenger Transport Model
AT	Auckland Transport
LTP	Long Term Plan
NoR	Notice of Requirement
PAUP	Proposed Auckland Unitary Plan
RTN	Rapid Transit Network
SEART / SH1	South Eastern Arterial / State Highway 1

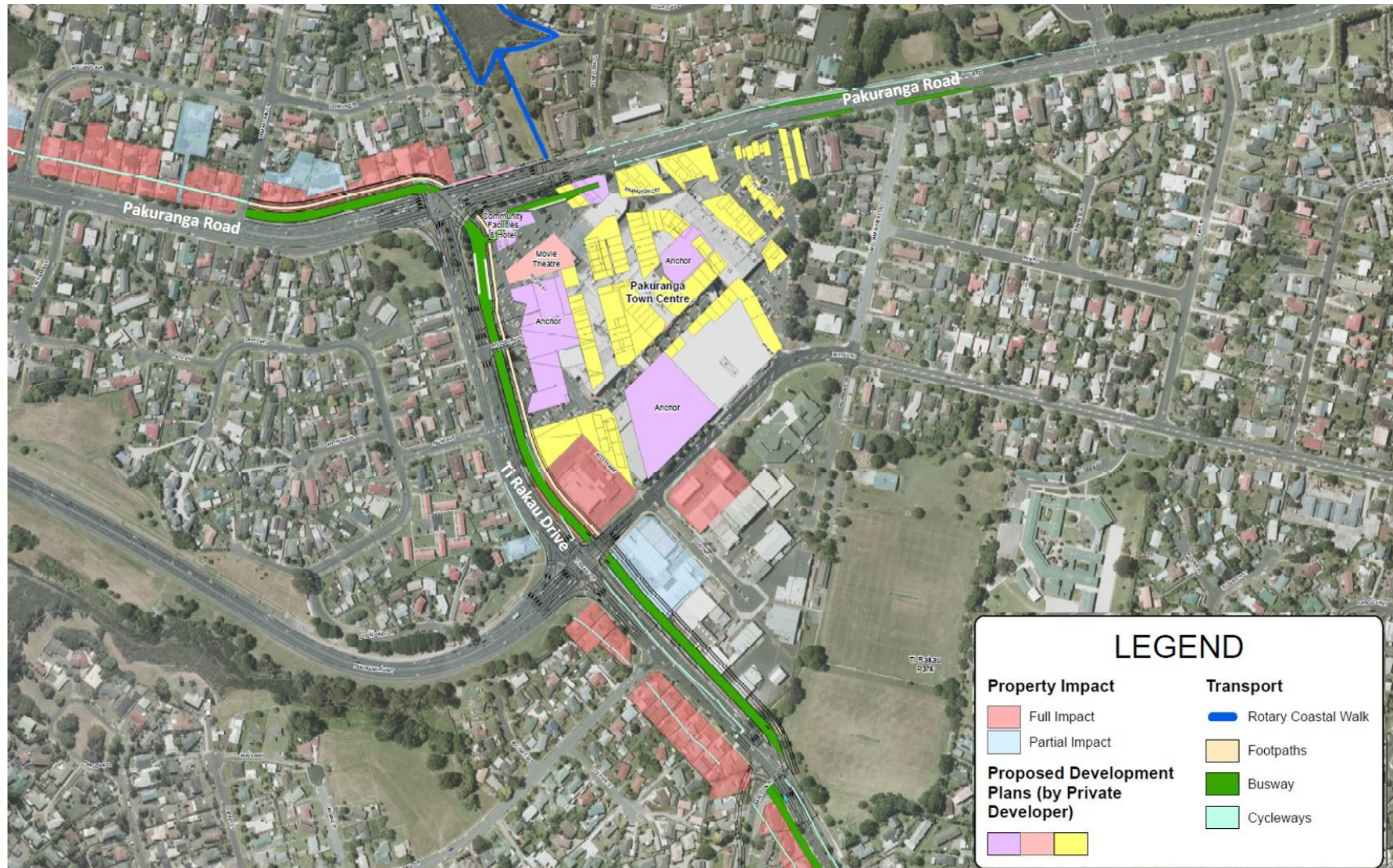
CONFIDENTIAL

Figure A1.2 – Pakuranga Town Centre Busway alignment and other improvements with flyover in first



CONFIDENTIAL

Figure A1.3 – Pakuranga Town Centre Busway alignment in a deferred flyover option



CONFIDENTIAL

Attachment 2 – Communication Plan – AMETI Delivery Strategy

April 2016

Overview

- Ensure key stakeholders are aware of, and have an opportunity to provide feedback on, the results of the delivery strategy review before a final decision is made.
- Communicate to key stakeholders the endorsed timing of future AMETI projects and the reasons for it before the wider public
- Communicate with potentially affected property owners before the wider public.

Key messages

- AMETI is aimed at giving residents of the eastern suburbs greater transport choices and better connecting them to the rest of Auckland
- It will deliver rapid high frequency public transport between Panmure, Pakuranga and Botany
- AT completed the Panmure Station and Te Horeta Road in 2014 and is making progress on Panmure to Pakuranga stage of AMETI with a notice of requirement now lodged. Construction is due to begin in 2020 based on current funding.
- A comprehensive review of the timing of future AMETI projects has been carried out by AT, the NZ Transport Agency and Auckland Council. This included more accurate modelling of the traffic impacts and bus travel times on the main roads in the area.
- The conclusion was that the best sequencing is the Panmure to Pakuranga Busway followed by the Reeves Road Flyover and then the busway from Pakuranga to Botany
- This is because it ensures journey times for both general traffic and public transport improve while the different stages of AMETI are delivered
- Although the full busway could be opened first it would create increased congestion for general traffic until the flyover is complete
- The flyover is highly effective at offering significant local congestion relief, up to 40% on roads outside Pakuranga town centre, with benefits for public transport, walking, cycling and general vehicles
- The review showed the full busway and flyover needs to be open by 2025 to avoid travel times getting worse
- Improvements may be needed on Pakuranga Road between Pakuranga and Highland Park to further improve bus journey times between Panmure and Howick
- Current long term plan funding doesn't allow for that. If further funding doesn't become available some interim intersection improvements and sections of bus lanes will be needed on Ti Rakau Drive to provide some protection for bus journey times at key congestion points until the full busway can be completed.

CONFIDENTIAL

Actions

What	When
Brief political stakeholders on progress of delivery strategy review, modelling of options.	December 2015 - complete
AMETI Programme Control Group	15 March 2016 - complete
Brief Key Stakeholder Forum (political stakeholders, Auckland Council and NZTA) on results of review.	23 March 2016 - complete
AMETI Programme Control Group	12 April 2016 - complete
AT Board - Capital Review Committee	14 April 2016 - complete
AT Board	29 April 2016
May	
Update Howick and Maungakiekie-Tamaki councillors and local boards, mayoral office and Maungakiekie, Pakuranga and Botany MPs.	Early May 2016
Letter to potentially affected property owners and tenants of AT owned properties.	Early to mid-May 2016
AT and NZTA websites updated	Mid May 2016
Media release	
AMETI e-newsletter	