Attachment 2 - TOC Amalgamation Single Stage Business Case Summary Deck

# ATOC Amalgamation Project

Single Stage Business Case summary deck

Version 9, 20 November 2018

# Introduction

Our existing ATOCs and partner agencies deliver their respective functions to a very good standard, but the functions suit operations, rather than our customers.

Our customers expect us to manage their **entire journey** as they experience it.

The current ATOC structure and physical separation fails to enable this. It does not support an integrated and co-ordinated multi-modal approach to managing the whole network.

The purpose of this project is to investigate ways to deliver improved outcomes through amalgamating ATOCs.

# Background

- Currently two separate ATOC locations: ATOC Central and ATOC Smales

| ATOC Smales | ATOC Central |
|---|---|
| Smales Farm (Takapuna) | Ferry Terminal (City Centre) |
| Joint venture – AT/NZTA | AT only |
| Auckland road network | City centre road network |
| State Highways Northland, Waikato, Bay of Plenty | - |
| Planned event impacts (special events, roadworks, capital construction projects) | Special events planning and delivery |
| | Parking operational support |
| | Safety & security at public transport facilities |
| | Transport Services (Metro) Day of Operations |
| | SaFE despatch support (future) |

# The case for change

- AT and NZTA's joint priorities for ATOC are "to **enable customers to make smarter, more informed choices** about the way they travel, **achieving the most out of Auckland's transport system** and infrastructure and keeping Auckland moving by **a single network approach**."
- The current ATOC structure fails to enable this because it does not support an integrated and co-ordinated multi-modal approach to managing the whole network.
- Managing operations across different modes out of organizational silos located on different sites is inefficient.
- Speed and effectiveness of network optimisation and response to incidents *across multiple modes* is sub-optimal, and this particularly impacts public transport modes and freight.

# External problems and benefits

*Customer experience*

| Problems |
| --- |
| Lack of customer journey reliability |
| Lack of integrated, multi-modal management of customer journeys |
| Unplanned events cause excessive delays for customers |
| Safety and security implications - caused by different processes disjointed communications |
| Delays to freight journeys through the network |
| Poor ‘planned event’ planning and execution – only special events are managed in a coordinated manner |

| Benefits |
| --- |
| Improved integrated customer journey information and reliability |
| Improved safety and reduced delay through faster and more effective responses |
| Improved customer travel experience and satisfaction |
| Transport choice for customers is improved |

# Internal problems and benefits

*Organisation and operation*

| Problems |
| --- |
| Roles and responsibilities lack clarity in the current organisation structure – silos and duplication |
| Lack of standardised processes and reporting |
| Disparate systems, information is not integrated |
| Business functions not aligned to strategic and customer outcomes |
| Unclear governance and oversight |
| Inefficient use of of resourcing and capability |
| Current ATOCs do not provide operational resilience |

| Benefits |
| --- |
| More efficient and effective operating model that aligns to journeys/outcomes |
| Improved decision making, faster responses |
| Operational excellence – moving from function to outcome focused |
| Better situational awareness and planning through data, information and intelligence sharing |
| Improved relationships building trust and alignment |
| Removing duplication to deliver better value for money |

# Strategic Alignment

| Organisation | Strategy / Plan | Key Themes and Alignments | |
|---|---|---|---|
| Minister of Transport | 2018 GPS | **1. Safety:**<br>• **a system that is free of death and serious injury**<br>**2. Access:**<br>• increased access to economic and social opportunities<br>• **enables transport choice and access**<br>• **is resilient**<br>3. Environment<br>4. Value for money | |
| New Zealand Transport Agency | Statement of Intent 2017-21 | Strong alignment to the three strategic responses:<br>**1. One connected transport system**<br>**2. People-centered services**<br>**3. Partnerships for prosperity** | Amalgamating the ATOCs will deliver against four of the eight focus areas:<br>• **Keep people safe**<br>• **Improve customer experiences**<br>• **Deliver connected journeys**<br>• **Achieve organizational excellence** |
| Auckland Transport | Statement of Intent 2018/19-2020/21 | **1. Improving the safety of the transport system**<br>**2. Deliver an efficient and effective transport network**<br>**3. Focus on the customer**<br>**4. Ensure value for money across Auckland Transport's activities**<br>5. Urban regeneration and placemaking | |

# Strategic Alignment

| Organisation | Strategy / Plan | Key Themes and Alignments |
|---|---|---|
| Ministry of Transport, NZ Transport Agency, Auckland Transport, Auckland Council, KiwiRail, Treasury, State Services Commission | Auckland Transport Alignment Project (ATAP) | • **Making better use of existing networks**<br>• Targeting new investment to the most significant challenges<br>• **Maximising new opportunities to influence demand** |
| NZ Transport Agency | National Land Transport Programme (2018-21) | **1. Road safety**<br>2. Access to opportunities<br>**3. Improved transport choice**<br>**4. Improved resilience** |
| Auckland Transport, Auckland Council, NZ Transport Agency, KiwiRail | Regional Land Transport Plan (2018-2028) | 10-year investment programme for transport in Auckland responding to growth and challenges over the next decade.<br>The ATOC amalgamation project is identified in the RLTP as a funded project to help deliver the outcomes for Auckland in terms of network management and incident response at the same time as providing the necessary information to customers to allow improved transport decision making. |

# Alignment with local and international practice

**Network Operations**

- Both KiwiRail and Transpower are good examples of network operators that have multiple operations centres but which can operate their entire national network from a single centre, enabled by highly standardized systems and processes.
  NZTA's strategy is to achieve the same with ATOC and WTOC. It does not currently enjoy this level of standardization (nor, due to the way the road network is constructed, is it ever likely to) but has a technology-enabled strategy to mitigate this issue.

**Multi-modal Operations**

- While there are many international examples of combined network (e.g. road and rail) and combined network and law enforcement operations centres, full multi-modal centres don't exist.
- While the New York TOC does cover all modes and operators, it is primarily a law-enforcement led incident management facility, not a BAU TOC. The sheer number of participants would make this centre unworkable for normal day-to-day operations.
- A full multi-modal TOC is simply too hard to achieve in most jurisdictions because of the sheer number of different operators and agencies involved. Auckland (and NZ) is uniquely placed to succeed in that it has a small number of agencies e.g. a single police force and AT being the single authority responsible for all public transport in Auckland. This makes it easier for ATOC to shift to a more proactive, predictive and actioning organization.

# Anticipating more technology and automation

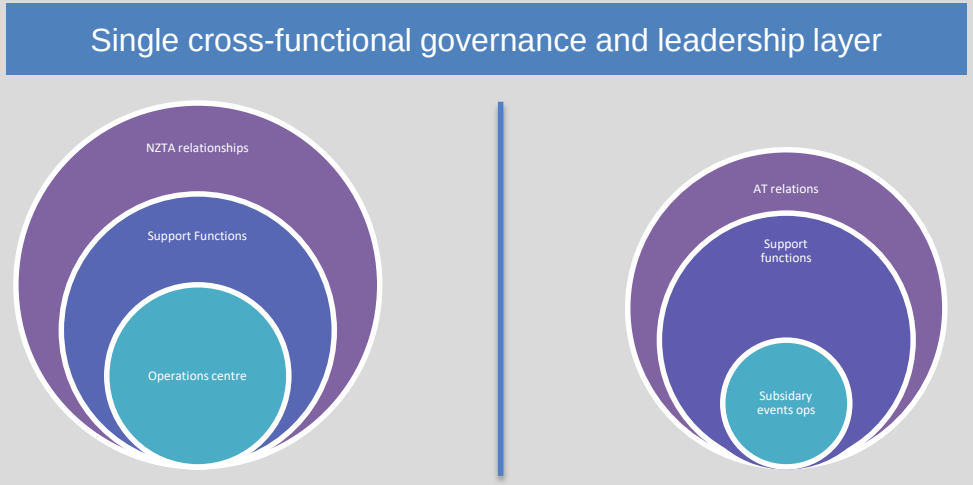
- The international trend is a reducing requirement for human operators as the benefits of technology, and automation in particular, are realized.
- The impact of this on ATOC is difficult to estimate at this time because, at the same time as the road network is becoming more automated, Auckland's multi-modal landscape is becoming increasingly complex and will require increasing levels of human operator input for the forseeable future.
- The key risk is the amalgamated ATOC being built for today's level of staffing but then, as technology and automation is deployed, being left with surplus resources.
- Proposed mitigations are:
  - Structure property leases to allow for contraction after 3 and 6 years
  - Don't overestimate additional capacity for future modes e.g. CRL and LRT as part of the amalgamation – use technology and automation to reduce the resources they will need

# Option development and assessment

- Study by AECOM in 2017 reviewed international best practice for transport network operations
- Four options developed based on that information
  1. Virtual amalgamation
  2. Amalgamate and integrate
  3. Amalgamate, integrate and expand
  4. Create a ‘Super’ TOC
- Evaluation framework with nine criteria developed based on project objectives to deliver the potential benefits

# Option A – **Virtual amalgamation**

**Two locations with a single leadership structure**




**Characteristics:**

- Two operational locations
- Single leadership structure
- Proceed to integrate AT Metro Day of Operations and complete Safety and Security establishment

**Pros:**

- ✓ Low implementation costs
- ✓ Low infrastructure change costs
- ✓ Single point of leadership creates consistent direction enabling efficiency gains
- ✓ Retains an alternate site for DR

**Cons:**

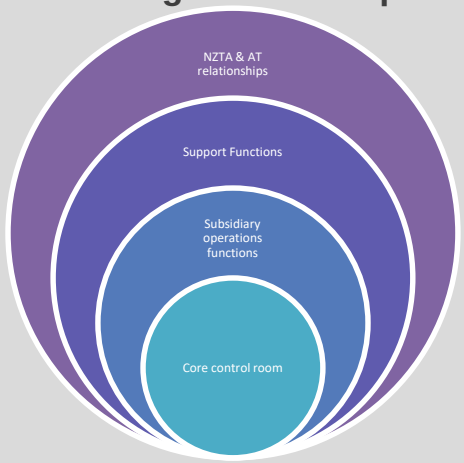
- × Central site is not viable in the long-term
- × Marginal efficiency gains across operations and support functions
- × Limited realization of expected outcome benefits from amalgamation

**Risks of implementing this option:**

- Organisational silos remain
- Geographical distance between sites continues operational inefficiencies
- Interoperability of systems and processes determines the feasibility of this option
- Central cannot accommodate Smales functions in DR state

# Option B – **Amalgamate and integrate**

**Co-located and integrated TOC with single leadership structure**




One TOC campus

**Characteristics:**

- Single TOC with core control room and subsidiary control room functions
- Single leadership structure
- Merge and integrate operational and support functions
- Amalgamation of existing TOC functions (including Day of Operations, Safety and Security)

**Pros:**

- ✓ Single point of leadership creates consistent direction enabling efficiencies
- ✓ Organisational structure is better aligned to services and outcomes
- ✓ Narrow organsiational scope for change
- ✓ Better structured to enhance transport operations across the network and customer experience

**Cons:**

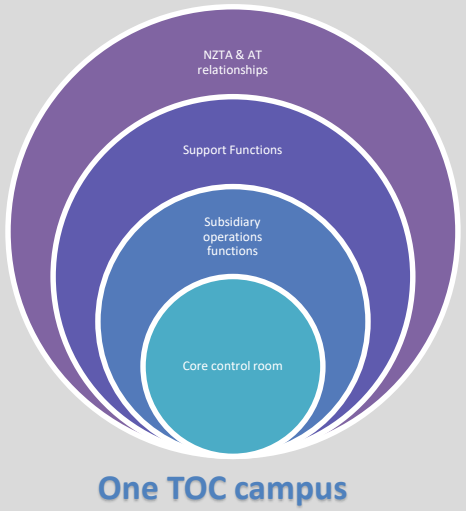
- × Implementation infrastructure and change management resource costs
- × Need to identify a suitable alternate site for DR
- × Opportunity to optimise transport operations by bringing in additional functions is not realised

**Risk of implementing this option:**

- Interoperability of systems and processes determines the feasibility of this option
- People impact
- Sourcing a suitably sized site
- Capacity constraint for coordinating impacts of planned works/construction remains

# Option C – **Amalgamate, integrate and expand**

**Co-located, integrated and optimised TOC with single leadership structure**




**Characteristics:**

- Single TOC with core control room and subsidiary control room functions
- Single leadership structure
- Merge and integrate operational and support functions
- Amalgamation of existing TOC functions (including Day of Operations, Safety and Security)
- Integrate CAR, contractor support and enhanced police liaison officer functions with TOC

**Pros:**

- ✓ Integration of CAR and contractor support functions directly enhance customer experience
- ✓ Broader span of control across services and outcomes
- ✓ Organisational structure is better aligned to services and outcomes
- ✓ Best structure to enhance transport operations across the network and customer experience

**Cons:**

Same as option B, ***plus***:

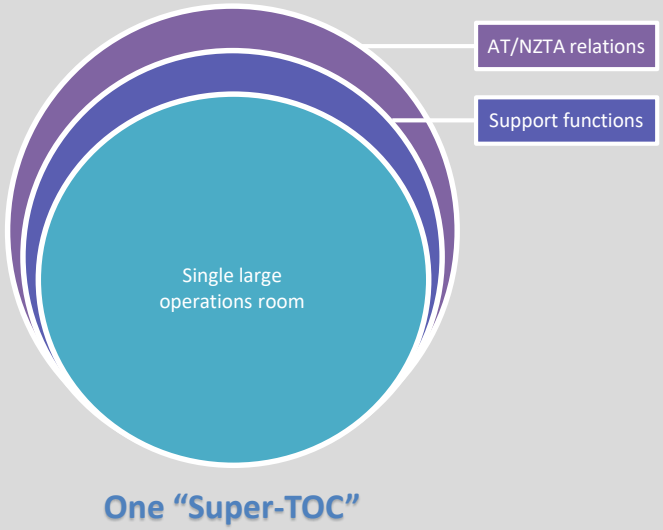
- × Marginal increase of implementation infrastructure and change management costs

**Implementation risks:**

- Broader organisational scope for change
- Interoperability of systems and processes determines the feasibility of this option
- People impact
- Sourcing a suitably sized site
- Buy-in and support

# Option D – **‘SuperTOC’**

**Build an all-in “Super-TOC”**




**Characteristics:**

- Single TOC with a single large control room
- All transport related functions colocated into a single control room, (i.e. KiwiRail, Ferry and Bus operators, TransDev)
- Merge and integrate support functions
- Multiple leadership groups

**Pros:**

- ✓ “One room” approach logically promotes highest opportunity for integration and collaboration across all functions
- ✓ Co-located stakeholders enhances transport operations across the network and customer experience

**Cons:**

- × Complex decision making
- × Significant implementation infrastructure and change management resource costs
- × Operationally inefficient for all operators to function in one room
- × Single control room is not conducive to current operating model of external parties

**Implementation risks:**

- Significant challenges with interoperability of systems and processes
- People impact
- Significant challenges with sourcing a suitably sized site
- Governance

| Criteria | Option A<br>Virtual amalgamation | Option B<br>Amalgamate and integrate | Option C<br>Amalgamate, integrate and expand | Option D<br>'Super' TOC |
|---|---|---|---|---|
| Improved customer experience |  |  |  |  |
| Efficient and effective operating model, timely and responsive |  |  |  |  |
| Improved decision-making |  |  |  |  |
| Improved relationships between AT, NZTA and third parties |  |  |  |  |
| Value for money, resilient and sustainable |  |  |  |  |
| Promotes safe environments |  |  |  |  |
| Multi-modal |  |  |  |  |
| Supports national standards |  |  |  |  |
| Multi-disciplinary integrated teams |  |  |  |  |

**Key:** 

# Preferred option

## *Option C - Amalgamate, integrate and expand*

- Deliver multi-modal, multi-organisation transport operations
- Much better co-ordination between different functions and modes
- Improved integrated customer journey information provides informed decision making and reliability improvements for customers
- Expansion to include:
  - Enhance optimisation capacity  by increasing existing capacity and capability in traffic signal engineering and operations
  - Introduce planned works function for coordination of disruption caused by planned maintenance and construction projects
  - Better integration with Police and road network support providers
  - Police commitment to 7 day/week coverage and increased presence including permanent Police Liaison Officer
  - Ability to include further future functions as/when required
- Co-locating with a modest headcount uplift (11 net uplift)
  - Amalgamating Smales (67 existing FTE), Central (19 existing FTE), transferring accountability for ITS asset management out of ATOC (7 FTE) and introducing new positions and functions (11 FTE) – 108 total staff in the amalgamated ATOC
  - Ability to upskill existing staff adding to resilience

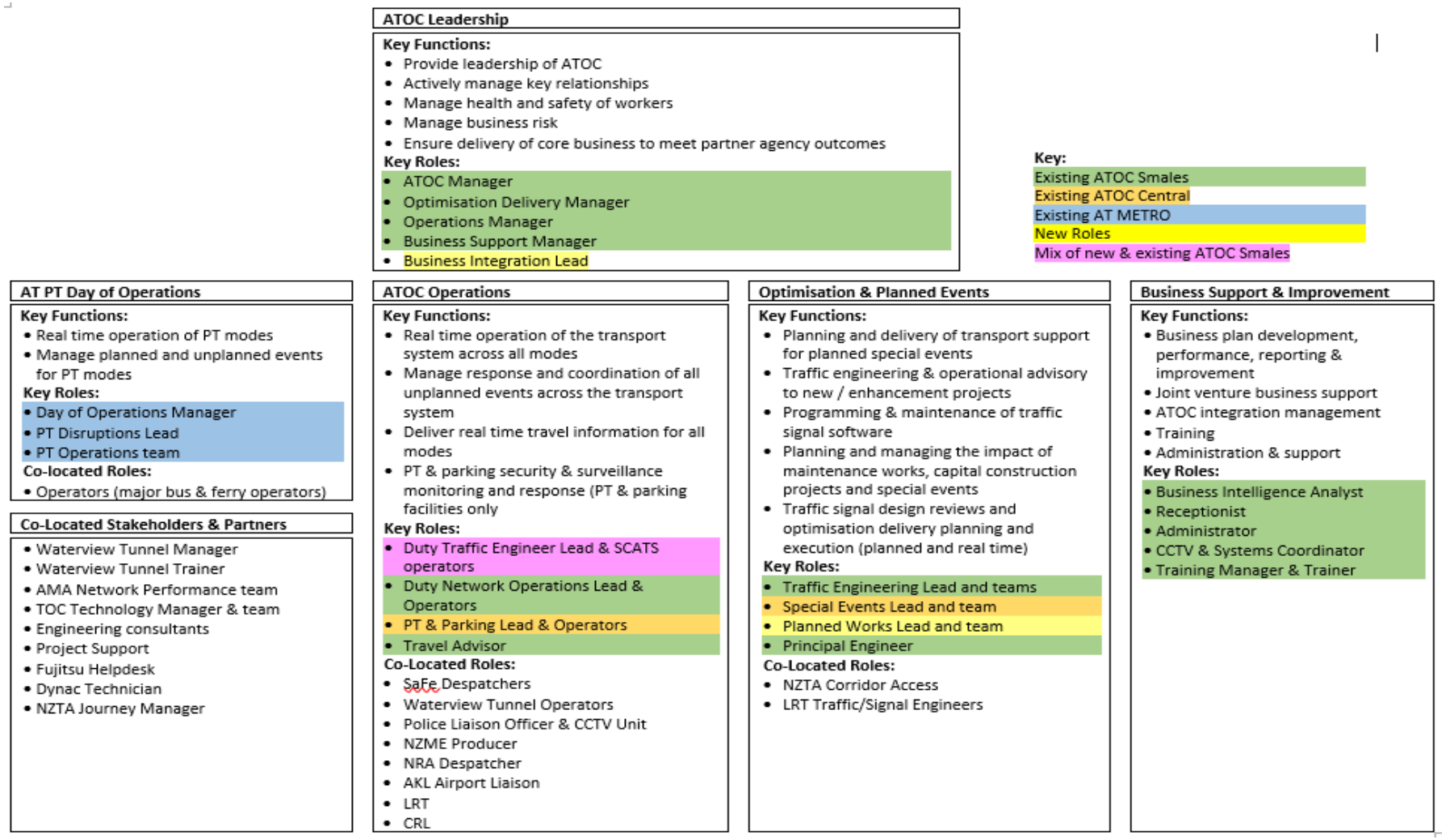
# Preferred option

*Option C - Amalgamate, integrate and expand*

- Increase in space required
  - Smales Farm lease has been extended and expanded
- Standardise processes and systems over time
- Improved Resilience (Business Continuity and Disaster Recovery)
  - Existing Auckland Harbour Bridge site backup for Smales and ad-hoc AT Viaduct backup for Central does not provide a current viable DR capability, and will not support future amalgamated ATOC needs
  - To support continuity of all critical ATOC functions through the most likely DR scenarios – a localised utility outage or building/site evacuation impacting Smales Farm – as well as less likely Region-wide scenarios, a local (Auckland) hot backup site that can be activated within 1 hour will be established
  - Propose utilising space at AT Albany Hub (pending technical evaluation)

# Preferred option – structure

*Option C - Amalgamate, integrate and expand*



# Preferred option

*Option C - Amalgamate, integrate and expand*

- Summary of cost impacts (detailed later):
  - $6.4 million capex and $1.09 million opex for amalgamation
  - $793,000 (4%) annual increase in ongoing operational cost
  - Police to cover their own direct costs (eg. personnel and systems)
- Delivering benefits:
  - Difficulty to directly quantify benefits due to:
    - Variety of influencing and changing factors
    - Availability of current performance metrics
  - Potential reduction in incident related delay of up to 220,000 person-hours
    - Economic benefit of up to $5 million annually

# Commercial Case

- Amalgamating ATOCs has four main commercial considerations

| Consideration | Key discussion |
|---|---|
| **Outsource ATOC** | Significant step-change, but **not considered appropriate** in the current national environment:<br>• Incompatible with the national model and operating system<br>• Integrated nature of operations with core AT/NZTA business<br>• Need for ATOC to respond quickly and flexibly – outsourcing adds complexity and accountability issues<br>• Potential to review in the future ('Future Journey Centre' to be investigated by the NZ Transport Agency) |
| **Location** | • Central not a viable option due to size<br>• Smales Farm delivers all requirements:<br>  • 24/7 functionality, access and security<br>  • High capacity data connectivity<br>  • Further capacity to expand<br>• No rationale to consider alternative location – Smales lease extended<br>• Fit-out to be designed as part of transition, then procured through BAU process |
| **Systems / IT** | • Significant integration required for optimisation – attempt to utilise existing systems<br>• Separate AT/NZTA program to align technology roadmaps in development<br>• BAU procurement proposed where required, potential to leverage with Police procurement |
| **Professional / support services** | • Implementation likely to require mix of in-source and out-source<br>• Detailed implementation plan will highlight requirements and BAU procurement proposed |

# Financial Case

*Transition/Implementation costs*

- Total implementation/transition cost:
  - $6.4 million capex and $1.09 million opex for amalgamation and improvement.
- Implementation/transition cost split:
  - Based on the current funding principles, 50/50 share – subject to transition cost apportionment review
  - eg. specific costs may be appropriate to allocate to a single organisation

| AT | | NZTA | |
|---|---|---|---|
| $3.75m | | $3.75m | |
| **Capex** | **Opex** | **Capex** | **Opex** |
| $3.2m | $546k | $3.2m | $546k |

# Financial Case

*Transition/Implementation costs (one-off)*

| Item | | Opex | Capex |
|---|---|---|---|
| **People** | Transition & Improvement Team | $ 842,600 | $ 1,016,400 |
| **Facilities** | Smales design & fitout | $ - | $ 1,600,000 |
| **IT** | Smales site and IT fitout | $ - | $ 1,933,000 |
| | Desktop Standardisation | $ - | $ 1,000,000 |
| **Sub-total** | | $ 842,600 | $ 5,549,400 |
| **HR** | Provision for redundancies | $ 250,000 | $ - |
| **DR** | To be delivered by parent agencies (concurrent to amalgamation) | | $ 850,000 |
| **Totals** | | **$ 1,092,600** | **$ 6,399,400** |

# Financial Case

*Ongoing operating cost increase to be split 50/50 (AT/NZTA)*

| Item | Current | Future | Change | % | Note |
|---|---|---|---|---|---|
| ITS asset management & operation | $ 4,059,000 | $ 4,059,000 | $ - | | |
| Operations & optimization | $ 2,821,990 | $ 2,821,990 | $ - | | |
| Real time travel information | $ 331,391 | $ 331,391 | $ - | | |
| IS/ITS systems | $ 4,902,400 | $ 4,902,400 | $ - | | |
| Administration | $ 1,061,135 | $ 1,061,135 | $ - | | |
| Salaries | $ 6,525,000 | $ 7,170,000 | $ 645,000 | 10% | 1 |
| Facilities OPEX & Rent | $ 625,565 | $ 773,303 | $ 147,738 | 24% | 2 |
| DR facility | $ 120,000 | $ 120,000 | $ - | | 3 |
| **Combined ATOC OPEX Budgets** | **$ 20,446,481** | **$ 21,239,219** | **$ 792,738** | **4%** | |

1. Salary costs increased:
   - Additional capacity added to traffic signal engineering and SCATS team to meet increasing demand for real time optimization
   - Establish 'Planned Works' function to improve planning for and managing impact of planned works, maintenance and capital construction projects
2. Facilities rent and OPEX costs increased:
   - Additional space leased at Smales Farm to accommodate the amalgamated TOC
     - Amalgamation not physically possible in current ATOC Central location (ferry terminal building), hence recommendation to extend at Smales Farm
     - Ferry terminal building is owned by AT (and no rent or OPEX is paid by ATOC), hence an increase in rent to accommodate larger footprint at Smales
     - Assumed AT will continue to pay rates and utilities at ferry terminal building after it is vacated by ATOC Central so no savings to ATOC or AT overall
3. Assumes the future DR site carries the same OPEX cost as the current site at Auckland Harbour Bridge.

# Financial Case

*Funding and risks*

- RLTP has committed capex funding for ATOC Amalgamation of $6.3m
- NZTA currently has no capex allocation
- Currently no opex allocation by either partner
  - NZTA share met to be met through NLTF
- Notable financial risks:

| Risk | Rating |
|---|---|
| Different staffing requirements following detailed organisation design | Low |
| Implementation cost overruns – capex<br>• eg fit-out more costly, additional IT costs, unforeseen costs at Central | Medium |
| Implementation cost overruns – opex<br>• eg higher proportion of out-sourcing for transition team (due to internal capacity/capability) | Medium |

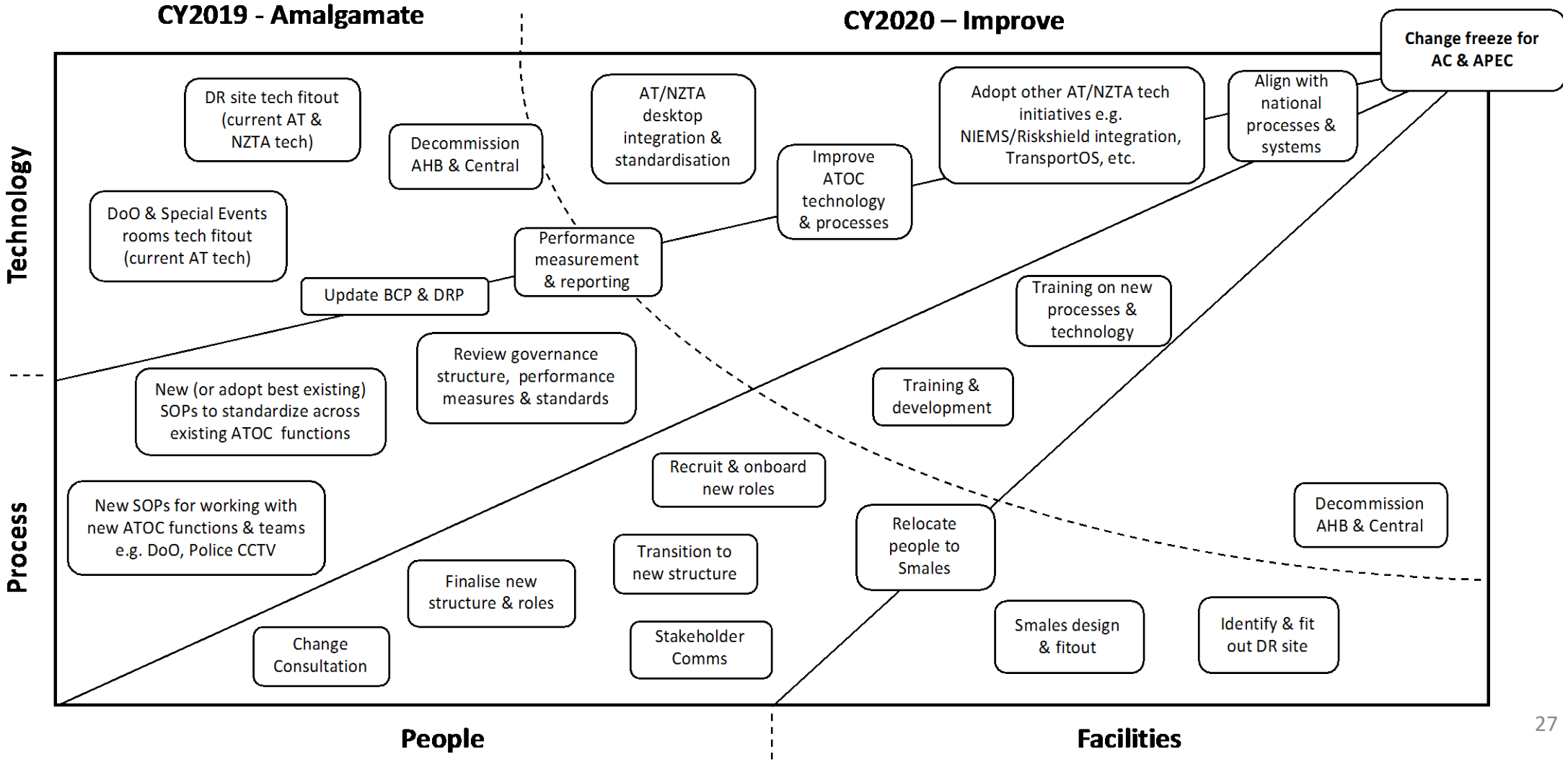
# Management Case

*Implementation planning*

- Physical amalgamation to occur through 2019
- Four workstreams to be developed to deliver amalgamation:
  - People
  - Facilities
  - Process
  - Technology
- Amalgamated ATOC ready for Americas Cup and APEC 2021

# Transition timeframe

*Amalgamation then process improvement*



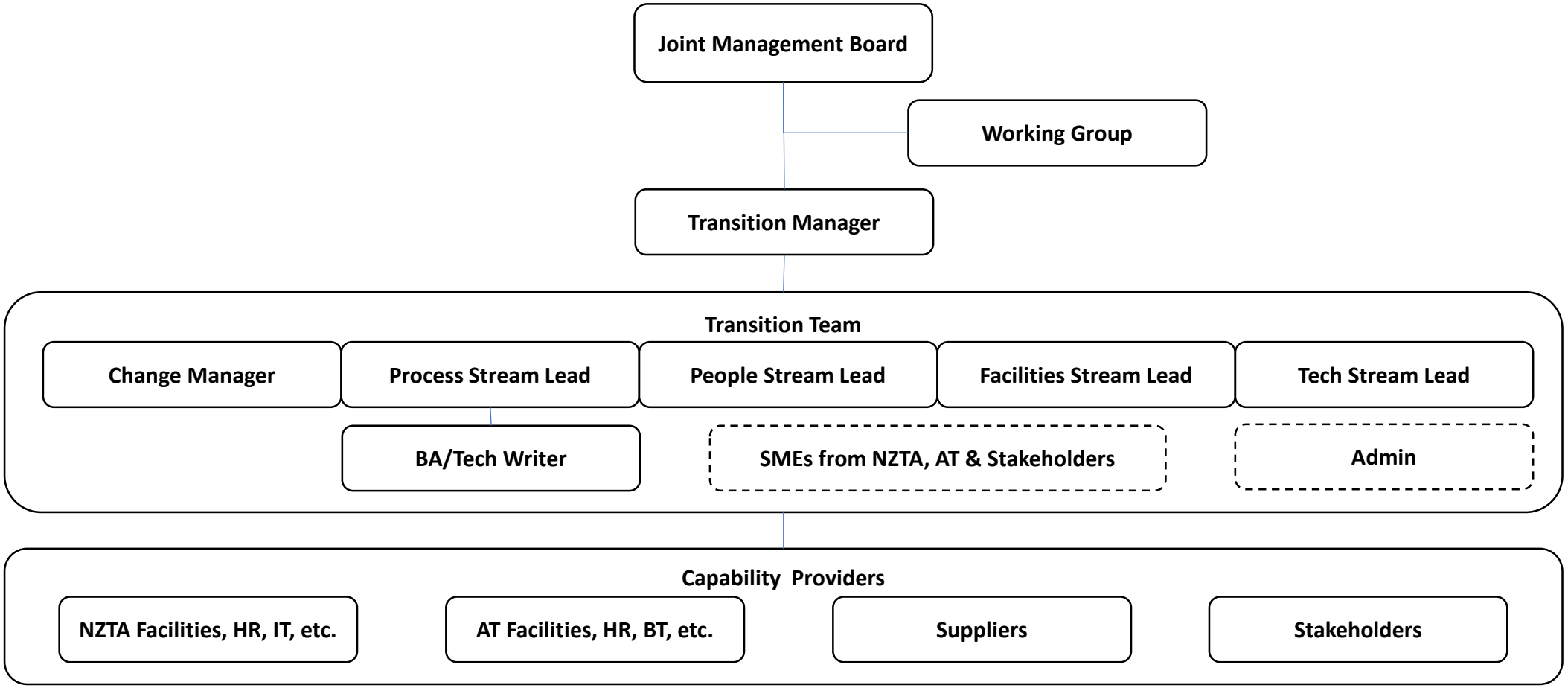
# Management Case

*Estimated resource requirements for transition team*

| Role | Responsibilities | Internal (AT/NZTA) / External |
|---|---|---|
| Management Working Group | Project sponsor, input into design requirements | Internal |
| Transition manager | Plan and manage overall transition, reporting to governance | External |
| Change manager | Develop and implement change plans for overall programme Stakeholder mapping and comms plans | Internal / External |
| Process stream lead | Align business processes, standardise ops procedures for amalgamated ATOC | Internal / External |
| Business Analyst / Tech Writer | Support Process stream lead | Internal / External |
| Tech stream lead | Work with AT BT, NZTA IT and ATOC IT to deliver technology reqs | Internal (BT/IT) |
| People stream lead | Manage organisational change process | Internal (HR) |
| Facilities stream lead | Work with AT/NZTA facilities teams, suppliers, designers to deliver amalgamated facility and relocate staff | Internal |
| Subject Matter Experts | | Mixture as required |

# Management Case

*Transition team structure*



# Management Case

*Implementation risks*

| Risk | Mitigation |
|---|---|
| Technology integration | • Two phase approach – physical amalgamation first<br>• Leverage joint technology program<br>• Fallback to existing systems |
| Delays to the transition programme | • Clear deliverables, outcomes, project and programme management (critical path identification)<br>• Regular reporting and monitoring |
| People | • Early delivery of change management<br>• Support for staff, joint HR engagement (AT/NZTA)<br>• Clear leadership, collaborative direction from JMB |
| Funding / cost | • Agree funding arrangements at outset<br>• Close project and programme management<br>• Regular financial risk reporting and monitoring<br>• Early identification of cost changes |

# Management Case

*Benefits monitoring*

| Benefit | How it will be measured | Suggested frequency for measurement |
|---|---|---|
| A safer transport system | Reduction in time taken to detect incidents | Quarterly |
| | Reduction in incident response time (post detection) | Quarterly |
| | Reduction in incident resolution time | Quarterly |
| | Reduction in hazard escalation | Quarterly |
| More satisfied stakeholders and customers | Customer / stakeholder satisfaction | Biannually |
| | Reduction in travel time variability (reliability improves) | Biannually |
| | Reduction in incident related delays | Quarterly |
| Operational efficiency gains | Improvements in staff engagement and satisfaction | Annually |
| | Improvements in staff productivity | Annually |
| | Increased resilience in TOC delivery | Annually |

# Next steps

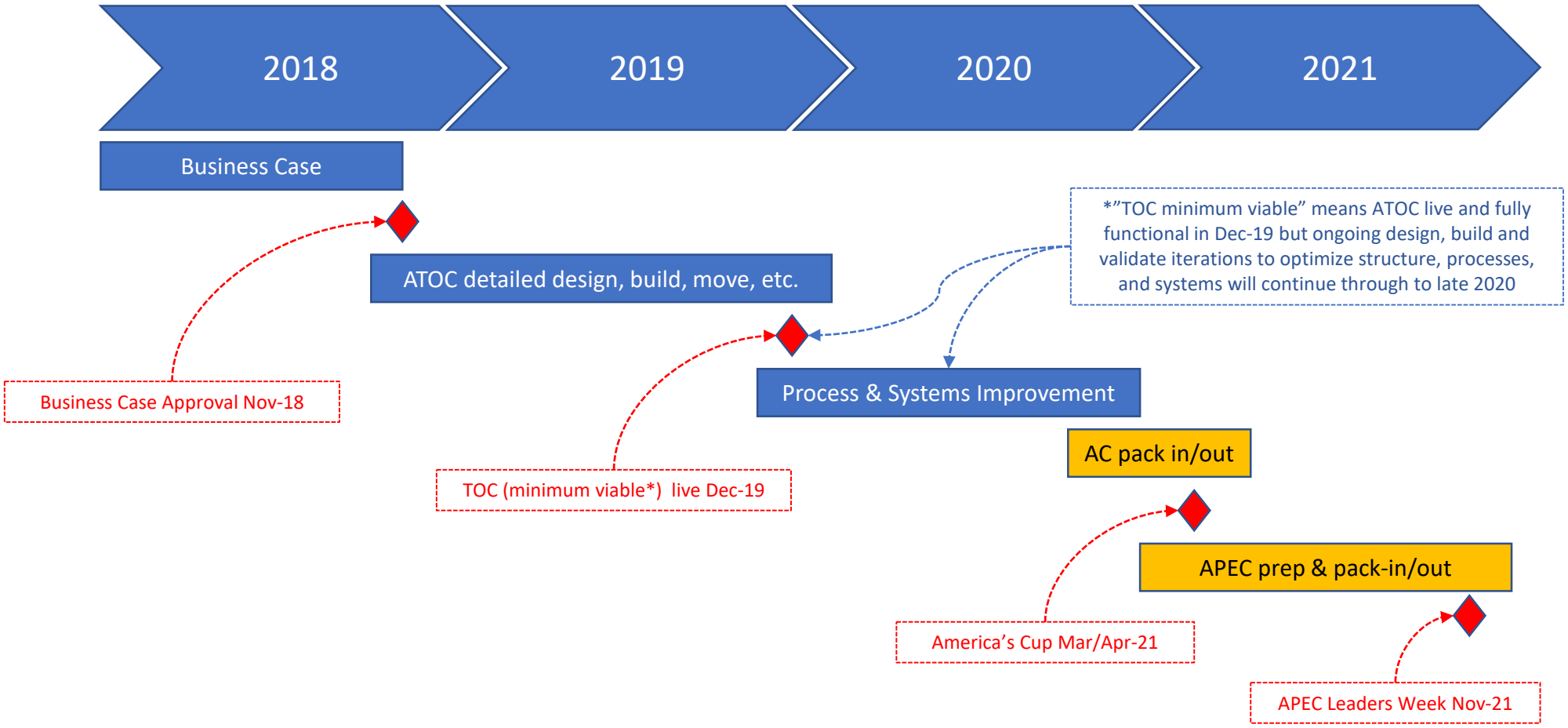
This single stage business case seeks formal approval from the AT Board and NZTA Senior Leadership Team to progress the amalgamation of the two ATOCs (ATOC Smales and ATOC Central) at Smales Farm.

**Recommended that the parties**:

- approve the business case for the ATOC Amalgamation Project
- endorse the establishment of the transition team to deliver the amalgamation

# Additional Slides

# Macro Timeline



# Organisations involved in the ATOCs

- Partner Agencies
  - Auckland Transport
  - New Zealand Transport Agency
- Other Key Stakeholders
  - New Zealand Police
  - Fire and Emergency
  - Lifelines
  - Auckland Council
  - Northland, Waikato, and Bay of Plenty Regional Councils and other local authorities
  - Auckland Airport
  - Public Transport operators
  - National Recovery Alliance

# Project Risks

| Risk | Narrative | Mitigation |
|---|---|---|
| Time | Slippage could impact readiness for America's Cup and APEC in 2021 | Clarity of deliverables and outcomes and identification and management of critical path. Optimisation phase will use iterative, sprint-based, Agile delivery. Project management and governance. |
| People | Physical relocation, role realignment and removal of duplicated roles, and merging two different TOC cultures could lead to staff turnover and consequential loss of skills, experience and knowledge which could slow down the optimization phase as new staff are hired, inducted, trained, etc.. | Early development and delivery of a change management process, communication and support for staff.<br>Good joint AT/NZTA HR engagement, change management, training and development.<br>Clear leadership and collaborative direction setting from JMB. |

# Project Risks – cont.

| Risk | Narrative | Mitigation |
|---|---|---|
| Technology integration | NZTA and AT have established a joint technology program to align their respective systems program, either integrating different platforms or rationalizing to common, shared platforms, building IT independence and logical separation from ITS, developing a common desktop operating environment, etc. The program and timeline is still being developed so there are risks that (a) that it will not align with the amalgamation timeline and/or (b) technology change will add risk and complexity to the amalgamation. | Remove technology dependencies and risks from the amalgamation project by delivering in two phases: **amalgamation**, which will focus on people and facilities and use existing AT and NZTA technology; and **improvement**, which will focus on systems and processes and, where possible i.e. where the timelines align, and risk is manageable, leverage the benefits of the joint technology program. |

# Project Risks – cont.

| Risk | Narrative | Mitigation |
|---|---|---|
| Project Funding | Disagreement as to portion of funding each party should contribute.<br><br>Funding availability.<br><br>AT has committed RLTP (Capex) funding allocated for amalgamation and technology integration.<br><br>No committed NZTA Capex.<br><br>No committed Opex by either partner. | Under the (draft) 2018 GPS, NZTA now has full joint accountability for all transport modes so both partners will gain equal benefit from amalgamation and should therefore contribute equally to the amalgamation.<br><br>Decision not required for business case approval but, as the project is initiated, the partners need to:<br><br>▪ Ratify 50:50 Capex (or agree what the split is to be)<br><br>▪ Agree on how to fund Opex. |