PROGRAMME VIEW
MRT & STRATEGIC HIGHWAYS

DISCUSSION ON EMERGING VIEW

Partnership Board Meeting

22 July 2020

Workshop objectives

Our objectives for today are to:

- provide the most up-to-date analysis of the MRT and SHI packages to the Board
- highlight issues that are arising as a result of that analysis, including in particular:
    - questions about the performance of the Indicative Package
    - possible areas of divergence from the Programme Business Case.
- discuss implications and agree next steps, including:
    - when/how to get wider partner and political input on the findings to date
    - what the findings mean for the work programme, areas for focus and timeframes
    - implications for stakeholder and community engagement.

Programme Context

Timeline of activities to date

- **Late 2018** - prepared a Programme Business Case (PBC): a multimodal package of transport investments called the Recommended Programme of Investment (RPI)

- **May 2019** - following discussions between the Minister of Transport, the WCC Mayor and the GWRC Chair, the government announced a **downscaled Indicative Package**.

  The Indicative Package modelled required **capital investment at $3.7B** delivered over 20 years, with a **total funding requirement over 30 years $6.4B** (including net operating costs & financing payments, all P95 inflated).

- ***2020-21*** - the Programme, through the IBCs, is seeking to fully evaluate the benefits and costs of the Indicative Package, and what combination of investments and projects will deliver the **greatest overall benefits for a given level of investment**.

Indicative Package – Financial Assumptions / Fundability

- Capital investment - $3.7b (P95) delivered over 20 years
- Total inflated funding requirement 30 years - $6.4b (incl net operating costs & financing payments)
- Funding split assumption Central:Local 60:40 (Local split not modelled)
- All capital costs assumed to be financed over 30 years. All values inflated

Central Share - Cost Assumptions

- Base spend across the region modelled.
- Regional upgrade spend in decades 2 & 3 of $4.4b.

Central Share - Revenue Assumptions

- Fully funded out of NLTF – assumed Wellington receives 10.5% of the NLTF based on population share.
- NLTF projection assumes inflationary adjustment to FED/RUC of 2% year on year.

Local Share - Cost Assumptions

- No reprioritisation of existing spend.
- Loss of car parking revenue factored in as a cost.

Local Share - Revenue Assumptions

- Rates 1% increase year on year 12 years.
- "Value Capture" assumes targeted rate of 10% increase phased over 10 years (on properties within a 10 minute walk of MRT station).
- User charge – assumed revenue from some form of demand management pricing.

Changes from PBC to Indicative Package

Highway Project	PBC/RPI	Indicative Package
SH1 extra South Bound lanes to Aotea Quay	✓	✗
Terrace Tunnel Duplication	✓	✗
Te Aro Trench	✓	✗
Basin Reserve improvements	✓	✓
Mt Victoria Tunnel Duplication	✓	✓
Ruahine Street and Wellington Road widening	✓	✓

Programme Scope	PBC/RPI	Indicative Package
Congestion Charging	✓	✗

Forecast population growth (consensus view of region)

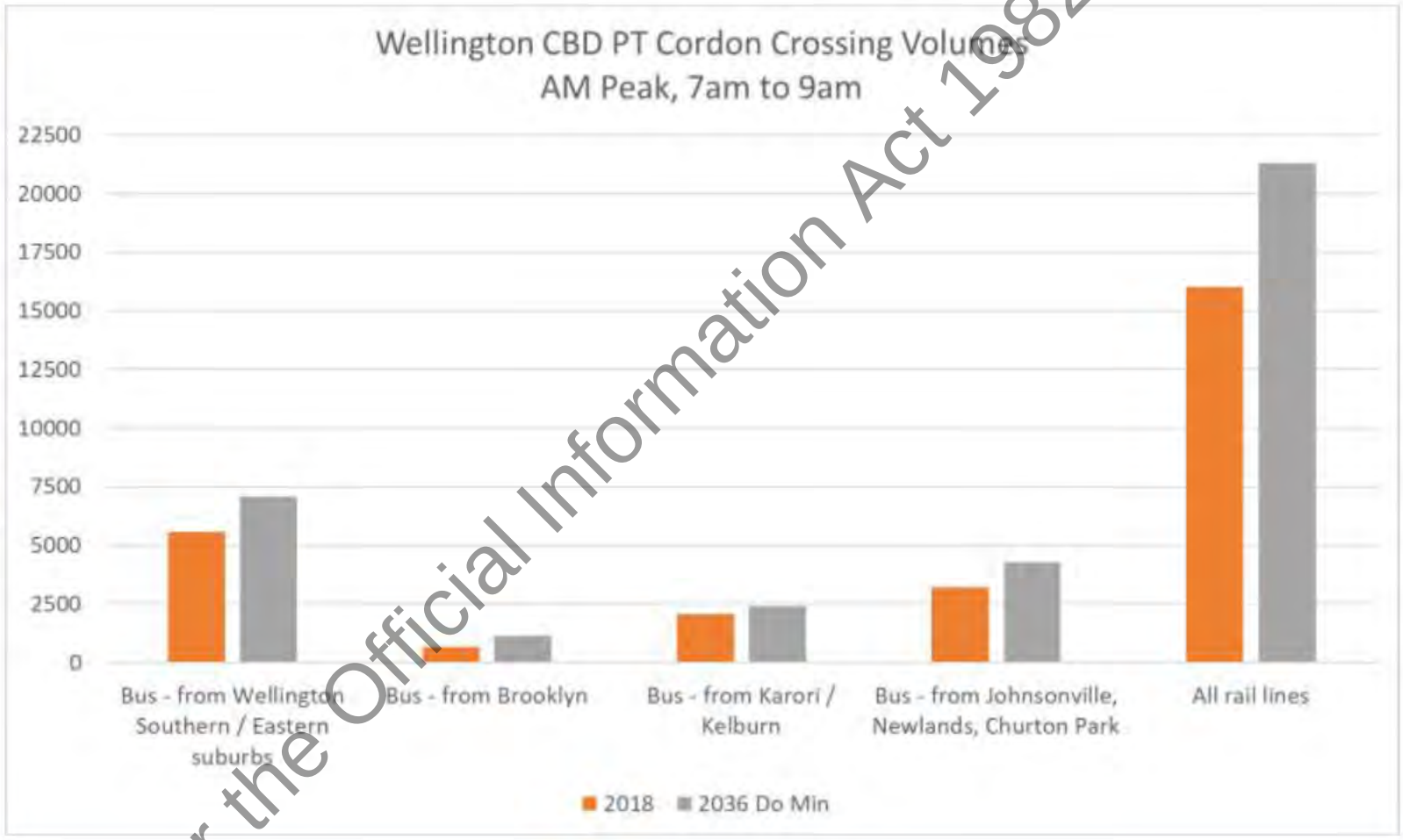
Key points

- Population growth north of CBD is 75% of regional population growth // 37% of regional employment growth
- Population growth in CBD & inner suburbs is 17% of regional population growth // 54% of regional employment growth
- Compared to the PBC assumptions, forecast population growth north is 25% higher

	Population				Employment			
	2018	2036	Abs growth	% growth	2018	2036	Abs growth	% growth
Wellington CBD	19,800	27,200	7,400	37%	93,300	109,500	16,200	17%
Wellington Inner Suburbs	26,800	32,200	5,400	20%	12,000	14,300	2,300	19%
Wellington Eastern suburbs	38,100	40,300	2,200	6%	11,300	12,800	1,500	13%
Wellington Southern Suburbs	31,400	34,000	2,600	8%	4,900	4,900	-	0%
Wellington Western Suburbs	28,000	29,000	1,000	4%	6,700	7,900	1,200	18%
Wellington Northern Suburbs	67,800	78,100	10,300	15%	17,200	19,200	2,000	12%
Porirua	58,100	79,400	21,300	37%	16,400	20,000	3,600	22%
Kapiti	54,800	62,600	7,800	14%	15,200	16,500	1,300	9%
Lower Hutt'	106,500	116,600	10,100	9%	42,600	46,100	3,500	8%
Upper Hutt	44,800	47,300	2,500	6%	12,300	12,600	300	2%
Wairarapa	46,300	50,900	4,600	10%	19,100	21,000	1,900	10%
Region	**522,400**	**597,600**	**75,200**	**14%**	**251,000**	**284,800**	**33,800**	**13%**

Rail and Bus

Forecast PT Growth – from 2018 to 2036



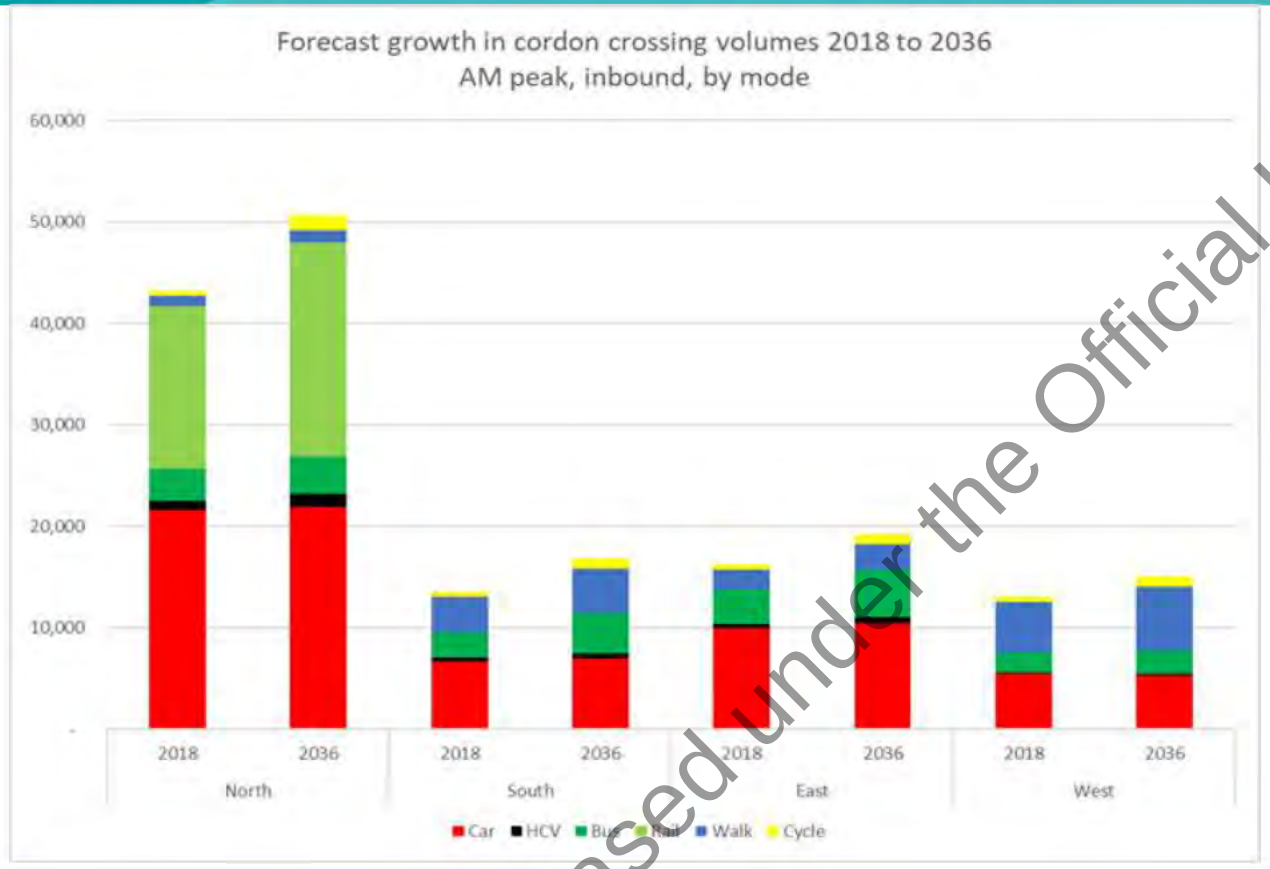
Key points

- Rail - 35% growth from north to over 21,000 pax
- Bus from Northern suburbs – 30% growth 4500 pax
- Bus from S/E suburbs – 30% growth to 7000 pax
- Realisation of growth is dependent on additional PT capacity

Wellington CBD cordon crossing volumes

Key points

- Around 50% of current demand into & through CBD between 7am and 9am comes from North
- Forecast that 47% of growth will come from the north – almost all on PT, some commercial vehicles



	2018	2036	Growth	% of total growth	% Growth
North	43,200	50,700	7,500	47%	17%
South	13,600	16,800	3,200	20%	24%
East	16,200	19,200	3,000	19%	19%
West	13,000	15,000	2,000	13%	15%
Total	86,000	101,700	15,700	100%	18%

Changes to other key PBC assumptions

Work undertaken by partners and consultants has resulted in some revisions to key assumptions

- Planning for Growth work now suggests growth preferred in south, west and north
  - Kilbirnie and parts of Miramar less preferred due to resilience concerns.
- Volume of trips to the airport reduced – future growth less certain post COVID.
- Benchmarking offshore MRT routes has shown that the assumed average speed of the Baseline MRT route optimistic, which impacts on likely patronage.
- Bus Priority Action Plan has confirmed dual spine required to meet bus/MRT capacity targets.
- Draft update to Regional Rail Plan shows that mode shift targets require significant investment in rail to reduce network constraints, and enable service frequencies of 10 min by about 2030
  - This will require more trains to provide the capacity and significant improvements in customer amenities to improve the customer experience and access (in the broad sense) to the rail mass transit system.
- More detailed understanding of constraints around physical constructability and implementability.

Programme Investment Options

Our vision: A great harbour city accessible to all with attractive places, shared streets, and efficient local and regional journeys. To realise our vision we need to move more people with fewer vehicles

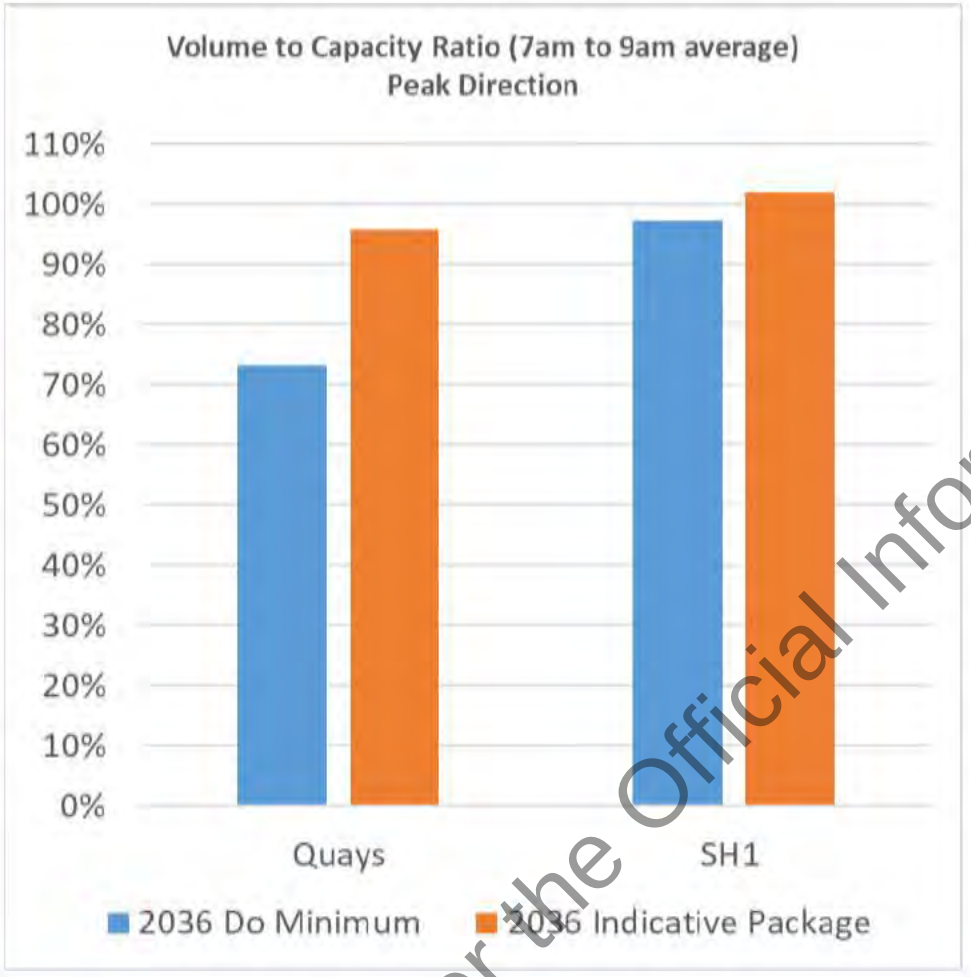
We're working to deliver a transport system that:		Therefore our aim for the IBCs is to develop options that:
LIVEABILITY	Enhances central city liveability	Encourage urban intensification near public transport Improve amenity and accessibility of places and streets for all
ACCESS	Provides more efficient and reliable access for users	Substantially improve public transport capacity & performance Improve reliability of business journeys along key corridors
REDUCED CAR RELIANCE	Reduces reliance on private vehicle travel	Encourage people to use PT & active modes more, and cars less Prioritise people walking, cycling and using PT in the central city
SAFETY	Improves safety for all users	Optimise performance of the transport system, make it safer to use, with lower environmental impact
RESILIENCE	Is adaptable to disruptions and future uncertainty	Increase resilience of corridors to important regional amenities

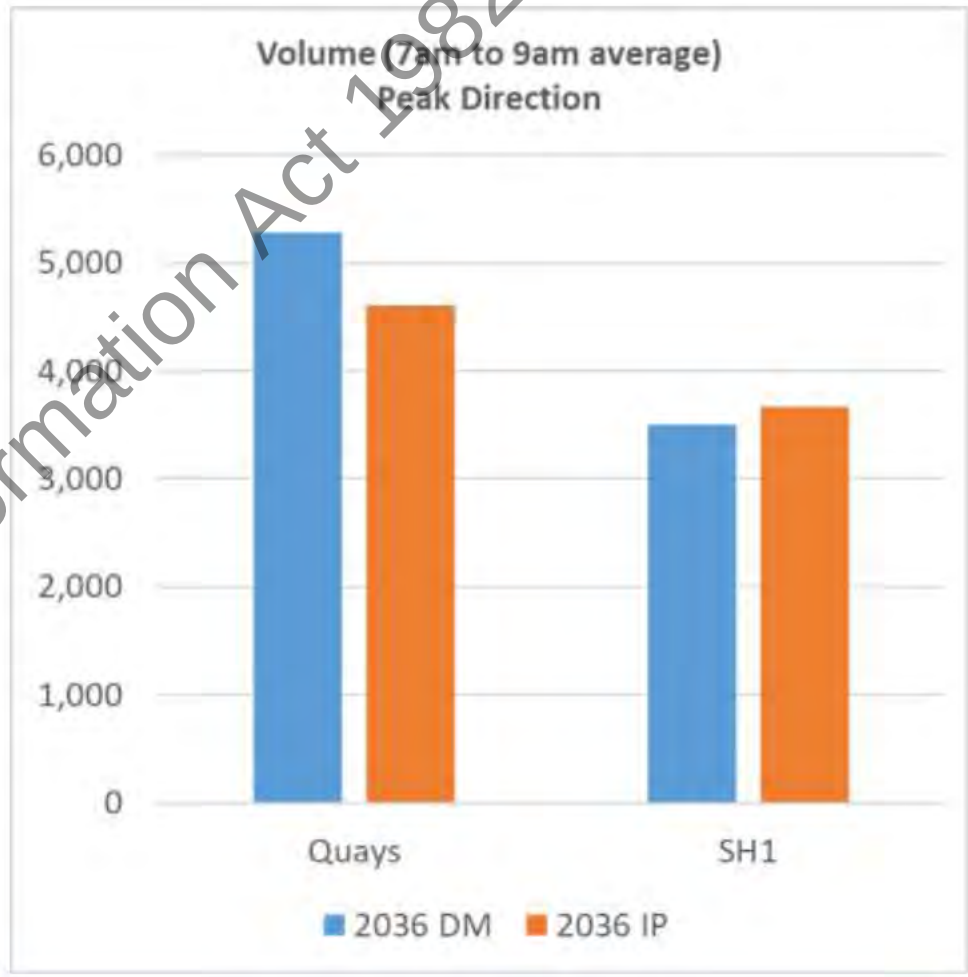
Transport performance questions

Initially, we want to understand how well the options perform from a transport view (indicative results from Strategic Model runs only at this stage)

1. Will a new MRT system will take sufficient trips out of the network to counteract the loss of lane capacity along the Quays?
2. How many trips are removed from the city network due to the investments proposed in the SHI IBC?
3. Do key regional trips see a reduction in total travel time?
4. How effective might a Parking Levy be as a tool on top of other measures to induce mode shift?
5. How effective are the options in reducing conflicts between modes, or between traffic travelling north to south (the dominant direction of travel in Wellington) versus traffic travelling west to east?
6. What is the optimal usage of capacity through a new Mt Victoria tunnel?
7. What is the impact of changes to key assumptions, in particular impact of Covid, population growth changes and other matters relating to the current or future network operation

Volume capacity on Quays & SH1





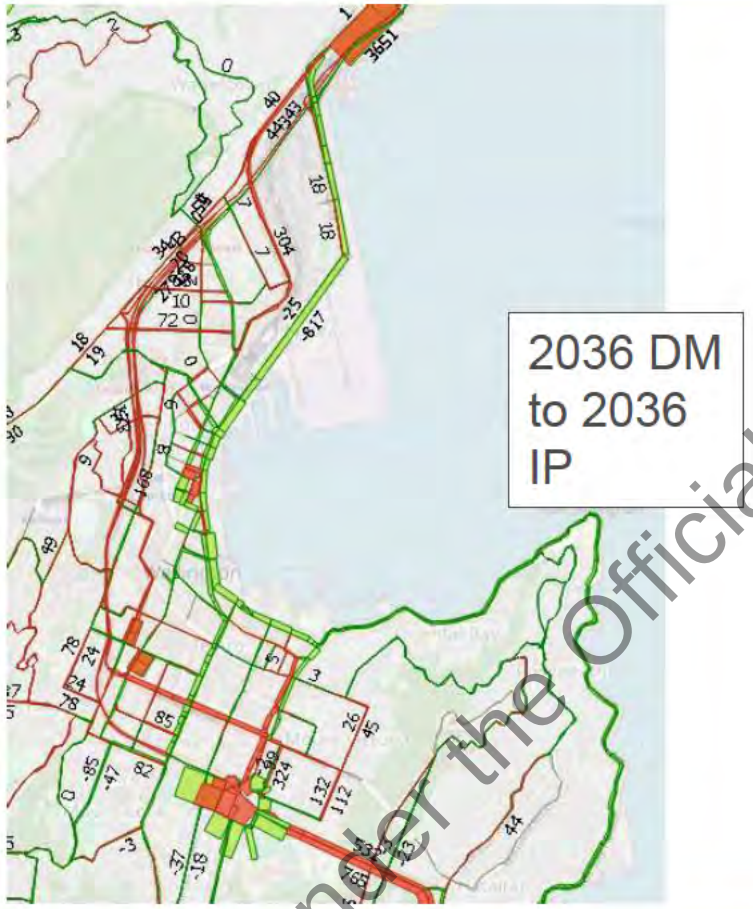
Key points

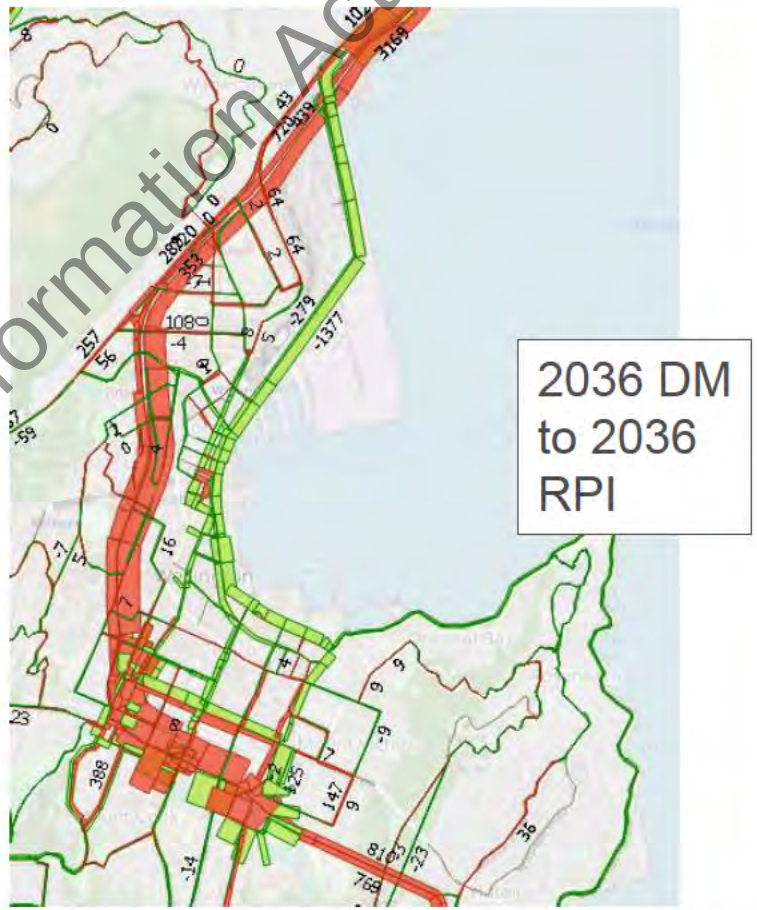
- Reallocation of road-space to MRT & improved pedestrian priority reduces capacity on Quays by 40-50%
- Mode shift to MRT is not enough to mitigate the capacity reduction on the Quays, resulting in the V/C ratio on the Quays rising to over 90%. SH1 V/C ratio remaining around 100%
- Initial indications are that a parking levy would only result in a minor improvement

Indicative Package 2036 Flow Difference – AM Peak 2 hours

Do Min Includes
- City Streets improvements
- Removal of traffic from Golden Mile

IP Includes
- Do Min improvements, plus
- MRT to Airport via Newtown
- MT Victoria Tunnel Duplication
- Basin Reserve improvements



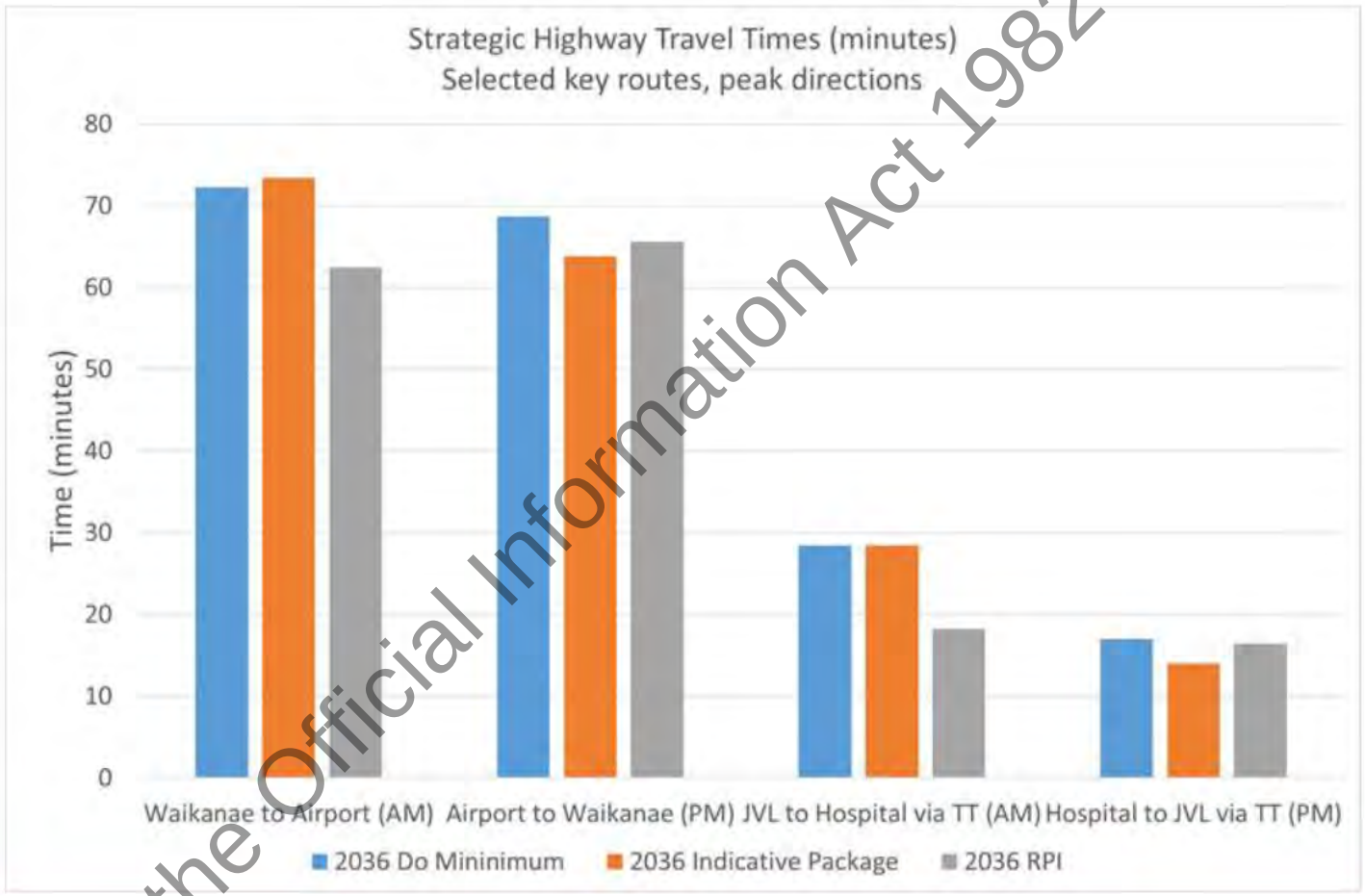


Key points

- Indicative package is significantly less effective at redirecting traffic along state highway

SH1 Travel Times

Key Regional Routes



Key points

- Indicative package provides some benefits in the PM peak
- But, **poorer AM peak travel time from north** – modal shift is counteracted by reduction in capacity on Quays and consequent re-assignment to strategic highway
- NB: RPI provided significant benefit in AM peak, but results in lower modal shift as travelling by car is more attractive with improved travel times

MRT & SHI

Current Position

22 July 2020

Let's GET Wellington MOVING

WAKA KOTAHI NZ TRANSPORT AGENCY

greater WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Absolutely Positively Wellington City Council Me Heke Ki Pōneke

Our Vision for Mass Rapid Transit for Wellington

Deliver a step change

in public transport capacity, quality and performance

to drive mode shift

and support urban intensification.

Scope of the Mass Rapid Transit IBC

- Develop an MRT system that contributes to the wider objectives of the LGWM programme
  - Review the PBC Baseline route as a starting point for business case options development
  - Develop route options and confirm a recommended route(s)
  - Recommend an MRT mode or modes compatible with the recommended routes.
- Demonstrate the viability of MRT with respect to cost, consentability, implementability and risk.
- Demonstrate the interface with the wider transport system and Wellington urban fabric.
- Present a scope and management case for the next steps in the investigation, delivery and staging.
- Provide Project Partners with information needed to inform LTP, RLTP and NLTP processes.

Re-examining the Baseline Route

- The MRT Baseline Route was detailed in the Programme Business Case.
- The 10.2 km route was was presented as two potential stages:
  - Stage 1: Wellington Rail Station to Newtown travelling via the waterfront quays through the CBD, Taranaki Street, Memorial Park, Tasman Street, Adelaide Road and Riddiford Street.
  - Stage 2: Newtown to Wellington Airport travelling via a new tunnel through Mt Albert to Kilbirnie and Miramar.

Baseline Route Observations

Route directness

- The Baseline route adds more than 20% to current bus travel distances.

Operating speed

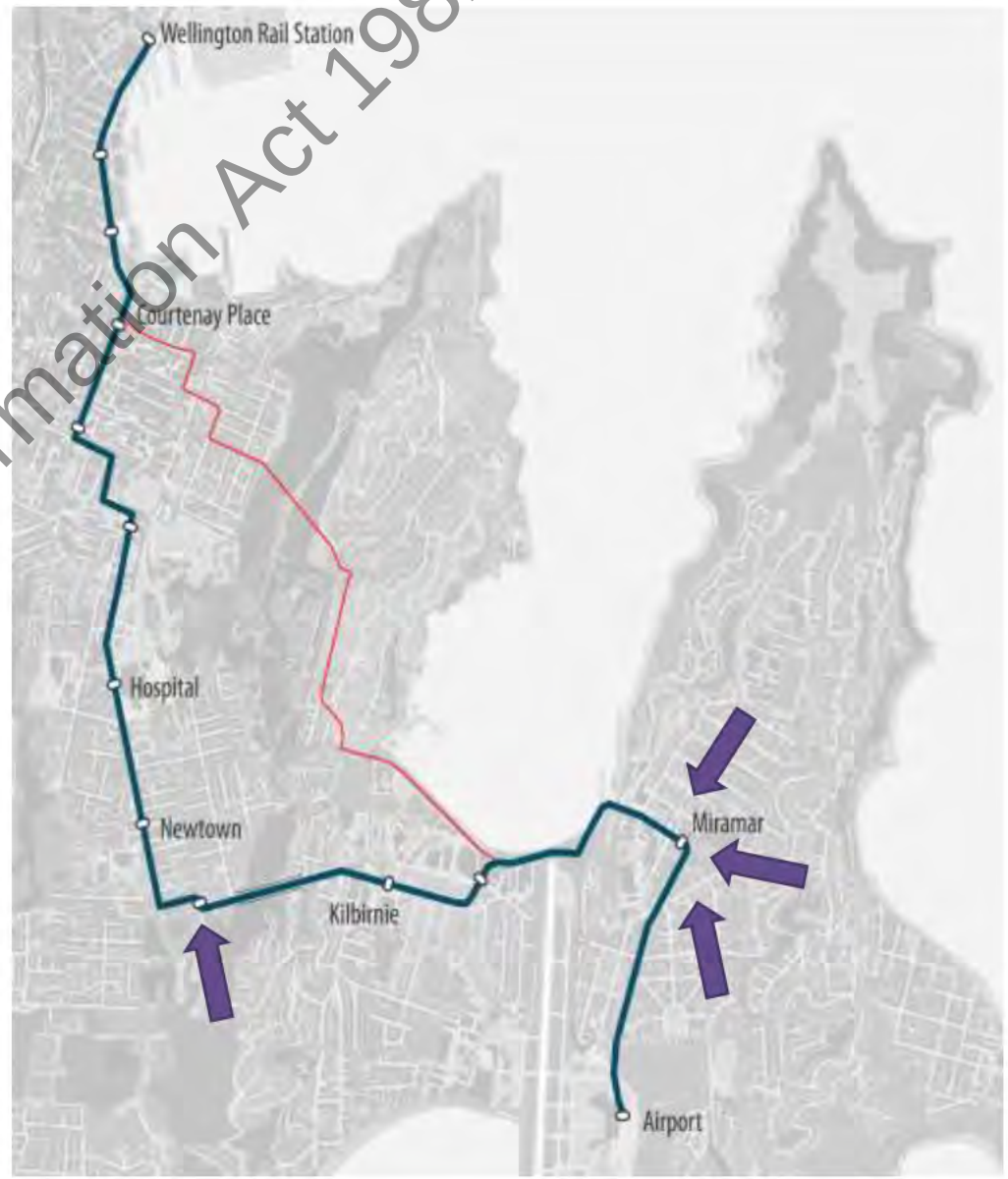
- An operating speed of 30km/h for the service was previously assumed.
- A speed of 17-20 km/h is more likely.

Requirement to transfer

- Baseline route planning assumed more than 50% of customers from Miramar would transfer from local feeder buses.

Ability to deliver network integration benefits

- The Baseline route overlaps several existing, frequent bus routes, but is unlikely to completely replace any of them.

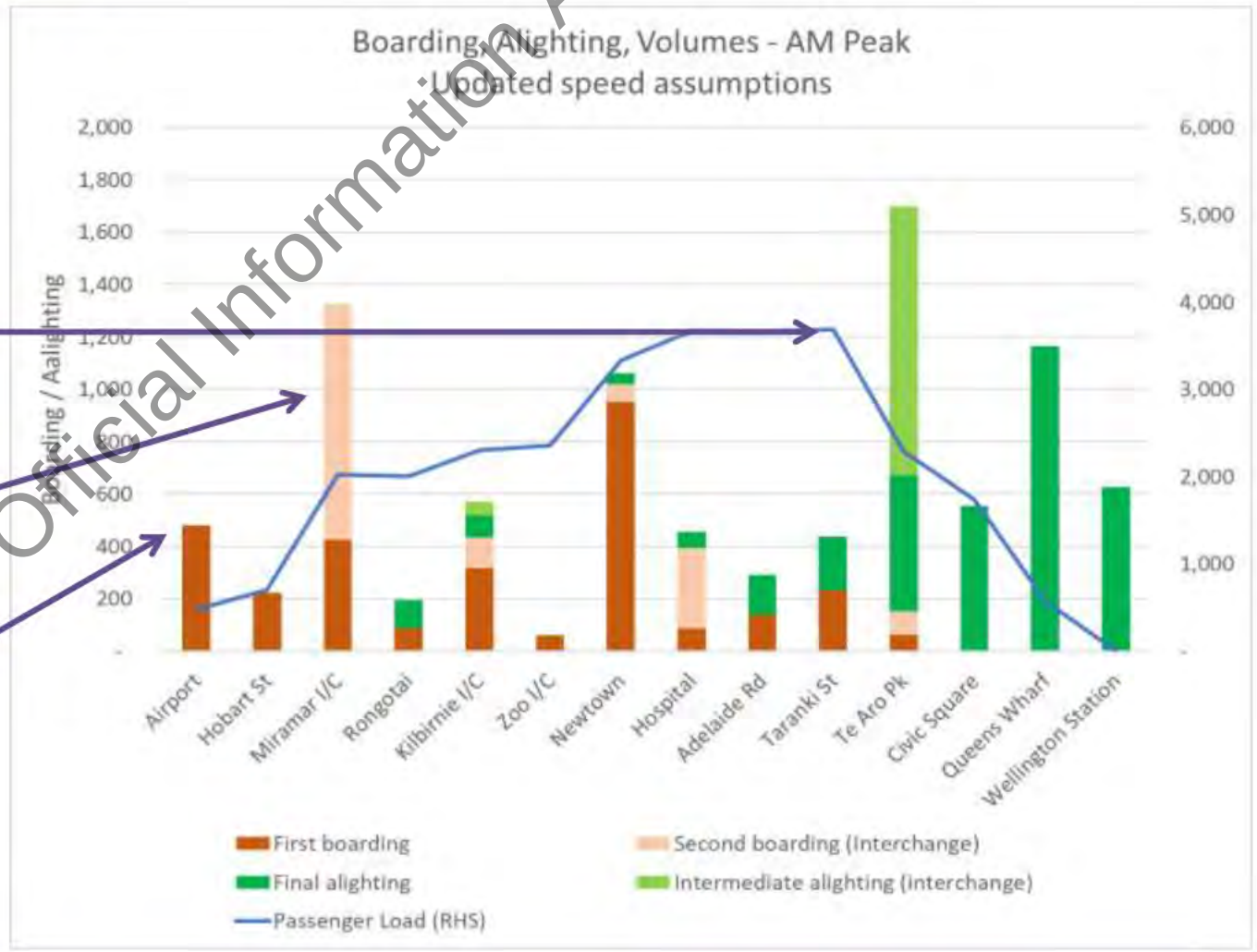


Baseline Route Modelling

Patronage demand forecasting

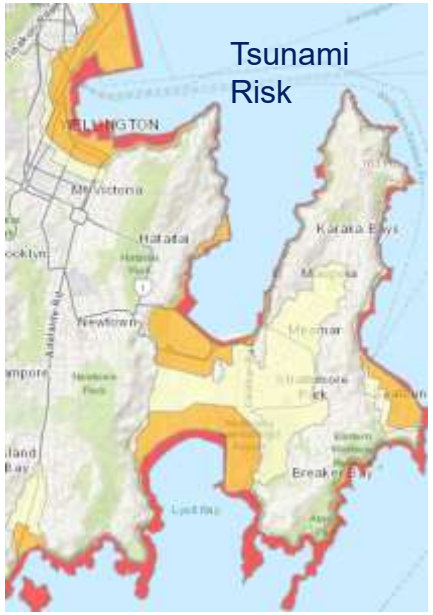
Updated AM Peak modelling of the Baseline route shows:

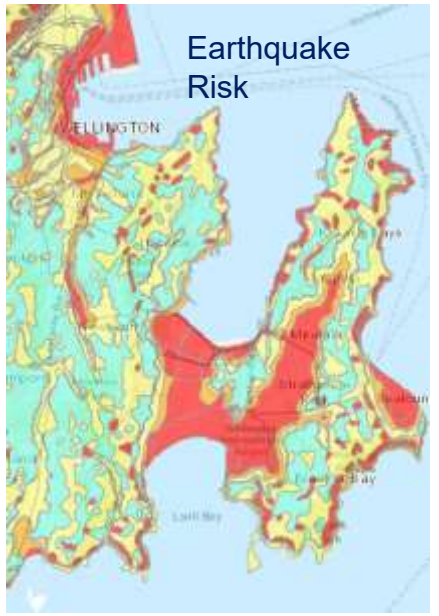
- Peak load of 2,200 pax per hour
- More than 50% of Miramar peninsula customers required to transfer from local feeder services
- 240 pax per hour boarding at the airport



Resilience & Urban Development

- MRT needs to support and encourage urban development along the routes, and around stations.
- Resilience assessment highlights Kilbirnie as a resilience ‘hot spot’ with parts of the suburb potentially subject to ground shaking, liquefaction, flooding, sea level rise and tsunami inundation.
- Other parts of the city also experience these risks, including the Miramar peninsula and waterfront quays.





MRT System Options Development and Assessment

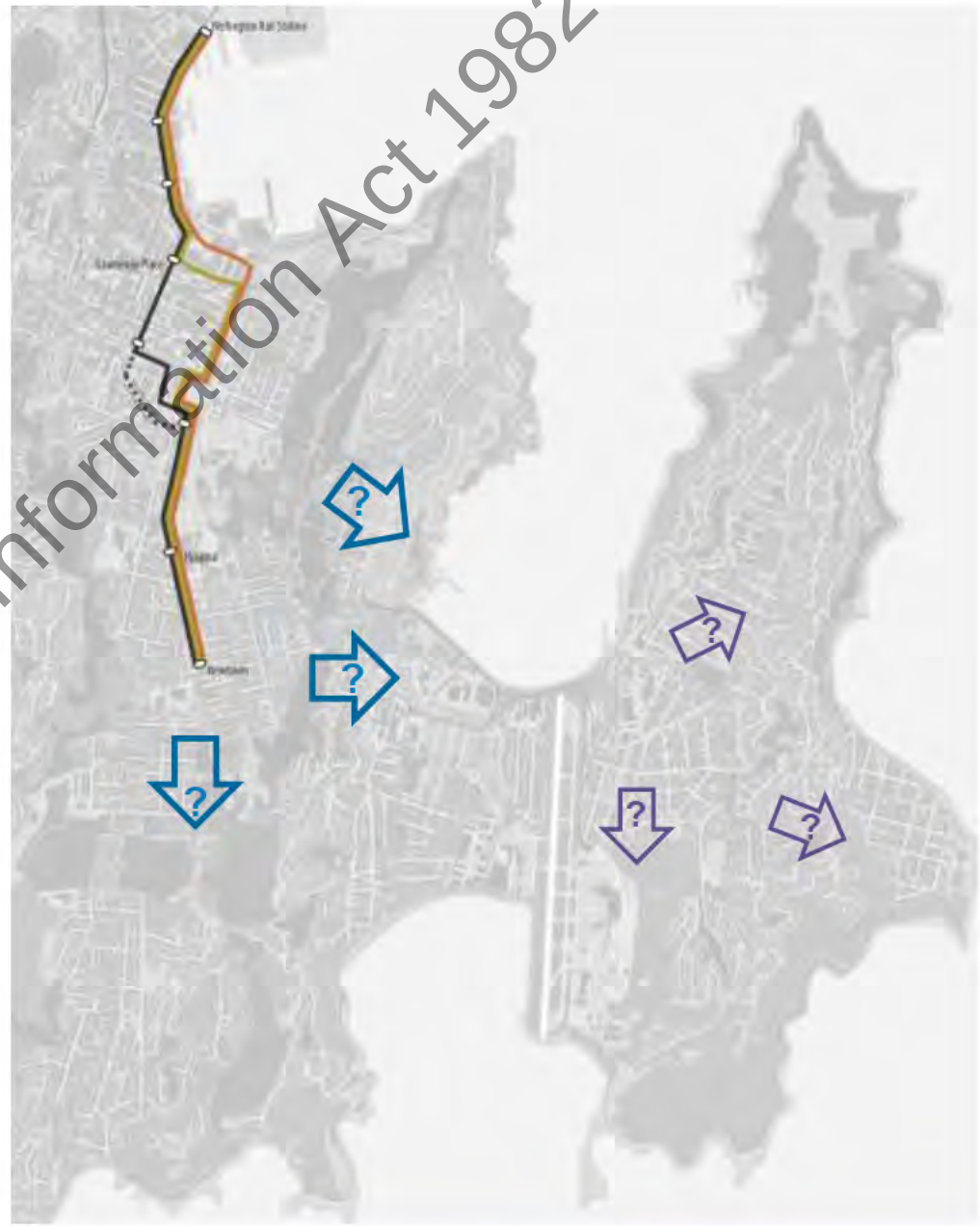
- Mass Rapid Transit is being planned as a system for the whole city.
- Current planning is focused on regionally important destinations as recognised in the Baseline route, in two sections:
  - Section 1 – Core Route: Wellington Railway Station to the Hospital & Newtown
  - Section 2 – Route Extensions: beyond Newtown to the southern and eastern suburbs, including the Airport
- The design of the MRT system will be future-proofed, to enable future extension to the west (Karori) and/or to the northern suburbs if desired at some future date.

Route Options: Core Route

- The ‘Core’ section of the Baseline route was generally well supported by Technical Working Group members.
- It provides a logical and relatively direct connection between the city centre and Newtown, including Wellington Hospital.
- Three options were shortlisted, plus a sub-option to completely avoid the Basin Reserve.
- The Core Route to Newtown was assessed to determine if it could operate as a standalone service. It was found to:
  - be too short to be effective in attracting customers, and
  - would still require most of the bus network to continue to operate.

Route Extension Options

- Options to extend the Core Route were developed to explore:
  - How to connect eastwards towards Miramar.
  - What routes should operate on the Miramar peninsula (single or multiple routes).
  - Other alternative route extensions beyond Newtown.



Route Options: Options to the East, & in the East

Route Options: South from Newtown

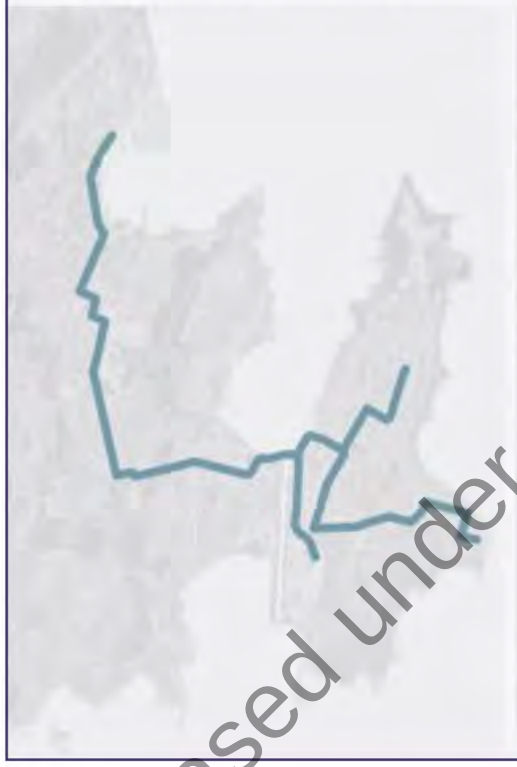
- A route extended to Island Bay would replicate and replace the existing successful bus service.
- The urban footprint is within 500m of the corridor:
  - the entire catchment can be served with a single route
  - urban development can be focused around stations.

Route Options for Assessment

Not taken forward

Option 1: Baseline
East via Mt Albert
Single route in Miramar

Option 2:
East via Mt Albert
Branched route in Miramar



Option 3:
East via Mt Victoria
Single route in Miramar

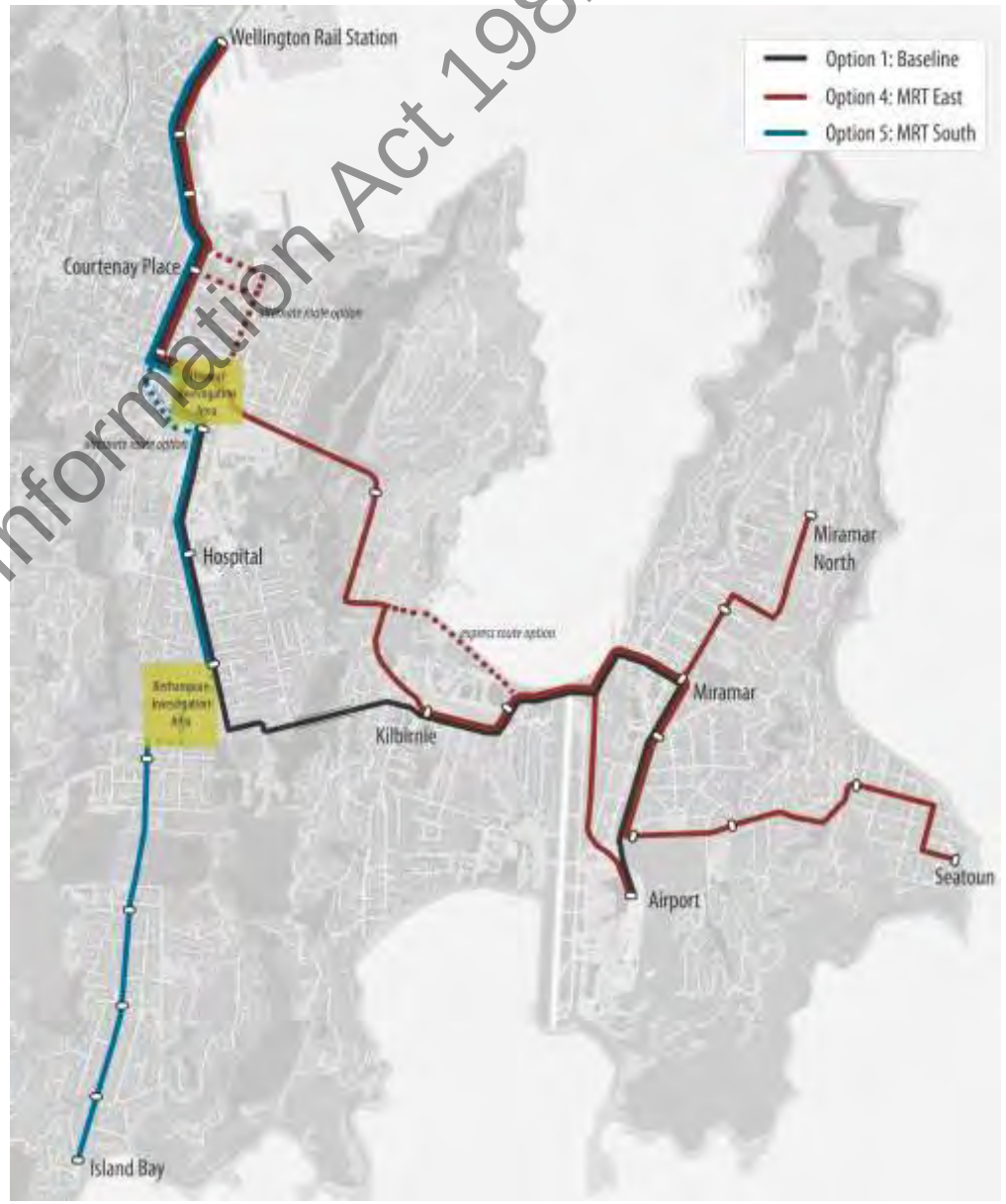
Option 4:
East via Mt Victoria
Branched route in Miramar

Option 5:
South to Island Bay via Berhampore

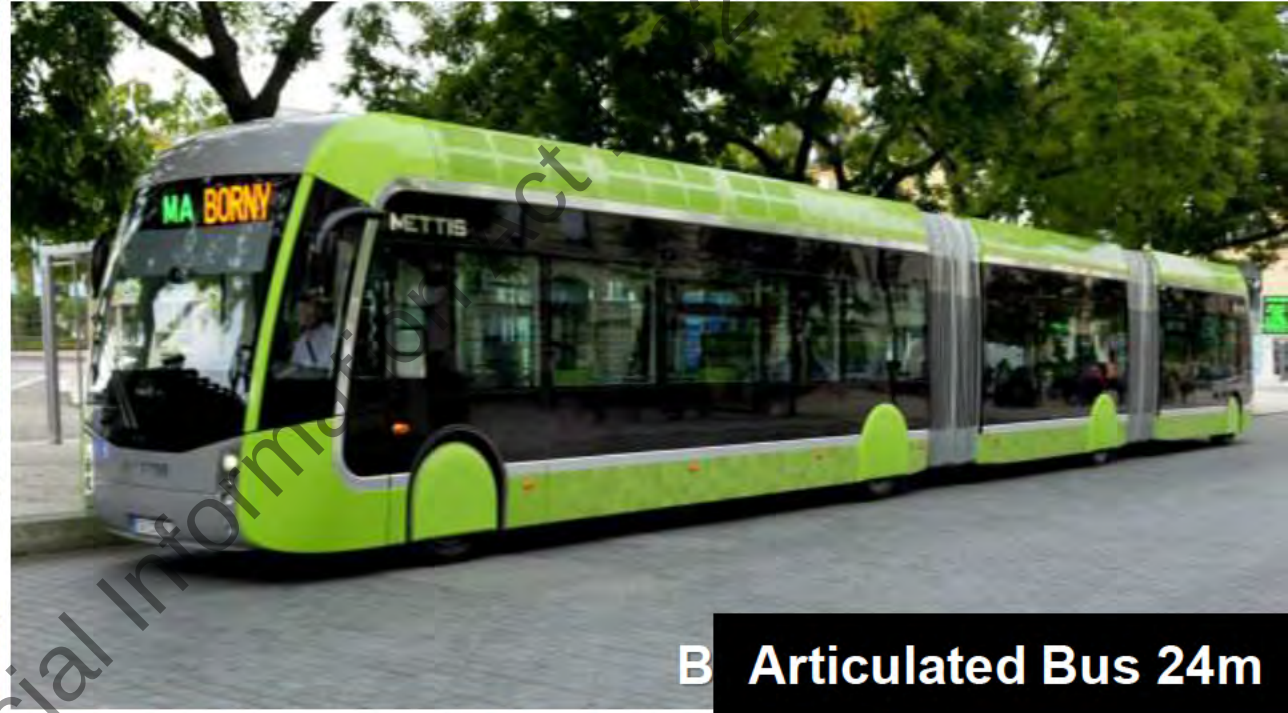
Route Option Short List

The route extension options recommended for further investigation are:

- Option 1: the Baseline route
- Option 4: to Miramar North, Seatoun and the airport, via the Mt Victoria tunnel
- Option 5: to Island Bay via Newtown and Berhampore
- Options 4 & 5: *in combination.*



Articulated Bus 18m



Articulated Bus 24m

ART ‘Trackless Tram’ 32m

Light Rail 33m

Mode Options: service frequency & capacity

Capacity assessment

More reliable ← → Less reliable

~~Not feasible~~

Frequency (veh/hr/direction)	4	5	6	8	12	15	20	30	40	60	120	240
Headway (mins)	15	12	10	7.5	5	4	3	2	1.5	1	0.5	0.25
Cable car	140	175	210	280	420	525	700	1,050	1,400	2,100	4,200	8,400
Bus - rigid	280	350	420	560	840	1,050	1,400	2,100	2,800	4,200	8,400	~~16,800~~
Bus - long rigid	320	400	480	640	960	1,200	1,600	2,400	3,200	4,800	9,600	~~19,200~~
Bus - Double Decker	360	450	540	720	1,080	1,350	1,800	2,700	3,600	5,400	10,800	~~21,600~~
Bus - articulated	480	600	720	960	1,440	1,800	2,400	3,600	4,800	7,200	14,400	~~28,800~~
Light rail - Rigid tram	600	750	900	1,200	1,800	2,250	3,000	4,500	6,000	9,000	~~18,000~~	~~36,000~~
Bus - biarticulated (25m)	700	875	1,050	1,400	2,100	2,625	3,500	5,250	7,000	10,500	21,000	~~42,000~~
Light rail - 3 module (24m)	760	950	1,140	1,520	2,280	2,850	3,800	5,700	7,600	11,400	~~22,800~~	~~45,600~~
Bus - high floor biarticulated (28m)	900	1,125	1,350	1,800	2,700	3,375	4,500	6,750	9,000	13,500	27,000	~~54,000~~
Light rail - 5 module (33m)	960	1,200	1,440	1,920	2,880	3,600	4,800	7,200	9,600	14,400	~~28,800~~	~~57,600~~
Trackless Tram	1,100	1,375	1,650	2,200	3,300	4,125	5,500	8,250	11,000	16,500	~~33,000~~	~~66,000~~
Light rail - 7 module (44m)	1,200	1,500	1,800	2,400	3,600	4,500	6,000	9,000	12,000	18,000	~~36,000~~	~~72,000~~
~~Suspended light metro (3 car)~~	1,200	1,500	1,800	2,400	~~3,600~~	~~4,500~~	~~6,000~~	~~9,000~~	~~12,000~~	~~18,000~~	~~36,000~~	~~72,000~~
Light rail - 10 module (67m)	1,800	2,250	2,700	3,600	5,400	6,750	9,000	13,500	18,000	27,000	~~54,000~~	~~108,000~~
Automated light metro - 2 double cars	2,272	2,840	3,408	4,544	6,816	8,520	11,360	17,040	22,720	~~34,080~~	~~68,160~~	~~136,320~~
Suburban rail (Wellington 6 car)	3,320	4,150	4,980	6,640	9,960	12,450	16,600	24,900	~~33,200~~	~~49,800~~	~~99,600~~	~~199,200~~
Metro rail (Sydney)	4,400	5,500	6,600	8,800	13,200	16,500	22,000	33,000	44,000	~~66,000~~	~~132,000~~	~~264,000~~
Suburban heavy rail (8 car)	5,200	6,500	7,800	10,400	15,600	19,500	26,000	39,000	~~52,000~~	~~78,000~~	~~156,000~~	~~312,000~~

Frequency 'sweet spot'
(a service every 3 - 10 mins)

Let's GET Wellington MOVING

SHI - Overview of Study Areas

1
Ngauranga to Terrace Tunnel

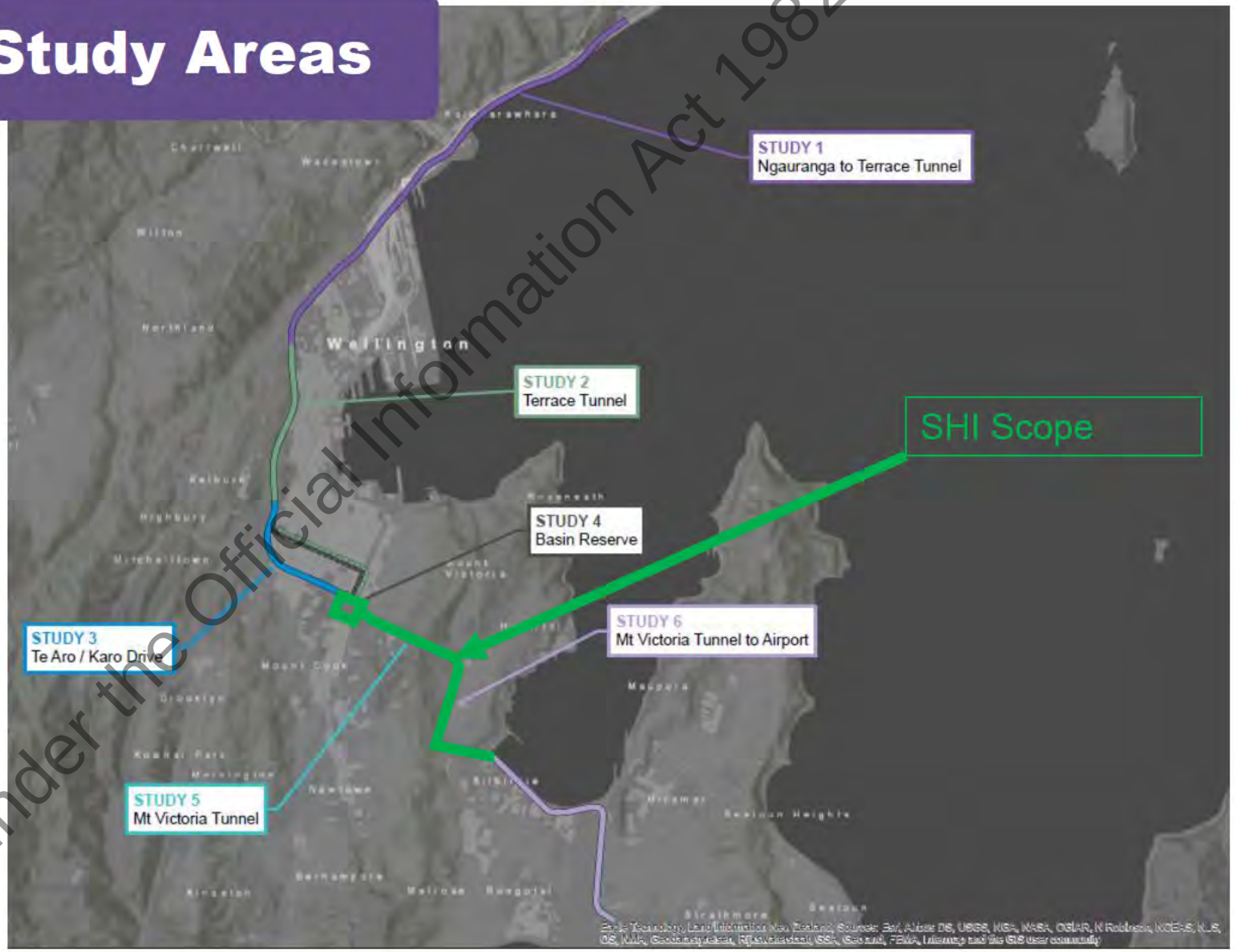
2
Terrace Tunnel

3
Te Aro/Karo Drive

4
Basin Reserve

5
Mt Vic Tunnel

6
Mt Vic Tunnel to Airport



SHI Scope – Draft Vision

People and goods are moved locally and regionally to, from, and through Wellington using an efficient strategic corridor that enables a city of attractive streets and places.

THE FOLLOWING ARE DESIRED OUTCOMES FOR SUCCESS:

DIRECTIVE NETWORK

Directs freight and high volume vehicle movements to a corridor that frees up more city streets to become attractive places to spend time.

ACCESSIBLE CITY

Enables people to move by public transport and active modes safely into and around the city by multiple attractive access points.

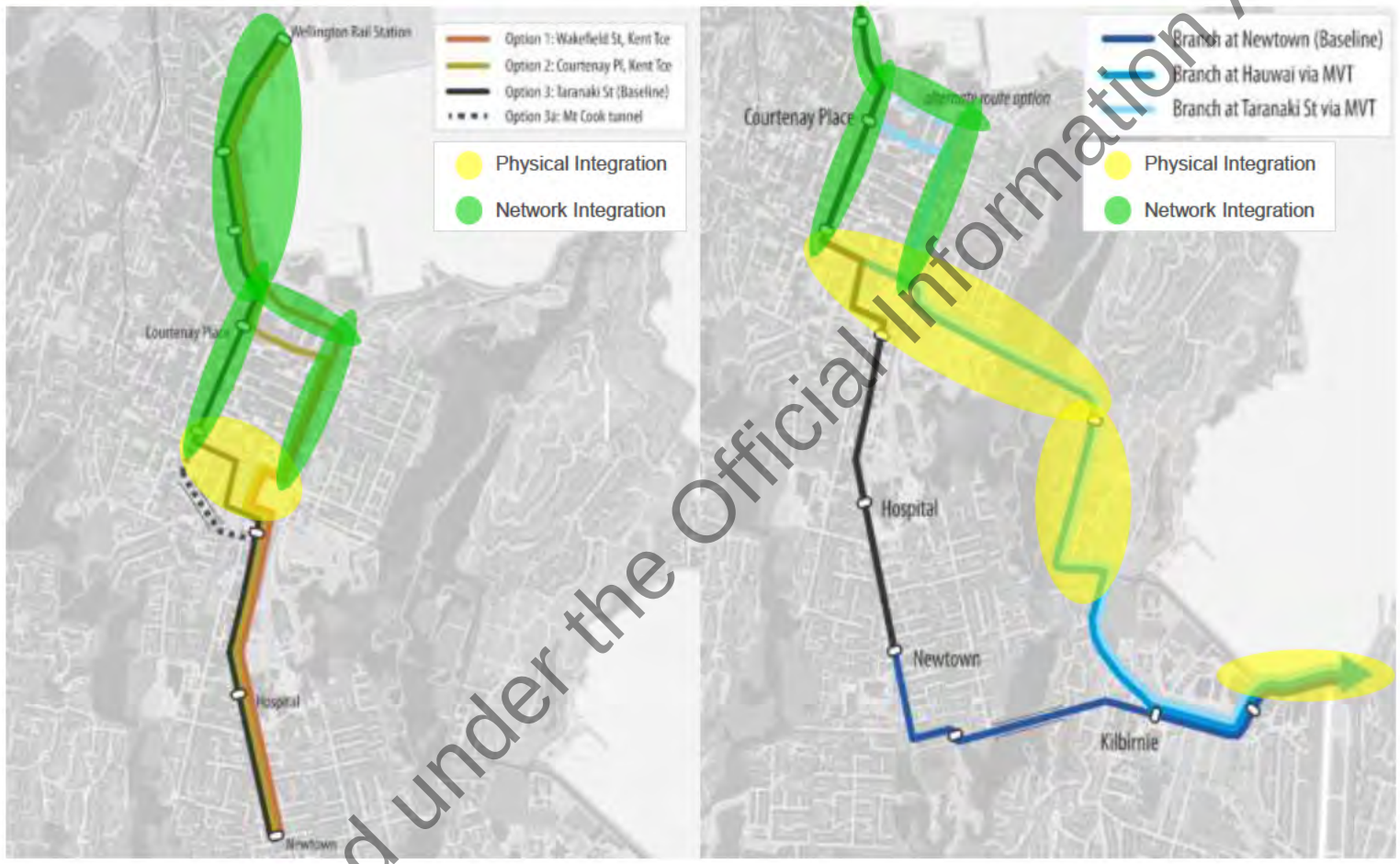
FOR PEOPLE + PLACE

Responds innovatively and positively to the city's different characteristics and cultural values.

ENABLING OF GROWTH

Enables opportunities for growth in the city supported by Mass Rapid Transit and active modes.

MRT Integration



9(2)(b)(ii), 9(2)(j)

Basin Reserve – Grade Separation

Grade Separated Arras Tunnel Extension options:

1. Effectively one road network solution.
2. Provides variable amenity, landscaping, and development opportunities.
3. Flexible to accommodate MRT options.
4. Flexible to interface with existing (Vivian St and Kent Tce) and potential future (Te Aro) southbound State Highway alignments.
5. Similar to PBC option.

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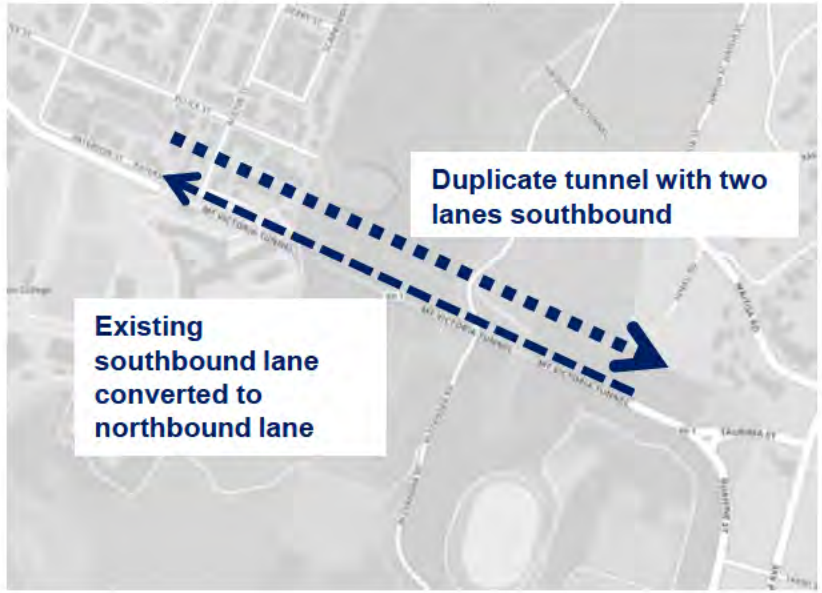
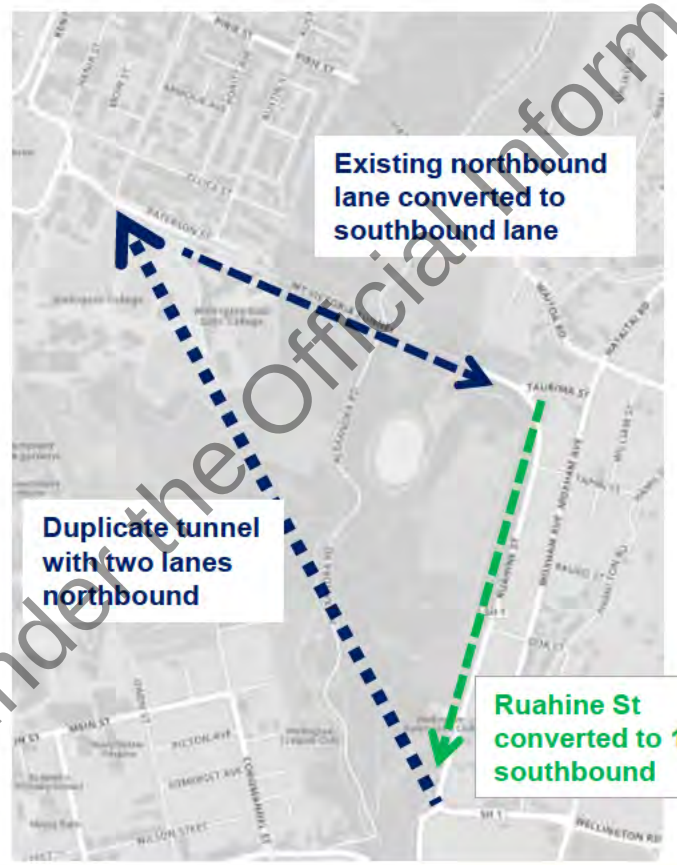
Mt Victoria Tunnel

Range of options considered short-listed to three options.

Option 1



Option 2

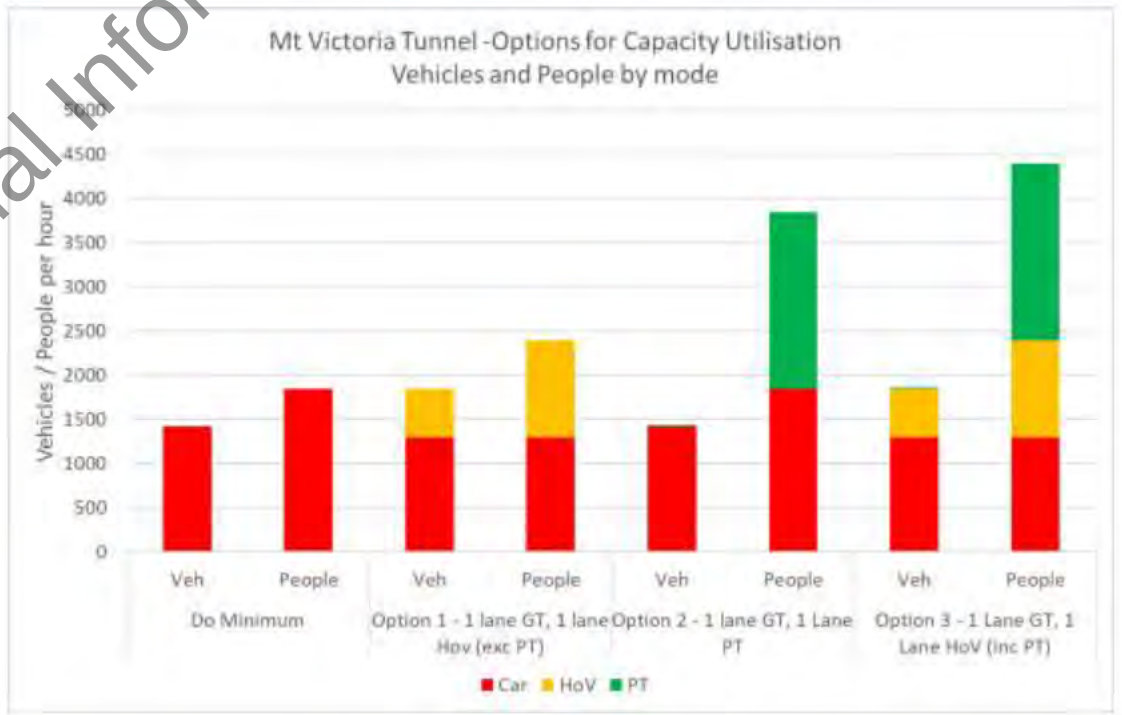


Option 3

Extra Mt Victoria Tunnel – capacity utilisation

Key points

1. Mt Victoria Tunnel future capacity could be allocated to a mix of cars and PT, potentially with MRT
2. Option 3 - a dedicated HoV lane including PT could still provide a reliable level of service for HoV (V/C ratio of 38%) and also result in a small improvement in travel time reliability for general traffic
3. **Option 3 makes best use of additional tunnel capacity across modes, including HOV**



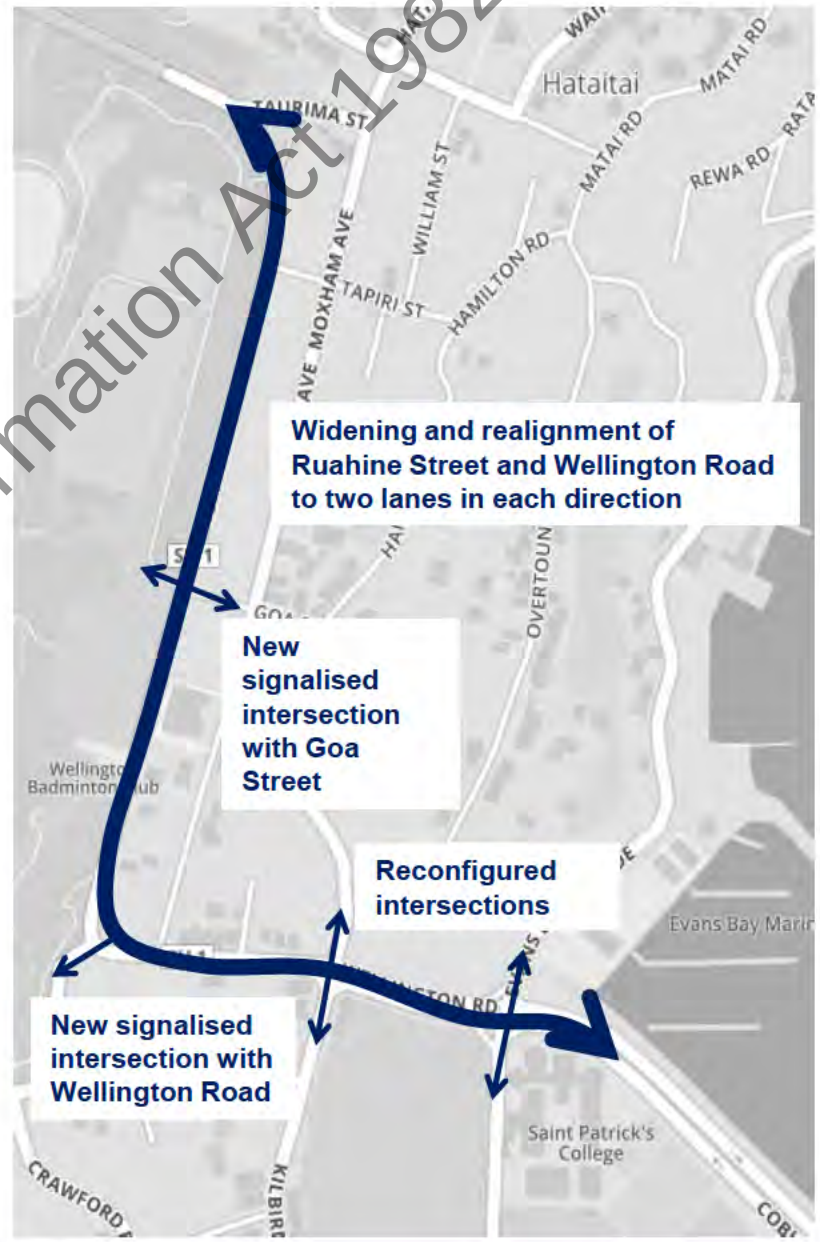
Mt Victoria Tunnel to Airport

Ruahine Street and Wellington Road widened.

4 lanes total:

- 1 lane each direction for general traffic
- 1 lane each direction for HOV (PT, Taxis, cars with 2/3 passengers) lane.

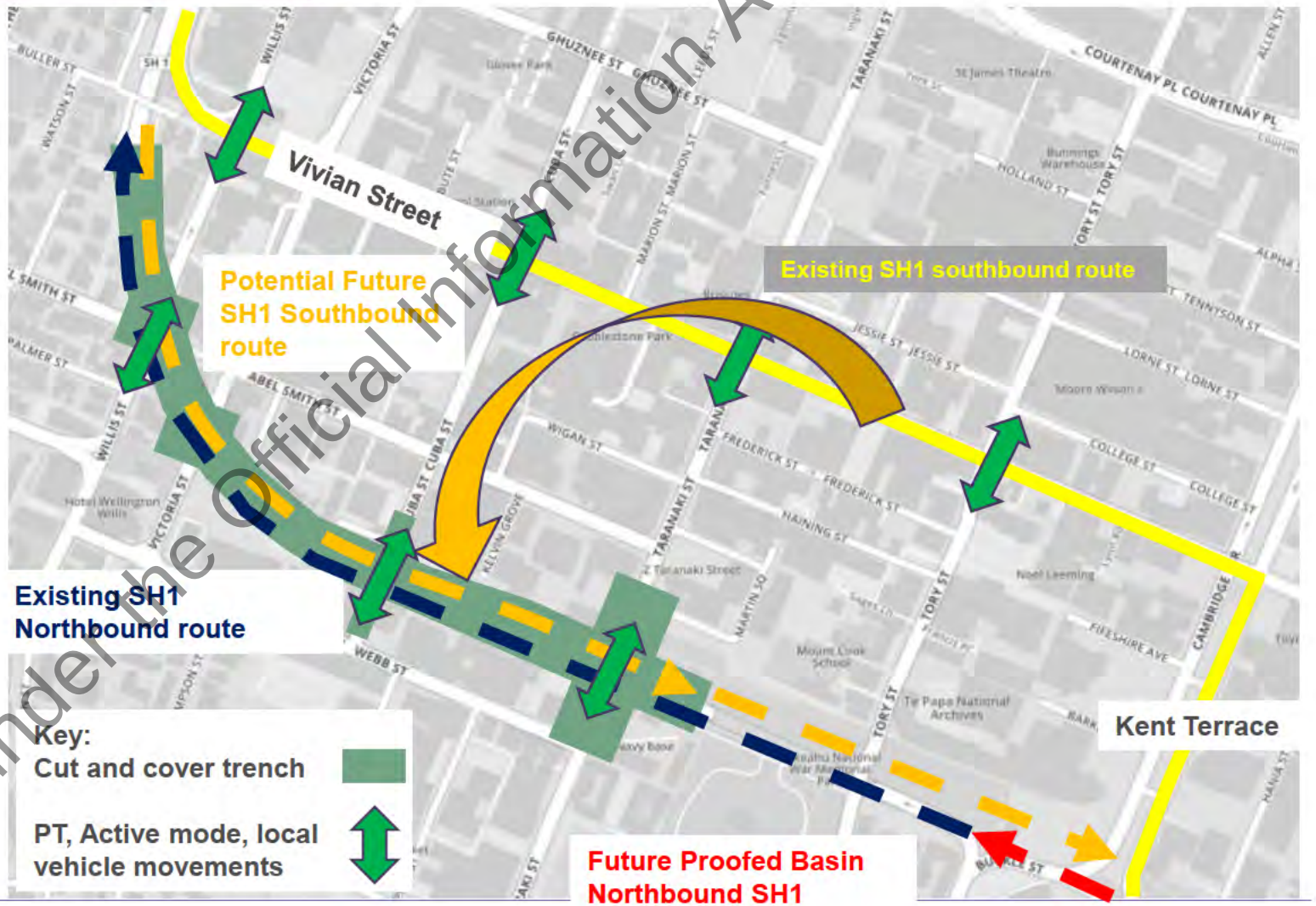
Modelling required to confirm effectiveness and outcomes achieved, including MRT.



State Highway Alignment

Indicative Package

- retains SH on existing Vivian Street
- reduced safety, active mode, PT outcomes.



Long Tunnel

Corridor Packages

Option Number	Option
1	**Low intervention** An extra Mt Victoria Tunnel (parallel) with Basin at Grade and Te Aro at grade improvements
2	**Indicative Package** Basin grade separation and an extra Mt Victoria Tunnel (parallel)
3	**Indicative Package Plus** Basin grade separation and an Mt Victoria Tunnel (parallel) plus Te Aro at grade improvements
3A	Option 3 above except uses **Mt Vic Tunnel variant**
	Outside of scope of Indicative Package
4	**High impact intervention** PBC equivalent including Basin Reserve grade separation, an extra Mt Vic Tunnel (parallel), Te Aro cut and cover tunnel with park above, Terrace Tunnel duplication, and extra southbound lane Ngauranga to Aotea
5	**Long tunnel** Long tunnel from north of the Terrace Tunnel to the intersection of Wellington Road and Ruahine Street with above ground improvements along existing State Highway to transfer to local road use

Summarise findings and next steps

Summarising the findings to date

Overall

- Stronger than forecast growth in the north (already the highest volume corridor).
- Airport (at least in the short-medium term) less of a demand driver.
- Planning for Growth likely to be less positive about intensification through Kilbirnie and Miramar.
- Indicative Package does not contribute as strongly to achieving LGWM objectives as the Recommended Programme of Investment:
  - little improvement for regional journeys from the north, combined with reduction in capacity on Quays
  - less effective in attracting trips onto the state highway
  - less effective in reducing average congestion around the central city area.

Summarising the findings to date

Mass Rapid Transit

- MRT from Miramar peninsula potentially significantly slower than existing bus services for some customers.
- Requirement for large proportion of customers to transfer from local feeder buses to the MRT service.
- Significant intensification would need to be assumed to deliver required level of economic benefits.
- Options emerging:
  - railway station to Airport – route from PBC, or variation along Kent/Cambridge, with significant intensification along the route
  - route that splits at/around Basin – one through Newtown, one to airport with variations potentially extending coverage to wider Miramar Peninsula
  - as above, but extension from Newtown through Berhampore to Island Bay.
- Trade-offs to be worked through:
  - high quality single route, aim to heavily intensify along that route
  - or a wider 'network' of routes, with a lower cost (BRT) technology – still intensification but less concentrated.

Summarising the findings to date

Strategic Highways

- There are physical workable options for the Basin Reserve and additional Mt Victoria Tunnel, including at-grade options (with lower benefits) at the Basin.
- The performance of these options are still required to be assessed to confirm if they achieve the LGWM outcomes sought, and detailed modelling is now underway.
- The options can be physically integrated with different MRT options. MRT and road network performance are still to be confirmed.
- The options are 'future-proofed' to respond to possible future upgrades (particularly through Te Aro).
- Improvements at the Basin and Mt Victoria Tunnel benefit those travelling to/from the South and East, but provide limited improvements to those travelling from the north
- Retaining the existing SH1 alignment on Vivian Street and Kent Terrace does not improve PT or active mode safety and efficiency outcomes for the high number of north and south conflicts across SH1.

QUESTIONS/DISCUSSION

Options – Mass Rapid Transit

Does the Board support the recommended MRT options to proceed to the next stage?

- Core route – variants along Taranaki, Courtenay, Kent and Cambridge.
- Extension Option 1: the Baseline route .
- Extension Option 4: to Miramar North, Seatoun and the Airport, via the Mt Victoria tunnel.
- Extension Option 5: to Island Bay via the Hospital, Newtown and Berhampore.
- Plus Options 4 & 5: in combination.

QUESTIONS/DISCUSSION

Options – Strategic Highways

Does the Board support the recommended SHI options to proceed to the next stage?

- Basin Reserve at grade and grade separated options with MRT and future proofing variants.
- Mt Victoria Tunnel Duplication options – parallel and alternative vehicle options and pedestrian only option.
- Does the Board have any views on the long tunnel to inform further consideration?
- How do we manage the findings that the funded package will have few benefits for regional journeys from the north?
- What mandate does Let's Get Wellington Moving have to investigate further?

QUESTIONS/DISCUSSION

Partner/Political

When/how do we discuss these initial findings with wider partner/political leaders?

- Governance Reference Group (next meeting 3 August).
- Presentations to Councils (joint session 25 August).
- Presentation to NZTA Board (not currently planned).
- Briefing for Minister (asked for briefing tomorrow).

Can we share the ‘work in progress’? Or do we need to take clear recommendations for next steps in the programme?

The Minister may want to make an announcement prior to the election? What are the options?

QUESTIONS/DISCUSSION

Work Programme

Does the Board agree that we need to develop an overall updated (integrated) Programme Case to pull all IBC work together?

Subject to the above, does that Board agree that the updated Programme Case needs to include:

- updated description of overall contribution to wider programme objectives
- updated programme level economics, environmental outcomes
- impact analysis – showing benefits to different parts of the region, different user groups, case studies
- land use/development options and outcomes.

What further work needs to be done to better inform the options?

What further information would the Board like to see?

What further information are our Governors going to want to see?

QUESTIONS/DISCUSSION

Affordability

Do we need to consider affordability (overall programme, individual projects) earlier than currently planned?

Should we examine a lower-cost, transitional option for MRT, more akin to City Streets/bus priority?

Communications and Engagement

What is the Board's view on how we best balance speed/momentum and the perception of progress with the need to win hearts and minds?

What are the implications (if any) of this view for our engagement timeframe, and how do we manage those implications?

Extra Slides - additional material for context

9(2)(b)(ii), 9(2)(j)

9(2)(b)(ii), 9(2)(j)

9(2)(b)(ii), 9(2)(j)

9(2)(b)(ii), 9(2)(j)

Development concept plans

Exploration of the potential for urban renewal that may be triggered by MRT

- Increased intensification, planning for growth and for place
- Investment in MRT requires a critical mass of people working or living within proximity of the route to support the use of it and contribute to the benefits

Development concept plans overview

Stage 1 – Context analysis
- What is there now?
- What are the constraints?
- What are the opportunities and where are the areas of change?

Stage 2A – Future Directions
Identifying high-level developmental scenarios based on:
- theoretical capacity under District Plan
- Spatial plan assumptions
- High growth (increased density around stations).

Stage 2B – Reality Check
- Market assessment.
- Populations take up rate.
- Infrastructure capacity.
- Spatial Plan directions.

Stage 2C – Place Making
- Prepare conceptual plans for areas of change.
- Identification of lighthouse development sites.

Stage 2D – Ground Truthing
- Feasibility of lighthouse development sites.
- Identification of planning control amendments and other mechanisms to achieve outcome.

9(2)(b)(ii), 9(2)(j)

9(2)(b)(ii), 9(2)(j)

9(2)(b)(ii), 9(2)(j)

What changes since 2018? Buses

Changes to the bus system

- In July 2018 major changes were made to Wellington's bus transport network. Since then we have gone back to the community to ask customers what could be improved. Feedback has been used to inform an Action Plan adopted by GW in December 2019 that includes short term actions to be implemented in 2020 and 2021:
  - Remove forced transfers – removing the need to hub to reach the city
  - Improve shoulder peak capacity
  - Improve peak capacity
  - Provide additional direct services to University and Hospital to minimise the need to transfer.

Bus Fleet and Capacity

- Contracts are now in place to accelerate the electrification of public transport with 98 additional electric buses by 2023
- Metlink currently has 450 buses in its active fleet in the Wellington region 10 of which are EVs, making up two percent of the fleet. Once the 98 buses are added to the fleet the proportion of EVs will rise to 22 per cent which is high by international standards.
  - 73 buses will be used on current scheduled services
  - 25 buses will be to accommodate growth
- Strong patronage growth prior to Covid-19 lockdown was being experienced on the Wellington bus network (5.1% as at February 2020). A lack of drivers and buses lead to many peak services operating at capacity. Covid-19 has brought a temporary reprieve with current bus patronage around 80-90% of pre Covid levels.
- Delivery of new buses will enable the staged introduction of additional peak bus capacity from mid-2021 to early 2023 to address pre-Covid-19 capacity deficits and accommodate growth as demand recovers to and exceeds pre Covid-19 levels.

What changes since 2018? Trains

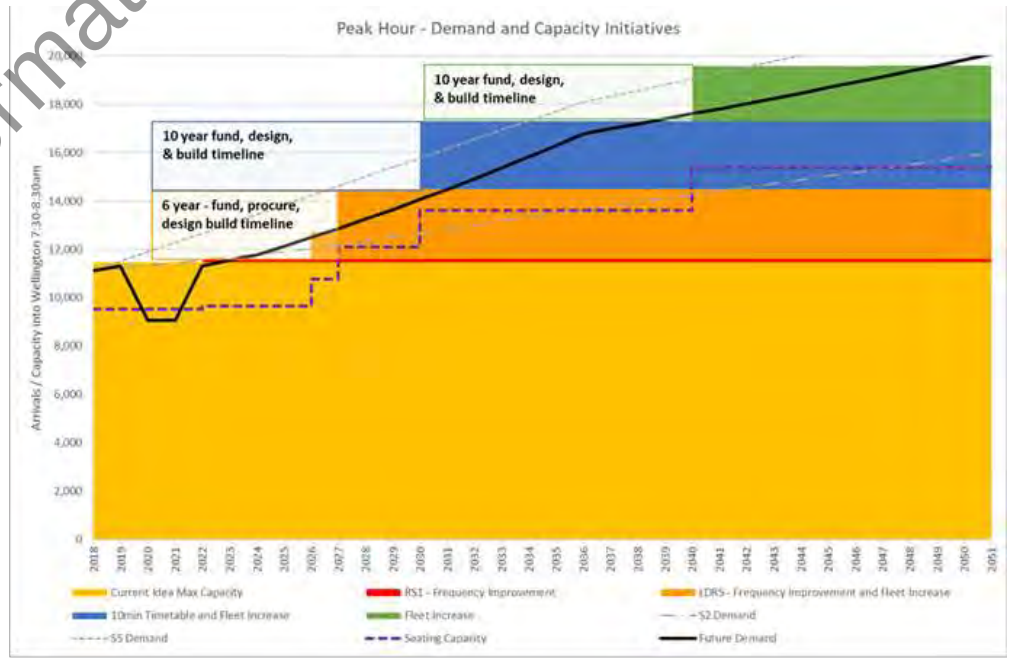
Changes to the train system

- At the start of 2018, rail was having significant issues with staff and train availability – these issues have now been fully resolved – hence improvement in service reliability and capacity, and customer satisfaction again.
- We have continued to increase park & ride capacity across the network, with sizable extensions at Porirua, Paremata and Waterloo.
- Pre Covid-19, we were continuing to experience significant growth (particularly during the peak), which was putting pressure on capacity. As with bus, Covid is likely to give us a short term breathing space to deliver capacity improvements, but we expect we will rebound pretty quickly to the prior growth trajectory.
- A number of KR Network Infrastructure Investment packages are continuing:
  - Renewal of the remaining life expired Overhead Line System (poles, and wires) – Hutt Line, Wellington Station, and a part of Johnsonville Line.
  - Catch Up renewal of Track Infrastructure – largely on the Wairarapa Line, but also in a number of tunnels, bridge renewals, and slope stability works.
  - Unlocking Network Capacity – through the double tracking of Trentham to Upper Hutt – expected completion early 2021, and improved turnback facilities at Plimmerton – expected completion early 2023. – the end result will be an increased peak frequency service, which will encourage peak spreading of patronage. (Note will not actually increase capacity a significant amount as we are already using all the trains we have).
- We have also got provisional funding to:
  - replace signalling system at Wellington
  - implement network improvements, to enable increase service frequency for the Wairarapa Service – assuming we get new trains.

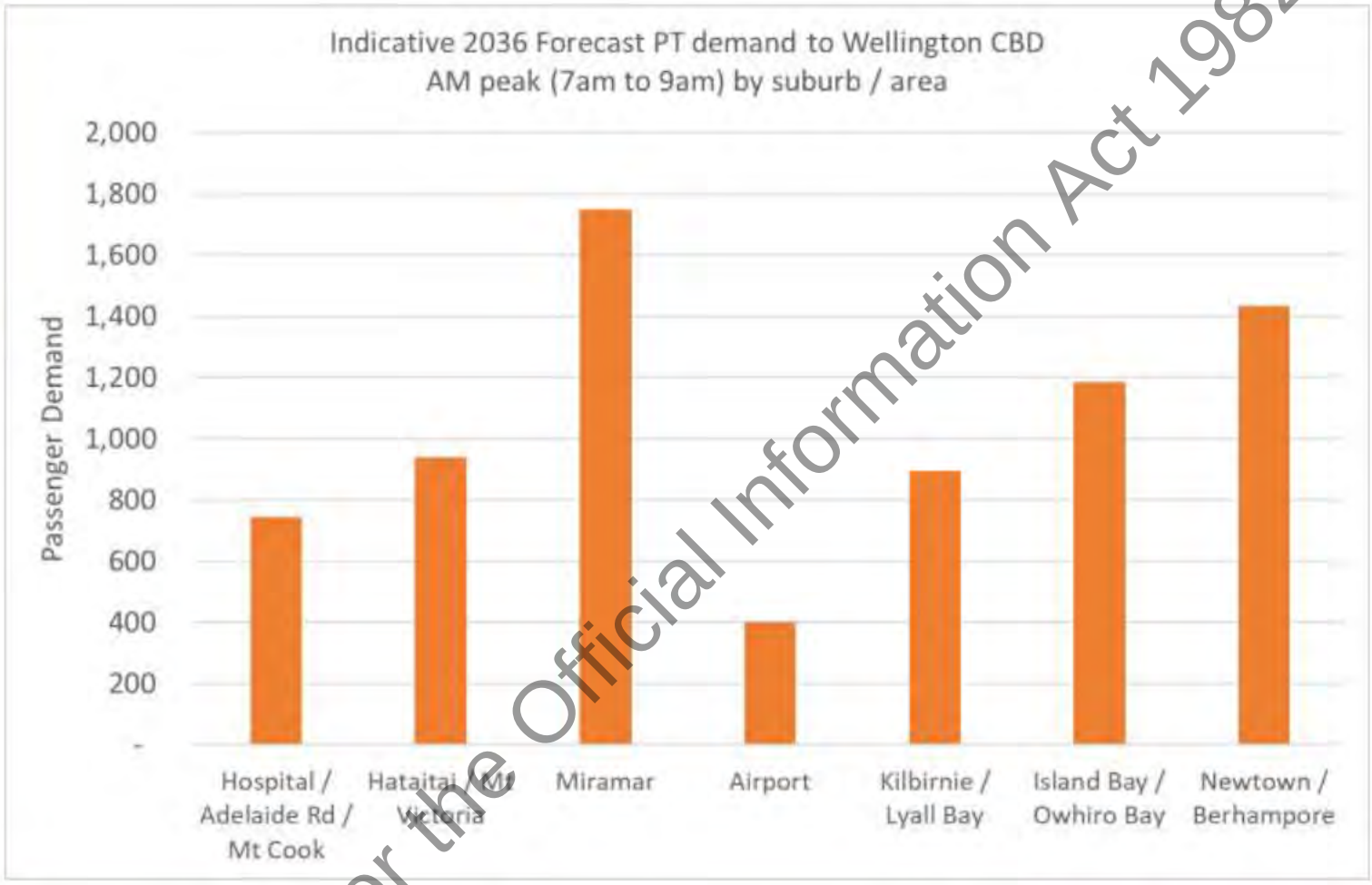
What changes since 2018? Trains

Detailed Business Case underway + Regional Rail Plan update

- DBC to purchase rolling stock to operate on our longer distance services between Wellington and Masterton /Palmerston North. We are looking at low carbon solutions, and looking to ensure we meet the required frequency of services and capacity for the future. This purchase of trains will also provide a significant uplift in capacity for the current electrified network.
- We are also revising the Regional Rail Plan – which is our 30 year strategic direction / investment pathway.
- To meet the level of mode shift that is anticipate as part of the Let's Get Wellington Moving project, we are seeing that significant investment in rail is required to:
  - further reduce network constraints, and enable service frequencies of 10min by about 2030
  - more trains to provide the capacity
  - significant improvements in customer amenities to improve the customer experience and access (in the broad sense) to the Rail Mass Transit System.



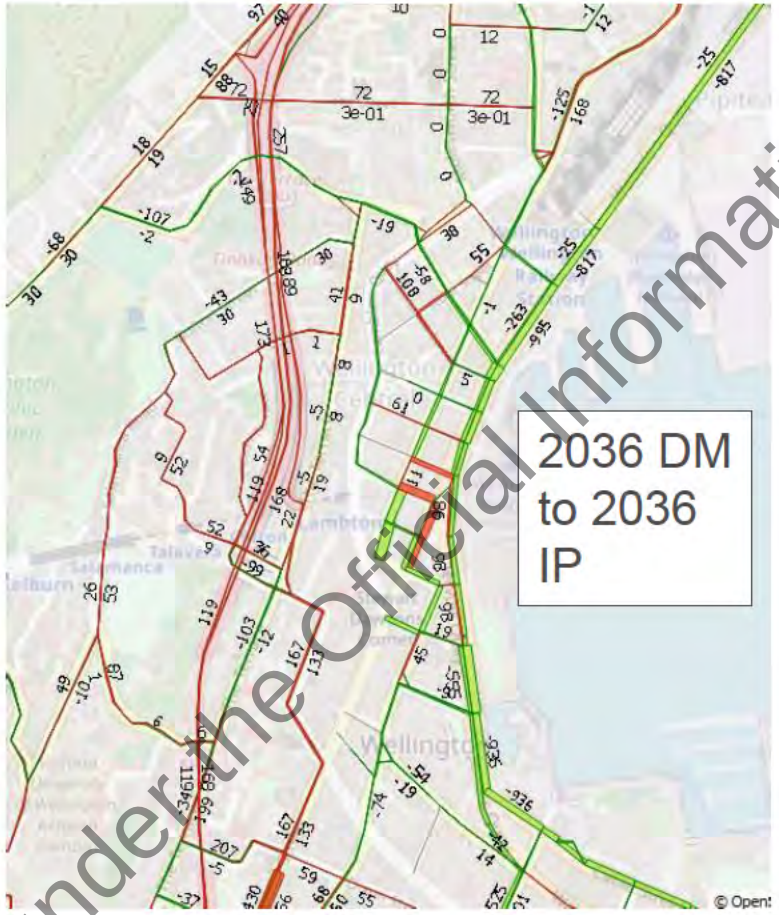
2036 PT Demand

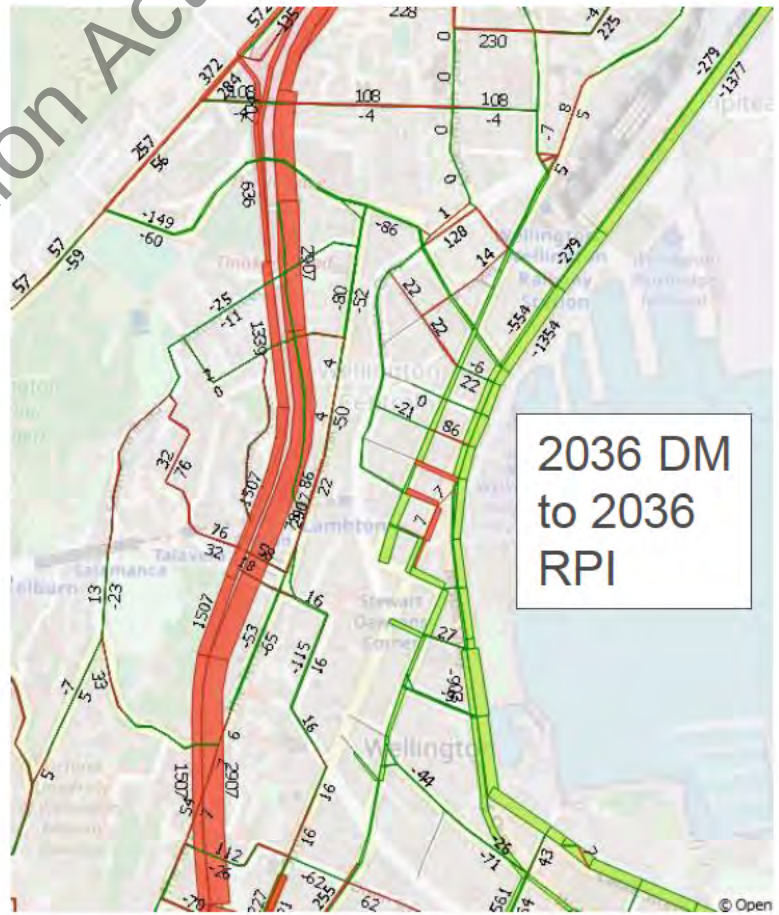


Key points

- Peak demand of 1700 pax from Miramar to CBD
- Island Bay (1,200) and Newtown / Berhampore (1,400) have demand over 1,000
- Airport (400) dependent on rebound in air pax and assumes 25% PT mode share of trips

2036 Flow Difference – AM Peak

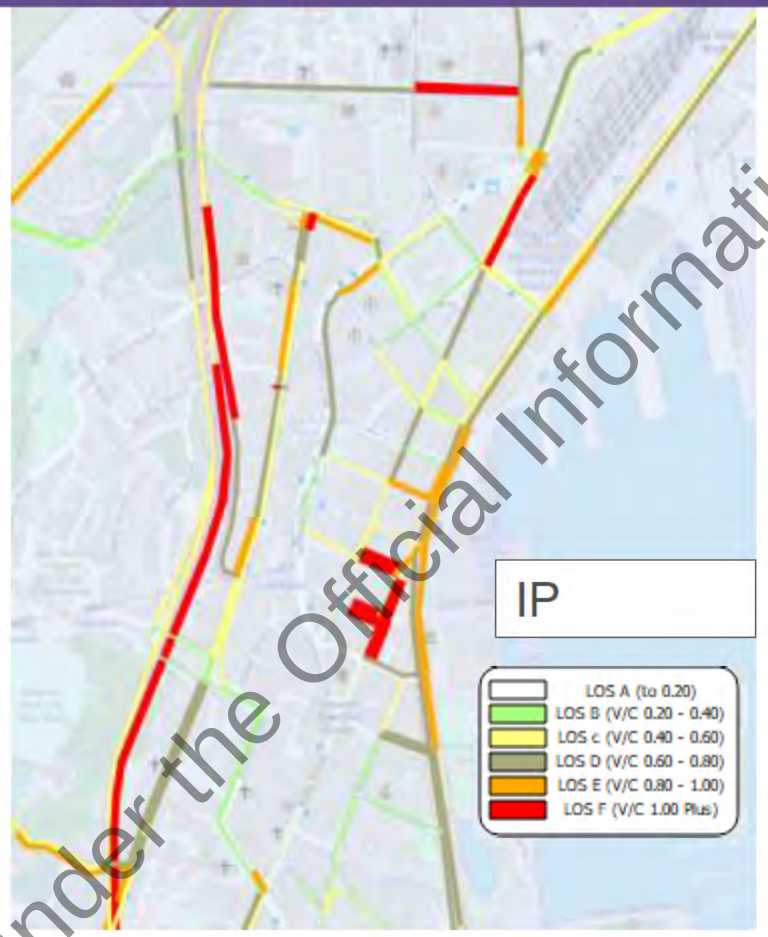


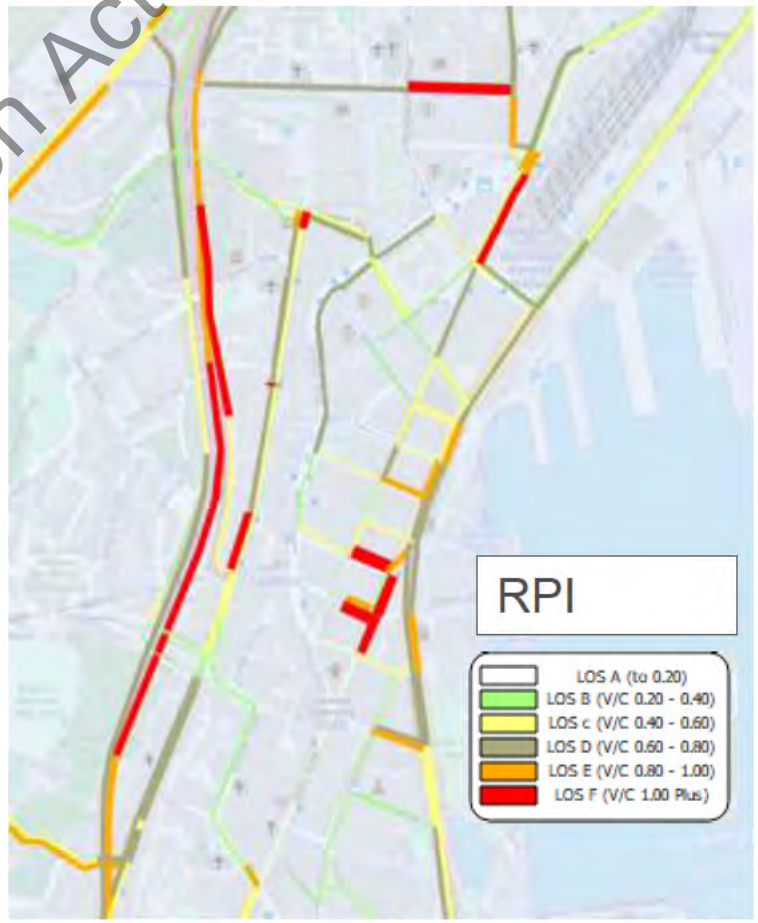


Key points

- Increase in volumes on Quays between base (2013) and Do Minimum (2036)
- Small reduction on Quays between DM and IP
- More significant reduction IP to RPI, increase on SH1 under RPI

2036 V/C ratio - AM Peak





- VC ratio on Quays – increases from 70% in Do Min to nearer 95% in IP, back to 70% in RPI
- SH1 – at capacity across all scenarios, though not as severe in RPI and carries twice as much traffic in RPI compared to Do Min and IP
- Modal shift in IP not enough to mitigate the dis-benefit from reducing Quays capacity by ~50%