

Board Paper

To: Partnership Board

From: David Dunlop

Date: 17 August 2021

Subject: For decision: Engagement Programme Options

Doc no: #0162/21 **Agenda item:** #08

1.0 Purpose

This paper is seeking a number of Board approvals to allow the programme to prepare for public engagement later in 2021. Approval is being requested now to allow enough time to prepare material. The paper will also highlight current risks with the schedule to meet planned October 2021 deadline.

2.0 Recommendation

It is recommended that the Board:

- **Approves** the engagement affordability threshold of \$7.4b
- **Approves** the four options proposed for public engagement planned for October 2021 that have emerged from applying the affordability threshold to the programme options shortlist
- **Approves** the engagement strategy for the Programme to inform the MRT and SHI IBCs.
- **Agrees** to include a description of a potential value capture targeted rate and congestion charging in the public engagement
- **Notes** the gaps in current information, and subsequent risk that Programme options may need to change prior to the engagement
- **Notes** the level of detail to be provided on the options for public engagement, and risks associated with this information
- **Notes** the risks associated with the remaining next steps and approval processes required to achieve October Engagement start date.

3.0 Background

The programme team have considered various factors that impact the IBC delivery and the future delivery of the DBC and consenting phases as quickly as possible, deliver on partner expectations, engage in a meaningful way with suitable level of detailed evidence at each stage of engagement, business case costs, and delivering a robust IBC.

A key shift in the programme since PBC is the increased importance of Urban Development, mode shift, and Carbon emissions which has been reflected in the Partner approved Programme

Objectives. IBC assessments have also identified a new understanding of the expected performance of MRT, particularly the expected average travel speed within Wellington City's constrained urban environment. It is essential that the community understand and are brought along this shift in direction to allow the Programme to be successful in progressing through the next stages of delivery.

The programme team propose 4 options for the engagement planned for October 2021 to reflect the LGWM Boards request for engaging on a range of options. The options proposed fit within the \$7.4B engagement affordability threshold (P95, whole of life cost). The rationale for selecting these options and their descriptions are provided in Section 4.0.

Following the planned October engagement several factors impact on the appropriate timing of further engagement, these include:

1. Partner and third-party commitment to the scale, funding, and mechanisms for Urban Development delivery. This is critical to confirm the MRT mode and cross sections to identify the resulting property impacts and costs, which need to be balanced against the expected Urban development and transport benefits. It is assumed that an agreement in principle between partners and other third parties will not be completed by early next year, more likely to take at least 12 months, to form some general levels of certainty of agreed Urban Development outcome targets for the Partners to be able to publicly support the trade-offs in urban development benefits with transport impacts and costs.
2. Property Strategy and funding requirements, particularly for early purchases of affected property owners soon after engagement. This cannot be confirmed until the affected owners are identified through the MRT cross sections as a result of the Urban development commitment, and detailed modelling is completed to provide clarity on the PT and network performance related to those cross sections.
3. Following the planned October engagement future engagement is expected to require engagement at a detailed level with the public, stakeholders, and property owners on impacts and detailed performance metrics. A significant amount of time is required to produce this detail and is typically completed at this level of detail at a DBC phase rather than an IBC phase. It is possible that different programme elements can be engaged on at different times to align with future engagement strategy and DBC scheduling.
4. The level of Partner approvals required and resulting timeframe to receive Partner approvals for commitment to the Programme option following the October engagement. We have assumed 12 weeks following the request, noting the PBC took approximately 6 months to get formal approval of the PBC.
5. The 2022 local government election cycle impacting on the availability for Governance decision making and appropriate engagement windows in mid to late 2022 to enable future engagement and decision making to occur. (GWRC significant decision-making hiatus late September to mid - November, and WCC significant decision-making hiatus from July to early December).

Due to the above factors it is recommended that the IBC is completed following the engagement that is planned for October, subject to board partner satisfaction with the feedback received during the engagement. The DBC phase would include future stages of engagement as necessary. The key reasons for this are:

1. The extra time between IBC and future DBC engagement allows the urban development commitments to be solidified to provide certainty of the scale of urban development benefits committed to which can be traded off with transport corridor and property impacts and costs.

2. Using one stage of engagement that finishes in December allows the potential for delivering a draft IBC in April 2022 assuming there is no need to undertake additional lengthy investigations following engagement. This allows the best opportunity to receive Partner approval of the IBC, and importantly approval of DBC funding mid-2022. If two stages of engagement are required for the IBC, it is likely to add a minimum of 4 months to the completion of the IBC documents.
3. IBC engagement is typically confined to testing a project team's assumptions at a high level and gaining social support for progression to the next stage.
4. Completing a second stage of engagement during IBC would not go far enough for DBC engagement requirements and is unlikely to satisfy stakeholder and public expectations regarding level of detail. It is considered it would be more effective to engage during the DBC to reduce engagement fatigue, reduce rounds of engagement that impact on timeframes and costs, and importantly allow more time to be better prepared for the detail required at the next stage of engagement.
5. Programme IBC budgets are constrained and it is likely that additional funding would be required to cover extra costs associated with additional engagement, extra work that was not allowed for between engagement periods, and programme costs associated with extra work and delays to completing the IBCs.
6. The Property Strategy and Consenting Strategy can be developed with more certainty once one programme option is confirmed, and importantly reflect the likely Urban Development commitments. This provides Partners with improved certainty regarding the ability to deliver the programme resulting in better ability for Partners to commit funding to property, consenting, and urban development requirements during and immediately after the DBC phase.

Risks with completing the IBC and obtaining approvals before mid 2022 result from the compressed timeframe available to complete engagement preparation between the 17th August Board decision to planned engagement start in late October, as well as the uncertainty of engagement outcome and tight timeframe following engagement completion in December and completing the Draft IBC in April 2022. The gaps in information and risks are outlined in Section 9.

4.0 Options Assessment Process

The LGWM Programme Options development and assessment has been undertaken as part of the Indicative Business Case work for Mass Rapid Transit and Strategic Highway Improvements. The Programme Option assessment process has used an MCA evaluation to assesses option performance against the objectives and wider impacts.

The MCA included a high-level evaluation of a long-list and a more detailed assessment of a short-list of Programme Options. The option selection process includes MCA assessment as well as other factors to assess which options should be considered for progressing to the next stage. Applying the engagement affordability threshold to the MCA identified short list effectively rules out three of the five short-list options, which has resulted in a refined list of four that form the refined short-list. The short list review to identify the refined short-list, the refined short list option descriptions, and the high-level performance review of the refined short-list are provided in Attachment 1.

The refined short list options are described below, and illustrated in Attachment 1.

Option:	i	ii	iii	iv
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Basin Reserve	Grade separated	Grade separated	Grade separated	At-grade
Vehicle Tunnel (Mt Victoria)	Diagonal	Diagonal	Existing	Existing
Active Travel Tunnel (Mt Victoria)	Existing vehicle tunnel converted	Existing vehicle tunnel converted	New Active Travel tunnel parallel to existing tunnel	New Active Travel tunnel parallel to existing tunnel
MRT City to South	LRT <ul style="list-style-type: none"> to Island Bay via Kent Tce 	BRT infrastructure <ul style="list-style-type: none"> dedicated lanes to Newtown via Kent Tce services extend to Island Bay in general traffic 	LRT <ul style="list-style-type: none"> to Island Bay via Kent Tce 	LRT <ul style="list-style-type: none"> to Island Bay via Taranaki St
MRT East	Enhanced Bus <ul style="list-style-type: none"> bus lanes to Miramar Centre via Diagonal Tunnel existing Metlink fleet and depots services extend to Airport, Miramar North and Seatoun 	BRT infrastructure <ul style="list-style-type: none"> BRT lanes to Miramar Centre via Diagonal Tunnel new BRT fleet and depots services extend to Airport, Miramar North and Seatoun in general traffic 	Enhanced Bus <ul style="list-style-type: none"> bus lanes to Miramar Centre via existing Bus Tunnel existing Metlink fleet and depots services extend to Airport, Miramar North and Seatoun 	Enhanced Bus <ul style="list-style-type: none"> bus lanes to Miramar Centre via existing Bus Tunnel existing Metlink fleet and depots services extend to Airport, Miramar North and Seatoun
Cost - WOL (P95) 30 yrs	\$7.4 B	\$7.0 B	\$7.0 B	\$6.1 B
Urban Development Core and South	Approximately 15,000 units	Approximately 12,000 units	Approximately 15,000 units	Approximately 15,000 units
Urban Development East	Approximately 1,000 units	Approximately 1,200 units	Approximately 1,000 units	Approximately 1,000 units

A high-level review has been undertaken of the MCA scores that were developed for the Programme Options short-list to determine if there is likely to be any change in the scores as a result of the change in refined options i-iv.

Options iii and iv are unchanged from the Programme short-list Options 3 and 3A and therefore no changes are expected. Options i and ii have a different mode of MRT/public transport improvement and a different extent of service and therefore could be subject to change. The details of the likely changes are contained in Attachment 1, however, at a high level it is considered that while MCA scores may change for liveability, the overall differences are not expected to materially change the overall performance of options i and ii¹ compared to iii and iv² against the original short list assessment. The key differentiator relates to differences in urban development between levels of MRT/public transport investment. The original short list options performance against the objectives are illustrated below.

¹ i and ii are expected to perform similarly to original short list option V1A

² iii and iv are expected to perform similarly to original short list options V3 and V3A respectively

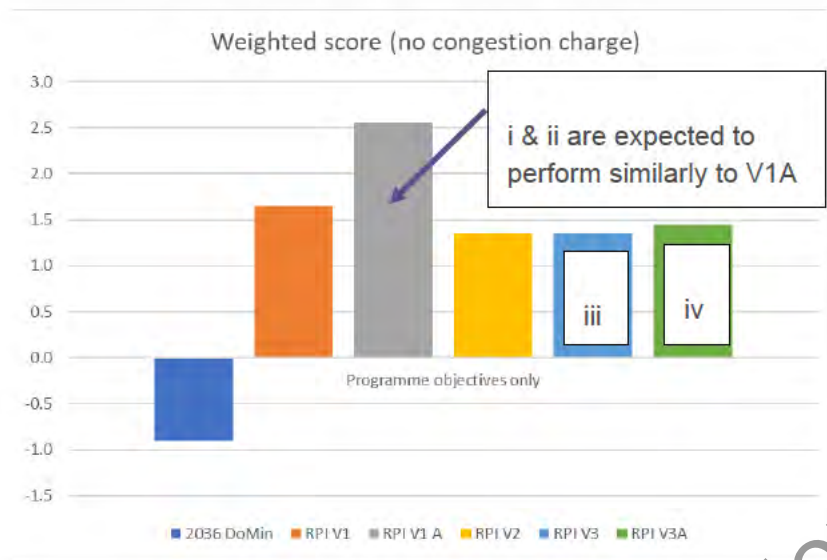


Figure 1 - Short list Options - Performance against Objectives

It is recommended the Board approve options i-iv are appropriate for engagement on this basis, with the Programme team to report back and confirm the refined short list performance following the technical specialist assessment to be completed in the coming weeks.

It is expected that the analysis will show there are benefits associated with an open BRT system that will be more affordable, however, this will need to be weighed up against the potential for a enabling less urban development compared to MRT.

Out of scope

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Attachments

Attachment 1: Engagement Option identification process and indicative performance review

Attachment 2: Information to be presented for the Engagement Options

Attachment 3: Funding and Finance – Engagement affordability threshold & funding implications

Attachment 4: Memo to MoT outlining differences from PBC to IBC

Attachment 5: Risk profile

Attachment 6: Information gaps

Attachment 7: Schedule and resource

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Attachment 1: Engagement Option rationale and indicative performance review

Short List Version 2 Creation

Some of the options at the Programme Short List stage exceed the engagement affordability threshold. Accordingly, alterations have subsequently been made to some of the options to help ensure the short list options are within the affordability threshold in the short to medium term.

The original short list options already include variations in relation to the inclusion or exclusion of highway elements and also consider the provision of MRT vs enhanced bus on the eastern corridor. However, the original options did not consider the potential for an intermediate form of MRT such as 'BRT Lite' which would still provide many of the benefits of MRT and, as shown through subsequent investigations, could provide significant cost savings, and in some cases an improvement in outcomes, that need to be balanced against a potential decrease in other outcomes.

The difference between MRT and BRT Lite is that BRT Lite will be limited to road-legal vehicles that therefore require less pavement reconstruction and can travel beyond the end of the dedicated corridor. Within the dedicated corridor, the same high-standard of supporting infrastructure can be provided (separated lanes, stations etc.) but this doesn't need to be continued the full length of a bus route if traffic congestion is low and priority measures aren't warranted. Services can potentially be extended beyond the city centre (e.g. to Johnsonville or Karori), reducing the need for transfers. However, they may be perceived to be less permanent and therefore the level of mode share and urban development uplift may not be as great as with full MRT.

Figure 2: Example of a comparable BRT system implemented in Pau, France.

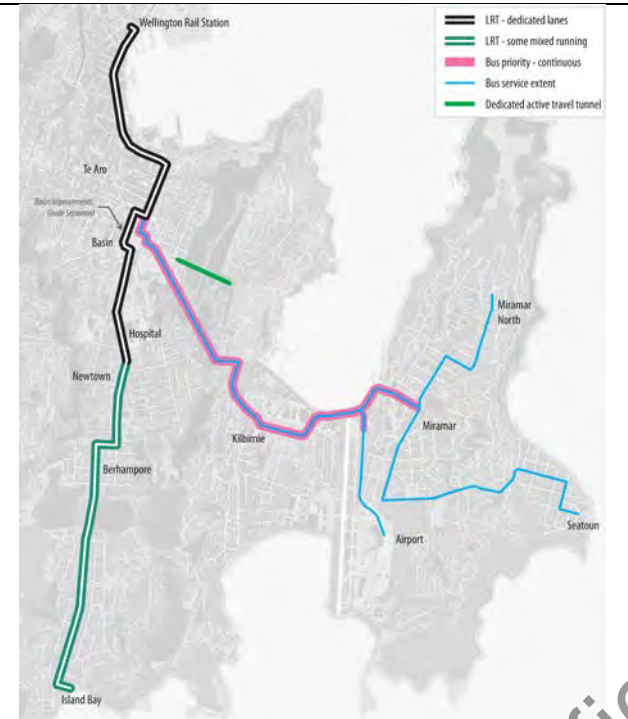


In contrast to BRT, investment in an 'enhanced bus' solution features in three of our shortlisted options. While offering similar features to BRT Lite, enhanced bus represents a lower-cost investment whereby:

- Bus lanes are likely to be provided in the kerbside lanes and within the existing road reserve.
- Upgrades to pavement and relocation of utilities would only occur at critical locations.
- The existing Metlink bus network, fleet and supporting depots would continue to operate.

The four options proposed for consultation, subject to further testing of MCA outcomes are as follows:

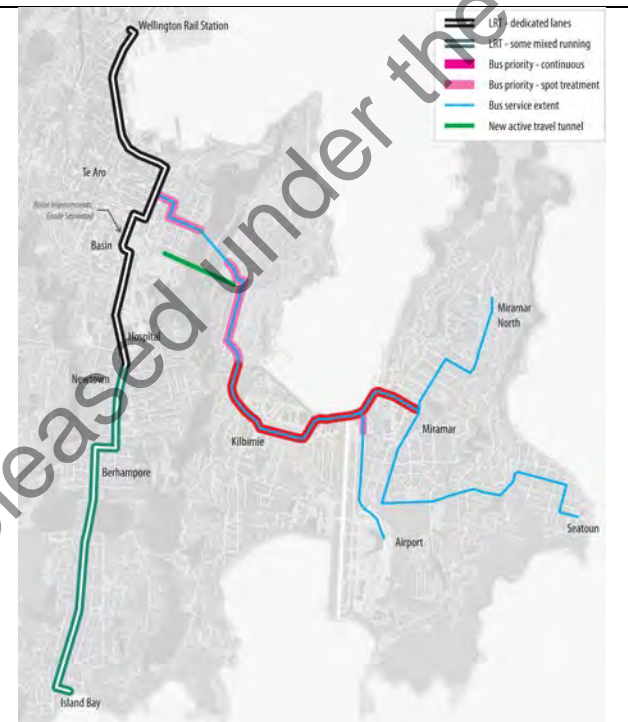
Option i: Based on RPI V1A but has enhanced bus to Miramar. Option includes Basin Reserve, new Mt Victoria Tunnel, repurposing of old Mt Victoria Tunnel for active modes and LRT to Island Bay but with mixed running in some locations south of Newtown.



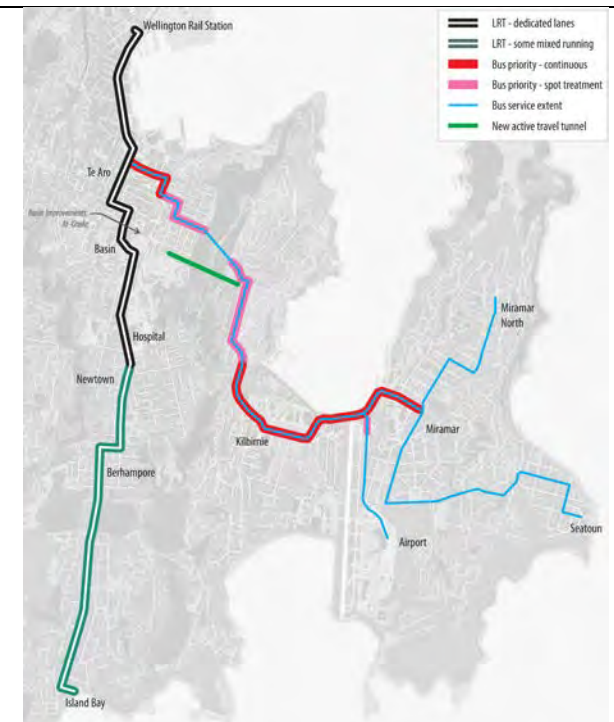
Option ii: Based on RPI V1A but has BRT Lite on both southern and eastern corridors. Option includes Basin Reserve, new Mt Victoria Tunnel, repurposing of old Mt Victoria Tunnel for active modes.



Option iii: Based on RPI v3A. Option includes grade separation at the Basin Reserve



Option iv: Based on RPI v3. Option excludes grade separation at the Basin Reserve necessitating MRT to utilise Taranaki Street rather than Cambridge Terrace.



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Note that these option diagrams are still subject to change.

Short List Version 2 High Level Review

A high-level review has been undertaken of the MCA scores that were developed for the Programme Short List (original scores in Appendix) to determine if there is likely to be any change in the scores as a result of the change in the options for consultation.

Options iii and iv are unchanged from the Programme Short List Options 3 and 3A and therefore no changes are expected.

Options i and ii have a different mode of MRT and a different extent of service and therefore could be subject to change.

From the Package Short List MCA process (undertaken after the Programme Short List MCA work), the following criteria where MRT mode was identified as having enough of an influence to change the score:

- Noise and Vibration – BRT was identified as being better due to rubber tyres being significantly quieter than steel rail. This improvement will likely be carried forward with the change to BRT Lite and reduction in extent of infrastructure
- Contaminated Land – BRT identified as being better due to a shallower pavement requiring less disposal of potentially contaminated material. Moving to BRT Lite with a shorter extent may extend this score differential further
- Scaleability of Network and Services – BRT identified as being better due to the potential for services to extend beyond the extent of the physical dedicated lanes. This improvement will also apply to these new options

In addition to the above, MRT mode and extent also has an influence on the following areas, although it may not be enough to change the score:

- IO1 Liveability: Package long list assessment indicated that there is likely to be little change in Urban Development in a shift from LRT to BRT if the look and feel of the system is similar. With a move to BRT Lite, this may not be the case so a reconsideration of the Liveability score would be warranted
- IO2 Access: The modelling to date has assumed an open system which accurately reflects BRT Lite. Whilst there were identified benefits in terms of service frequency (higher due to smaller vehicles) and less need for transfers, it was not enough to change the overall score
- IO3 Reduced PMV: MRT likely to achieve greater mode share than BRT Lite, but not significant once increased service frequencies and the open system is taken into account. BRT Lite performs less well in terms of the CATI tool (carbon emissions) but better in terms of embedded carbon. Overall it was not enough to change the scores.
- IO4 Safety: Safety is better for BRT due to cyclists not having to deal with exposed rail lines within the pavement. It was not enough to change the scores during the last assessment.
- IO5 Resilience: There is expected to be a slight improvement for BRT as vehicles are not constrained to the corridor and the corridor can be reinstated quicker after an event. It was not enough to change the scores during the last assessment.
- Economic: Business Disruption may be less during construction for BRT Lite as there is less construction required on the corridor pavement.
- Engineering Difficulty: Less construction and more common technology would reduce complexity for BRT Lite.

Based on the above high-level assessment, it is recommended that these options for consultation are considered in more detail by the technical specialists to confirm any differences in performance and MCA score for the updated options. This can be done quickly and will help with the production of the consultation collateral.

It is expected that the analysis will show many benefits for BRT Lite, but this will need to be weighed up against the potential for less urban development and PT uptake. The MCA process is the best way to understand these trade-offs, but cost and economic return will also need to be assessed in parallel.

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