

# Auckland Light Rail Board Workshop Commercial financial packs

26 October 2018



**Auckland Light Rail**

New Zealand Government

# Today we will discuss...

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1. Procurement:
  1. Light rail current market, precedent projects and lessons learnt
  2. Packaging options and proposed packages
  3. Procurement options and proposed procurement models
2. Funding and finance:
  1. Cost,
  2. GPS and NLTF capacity



# Procurement strategy

## The Commercial Case

New Zealand Government

## Discussion points

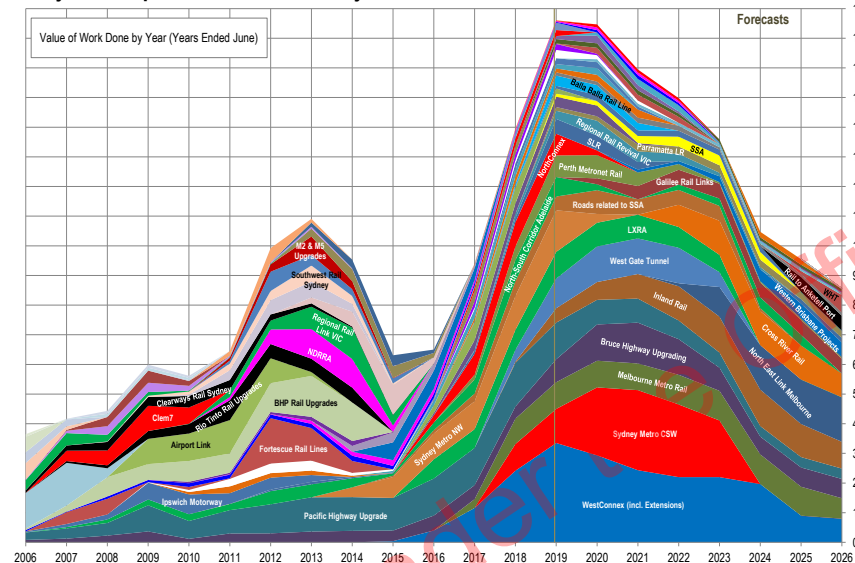
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- Summary of current Australian market dynamics, precedent Australian light rail projects, and lessons
- Refresh on market engagement findings
- Packaging option development and assessment
- Proposed contract packages for CC2M
- Procurement option assessment
- Proposed procurement models for CC2M

# There is a strong pipeline of infrastructure activity in Australia which is impacting costs and may impact number of bidders for CC2M

There is record high infrastructure activity in Australia<sup>1</sup>

Major Transport Infrastructure Projects - Australia



This means that means that contractors may selectively bid opportunities

The operator market is not deep in Australia and NZ

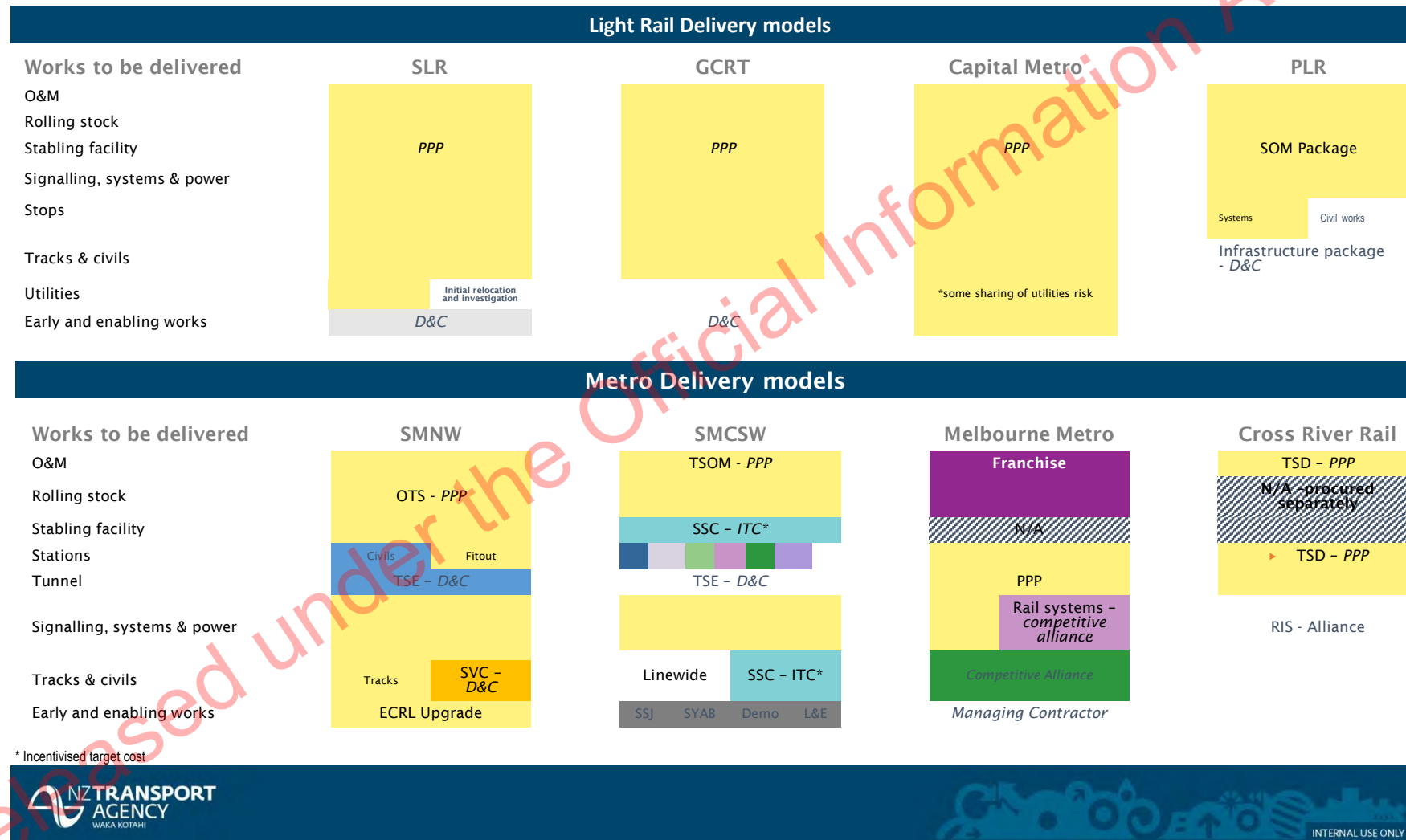
Operator	Active in Australia?
KDR	✓
Transdev	✓
MTR	✓
Comfort Delgro	Buses only
SMRT	✗
Transit Systems	Buses only
Go-Ahead	✗
National Express (NX)	✗
Abellio	✗
Deutsche Bahn	Bidder on PLR

This means that ALR needs to be an attractive proposition for operators

There is a deep market for both debt and equity in Australia and NZ

This however is dependent on appropriate risk allocation

# Precedent Australian delivery models





# Lessons learnt from precedent projects

## Pre – Transaction Phase

### Government support

- ▶ Whole of Government alignment before engaging market
- ▶ De-couple political promises for highly complex projects
- ▶ Actively manage key stakeholders and confirm scope before tendering

### Project governance

- ▶ Land governance early
- ▶ Strike a balance between technical and commercial capability
- ▶ Strong client representation supported by consultants/advisers
- ▶ Engage third parties along the alignment – de-risking strategy

### Commercial structuring

- ▶ Start with the end state – are there expansions? Consider operations?
- ▶ Operator incentives to achieve better customer outcomes
- ▶ Market capacity key issue in a heated market
- ▶ Early due diligence – utilities, traffic priority

## Transaction Phase

- ▶ **Don't go to market until scope and 3<sup>rd</sup> party buy-in is landed**
- ▶ Communicate program to market early (e.g. Industry briefings)
- ▶ Genuine interactive workshops
- ▶ Information requirements at RFP – consider bid cost vs benefits
- ▶ Land strategies for future expansion – augmentation frameworks
- ▶ Right balance between probity and flexibility to evaluate
- ▶ Well resourced OpCo is critical for delivery and operations
- ▶ Ensure delivery program is transparent if the need to modify arises
- ▶ Consortia should not be controlled by a single party

## Post -Transaction Phase

- ▶ Involve delivery/contract management team during transaction
- ▶ Develop clear contract transition plans
- ▶ Set the scene early on how you are going to administer the contract
- ▶ Know the consortia dynamics – but stick to your contractual counterparties

# **The market engagement findings are important background to the packaging and procurement decisions**

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There are some thresholds that we must meet in order to attract participants

Risk allocation is fundamental. There are 3 key risks:

- Major utilities – market will not take this risk
- Interfaces – prefer to minimise; carefully consider who takes responsibility for managing interfaces
- Stakeholders – must have MOUs in place prior to signing major delivery contracts



## We sequentially followed 7 steps to assess and select packaging options

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1. Identify the **delivery and service requirements**
2. Identify **Market Threshold Criteria**
3. Identify **Option Assessment Criteria**
4. Develop the **Delivery packaging options**
5. **Assess Delivery options** against threshold and assessment criteria
6. Develop and **assess Operations packaging options**
7. **Assess the combined Delivery + Operation packages**

# Light rail involves a number of delivery & service components that can be packaged together

Delivery phase	Operations phase
<ul style="list-style-type: none"> <li>• Utilities relocation - high risk</li> <li>• Utilities relocations - low risk</li> <li>• Tracks and civil works</li> <li>• Stabling and maintenance facility</li> <li>• K'Rd &amp; CMJ crossings</li> <li>• MHX crossing</li> <li>• Systems and power supply</li> <li>• Rolling stock (LRV) supply</li> </ul>	<ul style="list-style-type: none"> <li>• Operations</li> <li>• Systems Maintenance</li> <li>• LRV Maintenance</li> <li>• Tracks &amp; Civils Maintenance</li> </ul>
Integration and commissioning are also essential activities.	

## Market threshold criteria were developed from the market engagement findings

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The market indicated threshold requirements for the project to be attractive:

- Major utilities risk not transferred
- D&C package scale below approx. \$2Bn
- Greenfield patronage / revenue risk not transferred
- Transport and urban development delivery not comingled

Packaging options must meet these threshold criteria

## We developed option assessment criteria based on project and NZTA objectives

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Assessment criteria were developed based on (among others):

- The project objectives:
  - Transport and customer service outcomes
  - Urban place-making
- NZTA's objectives:
  - Value for money (cost, whole of life outcomes, performance)
  - Delivery timeliness and stakeholder impact
  - Flexibility during delivery/operations, and in future
- Market feedback:
  - Risk allocation (including interface management)



## A wide range of assessment criteria were used

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### Product objectives:

- Optimise service integration and customer outcomes
- Optimise urban place making

### Value for money objectives:

- Optimise project expenditure (including budget impact)
- Optimise funding and financing
- Optimise whole-of-life outcomes
- Optimise risk allocation
- Market acceptability to drive competition
- Incentivise performance and innovation

## A wide range of assessment criteria were used ...

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### Interface objectives:

- Allocate construction risk to best party
- Allocate operations risk to best party
- Vertical integration: Single party accountable for service and performance outcomes

### Delivery objectives:

- Achieve delivery milestones
- Minimise impacts on customers, stakeholders, community
- Match resource capability/capacity (NZTA and market)

### Flexibility objectives:

- Maintain flexibility for delivery and operations
- Provide flexibility for future extensions

# Packages were scored against each assessment sub-criteria using an evaluation scale

## Evaluation scale

Strongly positive impact on a criterion

Moderately positive impact on a criterion

Neutral impact on a criterion

Moderately negative impact on a criterion

Strongly negative impact on a criterion

✓✓

✓

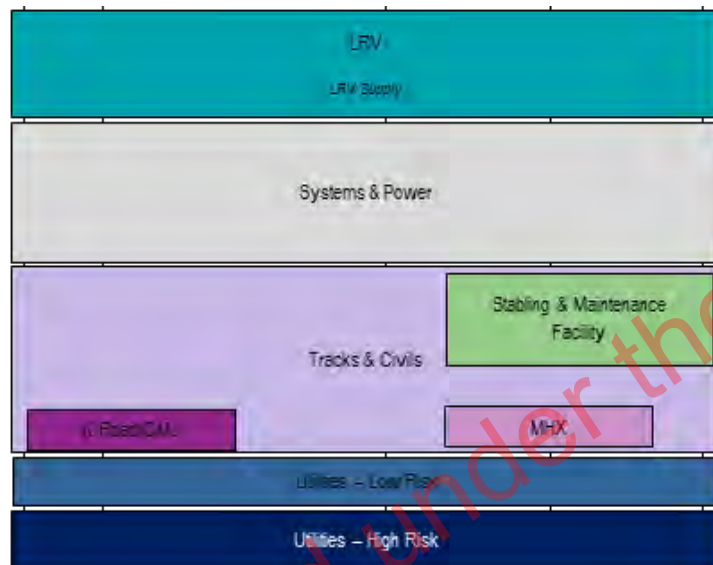
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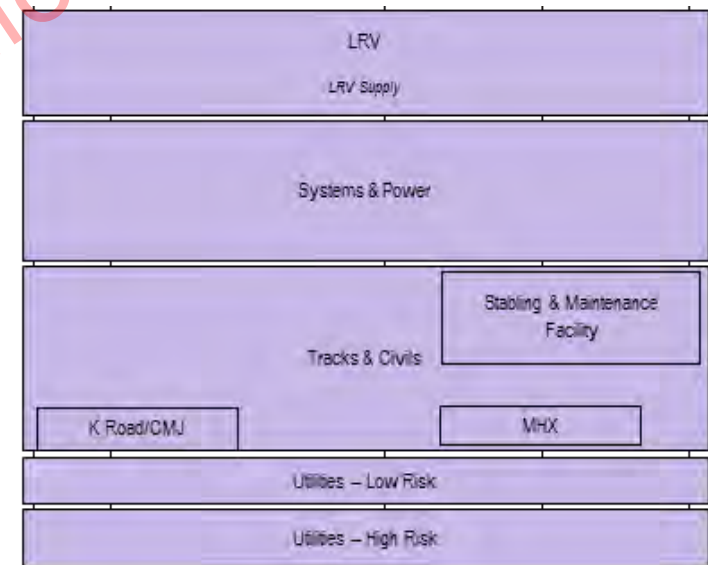
# We assessed a full spectrum of packaging options: for the delivery phase ...

## Fully disaggregated packages



Increasing ability to select 'best of breed solution' ← → Increasing risk transfer and reduction of interfaces

## Fully integrated package





## ... and for the operations phase

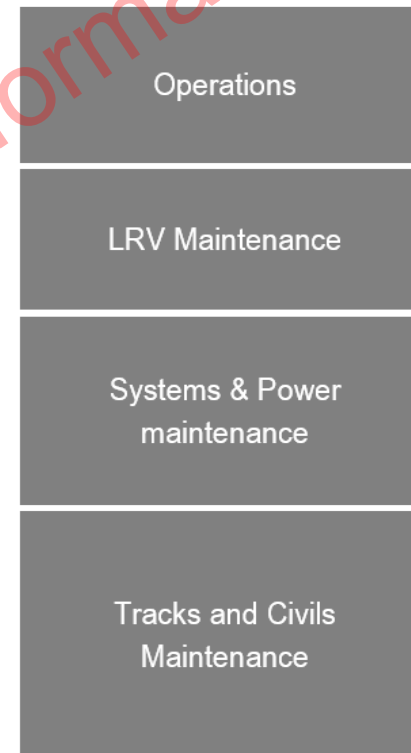
### Fully disaggregated packages



Fully disaggregated packaging

Fully integrated packaging

### Fully integrated package



# The many possible delivery phase packages were narrowed down to 8 options for further assessment



# All but one delivery package option passed the market threshold tests

## Packaging option

## Meets market threshold criteria

Option 1	Fully disaggregated
Option 2	Combined civils and low risk utilities
Option 4	Integrated LRV and Systems
Option 5	Combined stabling and systems
Option 7	Combined LRV, Systems and Stabling
Option 10a	Integrated excluding early works
Option 10c	Integrated including early works
Option 10d	Fully integrated (including utilities)

✓

✓

✓

✓

✓

✓

✓

✗

Increasing ability to  
select 'best of breed  
solution'



Increasing risk transfer  
and reduction in  
interfaces

# The delivery package options were assessed against the criteria and 2 were shortlisted

Options taken forward to combine with Operations options

Disaggregated Construction			Discipline Based		Broader Aggregation				
	Option 1 Fully disaggregated	Option 2 Combined civils & low risk utilities	Option 4 Integrated LRV & systems	Option 6 Combined stabling and civils	Option 7 Combined LRV, systems and stabling	Option 10a – Integrated, excluding early works	Option 10c – integrated early works		
Product objectives	×	×	-	-	-	✓	✓		
Value-for-money objectives	×	×	-	-	✓	✓✓ <sup>2</sup>	× <sup>2</sup>		
Interface objectives	XX	XX	×	-	-	✓✓	✓✓		
Delivery objectives	XX	XX	-	-	✓	✓✓	XX		
Flexibility objectives <sup>1</sup>	-	-	-	-	-	-	-		
Taken forward	NO	NO	NO	NO	YES	YES	NO		
Rationale	<ul style="list-style-type: none"> <li>Achievement of product objectives was seen to be worse as responsibility for operating performance is split between multiple parties which could impact focus on the customer, speed of day to day fault resolution and operational/customer led investment and prioritisation, leading to poorer operational and customer outcomes</li> <li>Value for money is weakened due to limited market acceptability of disaggregation and dis-synergy of separating some packages e.g. systems and LRVs which may increase integration cost</li> <li>Disaggregated packaging creates multiple interfaces and lower vertical integration, requiring the State to step in and manage these interfaces and integration</li> <li>Delivery seen to be more likely to be delayed due to the number of interfaces, impacting the critical path and requiring NZTA resources to manage (which may be limited)</li> </ul>		<ul style="list-style-type: none"> <li>Option Four generally seen to be neutral as integrated LRV and Systems is seen to generate good but not superior product outcome. Likely to be acceptable to the market (precedent exists) although the market expressed a desire for a more integrated solution</li> <li>Interface weakened by separate stabling from LRV</li> <li>Delivery manageable from a NZTA perspective</li> </ul>		<ul style="list-style-type: none"> <li>Option Six generally seen to be neutral</li> <li>Interface superior from Option Four due to stabling being combined with civils</li> </ul>		<ul style="list-style-type: none"> <li>Delivery objectives is enhanced as interface between LRV and stabling is removed – single party responsible for delivery</li> <li>Combining stabling with LRV and systems was seen as positive from a VFM perspective as takes into account some operational considerations</li> </ul>	<ul style="list-style-type: none"> <li>Option 10a generally seen to be superior due to the removal of interfaces, superior whole of life considerations improving value for money and delivery being enhanced due to single point of responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Integration of early works with the main package is likely to delay the procurement and delivery of the early works which will delay overall delivery program</li> <li>Risk allocation weakened due to differing risk profile of early works</li> </ul>

<sup>1</sup> flexibility was not seen as a differentiating factor amongst these options <sup>2</sup> market acceptability subject to confirmation on costs

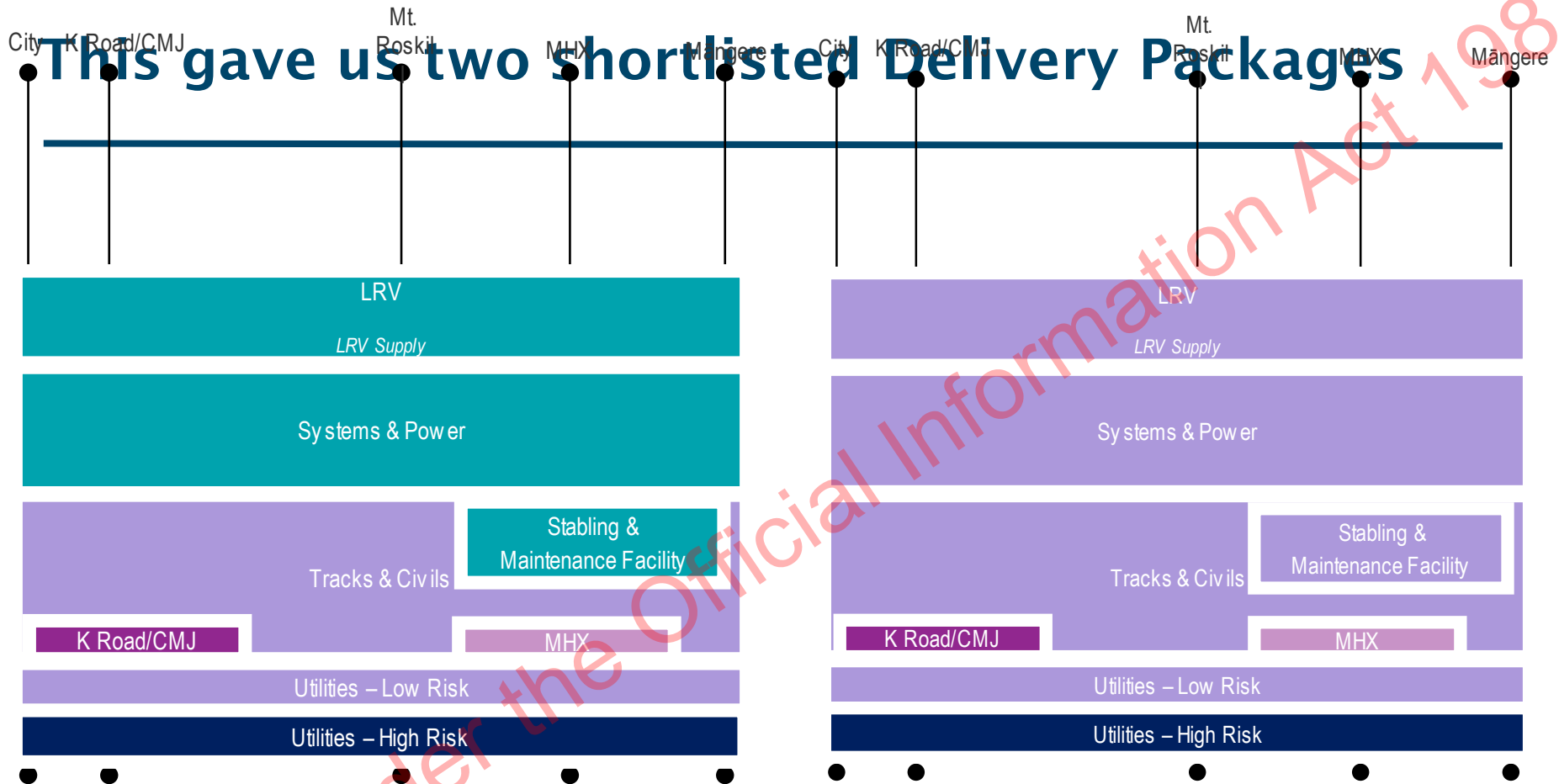


# 7 operations phase packaging options were considered

Operations A	Operations B	Operations C	Operations D	Operations E	Operations F	Operations G
Operations	Operations	Operations	Operations	Operations	Operations	Operations
LRV Maintenance	LRV Maintenance	LRV Maintenance	LRV Maintenance	LRV Maintenance	LRV Maintenance	LRV Maintenance
Systems & Power maintenance	Systems & Power maintenance	Systems & Power maintenance	Systems & Power maintenance	Systems & Power maintenance	Systems & Power maintenance	Systems & Power maintenance
Tracks and Civils Maintenance	Tracks and Civils Maintenance	Tracks and Civils Maintenance	Tracks and Civils Maintenance	Tracks and Civils Maintenance	Tracks and Civils Maintenance	Tracks and Civils Maintenance

# The operations package options were assessed and 2 were shortlisted

	Option A	Option B	Option C	Option D	Option E	Option F	Option G
Product objectives	XX	✓✓	XX	-	X	✓ / -	✓✓
Value-for-money objectives	X	✓	-	-	XX	✓	✓✓
Interface objectives	XX	✓	XX	-	XX	X	✓✓
Delivery objectives	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flexibility objectives	✓	X	- / x	-	-	- / x	X
Taken forward	NO	YES	NO	NO	NO	NO	YES
Rationale	<ul style="list-style-type: none"> <li>Option A was considered poor from a product objectives perspective as responsibility for operating performance is split between multiple parties which could lead to a poorer operational outcome</li> <li>Given the split of responsibility, results in poor whole of life performance and weakened value for money outcome</li> <li>Flexibility was enhanced as single contracts would be easier to augment or switch</li> </ul>	<ul style="list-style-type: none"> <li>Above rail and below rail split was seen to generate a good product from a customer perspective (as good as Option G given the project elements which would be most visible to the customer)</li> <li>Value for money and interface is superior to other options but inferior to Option G as fault attribution and whole of life is weakened by above rail below rail split</li> <li>Flexibility is weakened compared to other options due to greater aggregation of contracts making switching difficult</li> </ul>	<ul style="list-style-type: none"> <li>Achievement of product objectives was seen to be worse as responsibility for operating performance is split between multiple parties which could impact focus on the customer, speed of day to day fault resolution and operational/customer led investment and prioritisation, leading to poorer operational and customer outcomes</li> <li>From a VFM perspective may generate an acceptable outcome as there is a strong market for both operators and maintainers</li> </ul>	<ul style="list-style-type: none"> <li>Option D was generally seen as acceptable – the interfaces did not worsen outcomes, however these did not generate any synergies relative to other options</li> </ul>	<ul style="list-style-type: none"> <li>Option E creates issues as the grouping of operations with civil maintenance, but without LRV and Systems Maintenance, is unlikely to be as acceptable to the market as other options</li> <li>Further splitting LRV operations from the LRV and systems maintenance was seen to create a difficult interface which could adversely affect customer outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Option F was seen to potentially deliver an acceptable product outcome if the LRV maintenance was highly specified and agreed</li> <li>Value for money could be enhanced by selection of a best in breed LRV maintainer combined with a best in breed operator</li> <li>There is an interface created between the LRV operations and maintenance however which would may create interface issue and, through this, less positive customer outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Integration of all operational elements was seen as likely to have a superior outcome from a product perspective, VFM is enhanced due to greater whole of life focus, interfaces is also superior due to one party being responsible for all aspects of operations</li> <li>Flexibility is weakened due to greater aggregation of contracts making switching difficult</li> </ul>



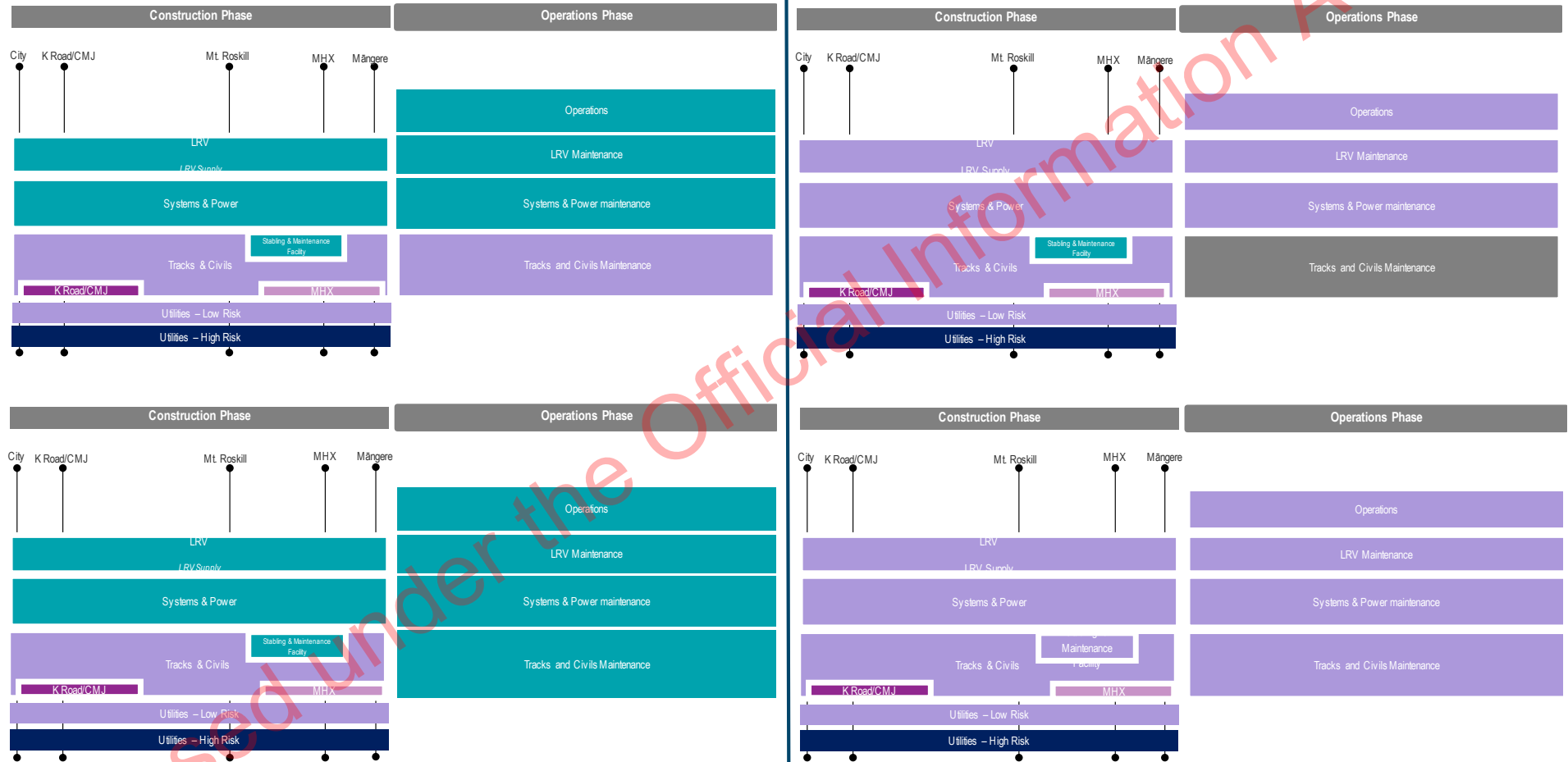
# And two shortlisted Operations Packages

Operations B
Operations
LRV Maintenance
Systems & Power maintenance
Tracks and Civils Maintenance

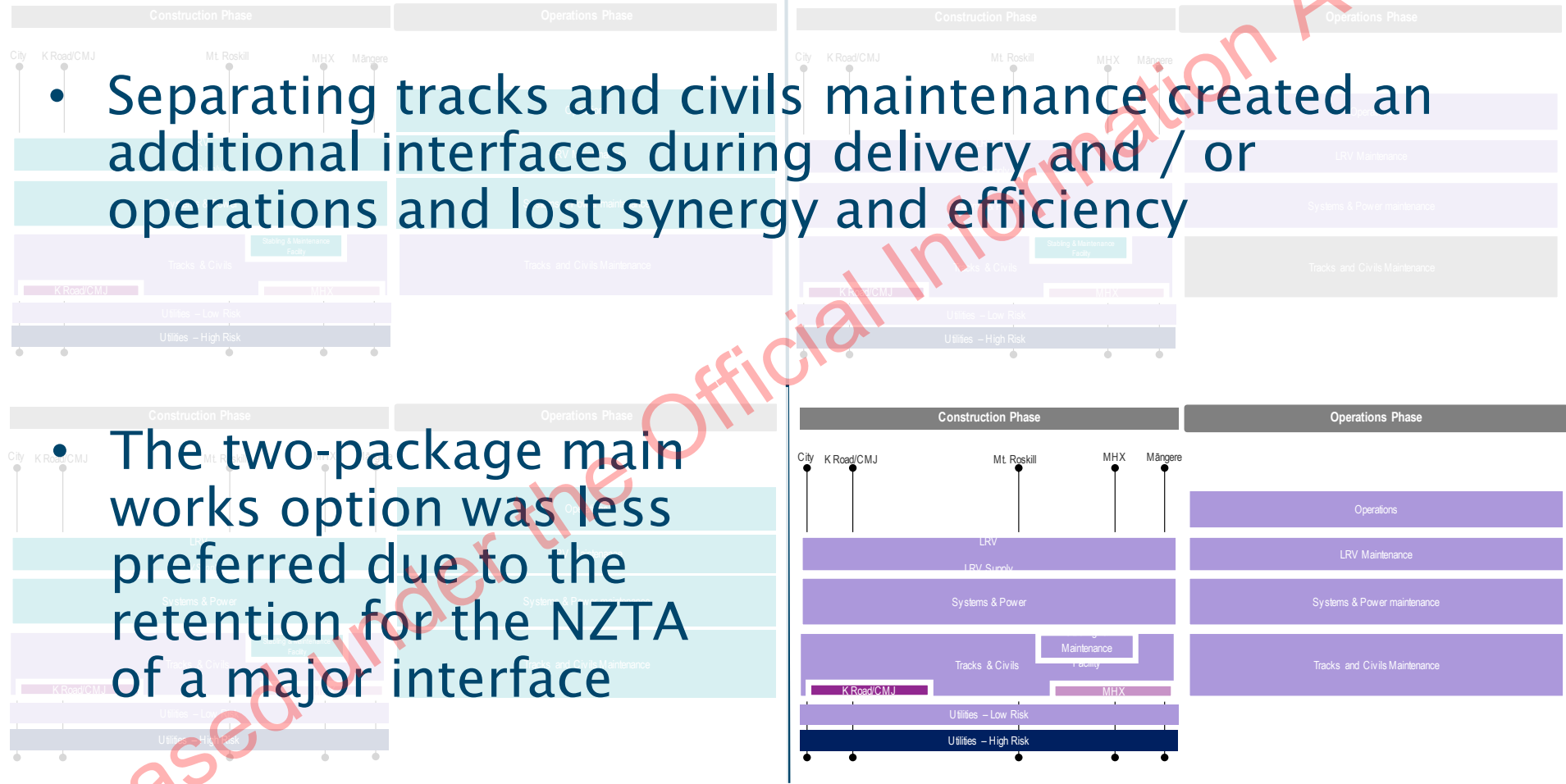
Operations G
Operations
LRV Maintenance
Systems & Power maintenance
Tracks and Civils Maintenance



# These were then combined to give 4 delivery and operations package options

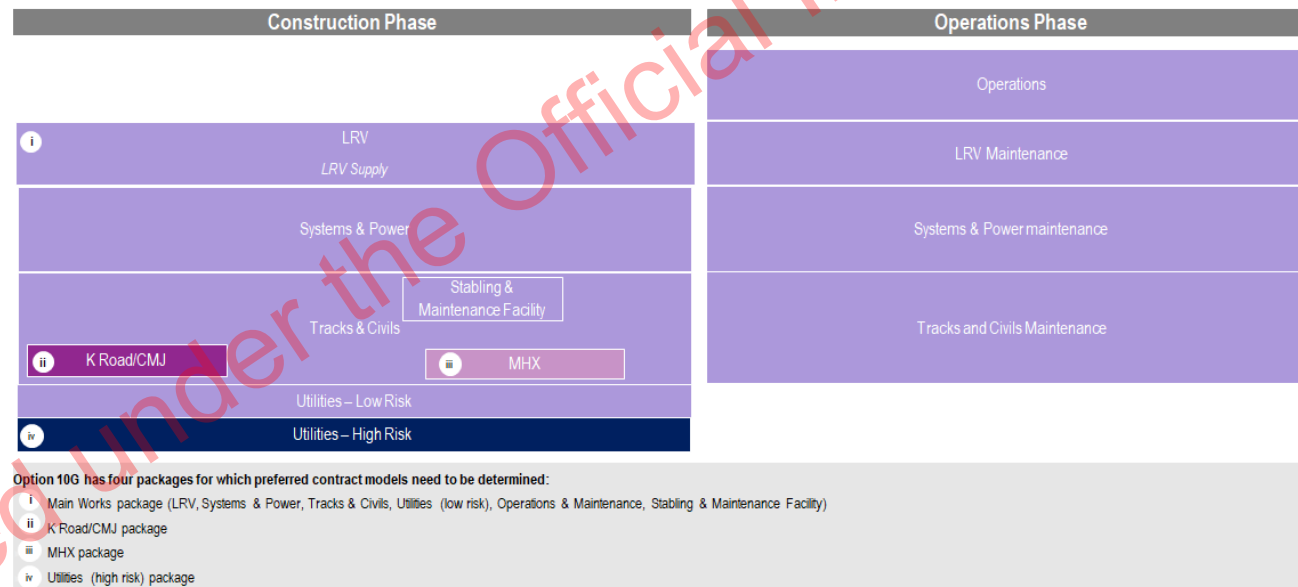


# Three of the combined package options were eliminated



# A single main works package with 3 early works packages is proposed

1. Major utilities relocations package
2. K'Rd/CMJ crossings package
3. MHX crossing package
4. A single integrated delivery & operations package



## A full range of procurement model options was considered for each of the 4 packages

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Procurement model options were:

- Construct only
- Early Contractor Involvement (ECI)
- Design & Construct
- Alliance
- Design-Build-Operate-Maintain (DBOM)
- Public Private Partnership (PPP)

The same scoring scale was used as for packaging options

# We assessed the procurement models against a range of characteristics and requirements

- Project scale
- Project risk
- Operability
- Flexibility
- Whole of life costs
- Innovation
- Time to market
- Stakeholder management
- Market acceptability

## Evaluation scale

Strongly positive impact on a criterion

✓✓

Moderately positive impact on a criterion

✓

Neutral impact on a criterion

-

Moderately negative impact on a criterion

×

Strongly negative impact on a criterion

××

# A preferred procurement model has been determined for each early works package

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1. Major utilities relocations packages: **Alliance / ECI**
  - High degree of uncertainty and complexity
  - Market has clearly stated it will not accept the risk = must be a risk sharing model
  - Alliance or ECI well suited to this package
2. K'Rd/CMJ crossings package: **Competitive Alliance**
  - High degree of uncertainty and complexity, particularly with interfaces with other projects and local roads
3. MHX crossing package: **Design & Construct (D&C)**
  - Relatively simple structure; scale suited to D&C
  - Risks are well-known as NZTA has built a major structure nearby within last 10 years



## 3 procurement model options were assessed for the main package

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Main package is fully integrated during the delivery and with the operations phase

It requires a model that incorporates at least Design, Build, Operate & Maintain (DBOM).

Three procurement model options were tested:

- Alliance DBOM (eg, Waterview tunnels)
- Traditional DBOM (common in heavy rail and light rail)
- PPP (a DBFOM) (common in heavy rail and light rail)

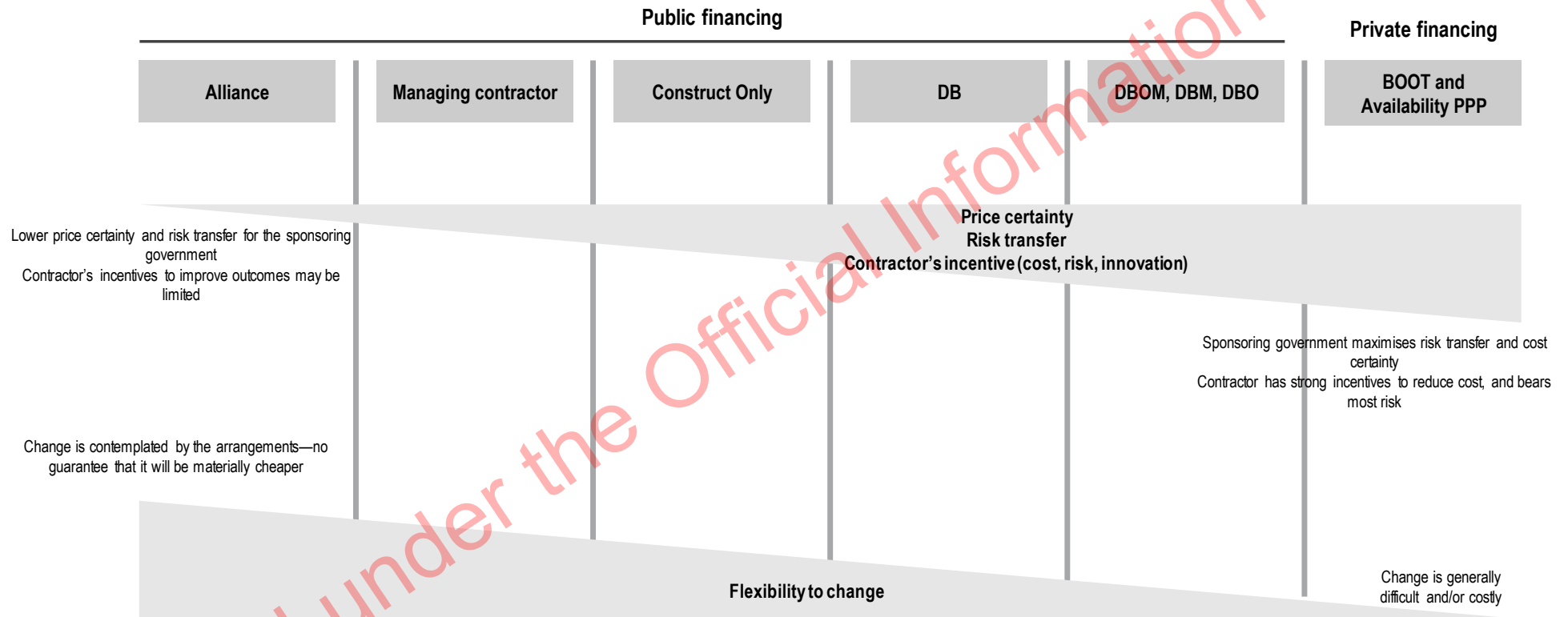
PPP was assessed against Treasury and NZTA PPP guidelines and found to be suitable

All 3 were assessed as suitable and were further evaluated

# Risk transfer is a key difference among the models

	Alliance <sup>2</sup>	DBOM	PPP
<b>Scope / Specification risk</b>	Government	Government	Government
<b>Site approval Risks</b>			
Site availability and access	Government	Government	Government
Site condition risk	Government	Government	Shared <sup>4</sup>
Land acquisition risk	Government	Government	Shared <sup>3</sup>
Environmental approval risk	Government	Government	Shared <sup>3</sup>
Planning approval	Government	Government	Shared <sup>3</sup>
<b>Design, Construction and commissioning risk</b>			
Design risk	Shared	Private	Private
Construction Risks	Shared	Private	Private
Construction cost escalation risk	Shared	Private	Private
Supplier risk	Shared	Private	Private
<b>Operating risks</b>			
Demand risk	Government	Government	Government <sup>4</sup>
Operating performance risk	Shared	Private	Private
Maintenance risk	Shared	Private	Private
Operating cost escalation risks	Shared	Private	Private
Change in specification risk	Government	Government	Government
Obsolescence risk	Government	Government	Private
Competition risk	Government	Government	Government
<b>Other Risks</b>			
Interface risk (external)	Government	Shared	Shared
Change in legislation	Government	Government	Shared
Industrial relations risk	Government	Government	Private

# All 3 options have strengths & weaknesses. All involve trade-offs.



# The 3 procurement options were assessed against the same criteria

	DBOM Alliance	DBOM	PPP
<b>Product objectives</b>			
Optimise service integration and customer outcomes	✓ / -	✓ / -	✓
Optimise urban place making	-	-	-
<b>Value-for-money objectives</b>			
Optimise project expenditure (including budget impact)	-	-	✓
Optimise funding and financing	-	-	✓
Optimise whole-of-life outcomes	✓	✓	✓✓
Optimise risk allocation	✓	✓	✓✓
Market acceptability to drive competition	tbc	✓	✓
Incentivise performance	×	✓	✓✓
Incentivise innovation	✓✓	-	✓✓
<b>Interface objectives (internal interfaces)</b>			
Allocate construction period interface risk to party/ies best placed to manage	✓	✓	✓✓
Allocate operational period interface risk to party/ies best placed to manage	✓	✓	✓✓
Vertical integration – single party accountability for service & performance outcomes	-	✓	✓✓
<b>Delivery objectives</b>			
Minimise impacts on customers, stakeholders and the community (external interfaces)	✓✓	-	×
Achieve delivery milestones	-	✓	✓✓
Match resource capability/skills (NZTA and private sector) and resource capacity	✓	-	-
<b>Flexibility objectives</b>			
Maintain flexibility during delivery	✓	-	×
Maintain flexibility during operations	✓	✓	✓
Provide flexibility for future extensions (post delivery)	✓✓	✓	-

## PPP is the proposed procurement model for the main package

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PPP was found to have a number of relative strengths, particularly in value for money and interface management

The pressure brought by the inclusion of financiers is a key differentiator

However, PPP's clear weakness is difficulty of making unexpected changes

Therefore, PPP is recommended if and only if we know what we are buying or we know what remains undecided, and we must commit to not changing this

The primary risk of change is due to stakeholder agreements not being signed before contracting

There is time in the programme to develop stakeholder agreements

# Indicative procurement timeframes mostly depend on the consenting pathway

All timeframes except utilities are driven by the consenting process

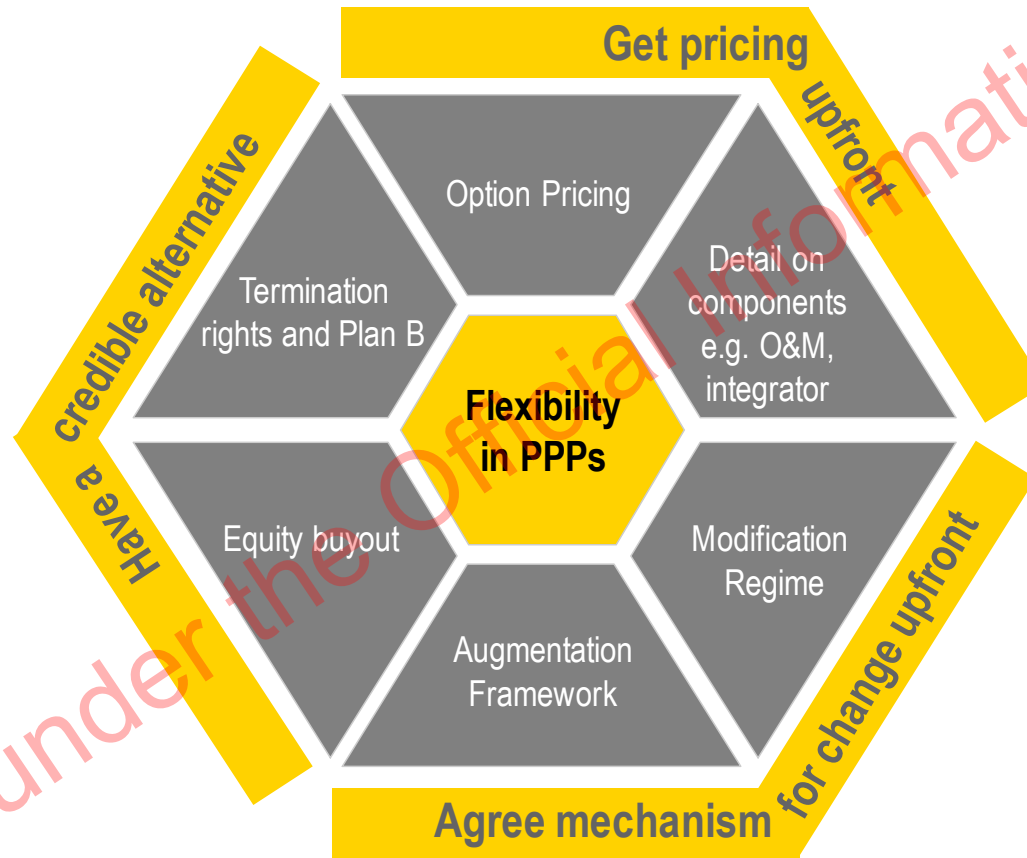
- Consenting pathway is to a July 2020 decision

By September 2020, two major packages are contracted (Utilities and K'Rd/CMJ) and utilities work is well underway.

	2018	2019	2020	2021
	nov dec	jan feb mar apr may jun jul aug sep oct nov dec	jan feb mar apr may jun jul aug sep oct nov dec	jan feb mar apr may jun jul aug sep oct nov dec
<b>Consenting</b>		Prepare application	Hearings	
		Specimen design continues   <b>Decision July 2020 (assumes no appeal process)</b>		
<b>Stakeholder agreements</b>		Working with major stakeholders to get agreement		
<b>Procurement: early packages</b>				
- Utilities relocations		Agreements	Procurement	Utilities relocations working period
			<b>Contracted</b>	
- K'Rd / CMJ package			Prepare docs	Procurement
				<b>Contracted</b>
- MHX package			Prepare docs	Procurement
				<b>Contracted</b>
<b>Procurement: Main</b>			Preparation	EOI
				RFP
				Eval / app
				Negotiated
				Float
				<b>Contracted</b>
				<b>Opens end 2025</b>



# Various tools are used to increase flexibility in PPPs



## **Next steps in the procurement strategy development involve work to refine models and testing with the market**

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Market engagement summary report will be issued to industry

Further detailed work will be done to refine the preferred models, in particular to improve their weak points and tailor to specifics of CC2M

We will return to do a further round of Market Sounding – focused specifically on the preferred packaging and procurement models

## The NZ Super proposition

s 9(2)(g)(i)

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NZ Super presents a potential funding partner for other future projects

# Funding and finance

## The Financial Case

New Zealand Government



## Finance of some form is required to fund CC2M

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The base assumption is that the NLTF is used to fund CC2M

The Government Policy Statement (GPS) includes approx. \$3.8Bn allocation to Rapid Transit over 10 years

The profile of this GPS allocation does not match the cost and spend profile of CC2M. Cashflows will need to be managed with some financing facility

The nominal cost of CC2M is greater than the GPS allocation. Borrowing will be required for the difference unless additional funds become available

With financing for CC2M the key financial ratio (debt service costs / NLTF revenue) remains within the 8 -12% operating range

# The P95 estimate for delivery is \$4.2Bn (unescalated)

Includes additional LRVs purchased in 2032 for growing demand

Ongoing lifecycle costs are incurred for asset renewals

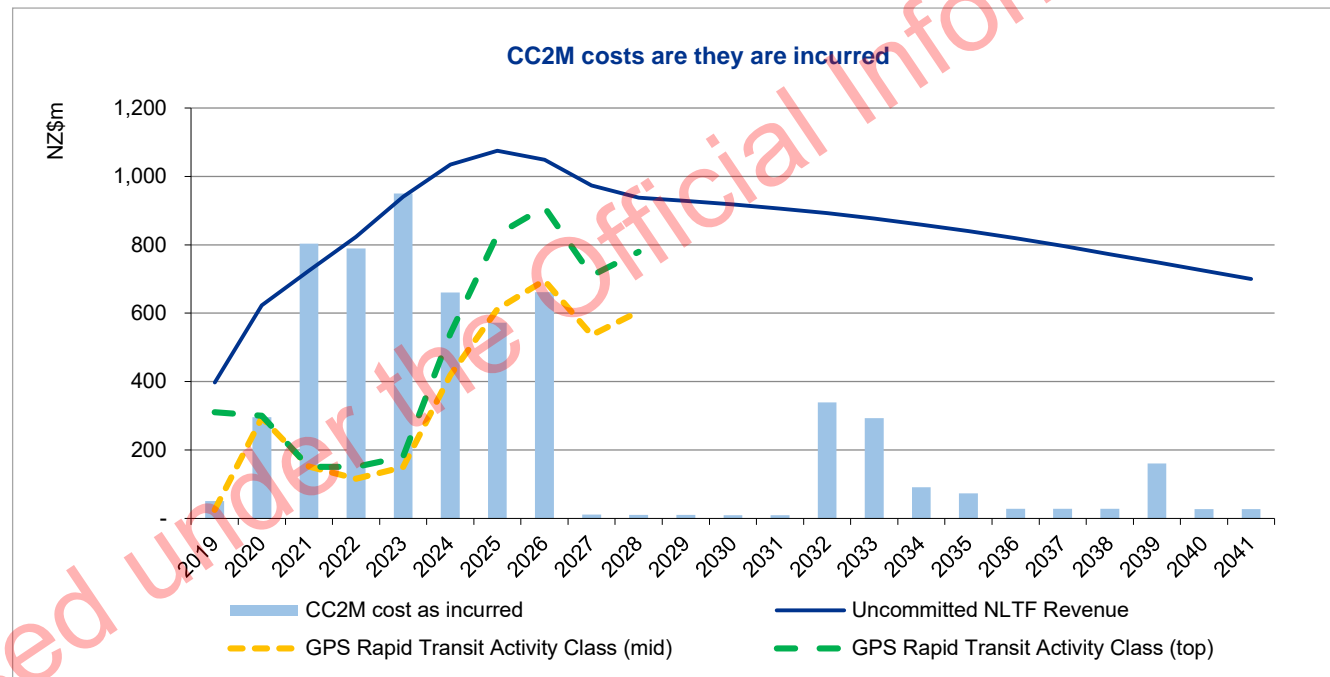
Annual operating costs are \$65M (escalating)





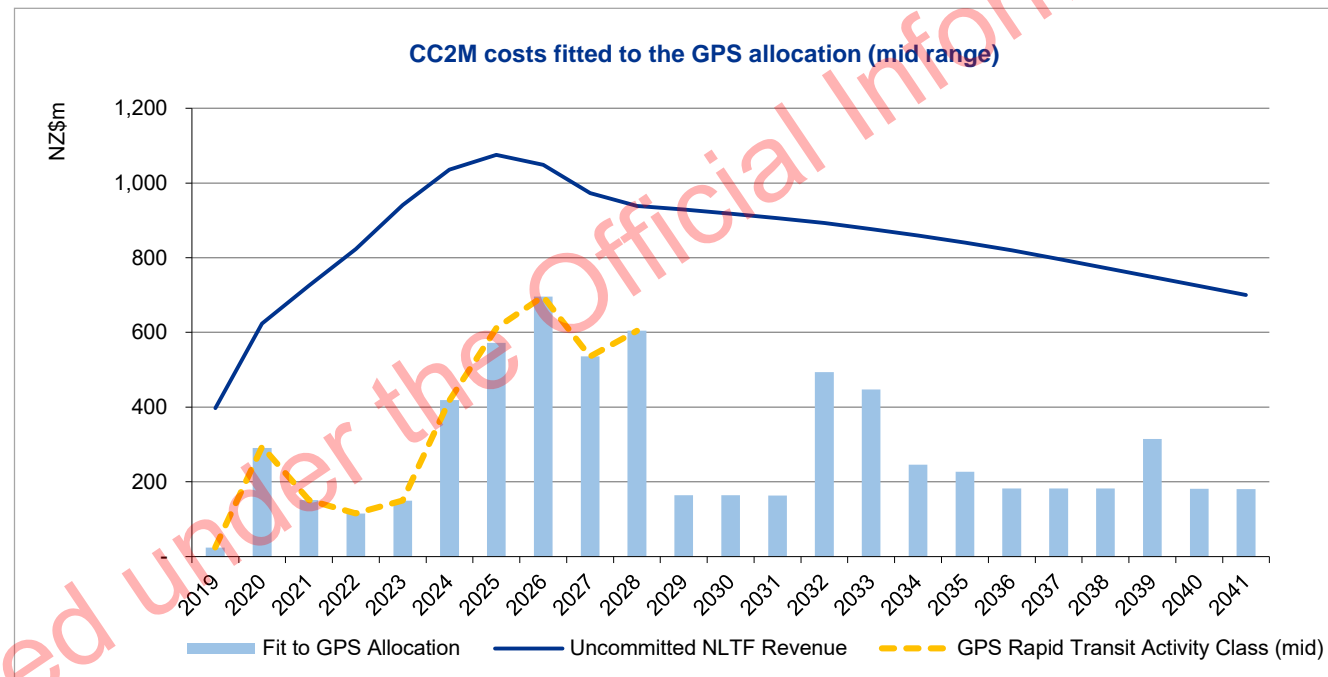
# Finance is required to match CC2M costs to the GPS Rapid Transit allocations

The bulk of funds in the GPS Rapid Transit activity class become available in the later years of the GPS period, while CC2M costs occur earlier



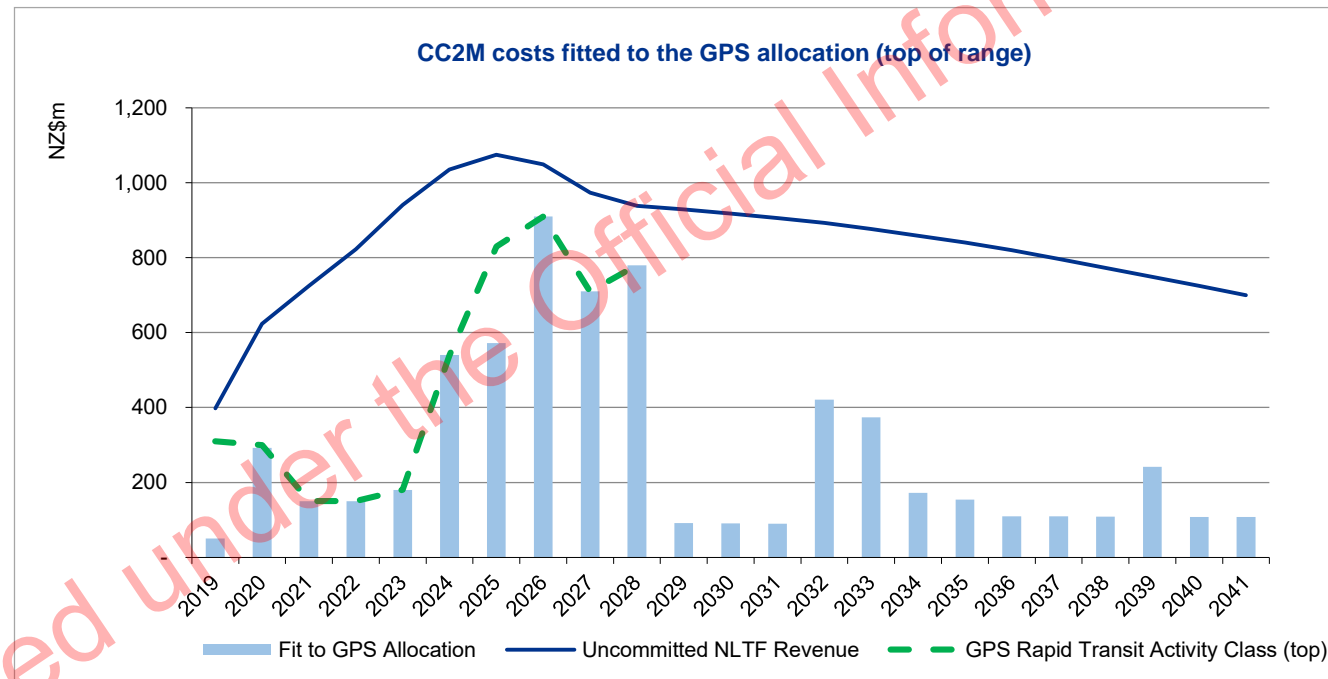
# After fitting the CC2M spend to the GPS allocation, further borrowing is needed to pay for the project

This scenario assumes a 15 year repayment and Treasury loan



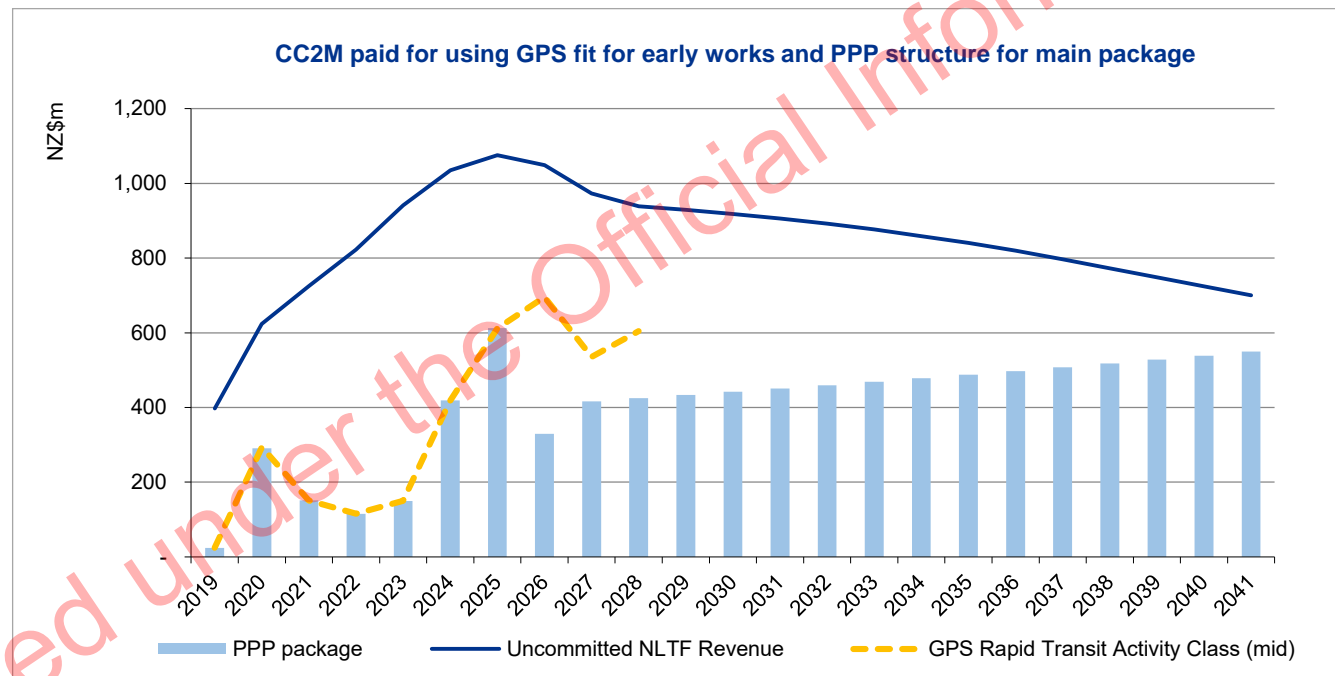
# After fitting the CC2M spend to the GPS allocation, further borrowing is needed to pay for the project

Borrowing still required if top end of GPS range is used



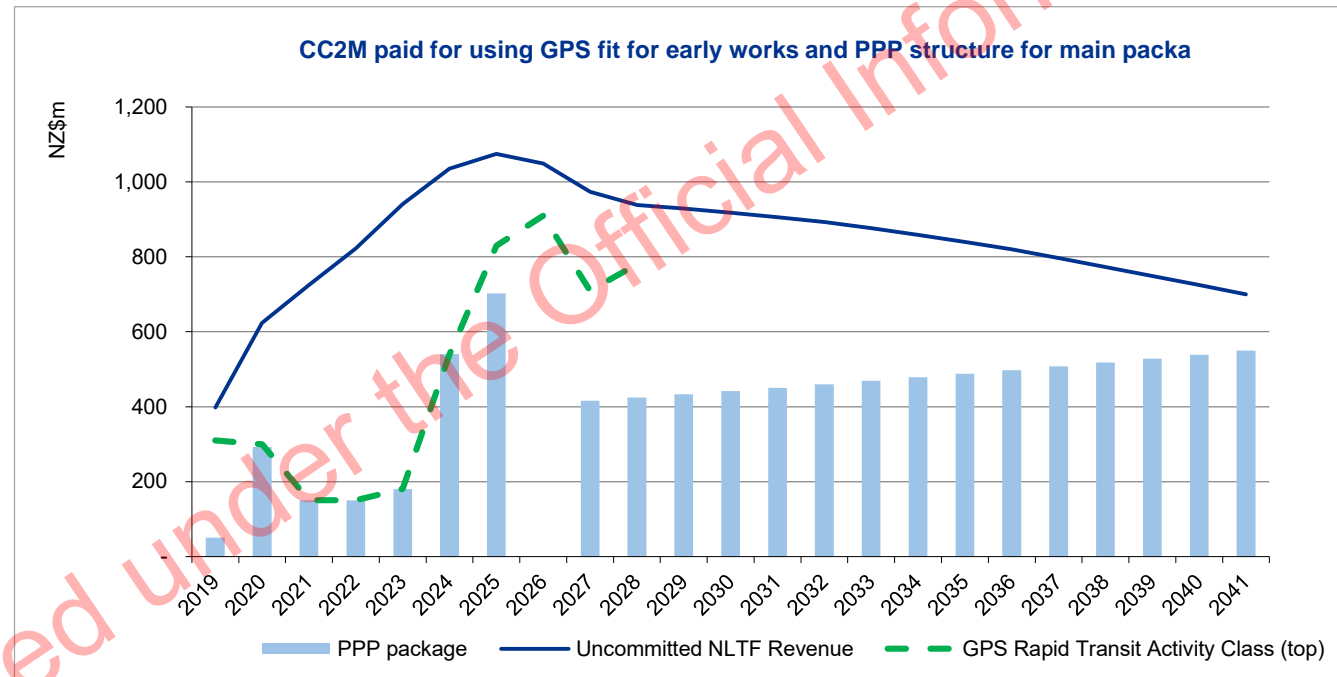
# PPP frees cash within existing GPS range but creates larger ongoing repayment commitments

This scenario has early works packages paid from NLTF using a cashflow management facility, and main works paid from private finance and repaid over a 15 year PPP concession period

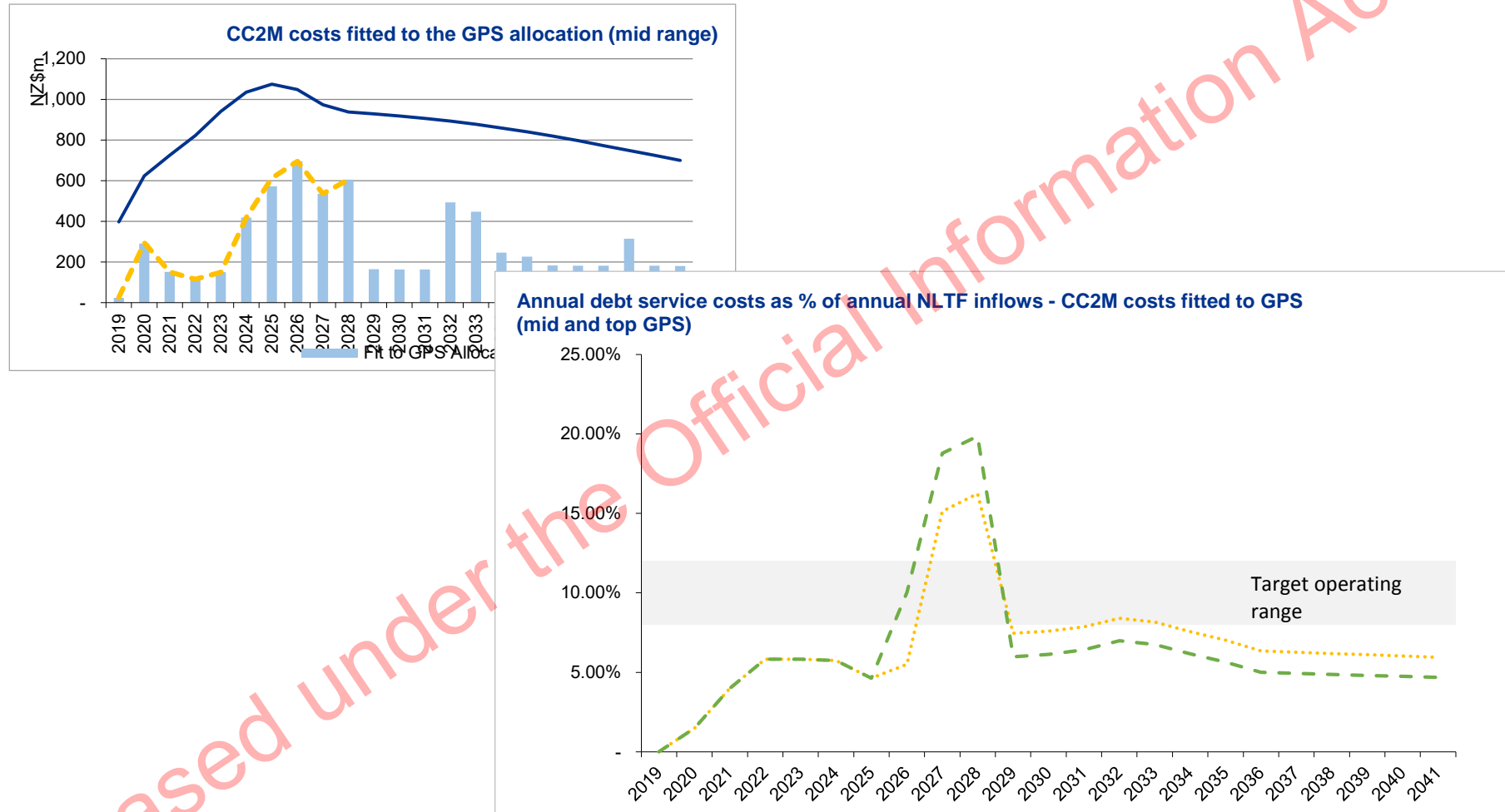


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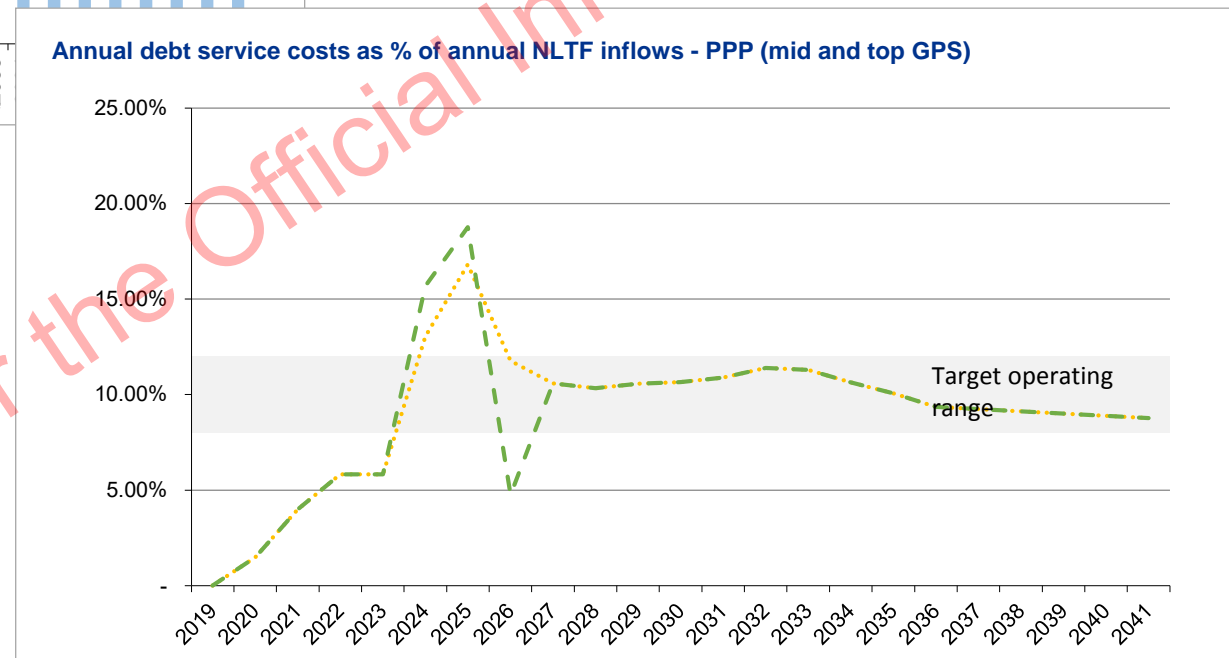
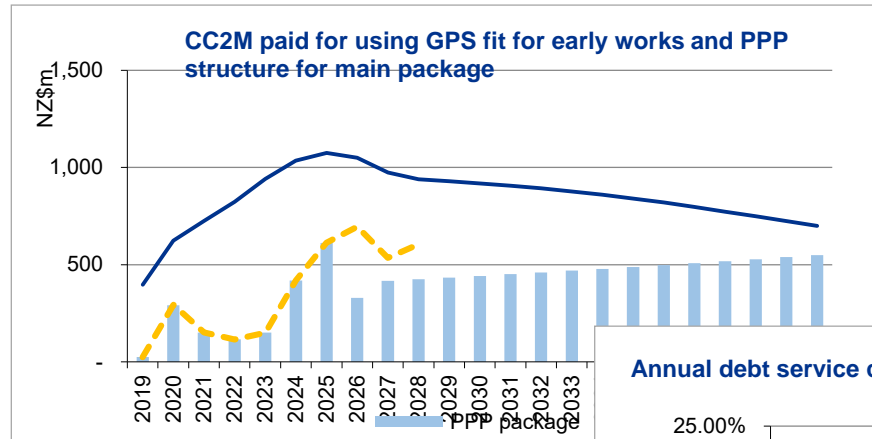


# Under the GPS fit with finance scenario the key financing ratio is under the lower side of the target operating range





# Under the PPP scenario the key financing ratio is within the target operating range



# Governance and implementation

## The Management Case

New Zealand Government

## **An MOU is in place among the project partners setting out roles and responsibilities**

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The Auckland Light Rail steering group is in place with membership from Auckland Council, Auckland Transport and HLC chaired by NZTA.

Timely achievement of stakeholder agreements is being reinforced and enforced by the Partners' MOU.

The MoU includes a detailed decision making matrix defining responsibilities for supporting activities required to enable light rail delivery.

## Consenting, property and utilities strategies determine key delivery timeframes

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The consenting path runs to a consenting decision in July 2020:

- This assumes no appeals – relies on legislation being in place
- If appeals occur the timelines are pushed out 6 months (to February 2021)

Critical path property acquisitions include the depot site

Discussions with utilities companies are underway



# It is propose that NZTA retains ownership and is the contractual counterparty, with obligations and rights passed to AT as appropriate

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- Proposed approach:
  - We retain balance sheet ownership
  - We align incentives for asset stewardship and performance
  - We achieve an integrated network outcome for customers
- This is done by:
  - NZTA is main counterparty to all contractual agreements
  - AT is licensed by side-agreement to perform certain customer-facing functions (eg, ticketing) and has agreed rights of control as needed for PT network (eg, timetable)
  - Commercial obligations and rights are passed down to AT under contract as relevant and necessary
- Implication:
  - NZTA retains contract management for light rail – requires ongoing resource. Will lead to scale efficiencies as network expands over time