# SWAN RIVER CROSSINGS

# ALIGNMENT FORUM: 23 OCTOBER 2020

# ESPLANADE HOTEL FREMANTLE

# FORUM SUMMARY

## WELCOME

Nicole Lockwood welcomed attendees and thanked everyone for their time commitment. This project is viewed by the community as the first step in reinvigorating Fremantle. Today's agenda includes discussions around:

- What is the problem we are trying to solve?
- Where are the areas of confusion and/or concern?
- The session will work through the problem, the components and look at a way forward for the project.
- This session will work through the range of options Main Roads assessed and; additional ideas provided by the City of Fremantle and Andrew Sullivan.

## ATTENDEES

| NAME | ORGANISATION |
|---|---|
| Peter Satie | Public Transport Authority |
| Sue Hellyer | Fremantle Ports |
| Tim Collins | Westport |
| Peter Newman | Professor Sustainability Curtin University |
| Michael Barker | Fremantle Shipping News |
| Lynleigh Gords | Boating Industry Western Australia |
| Leah Adam | Fremantle Arts Centre Precinct |
| Layla Saleeba | DesignFreo |
| John Dowson | Fremantle Society |
| Jim O'Neill | Town of East Fremantle Mayor |
| Jenny Archibald | City of Fremantle Councillor |
| Ingrid Maher | North Fremantle Community Association |
| Ian Ker | South Fremantle Resident |
| Russell Kingdom | City of Fremantle |
| Rosita Tomic | North Fremantle Rivershores Apartments |
| Rebecca Clarkson | Better Bridges Campaign |
| Ann Forma | North Fremantle Community Association |
| Andrew Sullivan | City of Fremantle Deputy Mayor |
| Alex Fletcher | Better Bridges Campaign |
| Brad Pettit | City of Fremantle Mayor |
| Catriona Gregg | High Street Project Community Reference Group |
| Christine Catchpole | Town of East Fremantle |
| Craig Ross | Fremantle Inner City Residents Association |
| Danicia Quinlan | Fremantle Chamber of Commerce and Industry |
| Gordon Melson | North Fremantle Resident Rivershores Apartments |
| Greg Dale | Boating WA |
| Andrew McLurg | Department of Transport – Active Transport |
| Lindsay Broadhurst | Main Roads Road Planning |
| Richard Thomas | Public Transport Authority |
| Julia Summers | Arup |

| NAME | ORGANISATION |
|---|---|
| Sonia Beros | Main Roads Project Team |
| Julie Clayton | Main Roads Project Team |
| Amanda Phillips | Arup |
| Gary Manning | Main Roads Director Project Development |
| Lance Thomas | Main Roads Project Team |
| Sergio Martinez | Main Roads Project Team |
| Kathryn Davies | Department of Transport – Marine |
| Annabelle Fisher | Public Transport Authority |
| Justyna Mace | Westport |
| Carolyn Walker | Main Roads Project Team Stakeholder Engagement |
| Lauren Bettridge | Office of Member for Bicton Lisa O'Malley |
| Matthew Bowden | Office of Member for Fremantle Simone McGurk |
| Joel Kelly | Office of Minister for Transport |
| Nicole Lockwood | Facilitator |

**SLIDE PRESENTATION**

**1. PROJECT OBJECTIVES**

Lance Thomas discussed the project objectives:

- Replace Fremantle Traffic Bridge;
- Increase rail capacity, efficiency and productivity;
- Improve pedestrian and cycling connectivity over the Swan River and to North Fremantle Station;
- Maximise sustainability through economic, social and environmental responsibility;
- Improve amenity and sense of place for the community, tourists and road users, and
- Create value through provision of affordable infrastructure.

**2. OPERATIONAL CONSTRAINTS**

Lance Thomas discussed the operational constraints:

- Traffic - minimum one lane in each direction to be retained during construction on Fremantle Traffic Bridge
- Rail - co-ordinated and minimised impact and shut downs of freight and passenger rail services during construction.
- Port - co-ordinated and minimised impact on Fremantle Port operations (land and river). Maintain access to Victoria Quay via Peter Hughes Drive and Gate 3 and small craft pens.
- River: minimise impact to port and ferry operations and other river users.

**3. KEY CONSIDERATIONS (SEE SLIDE X)**

| QUESTION | RESPONSE |
|---|---|
| Which of the constraints are related to construction?<br>How long will the project take to build? | Construction staging and options are determined by the space we have to work within. Large equipment is needed to build the project. How this can be lifted into the area whilst minimising impacts to road, rail and river operations as well as impacts to the local environment does dictate how/where we can build the crossings. |

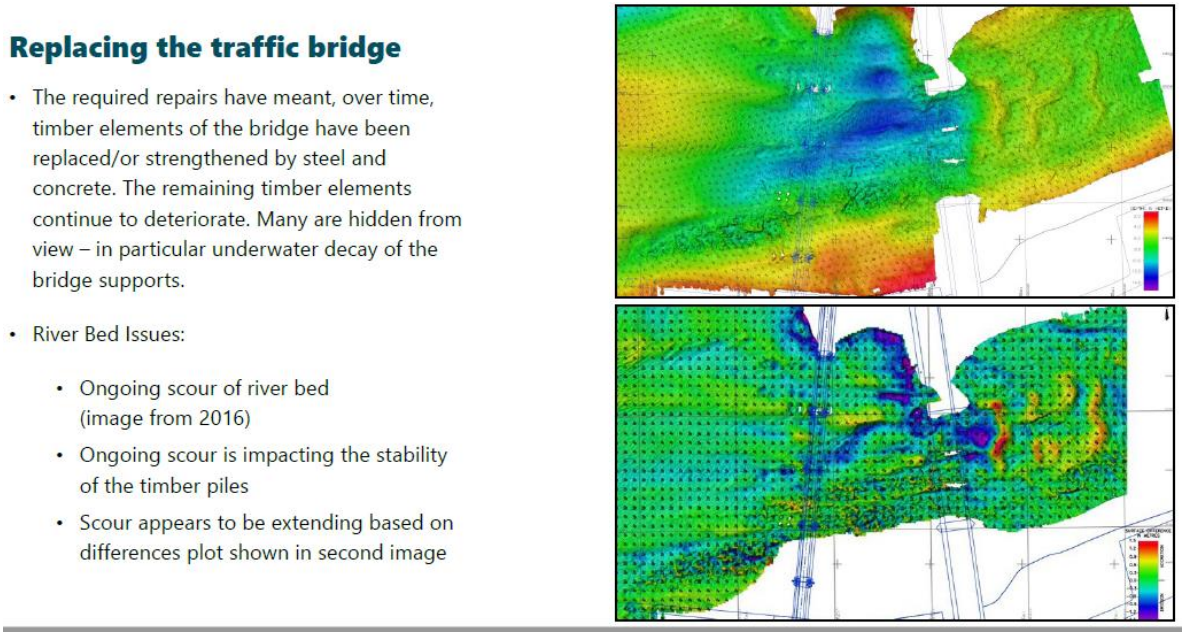
| QUESTION | RESPONSE |
|---|---|
| | Construction is 18 months for the bridge, and up to two years for remaining elements. |
| How has the transition of the container port to Kwinana been factored into decision - making? | A new container port is potentially 12-27 years away. Do we need a dedicated freight rail line given the timeframe – the answer is yes. |
| Why are we fixated on only working within the existing transport corridor?<br>Did you look at having a crossing in the port land and dismiss it?<br>Is it a case of simplicity and budget? | Space is a key concern. To clarify, the issue is not the availability of land, but the critical port operations and tenancies that cannot be shifted until a new container port is operational in 12 – 27 years' time. Design and technical challenges of any new structures also need to be considered. |
| The project was initially submitted to Infrastructure Australia with a barrage to be built to mitigate flooding upstream (towards the Kwinana Freeway). Why is that not included? | Main Roads is investigating other options to mitigate flood risks upstream outside of this project. There are also environmental and cultural challenges which would accompany a concrete barrage structure in the river. |
| The navigational constraints which currently exist for river users are real and need to be mitigated. | Thank you and noted. |

## 4. REPLACING THE BRIDGE

Lance provided a summary of the condition of the current traffic bridge.

The condition of the riverbed is an issue. It is affected by scour which has created a hole in the riverbed (12 metres and growing). The scouring is spreading upstream and in time, large portions of the bridge piers will no longer be supported.

- The graphic below shows scour spreading from the bridge and heading east. To resolve the scour issue, we would need to replace the piles and dig new structures deep into the riverbed. However, the existing bridge isn't strong enough to hold a driving rig.



In 1975 concrete overlay with reinforcement was added to protect the Fremantle Traffic Bridge deck from water ingress. The overlay is only 70mm deep. It has now eroded and needs attention. Main Roads now installs 200mm concrete layers to bridge decks, which includes steel for reinforcement. The current traffic bridge deck would not support a new 200mm concrete layer.

- Durability is a concern. In the past we have encapsulated the wooden piles with concrete. However, over time the concrete cracks and water ingress further deteriorates the wooden piles. The timber piles need to be completely replaced with steel and concrete piles.
- The bridge beams and corbels will also need to be replace with steel structures which provide greater durability.

## Replacing the traffic bridge

- Substructure Issues:
  - Cracks in concrete encapsulation due to reinforcement corrosion
  - Teredo worm activity on exposed timber below failed concrete encapsulation
  - Exposed timber piles at river bed level – noticeable "necking"

## Replacing the traffic bridge

- Superstructure Issues:
  - Local section loss on steel stringers over navigation spans
  - Multiple corbels split and large areas of deterioration/section loss

## Replacing the traffic bridge

- Deck Issues:
  - Poor condition of concrete overlay with heavy cracks and local failures
  - Poor condition of timber deck and timber bearers
  - Pedestrian path too narrow, balustrade too low and in poor condition – high risks for cyclists using the shared path




## Replacing the traffic bridge

- Approximately $23.5 million has been spent over the last five years to repair the bridge, including costly repairs in 2016 (these repair works focused on minimising the risk of vessels hitting the bridge and causing a collapse, until a replacement bridge was built).
- Maintaining the bridge in its current sub-standard state costs around $400,000 per year – this includes routine bridge inspections, monitoring and routine maintenance and does not include emergency strengthening/repairs.
- Ongoing maintenance will not extend the life of the deteriorating timber elements. Restoring the timber elements like-for-like will not meet bridge design standards and durability requirements.
- The bridge has the lowest clearance and narrowest navigation spans of all the Swan River bridges up to the Causeway; which limits the size of vessels that can pass beneath it. Also, the bridge piers under the rail and road bridges are not aligned - which significantly increases the risk of vessel impact and possible damage.

Nicole asked the group for questions.

| QUESTION | RESPONSE |
|---|---|
| A letter regarding a barrage was sent to the Premier and government ministers on behalf of North Fremantle residents due to flooding from the river up to Johannes Street (25 June 2020). We received a poor response from the Environment Minister – why is there not enough consideration for the flooding across the riverbank into North Fremantle | **ACTION: Main Roads to follow up and advise best contact.** |
| The poor maintenance practices are not a good reason to take the bridge off the state heritage register. If you remove trucks and cars, it changes the Australian Standards that apply; although major works would still be required it | Yes – agree regarding loading. But it won't solve the scour and pier durability issues.<br>A lightweight structure is possible, but consider that 39 piles would need to be replaced with new piles that would need to be driven deeper into |

| QUESTION | RESPONSE |
|---|---|
| could change the brief and the frame of the conversation. | the riverbed – in effect a complete replacement of the bridge. |
| What causes scour? If the traffic bridge is not there, what effect does it have?<br>Is there science around scouring? | Scour is caused by the flow of water and currents moving through the various structures in the river in a confined space. Removing the existing bridge and reducing the number of structures would improve the situation.<br>A new bridge with larger spans will improve flow and address eddying issues.<br>The geotechnical survey will be undertaken to better understand impacts on river sediment. |
| Bridge is heritage listed; keep it by taking the load off it. London has 35 bridges and they would never be demolished.<br>We want more effort in retaining the heritage structure - reducing scouring, take the load off, whatever it takes. | The condition of the timber structures is a particular challenge. |
| The Northbank development did not resume land from the river. The northern shore is quite shallow. Scour is primarily an outcome of the harbour being deepened over decades, in effect creating a waterfall rushing through.<br>There has to be a solution to address. | In front of rail bridge there is a large shoal – this is impacting on the flow and depths and planned environmental studies will provide more information on that. |
| **Nicole asked if everyone agrees / understands the condition of the current bridge.** | |
| How imminent is replacement? | We could undertake packages of works to extend its life but this is a significant cost. The scour and piles need to be addressed swiftly. There are potholes on the deck and we get complaints about damage to vehicles crossing the bridge.<br>An improved super and sub structure could help address scour issues in the next 5-10 years. However, it comes at a significant cost – replacing the deck alone is anticipated to cost $40 million. |
| Has a risk management assessment been done? | Yes. The number one risk is vessel impact.<br>We currently use fenders as a temporary measure to minimise the risk of bridge collapse if it were to be struck. The deck needs replacing within the next 5 years. |
| Has a cost analysis been done to build a structure for lighter loads? | That was part of the option discussions. The issue of durability and scour though would remain. |
| Main Roads lost skills when they outsourced bridge construction, and this is making the cost of the new bridge really high than if Main Roads was to do it in house. Is it possible for Main Roads to do more work in house and not have huge consultancy bills? | Not many timber bridges left to manage and it is therefore costly to maintain a timber bridge crew. |

## 5. ADDRESSING THE RAIL CAPACITY ISSUES

Gary Manning discussed the rail capacity issues, including the need to understand how we manage the problem in the period before the new container port and associated road and rail infrastructure is built.

Addressing the rail capacity issues

- The Swan River Crossings Project needs to address the current capacity issues with the sharing of freight and passenger rail on a single bridge.
- Fremantle Rail Bridge has two rail lines – one travelling south and the other travelling north, which is shared by passenger and freight rail services.
- Fremantle rail bridge has a remaining service life of around 40 years.
- With shared services the passenger rail takes priority. Freight trains are restricted from using the bridge during passenger peaks (6am to 9am and 3pm to 6.30pm). Second priority is for track and infrastructure maintenance, repairs and inspections that occur at night. Freight trains are further restricted from using the bridge during this maintenance period, which usually takes place between 1.00am and 5.00am.
- These restrictions limit capacity between Kwinana/Forrestfield and North Quay to around 5 freight trains per day each way. Little opportunity to increase this capacity.
- The State Government target is for 30 per cent containers to be handled by rail reducing the number of freight vehicles on the road network.
- Building a new passenger bridge and separating passenger and freight rail lines will ensure additional capacity for passenger rail services into the future and adequate freight rail capacity until the port ultimately transitions to Kwinana.
- Future passenger rail services - Public Transport Authority is proposing that trains will operate on the Fremantle line every 10 minutes by 2021 and by 2024 this will increase to every 8 minutes increasing demand on the shared lines.
- Freight rail services – Without the separation of freight and passenger lines we are capped at five freight trains per day (currently 3-4 per day) with little room to grow rail volumes beyond next year.
- If the new passenger rail line is not built and freight trains continue to be restricted, compared to current levels, an additional 260,000 trucks will be required to service the Inner Harbour trade in 2032/33, or around 1000 extra trucks per day.
- The immediate impact of building a new rail bridge to separate services will be the potential to remove over 60,000 trucks from the road in the first year.
- Additional freight train services could be provided by:
    - Increasing evening and night operations, however, night trains impact the amenity of the surrounding area.
    - extending freight train length to carry more per journey. However, trains over 720 metres in length cannot be managed on the existing network due to the capacity of intermodal terminals.
    - Double stacked containers is not possible without major infrastructure improvements to all rail bridges, rail systems, and reconstruction of railway tracks to reduce vertical grades.
- The separated rail lines will mean freight can travel more during daylight hours resulting in better community outcomes (including less disruption to people's sleep); the percentage of TEU on rail can continue to grow and reach the WA Government target of 30%; and there will be fewer trucks on our roads resulting in less noise, less pollution and less congestion.

| QUESTION | RESPONSE |
|---|---|
| This means you build a bridge for 8-10 years life | There are a range of considerations - 1000 extra trucks on road versus economic impact of a new structure – i.e. is building a new bridge for 12-27 years life worth the investment? |
| Is 8-10 years a reality? Understand it is more like 12 years. | Westport advised 2032 is the earliest a new port will operate, followed by full transition in 2045.<br><br>Nicole advised: What happens after to the structure is a PTA consideration. Part of the visioning for Fremantle is public transport. This solution provides an option that needs to be thought of in terms of vision. |
| Why isn't the port investing in a new freight route? | Port only owns the section of rail in the port area. |
| Conversation always appears to be building a bridge for a purpose rather than a foundation for a transport corridor.<br>Why look at it as single use? Whether freight or passenger services - whatever replaces that.<br>Traffic that comes out of the port in terms of volume is quite small compared to all the other traffic coming into and out of Fremantle. We need to reimagine Fremantle as an urban city.<br>If you build a foundation across a river, look at the 100-year life span. | Agreed the transport corridor needs to consider rail, road, river, pedestrian and cyclists all of which come with their own requirements in relation to design and other considerations.<br><br>Yes, finding a solution that considers all of the issues and what the future may or may hold is a challenge. |
| Struggling with resilience. The Port will relocate and that opens up the brief. Also surely there are no hard/fast rules regarding rail requirements (consider this rail is going slow in a city, which should change rail grades). | Options will be discussed after lunch. |
| Adaptability required. The intent is to demolish the rail bridge after 40 years. Open and share transparency. In 2032-45, the port will go and we need to create adaptable infrastructure. | PTA: Future ultimate frequency for passenger trains is 6 trains per hour and these already operate at 10-minute peak frequencies.<br>The Fremantle – Midland line will connect to the airport and Ellenbrook which all has a relationship to trains travelling into and out of Fremantle.<br><br>The reason we will be increasing passenger trains in the interim is that it will take time to deliver future capacity – we need longer platforms to handle longer trains. Until then we will have higher frequency with shorter trains.<br><br>The length of the peak changes and the pre-peak period is just as important. In the pre-peak, we need to operate a frequency across the bridge that is shorter than 10 minute or 8 minute intervals. Trains that feed Claremont and the future Airport and Ellenbrook lines will store at Fremantle. Pumping trains from Fremantle means Fremantle will be busier.<br><br>**ACTION: PTA to provide more detail.** |

| QUESTION | RESPONSE |
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| | Nicole noted the interim period between now and Westport is to grow rail capacity to take pressure off roads.<br><br>Gary advised the business case shows we should provide three rail lines – we can build a new rail bridge or do staging. The concept we presented was one where you leave the existing rail for freight, and build a new passenger line, which will always be needed. If the rail bridge goes in 40 years, it means we are not building a new freight rail for something that might not be needed. |

## 6. ROAD NETWORK OVERVIEW

Lindsay Broadhurst discussed the road network and why the traffic bridge is needed.

### Road network overview

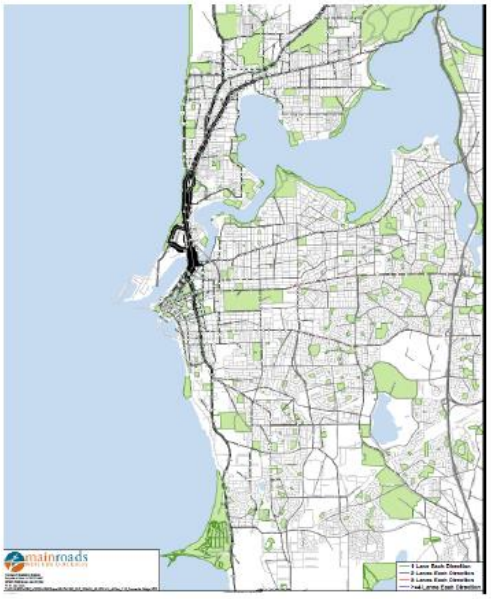
- Current weekday traffic volumes
  - **Fremantle Traffic Bridge**
    - 24,000 vehicles existing (94% cars and 6% trucks)
  - **Stirling Traffic Bridge**
    - 39,000 vehicles existing (87% cars and 13% trucks)
- Predicted traffic volumes in 2041 anticipate significant growth on Stirling Bridge.
- Location of port will have little impact on traffic growth across river.
- The growth in traffic is in cars from increasing population and development.

## The role of Stirling Bridge - move people North to South along the network

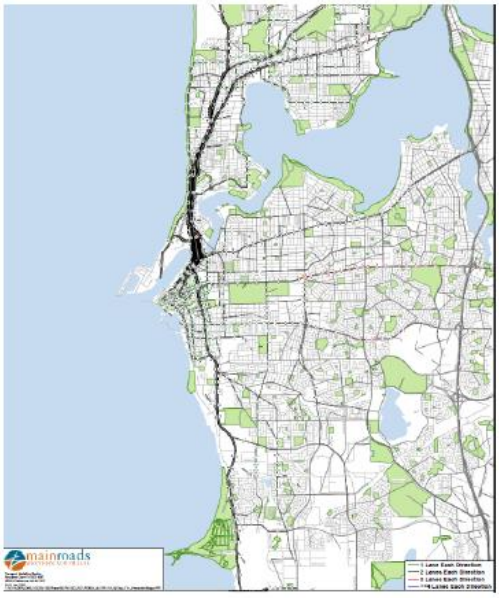
2016

2041

## The role of Fremantle Traffic Bridge - move people into and out of Fremantle



2016



2041

| QUESTION | RESPONSE |
|---|---|
| Need to understand the importance of Tydeman Road over the next 20-25 years. None of the Main Roads plans for now and into future actually takes north-south traffic off Tydeman Road. Each version of current planning shows a reasonable volume of north south traffic ending up on Tydeman Road. | Lindsay – agree 100% shouldn't increase capacity.<br><br>There is a current operating port that requires a link. In the future (once the port has moved) it will also be important to provide access into that node. Future planning for West Coast Highway and Curtin Avenue forms the future long-term plan. More regional traffic along Stirling |

| QUESTION | RESPONSE |
|---|---|
| | Highway will require a future connection to Curtin Avenue. |
| Whatever goes over the bridge uses Tydeman Road. Why is this not considered? Traffic uses Tydeman to connect to Port Beach, or Stirling Highway or the traffic bridge. The future version should get north-south traffic onto Stirling to go across Stirling or come back along Tydeman to go over a new bridge. Large number of cars. If you want freight capacity increasing, also consider other vehicles. There is no plan for this but you could do it. | We need to consider timing and staging issues as to future infrastructure and when they occur.<br><br>With staging and timing of any future crossings we need to consider land uses. What we do know is that there will be an increase in traffic volumes (not port related) in the area which should use Stirling Highway to travel north to Cottesloe, and the City and not use the traffic bridge – that is to assist traffic to get into the Fremantle CBD. |

Nicole summarised:

- The question of the broader transport and land use picture: i.e. what does the network look like with a strategy to move the container port now in place. We need to go back and reflect on whole network - this is the next piece. But it will take a significant amount of time and relies on a number of variables to be resolved.
- The question is, can this project proceed in parallel?

| QUESTION | RESPONSE |
|---|---|
| The 1000 extra trucks per day - from a traffic perspective, what's the capacity of the current works on High Street and associated roads to accommodate that number of trucks? | High Street project is about improving safety for all road users. It will provide a more free-flowing link and reduce conflict points where traffic is entering and exiting the route. Certainly, in time there will need to be some consideration about increasing capacity – at Carrington Street for example. |
| Figures show projected traffic increases of 85% to 2041 on Stirling but only 25% on the traffic bridge.<br>2006 was 28,000 and it has dropped. So you say 30,000 by 2041 – is that accurate? | We've checked over the last 5 years and we have stable traffic volumes on the bridge. Stirling Bridge shows marginal increases of 36,000 to 39000.<br>We are not sure why it was high in 2006 – may have been other circumstances. |
| As the port leaves, there is potential land use redevelopment to a point near Tydeman Road. Is there anything in planning to show where traffic will go?<br>Is there a big bridge over Stirling in a bottom drawer plan? Or a new traffic bridge west of the current? Has any planning been done? | There has been little work done regarding scenarios about the port moving.<br>Some initial work shows support for Andrew Sullivan's general view that whatever goes there will generate more demand.<br>How issues are addressed is subject to further study once clearer as to what the alternative land use is. |
| Timing for widening of Stirling Bridge?<br>Can you encourage people to use Stirling Bridge and focus on widening it first? Is it an option? | Timing is difficult as it depends on future government investment decisions.<br>We perceive something may need to be done in the next 10 years from a demand perspective. There are 39,000 vehicles at |

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| | the moment, and generally, the capacity of a four-lane road is 45,000. |
| The widening of Stirling Highway will be a complete disaster for North Fremantle. If there is anything you can do please consider it as it is difficult to maintain a community (you would create a freeway through the suburb). | Noted. |

Nicole asked attendees if there were any gaps in the information or other thoughts.

| **COMMENT** | **RESPONSE** |
|---|---|
| If you can get a new traffic bridge away to the west you could build new rail/ road optimally.<br>Can you build a new rail bridge first, knock over the existing bridge and put a new traffic bridge onto an appropriate alignment in line with regional planning? | This can be discussed in the options assessment. |
| Operations of the port – what is needed and where? A lot of us feel like that space is stopping us from considering other options. | The western alignment has the potential to impact current uses of berths 11 and 12 as well as access to those berths. These are the only heavy-duty berths that can accept large heavy equipment (eg mining, agriculture etc).<br>Port will only be able to berth one ship, which impacts timing and efficiency, meaning delays in terms of receival.<br>Berths 1 and 2 can take the load if upgraded to the heavy-duty capability that berths 11&12 have. This has been estimated to cost between $150- $350 million.<br><br>In addition to upgrading the berths, 1&2 currently present a problem for large container vessels to get past - any ship berthed at 1 and 2 must be moved to enable incoming/outgoing ships.<br>Overcoming this issue will come with significant additional costs on top of the above estimate.<br><br>The land back storage space at these berths is also limited and is unlikely to provide a suitable alternative to berths 11&12.<br><br>There is also the complex environmental approvals that would need to take place. |
| Other sites for heavy berths? Eg Kwinana – is there potential to carve out that berth now? | This is an issue for Westport but the target is still 12 plus years away. |
| Would like to understand what the State Government is thinking. There is serious impact on residents. Want to understand | |

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| whole Stirling Highway proposal and what the future plans are for north-south traffic. | |
| Bigger picture – need more information on traffic modelling | |
| Rail volumes are capped at approximately 175000 TEU (twenty foot equivalent units) per year and we anticipate this will be reached in around 12 months' time.<br>So, this time next year our ability to transport freight by rail will be at capacity and this will generate more heavy vehicles to cater for limitations to rail use. We estimate that by 2032, there will be an extra 1,000 trucks per day on our roads if the rail lines are not separated. | |
| Dates on when the new harbour will begin, compared to what we are hearing. 2030/40s. We are talking today for a long-term vision. I believe harbour will move quicker due to Covid19 – lots of job creation and opportunities, ideal for politicians to do this quicker. | The next four years will be dedicated to developing a timeframe and the business case for the movement of the container port. This process can't be rushed and is determined by regulatory processes. |

**7. Options**

**Russell Kingdom (City of Fremantle) presented.**


| COMMENT | RESPONSE |
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| PTA: The rail grades suggested would require investment in new, bigger locomotives that could pull the carriages up and down steeper grades.<br>There is also a clearance that needs to be achieved in order to allow the electrified passenger rail to operate safely, which in turn affects the location of any new structures.<br>The driver is the clearance above the water. The higher the new rail lines the closer they get to the 25kv line which poses significant issues. | Also constructing on top of the dolphins – these would need to be rebuilt.<br>Pushing west means further issues. |
| If the issue is 'we can't do it", this should be stated. If the issue is that it is out of budget, state that. | Issues when you solve one complexity you often come up against another. |
| PSP – requires its own bridge so there would likely by two new structures either side of the existing rail line. Or, is it better to use old freight bridge as a PSP and build 3 rail lines to the west. | This option would free up space in old traffic bridge area. |

**Andrew Sullivan (Deputy Mayor Fremantle) presented option**

- Future traffic planning - divides the community and becomes a sewer of cars.
- Divides community from town centre.
- The new crossing provides an opportunity to deal with separation issue.
- Single bridge to the west allows regional traffic to bypass North Fremantle townsite on both sides. Traffic filters around town centre.

| **COMMENT** | **RESPONSE** |
|---|---|
| This solution may come out of any future regional planning. Timing is the key question – how do we deal with the current bridge maintenance problem while we wait for the significant work a regional planning exercise would need. | |
| For 17 years, the High Street project was on and off. Only now, 17 years later, it is being constructed. Whatever needs to happen needs to get moving as soon as possible. | Noted |
| PTA - a second train station was mentioned in North Fremantle? Another station won't be built in the area. | Confirmed that the option would involve relocating a station, not building another.<br>A bigger transport plan for peninsula is needed. |
| Long term – takes out berth 12 and probably part of berth 11, with significant impacts on the southern shore. This needs further investigation as to operational impacts. | |
| Key constraints were considered in | |

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| 2007 option. A combined road/rail bridge was 50m wide. The available space is 28-30m. Important to note that the western alignment means rail is raised 2.7m impacting the remainder of the network. Major disruption during construction with a higher rail line. | |
| Who wrote code of practice (for freight lines)? Why is the grade requirement 1:200 for running freight traffic | Can go steeper but comes at a cost to operators and maintenance. Steeper is noisier, less efficient and more costly. |
| (Andrew) This is a conversation outside this one. A lot of options based on technicalities. We had experts assess this option and they are surprised that 1:200 has been introduced. Sydney has 7/9:200. Understand the relationship, but we are talking about short distances. Not forgetting a lot of trains run empty and are lighter. | Train noise (from braking) increases the steeper the grade - whether travelling up or down. |

**Lance Thomas (Main Roads) presented alignments previously considered**

General discussion followed:

| **QUESTION/ COMMENT** | **ANSWER** |
|---|---|
| If the Indian Pacific is on the cards, is there an option that lines up to minimise disruption? | All options which have bridges to the west will have impacts on planning for the Indian Pacific. |
| Is the height / clearance for boats flexible? Could you design a bridge on the west side ultimately for passenger use, but use it for freight rail temporarily. Is that possible – can a rail line be adapted in the future? | What can be done to manage rail in the west can't be resolved today.<br><br>Stirling Highway Bridge has an 8 metre clearance in the middle and so does the rail bridge – we must allow for minimum clearance of 8 metres. |
| What is the Stirling Bridge's clearance? Noting there is a difference in height of the two riverbanks – northern side higher. | The lowest possible height is advertised as 7.4m clearance. But in reality, it is around 8.2 – 8.3 m. |
| Why can't we repurpose the existing Fremantle Traffic Bridge as a pedestrian and cyclist path. Can't we keep the abutment and place a lightweight structure in between? | There are a number of considerations:<br>a) Navigation clearance – if we installed a new lightweight structure to connect into the current abutments we would still have a low structure (current clearance is 6.5m, we would still need to raise the current structure to more than 8 m).<br><br>b) This option would mean we would have 4 bridges crossing the river – difficult to navigate through. |

| | |
|---|---|
| | c) Given the state of the traffic bridge, even to repurpose we would require complete reconstruction of the traffic bridge. |

Nicole noted two considerations:

- Repurposing of the current bridge – can it be retained?
- Can the Rail Code of Practice be challenged?

## 8. FINAL FEEDBACK / NEXT STEPS

Nicole summarised:

- There are clear areas of investigation people are keen to understand further going forward.
- Is there an appetite for some or all of you to stay involved?
- Current bridge: heritage value and repurpose. Worthy of further investigation.
- Whole network planning: given this is a significant piece of work, can we dovetail the two? Traffic modelling requires a number of key assumptions to be ground-truthed.
- Key constraint is requirement of rail and where it can go. How many tracks are required as part of this project? Additional investigations required.
- More investigations needed of both the City's and Andrew's option to understand how they might work.

| **COMMENT** | **RESPONSE** |
|---|---|
| All options Main Roads put forward – constrained by rail reserve. Is it a constraint? At the moment YES, but in the future? | If we start to do more work on City of Fremantle and Andrew's option, the port needs to be involved in the discussion as they both impact on Port operations. |
| Sounds like alignment isn't as fixed as we've been told or are we getting the reasons why we can't do options? | Government is keen to hear concerns and see more investigation. In the next few weeks, we will gather information and re-evaluate.<br>We are not starting again, but at this point, how do we go forward? |
| Little discussion about budget. Maybe rein it in a little bit – what are we trying to achieve?<br>Is the prescribed design within current budget? Perhaps if Main Roads had a bigger budget, maybe they could have done something different? | We need to understand what are the absolute constraints we can't shift?<br>There is not an open-ended budget.<br>What is the risk in taking too long – project slips and we lose the budget. |
| What is the Budget timeframe? | Current commitments based on statutory approvals – late 2023. Budget is in the current 4-year program. |
| Cost - $30 million 2007 to $230 million. Why? | Scope of this project is different. 2007 was replacing traffic bridge only.<br><br>This one includes finding a solution to increase passenger and freight rail capacity in the medium to short term. |

| COMMENT | RESPONSE |
|---|---|
| | In terms of the cost of the project. What is it? The project has received $230 million in funding, we undertake (review) estimates every few months and this is ongoing as the project scope is developed. |
| Do you have a sense of cost difference between building one bridge or two? | An integrated structure is always slightly cheaper than a single. Need to investigate whether other options fit into the $230 million budget. Then a decision can be made as to what we can proceed with. |
| Include an option that does not include additional rail. We have consequences, but integrated assessment across all criteria of not providing a rail bridge should be done. Perhaps this might free up some budget for other enhancements to the overall project. | If you take out rail, there is a consequence in terms of efficiencies, congestion, capacity and amenity; you may lose federal funding and need to revisit the business case. |
| Since the channels upwards and down the river have been narrowed, there are dolphins in the river that travel up there. Could the spans be made as wide as possible to give plenty of clearance? | Yes, this is a key criteria. We will reduce the number of bridge piers which provides wider span benefits. |
| How long do we have? The tender process is underway now – does that mean we have limited time? | This will be weeks of work. We can't set an expectation that the project has changed, but we have a window to resolve some of the issues.<br><br>The form of contract is not a design and construct contract, where development work is complete and a design is handed to the contractor to build.<br><br>The form of contract is an alliance contract that recognises development work will continue to be undertaken by an alliance of companies that will continue doing this work before they design and then construct. Rest assured, the procurement process is not seeking a contract to build; but a contract to develop, design and construct. This process is ongoing. |
| Could they come up with different alignment? | We have done the investigations to get to what we have.<br>We can ask the Minister to consider these issues raised. |
| Can you sign the Alliance and vary project as you go? | Yes. The alignment may change. |
| Does Alliance cover destruction of old bridge? | Yes. |
| Ask that no contracts are signed until community is on board.<br>We have no faith or trust otherwise. | The Alliance can look at all these issues. Getting them in sooner will be better. The Alliance brings another line of expertise. |

| COMMENT | RESPONSE |
|---|---|
| We need an understanding of the Alliance agreement. It is a big obstacle when you don't have trust of community. | Suggest we consider the outcomes on a journey over the next 4-6 weeks. |
| When is contract award? | Contract award currently mid-December at this stage. |
| Is the Alliance contract flexible to pick up Andrew Sullivan's option? | Andrew is discussing a whole of regional transport network and that requires a different process which will be influenced by land use decisions that are yet to be made or planned for.<br><br>There may be a case for this work to be done in parallel to replacing the traffic bridge.<br><br>However, the issue of building in berths 11 and 12 can be explored further to better understand how much of a barrier there is to moving to the West. |
| Degree of impact to the Port is important. | Noted. |
| Has Fremantle Ports considered the future of berth's 11/12 once the container trade shifts to Kwinana? | Westport is investigating the shift of container trades to Kwinana. This is part of a broader Port Development Planning exercise to be conducted by Fremantle Ports. |
| Question for the team is how much of Andrew's plan can be built at stage one. Can you build a new bridge; connect with the existing traffic network without too much impact/disturbance beyond the obvious – i.e. port berths 11, 12, QUBE's land.<br><br>Is this possible? What does immediate term solution look like compared to longer term? Keeping in mind other activities for example the Department of Planning is looking at the oil tank sites. Short-term bridge, medium term develop the tank sites etc; long term other? Can you make western alignments work in the short term?<br>Andrew's proposal requires staging and is dependent on land use elements that don't currently exist. | |

**CLOSE**

Nicole thanked everyone for contributing their time to the workshop. The workshop closed at 3:45pm.