

PORTFOLIO COMMITTEE NO.5 – INDUSTRY AND TRANSPORT

INQUIRY INTO THE WINDSOR BRIDGE REPLACEMENT PROJECT

Responses to Questions on Notice

Hearing – 7 May 2018

Roads and Maritime Services

Dr MEHREEN FARUQI: Are any others aware at all of this letter and why Hill Thalís withdrew?

Mr LANGFORD: I am not aware of the letter, but I think it is fair to say that, as you said, this project has been going on for 10 years—numerous consultants, community engagements, other organisations have been involved for a very long time in this project; to ask any of us to reference a letter of someone who actually did not work on the project or is not going to have any further part of the project, I think, is unreasonable.

Dr MEHREEN FARUQI: They actually did work on the project. They were paid some amount of money by RMS. Could you take it on notice and let me know how much they were paid—that is Hill Thalís?

Mr LANGFORD: Yes, we can take it on notice.

Dr MEHREEN FARUQI: I am baffled that no matter how long a project goes on for and it is still going on, that people who have started now are not aware of the history of the project given the contentious nature of the project. I might put other questions on notice as well because what I do know is that these consultants withdrew from the project or elected not to tender because they had very serious concerns regarding key issues such as design and width of the bridge, the siting and scale of the western roundabout, the interpretation of the existing bridge and the lack of firm commitment to the associated public domain works in Thompson Square, and many, many more were not taken on board. In fact, they were asked to delete their recommendations from their report. I think that is quite a serious issue. So if you are not aware, maybe this is the time when you should become aware of that.

Mr HARDWICK: We will take that on notice, but I would also like to mention that we will have to also in that response show what has happened since 2012, because a lot of modifications have been made to the final design, which could have been some of the things that you have got in that letter that I do not know about. But there are a lot of things that have changed in this project since 2012 as well which have been all positives for the community.

Response:

The letter in question is dated 26 October 2012 and is recorded in the project files. An examination of project costs show that Hill Thalís was paid a total of \$10,965 for work completed on the Windsor Bridge project.

Dr MEHREEN FARUQI: With all due respect, Mr Langford, my question specifically was benefit cost ratio. Do any of you have any idea of why it plummeted from 14.6 from 2012? I understand that, Mr Allan, you have been here since 2012 on this project.

Mr ALLAN: No, 2016.

Dr MEHREEN FARUQI: Do any of you know why it plummeted, what was the reason, what changed? That is a huge difference, you would admit that, would you not?

Mr LANGFORD: Yes. We will take it on notice about the reason why it has changed.

Response:

The BCR in the Environmental Impact Statement (EIS) was based on the quoted project costs and assessed benefits for the concept design and traffic data available in 2012.

Further planning, investigations and particularly specialist studies have been completed since 2012. The design has also been refined at the detailed design stage which provides a more accurate project cost. This is typical of many large infrastructure projects as design options are further developed and finalised.

Dr MEHREEN FARUQI: You would surely know, if \$150,000 was being spent every year on the maintenance and repair of the bridge, which years they were spent in.

Mr LANGFORD: I will have to take the specific years on notice. Generally speaking we are currently spending around \$150,000.

Response:

Maintenance funding is sourced from a general maintenance budget and data specifically related to Windsor Bridge is not available for this time period. As a breakdown of the maintenance expenditure costs for Windsor Roads is not available, Roads and Maritime has undertaken a qualitative assessment of the typical annual maintenance costs for Windsor Bridge. The estimated cost for condition inspections including both visual and structural inspections and the cost of concrete spall repairs is estimated to be approximately \$150,000 each year.

The CHAIR: That is on one side of the equation, but are there any probability analyses or assumptions available to the Committee? Could we have a look at the probability analysis of the bridge failing?

Mr ALLAN: The risk assessment of the bridge? We will take it on notice but we can provide the three rehabilitation engineering reports.

Response:

The decision to replace the existing bridge was based on in-house and external expert technical reports into the structural condition of the bridge. These reports are:

- Windsor Bridge Graphitisation Investigation (July 2011)
- Windsor Bridge Underwater Bridge Inspection Report (May 2011)
- Windsor Bridge Underwater Bridge Follow Up Inspection Report (June 2011)

Additionally, there have been three separate reports prepared to estimate the cost of refurbishment for the existing bridge. These estimates are as follows.

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|--|---------|
| • Roads & Maritime Report (August 2011) | \$18m |
| • Technical Review of Refurbishment Option by AECOM (March 2013) | \$16m |
| • Peter Stewart (August 2013) | \$14.5m |

The Hon. DANIEL MOOKHEY: Because of the nature of this project, which proceeded through INSW and Transport for NSW, can you step us through when the economic appraisal was done? In what year?

Mr ALLAN: I am sorry, I do not know when it was. I will take the question on notice.

Response:

Initial development of the project preceded current Transport for NSW and Infrastructure NSW Assurance review processes, and as such, no preliminary business case was completed.

An economic assessment was completed as part of the options selection process and was included in the August 2011 Options Report. An economic analysis was completed for all project options.

The Hon. DANIEL MOOKHEY: Are independent reports available to the Committee or is that something that Transport for NSW would be prepared to consider?

Mr FOX: We do not normally release them but we would certainly consider it. I will have to take that on notice but, yes, a report was prepared.

Response:

The Final Business Case – Independent Assurance Review and Investment Assurance Review - Project Team Response and Action Plan have been provided to the Committee under cover of letter dated 28 May 2018 from the Secretary, Transport for NSW.

Mr FOX: That is correct. For a tier three project, INSW would normally—this is a project initiation—look at the initial project investigation to see whether the project should be initiated as a project and registered.

Mr FOX: The issue is that projects that were already in delivery were effectively accepted and put into the INSW system as a live project.

The CHAIR: Mr Fox, Mr Mookhey's questions relating to tabling those independent reviews for the Committee, normally questions on notice will take 28 days. Would you be able to give us a yes or no answer whether the Government would allow you to table those within the next week? Would that be asking too much?

A simple yes or no answer is all I want.

Mr FOX: Yes, I think that should be possible, but I am not the final authority on it.

The CHAIR: We will do it at the end of the day. Given that the evidence is that you will rock and roll and sign a document at the end of this month, we are up against the time clock. Even though we have asked all witnesses to provide evidence within 28 days, we would like to get questions that require yes or no answers—such as: Will you provide evidence?—earlier. I will modify that when we come to the end of the evidence by asking you to decide among yourselves whether you can agree or not that you could provide those sorts of documents within seven days.

Response:

The *Final Business Case – Independent Assurance Review* and *Investment Assurance Review - Project Team Response and Action Plan* have been provided to the Committee under cover of letter dated 28 May 2018 from the Secretary, Transport for NSW.

The Hon. PETER PRIMROSE: How about telling me about accidents on the bridge itself?

Mr ALLAN: I am sorry, but I do not know the answer to that.

The CHAIR: Perhaps you could take that question on notice.

The Hon. PETER PRIMROSE: Please do. I would be interested because we keep hearing about people needing to slow down on the bridge and I am trying to get an understanding of what happens.

Response:

Section 2.7 of the updated 2017 Traffic Study includes an analysis of crash data from July 2011 to December 2016. The data includes fatal, injury or vehicle damage accidents.

There were 52 crashes recorded between July 2011 and December 2016 on Bridge Street and Wilberforce Road between Freemans Reach Road and Macquarie Street. Of all crashes reported, 41 occurred at intersections, eight occurred on the undivided road sections, and three occurred on the divided road sections.

The table below summarises these crashes by road and location.

Road	Total Number Crashes Recorded	Intersection*	Non-intersection	
			Two-way undivided road	Divided Road
Bridge Street	23	17	4	2
George Street	1	1	0	0
Macquarie Street	4	3	0	1
Wilberforce Road	24	20	4	0
Total	52	41	8	3

The Hon. PETER PRIMROSE: If traffic lights at George Street could improve traffic performance, could they be installed for the current bridge?

Mr ALLAN: The report says that that would have to be tested against the sight distances at that location. Currently, you come up a sloping alignment, and that would have to be analysed further.

The Hon. PETER PRIMROSE: That happens on roads all the time, including ones that I take every morning. Has that been looked at?

Mr ALLAN: I can give a more definitive answer on the other side, where there is also a dangerous intersection. At that location, where a roundabout is proposed, the RMS review of road design said you could not put a roundabout at that location because of the great difference between the embankment versus the low level bridge at seven metres.

The Hon. PETER PRIMROSE: Please take on notice the question about the reasons for not being able to put traffic lights on George Street. The other question to take on notice is: What would be the estimated cost of putting lights on George Street?

Mr LANGFORD: We will take those questions on notice, but I can give more context around the intersection. It is currently a single-lane approach, and you could not signalise a single-lane approach and expect to manage traffic performance. It would need widening of the intersection on the approaches, and the preferred outcome is widening the lanes on the approach to that intersection to be signalised. You could not just signalise what is there today and expect the traffic performance to improve.

Response:

This proposal was raised during the Environmental Impact Statement display and was responded to in the Submissions Report (Section 2.4.7). It found that at the George Street/ Bridge Street intersection it would be exceptionally complex and potentially impossible to install traffic lights. This is due to the safe sight line distances required for traffic lights and the vertical curvature through the intersection to meet the existing bridge approach road.

An additional traffic lane would be required to allow southbound vehicles to turn right into George Street west. This would require the acquisition of some of the upper parkland area of Thompson Square, resulting in some impacts on historic and Aboriginal archaeological resources and an overall reduction in open space within the square. The cost to undertake this program of work has not been calculated.

The CHAIR: You have stated that there has been 50 crashes in the five years, which is about 10 per year, and then there was the delay created by the court case and the conditions of the deliberation being about three years. So 35 of those crashes have been caused by the delay. Has the RMS done anything in that period of time to mitigate the traffic safety on the bridge and its approaches? If so, what have you done?

Mr LANGFORD: I will have to take on notice the specific works, but I can say that there were particularly some safety concerns around George and Bridge streets. We did make some changes to that as part of our road safety reviews in recent years and the actual allowance of different movements or banning of movements to improve the safety. We have an annual Safer Roads program across the organisation where we pinpoint specific safety issues and hotspots across the broader network. Through that very detailed review of the whole network and the safety performance across the network we would identify those key locations and nominate for investment to address them.

Response:

In 2013, Roads and Maritime implemented a PM peak period (4pm to 6pm, Mon - Fri) left turn restriction from Bridge Street to Court Street to improve safety and reduce through traffic use on the local streets.

Roads and Maritime has also:

- provided road safety support through funding agreements to part fund Hawkesbury Council's Road Safety Officer.
- worked collaboratively with Council to target and fund road safety behavioural initiatives in the area; targeting speed, drink driving and younger drivers.

Mr HARDWICK: It is standard process for us to nominate the tender validity period.

The CHAIR: Which is 30 days?

Mr HARDWICK: No, it is longer than that. It is either 60 or 90. I would have to go back and check.

The Hon. DANIEL MOOKHEY: Could you take that on notice and check please?

Mr HARDWICK: Certainly.

Response:

The Tender Validity Period was 113 days in total.

PORTFOLIO COMMITTEE NO.5 – INDUSTRY AND TRANSPORT

INQUIRY INTO THE WINDSOR BRIDGE REPLACEMENT PROJECT

Responses to Supplementary Questions

Hearing – 7 May 2018

Roads and Maritime Services

1. Please provide the exact dollar amount expended on maintenance for the Windsor Bridge for each year from 1994 to 2017.

Response:

Maintenance funding is sourced from a general maintenance budget and data specifically related to Windsor Bridge is not available for this time period. As a breakdown of the maintenance expenditure costs for Windsor Roads is not available, Roads and Maritime has undertaken a qualitative assessment of the typical annual maintenance costs for Windsor Bridge. The estimated cost for condition inspections including both visual and structural inspections and the cost of concrete spall repairs is estimated to be approximately \$150,000 each year.

2. What reasons did the architecture firm Hill Thalys provide to RMS for choosing to not tender for future stages of the Windsor Bridge Replacement project?

Response:

Hill Thalys were engaged to assist with the development of a concept design for the project.

Hill Thalys provided a number of reasons for choosing not to tender for future stages of the project in its letter to Roads and Maritime dated 26 October 2012. These related to their concerns that their recommendations were not being considered.

3. Did RMS ever undertake a cost-benefit analysis for a bypass?

a. If yes, what were the results?

b. If not, why not?

Response:

Chapter 4 of the Environmental Impact Statement submissions report details the economic assessment of Rickabys Line bypass option which included two refurbishment options for the existing bridge.

The resulting BCRs were significantly lower than the bridge replacement option. Cost benefit analyses for other earlier options including other bypass options were completed in 2011.

4. Were detailed costings and/or economic appraisals done for any other options besides Option 1?

Response:

A detailed cost estimate was completed for Rickabys line as part of the Environmental Impact Statement submissions report.

A strategic economic evaluation was completed as part of the August 2011 options assessment for both Option 1 and other Options.

The results are included in Chapter 5 of the August 2011 report and reproduced below.

Option	BCR
Close Bridge	
Option 1	4.5
Option 2	4.5
Option 3	3.5
Option 4	3.7
Option 5	3.5
Option 6	2.1
Option 7	3.2
Option 8	-0.8
Option 9A	9.2
Option 9B	5.4

5. How many locations on Windsor road are below the 1 in 3 year ARI level?

Response:

The three year average recurrence interval (ARI) flood event is not a typical event in flood modelling practices. In this case it was used to assess flood resilience levels where the replacement bridge meets the northern approach road. The design level at the new bridge is 9.8 m Australian Height Datum (AHD)

Windsor Road between McGraths Hill and Fitzroy Bridge over South Creek crosses the South Creek floodplain and is therefore subject to flooding. It has a low point of 6.7 metres Australian Height Datum (AHD).

Wilberforce Road has a low point of 8.4m AHD. Windsor Road to the south of Windsor and Wilberforce Road to the north of Windsor are both below the 1 in 3 year ARI.

The Jim Anderson Bridge over South Creek (Windsor Flood Evacuation Route) offers an alternative route to Windsor Road with an immunity of up to the 1 in 100 year flood level of 17.3m AHD.

6. The height of the proposed replacement bridge is 9.8m and the lowest points on approach roads. The EIS states, "Levels along Freemans Reach Road vary between 9.6 and 12.8 metres AHD with the low point at the intersection with Wilberforce Road and a second low point of 10 metres AHD around two kilometres from the intersection with Wilberforce Road. Levels along Wilberforce Road vary between 8.4 to 10.8 metres AHD between Windsor bridge and where the road crosses Buttsworth Creek" (Chapter 7, Hydrology, Page 353). Will both of these roads be flooded before the proposed bridge?

a. As flood immunity has been cited as a key benefit of the project, if people are not able to even get to this new bridge, how will this claim be realised?

Response:

The low point on Wilberforce Road is 8.4 m compared with the new bridge level of 9.8 m meaning Wilberforce Road will be overtopped before the bridge is overtopped. The levels of Freemans Reach Road (9.8m) are equivalent to the level of the replacement bridge (9.8m). The level of the existing bridge is 7.0m AHD. The rising of the bridge level by 2.8m will significantly improve the flood resilience of the road network in comparison with existing conditions.

7. In Chapter 7 of the EIS, Page 359, it is stated: "The project would potentially increase flood levels on the Hawkesbury River floodplain, as the new bridge and approach road modifications would obstruct the movement of floodwaters to a greater extent than the existing bridge and approach roads". How will this be mitigated?

Response:

RMS completed a detailed Hydrological Assessment Report which is documented in Section 3.3 of the Submissions report. A copy is available on the project website. The detailed hydrological assessment determined that upstream properties would not be impacted by the bridge replacement project.

8. Would a bypass option have provided better flood immunity and evacuation options?

Response:

The EIS Submissions report detailed assessment of the Rickabys Line Bypass Option. The assessment found that this option would have a greater impact on upstream flood levels due to the long raised road embankment across the flood plain that would act as a dam to flood water. The costs for flood mitigation of affected upstream properties or engineering solutions to allow water to pass through the road alignment are likely to be high and would be in addition to the cost estimate for the alternative option.

The Rickabys Line Bypass would not provide a better evacuation option as the flood level would be limited to the low point on Wilberforce Road which is 8.4 m AHD.

9. How much further downstream will the proposed bridge be from the existing bridge? The tender states 45m and all other documents state 35m.

Response:

The new bridge is not parallel to the existing bridge and runs at an angle which results in downstream distance being approximately 30 metres at the southern abutment and 35 m at the northern abutment.

10. Different figures have been quoted in the Government submission and the hearing on 7 May. Please clarify what is the most recent repair and refurbishment estimate for Windsor Bridge?

Response

There have been three separate reports prepared to estimate the cost of refurbishment for the existing bridge. These estimates are as follows.

Roads & Maritime Report (August 2011)	\$18m
Technical Review of Refurbishment Option by AECOM (March 2013)	\$16m
Peter Stewart (August 2013)	\$14.5m

These estimates were in current year values at the time of the reports (i.e. they were not in outturn \$). The first two reports are available on the RMS project website, the third report is available on the DPE website.

11. What percentage of the traffic currently using Windsor Bridge is through traffic?

Response:

An origin destination survey carried out as part of the 2012 EIS showed through traffic to be 64 per cent in the morning peak and 51 per cent in the afternoon peak.

The survey demonstrated that the majority of motorists using the existing Windsor Bridge travel towards and along Windsor Road to travel towards and from Parramatta and Sydney City in the morning and afternoon.

Trip Type	AM Peak	PM Peak
Through	64%	51%
Arriving from outside the study area	17%	19%
Departing from inside the study area	12%	20%
Within the study area	6%	9%

12. Will the Windsor Bridge Replacement project induce traffic into Windsor Township – and by how much?

Response:

The Windsor Bridge project is a bridge replacement project to improve an existing river crossing with some local traffic improvements. Induced traffic is not anticipated, any additional traffic entering into Windsor would be the result of natural traffic growth and any other additional attractors in Windsor.

Further details supporting this assessment are included in the Cambray Traffic report available on the DPE website.

13. Has RMS considered any alternative uses for the existing bridge?

a. If not, why not?

b. If yes, what were these?

Response:

RMS has not considered any alternative use for the existing bridge due to its poor condition and the high cost of rehabilitation. It has always been the intention that once the new bridge is complete the existing bridge will be removed. High standard pedestrian and cycleway provision is included in the bridge replacement option.

14. Cambray Consulting was engaged by NSW Department of Planning and Infrastructure to assess traffic related information provided by your department in the EIS. In their assessment of the traffic modelling, they concluded the traffic modelling at intersections did not stack up. Based on this feedback, was traffic modelling done again?

a. If yes, what were the results of this modelling?

b. If not, why not?

Response:

RMS updated the traffic modelling in 2017 and the report is available on the project website. The report found that the project will provide for the forecast future traffic conditions.

15. The initial proposal in the EIS was to have one lane of traffic in either direction for the proposed new bridge. In a matter of 4 years, in December 2016, RMS added one more Southbound lane to the design. Does the addition of one more Southbound lane have anything to do with gaps in the earlier traffic modelling by RMS?

a. Why was one more Southbound lane added to the design?

Response:

The EIS proposed a minimum two lane bridge with provision to re-line mark to three lanes in approximately 2026. It was decided to implement the three lane proposal from opening given the expected opening of the bridge is 2020 after delays.

The additional southbound lane provides additional lane storage for eastbound traffic along Bridge Street and the approach to the George Street intersection.

16. In the Community Consultation report released in November 2009 after 9 Options were presented to the community, it is mentioned that 40% of the submission supported Option 1, among others. Did 60% of the submissions not support Option 1?

a. How many submission supported a bypass option?

Response:

The table below is an extract from Section 5 of the report. It shows where groups and community members indicated preference for an option and what the most nominated option was. Most people nominated their support for more than one option.

As both options 1 and 2 were bridge replacement options; 59%of responses supported bridge replacement options, 41% of responses supported other options.

Table 5.3

Options	Percentage
Option 1 for	40%
Option 2 for	19%
Option 6 for	18%
Option 9 for	9%
Option 8 for	7%
Option 7 for	3%
Option 3 for	2%
Option 4 for	1%
Option 5 for	1%

17. How many submissions were received on the nine options presented to the community in July 2009?

a. How many of these submissions did not support *any* of the nine options presented?

b. How many of these submissions supported Option 1 only?

i. RMS picked Option 1 – Please provide the exact number and percentage of submissions that supported this option only.

Response:

Section 5 of the November 2009 report, which summarises the July 2009 display, states that 136 submissions were received on the nine options.

- a) The report did not identify any submissions not supporting any option. It states that some submissions did not include a preferred option but did not quantify the number.
- b) Table 5.3 of the report shows 59% preferring Option 1 and 2 -Bridge replacement options. The report goes on to say however that most people identified their support for more than one option. Support solely for Option 1 could not be identified from the report.
- c) Refer answer above.

18. A total of 101 submissions in response to the exhibition of the EIS (Page i, RMS submissions summary 2013) – out of which 95 were from community members and 6 from government agencies. How many of these submissions objected to the project?

a. How many submissions expressed a preference for a bypass?

b. How many submissions from the community were supportive of the project?

Response:

70 submissions objected to the project.

- a) Nine Submissions supported the Rickabys Line option while 42 submissions supported 'other bypass options'. These numbers include those which supported both.
- b) 19 submissions supported the project.

19. In one of the hearings, a representative from the RMS has testified that, “speed restrictions are currently in place due to the structural weakness of the bridge”. Please define the “structural weaknesses” which have resulted in speed restrictions. Please also list the specific actions being taken by RMS to mitigate each concern; the results and durability of each mitigating action; and associated costs.

Response:

There is no one specific issue in regard to structural weakness of the bridge. It relates to numerous issues as a result of the bridge's age. Speed restrictions and ongoing monitoring and inspections ensure the safety of the bridge and travelling public.

20. At their narrowest, what are the lane widths of all feeder roads to the proposed and existing bridge?

Response:

The southbound approach lane widths to the bridge are 3.5m and 3.7m. The northbound approach lane width is 3.8m.

The northern side approach to the Windsor Bridge lane width is 3.4m while the southern side the lane width is 3.2m.

21. Please specify the “regular maintenance” (as opposed to regular monitoring) activities.

Response

Regular monitoring activities include the following:

- Surveillance Officers conduct visual inspections of the whole road network in the region twice a week. This includes Windsor Bridge.
- Survey monitoring and a visual inspection of the existing bridge deck is conducted every six months.
- A yearly level 3 visual inspection by bridge inspectors is also undertaken. This is a more detailed inspection of bridge elements including underwater inspections.

Regular Maintenance

Regular maintenance is ‘as required’ as a result of the above monitoring and inspections.

Typical activities include, scupper cleaning, vegetation removal, railing repairs and pot hole repairs.

22. Nowra Bridge will be retained for pedestrian and cyclist use. How much is RMS going to spend to refurbish Nowra Bridge?

a. How much is maintenance on Nowra Bridge going to cost per year to retain it for pedestrian and cyclist use?

b. Please provide reasons why Windsor Bridge cannot be retained for pedestrian and cyclist use.

Response:

Advice received from the Nowra Bridge project team states that the scope and estimate of the work required to rehabilitate the old southbound bridge is currently in development. The ongoing costs of maintaining the old southbound bridge will be dependent on the extent of the rehabilitation works as part of the project.

High standard pedestrian and cycleway provision is included in the Windsor bridge replacement option. Retention of the existing bridge will incur ongoing costs which Hawkesbury Council has indicated it is not willing to take responsibility for.

23. When did the RMS last undertake substantive maintenance on Windsor Bridge?

a. Please list the maintenance activities and expenditure.

Response:

Bridge maintenance has been outsourced to DM Roads since 2014. Data provided shows that approximately \$28,000 was spent in 2014-2016 inspecting and removing concrete spalling, while \$34,500 was spent in 2015-16 replacing the plywood footway.