

Josephine Draper

From: Roger Burra [Roger.Burra@opus.co.nz]
Sent: Wednesday, 2 December 2009 3:05 p.m.
To: Josephine Draper
Subject: 091202_Costs_Info.docx
Attachments: 091202_Costs_Info.docx

Hi Jo,

Please see attached memo regarding costs estimates. There is very little consistency regarding the Avoids Town Centres Option and I cannot see why. I'm sorry this has turned out to be so messy. I hope at least that this memo clearly demonstrates what the numbers are.

We are still working on the passing lane question and artists impression. I'll put together another note covering these and the 70kmph and send it to you tomorrow.

Thanks

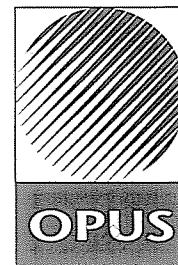
Roger Burra
Senior Transport Planner
Opus International Consultants Ltd
Email Roger.Burra@opus.co.nz
Tel +64 4 471 7404, Mobile +64 27 284 5114 <http://www.opus.co.nz> Level 7 Majestic Centre,
100 Willis St, PO Box 12 003 Wellington, New Zealand

RELEASED UNDER THE
OFFICIAL INFORMATION ACT

Wellington Office
 Level 9, Majestic Centre, 100 Willis Street
 PO Box 12 003, Wellington 6144,
 New Zealand

Tel +64 4 471 7000
 Fax +64 4 471 1397

TO Josephine Draper
 COPY
 FROM Roger Burra
 DATE 2 December 2009
 FILE
 SUBJECT Kapiti SH1 Expressway Study – Capital Costs



Hi Jo,

This memo outlines where there are differences between the issued cost estimates, the technical report and the consultation brochure.

Table 1 is a summary of the estimated capital costs. When we report capital cost estimates we tend to round the totals. In this project we decided to round the estimates up to the nearest \$10M. The costs estimates that were issued to NZTA show both the rounded and unrounded values. The memo I sent you 17 November showed the unrounded totals. This was because the component elements of the estimate were not rounded. In Table 1, below I have included both.

Table 1 – Capital Costs at 2009

			Exp. (\$M)	95%ile (\$M)	Pessimistic (\$M)
Option 3d	Follows Rail + WLR Poplar to Te Moana	Total	607	730	929
		Rounded-up Total	610	730	930
Option 3e	Follows Rail + WLR Poplar to Kapiti + WLR River Crossing	Total	546	670	846
		Rounded-up Total	550	670	850
Option 2	Follows WLR Designation	Total	374	500	578
		Rounded-up Total	380	500	580
Option 4	Avoids Town Centres	Total	441	590	737
		Rounded-up Total	450	590	740

My memo 17 November only presented expected and 95%ile estimates. I have expanded the table so that it also shows the pessimistic estimates. The pessimistic costs are equal to the sum of the 95%ile costs for each element of the estimate. In deriving the 95%ile estimate for the whole project, it is assumed that as the some elements are cheaper than initially anticipated (i.e. the 95%ile costs are not realised for each component section). The 95%ile is therefore less than the sum of the pessimistic costs.

Capital Costs Presented in Technical Report and Consultation Brochure

Table 2 presents the cost estimates that were presented in the technical report and the consultation brochure.

Table 2 – Capital Costs Presented in Technical Report and Consultation Brochure

Option	Cost Indication			
	Technical Report (\$ M)		Consultation Brochure (\$M)	
	Expected	95%ile	From	to
2. Expressway Follows WLR Designation	380	500	380	500
3. Expressway Follows Rail Corridor	500	610	610	930
4. Expressway Avoids Future Town Centres	410	590	410	680

Agreement between Cost Estimates and Technical Report

The only anomaly that I have identified between the cost estimates in Table 1 and the costs presented in the technical report (see Table 2) is the expected cost estimate for Option 4 (Expressway Avoids Future Town Centres). Having reviewed our documentation I am unable to identify why this should be the case.

The costs for Option 2 (Expressway Follows WLR Designation) presented in Table 1 match the rounded costs in the issued estimates and reproduced in Table 2, above.

The costs for variations to Option 3 (Expressway Follows Rail Corridor), documented in my memo 17 November do not match those presented in the technical report. As previously discussed, this is because the analysis presented in our technical report only considered the southern part of the WLR between Poplar Avenue and Kapiti Road.

Agreement between Cost Estimates and Consultation Brochure

Costs presented for Option 2 (Expressway Follows WLR Designation) match both the issued cost estimates and the technical report.

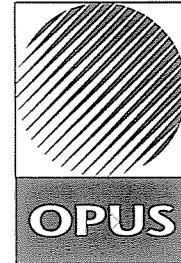
For the Expressway Follows Rail Corridor Option, the consultation brochure presents expected and pessimistic costs for Variation 3d (see Table 1). This option includes the Western Link Road from Poplar Avenue to Te Moana Road. I recall that there was quite a lot of debate within NZTA concerning the extent to which the WLR was included as part of the option. I believe that the brochure was updated without the costs being updated.

There is hardly any consistency between the costs for Option 4 (Expressway Avoids Future Town Centres). As before, I am unable to provide an explanation for this anomaly. Given that the Opus technical report was still being drafted as the consultation brochure was being prepared, it appears that further revisions were made to the estimate subsequent to the preparation of the consultation brochure.

Wellington Office
 Level 9, Majestic Centre, 100 Willis Street
 PO Box 12 003, Wellington 6144,
 New Zealand

Tel +64 4 471 7000
 Fax +64 4 471 1397

TO Josephine Draper
 COPY
 FROM Roger Burra
 DATE 17 November 2009
 FILE
 SUBJECT Kapiti SH1 Expressway Study - Summary Info



Hi Jo,

The information you requested yesterday is summarised in this memo.

Capital Costs

Table 1 presents the costs estimates for each option that was consulted on. Note that I have broken the cost estimates down to reflect:

- Cost for expressway only
- Cost for WLR (Poplar to Kapiti) needed if no intersections are provided in Paraparaumu
- Costs for other, “desirable”, parts of the WLR

Table 1 – Capital Costs at 2009

Cost Element	Follows Rail + WLR Poplar to Te Moana		Follows Rail + WLR Poplar to Kapiti + WLR River Crossing		Follows WLR Designation		Avoids Town Centres	
	Exp. (\$M)	95%ile (\$M)	Exp. (\$M)	95%ile (\$M)	Exp. (\$M)	95%ile (\$M)	Exp. (\$M)	95%ile (\$M)
Expressway Costs (Construction and Property)	378		378		334		334	
Required Local Road Elements (Construction and Property)	58		58		0		58	
Optional local Road Elements (Construction and Property)	108		48		0		0	
PROFESSIONAL SERVICES (I&R + D&PD + MSQA)	62		62		40		49	
Total	607	730	546	670	374	500	441	590

Note that the expected costs generally match those reported in the consultation brochure. With regard to the “follows rail” option, I have previously mentioned to you and Eric that the

consultation brochure is reporting a cost that includes the WLR between Poplar and Te Moana. This is shown in grey in Table 1. It is anticipated that the construction costs would be accrued over several years depending on the construction period.

Where the upper cost presented in the consultation brochures differs from the 95%ile costs shown above, this is because our worst case estimate (i.e. 100%ile cost) was used instead.

NPV Benefits

Table 1 presents the costs estimates for each option that was consulted on. Note that I have broken the cost estimates down to reflect:

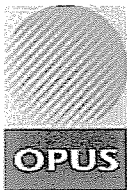
Cost Element	NPV Benefits (\$M)	Building Starts	Benefits Begin	Assumptions
Expressway follows Rail + WLR Poplar to Kapiti + WLR Otaihanga to Te Moana	240	2012	2020	<ul style="list-style-type: none"> • 2009 is Year 0 • 30 year return period • Forecasts assume no benefits until total package is complete • Potential to improve option performance with staged construction / opening
Expressway follows WLR Designation	230	2011	2016	
Expressway Avoids Town Centres	180	2012	2018	

Josephine Draper

From: Roger Burra [Roger.Burra@opus.co.nz]
Sent: Thursday, 10 December 2009 4:47 p.m.
To: Josephine Draper
Subject: Property Costs
Attachments: 091210_Element_Property_Costs.docx

Importance: High

Please see attached memo as discussed:



Roger Burra
Senior Transport Planner

Opus International Consultants Ltd
Roger.Burra@opus.co.nz

Tel +64 4 471 7404, Mobile +64 27 284 5114
<http://www.opus.co.nz>

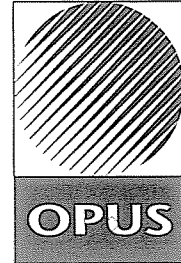
Level 7 Majestic Centre, 100 Willis St, PO Box 12 003, Wellington, New Zealand

RELEASED UNDER THE
OFFICIAL INFORMATION ACT

Wellington Office
Level 9, Majestic Centre, 100 Willis Street
PO Box 12 003, Wellington 6144,
New Zealand

Tel +64 4 471 7000
Fax +64 4 471 1397

TO Jo Draper
COPY
FROM Roger Burra
DATE 10 December 2009
FILE
SUBJECT Property Costs



Hi Jo,

You asked for an indication of the property costs assumed for two different Kapiti SH1 Expressway options namely:

- (a) WLR Alignment: between Te Moana Road and Peka Peka
- (b) Follows Rail Option: between Paraparaumu Overbridge and Waikanae

In this memo I have presented the information you require as well as a brief explanation of how the estimates were prepared.

WLR Alignment

We estimated that the total costs of properties on the WLR designation which in most places is about 100m wide. Costs were calculated on the basis of rateable value. No allowance has been made for the market value of the land. Our methodology and estimate was documented in the memo from Andrew Noble dated 25 June 2009 which you have previously been sent.

This is a summary - for full assessment refer to Andrew Noble Memo (25 June 2009)

	Lower Limit (Millions)	Upper Limit (Millions)	Original data by Calculation (Millions)
Total Value of all properties owned by NZTA	\$8.00	\$9.75	\$8.85
Total Value of all properties owned by KCDC	\$13.00	\$15.50	\$13.40
Total Value of reserve properties DoC/KCDC	\$0.13	\$0.20	\$0.13
Total value of privately owned properties (any part acquisitions)	\$20.00	\$40.00	\$31.95
Land Designated as Road	\$8.00	\$12.00	
Total rating value of Route – all properties excluding NZTA Land	\$41.13	\$67.70	\$54.33

In preparing his estimate Andrew needed to make quite course assumptions concerning whether full or partial land acquisition was required. In our estimate we used the higher estimate that excluded land designated as road which has no rateable value. This was used as the expected estimate for property.

Our estimate of property costs for the hybrid “avoids town centres” option assumes land north of Te Moana Road will cost \$10 Million. This represents 15% of the total property cost for estimated property costs of the Western Link Road designation.

Follows Rail Option

Property costs for the “follows rail” option were estimated in a different way. For this option, electronic sketches showing the road alignment were available.

Property costs were estimated by multiplying the land values (rate per area unit) extracted from the 2008 State Highway valuation by the measured area (from AutoCAD). The State Highway valuation provides land costs for according to the position along SH1.

The measured area extends to the toe of the earthworks footprint on either side of the proposed expressway (i.e. assumes corridor width of approximately 50m). An allowance has then been made to purchase additional land in areas where the remaining area of a parcel becomes unusable.

Implicit to this estimate was the assumption that land immediately adjacent to SH1 has the same value as land adjacent to the NIMT railway. In many cases the land parcels extend all the way between SH1 and the railway.

The total property costs for expressway elements of the “Follows Rail” option was estimated as \$31.7 Million. The property estimate for expressway between approximately the Waikanae River and Paraparaumu Overbridge was \$8 Million representing 25% of the total property costs for that option.

Josephine Draper

From: Eric Whitfield
Sent: Thursday, 21 January 2010 4:20 p.m.
To: Josephine Draper
Subject: FW: Kapiti Strategic Study - Model Runs

Follow Up Flag: Follow up
Flag Status: Flagged

From: Wayne Stewart [mailto:wayne.stewart@opus.co.nz]
Sent: Wednesday, 4 March 2009 11:54 a.m.
To: Eric Whitfield
Cc: DAVID.DUNLOP@OPUS.CO.NZ; ROGER.BURRA@OPUS.CO.NZ
Subject: RE: Kapiti Strategic Study - Model Runs

Eric

Further our phone call, we see the modelling work for the Kapiti Strategy Study now being undertaken in three stages: -

1. Stage I: - Calculating the traffic flows and economic benefits for a range of do minimums
2. Stage II: - Calculating the traffic flows and economic benefits for the various stages that make up the Kapiti Strategy
3. Stage III: - Calculating the traffic flows and economic benefits of packages (including testing the impact that the completion of an earlier stage has on future stages)

Our plan is to complete stage I first. I understand that one of the key outcomes of Stage I is to determine what do minimum should be used for the Kapiti Study and hence how the various options for the WLR will impact the Kapiti Strategy Study - particularly the likely date that 4 laning of SH1 is needed. Stage I will involve the following tests:

1. Do-min (no WLR and no SH1 upgrades)
2. WLR 4-lanes (the previous scope) and no upgrades to SH1
3. WLR 4-lanes (the previous scope) and SH1 is upgraded to 4-lanes
4. WLR 2-lanes (the new scope including intersection layouts) and no upgrades to SH1
5. WLR 2-lanes (the new scope including intersection layouts) and SH1 upgraded to 4-lanes
6. WLR Stage I only with 2-lanes (the new scope including intersection layouts) and no upgrades to SH1
7. WLR Stage I only with 2-lanes (the new scope including intersection layouts) and SH1 upgraded to 4-lanes

We already have someone assigned to complete the SATURN modelling for Stage II. We will now get this person to undertake Stage I first. Roger will prepare a cost estimate to complete stage I, together with a indication of the timeline. At the completion of stage I, we will write a short working paper summarising the key findings and, with your agreement, then proceed with Stage II.

Wayne Stewart

Opus International Consultants

Wayne.Stewart@opus.co.nz

Phone: +64-6-350 2521

Internal: ext 4521

Mobile: +64-27-442 8951

www.opus.co.nz

From: Eric Whitfield [mailto:Eric.Whitfield@nzta.govt.nz]
Sent: Monday, 2 March 2009 1:45 p.m.
To: wayne.stewart@OPUS.CO.NZ
Cc: David Dunlop
Subject: Kapiti Strategic Study - Model Runs

Hi Wayne,

Since the last set of model runs for the Kapiti Study were done, two significant things have happened: the model has been updated and KCDC have made a significant scope change to the WLR. In light of this I'd like to have another look at the model runs. Could you please provide daily traffic flows for 2016 and 2026 for the following scenarios:

1. Do-min (no WLR and no SH1 upgrades)
2. WLR 4-lanes (the previous scope) and no upgrades to SH1
3. WLR 4-lanes (the previous scope) and SH1 is upgraded to 4-lanes
4. WLR 2-lanes (the new scope including intersection layouts) and no upgrades to SH1
5. WLR 2-lanes (the new scope including intersection layouts) and SH1 upgraded to 4-lanes

Could you please support the model runs above with an explanation of the land use assumptions used or point me to where they are already documented (i.e. is "Waikanae North" included? Airport, etc...)

Best Regards,

Eric Whitfield
Transport Planning Manager
DDI 04 801 2596
Please note that with effect from Monday 16th March, my DDI will change to +64 4 894 5221
E eric.whitfield@nzta.govt.nz

NZ Transport Agency
Wellington Regional Office
186-190 Willis Street
PO Box 27-477
Wellington, New Zealand
T 04-801-2580
F 04-801-2599

Please consider the environment before printing this email

On 1 August 2008, Land Transport New Zealand and Transit New Zealand became the NZ Transport Agency. The NZ Transport Agency (NZTA) brings together the functions of Land Transport NZ and Transit to provide an integrated approach to transport planning, funding and delivery.

From this date, our email addresses changed to: <firstname>.<lastname>@nzta.govt.nz. e.g Jo.Bloggs@nzta.govt.nz.

Please update your contact information.

#####

This email is only intended to be read by the named recipient. It may contain information which is confidential, proprietary or the subject of legal privilege. If you are not the intended recipient you must delete this email and may not use any information contained in it. Legal privilege is not waived because you have read this email.

#####

RELEASED UNDER THE
OFFICIAL INFORMATION ACT