

Rob Whight

From: Rob Whight
Sent: Thursday, 9 July 2009 5:40 p.m.
To: kathy.perreau@parliament.govt.nz
Cc: Dave Brash; Ernst Zollner; Geoff Dangerfield; Colin Crampton; Deborah Hume
Subject: Briefing Paper: RoNS - MacKays to Peka Peka
Attachments: kapiti strategic study 2009-07-09.pdf; Kapiti_Aerial2.pdf; MacKays to Peka Peka - briefing Paper 090709.doc

Kathy,

Please find attached the briefing paper for the Minister. It consists of:

- a memo
- 1 A3 aerial photograph (colour)
- 3 A3 maps (colour)

The fact that the final two lines are marked as "colour" is important as colour has been used to assist in the explanation.

You will note that a small number of figures are not yet available and are marked as TBC. We expect to be able to provide the Minister with the estimates at the meeting next week.

Should you have any queries, please do not hesitate to contact me.

Regards,

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NZ TRANSPORT AGENCY
WAKA KOTAHI

MEMO

To Steven Joyce, Minister of Transport

From Rob Whight, State Highway Manager Wellington

Date 09 July 2009

Subject Update: SH1 RONS – MacKays to Peka Peka

EXECUTIVE SUMMARY

1. SH1 (Levin to Airport) is one of the seven Roads of National Significance (RONS). Once complete, this RONS will lower the cost of transport between Wellington and the rest of the North Island and improve the connectivity of the Wellington region.
2. The SH1 RONS has been divided into sections to enable optimal scoping and staging of improvements along the route. This update focuses on the improvement options along one section of the RONS between MacKays Crossing and Peka Peka. This section of the RONS currently operates above theoretical capacity, resulting in severe congestion at peak times.
3. In preparing options, we have been conscious of the need to develop the RONS in the context of the local roading network, to ensure there is efficient egress and entry to the RONS. This is difficult on the Kapiti Coast as an effective, parallel local road network does not exist.
4. Three options have been developed for discussion. They all perform to similar standards and appropriate parallel local networks can be put in place.
5. The difference between the options is characterised by varying costs and differences in the degree of community severance. Once options are refined and preliminary economic analyses have been completed, we suggest confidential key stakeholder consultation is undertaken. A full round of community engagement would then need to be undertaken, prior to any consenting stage. This work will take some three to four months to achieve and in the interim, the Kapiti Western Link Road would need to remain in a holding pattern.

PURPOSE

6. The Government Policy Statement on Land Transport Funding (May 2009) identifies the Wellington Northern Corridor (SH1 Levin to Wellington) as a RONS. The GPS states that this corridor is "one of New Zealand's most essential routes that requires significant development to reduce congestion, improve safety and support economic growth". This memo provides an update on improvement options that are currently being scoped for one section of the SH1 RONS, between MacKays Crossing and Peka Peka.

CONTEXT - MACKAYS CROSSING TO PEKA PEKA

7. Between MacKays Crossing and Peka Peka, the settlements of Raumati, Paraparaumu and Waikanae are key commuter belt towns for Wellington. The Kapiti Coast is one of the fastest growing districts in New Zealand. Between 2001 and 2006 the population grew by 8.8% to 46,000 in 2006. In 2008 the Average Annual Daily Traffic (AADT) at Paraparaumu was 24,500, which exceeds the theoretical capacity of the road (approximately 22,900). In practice this means that at key times the road experiences significant delays and queuing.
8. The bridge on SH1 immediately south of the Waikanae township is the only road crossing of the Waikanae River on the west coast. As there is no local road connection, local traffic is forced to divert onto SH1 to cross the river. Similarly at Paraparaumu, north-south road links are limited and SH1 is often used for local north-south traffic movements. Consequently local trips and through traffic trips compete for road space on SH1 between Paraparaumu and Waikanae, which contributes to delays and queuing.
9. The need to improve this section of SH1 has long been recognised, with the designation of the Sandhills Motorway to the west of the existing SH1 dating back to the 1950s. Since 1995, improvement options have focused on the development of a local roading solution, along the same alignment as the Sandhills motorway, to provide an alternative north-south connection for local traffic and improve capacity on SH1. Local planning has proceeded on this basis for the last 14 years.
10. The pressure on the local network and SH1 are such that Kapiti Coast District Council has restricted key developments in the area, until improved road connections are provided (e.g. Paraparaumu Airport development).

RONs IMPROVEMENT OPTIONS - MACKAYS CROSSING TO PEKA PEKA

11. In order for the RONS to become a premium, high speed route between Wellington and the rest of the North Island, a holistic network solution is required. This includes ensuring that an effective local network is in place to enable people and freight to move into and out of local communities with minimal reliance on the RONS. This local network should contain streets, collector roads and local arterials.
12. Currently an effective local network does not exist in Paraparaumu and Waikanae because local roads radiate out from SH1 towards the beach, with very limited north-south connections. This means SH1 is the only connection between Waikanae and Paraparaumu. A well developed network to compliment the RONS is therefore an essential part of developing options.

13. With this in mind, NZTA is currently scoping three potential capacity improvement options to deliver on the Government's vision for the RONS, as detailed on the attached maps and summarised below :

- a. **OPTION 1:** Construct a new SH1 expressway along the Sandhills Arterial route, bypassing the Waikanae town centre. The existing SH1 would revert to a local arterial.
- b. **OPTION 2:** Upgrade the existing SH1 to a four lane expressway, following the alignment of the existing railway line, and provide associated local roads to improve traffic movements as follows:
 - Provide a north-south road link between Te Moana Rd and Otaihanga Rd to provide a local connection between Waikanae and Paraparaumu.
 - Provide a north-south road link between Poplar Ave and Kapiti Rd to enable the Kapiti Road signals to be closed. All local accesses will be redirected on to a service lane.
- c. **OPTION 3:** Provide a hybrid of Options 1 and 2 by upgrading SH1 to a four lane expressway, with the southern section (south of Otaihanga Road) following the railway line, and the northern section following the Sandhills alignment, hence bypassing the Waikanae town centre.

PRELIMINARY OPTION ANALYSIS

14. Preliminary analysis indicates Option 2 would provide greater benefits through staged development and improved connectivity on local networks. It may be possible to achieve similar benefits with modifications to Options 1 and 3. Subject to further work to determine design and designation requirements, it may be possible to progress a two lane crossing of the Waikanae River ahead of other parts of Options 1 and 3, enabling early benefits to be realised. Similarly, interchange design and location also need to be reviewed for Options 1 and 3 and it may be possible to provide improved connectivity with local roads. While these amendments could in principle mean that the traffic benefit streams of all three options would be similar, it is noted that further work would be required to confirm the traffic effects of the additional local connections on the network efficiency of Options 1 and 3.
15. Subject to the results of further traffic analysis as noted above, the key difference between these options appears to be indicative cost estimates and corresponding differences in community severance. Preliminary costs estimates for each option are:
 - Option 1: \$370 – \$570m
 - Option 2: \$580 – \$830m
 - Option 3: \$440 – \$880m
16. Estimates for Option 1 reflect cost savings from developing the route along an existing designation (Sandhills/WLR) which has been protected from development for a long period of time. Estimates for Option 3 have been driven by property purchase costs, together with likely design and construction requirements given the route crosses a landfill site.
17. While Option 1 is the lowest cost option, the severance effects associated with this option are significant.
18. Option 1 takes advantage of the land set aside in the designation for the Sandhills Motorway/Kapiti Western Link Road (WLR) to build the expressway. This option was in fact the planned improvement for

the State Highway between 1989 and 1995. However, in October 1995 a collective decision was made by Transit NZ, Land Transport NZ and Kapiti District Council to change the purpose of the road from state highway to local road. One of the key drivers for this decision was the community severance effects associated with establishing a four lane, high speed transport corridor through existing urban areas. At that time, it was decided that the existing alignment of SH1 was better suited to act as a bypass of the Kapiti Coast communities.

19. These severance issues remain relevant when considering the options as currently scoped. Option 1 would result in the development of an expressway on the Sandhills/WLR alignment, which runs through the established urban areas in Raumati and Paraparaumu. Potential severance could also be caused by running the alignment between the coastal settlements of Waikanae Beach and the Waikanae town centre. However, Option 1 would avoid further severance within the Waikanae town centre town by diverting SH traffic from the current route.
20. Option 2 proposes to follow the existing SH alignment until Paraparaumu. To the north of Paraparaumu, the new SH alignment would follow the existing railway line, reducing severance effects, particularly in Paraparaumu. Unlike options 1 and 3, the proposed alignment would not divide the coastal communities of Waikanae from the town centre. However, severance effects are likely to be increased in the Waikanae town centre as the expressway would follow the existing alignment through the urban centre.
21. As noted in Option 1, Option 3 would provide a western bypass of Waikanae town centre combating some of the severance issues currently facing the township. It would also incorporate the severance benefits of Option 2 by reducing adverse effects on Paraparaumu. However, as with Option 1, these benefits would need to be tempered against the potential severance caused by running the proposed alignment between the coastal settlements of Waikanae Beach and the town centre.
22. Further analysis of these severance effects will be required before any decisions can be made on route selection.

DESIGNATION ISSUES

23. All three options would require new designations prior to construction of the expressways. While the designation process for each option would give rise to different issues, there is a reasonably high risk that public consultation around these processes will encounter significant local political and community opposition.

PROGRAMMING AND FUNDING

24. KCDC have promoted a staged completion of the currently scoped Kapiti Western Link Road (WLR). The first stage would be to make a connection between Te Moana and Raumati Road. Land Transport NZ had previously committed to fund 90% of Phase 1 of the WLR due to the improved performance of SH1 with local traffic removed.
25. With the strategic focus on the efficient movement of people and freight between Wellington and the rest of the North Island, the focus on the WLR, as currently proposed, is now of secondary concern. This will be a difficult situation for the local council to accept due to political promises made around progress.

26. However, clarity should occur following a stage of community consultation on the RONS option and as aspects of the WLR are contained with some options it is still relevant to maintain the WLR in the 2009/12 NLTP.

NEXT STEPS

27. Following alignment on the number and scope of options we would propose to undertake limited and confidential discussions with key stakeholders to assist in providing direction on the options.
28. We would then report the options to the NZTA Board at its August Meeting for a decision on options to for public consultation. This will enable us to make a preferred option decision before Christmas 2009.

RELEASED UNDER THE
OFFICIAL INFORMATION ACT

Kapiti SH1 - Strategy Study July 2009

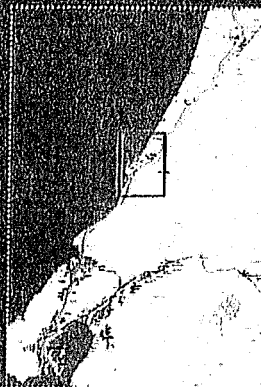
Option 1 - WLR as SH1 Expressway (4 Lanes)

Description

- SH1 Expressway uses WLR designation.
- Existing state highway becomes eastern arterial.
- Local arterials pass over SH1 Expressway.
- Connections between the new SH1 Expressway and local arterials are only provided at Poplar Avenue, Otaihangā, and Peka Peka Roads.

Costs & Benefits (\$)

Earliest Opening Date	2017 - 2019*
Likely Cost (2009 base date)	\$370M - \$570M
Forecast traffic benefits	\$230M*
Indicative Tangible BCR	0.6 - 1.1*
Approximately 30 Affected Land Parcels	
*potential to improve with staging	



Considerations

- Creates coherent route hierarchy.
- Provides a second crossing over the Waikanae River.
- Existing Designation requires alteration due to change of purpose.
- Creates opportunities for future land development close to Otaihangā Road.
- The depowered old SH1 in Waikanae is more appropriate for a town centre environment.
- Provides opportunities for high quality urban development close to railway stations.
- Obtaining KCDC agreement to transfer land designation could delay project.
- Contrary to KCDC's political aspirations for a WLR
- Constrains planned development in Paraparaumu that is dependent on WLR.
- The idea of dividing an existing urban area with a new expressway is likely to create strong opposition.
- It is likely that the WLR designations will need to be extended at three locations.
- The SH1 expressway may adversely impact on an Urupa near Waikanae River.
- Difficult to provide east-west pedestrian / cyclist links needed in an urban area.

Travel Times

	Do Nothing	Option 1
SH1 Between MacKays Crossing and Peka Peka	22.5mins	12mins
Local Roads Between MacKays Crossing and Paraparaumu Aerodrome	17.5mins	11.5mins

Legend

	Upgraded/New SH1 Expressway
	Upgraded/New Local Arterial
	New Service Road
	Existing SH1
	Existing Local Arterial
	Severed Road
	Traffic Signal
	Roundabout
	Railway Station
	New Structures

Option 1

WLR as SH1 Expressway (4 Lanes)

Kapiti SH1 - Strategy Study

July 2009

Option 2 - Build WLR then SH1 Expressway

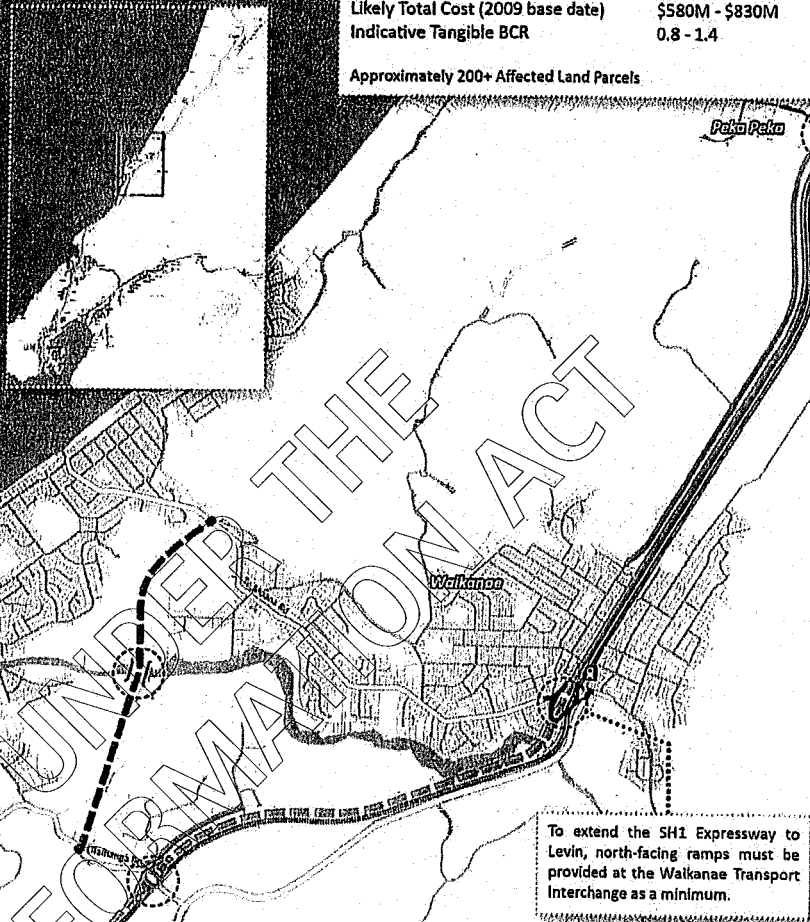
Description

- New SH1 Expressway dependent on construction of Walkanāe Transport Interchange.
- WLR creates new local arterial connecting Paraparaumu with Walkanāe.
- New SH1 Expressway follows rail alignment between Poplar Avenue and Walkanāe.
- A second Walkanāe River crossing at WLR.
- A third Walkanāe River crossing on new SH1 Expressway.
- Existing state highway becomes eastern arterial.
- Local arterials pass under SH1 Expressway at Kapiti Road and Te Moana Road.
- Grade separated interchanges at Otahanga Road and Poplar Avenue.
- WLR provides access to Paraparaumu town centre.
- Two lane service roads provide access to properties adjacent to expressway.

Costs & Benefits (\$)

Staged Opening Period	2011 - 2012
Forecast Traffic Benefits	\$380M (TBC)
Likely Total Cost (2009 base date)	\$580M - \$830M
Indicative Tangible BCR	0.8 - 1.4

Approximately 200+ Affected Land Parcels



To extend the SH1 Expressway to Levin, north-facing ramps must be provided at the Walkanāe Transport Interchange as a minimum.

Considerations

- Completion of designs for WLR Stage 1 expected 2009.
- Construction of WLR could begin 2010 - 2011.
- WLR river crossing significantly relieves SH1 congestion and reduces travel times.
- WLR in Paraparaumu maintains local accessibility during construction of SH1 expressway.
- WLR needed for future commercial developments at Paraparaumu Aerodrome and town centre.
- WLR would provide benefits whilst SH1 expressway is planned, designed and designated. Thereby optimising project delivery.
- WLR would mitigate traffic effects during construction of SH1 expressway if constructed first.
- Completing WLR between Kapiti Road and Otahanga Road brings additional benefits, but construction costs reduce BCR by around 0.1.

Travel Times

	Do Nothing	Option 2
SH1 Between MacKays Crossing and Peka Peka	22.5mins	11 mins
Local Roads Between MacKays Crossing and Paraparaumu Aerodrome	17.5mins	9.5 mins

Legend

- Upgraded/New SH1 Expressway
- Upgraded/New Local Arterial
- New Service Road
- Existing SH1
- Existing Local Arterial
- Severed Road
- Traffic Signal
- Roundabout
- Railway Station
- New Structures

Option 2

Build WLR then SH1 Expressway

Kapiti SH1 - Strategy Study July 2009

Option 3 - SH1 Expressway Avoids Town Centres

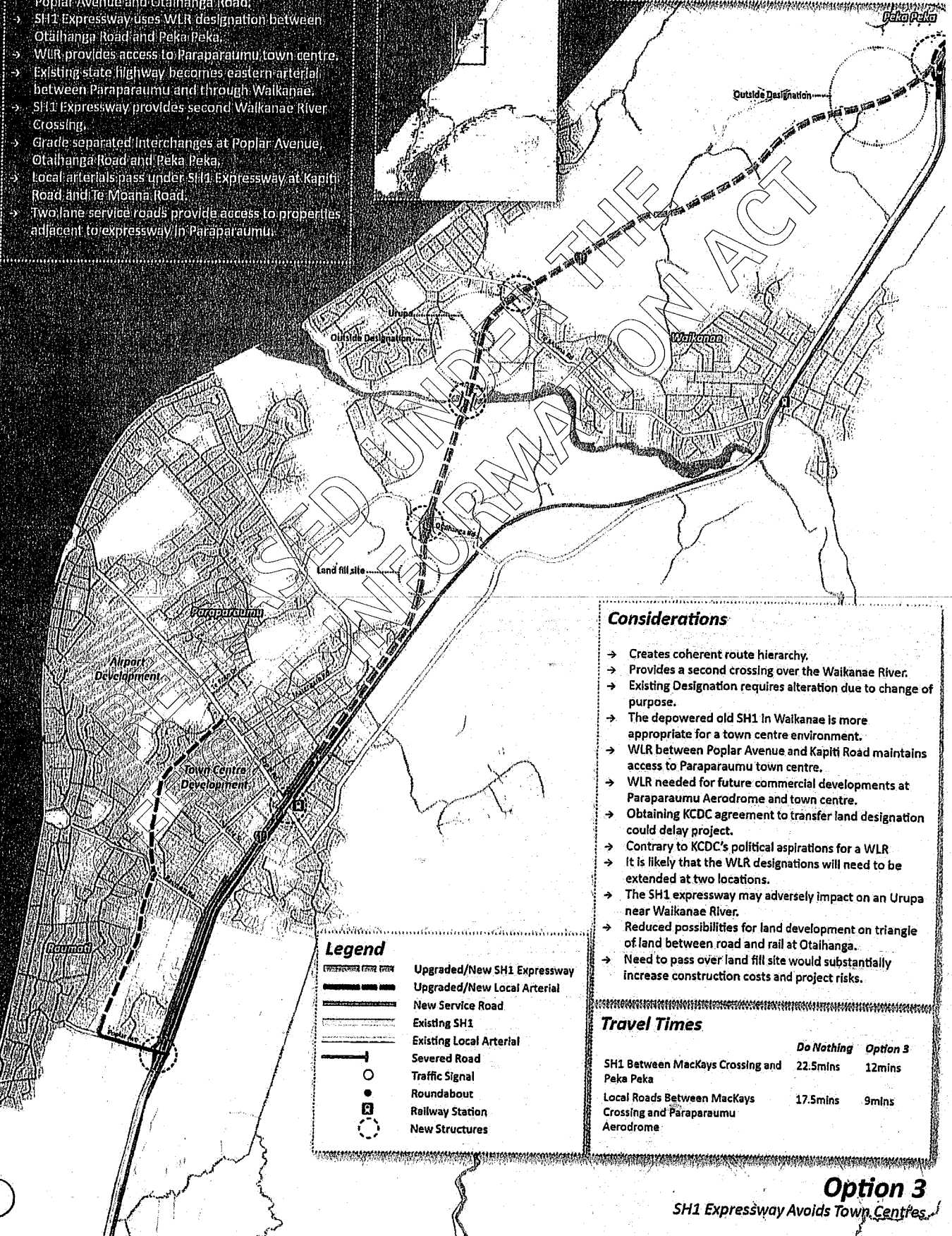
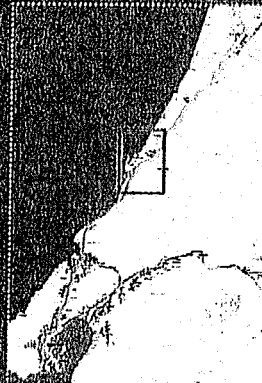
Description

- SH1 Expressway follows rail alignment between Poplar Avenue and Otahanga Road.
- SH1 Expressway uses WLR designation between Otahanga Road and Peka Peka.
- WLR provides access to Paraparaumu town centre.
- Existing state highway becomes eastern arterial between Paraparaumu and through Waihanāe.
- SH1 Expressway provides second Waihanāe River Crossing.
- Grade separated Interchanges at Poplar Avenue, Otahanga Road and Peka Peka.
- Local arterials pass under SH1 Expressway at Kapiti Road and Te Moana Road.
- Two lane service roads provide access to properties adjacent to expressway in Paraparaumu.

Costs & Benefits (\$)

Earliest Opening Date	2018 - 2020*
Likely Cost (2009 base date)	\$440M - \$880M
Forecast traffic benefits	\$180M*
Indicative Tangible BCR	0.4 - 0.6*
Approximately 160+ Affected Land Parcels	

*potential to improve with staging



Legend

	Upgraded/New SH1 Expressway
	Upgraded/New Local Arterial
	New Service Road
	Existing SH1
	Existing Local Arterial
	Severed Road
	Traffic Signal
	Roundabout
	Railway Station
	New Structures

Considerations

- Creates coherent route hierarchy.
- Provides a second crossing over the Waihanāe River.
- Existing Designation requires alteration due to change of purpose.
- The depowered old SH1 in Waihanāe is more appropriate for a town centre environment.
- WLR between Poplar Avenue and Kapiti Road maintains access to Paraparaumu town centre.
- WLR needed for future commercial developments at Paraparaumu Aerodrome and town centre.
- Obtaining KCDC agreement to transfer land designation could delay project.
- Contrary to KCDC's political aspirations for a WLR
- It is likely that the WLR designations will need to be extended at two locations.
- The SH1 expressway may adversely impact on an Urupa near Waihanāe River.
- Reduced possibilities for land development on triangle of land between road and rail at Otahanga.
- Need to pass over land fill site would substantially increase construction costs and project risks.

Travel Times

	Do Nothing	Option 3
SH1 Between MacKays Crossing and Peka Peka	22.5mins	12mins
Local Roads Between MacKays Crossing and Paraparaumu Aerodrome	17.5mins	9mins

Option 3
SH1 Expressway Avoids Town Centres

