Before a Board of Inquiry
MacKays to Peka Peka Expressway Proposal

under: the Resource Management Act 1991

in the matter of: Notice of requirement for designation and resource consent applications by the NZ Transport Agency for the MacKays to Peka Peka Expressway Project

applicant: **NZ Transport Agency**
Requiring Authority

Statement of rebuttal evidence of **Kevin Brewer** (Urban design – peer review) for the NZ Transport Agency

Dated: 31 October 2012

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STATEMENT OF REBUTTAL EVIDENCE OF KEVIN BREWER FOR THE NZ TRANSPORT AGENCY

QUALIFICATIONS AND EXPERIENCE

1 My full name is Kevin John Brewer.

2 I am a director of Brewer Davidson, which is a consultancy providing architectural and urban design services.

3 I graduated in 1985 with a Bachelor of Architecture with Honours from the University of Auckland. I am an Associate of the New Zealand Institute of Architects.

4 I am a New Zealand Institute of Architect's appointee to Auckland Council's Urban Design Panel, and was a member of Manukau City Council's Urban Design Panel. I have completed urban design projects for various councils, government agencies and private entities throughout New Zealand and in Vietnam. I am on the NZ Transport Agency (*the NZTA*)'s register of preferred urban design consultants.

5 I have worked as an urban design consultant on transport projects for the NZTA and various territorial authorities throughout the country, including as:

5.1 Urban design consultant for the NZTA for Christchurch Southern Motorway Stage 2, Te Rapa Bypass, Manukau Harbour Crossing, State highway (*SH*) 1 to SH20 Connection and Newmarket Viaduct Replacement,

5.2 Urban design consultant for the NZTA at the Scheme Assessment phase for the Auckland Harbour Bridge to City and Central Motorway Interchange projects,

5.3 Urban Design peer reviewer for the NZTA for the transport improvements planned around Wellington's Basin Reserve,

5.4 Urban Design peer reviewer for the NZTA for the Mount Victoria tunnel duplication,

5.5 Urban Design lead consultant for the NZTA and Queenstown Lakes District Council for the Wakatipu Transportation Study,

5.6 Urban Design consultant for Auckland City Council reviewing the Waterview Connection Project, and

5.7 Urban Design consultant to Auckland Transport for AMETI, Central Rail Loop, Central Connector and various railway and roading projects.

6 I have worked as an urban design consultant on various town centre and structure plan projects including:

6.1 Ormiston Town Centre Master Plan for Todd Property Group,

6.2 Rotorua CBD Urban Design Framework for Rotorua District Council,

6.3 Wanaka Town Centre Improvements for Queenstown Lakes District Council,

6.4 Te Kauwhata Structure Plan for Waikato District Council, and

6.5 Silverdale North Structure Plan for Rodney District Council.

7 My evidence is given in support of the Notice of Requirement and applications for resource consent lodged with the Environmental Protection Authority by the NZTA for the construction, maintenance and operation of the MacKays to Peka Peka Expressway (*the Project)*.

8 I am familiar with the area that the Project covers and the State highway and local roading network in the vicinity of the Project.

9 I peer reviewed the Urban and Landscape Design Framework (*ULDF*)[1] for the Project. I also completed the SH1 Revitilisation Study. This work suggested opportunities and constraints through concept designs for the existing SH1 in Paraparaumu and Waikanae. This work was jointly commissioned by the M2PP Alliance and I consulted closely with Kāpiti Coast District Council (*KCDC*) during its development.

10 In terms of work within the Kāpiti Coast District, I also record that I:

10.1 Have completed two sections of work on the Paraparaumu Town Centre Plan as an urban design subconsultant to Urbanism Plus for KCDC;

10.2 Have been commissioned by Todd Property Group to review the Paraparaumu Airport Master Plan; and

10.3 Was commissioned by Opus International Consultants in 2008 to undertake an in-house peer review of the Kāpiti Scoping Report.[2]

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[1] Technical Report 5.

[2] Transit NZ SH1 Kapiti Scoping Report 2008, by Opus International Consultants. I note that the conclusions of my peer review were the same as that presented in this evidence. That is, that I did not support retaining SH1 near the current alignment.

11 As can be seen from the above, I have worked with the NZTA on a number of State highway projects, assisted territorial authorities to negotiate urban design outcomes with the NZTA on State highway projects and also been involved in various town centre development projects. I consider this is important, given that part of my rebuttal evidence considers the various route options for this area.

12 I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2011), and I agree to comply with it as if this Inquiry were before the Environment Court. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

13 My evidence will:

13.1 Outline and compare the proposed Project route and "UDR Route 4 Option"[3], and

13.2 Assess the Project and UDR Route 4 Option in terms of effects on rail corridor and station accessibility, town centre urban form and land use transport integration.

14 My evidence is not designed to provide a complete urban design assessment of the Project. For example, my evidence will not assess detailed urban design effects along the Expressway route, such as bridge design and amenity effects at specific locations. Nor does my evidence consider the details of effects of the Expressway on the Waikanae North growth area. I refer to the detailed evidence of **Mr Baily** on such matters.

15 In particular, my evidence primarily responds to the evidence of:

15.1 Graeme McIndoe, on behalf of Save Kāpiti Incorporated (*Save Kāpiti)* [submitter 505]; and

15.2 James Lunday, on behalf of Save Kāpiti [submitter 505].

EXECUTIVE SUMMARY

16 The key conclusions of this rebuttal evidence are that the proposed Expressway is in the correct location to:

[3] The UDR Route 4 Option is described in paragraph 25.2 below.

16.1 Provide good access to the proposed Paraparaumu Town Centre expansion, as the principal centre in the Kāpiti Coast district,

16.2 Provide good access to industrial areas, thereby minimising freight trips on local roads,

16.3 Enable improvements proposed by the SH1 Revitalisation Study. Although such improvements are not part of the Project, they would be made possible with the uplifting of the existing SH1 designation. They would not be possible with any option that retains SH1 near the current alignment.

17 Therefore, I disagree with the evidence of Mr Lunday (at paragraphs 18 and 20) where he states that grade separating SH1 on its existing alignment will be a superior option to the Project. My evidence illustrates the effects of the UDR Route 4 Option on town centre urban form and landuse transport integration.

18 The Western Link Road (*WLR*) arterial road proposal has urban design merits in terms of amenity and connectivity, but if its implementation means SH1 has to be grade separated through the two town centres then the overall urban design effects are substantially negative in comparison to the NZTA's Project.

19 I agree with Mr McIndoe's evidence (at paragraph 13) that providing for north-south State highway and local collector roads is a positive feature. However, my opinion is that the existing SH1 will form a better collector route. This is by reason that properties front onto the road, and the route will link the town centres, to form a corridor for mixed use intensification.

EVIDENCE METHODOLOGY

20 As outlined above, the NZTA has asked me to provide rebuttal evidence responding primarily to the evidence of Mr Graeme McIndoe and Mr James Lunday. Their evidence suggests that the Expressway is fundamentally in the wrong location, in terms of urban design principles. They propose that SH1 should remain essentially on or near the existing alignment (and be upgraded) and that the WLR should also be built as a local arterial along the existing designation corridor.

21 I agree with their approach that a decision on the future of the existing SH1 should be made as part of a holistic view encompassing parallel strategic transport routes and urban form.

22 Mr Lunday proposes, in paragraphs 19 and 20 of his evidence, an alternative to the Expressway option, which he considers is a

"simpler"[4] version of the Eastern Option from the NZTA October 2009 consultation. The route, described in paragraph 20 of Mr Lunday's evidence, appears to be the same as Route 4 recommended in the Kāpiti Coast State Highway Expressway Urban Design Review (October 2009) (*UDR*). This route is shown in **Appendix D** of my evidence and in Appendix 2 of Mr Lunday's evidence.

23 I agree that this option provides a clear point of difference with the proposed Expressway. I note that it is similar to Options 3 and 4 from the M2PP Alternative Route Options Report.[5] Option 2 from the same Report utilises the WLR designation north of Waikanae River, and so provides less contrast with the proposed Expressway.

24 The NZTA Road of National Significance (*RoNS*) Design Standards require a dual-carriageway with limited access, design speed of 110km/h and grade separated junctions, providing a specific level of service. Therefore, an option of leaving the existing SH1 as is, and building the WLR does not satisfy these requirements. Using Route 4 from the UDR largely satisfies these requirements.[6]

25 Therefore, my evidence compares the following options, as discussed in the evidence of Mr Lunday:

25.1 The Project (i.e. the proposed Expressway which largely follows the WLR designation alignment), with the existing SH1 forming a local arterial route,[7] and

25.2 Redevelopment of the SH1, as proposed in paragraph 20 of Mr Lunday's evidence, and as drawn in the UDR as the "recommended option". This document is attached to Mr. Lunday's evidence as Appendix 2. For the purposes of this evidence, I will refer to this as the "*UDR Route 4 Option*."

RAIL CORRIDOR AND STATION ACCESSIBILITY

UDR Route 4 Option - Paraparaumu Rail Station

26 In paragraphs 24, 25 and elsewhere in his evidence, Mr Lunday suggests the railway already splits the Paraparaumu and Waikanae

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4 Lunday Evidence, paragraph 19.

5 MacKays to Peka Peka Expressway, Alternative Route Options Report (Volumes 1, 2, 3).

6 The interchange design in the Route 4 option may not be satisfactory as discussed later in this evidence.

7 I note that in the following discussions, I have considered future, possible changes to the existing SH1, as outlined in the SH1 Revitalisation Study (which I undertook). However, I am mindful that such changes do not form part of this Project.

town centres, so the main State highway route should be located beside the railway to minimise severance. This is generally a sensible approach in rural and suburban areas, so that severance and noise/air pollution effects are reduced in these areas. However, it is not a good solution where rail stations are part of a town centre and access for pedestrians, cyclists and public transport is important.

27 **Appendix A** shows "Transit Oriented Development" (*TOD*) concepts from the American Peter Calthorpe, who is acknowledged as a leading urban designer in the area of landuse transport integration. The 800 metre circular walking catchment from a rail station is a well known tool for TOD urban plans, as is the importance of encouraging walking and cycling links to the station inside the 800 metre catchment.

28 Calthorpe extends the concept to acknowledge the frequent location of arterial roads near town centres. Importantly, he locates the arterial road on the opposite side of the commercial blocks from the transit station. This is to reduce the negative effects of the arterial road on the walking and cycling from the most intensively developed areas. The right hand image on **Appendix A** is a network plan for a larger urban area, and again the transit station is located centrally to maximise the pedestrian and walking catchment. The freeway is located on the outskirts of the town centre to minimise effects, but with a direct link to encourage trips to the town centre. I note that this spatial juxtaposition of rail/transit stations, arterial roads, expressways and town centre core areas is a fundamental urban design problem in Paraparaumu and Waikanae.

29 **Appendix B** shows an example of a situation to avoid, as observed in Ellerslie, Auckland. The Southern Motorway is located immediately alongside the railway station reducing the railway station's walking catchment and connections to the Ellerslie Town Centre. By contrast, New Lynn in Auckland is a good example of TOD planning where the railway was lowered into a trench and a major arterial road realigned to pass outside the town centre and train station connections.

30 **Appendix C** is a plan which shows the railway alignment, station locations and town centre locations, as these are fixed for both the Expressway and UDR Route 4 options.

31 **Appendix C** shows that the rail stations are ideally located in the Paraparaumu and Waikanae town centres. In both locations, the town centre is mainly located to the west of the railway station, but unfortunately SH1 is positioned between the rail station and the town centre. I also note that KCDC has a medium density town house zoning to encourage residential intensification within walking

distance of the Paraparaumu Rail Station, but it too is located on the western side of SH1.

32 **Appendix D** is page 11 from the UDR and shows the UDR Route 4 Option alignment generally following the existing SH1 alignment.

33 **Appendix E** shows the plan, section and aerial perspective for the UDR Route 4 Option near the Paraparaumu Rail Station. SH1 climbs onto an elevated structure immediately in front of the rail station.

34 To give a sense of the scale of this proposed bridge, I measured the approximate length at 200 metres, as indicated by the red line in the aerial view of Paraparaumu, which is shown at the top left of **Appendix F**. The lower left image measures 200 metres on the Victoria Park flyover in Auckland. I chose this structure as it is a 4 lane flyover above a public space, so is comparable to the UDR Route 4 Option proposal and location. The upper right photograph shows the large scale of a four lane motorway bridge when viewed from below, and the lower right photograph shows the 200 metre length of the flyover.

35 In my opinion, this shows how large this structure is, and that a 200 metre long flyover in this location will have severe effects on shading, amenity, personal safety and more importantly severely discourage walking and cycling to the Paraparaumu Rail Station. To satisfy minimum clearances from trains and vehicles on local roads, SH1 would have to be elevated by approximately 8m from the ground. New Zealand and international examples have highlighted the issues caused by such large elevated structures.

UDR Route 4 Option - Waikanae Rail Station

36 **Appendix G** contains views taken from pages 17 to 19 of the UDR and shows the UDR Route 4 Option at Waikanae Rail Station. An elevated structure is avoided, but at some cost to accessibility. Two footbridges provide access between the Waikanae Town Centre and the Rail Station. These are likely to involve at least an 8 metre climb to clear the railway electric cable system, which is a deterrent to usage. Elevators in public areas suffer from personal safety and graffiti problems so cannot be relied on as suitable mitigation for the accessibility effects. This will discourage people from walking to the town centre when using the rail station, or other civic facilities on the eastern side of the railway.

37 The existing, "kiss n ride" drop off,[8] bus stops and most of the "park n ride" areas are located on the western side of the railway and are removed in the UDR Route 4 Option. This proposal forces all vehicles to use the Elizabeth Street underpass, which will add to the length of trip and inconvenience drivers and passengers, as compared to

[8] "Kiss n ride" is a lane where people are dropped off to the train station.

the existing situation. The UDR Route 4 Option is essentially the same as what has occurred in Ellerslie (as shown in **Appendix B** and discussed above).

38 This proposal also blocks the at-grade route linking the marae and urupa for the tangi of local iwi.

Expressway Option - The Project

39 The proposed Expressway will allow the existing SH1 to revert to a local road. Existing accessibility will improve as a result of the Expressway, due to a reduction in traffic and even with no other physical improvements being undertaken to the existing SH1. This change will be consistent with the TOD examples shown in **Appendix A** to encourage walking and cycling trips to the rail station.

40 However, I also note that the SH1 Revitalisation work, which I completed for NZTA and KCDC, shows further achievable opportunities in the Expressway scenario (although, as I have noted above, such changes do not form part of this Project).

41 For example, **Appendix H** shows possible opportunities at Paraparaumu Rail Station. Kerbside parking is possible within the SH1 designation, so the bus stops can be located on the existing road. This would remove difficult turns in and out of the station site and improves bus travel times. The existing four lanes could be reduced to two lanes and the road treated like a town centre street. Central median planting and a raised speed table would encourage walking between the town centre and rail station. The existing station forecourt could be developed as convenience retail to provide shelter linking the street, bus stops and rail station, provide amenity and surveillance and to create the first two sided retail frontage, which would hopefully extend along the existing SH1 to the south.

42 In my opinion, the Expressway Option is a superior solution to the UDR Route 4 Option, and indeed any option which keeps SH1 between the rail station and town centre. Further development of SH1, as shown in the SH1 Revitalisation Study, indicates the potential for additional potential improvements in terms of amenity, surveillance, town centre integration and the encouragement of passenger rail usage.

43 **Appendix J** shows potential opportunities at Waikanae. Again the bus stop is relocated to take advantage of allowable kerbside parking. This removes a difficult right turn exit for the bus route as the bus can turn right on an advance signal into Ngaio Road. The bus stop and rail station can be linked with shelters as drawn. A signal controlled intersection is proposed at Ngaio Road to include pedestrian crossings between the town centre and rail station.

Kerbside parking is included on both sides of the existing SH1 to support the town centre retail. The existing "park n ride" and "kiss n ride" drop offs are maintained.

44 In my opinion, the Expressway presents a superior solution to that shown in the UDR Route 4 Option. Revitalisation work on SH1 would further improve amenity and access for pedestrians and crucially, for bus passengers.

COMPARISON OF LANDUSE TRANSPORT INTEGRATION AND OTHER URBAN DESIGN EFFECTS

UDR Route 4 Option

45 This section assesses selected urban design effects of the UDR Route 4 Option in conjunction with the WLR.

Landuse Transport Integration

46 In **Appendix K,** I have mapped the main commercial/industrial areas and WLR and UDR Route 4 Option on to the **Appendix C** map. The main landuse transport integration features of this plan are listed below.

47 The train stations are ideally located at Paraparaumu and Waikanae town centres, but the UDR Route 4 Option alignment negatively affects amenity and accessibility, as discussed above.

48 The alignment of the UDR Route 4 Option also affects access to retail premises. For example, the retail premises contained within the red rectangle on the **Appendix E** plan are privately owned and not under the control of Coastlands Shopping Centre. This option removes access from the existing SH1 alignment for these properties. Customers will have to travel through the Coastlands carpark from Rimu Road to access them. This will remove their visibility and make them commercially vulnerable to Coastlands in terms of legal access. This compares to the plan on **Appendix H** which improves the exit-only driveway to a full intersection.

49 KCDC has tried many approaches to create a main street environment at Paraparaumu to no avail, so retention of private retailers to balance Coastland's dominance is important in terms of urban design. Kāpiti Lights has access maintained in the UDR Route 4 Option but it is still a rear lane, as compared to retention of the existing T intersection in the SH1 revitalisation proposal. The proposed Expressway will enable such options to be later developed.

50 The dashed red lines in **Appendix D** show new road sections for the UDR Route 4 Option. I assume that the new section in the northern parts of Paraparaumu are located immediately east of the railway. This will require removal of properties beside the railway at Hinemoa Street, Buckley Grove.

51 If the existing SH1 route is to be designed to RoNS standards (as discussed in paragraph 24 above) then new access will have to be formed for every Paraparaumu and Waikanae property with existing SH1 access. This will be difficult as the existing SH1 width is too narrow to accommodate additional parallel service roads or lanes. The extent of this problem can be gauged by examining the Alternative Route Options Report Volume 2 Drawings.

52 The UDR Route 4 Option plan for Waikanae (**Appendix G**) has a new mid block north south road and the grey fill area indicates an almost total rebuild of the town centre. While this is not within my core area of professional expertise, in my experience, the commercial feasibility of this looks doubtful. The sketch on **Appendix G** shows retail opening to a lane running parallel to SH1. There is no access from SH1 to this lane so the only approach is from the proposed mid-block road. In my experience, retail will not survive in such a location due to poor accessibility.

53 Therefore, the UDR Route 4 Option is, in my view, likely to have severe consequences for the retention and viability of the existing town centre buildings. In my opinion, this shows that a fully separated State highway cannot be located so close to Waikanae town centre and rail station.

54 One of the core functions of motorways or expressways is the movement of freight. Therefore, it is an advantage to co-locate industrial areas and interchanges. The main industrial area in Paraparaumu is in the Airport/Te Roto Road area. This is coloured purple on the **Appendix C** plan. Under the UDR Route 4 Option, freight trips to the State highway could use the WLR, but they would still have to travel along Kāpiti Road into the town centre or along Raumati Road through residential areas.

55 The industrial area at Waikanae is on the eastern side of the railway. It is unclear from the UDR Route 4 Option drawings (**Appendix G**) how the Waikanae interchange implied in the **Appendix D** plan and paragraph 102 of Mr Lunday's evidence can be achieved. There is no SH1 access at Elizabeth Street shown in **Appendix G** and difficult access north to the Peka Peka interchange. In the Expressway option, existing access south, west and north is maintained. Given the small industrial area at Waikanae, this seems adequate in terms of accessibility.

Western Link Road

56 The WLR designation has been in place since 1956 so the surrounding land use has developed in anticipation of a major road being developed. This has resulted in the road network having cul-de-sacs when approaching the designation and buildings developing with their back or sides facing the designation.

57 The extent of this pattern is shown by the small number of new linkages proposed by the KCDCWLR.[9] Intersections at Ihakara and Te Roto Roads are the only proposed new connections. However, both are drawn across private land which is not designated for local roads and only connect to the western side of the WLR.

Expressway option

58 This section assesses selected urban design effects of the Project (Expressway), in conjunction with existing SH1 reverting to a local arterial road.

Landuse Transport Integration

59 The Expressway Option **Appendix L** maps the main commercial/industrial areas and the Expressway/existing SH1 alignment on to the **Appendix C** map. The main landuse transport integration features of this plan are listed below.

60 The train stations are ideally located at Paraparaumu and Waikanae town centres, and the reduced traffic from the proposed Expressway will maintain current amenity and accessibility levels. However, the opportunities created by uplifting the existing State highway designation would make the changes outlined in **Appendices H** and **J** possible (with consequent further improvement in accessibility and amenity). In my opinion, there are substantial rail station access and amenity benefits with the Expressway proposal.

61 The existing sections of Paraparaumu Town Centre can be retained and potentially enhanced through similar opportunities afforded by uplifting the State highway designation. In particular, the private retail near the rail station will benefit from retained or potentially enhanced accessibility and amenity.

62 The Kāpiti Road interchange is ideally located on the fringe of the proposed Paraparaumu town centre expansion land. This layout is similar to the **Appendix A** plans with the transit and expressway routes on opposite sides of the town centre. The proximity of the interchange to the town centre expansion land is a good feature to encourage passing traffic to use the centre's facilities.

63 In my opinion, this layout is consistent with the right hand drawing in Figure 2 of Mr McIndoe's evidence where the Expressway is located on the outskirts of a node or town centre, as opposed to running through the centre of the node, or remote from the node.

64 The distance of the Te Moana and Peka Peka interchanges from the Waikanae Town Centre does reduce business to these areas from passing traffic. However, analysis of the UDR Route 4 Option shows that it is not beneficial to locate a RoNS standard Expressway in the

[9] WLR Interim Report August 2008.

town centre. Therefore, in my opinion, it is better for KCDC to concentrate on the opportunities made possible for Waikanae by the uplifting of the State highway designation.

65 The Kāpiti Road and Poplar Avenue interchanges are good locations to minimise freight trips on local roads from the Airport/Te Roto/Ihakara areas. These movements are shown by the arrows on **Appendix L**. The Expressway option allows access north to Peka Peka interchange to minimise freight trips on Te Moana Road.

66 In my opinion, the proposed Expressway alignment, interchange locations and possible opportunities afforded by uplifting of the existing SH1 designation are a much superior landuse and transport integration plan.

Nature of the WLR designation

67 As discussed in paragraphs 56 and 57 above, landuse has developed along the designation in anticipation of a major road being developed. The only differences between the Expressway and WLR options are:

67.1 Access on to SH1 is restricted to Poplar, Kapiti, Te Moana and Peka Peka interchanges, but this has advantages and disadvantages. Primarily local trips are encouraged to be made on local roads, which support the existing town centres;

67.2 The Ihakara Road intersection proposed as part of the WLR scheme is not possible, although a proposed Expressway bridge allows future construction of the Airport link road as desired by KCDC in the Paraparaumu town centre plans; and

67.3 The Te Roto intersection proposed as part of the WLR scheme is not possible, but this would be across private land so may not be possible anyway. A footbridge is included in the Expressway proposal recognising the informal pedestrian and cycling links present there.[10]

68 In my opinion it is the context created by the nature of the WLR designation that limits the extent of east west linkages across the Expressway.

69 The Project connects all existing local roads above or below the Expressway, and includes a bridge to allow future completion of Ihakara Road to Paraparaumu Airport and a footbridge in a similar location to the Te Roto Intersection.[11] It must be acknowledged

[10] This too will require land purchase beyond the proposed designation and is addressed in the Site Specific Urban Design Plans discussed in **Mr Baily's** evidence.

[11] An additional Project footbridge at Leinster Avenue is not mentioned as it is beyond the WLR route.

that there is more potential access available in the WLR option as compared to the Expressway, but east west linkages for existing local roads, walking and cycling are virtually the same. The WLR in general has the same amount of back fences to private property as the Expressway proposal. It is the pattern of landuse as opposed to the road type that is the determining factor.

70 Therefore, I disagree with Mr Lunday's evidence (at paragraph 20) where he states that locating the SH1 Expressway on the existing WLR designation causes an additional line of major severance. The severance Mr Lunday refers to is related to the WLR designation itself and associated land use patterns which abut the designation. This line of severance already exists; it is not an effect of the Project itself. It is the landuse pattern that has developed in anticipation of a major road that has caused the severance.

71 Mr McIndoe's evidence at paragraph 16 may be correct mathematically, but 56 years of property development has cast a pattern that even the KCDC WLR proposal did not seek to fundamentally change.

72 By comparison, the existing SH1 has developed over time as a fully accessible highway, so the only instances of residential development that have a back fence to the highway are the retirement village south of Ihakara Street and Balmerino Grove at Waikanae North.

73 I agree with Mr McIndoe's paragraph 13 that a combination of State highway and local collector as parallel north-south routes is desirable, but the existing SH1 will be a superior option as a local road, as properties front the potential collector road and this option avoids the town centre urban form effects discussed above.

URBAN AND LANDSCAPE DESIGN FRAMEWORK METHODOLOGY (*ULDF*)

74 In paragraph 22 of his evidence Mr Lunday says the ULDF is "*fundamentally flawed in its methodology and rigor*". Mr Lunday's concerns are with route selection and he questions why this is not detailed in the ULDF. In paragraph, 22 Mr Lunday criticises the ULDF:

"*The study is focused only on the proposed alignment and is not the architect of the alignment."*

75 I peer reviewed the ULDF and so make the following comments in response. In the NZTA design process, route selection is examined in a Scheme Assessment Phase. The ULDF commences after a preferred alignment is chosen and details urban design and landscape issues for that alignment. Route selection choices are discussed in the M2PP Alliance Options Evaluation Report (January

2011), and the process of route selection is also outlined in the Project's Assessment of Environmental Effects.

Kevin John Brewer
31 October 2012

MacKays to Peka Peka Expressway Project

for the

New Zealand Transport Agency

Appendix to Urban Design Rebuttal Evidence

by

Kevin Brewer

Appendix A	Generic Transit Oriented Development
Appendix B	Ellerslie Railway Station
Appendix C	Town centres and rail station locations
Appendix D	Route 4 Option
Appendix E	Paraparaumu UDR Route 4 Option
Appendix F	Victoria Park flyover
Appendix G	Waikanae Town Centre UDR Route 4 Option
Appendix H	SH1 Revitalisation Concept Paraparaumu
Appendix J	SH1 Revitalisation Concept Waikanae
Appendix K	Western Link Road and UDR Route 4 Option
Appendix L	Expressway and Existing SH1

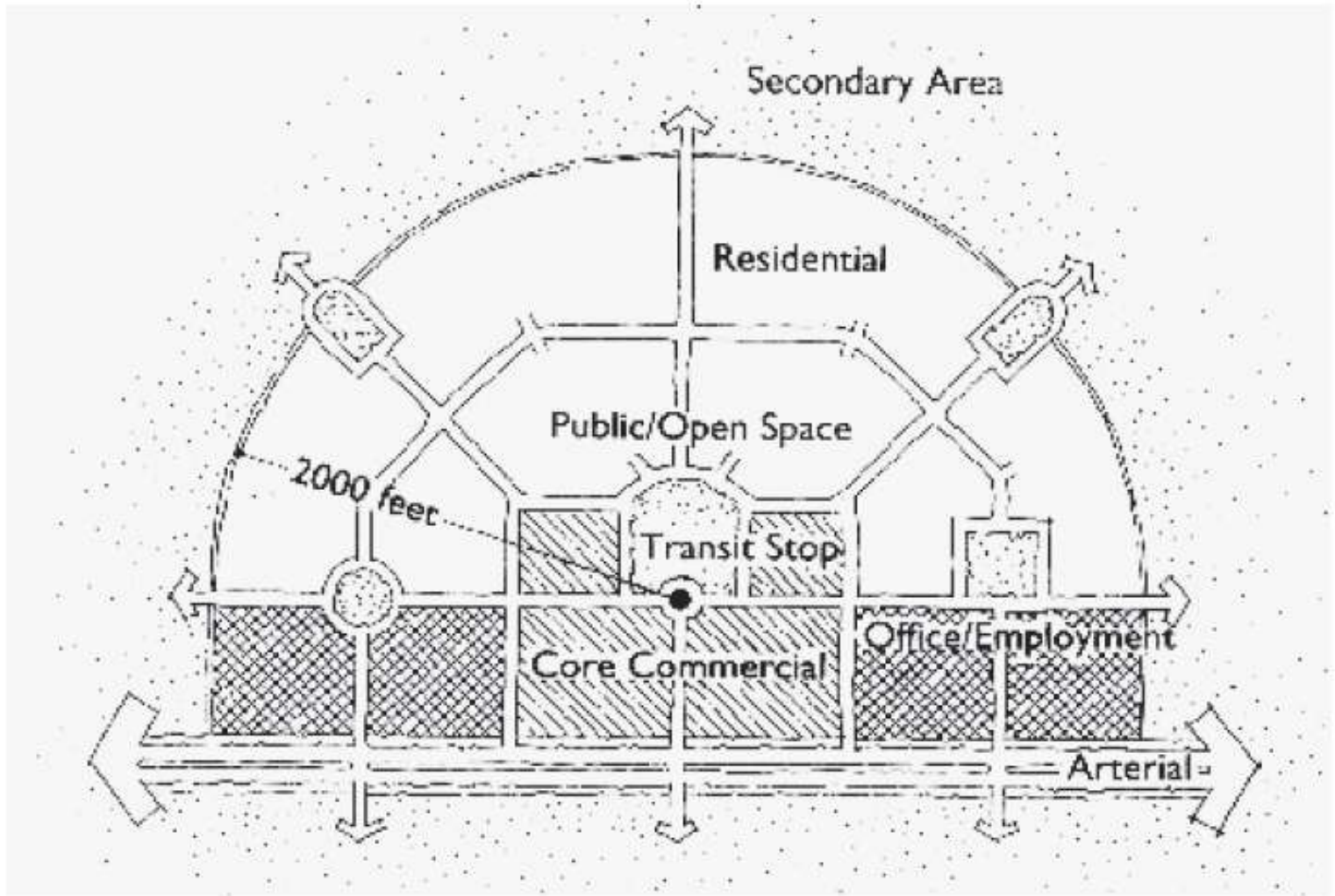
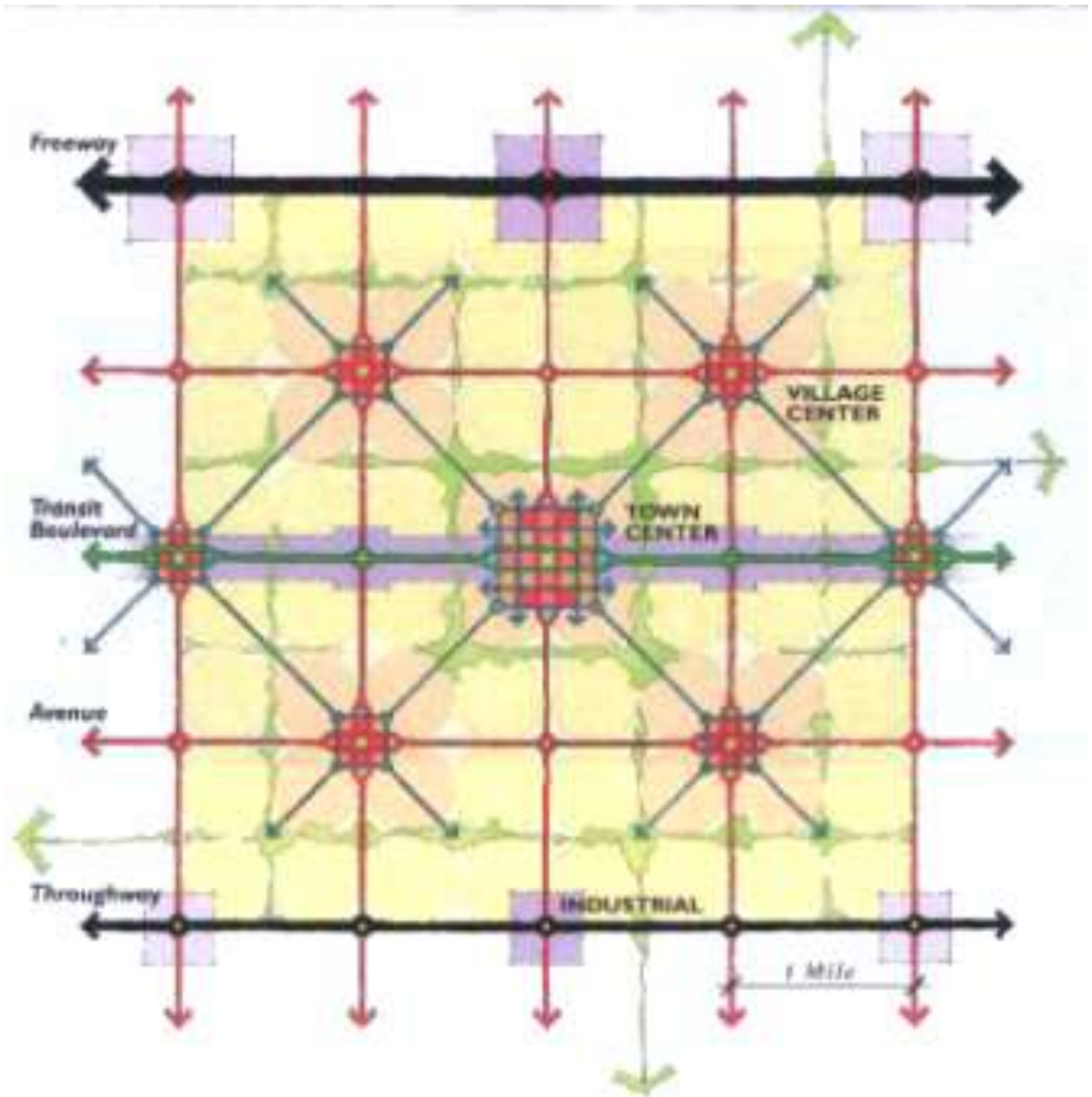


Figura 2: The concept of the Transit Oriented Development, by Peter Calthorpe
Source: CALTHORPE, 1993

Transit Oriented Concept by Peter Calthorpe 1993. Arterial road is placed on opposite side of commercial area from transit route so that walking/cycling from commercial and residential areas is encouraged.



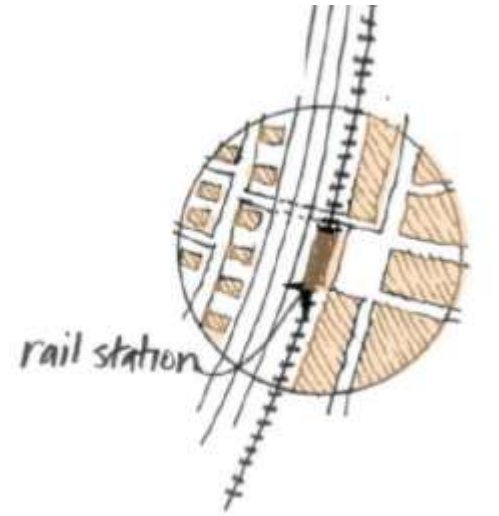
Peter Calthorpe's Urban Network concept again with transit route in centre of town with freeway located on outskirts of town but with a direct link to the centre.

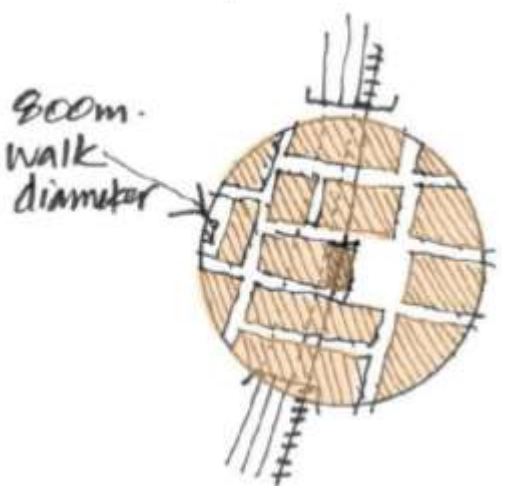
Left — Aerial view of the Southern Motorway between Ellerslie Town Centre and Ellerslie Railway Station.

Bottom Left — Ellerslie Railway Station Auckland with southern motorway to the left.

Bottom Right: — TOD diagrams showing severance effects of motorway placed immediately beside the railway station.

Taken from Landuse Summit Conference paper by Kevin Brewer





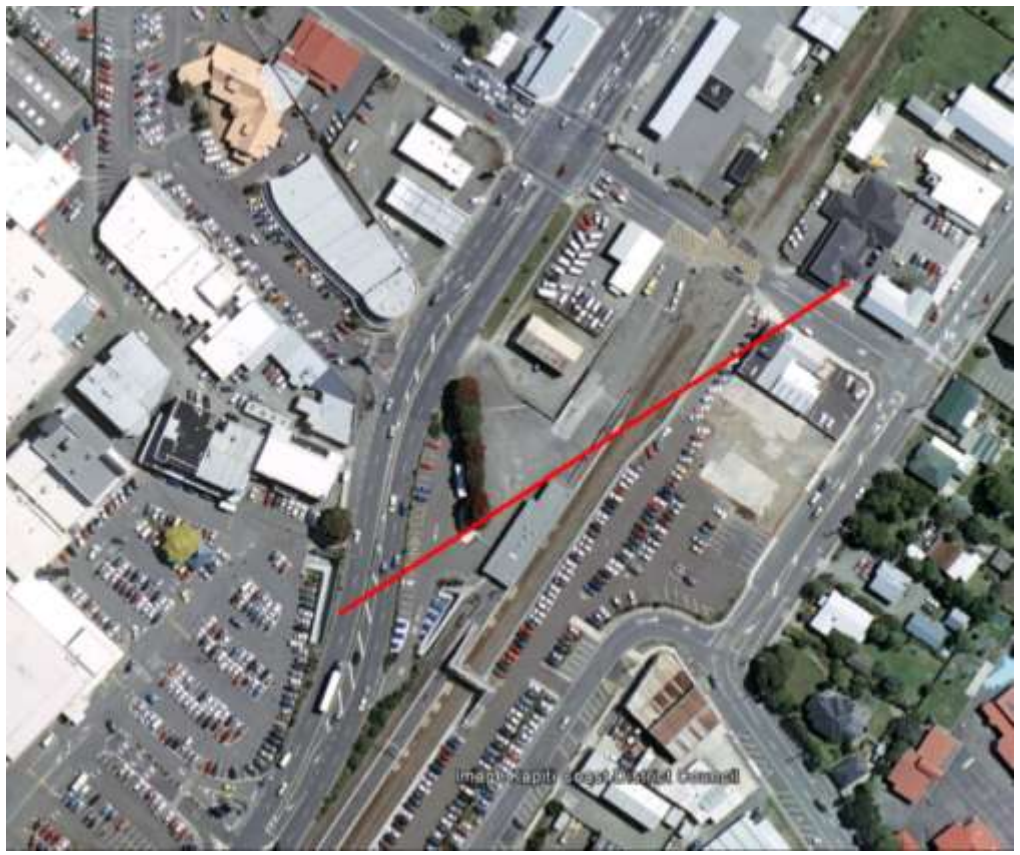

EXISTING SH1
INDUSTRIAL AREA
RAILWAY
EXISTING SH1
PARAPARAUMU
WAIKANAE
LEGEND
RESIDENTIAL
EXISTING TOWN CENTRE
PROPOSED TOWN CENTRE
INDUSTRIAL
EXISTING SH1
0
800m.

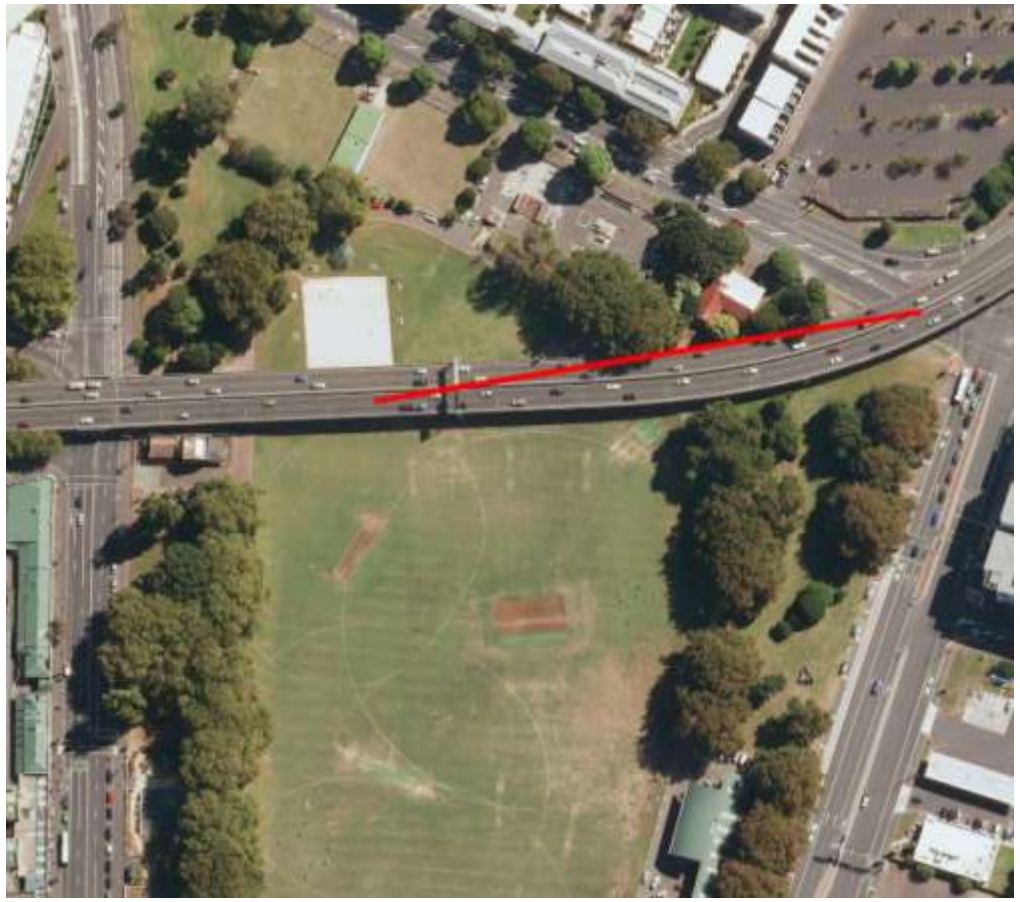
RECOMMENDED OPTION - ADJUSTED EASTERN OPTION

Top Left: Plan UDR Route 4 proposal. The elevated section of Sh1 will have to clear the southbound on-ramp and Kapiti Road level rail crossing. The red rectangle outlines retail and commercial buildings not owned by Coastlands Shopping Centre.

Bottom Left: Section from UDR showing height of elevated structure in front of the Paraparaumu Rail Station.

Top Right: Aerial perspective looking east over the Paraparaumu Rail Station and proposed UDR Route 4 Sh1.





Top left: Google Earth view showing elevated Sh1 structure from Appendix E UDR plan. This scales at approximately 200 metres in length.

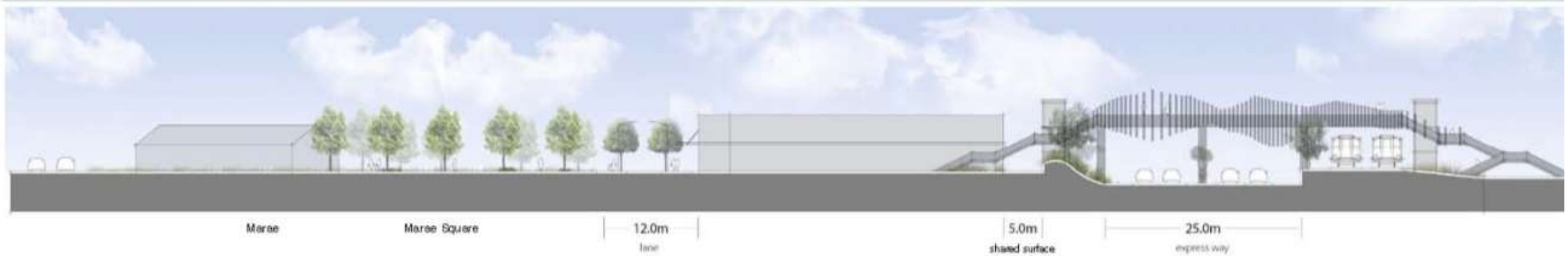
Bottom Left: Google Earth view of Victoria Park flyover with red line showing 200 metre length starting in Beaumont Street.

Top Right: View from Beaumont Street of four lane motorway flyover showing width of deck structure. The end of 200 metre length is beyond the view under the flyover.

Bottom Right: Photograph of flyover showing 200 metre length in Victoria Park.

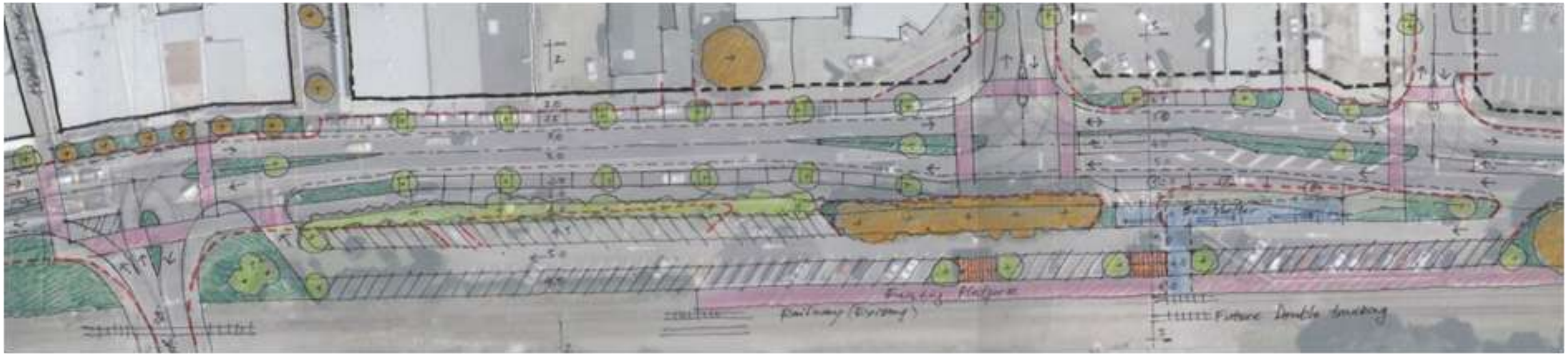
Waikanae Expressway - Mitigation Plan

Waikanae - Town Centre Cross-section at Art Bridge



Top Left: Plan showing planted central median and speed table to slow traffic and integrate town centre and rail station. Bus stops are located on the existing Sh1 to improve travel times. The existing forecourt area is developed as convenience retail to activate the station area and provide retail frontage on both sides of the proposed local road. Kiss n ride and taxi drop off uses a dedicated road on right side of plan.

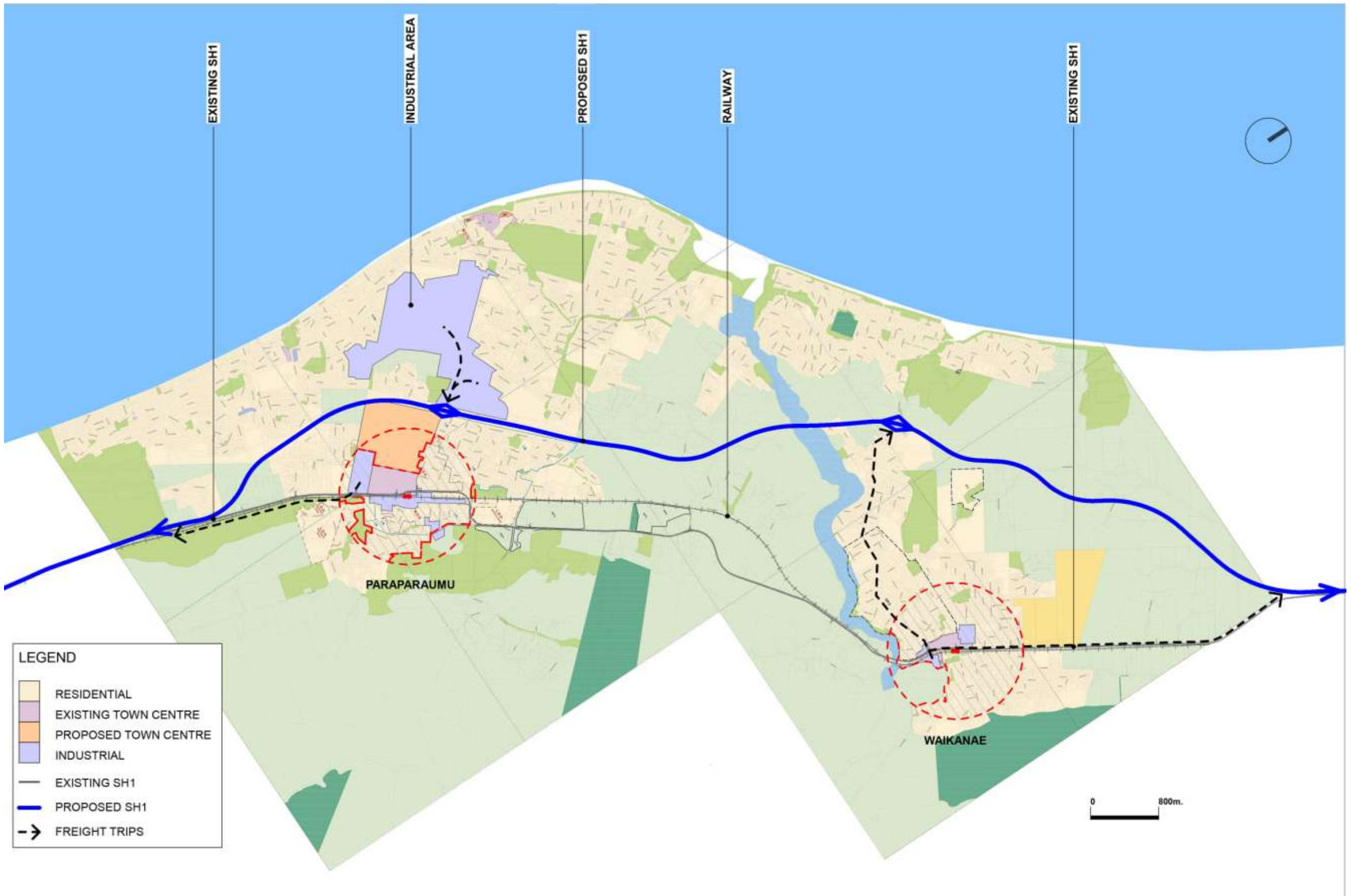
Bottom Left: Sketch of concept looking north west across the rail station area.



Top : Plan option without planted central median. Kerbside carparking along both sides of existing Sh1 and landscaping to park n ride area. Signals and pedestrian crossings at Ngaio Street intersection to improve walking/ cycling access to rail station. Bus stops located on existing Sh1 to remove right turn exit on bus route, but with canopies linking bus stop and rail station.

Bottom Left: Sketch of concept looking south from Ngaio Road intersection with bus stop and rail station on left.


EXISTING SH1
INDUSTRIAL AREA
PROPOSED SH1
RAILWAY
WESTERN LINK
EXISTING SH1
PARAPARAUMU
WAIKANAE
0
800m.
LEGEND
RESIDENTIAL
EXISTING TOWN CENTRE
PROPOSED TOWN CENTRE
INDUSTRIAL
EXISTING SH1
SH1 UDR ROUTE 4
FREIGHT TRIPS
WESTERN LINK
WESTERN LINK EXTENDED


EXISTING SH1
INDUSTRIAL AREA
PROPOSED SH1
RAILWAY
EXISTING SH1
PARAPARAUMU
WAIKANAE
LEGEND
RESIDENTIAL
EXISTING TOWN CENTRE
PROPOSED TOWN CENTRE
INDUSTRIAL
EXISTING SH1
PROPOSED SH1
FREIGHT TRIPS
0
800m.