

I hereby give notice that a hearing by commissioners will be held on:

**Date:** Monday 6 to Friday 10 December and Thursday 16 December 2021  
**Time:** 9.30am  
**Meeting room:** Waihorotiu rooms  
**Venue:** Level 4, Aotea Centre  
50 Mayoral Drive, Auckland Central

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## **PRIVATE PLAN MODIFICATIONS 48, 49 and 50 ADDENDUM HEARING REPORT**

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### **COMMISSIONERS**

**Chairperson** Greg Hill  
**Commissioners** Karyn Kurzeja (PC48 and PC50 only)  
Mark Farnsworth

**Sam Otter**  
**SENIOR HEARINGS ADVISOR**

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**Note:** The reports contained within this document are for consideration and should not be construed as a decision of Council. Should commissioners require further information relating to any reports, please contact the hearings advisor.

## **WHAT HAPPENS AT A HEARING**

### **Te Reo Māori and Sign Language Interpretation**

Any party intending to give evidence in Māori or NZ sign language should advise the hearings advisor at least ten working days before the hearing so a qualified interpreter can be arranged.

### **Hearing Schedule**

If you would like to appear at the hearing please return the appearance form to the hearings advisor by the date requested. A schedule will be prepared approximately one week before the hearing with speaking slots for those who have returned the appearance form. If changes need to be made to the schedule the hearings advisor will advise you of the changes.

Please note: during the course of the hearing changing circumstances may mean the proposed schedule may run ahead or behind time.

### **Cross Examination**

No cross examination by the applicant or submitters is allowed at the hearing. Only the hearing commissioners are able to ask questions of the applicant or submitters. Attendees may suggest questions to the commissioners and they will decide whether or not to ask them.

### **The Hearing Procedure**

The usual hearing procedure is:

- **the chairperson** will introduce the commissioners and will briefly outline the hearing procedure. The Chairperson may then call upon the parties present to introduce themselves. The Chairperson is addressed as Madam Chair or Mr Chairman.
- **The applicant** will be called upon to present his/her case. The applicant may be represented by legal counsel or consultants and may call witnesses in support of the application. After the applicant has presented his/her case, members of the hearing panel may ask questions to clarify the information presented.
- **Submitters** (for and against the application) are then called upon to speak. Submitters' active participation in the hearing process is completed after the presentation of their evidence so ensure you tell the hearing panel everything you want them to know during your presentation time. Submitters may be represented by legal counsel or consultants and may call witnesses on their behalf. The hearing panel may then question each speaker.
  - Late submissions: The council officer's report will identify submissions received outside of the submission period. At the hearing, late submitters may be asked to address the panel on why their submission should be accepted. Late submitters can speak only if the hearing panel accepts the late submission.
  - Should you wish to present written evidence in support of your submission please ensure you provide the number of copies indicated in the notification letter.
- **Council Officers** will then have the opportunity to clarify their position and provide any comments based on what they have heard at the hearing.
- **The applicant** or his/her representative has the right to summarise the application and reply to matters raised by submitters. Hearing panel members may further question the applicant at this stage. The applicants reply may be provided in writing after the hearing has adjourned.
- **The chair** will outline the next steps in the process and adjourn or close the hearing.
- If adjourned the hearing panel will decide when they have enough information to make a decision and close the hearing. The hearings advisor will contact you once the hearing is closed.

### **Please note**

- that the hearing will be audio recorded and this will be publicly available after the hearing
- catering is not provided at the hearing.

**THREE NOTIFIED PRIVATE PLAN MODIFICATIONS TO THE AUCKLAND UNITARY PLAN BY KIWI PROPERTY NO.2 LIMITED (PC48), FULTON HOGAN LAND DEVELOPMENT LTD (PC49), OYSTER CAPITAL (PC50)**

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Reporting officer, David Mead

Addendum report on the three proposed private plan changes to:

- rezone 95 hectares of land from Future Urban to approximately 35 hectares of Business: Metropolitan Centre zone, approximately 51.5 ha of Business: Mixed Use zone surrounding the Metropolitan Centre and 8.5ha Open Space: Informal Recreation zone known as Private Plan Change 48 - Drury Centre Precinct
- rezone 56 hectares of Future Urban Zoned land in Drury West to Business: Neighbourhood Centre zone, Residential: Terrace Housing and Apartment Buildings zone, Residential: Mixed Housing Urban zone and 4.79 hectares for an open space network. at Drury East Precinct
- rezone 48.9 hectares of land located to the north of Waihoehoe Road and east of the North Island Main Trunk Railway, from Future Urban to Residential: Terrace Housing and Apartment Buildings zone. at Waihoehoe Precinct.





## **Addendum Hearing Report for Proposed Plan Changes 48 to 50: Auckland Unitary Plan (Operative in part)**

Section 42A Hearing Report under the Resource Management Act 1991

**Report to:** Hearing Commissioners

**Hearing Date/s:** 28 July – 3 August 2021, 6 December – 10 December 2021

**File No:** S42A report addendum, PPCs 48 to 50

**Report Author** David Mead, Consultant Planner

**Report  
Approvers** Craig Cairncross, Team Leader Central South

**Report  
produced** 19 November 2021

### **1. SUMMARY**

- 1 I am the author of the section 42A reports on Private Plan Changes 48 to 50, dated 17 June, 24 June and 1 July 2021 respectively.
- 2 In this addendum, I provide updated analysis and recommendations relating to infrastructure and land use integration, as per the Panel's Direction of 9 August 2021. In response to the evidence presented I have amended some of my recommendations set out in the June/July section 42A reports.
- 3 I now support a partial rezoning strategy (see Figure 1); amended triggers and thresholds within the area to be re-zoned; and a 'hold point' on non-residential floorspace over 75,000m<sup>2</sup> (but no hold point for residential development) within the area to be rezoned.

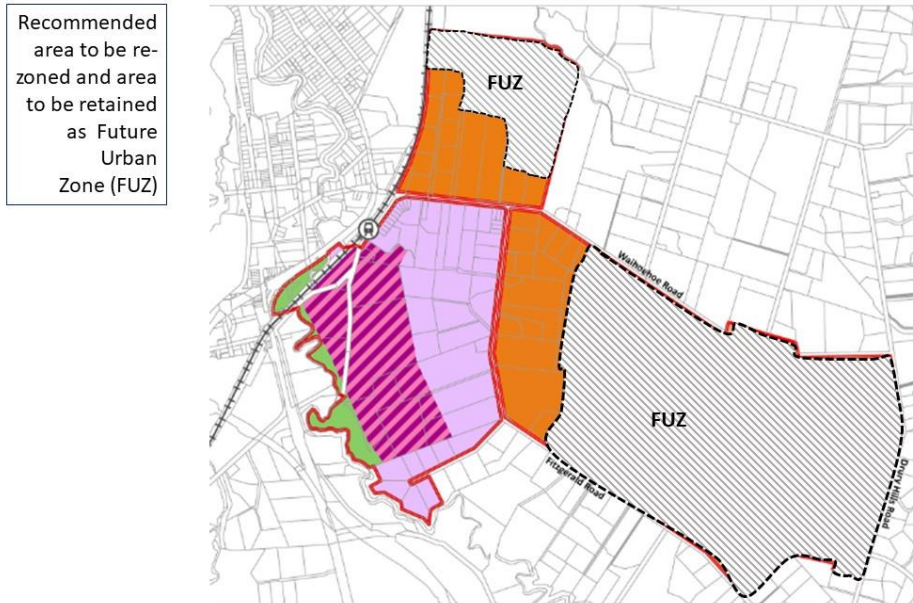


Figure 1: Recommended area to be re-zoned<sup>1</sup>

- 4 The hold point would require the preparation of a new Integrated Transport Assessment for any development over 75,000m<sup>2</sup> of non-residential floorspace (excluding community facilities).
- 5 The amended triggers are as follows:

<b><u>Column 1: Land use enabled by transport infrastructure in column- 2</u></b>		<b><u>Column 2: Transport infrastructure required to enable activities or subdivision in column-1</u></b>
<i>(a)</i>	<i>Prior to any dwellings, residential lots or non-residential floorspace being consented.</i>	<i>Upgrade to Great South Road/Waihoehoe Road intersection to traffic signals Interim upgrade of Waihoehoe Road in accordance with Appendix 1a. Interim upgrade of Fitzgerald Road, between Waihoehoe Road and Drury Hills Road in accordance with Appendix A</i>
<i>(b)</i>	<i>More than 710 dwellings or residential lots being consented, up to 1,300 dwellings or lots Prior to any non-residential floorspace being consented</i>	<i>Upgrades in (a) above and Drury Central Train Station</i>

<sup>1</sup> Note: Figure 1 does not show recommended approach to Business Metropolitan Centre zoning as set out in the June 42A report.

<u>Column 1: Land use enabled by transport infrastructure in column-2</u>		<u>Column 2: Transport infrastructure required to enable activities or subdivision in column-1</u>
<u>(c)</u>	<p>More than 1,300 dwellings or residential lots being consented</p> <p>More than 30,000m<sup>2</sup> non-residential floor space being consented (up to 75,000m<sup>2</sup>)</p>	<p>Upgrades in (a) and (b) above</p> <p>Direct Connection from State Highway 1 to Drury Central.</p> <p>Waihoehoe Road Frequent Transit Network (FTN) upgrade, including:</p> <ul style="list-style-type: none"> <li>• Two general traffic lanes and two bus lanes on Waihoehoe Road</li> <li>• A new bridge over the railway corridor</li> <li>• Upgrade and increased capacity at the Great South Road/Waihoehoe Road signalised intersection.</li> </ul>

6 For the assistance of the Panel, the requestors and submitters, I provide additional comments in relation to specific matters that arose during the hearings on PPCs 48 and 49 (and as covered in evidence for PPC 50) that have a bearing on transport and land use integration. In particular, I provide further comments on:

- a) Road and rail noise
- b) Frontage conditions on Waihoehoe Road
- c) Cycle and pedestrian linkages to the Drury Central train station.

7 Other (non-transport) outstanding matters will be expanded upon when the Council provides their response to all of the evidence presented by the requestors and submitters. I provide a brief synopsis of the matters I understand that are outstanding for the benefit of the parties. Matters covered are:

- Zoning strategy
- Objectives and policies
- Activities
- Notification
- Methods including:
  - riparian setbacks
  - retail floorspace staging
  - heritage
  - stormwater management.

8 I also discuss the implications of the recently introduced RMA Enabling Housing Supply and Other Amendments Bill, for information purposes, as it is possible that this Bill will be passed before a decision is made on the plan changes.

9 In preparing this Addendum I have drawn on an updated transport assessment prepared by Mr Church (appended).

## 2. INFRASTRUCTURE PROVISIONS AND FUNDING

10 In the June/July section 42A reports for PPCs 48 to 50 I noted the concerns raised in submissions over certainty of transport infrastructure funding but considered that given the

emphasis on public transport and commitment to key public transport projects (such as Drury rail station and rail electrification) as well as major new road links like Mill Road, I could recommend approval of the plan change requests (subject to a modified approach to triggers relating to the provision of necessary transport infrastructure).

- 11 Since the June/July s42A reports were prepared, funding of the Mill Road extension has been withdrawn, the requestors have updated their transport assessments and Auckland Council and Auckland Transport (as submitters) have presented substantial evidence relating to the absence of agreed methods of funding and financing infrastructure, with transport infrastructure being the main component.
- 12 In particular, the Council's and Auckland Transport's evidence on PPCs 48 to 50 raises:
  - fundamental issues as to Council's ability to fund components of identified 'network' infrastructure in the wider Drury area.
  - The utility or not of triggers and thresholds to manage this uncertainty.

## **Context**

- 13 The Council and Auckland Transport submissions and evidence seek that plan changes 48 to 50 (as well as 51 and 61) be declined, not on the basis that the proposed land uses are inappropriate, but rather that necessary network infrastructure may not be in place in the short to medium term due to funding and financing constraints. The Council identifies a large funding requirement for Drury and a range of issues with the deployment of the funding tools that the Council has available to it (e.g. development contributions, rating, Infrastructure Funding and Financing) that constrain its ability to put in place required funding streams.
- 14 While the Council's and AT's submissions and evidence request decline of the requests, I take the Council's and AT's stance to be one of seeking a deferral or delay to the plan change requests. The plan change requests are not for 'unanticipated' development (for example urban zonings outside the RUB). They may be ahead of when Council thought they may proceed. I do not see the Council's evidence as stating that infrastructure can never be provided and that the land should never have been included in the Future Urban Zone, or that some lesser form of density should be required to better match funding constraints.
- 15 I understand that the evidence presents an absolute constraint on funding due to debt limits, in the short to medium term at least, with the constraint being a city-wide issue. That is, should urban expansion to the north be proposed instead, I presume that the same funding and financing constraints will apply. Council's concerns apply to development that is in line with the FULSS (Drury West) as well as development that is not in line with FULSS timing (Drury East). There is no indication that even if a 2028 time frame was maintained for PPCs 48 to 50 (as per the FULSS), that the next iteration of the RLTP and the LTP can allocate funding for necessary infrastructure.
- 16 Evidence for the requestors generally contends that the council has tools and methods to address wider network effects of growth and that concerns over a lack of funding should not be a reason to decline a plan change request (particularly plan change requests that are broadly in line with spatial strategies). Their evidence agrees that there will be cumulative effects from the proposed precincts and other developments planned in the wider area, but states that these effects are not solely generated by the requests. Neither are any of the parties to the requests in a position to be able to implement the wider network projects identified as being needed to address these cumulative effects. Further,



there are options for Council to include development contributions, financial contributions or targeted rates to address transport infrastructure upgrades in an equitable manner.

- 17 The view of the requestors is that transport triggers can be used to help reduce risks and uncertainties over the funding and delivery of the identified longer term projects.

### **Nature of transport effects**

- 18 In considering the issues raised, as noted by a number of legal submissions and experts, the required transport infrastructure can be said to fall into two broad categories:

- Category 1: Infrastructure needed to mitigate effects arising from the future development within and immediately surrounding the different development areas;
- Category 2: Works required to the wider network to help accommodate the cumulative impact of development.

- 19 The first category involves works where there is a clear link to the proposed development in terms of effects, and most if not all of the works required can be said to arise from the development and hence be funded by the requestors.

- 20 The second category involves works that arise from multiple development areas, may involve works to address existing capacity issues, and where there are a mix of public and private benefits. It is also works that are likely to be spread over a 20 to 30 year time horizon.

- 21 The first category of works are generally developer-led projects. The subdivision and development process typically allows for some flexibility over when and how upgrades are delivered, often involving close integration with road controlling authorities.

- 22 The second category traditionally involves council-led or NZTA projects, with implementation usually sitting outside the RMA process. Funding may come from general rates, growth charges or development contributions. In some cases, requestors may directly contribute to early delivery if there is benefit from doing so.

### **RMA frameworks**

- 23 RMA / planning has traditionally sought to deal with these two categories in two different ways. As set out in a number of legal submissions, in the *Landco Mt Wellington* decision of 2007, the Environment Court noted in response to general concerns of submitters about the impact of development on transport infrastructure that while traffic effects within and immediately surrounding the development area (in that case Stonefields) can be managed effectively by the developers, it is for the council and the other roading and transport organisations to manage the wider network, and public transport, to cope with the present loads and future growth, wherever in the region that might occur.

- 24 The Court noted that the re-zoning proposal stands or falls on its own merits, and its proponents are not required to resolve infrastructure problems outside its boundaries although they may be required to contribute, by way of financial contributions, to the cost of doing so.

- 25 The Environment Court also noted if housing growth and development was not accommodated in the plan change area, pressures would be felt elsewhere, potentially in areas less able to cope with resulting transport demands, and/or where more costly

infrastructure works would be required. Moreover, regional transport planning identified that a degree of constraint on roading capacity was needed to help drive mode shifts towards public transport.

- 26 The *Laidlaw* decision (2011) has clarified that development should not directly add to wider problems.
- 27 I note that since the *Landco* and *Laidlaw* decisions, the AUP has introduced stronger policy directions around the integration of land use with infrastructure. The National Policy Statement on Urban Development (NPS-UD) has introduced even more explicit provisions.
- 28 The issue that arises from the submitters' evidence and the plan change requests is that the AUP RPS (and NPS-UD) while requiring integration, does not distinguish between the two broad categories of infrastructure works. It is unclear as to how projects should be allocated between the two categories. Even if there were clarity, two fundamental issues are:
  - whether there are grounds to 'hold up' a development on the basis that there is no agreed pathway to implement the second category of effects (that is, funding is absent for network upgrades);
  - can some form of triggers or thresholds address the uncertainty around the wider network effects?

### **Cumulative network effects**

- 29 Looking at the network effects and whether the lack of certainty over the funding of the works identified is fatal (in RMA terms) to the Drury East plan changes, one question is whether the AUP RPS and NPS-UD references to land use and infrastructure integration materially change the implications of the Court's comments in the *Landco* case (that the wider network effects are a matter for Council to address outside of the RMA).
- 30 Starting with the Future Urban zone, this zone is a holding zone, prior to urbanisation occurring following a plan change. The zone itself does not provide guidance on when rezoning from future urban to live zones is inappropriate.
- 31 The Regional Policy Statement Urban Growth Objective B2.2.1(5) reads as follows:

*The development of land within the Rural Urban Boundary, towns, and rural and coastal towns and villages is integrated with the provision of appropriate infrastructure.*
- 32 The explanation and reasons state:

*The objectives and policies ..... set out the process to be followed to ensure that urban development is supported by infrastructure on a timely and efficient basis. They should be considered in conjunction with the Council's other principal strategic plans such as the Auckland Plan, the Long-term plan and the Regional Land Transport Plan. The strategies and asset management plans of infrastructure providers will also be highly relevant.*
- 33 This explanation suggests that there is a link between rezoning and category 2 type effects, but does not describe the link.

34 AUP RPS Policy B2.2.2(3) reads:

*Enable rezoning of future urban zoned land for urbanisation following structure planning and plan change processes in accordance with Appendix 1 Structure plan guidelines.*

35 The guidelines refer to a staging and funding plan, but no details are presented as to the content/detail required, and whether the staging and funding plan needs to address wider network issues, or just concentrate on the category 1 type works (mitigate direct effects within and immediately surrounding the plan change area).

36 Chapter B3 provides further detail on land use and transport infrastructure integration. Policy B3.3.2(5) refers to improving the integration of land use and transport by:

*(a) ensuring transport infrastructure is planned, funded and staged to integrate with urban growth;*

*(b) encouraging land use development and patterns that reduce the rate of growth in demand for private vehicle trips, especially during peak periods;*

*(c) locating high trip-generating activities so that they can be efficiently served by key public transport services and routes and complement surrounding activities by supporting accessibility to a range of transport modes.*

37 In terms of 'giving effect' to these provisions I note that the policy refers to 'improving' integration; that is, the language is not directive and so there is some scope as to how to give effect to the provisions. Clause (a) is not explicit as to the situation where transport projects are not funded. Likewise, neither clause (b) or (c) refer to delaying or holding back development due to funding issues. Rather (b) and (c) suggest land use integration arises from the placement of activities.

38 The NPS-UD is not clear when it comes to whether limited infrastructure capacity is a reason to 'hold up' rezoning.

39 On the one hand, central to the NPS-UD is well functioning urban environments. Accessibility is one aspect of well-functioning urban environments, along with other aspects like housing choices and a variety of business opportunities. MfE guidance notes that the term 'accessibility' in Policy 1 refers to the ease and cost of accessing opportunities (e.g. amenity, employment) across an urban area, including by public and active modes. A lack of infrastructure can therefore restrain 'accessibility'. MfE also notes that the outcomes referenced in the well-functioning urban environments policy are interrelated and need to be considered together.<sup>2</sup>

40 The NPS-UD does refer to the wider value of significant development capacity (objective 6 and policy 83), but qualifies that stance with its definition of development capacity, namely:

*Development capacity means the capacity of land to be developed for housing or for business use, based on: the zoning, objectives, policies, rules, and overlays that apply in the relevant proposed and operative RMA planning documents; and the provision of*

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<sup>2</sup> <https://environment.govt.nz/assets/Publications/Files/Well-functioning-urban-environments.pdf>

<sup>3</sup> Objective 6 and Policy 8 both refer to "local authority decisions" on urban development that affect urban environments.

*adequate development infrastructure to support the development of land for housing or business use.*

The terms 'adequate' and 'support' are important in my view.

- 41 Equally, the NPS-UD does not explicitly list infrastructure capacity as a potential qualifying matter that may limit the application of the mandatory up-zoning requirements of the NPS-UD. Neither does the recently announced Housing Supply Bill and its requirement for 3 storey developments across much of the residential area of the city (while noting that this approach relates solely to residential development, not commercial or business development). My understanding from the evidence of Mr Zollner (to the PPC 51 hearing) is that government did not want to make infrastructure funding a reason to hold back zoning. Rather potential funders (such as those under the Infrastructure Funding and Financing Act) were seeking certainty over zoning before agreeing funding and financing arrangements.
- 42 Taking the AUP RPS and NPS-UD together, my interpretation is that the objectives and policies relating to land use and infrastructure integration are there to help ensure the orderly and co-ordinated development of the land uses, with an emphasis on compact development co-ordinated with greater up take of passenger transport. If delivery of a critical element of 'network' infrastructure is very uncertain due to funding and financing issues, the lack of which is likely to generate significant adverse effects in terms of orderly and co-ordinated development, then I consider that there is reason to delay or not proceed with the sought land use development.
- 43 In other words, I consider that the *Landco* and *Laidlaw* decisions need to be considered in the context of the updated policy environment. In this sense, land use and infrastructure integration is a two way process. In most cases, land use development leads and network infrastructure is provided by non RMA means to support the desired pattern (not 'pull' against the land use outcomes sought). In other cases, land uses need to respond to infrastructure location (such as a train station) or significant capacity constraints (e.g. timing).
- 44 I think the following points are relevant to consideration of whether a lack of a funding and financing pathway for category 2 type effects is fatal in the case of PPCs 48-50:
  - The NPS-UD and AUP RPS references to land use and infrastructure integration are broad; they could reasonably be said to cover both direct mitigation and managing cumulative effects on infrastructure (categories 1 and 2).
  - A cumulative look at re-zoning requests and available funding is needed. It is not possible to undertake the analysis of funding and land use on a plan change-by-plan change basis.
  - Private plan change requests are more prevalent these days and more likely to seek to push growth 'ahead' of infrastructure planning than council initiated plan changes. This may suggest that past reliance on internal council processes to address 'category 2' land use and infrastructure co-ordination issues is no longer an effective tool.
  - The RMA, NPS-UD and AUP are not explicit as to when development should be restrained due to 'network' infrastructure funding and financing issues not being in place to address cumulative effects.
  - It is reasonable to say that in some circumstances, the absence of a method to address cumulative network effects may generate significant effects. However, it is likely to have to be a high bar to cross, otherwise infrastructure funding and financing decisions will end up driving most land use development.

- 45 Any costs of delayed re-zoning need to be weighed alongside the benefits from additional land use opportunities to be provided by the re-zoning. For example, in terms of well-functioning urban environments, having businesses and commercial activities close to a developing residential area is beneficial (as this provides for accessibility).
- 46 Equally, will growth just go elsewhere? This is also a relevant matter to both costs and benefits. It would appear from Auckland Council's and Auckland Transport's submissions that there is no alternative location – development of the scale proposed anywhere in the region will see the same problems in terms of funding and financing.
- 47 There is also a risk of many non-complying activity consents being applied for if the FUZ land is not live zoned. That is, development occurs through a series of small steps, all of which may have only a small impact on infrastructure capacity. FUZ objectives and policies seek to manage this risk.
- 48 In summary, I consider it relevant and appropriate for the Commissioners to consider the combined implications of the current 'live' plan change requests when looking at each plan change request. Cumulative network effects are relevant effects to be considered at a plan change stage. The scale of growth in the Drury area is of national significance, as is the extent to which a 'developer-driven' approach has emerged. Both these factors suggest that cumulative effects need to be given specific consideration.
- 49 I also consider it reasonable to ask whether there is a method (LGA or RMA) that can manage cumulative effects of the development proposed on the wider transport network. In this regard, I note that the most common method to date has been outside the RMA (Council funding and financing under the LGA).

### **Drury East transport projects: land use outcomes**

- 50 Turning to the actual transport projects and their implications for land use outcomes, the following transport projects are proposed by the PC48-50 requestors:
1. Interim upgrade to the Waihoehoe Road and Great South Road intersection;
  2. Interim upgrade to Waihoehoe Road from the Fitzgerald Road intersection to the Waihoehoe/Great South Road intersection;
  3. Stage Highway widening – Stage 1B;
  4. Drury Central train station;
  5. Direct connection to Drury Centre from State Highway 1;
  6. Full Waihoehoe Road upgrade;
  7. Southern Mill Road connection;
  8. Northern Mill Road connection;
  9. Opaheke Northern connection.
- 51 The first five projects are reasonably in control of the requestors, or are projects where there is a high degree of certainty that they will proceed. The last four projects have less certainty and in my view are projects aimed at category 2 type effects.
- 52 The full Waihoehoe Road upgrade (which is the subject to a notice of requirement) may be funded out of the current LTP allocation for Drury west and east projects, but this is not certain. \$475 million is identified in the current Long Term Plan for Drury, \$243 million of which is allocated for transport projects in the Drury area. The full Waihoehoe Road upgrade is included in the Auckland Regional Land Transport Plan 2021-31. However, it is forecast to occur towards the later years of the RLTP (being 2027-31) and has the

lowest prioritisation, where changes are required to current funding settings to fund this project.

53 Council is consulting on an amended Development Contributions policy which may help with funding of projects in Drury. The new Development Contributions Policy will take effect from January 2022.

54 For the first five projects, I understand from the transport modelling that these projects can support up to 1,800 dwellings. This is about 25% of the housing capacity envisaged for the combined PPCs 48 to 50 area (approximately 7,000 dwellings).<sup>4</sup> If the full Waihoehoe Road upgrade is added, then dwelling capacity steps up to 3,300 or about 50% of build out.

55 The graph below seeks to show the housing capacity enabled by the identified projects. The projects are colour coded according to my understanding of the certainty over funding and delivery:

- Green is highly likely to be funded/delivered
- Orange may be funded/delivered at some point
- Red is very uncertain when/if they will be funded and delivered.

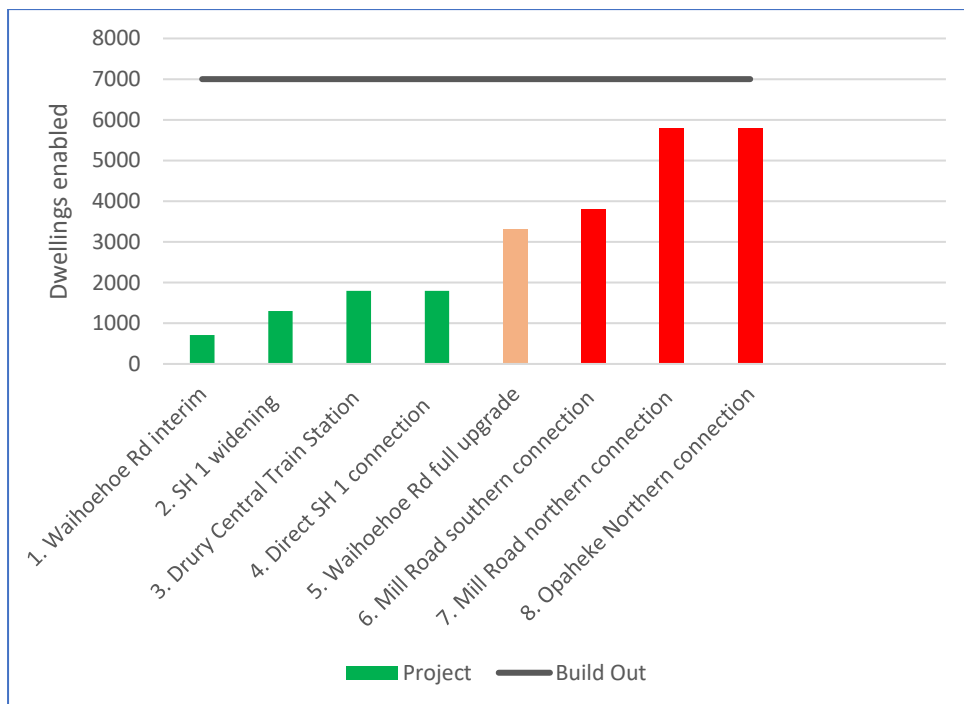


Figure 2: Transport projects and dwellings enabled

56 The requestors' assessment of the need for these projects is based on various network performance criteria. These criteria relate to factors such as length of queues at intersections, levels of service and public transport reliability. The absence of the listed projects will likely generate significant effects, based on these criteria. Mr Church in his

<sup>4</sup> Based on SGA report: Drury Infrastructure Funding and Financing Study (DIFF) Transport Assessment August 2021

updated transport assessment further discusses the risks involved in rezoning ahead of confirmation of the uncertain transport projects.

- 57 I note that network resilience is not one of the criteria. The Brookfield Road link to Quarry Road is identified in the SGA work as an important collector access to Drury East, to provide resilience and capacity to access routes and walk/cycle and local bus routes connecting Drury East and West. I support the potential for this route to be 'protected' but agree that the link does not need to be a committed project.
- 58 Given the extent to which the re-zonings rely upon as yet to be confirmed transport projects, and having heard the Council's evidence, I now have serious concerns as to whether re-zoning all of the PPC 48, 49 and 50 land is the most appropriate method of implementing AUP and NPS objectives.

### **Cumulative (category 2) effects management options**

- 59 After assessment of the above factors, if it was determined by the Panel that the lack of funding to address wider cumulative effects was of sufficient significance to warrant decline or amendment of some or all of the plan changes, it is still necessary to consider whether there are management options to enable some development to proceed, while providing scope for network funding and upgrading issues to be resolved at a later date.
- 60 The requestor has proposed reliance on a range of 'transport triggers'. Council has submitted that this is not an effective method of dealing with cumulative effects. I found Auckland Council's experience with precinct-based thresholds and triggers as described by Mr Turbott helpful in setting out the issues with these types of techniques.
- 61 In my view, from a plan administration point of view, the question of whether triggers and thresholds are an appropriate method to manage cumulative, network effects is dependent upon whether the triggers can:
- (a) be the basis upon which to decline an application
  - (b) if consent is granted, impose an enforceable condition.
- 62 On the first count, my view would be that to provide a sound district plan method, there has to be reasonable certainty that:
- A sufficiently robust link can be made between a particular development and the effects that the thresholds is seeking to manage, and
  - That the projects listed are viable and implementable projects within a 10 year time horizon.
- 63 In terms of assessment of applications, some of the thresholds listed in the proposed plan changes relate to off-site projects that have to be delivered by Auckland Transport or others. There is no ability for these projects to be conditioned as part of a consent for some form of development within the precinct. The absence of the project means that development would need to be halted until the project is in place. Examples include:
- Waihoehoe Road full upgrade;
  - Southern Mill Road connection;
  - Northern Mill Road connection;
  - Opaheke Northern connection.

- 64 In my view it would be very difficult to decline consent for a subdivision or development on the basis of the transport projects listed above not being in place. This is because of the difficulty of linking effects to adverse outcomes, particularly on a cumulative basis. Furthermore, if there is no reasonable certainty that the listed project will get funding and be implemented in a reasonable time horizon (such as the next 10 years),<sup>5</sup> then the question arises as to whether the rule is justified. An example is Mill Road extension (north and south). The effect of the threshold is that development of up to 50% of the land involved in PPCs 49 and 50 may not be able to proceed without having significant adverse effects if this project is not in place. The question then arises as whether reasonable use can be made of the land that is zoned for urban purposes, yet development is dependent upon a 'future project'.
- 65 In considering what projects could be included in precinct provisions (such as those proposed by Ms Sinclair as well as other planners), some guidance is provided by the AUP. For example, E27.8.2. Assessment criteria for any activity or subdivision which exceeds the trip generation thresholds under Standard E27.6.1:
- (a) the effects on the function and the safe and efficient operation of the transport network including pedestrian movement, particularly at peak traffic times;*
- (b) the implementation of mitigation measures proposed to address adverse effects which may include measures such as travel planning, providing alternatives to private vehicle trips including accessibility to public transport, staging development, or contributing to improvements to the local transport network.*
- 66 Similarly, I note that Auckland Transport's Integrated Transport Assessment guidelines refer to situations where a required transport project falls outside the RTLP/LTP (i.e. is not included in the RLTP/LTP). The guide states that there will generally be three options available where the project is directly required to mitigate the effects of development:
- Payment of a financial contribution by the applicant if provided for by the relevant District or Unitary Plan provisions
  - A direct payment by the applicant to the relevant Transport Agency amounting to the value of the proposed works (i.e. total project cost including investigation, design, property acquisition and construction costs)
  - Construction of the physical works by the applicant, subject to all works being to the satisfaction of the relevant transport agency (AT/ NZTA/ KiwiRail).
- 67 While the AUP contains a number of Precincts that have wide ranging transport triggers within them (such as Redhills and Silverdale 3) this does not in itself mean that such triggers are an effective and efficient method in all cases. Apart from the issues of implementation, my understanding from Redhills is that the effect of the presence of a threshold or trigger can be to slow development, as no one developer wishes to trigger the upgrade required, for example.
- 68 Taking these points into account, in my opinion, the thresholds being proposed by both the requestor and submitters (as a fall back) are taking the technique well beyond what it is designed to address. In particular, my opinion is that thresholds / triggers are not an appropriate technique to address off-site, cumulative effects when funding of necessary projects is uncertain (that is, category 2 type effects).

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<sup>5</sup> 10 years accords with the requirement under sec79 to review district plans every 10 years. It also matches the medium term definition of the NPS-UD.



### **Alternative staging options**

- 69 Three other options are present in relation to cumulative effects management and staging of development. These are:
- Delayed start
  - Partial re-zoning
  - Deferred zoning.
- 70 A delayed start to development of housing and businesses (while enabling site works) may allow time for funding issues to be resolved. For example, a standard could require that building can only commence after the train station is operational. The current timeline has the station operational by 2025. Construction may then take 12 to 18 months before development is occupied. This time is close to the 2028 date of the FULSS. The time between now and 2026/7 could be used to agree funding and financing plans. A fixed date may provide some incentive for parties to agree a solution. This does not resolve the funding issues, but it may help to provide time for issues to be resolved, as well as 'spreading' some of the load.
- 71 The option of approving part of the plan change requests could involve, for example, approval of the relevant business zones (PPC 48) but not the residential components (PPC 49 and 50). This is on the basis that the effects of limited transport capacity has fewer consequences for business activities than for residential, while the business development would help with some containment of existing trips in the wider area. The decision could signal that the residential components could be revisited once funding is resolved. Alternatively, or in addition, parts of the area involved in the three plan change requests could be re-zoned, with that area roughly matching the known transport capacity (give or take a margin). That is PPC 48 and part of PPC 49 and 50 could be approved.
- 72 In addition to the above, some councils have sought to address the second category of effects in an RMA framework by using deferred zonings, with RMA objectives and policies referring to live zoning of the deferred land upon allocation of appropriate funding in Long Term Plans. The live zoning does not require a plan change to bring the zoning into effect. Effectively the zoning becomes 'live' upon allocations being made in the Long Term Plan. The legality of such deferred zonings is questionable.
- 73 Attachment One provides an assessment of these options using a similar format to that used by Ms Morgan and Mr Roberts in their evidence of 30 September 2021.

### **Recommendation: Cumulative, off-site effects**

- 74 Having heard the evidence of the requestors, Council and Auckland Transport; considered the extent to which PPCs 48 to 50 are placing reliance on 'off-site' projects that are not yet funded, and having reviewed possible staging techniques, I am now of the view that the plan changes should be approved 'in part'. This approach seeks to (roughly) match land use development capacity with known/likely transport upgrades.
- 75 Taking into account Mr Church's review and my understanding of the transport projects identified, I consider it reasonable to assume that the following projects are likely or probable projects within a 10 year time frame:
- Interim upgrade to the Waihoehoe Road and Great South Road intersection;

- Interim upgrade to Waihoehoe Road from the Fitzgerald Road intersection to the Waihoehoe/Great South Road intersection;
- Stage Highway widening – Stage 1B;
- Drury Central train station;
- Direct connection to Drury Centre from State Highway 1;
- Full Waihoehoe Road upgrade.

76 While the full Waihoehoe Road upgrade is currently uncertain, I consider that its inclusion in the RLTP is a signal that future reviews will mean that the project will be able to be funded within a 10 year timeframe.

77 Based on these projects, my recommendation for re-zonings is:

- Approval in full for PPC 48 (but with amended BMC zoning as discussed below)
- Approval of part of PPC 49 – Part of the THAB zone
- Approval of part of PPC 50 – Southern sub-precinct.

78 I consider a focus on the train station and its surrounds is appropriate in terms of what area of PPCs 48 to 50 to live zone for urban activities. This relates to the basic driver of a transit-oriented development. The diagram below is sourced from Mr Riley’s evidence on PPC 49. It outlines the area that is within 400m/800m/1200m of the Drury Central Train station.

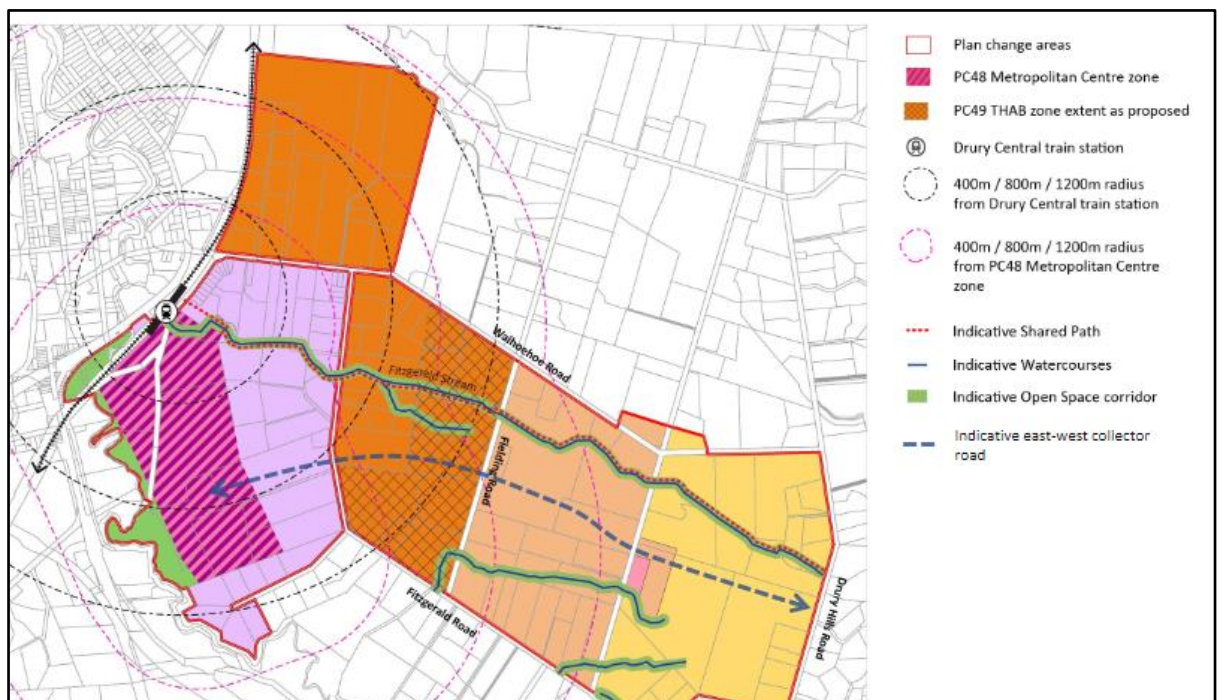


Figure 3: Area within various distances of Drury Central Train Station

79 In my view, all of PPC 48 should be rezoned due to proximity to the train station and the mix of activities to be enabled.

80 In terms of what areas of PPC 49 and 50 could be rezoned, there are a number of factors to take into account, including the train station location, physical features, connectivity and property boundaries.

- 81 The indicative plans for the train station show the station entry to the north-east of Fitzgerald Stream, with the initial road access providing good access to the north (into PPC 50) and the balance of PPC 48.

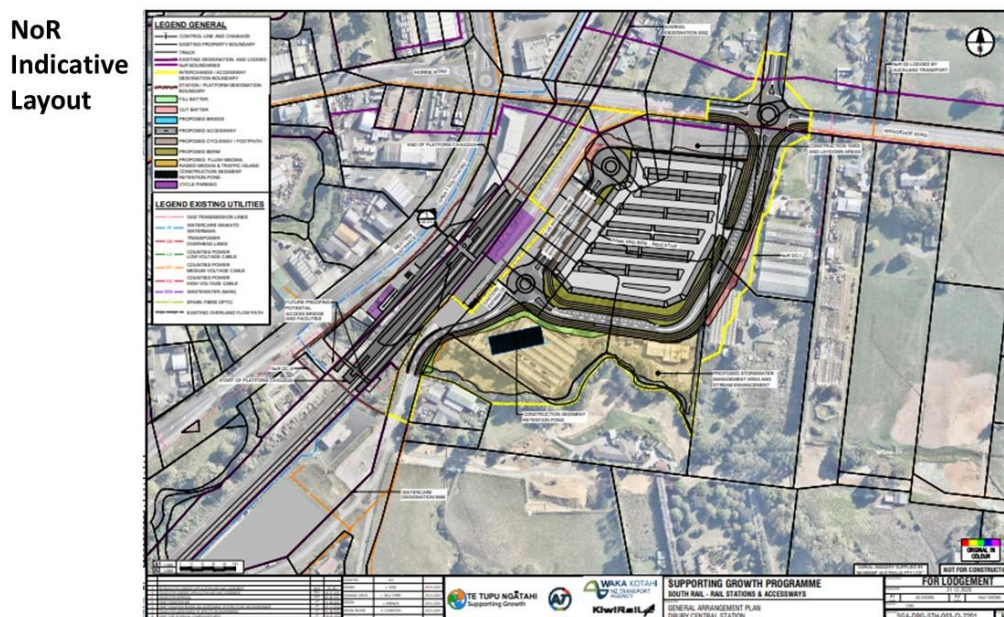


Figure 4: Train station location (indicative)

- 82 Turning to relevant features that may influence the extent of a 'stage 1 re zoning', the diagram below shows natural features to be provided. A 1km radius is shown.

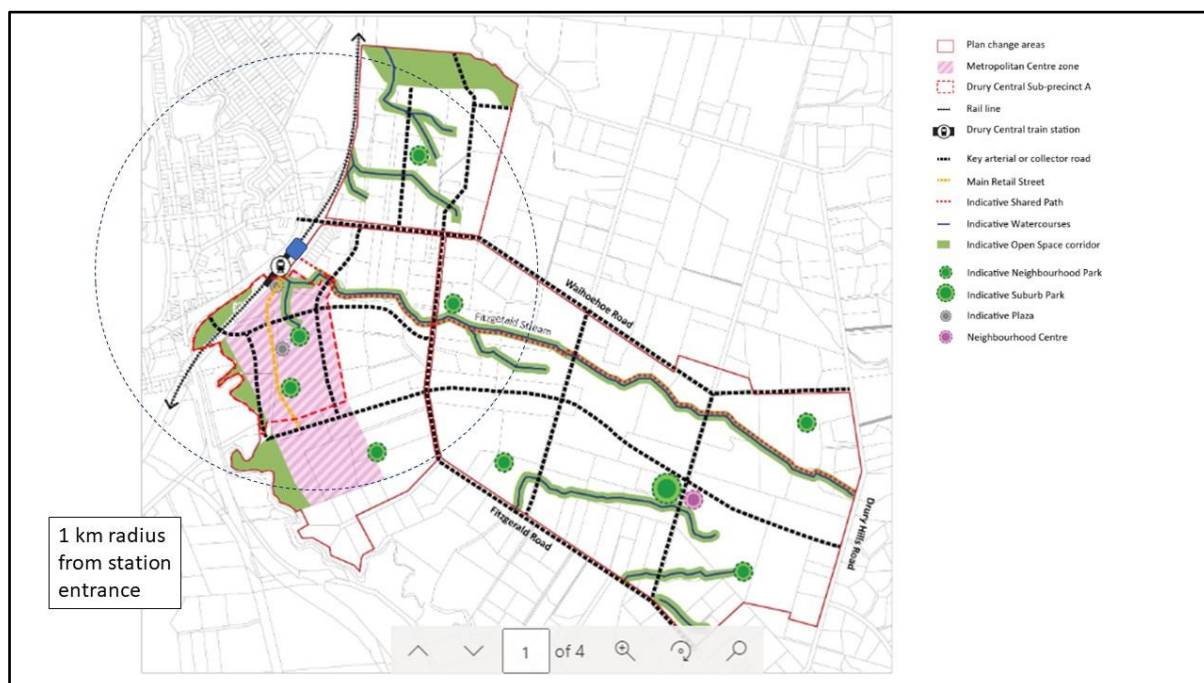


Figure 5: Natural Features (as to be shown on Precinct Plans)

- 83 To the north, in PPC 50, there are two sub catchments. These catchments are delineated on the proposed Precinct Plan, as follows.



Figure 6: Proposed sub precincts, PPC 50

- 84 The sub precinct boundaries do not follow property boundaries, but the concept of the southern precinct forming the Stage 1 re-zonings is appropriate. This would enable the southern stream corridor to provide for stormwater management (flood attenuation), as well as amenity and open space. All of the properties accessed off Kath Henry Lane would need to be included in the rezoning, due to practicalities. Interim stormwater management would be needed.
- 85 For PPC 49, my opinion is that the land that adjoins and gains access from Fitzgerald Road could be included on the Stage 1 re-zonings. This would develop part of the Fitzgerald Stream corridor and at least one neighbourhood park, while development would have good access to the train station as PPC 48 develops.
- 86 In my assessment, taking into account the known and certain transport projects and the points covered above, the following area could be re-zoned. This involves land that is close to the proposed train station and will benefit from the upgrade of Waihoehoe Road from Fitzgerald Road to Great South Road, as well as Great South Road and Waihoehoe Road intersection. I have deliberately sought to incorporate all three plan change request areas. The boundaries of the re-zoned area follow property boundaries.



Proposed area to be re-zoned

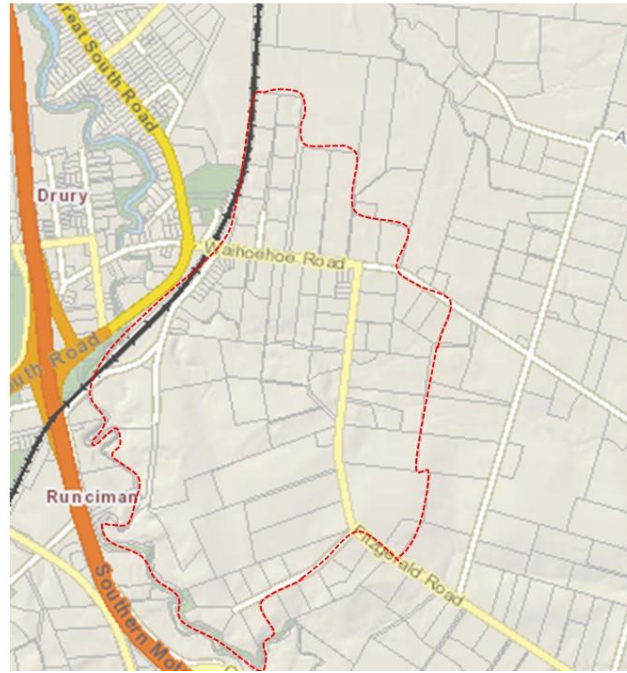


Figure 7: Recommended areas to be re-zoned

- 87 The area to be rezoned is not all of the walkable catchment of the train station. The area suggested to be rezoned is a pragmatic approach recognising:
- (a) The benefits to the wider areas of enabling the business and employment activities to be established in the PPC 48 area
  - (b) The amount of development (housing) enabled by the known transport projects
  - (c) The PPC 50 area to be rezoned is based on the proposed sub precinct A area, which relates to catchments and stormwater flows.
  - (d) The PPC 49 area is roughly the THAB zone as originally notified. I still support a larger THAB zoned area as now proposed, but consider that only the smaller area should be rezoned at this stage.
- 88 In terms of dwellings enabled, my estimate would be that approximately 60% of the possible overall housing capacity would be included in the area to be rezoned.

Table 1

Plan Change Area	Estimated Total Dwellings	Percent Enabled (estimated)	Possible Dwellings
48	3000	100%	3000
49	2500	20%	500
50	1000	50%	500
Total	6500		4000

- 89 I also note that within the area to be rezoned, considerable non-residential floorspace is possible (PPC 48 area). This development has the potential to exceed the capacity of the probable transport investments. However, I consider that this risk can be addressed

through a precinct-based method, rather than by way of zoning. This is discussed in the next section.

- 90 Development of the southern section of PPC 49 and the northern section of PPC 50 would be 'held back', given uncertainty related to funding of wider transport infrastructure projects. In my view this approach would:
- (a) Recognise the policy direction of the NPS-UD and AUP RPS to support transit-oriented development while integrating land use and transport infrastructure
  - (b) Enable large scale retail and employment activities that bring benefit to the wider area, but where visitors and customers can adapt their travel patterns and behaviours should there be localised congestion
  - (c) Provide for some population base around the centre, but limited to high density format, much more likely to be passenger transport oriented
  - (d) Recognise the constraints on council funding while noting that re zoning of the balance areas of PPCs 49 and 50 can occur in the future, when funding conditions allow.
- 91 Arguments against the partial rezoning are that it limits housing supply benefits and constrains housing options to the higher density end of the spectrum (when demand for this type of housing in a peripheral area is uncertain in the short to medium term at least). There is also a chance that the THAB zoned development potential will be taken up by stand alone houses or low level terraces.
- 92 I acknowledge that these risks exist but note that the wider Drury area offers a range of housing products and the 'first stage' supply to be enabled in Drury East has to be seen in the context of the other supply options currently under consideration in Drury West.
- 93 Furthermore, I note that there is increasing diversity of housing typologies in peripheral areas, including retirement villages (such as Red Beach), tower blocks (Hobsonville) and apartments (Albany and Long Bay). Other centres like Westgate have struggled to attract residential development in the early stages of development. Early establishment of the mainstreet and associated retail and commercial activities in PPC 48 would help support demand for more intensive housing formats.
- 94 In terms of business activities, the later development of the immediate residential catchment due to partial re-zoning (as compared to a full rezoning) may have some implications for the nature and range of retail and service activities in the proposed centre. However, a metropolitan centre is by its nature a centre that draws on a wide catchment (effectively Drury East and West). Furthermore, any residential capacity deferred in the Drury East area is likely to be taken up by development in Drury West (meaning it will still be within the catchment of the centre).
- 95 In my opinion a partial re-zoning as set out above is a better approach in terms of key documents like the AUP RPS and NPS-UD than either maintaining the future urban zone on the one hand until all funding is agreed, or on the other, rezoning all the area sought by the requestors (while relying on precinct trigger/threshold provisions and resource consents to manage land use and transport integration).
- 96 The area to be re zoned and the area that I consider should retain the current Future Urban zone is set out in Figure 7. Note: this diagram does not show the proposed re arrangement of the Business Metropolitan Centre zone within the area to be rezoned that I describe in the June 42A report.

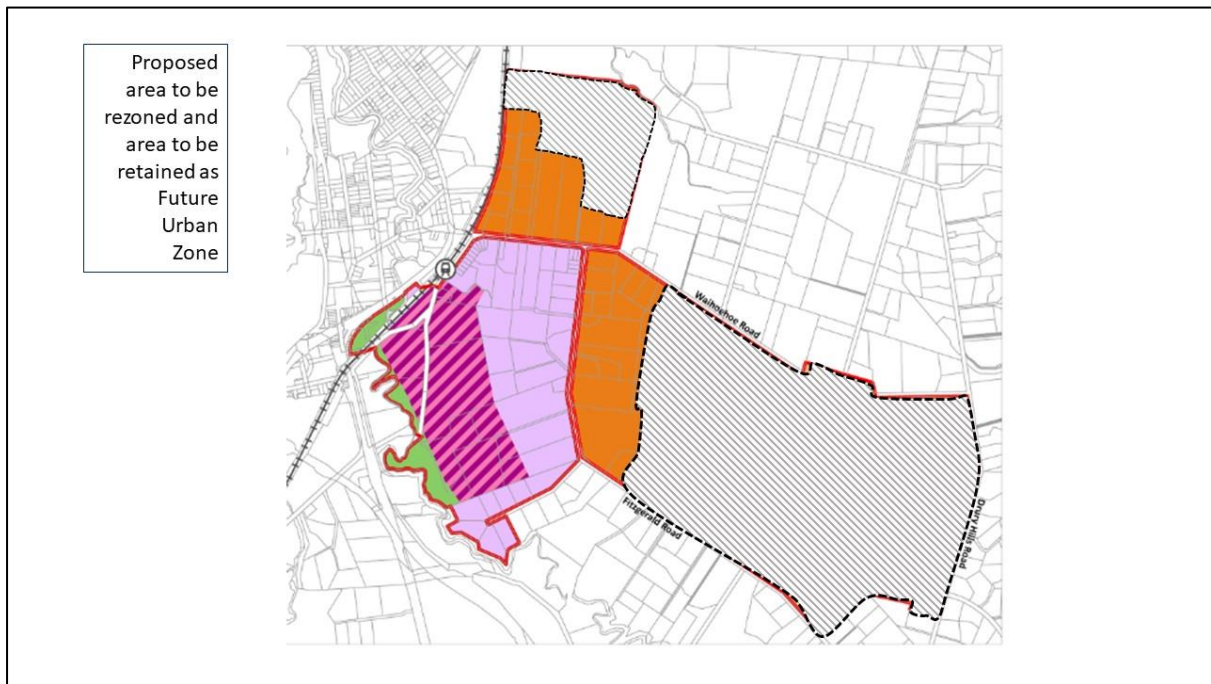


Figure 8: Proposed area to be retained as Future Urban

### Direct (Category 1) Effects

97 I now turn to the issue of how to structure transport threshold rules, if they are to be used to address the direct effects of the partial rezoning outlined above, or full rezoning if that is the eventual outcome.

98 I understand that trigger rules are possible under section 76 of the RMA.

99 Any standard (or rule) needs to be:

- Able to be interpreted and implemented without recourse to detailed assessment (i.e. users of the plan should be able to read the plan and understand the requirement)
- The trigger needs to be clear as to when it is ‘tripped’
- The standard to be met needs to be clear
- The threshold needs to be able to apply to permitted activities (which could soon involve 3 units on any residential site).

100 I discuss these points in turn in relation to PPCs 48-50.

### *Interpretation*

101 The requestors’ proposals cover retail, commercial and community floorspace as well as dwellings to be constructed. Any triggers need to be able to be implemented without

requiring multiple assessments and complex monitoring of dwellings or floorspace. If to be used, my recommendation would be that a single trigger be used, not multiple types of activities as this makes interpretation and application very complex.

102 For example, I see no reason to include 'community floorspace' in the triggers, given their importance to social outcomes and internalisation of trips. In particular, community facilities should be excluded from the calculation of floorspace. Furthermore, I consider the more general term 'non-residential floorspace' could be used instead of retail and commercial floorspace categories. I understand that the transport modelling has used these various categories of floor space to model trip generation, but I do not see the need for that level of detail to be brought forward into the precinct provisions.

103 One approach to improve implementation may be to base the trigger on a date, rather than amount of development. While less precise in terms of effects generated, a date is clear cut to all plan users and does not require constant counting of dwellings and floorspace. I note that the Council's Long Term Plan organises investment by dates.

*Point of application*

104 This relates to whether the trigger is dwellings and non-residential floorspace that is consented; for which building consent has been issued; or which have been constructed. These are all different measures.

105 Resource consent applications and associated conditions of consent perhaps provide the best stage to impose conditions if required transport projects are not in place. But not all development will need consent, while not all consents will be implemented. An example is three unit developments in the Mixed Housing Urban and Suburban zones. Most commercial non-residential development requires resource consent in the relevant zones and generally there is a link between consents and development. However, linking the requirement to resource consents may provide an incentive for developers to obtain and then bank consents ahead of the threshold being triggered.

106 Subdivision consents are also an important step in the development process, and will often precede development. However, the eventual yield of houses and non-residential floorspace may not be known. The Requestor initially suggested that subdivision of less than 1200m<sup>2</sup> be 'counted'. Waka Kotahi point out that the standard may result in a proliferation of 1201m<sup>2</sup> lots which do not trigger the thresholds (although subsequent residential or commercial development may do so). There is concern that granting subdivision consent to lots of 1200m<sup>2</sup> may be seen as a tacit approval that traffic impacts of subsequent development are not of significance. In my view, subdivision could be used as trigger, but with assumptions needing to be made as eventual use of the lots, with appropriate conditions imposed.

107 Issue of building consent provides greater certainty that development will occur, but a building consent could not be withheld on the basis of the transport threshold rules being triggered. This is particularly so if the development has already received resource consent. Section 37 of the Building Act requires that a certificate be issued stopping any work and requiring resource consent only if:

*(a) a resource consent under the Resource Management Act 1991 has not yet been obtained; and*

*(b) the resource consent will or may materially affect building work to which a project information memorandum or an application for a building consent relates.*



- 108 In my June/July section 42A reports, I proposed occupation of buildings being the point of assessment. The time of occupation of a building provides some flexibility for developers, in that construction of apartments or larger commercial developments may take 2 to 3 years after consent is issued. However, I agree with the evidence presented that determining when occupation occurs can be difficult, while enforcement is likely to be challenging, especially if the relevant threshold has been exceeded.
- 109 Auckland Transport has proposed the following as their first step in the threshold table: 'prior to any non-residential activity, development and/or subdivision in Business Mixed Use zone and business metropolitan centre zone for the Drury Centre Precinct'. This is a wide net and would appear to capture preparatory earthworks and civil works for example, when arguably these activities do not generate the types of traffic demands which the standard seeks to manage.
- 110 Having looked at the options, I consider the only realistic option is to base the trigger on consents issued, while noting that this is far from a perfect measure on which to base a standard. In particular it leaves open the issue of how to 'count' permitted dwellings, if Mixed Housing Urban and Suburban zoned land is included in the area to be rezoned.
- 111 In all cases any developer / landowner would need to check with the council as part of the process of assembling the information required to support their application as to what records it holds as to floorspace and/or dwellings consented. These records may not be up to date or complete, given the nature of the many processes and procedures that need to be followed. The physical presence of a dwelling or commercial premise can be checked 'on-the-ground' by any party, but not consents issued. Applicants may need to request individual property files for local development in addition to any council maintained 'easy to use' database.
- 112 No matter what threshold is used or how relevant information is assembled, difficulties will arise when the number of dwellings or floor space is close to a new threshold being 'tripped'.
- If based on consents, then the issue of whether consents already granted will be implemented will be raised.
  - If based on development built, then there may be a pipeline of development that is consented and once constructed would take built development over the threshold.

#### *Standard to be met*

- 113 Required compliance with the standard varies. For example, the requestors suggest that the transport project must be constructed and operational for the standard to be met. Auckland Transport's evidence would suggest that the required project needs to be agreed and contracted, but not necessarily constructed. I prefer that any standard refer to a project being constructed and operational. The actual form of the project to be in place also needs to be well specified in the standard, ideally in some form of concept plan or similar.
- 114 In summary, there are a range of issues with the application of land use triggers that indicate to me that they should be used sparingly.

**Recommendation: Land Use-transport integration.**

115 My recommendation, taking into account the above points, as well as the updated transport review provided by Mr Church is to manage transport and infrastructure issues through three methods, namely:

- Partial rezoning to manage long term uncertainties, with re-assessment of zoning at the time of plan review.
- Within the area to be rezoned, provide for a check point once non-residential development exceeds 75,000m<sup>2</sup> being the capacity enabled by the probable transport projects; but otherwise allow residential development to proceed within the area to be rezoned with no check point required.
- Manage the integration of land use with reasonably likely transport infrastructure within the rezoned area and under the non-residential floorspace hold point by three simplified triggers.

116 The proposed partial rezoning is set out above.

117 For the hold point, Mr Church has suggested that the probable transport projects could support 75,000m<sup>2</sup> of non-residential floorspace. Above this level of non-residential floorspace, re-assessment would be needed, such as by way of a new ITA. To accommodate this, an amended activity classification would be required, as follows, for PPC 48 (while noting that PPC 49 and 50 have limited opportunities for non-residential development).

Development		
(A1)	Up to 75,000m <sup>2</sup> of non-residential floorspace (excluding community facilities)	P subject to standard 1X.6.2 staging of development with transport triggers
(A2)	More than 75,000m <sup>2</sup> of non-residential floorspace (excluding community facilities)	D

118 Within this framework, the following amended trigger provisions are recommended to apply to the area to be rezoned, based on Mr Church’s analysis:

**IX.6.2 Staging of Development with Transport Upgrades**

*Purpose:*

*Manage the adverse effects of traffic generation on the safety and effectiveness of the surrounding road network.*

*(1) Development and subdivision within the area shown on IX.10.3 Precinct Plan 3 must not exceed the land use thresholds in Table IX.6.2.1 until such time that the identified infrastructure upgrades are constructed and are operational.*

*(2) For the purpose of this rule:*

*‘dwelling’ means the number of dwellings that are authorised by a land use consent*

*‘residential lots’ means the number of vacant lots for residential use which are created by subdivision that has a 224c certificate, or which are able to be accommodated by subsequent development and subdivision of the vacant lots.*

*‘non residential floor space’ means the gross floor area authorised by a land use consent for non-residential activities, excluding floorspace occupied by community facilities (which does not need to be counted).*

**Table IX.6.2.1 Threshold for Development as shown on IX.10.3 Drury Centre: Precinct Plan 3**

<b><u>Column 1</u></b> <b><u>Land use enabled by transport infrastructure in column- 2</u></b>		<b><u>Column 2</u></b> <b><u>Transport infrastructure required to enable activities or subdivision in column-1</u></b>
<b><u>(a)</u></b>	<i>Prior to any dwellings, residential lots or non-residential floorspace being consented.</i>	<i>Upgrade to Great South Road/Waihoehoe Road intersection to traffic signals  Interim upgrade of Waihoehoe Road in accordance with Appendix 1a.  Interim upgrade of Fitzgerald Road, between Waihoehoe Road and Drury Hills Road in accordance with Appendix A</i>
<b><u>(b)</u></b>	<i>More than 710 dwellings or residential lots being consented, up to 1,300 dwellings or lots  Prior to any non-residential floorspace being consented</i>	<i>Upgrades in (a) above and  Drury Central Train Station</i>
<b><u>(c)</u></b>	<i>More than 1,300 dwellings or residential lots being consented  More than 30,000m<sup>2</sup> non-residential floor space being consented (up to 75,000m<sup>2</sup>)</i>	<i>Upgrades in (a) and (b) above  Direct Connection from State Highway 1 to Drury Central.  Waihoehoe Road Frequent Transit Network (FTN) upgrade, including:  • Two general traffic lanes and two bus lanes on Waihoehoe Road  • A new bridge over the railway corridor  • Upgrade and increased capacity at the Great South Road/Waihoehoe Road signalised intersection.</i>

119 I note that for the third threshold - trigger (c) - Mr Church has referred to up to 3,300 dwellings as being the limit of what the infrastructure enables. From a planning point of

view, I do not consider that the standard needs to set a limit on the number of dwellings in the partial area to be rezoned, via the transport triggers. I consider that the extent of rezoning provides an adequate means of managing residential numbers relative to transport infrastructure.

120 I also note that from a transport planning point of view, I understand that the current road network (subject to interim upgrades) can accommodate some traffic. Hence the allowance in the above table for 710 dwellings prior to the train station being operational. However, from a land use perspective, I would support dwellings only being consented once the train station is operational. I consider this to be important in helping to shape from day one, residents travel and housing choices.

121 In summary:

- Category 1 type projects (probable infrastructure projects dealing with localised effects) should be already funded or likely to be agreed to be funded within a 10 year time frame. Simplified thresholds and triggers can be used, and should follow the outlined structure.
- Lack of funding and certainty over category 2 projects (wider cumulative effects) is a relevant consideration and reason to modify a plan change. Thresholds and triggers are not adequate to address this issue if the projects are not likely to materialise in the next 10 years, out of the requestor's control and funding is not certain.
- In this case the more appropriate management option is to stage the rezoning of the land (not stage development of it) in a way that matches the transport capacity able to be delivered by category 1 type projects.

### **3. OTHER INFRASTRUCTURE**

122 Council's evidence on PPCs 48 to 50 raises concerns over funding of open space networks and stormwater infrastructure (culvert upgrades).

123 Under the NPS-UD, stormwater is defined as 'development infrastructure'. To be counted as 'development ready', land must be provided with adequate development infrastructure, or funding must be in place to provide the required infrastructure. In the case of PPCs 48 and 49 there are alternatives to culvert upgrades, such as storage ponds/basins, either temporary or permanent. These alternatives would suggest it is not fatal that there is a lack of funding for stormwater infrastructure upgrades.

124 For open space, Council's evidence suggests that it may not be able to purchase sufficient open space areas to meet future needs, depending upon other priorities and needs across the district. I note that under the NPS-UD, development infrastructure does not include open space. Open space is identified as forming part of 'additional infrastructure'. Clause 3.5 states that local authorities must be satisfied that the additional infrastructure to service the development capacity is likely to be available. This is a lesser test than for development infrastructure. A partial re zoning may assist with issues of purchase of open spaces.

#### 4. ROAD AND RAIL NOISE AND VIBRATION

- 125 In the June/July s42A reports for PPCs 48 to 50 I addressed submissions relating to rail and road noise and vibration. I recommended that precinct standards be introduced to address potential effects from rail vibration and set back of buildings from the rail corridor, but otherwise considered that rail and road noise issues could be managed by standards in E25.6.10 (which require noise insulation for noise sensitive activities in Business zones).
- 126 Expert evidence on rail noise and vibration and road noise has been received from Kiwi Properties, Auckland Transport and Kāinga Ora (as well as Waka Kotahi in relation to PPC 51 and 61). Planning evidence has been provided by KiwiRail and Kāinga Ora. The evidence from Ms Drewery (AT) and Dr Chiles (Waka Kotahi for PPCs 51 and 61) has established that there are health and amenity related effects that should be addressed in relation to road noise.
- 127 Having read and heard the evidence, I wish to amend my recommendation as it relates to rail and arterial road noise. In particular, I now understand that E25.6.10 assumes that the external noise received by a noise sensitive activity in Metropolitan Centre and Mixed Use zones will not exceed the maximum level of noise permitted by the zone or any adjacent zone or precinct. Arterial road and rail noise may be louder than the relevant zone or precinct standards, and as a result a specific standard is required.
- 128 While the differences between the outcomes under E25.6.10 and the standards sought by KiwiRail and Auckland Transport may appear to be marginal, given the greenfields situation of the new precincts and the high density, high quality mixed use environment sought then I consider that any marginal additional costs from the precinct specific standard would be off-set by long term benefits to the quality of the environment, and with this on-going demand for higher density working and living spaces.
- 129 In preparing the following material, I have consulted with Council's noise specialist, Andrew Gordon (see attached memo).

#### Policy Base

- 130 In terms of justification for specific standards, I note that the AUP (Chapter E25, noise and vibration) contains provisions which seek to manage noise-related reverse sensitivity effects as they relate to infrastructure, including as follows:

##### *E25.2 Objectives*

*(3) Existing and authorised activities and infrastructure, which by their nature produce high levels of noise, are appropriately protected from reverse sensitivity effects where it is reasonable to do so.*

##### *E25.3 Policies*

*(7) Require activities to be appropriately located and/or designed to avoid where practicable or otherwise remedy or mitigate reverse sensitivity effects on: (a) existing or authorised infrastructure;*

- 131 These policies flow from AUP RPS policies giving support to the operation and maintenance of infrastructure. The policies signal the need for activities close to infrastructure like rail to take steps to mitigate the spill over effects from the infrastructure,

where feasible. This is on the basis that it is not possible for the infrastructure to contain all effects within relevant corridors. RPS B3.3.2. Policy (6) requires activities sensitive to adverse effects from the operation of transport infrastructure to be located or designed to avoid, remedy or mitigate those potential adverse effects.

- 132 For infrastructure operating within its own designation and meeting any relevant conditions (if present), 'reverse sensitivity' effects are not likely. It is very unlikely that the NIMT rail corridor will be constrained in its operation due to complaints over rail noise, for example. Equally, living alongside a busy main road is a common occurrence in urban Auckland, with vehicle noise not subject to the RMA. Nevertheless, from the point of view of amenity and well-being, I consider there is sufficient reason to support measures that help to maintain a reasonable internal environment for noise sensitive activities close to rail and main road corridors.
- 133 While there appears to be agreement amongst the parties that road and rail noise needs to be managed as it relates to noise sensitive activities, the issue appears to be who provides the mitigation, and in a developing urban area, when is this mitigation most effectively delivered.
- 134 The rail line exists as of today. Works within the rail corridor will occur and the number of trains will increase, in the future. These works and increased activity will be within the current designation and will not trigger any specific mitigation requirements. In this context, I consider it reasonable in these circumstances for new development 'coming to the effect' to mitigate effects on their amenity and well-being arising from proximity to the rail line.
- 135 In the case of new and altered arterial roads, E25.6.33 requires that noise levels for traffic from new and altered roads must comply with the requirements of New Zealand Standard NZS 6806: 2010 Acoustics – Road traffic noise – New and altered roads. Waihoehoe Road is an existing road, not a new road, but at least the section between Fitzgerald Road and Great South Road is likely to be altered in the future. Depending upon noise levels, I understand that NZ 6806:2010 would require, upon alteration, noise mitigation, either through road surfaces, noise barriers or acoustic insulation of dwellings present to achieve an internal noise environment of 40 dB LAeq(24 hour) for noise sensitive activities.
- 136 Given uncertainties over the delivery of Waihoehoe Road full upgrade due to funding issues, it is possible that dwellings will be built close to the road corridor before the road is upgraded. As set out in the June/July s42A reports, my view is that subsequent mitigation provided by the roading authority when the road is altered, such as noise barriers, would be an adverse outcome in an urban setting, while retrofitting noise insulation into newly built houses would create additional costs. I understand that there may be an argument that the roading authority does not need to mitigate impacts on housing that has been built after the designation has been confirmed (as these dwellings have been built in the knowledge of future road conditions). In this case, mitigation may be occupant-driven, but could equally lead to poor urban design outcomes (high fences, for example).
- 137 I understand that a High Land Transport Noise Overlay (40m wide) was in the Proposed Auckland Unitary Plan but was removed in the decisions version due to concerns about application to a large number of existing property owners. In the case of PPCs 48 to 50, the greenfields context reduces these concerns.
- 138 I also acknowledge that there may be benefit from taking a region-wide approach to this issue as it relates to greenfields (and possibly large brownfields areas). However, with no

prospect of such a region wide approach in sight, I do see the benefit of taking the opportunity in a large greenfields development to introduce appropriate standards.

139 In this regard, I note that other AUP Precincts apply precinct-based rules. For example, Orakei Point Precinct (which is bisected by the NIMT) has the following objective:

*(4) Adverse effects from the current and anticipated future operation of the North Island Main Trunk Railway Line are avoided and mitigated.*

The precinct has a noise insulation requirement, albeit different to that being proposed by KiwiRail in relation to PPCs 48 and 50.

### **Rail and Arterial Road Noise Standard**

140 I generally support the amendments sought by KiwiRail. In the June/July section 42A reports I questioned what distance back from the rail line the standard should apply within, given the future urban context of the plan changes. I understand that KiwiRail has suggested 60m. I would recommend the following for the rail corridor:

#### **IX.6.X Noise sensitive activities within 60m of the rail corridor**

*Purpose: Ensure noise sensitive activities adjacent to the railway corridor are designed to achieve a reasonable standard of acoustic amenity indoors, and minimise potential reverse sensitivity effects.*

*Any new building or alteration to an existing building that contains an activity sensitive to noise, within 60 metres of the rail corridor, must be designed, constructed and maintained to:*

- (a) not exceed 35 dB LAeq (1 hour) for sleeping areas and 40 dB LAeq(1 hour) for all other habitable spaces and*
- (b) achieve rail vibration levels not exceeding 0.3mm/s.*

*Note: Railway noise is assumed to be 70 dB LAeq(1 hour) at a distance of 12 metres from the track and must be deemed to reduce at a rate of 3 dB per doubling of distance up to 40 metres and 6 dB per doubling of distance beyond 40 metres.*

141 This standard is clear as to what noise standard should be achieved within the noise sensitive activity and what level of noise should be assumed to be generated by the rail line. The standard could be improved by setting out the method of compliance (e.g. certification).

142 For the arterial road noise standard, I consider that any standard (such as that proposed by Auckland Transport) needs to be clear as to where within a precinct it applies and what level of road noise should be anticipated. On the first issue, Auckland Transport has proposed either a distance from the arterial road boundary or a modelled noise contour as being the area within which noise insulation is required. I understand that the noise contour is based on current ground contours, yet large scale earthworks may occur preparatory to urban development. The noise level contours may also involve some areas of land that are screened from traffic noise due to farm buildings, sheds and other buildings that will likely be removed in the future as development occurs.

143 To maintain a consistent approach, I would support a standard distance within which noise insulation is required, where no noise contour information is available. Based on the evidence, my understanding is that the most sensitive development is that adjacent to the road, with development further back likely shielded by development fronting the road. In my view a 40m wide control area is sufficient to capture the first row of development.

144 As for what road noise should be anticipated, this depends upon future road design and road traffic levels for a proposed arterial road. The standard needs to set clear parameters as to how to estimate future noise levels.

145 Based on AT's evidence, I propose the following standard:

#### **IX.6.X Noise sensitive activities Adjacent to an Existing or Future Arterial Road**

*Purpose:*

- *to provide a basic level of indoor aural amenity for dwellings and other noise sensitive activities adjacent to busy roads.*
- *to support safe and attractive street environments along busy roads through maintaining options for positive interfaces between buildings and streets.*

*(1) Any new building or alteration to an existing building that contains an activity sensitive to noise within:*

- (a) a Road Traffic Noise Control Area or*
- (b) if no Control Area is identified, 40 metres of the boundary of an Existing or Future Arterial Road*  
*(as identified on the AUP or Precinct Plan maps)*

*must be designed, constructed and maintained to not exceed 40 dB LAeq (24hour) for all habitable spaces.*

*(2) If windows must be closed to achieve the design noise levels in Standard IX.6.X(1), the building must be designed, constructed and maintained with a mechanical ventilation system that meets the requirements of E25.6.10(3)(b).*

146 For the purposes of the road noise standard, it is necessary to assume what noise level would be generated from the road, in the future. A 'certification' process is also required to confirm compliance with the standard. The following is one option to address these issues:

*A report must be submitted by a suitably qualified and experienced person to the council demonstrating compliance with Standard IX.6.X(1) and (2) prior to the construction or alteration of any building containing an activity sensitive to noise. In the design, road noise is based on measured or predicted noise levels plus 3 dB.*

147 This standard is open to interpretation, in that it is not clear how far into the future the noise levels should be predicted. In the case of Drury, the NoR issued by SGA for Waihoehoe Road contains modelling of future noise levels. For the NoR, I understand it



is accepted practice to predict noise levels at least 10 years into the future. This allows for growth in traffic volumes.

148 To further target the noise insulation requirements, it is also reasonable to assume that a noise level reduction of approximately 15 LAeq(24hour) can be achieved where windows are open for ventilation. In other words, rooms with facades exposed to less than 55 dB LAeq(24hour) can be assumed to have met the internal noise standard.

149 To address the issue of what future noise levels to anticipate, and to clarify which buildings need assessment, I would suggest the following:

*(3) A report must be submitted by a suitably qualified and experienced person to the council demonstrating compliance with Standard IX.6.X(1) and (2) prior to the construction or alteration of any building containing an activity sensitive to noise located within the areas specified in Standard IX.6.X (1) where any habitable room will be exposed to traffic noise levels greater than 55 dB LAeq(24hour).*

*For the purposes of the standard, road noise is to be based on predicted noise levels 10 years hence, taking into account any planned upgrades of the road or the addition of 3 dB to existing measured or predicted noise levels. Predicted noise levels may be based on any estimates made as part of relevant Notices of Requirement, or average growth in traffic levels.*

150 The certification process involves procuring a report from a noise expert, and this will cost builders and developers (although there may be some efficiencies for group builders).

151 I do not see the need for a specific road vibration standard. My understanding is that such a standard is aimed at annoyance type issues, rather than directly related to an impact on people's health. Further, vehicles driving along a well maintained road free of any potholes or other uneven surfaces are expected to create negligible vibration at immediately adjacent buildings.

*Policies and Assessment matters*

152 Infringement of the standards will trigger a restricted discretionary activity consent. Matters of discretion and assessment matters are therefore needed. A supportive policy or policies is also needed.

153 In relation to rail (KiwiRail) and road noise (AT), the following policies, matters for discretion and assessment matters are suggested. Also set out are initial proposals from the requestor, but I now understand that they have withdrawn these proposed provisions.

<b>Requestor</b>	<b>KiwiRail</b>	<b>Auckland Transport</b>
<b>Policies</b>		
Ensure that noise sensitive activities adjacent to the railway corridor are designed to achieve a reasonable standard of acoustic amenity indoors, and minimise potential reverse sensitivity effects.	Potential adverse effects on the operation of the regionally significant NIMT rail line and regional road network and on the health and safety of nearby noise sensitive receivers are managed through setbacks and building performance standards	Ensure that noise sensitive activities adjacent to the railway corridor and/or within 60m of the boundary of Waihoehoe Road are designed to achieve a reasonable standard of acoustic amenity indoors and minimise potential reverse sensitivity effects.

Matters of discretion		
(a) Effects on residential amenity; (b) Reverse sensitivity effects	(a) Effects on residential amenity; (b) Reverse sensitivity effects	a) Effects on residential amenity b) Reverse sensitivity effects
Assessment matters		
Whether the building accommodating noise sensitive activities adjacent to the railway corridor is designed to achieve a reasonable standard of acoustic amenity indoors, and minimise potential reverse sensitivity effects.	(a) The character of and degree of amenity provided by the existing environment and proposed activity. (b) The reverse sensitivity effects on the railway corridor and the extent to which mitigation measures will not constrain their ongoing operation, maintenance and upgrade. (c) Topographical, building features or ground conditions which will mitigate vibration impacts.	Whether the building accommodating noise sensitive activities adjacent to the railway corridor and/or within 60m of the boundary of Waihoehoe Road is designed to achieve a reasonable standard of acoustic amenity indoors, and minimise potential reverse sensitivity effects

154 I note that KiwiRail's preferred policy picks up on wording I proposed in the PPC 48 s42A report (para 580). It refers to the operation of the rail line as being important, along with health and safety of nearby activities. I would suggest the following amendment:

*Potential adverse effects on the operation of the regionally significant NIMT rail line and on the amenity, health and well being of nearby noise sensitive receivers are managed through setbacks and building performance standards.*

155 The policy refers to the operation of the rail line. This is appropriate as the policy also needs to cover buildings close to the rail corridor and rail vibration effects (as covered below).

156 For road noise, I would suggest that a more narrowly focused policy is appropriate, with the emphasis on providing noise sensitive activities with reasonable standards of amenity and well-being, for example:

*Minimise potential effects on the well being and amenity of noise sensitive activities located close to existing or future arterial roads through building design.*

157 The matters for discretion need to be wider than effects on residential amenity as noise sensitive activities include activities such as schools, health facilities and care centres. I would suggest "amenity and wellbeing of activities sensitive to noise" as being a more appropriate matter of discretion for arterial roads.

158 As for assessment matters, I note that the AUP relies upon policies where possible, rather than specific assessment matters. In that regard AT's suggested assessment matters largely repeat their policy. In my opinion, the assessment matters proposed by Kiwirail (which are based on my s42A reports (para 578)) are the more appropriate, as they help

to 'unpack' the dimensions of the operation of the infrastructure, site specific features and amenity to be provided.

### **Rail Vibration and Set Back Standard**

159 I maintain my support for a precinct standard relating to rail vibration (para 574 of s42A report). I understand that rail vibration is not an effect that can be readily internalised in the rail corridor. I therefore continue to support KiwiRail's submission. The modifications set out in paragraphs 574 to 580 of the section 42A report would stand.

160 I note that mitigation of rail vibration effects is also a matter addressed in the Orakei Point Precinct.

161 KiwiRail has proposed a 5m building set back from the boundary of the rail corridor. Kiwi Properties do not agree with this setback; neither do Kāinga Ora, with both parties pointing to KiwiRail needing to take steps to protect its assets. They also point to the costs of lost development potential because of the set back. KiwiRail point out that it is not in a position to include a buffer area or similar along its corridor. I agree with KiwiRail's general concerns about development adjacent to the rail corridor potentially disrupting operations.

162 If access to and maintenance of buildings by building owners without needing to venture into or over the rail corridor is the key concern of KiwiRail, then I consider a 2.5m wide set back is sufficient<sup>6</sup>. I note that the THAB zone has a 1m rear or side yard, but there are no side or rear yards in the Mixed Use zone.

### **Recommended provisions: Rail and Road Noise and Vibration**

#### **Policies**

*Potential adverse effects on the operation of the regionally significant NIMT rail line and on the amenity, health and well-being of nearby noise sensitive receivers are managed through setbacks and building performance standards.*

*Minimise potential effects on the well-being and amenity of noise sensitive activities located close to existing or future arterial roads through building design.*

#### **Standards**

##### **IX.6.X Noise sensitive activities within 60m of the rail corridor**

*Purpose: Ensure noise sensitive activities adjacent to the railway corridor are designed to achieve a reasonable standard of acoustic amenity indoors, and minimise potential adverse effects on the operation of the rail corridor.*

*(1) Any new building or alteration to an existing building that contains an activity sensitive to noise, within 60 metres of the rail corridor, must be designed, constructed and maintained to:*

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<sup>6</sup> A 2.5m setback was recently agreed by parties in Whangarei District, as set out in a Consent Order: KIWI RAIL HOLDINGS LIMITED (ENV-2020-AKL-000 131)

- (a) not exceed 35 dB LAeq (1 hour) for sleeping areas and 40 dB LAeq(1 hour) for all other habitable spaces and*
- (b) achieve rail vibration levels not exceeding 0.3mm/s.*

*Note: Railway noise is assumed to be 70 db LAeq(1 hour) at a distance of 12 metres from the track and must be deemed to reduce at a rate of 3 db per doubling of distance up to 40 metres and 6 db per doubling of distance beyond 40 metres.*

*(2) A report must be submitted by a suitably qualified and experienced person to the council demonstrating compliance with Rule IX.6.X prior to the construction or alteration of any building containing an activity sensitive to noise located within the areas specified in IX.6.X (1).*

#### **IX.6.X Safe operation of NIMT**

*Purpose: To maintain the operational capacity of the North Island Main Trunk Rail line.*

*(1) Buildings must be setback at least 2.5 metres from any boundary which adjoins the NIMT railway line.*

#### **IX.6.X Noise sensitive activities adjacent to an existing or future arterial road**

*Purpose:*

- to provide a basic level of indoor aural amenity for dwellings and other noise sensitive activities adjacent to busy roads.*
- to support safe and attractive street environments along busy roads through maintaining options for positive interfaces between buildings and streets.*

*(1) Any new building or alteration to an existing building that contains an activity sensitive to noise within:*

*(a) a Road Traffic Noise Control Area or*

*(b) if no Control Area is identified, 40 metres from the boundary of an Existing or Future Arterial Road*

*(as identified on the AUP or Precinct Plan maps)*

*must be designed, constructed and maintained to not exceed 40 dB LAeq (24hour) for all habitable spaces.*

*(2) If windows must be closed to achieve the design noise levels in Standard IX.6.X(1), the building must be designed, constructed and maintained with a mechanical ventilation system that meets the requirements of E25.6.10(3) (b).*

*(3) A report must be submitted by a suitably qualified and experienced person to the council demonstrating compliance with Standard IX.6.X prior to the construction or alteration of any building containing an activity sensitive to noise located within the areas specified in Standard IX.6.X (1) where any habitable room will be exposed to traffic noise levels greater than 55 dB LAeq(24hour).*

*For the purposes of the standard, road noise is to be based on predicted noise levels 10 years hence, taking into account any planned upgrades of the road or the addition of 3 dB to existing measured or predicted noise levels. Predicted noise levels may be based on any estimates made as part of relevant Notices of Requirement, or average growth in traffic levels.*

## **Matters for Discretion**

*Infringements of Standard IX.6.X Rail noise and vibration and rail set back*

- (a) Effects on amenity and well being of noise sensitive activities*
- (b) Reverse sensitivity effects on operation of rail corridor.*

*Infringements of Standard IX.6.X: Road noise*

- (a) Effects on amenity and well being of noise sensitive activities*
- (b) Effects on the road environment.*

## **Assessment Matters**

***Infringements of Standards IX.6.X Rail noise and vibration and rail set back***

- (a) Policy XYZ*
- (b) The character of and degree of amenity provided by the existing environment and proposed activity.*
- (c) The reverse sensitivity effects on the railway corridor and the extent to which mitigation measures will not constrain their ongoing operation, maintenance and upgrade.*
- (d) Topographical, building features or ground conditions which will mitigate noise and vibration impacts.*
- (e) Whether buildings close to the rail corridor pose health and safety risks to building occupiers and/or may constrain rail operations due to their maintenance and upkeep.*

***Infringements of Standard IX.6.X: Road noise***

- (a) Policy XYZ*
- (b) Topographical, building features or other conditions which will mitigate noise impacts*
- (c) Whether building and site design maintains an attractive street frontage.*

## 5. OTHER TRANSPORT-RELATED MATTERS

### Waihoehoe Road frontage

163 Related to noise mitigation along Waihoehoe Road is the future built form response. In my section 42A report for PPC 49 I noted the need for specific design response so as to maintain an attractive road environment, given limitations on vehicle access.

164 Waihoehoe Road is proposed to be fronted by land that is zoned Business Mixed Use and Residential Terrace Housing and Apartment Building, Mixed Housing Urban and Mixed Housing Suburban zones. If my partial rezoning option is taken forward, then the road would be fronted by the first two zones only.

165 Mr Riley did not support any specific consideration of frontage conditions over and above the standards and assessment matters set out in relevant zones. In particular he pointed out that the Business Mixed Use zone and Residential Terrace Housing and Apartment Building zone take a restricted discretionary approach to all building development, with relevant matters including the interface of development with the street environment. In contrast, he pointed to the Residential Mixed Housing Urban and Suburban zones allowing for permitted development (up to 3 units per site, subject to standards). He questioned whether any standard could be applied to address the concerns identified.

166 I note that a number of Precincts have sought to address this issue, albeit in a fairly 'crude' manner. For example, the Hingaia 2 Precinct, the following standard applies:

*Dwellings fronting the street*

*Purpose:*

*To ensure dwellings are oriented to provide for passive surveillance of the street and to contribute to streetscape amenity.*

*1. The front façade of a dwelling or dwellings on a front site must contain:*

*a. glazing that overall comprises at least 20 per cent of the area of the front façade (excluding the garage door)*

*b. a main entrance door that is visible from the street.*

167 Other Precincts, such as those applying to Hobsonville contain much more detailed matters.

168 I would support such a standard applying to Waihoehoe Road. If Plan Changes 49 and 50 are approved in part, resulting in partial rezoning then only a small section of Waihoehoe Road would be live zoned. This portion is to be fronted by Residential: Terrace Housing and Apartment Buildings zone, within which all building is subject to assessment, including frontage conditions. However, the Housing Supply Bill may see a permitted category added to this residential zone, so a standard like the above standard is still relevant.

169 I consider that such an additional standard is within the scope of submissions. It is consequential to Auckland Transport's submission seeking policy that clarifies that direct vehicle access onto Waihoehoe Road is to be restricted to support the safe and efficient operation of the transport network for walking, cycling and public transport (submission point 35.21).

170 Similarly, submission point 35.24 sought that the precinct provisions be amended to better define the key transit-oriented development principles, characteristics and outcomes as they apply to the plan change area and applying appropriate mechanisms in the precinct provisions to support transit-oriented development related outcomes. High quality street environments that support active modes are an accepted characteristic of transit-oriented development.

### **Linkages to the train station (PPC 48, 49 and 50)**

171 It is generally agreed that safe, direct and legible pedestrian and cycle links to the Drury train station should be provided as development proceeds. In my section 42A reports I proposed a series of standards that require that pedestrian and cycle links be in place as development occurs. The requestors have proposed policies and assessment matters, rather than a standard, citing concerns about uncertainty relating to detailed design of the routes to be provided. I now agree that a policy and assessment matter approach is the appropriate method, rather than standards.

172 In my view, to be viable routes for commuters, shoppers, residents, employees, students and all other users of train services, the routes need to follow streets (being the safest environment on a 24/7 basis –taking into account lighting, activities, passing traffic etc). Open space corridors are also useful routes, but they do not provide the safest means of access. The policy should refer to streets providing the routes, while noting that the consent process for subdivision and development will provide flexibility to consider alternative proposals (within the overall framework of routes being safe, direct and legible to all users).

173 I support the following policy:

*Require subdivision and development, as it proceeds, to provide and have access to continuous and permanent safe, direct and legible pedestrian and cycling connections to the Drury Central train station that utilises public streets.*

## **6. OTHER OUTSTANDING MATTERS**

174 I support the amended Precinct Plans proposed by the requestors which show stream corridors and indicative parks. I also support the moves made to clarify urban design issues within PPC 48 (for example commercial frontages being identified). I understand that issues relating flood hazard management have been resolved.

175 In other respects, my recommendations remain largely the same as that set out in my section 42A reports. Matters that are outstanding between myself, requestors and submitters include the following. I will provide updated comments when Council has an opportunity to respond to the evidence presented.

### **Zoning strategy (PPC 48 only)**

176 I maintain my support for the following amendments (as put forward in the PPC 48 s42A report and by Council as submitter):

- a) Business Metropolitan Centre zoning around the train station (sub precincts A and part E), and Business Mixed Use zoning of sub precinct B.

b) The width of open space land along Hingaia Stream should be reduced to 20m.

177 In support of the extent of the Business Metropolitan centre zoning, the Business Metropolitan Centre zoning is the most intensive business zone providing for a wide range of employment, retail, service, residential and community activities in a high quality (urban) environment. The zone is not just a retail zone, with other Metropolitan Centres (like Newmarket) covering a wide range of activities and land uses, as well as environments. Land close to the proposed train station should be given the most enabling zoning, and the location of the train station entrance reinforces the need for supportive zoning. The proposal to apply the City Fringe Office overlay to Precinct E is helpful but is not sufficient in my view.

178 The fact that the plans for the station show a park and ride in the area close to Waihoehoe Road (in the area that the requestor proposed to zone Business Mixed Use) is not a reason to 'down zone' this area. If anything, the park and ride is a useful land bank for subsequent, much more intensive development of a metropolitan centre scale.

#### **Objectives and policies (PPC 48, 49 and 50)**

179 A range of amendments have been made by the requestors in response to the June/July section 42A reports and the evidence of submitters. I generally support these amendments. I have noted amendments in relation to specific topics (noise and ped/cycle linkages).

#### **Notification (PPC 48, 49 and 50)**

180 I continue to support reliance on the normal tests for notification under the RMA, rather than the Precinct specific rules proposed (except for the breach of standards associated with Daylight and Outdoor Living Space that are to apply in the Business Mixed Use zone in PPC 48).

#### **Activities (PPC 48)**

181 For PPC 48, I continue to support reliance on the zone-based activity tables and see little rationale for the precinct amendments sought. In particular:

- I do not support A16, A17, A18, A19 and A20 being made discretionary or non-complying in sub-precincts C and E. Sub precincts C and E should have an employment focus.
- Department stores should not be NC in sub-precincts C and E.
- In sub-precinct B, I would support a precinct-based standard that makes retail over 450m<sup>2</sup> in area a permitted activity, with retail less than 450m<sup>2</sup> being discretionary (assuming the zoning of the sub-precinct is changed to BMU zone).
- Stream reclamation is appropriately covered by Chapter E3.

#### **Methods (PPC 48, 49 and 50)**

182 The requestors have proposed new methods relating to office car parking and travel planning. I agree that these are helpful methods (but do not alter my proposed partial rezoning option, as I support PPC48 rezoning in full).



183 I remain of the opinion that Precincts should not exclude the application of AUP E27.6.1 Trip generation. This rule only ‘kicks in’ when substantially different land use patterns and intensities are proposed to those assumed in the ITAs provided. The standard would enable a reassessment of transport effects and mitigation options.

184 I continue to support building set-backs of 20m along the main stem of the Fitzgerald stream.

185 Stormwater management from on-site impervious areas like driveways and uncovered carparks remains a matter in contention.

### **Retail floorspace staging (PPC 48)**

186 I continue to support a retail floorspace staging rule in the early stages of the development of the Drury centre as a ‘back stop’ measure. This is in relation to potential non-trade effects on nearby centres.

187 The (interim) floorspace allocation I propose (and as supported by Mr Heath) is based on the requestor’s assessment of how much floorspace will likely be developed. In his evidence, Mr Akehurst states<sup>7</sup>.

*In total, demand arising out of the surrounding catchments will be able to support and sustain 19,430m<sup>2</sup> of core retail GFA by 2028, 36,680m<sup>2</sup> in 2038, and approximately 68,710m<sup>2</sup> by 2048 in the Drury Metropolitan centre.*

Note: I understand that core retail does not include large format retail, but includes food and beverage. It excludes trade suppliers, service station markets, marine retail motor vehicle sales and garden centres.

188 On the basis of these floorspace assumptions, Mr Akehurst determines that impacts on Pukekohe centre are not expected to be significant in RMA terms, taking the centre as it exists today (2020) as the point of comparison. However faster growth of core retail floorspace at Drury East, slower growth of Pukekohe’s catchment or faster growth in Pukekohe’s retail floorspace in the interim may change that assessment. In particular, Pukekohe’s retail offering may grow over the next few years, prior to Drury Centre becoming established. A redirection of trade away from Pukekohe once Drury Centre is operational in 3 to 5 years’ time is likely to have an absolute impact on the centre, even if the centre is larger than when PPC 48 was notified.

189 A staging rule enables re-assessment of effects should retail growth be faster than anticipated in Drury Centre, or the dynamics of Pukekohe are different to what is currently anticipated.

190 I would support the following standard (amended from the June s42A report):<sup>8</sup>

#### IX.6.X Retail floorspace staging

Purpose: to manage potential adverse effects on the amenity and social and economic well being of other centres from faster than anticipated growth of Drury Centre.

Prior to 1 January 2029 core retail floorspace (GFA) shall not exceed 20,000m<sup>2</sup>.

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<sup>7</sup> Para 7.15

<sup>8</sup> The June 42A report proposed the following: *Prior to 2033 retail floorspace shall not exceed 20,000m<sup>2</sup> GFA.*

191 Infringement of the standard would trigger a restricted discretionary activity. Matters of discretion would need to cover: “Non-trade effects on the social and economic wellbeing of other existing centres”.

192 Assessment matters could refer to policy B2.5.2.(4), namely: “*whether the new centre will avoid or minimise adverse effects on the function, role and amenity of metropolitan and town centres, beyond those effects ordinarily associated with trade effects on trade competitors*”.

### **Heritage (PPC 48, 49 and 50)**

193 Two matters of detail relate to the future of the homestead in PPC 48 and how any findings of required archaeological surveys may be taken into account.

194 The special information requirements as amended by the requestor include the need for an archaeological survey prior to development in PPC 48. This survey may or may not reveal specific values. The issue is how any values of significance that are identified are then addressed in the subsequent subdivision and/or development.

195 Currently the AUP assumes that archaeological / heritage sites of significance are recorded on a schedule in the AUP. This schedule triggers assessment of the effects of development on the identified values at the time of subdivision or development. Ideally a heritage survey as part of a structure plan would identify any important sites, and these sites could be scheduled as part of any ‘re-zoning’ plan change. In the case of PPC 48, no detailed assessment has been undertaken on the basis of initial investigations, with surveys deferred to the subdivision or development stage. The required survey may reveal sites that are worthy of scheduling, but it is unlikely that the Council will be in a position to notify a plan change in time to catch any subdivision or development. In the absence of scheduling, there is little direction in the subdivision provisions as to how to respond to any heritage features uncovered (apart from the accidental discovery protocols).

196 PPC 49 does take the step of the Precinct identifying the possible route of a tramline, setting in place a framework for assessment of effects on this feature at the time of subdivision or development. This is a positive step and helps to bridge the ‘gap’ between survey and management response.

197 My suggestion to help bridge the gap between the information requirement and the matters to be addressed at the time of subdivision for PPC 48 would be to include an assessment matter for any subdivision that refers to the need to take into account the findings of the required survey and what measures and actions are to be taken to recognise any features identified. For example:

*The results of site specific archaeological surveys and whether any specific actions should be taken to recognise the values identified.*

198 With regard to the homestead, this is not a scheduled building. The requestors have identified the potential for adaptive reuse, but this is uncertain at this stage. I agree with Council’s experts that while not worthy of scheduling the building is an important component of the identity and character of the area. The requestor proposes the following assessment matter:

- (a) *Encourage the existing Homestead building to be retained, repurposed and incorporated into a high amenity urban park for informal recreation, which forms a focal point of the Drury Centre;*

199 I would support this being modified as follows:

- (a) *~~Encourage~~ Whether the existing Homestead building to be is retained, restored, adapted for reuse repurposed and incorporated into a high amenity urban park for informal recreation, which forms a focal point of the Drury Centre;*
- (b) *Whether proposed modifications maintain, enhance and respect the heritage features of the Homestead;*
- (c) *Whether relocation within Sub Precinct A sufficiently retains the heritage values of the Homestead and provides an appropriate setting compatible with its values.*

## **7. IMPLICATIONS OF HOUSING SUPPLY BILL**

200 The Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill was introduced on 19 October 2021 and is expected to be passed before the end of the year. Assuming the Bill is enacted as presently drafted, the Bill requires the introduction of a Medium Density Residential Standard (MDRS) in all residential zones in Tier 1 Councils. Auckland Council will be required to apply the MDRS to all existing residential areas, except for areas zoned as large lot residential or settlement (as described in the National Planning Standards).

201 Sec 77F(1) of the Bill requires every relevant residential zone in an urban environment to incorporate the MDRS. PPCs 49 and 50 propose residential zones to replace the current Future Urban zone. The plan change requests (if approved) will have the effect of shifting the status of the land from being outside the 'urban environment' (as the land is zoned Future Urban, which is described as being a rural zone) to being inside the urban environment. It is therefore necessary to consider the implications of MDRS for the rezoning requests.

202 There are three implications of the Bill for PPCs 48-50:

- Transitional provisions and potential for withdrawal of private plan changes
- Infrastructure capacity not a qualifying matter
- Density enabled and additional building standards.

### **Transitional Provisions**

203 Schedule 3 of the Bill introduces transitional provisions/clauses covering both Council-initiated plan changes and private plan changes that are part way through the schedule 1 process:

*Clause 31 Status of partly completed proposed plans and private plan change requests in tier 1 urban environments*

*(1) This clause applies to the following in relation to the district plan of a tier 1 territorial authority:*

- (a) a proposed district plan:*
- (b) a private plan change accepted under clause 25(2)(b) of Schedule 1.*

*(2) Subclause (3) applies if the instrument containing the proposed district plan*

or private plan change referred to in subclause (1)—

(a) does, in whole or in part, 1 or more of the following things:

(i) gives effect to policy 3 or 4:

(ii) proposes changes to a relevant residential zone and those changes do not incorporate the MDRS:

(iii) creates a new residential zone that does not incorporate the MDRS; and

(b) has been notified on or before the commencement of this clause but a hearing under clause 8B of Schedule 1 is not completed on or before 20 February 2022.

(3) If this subclause applies:

(a) the territorial authority must withdraw the part or whole of the proposed 25 plan as relevant under clause 8D of Schedule 1; or

(b) in a case where a private plan change has been accepted the applicant must withdraw the request under clause 28 of Schedule 1.

204 I note:

- The Bill is yet to be enacted, and its provisions may change
- PPCs 48 to 50 are private plan changes accepted under clause 25(2)(b) of schedule 1.
- The plan change requests seek to give effect to policy 3 of the NPS-UD
- PPCs 49 and 50 propose changes to relevant residential zones (but not PPC 48)
- The requests were notified before commencement of the Housing Supply Bill
- At this stage it is likely that the Hearing will be completed on or before 20 February 2022.

205 The Bill does not say that a decision on the plan changes must be released/notified before 20 February 2022, just that the hearing under clause 8B of Schedule 1 (which relates to Council hearings) has to be completed on or before 20 February 2022.

206 If the hearing is completed on or before 20 February 2022 then my understanding is that the proposed provisions of the private plan changes (objectives and policies, zoning, standards, assessment matters etc), if approved, can stand as modified through the submission and hearing process, but do not need to be amended to reflect the MDRS. At a later date (by August 2022) Council has to initiate a region-wide plan change which could then modify PPCs 48 to 50 zone (and precinct) provisions to implement the MDRS, as modified.

207 If the hearing is not completed by 20 February 2022, then private plan change requests 49 and 50 would need to be withdrawn by the PPC requestor as these two plan change requests implement policy 3 and contain residential zones (PPC 48 proposes Business Zones).

### **Infrastructure Capacity - Qualifying Matters**

208 By virtue of Clause 2 of Schedule 3A of the Bill, all residential zones must allow as a permitted activity the construction and use of up to 3 residential units on each site, subject to meeting the MDRS.

209 The permitted activity status could be modified by way of a qualifying matter. Infrastructure capacity (such as transport networks) is not listed as a qualifying matter. It may be an 'other matter', but to apply, site-by-site analysis is required.

210 The implication is that threshold or trigger rules that have the effect of making some forms of residential development no longer a permitted activity may run afoul of the eventual Act. Thresholds could apply to non-residential floorspace in a residential zone, and all

types of development in a Business zone, but not residential development in residential zones of up to 3 dwellings per site. Thresholds or triggers may still be able to be applied to subdivision.



- 211 An implication is that if the Bill becomes an Act before a decision is made on the Drury plan changes, and the plan change requests rely on a method to address effects that is not supported by the Act (infrastructure triggers), then more substantial modifications to the Precinct provisions may be required in any Council initiated plan change.
- 212 The Bill clarifies that financial contributions can be applied to permitted activities. However, to be applied, the plan must specify the purposes of the contribution and the amounts to be provided. As the plan change requests have no financial contribution provisions in them as notified, and no submissions seek financial contributions, there is no ability to insert appropriate provisions, even if a workable model could be developed in a short space of time.

### **Building Standards**

- 213 I note that the building standards of the MDRS as set out in the Bill are different to the standards that apply in the Residential Mixed Housing Suburban zone, and somewhat different to those of the Residential Mixed Housing Urban and Residential Terrace Housing and Apartment Building zones.
- 214 In particular, if enacted, the MDRS are likely to see greater density of activity in that part of PPC 49 proposed to be rezoned Residential Mixed Housing Suburban (while noting that the additional building bulk proposed by the standards is not a mandatory requirement). There is less of a change for built form outcomes for Residential Mixed Housing Urban and Residential Terrace Housing and Apartment Building zones. Nevertheless, the reduced outlook court requirements and relaxed building coverage control will enable more development to occur.
- 215 The implications of this potential for increased density for open space provision, capacity of transport links, provision for walking and cycling etc has not been assessed but may have a marginal effect.
- 216 Three dwellings as a permitted activity is more permissive than the provisions of the Residential Terrace Housing and Apartment Buildings zone where any number of units requires resource consent. The permitted activity category may mean that 3 unit developments are proposed rather than developments with multiple units, and the additional height possible in the zone is not fully taken up.
- 217 In addition, the Bill states that there must be no other building standards included in a district plan additional to those set out in Part 2 relating to a permitted activity. It is therefore not clear as to whether additional precinct-based standards may apply to those set out in the MDRS. Examples in relation to PPCs 49 and 50 are:
- Riparian margin set backs
  - Road noise controls / frontage design along arterial roads
  - Frontage / fencing controls in relation to open space areas and Waihoehoe Road.
- 218 These types of additional controls (if they are to be maintained when the region wide plan change is introduced), may need to be justified on the basis of being qualifying matters under 77G of the proposed Bill. The extent to which additional standards to those of the MDRS can apply, may be a matter that is clarified during the submission process on the Bill.

219 For the sake of clarity, I note that none of my recommendations rely upon the proposed Bill. The above comments on the proposed Housing Bill are provided for information purposes.

## SIGNATORIES

Name and title of signatories	
Authors	David Mead, Consultant Planner 
Reviewer / Approver	Craig Cairncross Team Leader Central South Plans and Places/Chief Planning Office 

# **ATTACHMENT 1**

## **SUMMARY ANALYSIS OF TRANSPORT INFRASTRUCTURE AND LAND USE INTEGRATION OPTIONS (SEC 32AA)**





**Attachment One: Summary Analysis of Transport Infrastructure and Land Use Integration Options (Sec 32AA)**

The following table provides an analysis as to which of three methods (options) is the more appropriate way of achieving key objectives relating to:

- Quality, compact urban growth
- Land use - transport integration
- Well-functioning urban environments.

Criteria / Options	Urban zonings with triggers (either as per Requestor or AT)	Partial urban rezoning around train station, part remains Future Urban zone with reassessment at later date (eg when AUP is reviewed).	No immediate rezoning (either decline, delay or defer rezoning). Land remains Future Urban zone with reassessment at later date (eg when AUP is reviewed)
Resource Management Benefits	<p>Adds to housing and business supply opportunities</p> <p>Integrated approach to urban layout within three precincts (open spaces, streams, road network etc)</p>	<p>Adds to business supply options, and some housing options.</p> <p>Reinforces ‘transit-first’ approach to managing transport effects.</p> <p>Provides certainty to all landowners within the area to be rezoned that infrastructure can be delivered.</p> <p>Council not required to fund projects ahead of its ability to resource these projects.</p> <p>Structure plan helps with long term integration of urban form.</p>	<p>Working within its financial limitations, council can concentrate on investment in ‘live’ greenfields areas and brownfield areas.</p> <p>Avoids for the short term at least, poor integration between land use and transport (but does not ‘fix’ the problem).</p>
Resource Management Costs	<p>Potential for development to stall after initial phase due to uncertainty over wider network upgrades</p> <p>Potential for spill over of congestion effects adversely affecting other development in the wider Drury area through incremental development.</p> <p>Substantial monitoring costs for Council</p>	<p>May see limited take up of residential options in short term (as they are all higher density in format).</p> <p>Reduced options for terrace/town house developments in the short to medium term.</p> <p>Costs of additional / future plan changes to rezone FUZ land (but may be addressed in review of the AUP).</p>	<p>Less greenfield supply opportunities – housing and business</p> <p>Development pressures shift elsewhere, potentially more problematical from infrastructure point of view</p>

Criteria / Options	Urban zonings with triggers (either as per Requestor or AT)	Partial urban rezoning around train station, part remains Future Urban zone with reassessment at later date (eg when AUP is reviewed).	No immediate rezoning (either decline, delay or defer rezoning). Land remains Future Urban zone with reassessment at later date (eg when AUP is reviewed)
Efficiency in achieving objectives (AUP, NPS)*	If it is assumed that funding issues can be resolved in the next 10 years (eg in subsequent iterations of Long Term Plan), then this option may be efficient (ie triggers do not need to come into play as infrastructure is expanded in time with development).	Provides for some development potential (particularly business opportunities) while not placing large burden on council funding and financing abilities.	Depends upon the scale of foregone business and housing options in the short to medium term. This is in terms of absolute reduction in development capacity, as well as impacts on competitive markets.
Effectiveness in achieving objectives (AUP, NPS)*	Less effective method in the mid to long term due to uncertainty over funding and delivery of key transport infrastructure. Uncertain outcome for developments which may trigger thresholds and must seek consent. This uncertainty may slow development, unless funding constraints are resolved	More effective in meeting outcomes relating to providing for development capacity while working within financial limits.  Provides certainty over the 'first steps' in development of Drury East	Less effective in meeting objectives relating to providing for development capacity in short to medium term.
Risks of acting or not acting	Substantial risks that infrastructure and housing development will not be integrated. This risk may flow into developer risk appetite and slow proposals coming forward	Risks arise from placing development potential into a 'few hands', which may see development delayed. Including a mix of landholdings into the area to be rezoned lessens this risk to an extent.	Risk of piecemeal resource consents and/or more localised plan changes will see incremental urbanisation, with this risk lessened to an extent due to Council's structure plan.  Potential for poor transport and land use outcomes

Note:

Efficiency measures whether the provisions will be likely to achieve the objectives at the lowest total cost to all members of society, or achieves the highest net benefit to all of society. The assessment of efficiency under the RMA involves the inclusion of a broad range of costs and benefits, many intangible and non-monetary.

Effectiveness assesses the contribution new provisions make towards achieving the objective, and how successful they are likely to be in solving the problem they were designed to address.

## **ATTACHMENT 2**

### **UPDATED TRANSPORT ASSESSMENT BY TERRY CHURCH**





**PPC48 Transport Hearing  
Report**

Addendum Report



November 2021

**flow**

TRANSPORTATION SPECIALISTS 53

**Project:** PPC48 Transport Hearing Report  
**Title:** Addendum Report  
**Document Reference:** P:\ACXX\395 Drury East Private Plan Change - Kiwi  
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**Prepared by:** Terry Church  
**Project Manager:** Terry Church  
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## EXECUTIVE SUMMARY

This Addendum Report provides an update to the transport matters associated with the Drury East Private Plan Changes (PPC) 48-50. This report updates transport matters from that covered in my original Transportation Hearing Reports, dated June 2021 which form part of Councils s42A Planning Report for each respective plan change.

The transport assessment supporting PPC48-50 has been updated, with this report also covering matters raised through the exchange of applicant evidence, submitter evidence and discussions and positions recorded at expert conferencing between the transport experts.

While numerous changes have been made, my views generally remain consistent with those set out in my June Transport Hearing Report. I note that

- ◆ The proposed Drury Central Train Station presents a relatively unique opportunity to enable development
- ◆ The removal of major roading projects (Mill Road and Drury South Interchange) from funded programmes covering the next 10 years presents uncertainty as to what the future transport network looks like and how other parts of the network respond to those upgrades
- ◆ I am of the view that the early implementation of several transport improvements (by the applicant) and delivery of committed projects funded by the Government (as captured in the Precinct provisions) will enable development to get underway in an integrated manner provided the infrastructure is constructed and is operational early
- ◆ The proposed precinct provisions include uncommitted and uncertain long-term transport projects (ie those beyond 10 years), which introduces risk and uncertainty. Further, the extent to which the projects deliver on the intended capacity outcomes included in the revised traffic modelling assessment is unclear, as the scope, design and connectivity delivered by the long-term projects is unknown
- ◆ It is therefore important that the planning response allow for this uncertainty, for example by requiring an updated comprehensive ITA prior to releasing development which is currently reliant on uncommitted and uncertain long-term infrastructure
- ◆ Unless amendments are made to the provisions, I consider that the extent of PPC48-50, as currently proposed is unlikely to result in integrated land use and transport outcomes as required by the AUP, and that development within PPC48-50 is unlikely to satisfactorily address safety and efficiency effects on the surrounding transport network
- ◆ Should amendments be made as I recommend in this report, I am of the view that an integrated land use and transport outcome will be achieved in the short term, providing for an efficient and safe transport network
- ◆ Similar to my initial review of transport matters, as captured in my June Transport Hearing Report, I consider that the main concerns which the Precinct provisions need to address are
  - Early delivery and operation of the Drury Central train station and bus priority measures on Waihoehoe Road, (particularly westbound)

- Early delivery of active mode infrastructure (walking and cycling) including connections to trip generators and most importantly the Drury Central train station
  - Delivery of safety and capacity improvements (for all modes) to existing rural roads to manage the transition from a rural to urbanised environment
  - Controlling the level of development released according to transport upgrades that have some certainty and being mindful of the level of development released before significant construction works are undertaken to the main access point to Drury East, (referring to the Waihoehoe Road ultimate upgrade)
  - Determining how uncertain transport upgrades are considered within the Precinct provisions and the appropriateness of assuming development thresholds when the scope and transport outcomes of these projects are not understood
  - Including matters of discretion and assessment criteria that requires the assessment of the surrounding road network, such that a safe and effective network is maintained
- ◆ It is my view that the train station should be open and operating prior to development levels increasing above the first threshold proposed. I am also of the view that supporting connections are also provided for early, such as
- The 'Key Retail Street' which provides an essential connection between the train station and the wider site, namely Sub-precinct B and Sub-precinct F for active modes and those connecting with the train station
  - The collector road network, being the sections that connect to the train station and any land being developed, again ensuring connectivity with the train station is available for all modes.



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## 1 INTRODUCTION

Auckland Council (Council) has requested Flow Transportation Specialists (Flow) to review the transportation matters associated with Private Plan Change (PPC) 48-50, which has been lodged by Kiwi Property No.2 Limited, Fulton Hogan Land Development and Oyster Capital respectively. With regard to zoning

- ◆ PPC48 seeks to rezone 95 hectares of Future Urban zoned land to a mix of Business - Metropolitan Centre, Business - Mixed Use and Open Space-Informal Recreation zones and establish the Drury Centre Precinct
- ◆ PPC49 seeks to rezone 184 hectares of Future Urban zoned land to a mix of residential zones (Terrace Housing and Apartment Building, Mixed Housing Urban and Mixed Housing Suburban) serviced by a limited area of business zoning (Mixed Use)
- ◆ PPC50 seeks rezone 49 hectares of Future Urban zoned land to Terrace Housing and Apartment Building zoning.

This Addendum Report provides an update to the transport matters associated with PPC48-50 from that covered in my original Transportation Hearing Reports, dated June 2021 (**June Transport Hearing Report**) which form part of Councils s42A Planning Report for each respective plan change. Since releasing my June Transport Hearing Report for each plan change, several changes have occurred in response to

- ◆ Assumed transport infrastructure upgrades delivered by the Government, in response to the Government's announcement on the revised New Zealand Upgrade Programme (NZUP)
- ◆ The RLTP 2021-31 being released, which sets the funding priorities for the next 10 years
- ◆ Revised Drury East Traffic Modelling Report, dated September 2021 (which includes Auckland Council's Drury Infrastructure Funding and Financing Study Transport Assessment Report – August 2021) being issued by the applicant, along with an updated Integrated Transport Assessment, also dated September 2021
- ◆ Evidence in chief being circulated by the applicant
- ◆ Submitter's evidence being circulated
- ◆ Expert conferencing occurring between the applicant, submitters and Council (regulatory) transport engineers and planners.

This report provides an overview of the key transport matters pertaining to PPC48-50 and provides my recommendations which, in my view, are required to provide for an integrated land use and transport outcome as required by the Auckland Unitary Plan (AUP).

## 2 REPORT STRUCTURE

This report attempts to 'cut to the chase' on transport matters, reflecting the fact that a large amount of material has been circulated. Understanding the risks associated with infrastructure delivery and considering the best way to address these risks in the Precinct provisions has been the focus.

The structure of this Addendum is set out as follows

- ◆ Brief overview of the key transport concerns raised in my June Transport Hearing Report, which is consistent across all three plan change areas
- ◆ Overview of the documents I have reviewed and conferencing sessions I have participated in since issuing my June Transport Hearing report
- ◆ Overview of the revised Traffic Modelling Report and assessment approach
- ◆ Position on key transportation matters associated with PPC48-50
- ◆ Revision to Precinct provisions that are required, in my view, to provide for integrated land use and transport outcomes.

### 3 BRIEF OVERVIEW OF JUNE TRANSPORT HEARING REPORT

Prior to setting out changes made post my June Transport Hearing Report, I have briefly set out the key transport issues raised in my initial report as a means to remind the reader what my views were prior to reviewing the revised and amended reports, evidence, joint witness statement position and provisions

- ◆ I considered that the Precinct provisions gave little certainty that integrated land use and transport outcomes will be achieved. Development within PPC48-50 if developed in accordance with the proposed provisions was unlikely to satisfactorily address safety and efficiency effects on the surrounding transport network
- ◆ In my view there were some significant infrastructure assumptions made by the applicant, which affect the transport investment thresholds put forward, in particular Mill Road
- ◆ I considered that the prescriptive nature of the transport upgrade provisions in the Precinct was not appropriate due to impracticalities of administering and monitoring the thresholds proposed by the applicant. Further, I had significant concerns about the assumptions and methodology used in the traffic modelling, which the applicant had relied upon in setting these thresholds
- ◆ I considered that there was a sizeable risk that there will be consequential adverse outcomes for economic well-being (in terms of transport network efficiency) and social well-being (including road user safety)
- ◆ I did not support the upgrades included in the proposed Precinct provisions at IX.6.2 and IX.6.3 associated with the Great South Road/Waihoehoe Road intersection. I considered that reliance on the Great South Road/Waihoehoe Road intersection and Waihoehoe Road would be much greater than that currently predicted in the transport assessment and that from which the provisions were framed
- ◆ The provisions failed to address likely safety effects on existing rural roads. I considered that existing rural roads, including Waihoehoe Road, Fitzgerald Road, and Brookfield Road should be upgraded to urban standard prior to each respective road experiencing an increase in traffic due to occupied development within PPC 48-50
- ◆ The Precinct provisions should include Standards relating to the early provision of the Drury Central train station, bus priority measures westbound on Waihoehoe Road, walking and cycling connectivity between development and the Drury Central train station, and a continuous collector road network to enable Auckland Transport to provide bus services as staged development occurs
- ◆ I considered that the main concerns which the Precinct provisions needed to address were
  - Early delivery and operation of the Drury Central train station and bus priority measures on Waihoehoe Road, (particularly westbound)
  - Early delivery of active mode infrastructure (walking and cycling) including connections to trip generators and most importantly the Drury Central train station
  - Delivery of safety and capacity improvements (for all modes) to existing rural roads to manage the transition from a rural to urbanised environment

- Performance and safety of the Waihoehoe Road/Great South Road intersection and the approaches to it (including the Waihoehoe Road rail overpass) for all road users (walking, cycling, public transport, and general traffic).
- ◆ It was my view that the train station should be open and operating prior to any development being occupied. I was also of the view that supporting connections are also provided for from the outset, such as
  - The 'Key Retail Street' which provides an essential connection between the rail station and the wider site, namely Precinct B for active modes and those connecting with the rail station
  - The collector road network, being the sections that connect to the train station and any land being developed, again ensuring connectivity with the train station is available
  - That Sub-Precinct D and the desire for Park-and-Ride should be reviewed in light of a train station shift further to the East.
- ◆ I supported the intensity and mix of land-uses proposed by the applicant, as I considered that the proposed Drury Station presents a relatively unique opportunity to enable development consistent with Transit Oriented Development (TOD) principles
- ◆ Unless amendments were made to the provisions per my recommendations and commentary on submissions, I considered that PPC 48-50 was unlikely to result in integrated land use and transport outcomes as required by the AUP(OP), and that development within PPC 48-50 was unlikely to satisfactorily address safety and efficiency effects on the transport network.

## 4 OVERVIEW OF INVOLVEMENT POST JUNE 2021

In addition to the documents reviewed and fixtures attended in my June Transport Hearing Report, I have recently reviewed or attended the following

- ◆ Updated Traffic Modelling Report, prepared by Stantec, dated September 2021, which includes the Drury Infrastructure Funding and Financing Study (DIFF) Transport Assessment Report, dated August 2021 in Appendix C
- ◆ Drury East Traffic Memorandum Modelling Update, Plan Changes 48, 49 & 50, prepared by Stantec, dated 16 November 2021, Revision 0
- ◆ Applicant's evidence in chief, including
  - Mr Hughes and Mr McKenzie (Traffic and Transportation) which includes updated ITA's for each of the Drury Plan Change areas as attached in Appendix B to their evidence
  - Mr Parlane (Strategic Traffic and Transportation)
  - Ms McDonald (Infrastructure)
  - Ms Morgan and Mr Roberts (Planning)
- ◆ Submitter's evidence in chief (as summarised in Appendix C), including
  - For Waka Kotahi, Mr Mein (Traffic), Ms Heppelthwaite (Planning) and Mr Keating (Corporate)
  - For Auckland Transport, Mr Prosser (Transport), Ms Sinclair (Planning) and Ms Tam (Corporate)
  - For Auckland Council, Ms Duffield (Infrastructure Funding), Mr Kloppers (Corporate Infrastructure)
  - For Drury South Limited, Mr Phillips (Traffic) and Mr Osbourne (Planning)
  - For KiwiRail, Ms Butler
- ◆ I have attended numerous meetings with the applicant's traffic experts and submitters traffic experts, as well attending all expert conferencing sessions held for traffic experts, specifically those held on
  - 15 September 2021
  - 26 October 2021 – Transport and Planning
  - 2 November 2021 – Transport and Planning.

## 5 OVERVIEW OF THE REVISED TRAFFIC MODELLING ASSESSMENT

The evidence of Mr Hughes and Mr McKenzie provides an overview of the revised traffic assessment, with much of the evidence sitting within the updated Traffic Modelling Report, dated 30 September 2021.

The updated Traffic Modelling Report assesses PPC 48-50 without Mill Road and SH1 upgrades (Papakura to Drury South Stage Two project, including Drury South interchange<sup>1</sup>) being in place during the early development stages. This is in response to the Government revising the funding and scope of projects that sit within the New Zealand Upgrade Programme (NZUP), where these projects were previously assumed to be in place by about 2028.

The traffic modelling continues to use Auckland Transport's Supporting Growth Southern Sector SATURN Model (S3M). As such, many of the underlying assumptions associated with land use and trip generation are consistent with that used by Supporting Growth, who are using the same platform to support the Notices of Requirement that have been lodged for arterial road designations about Drury.

Key matters raised in relation to the revised Traffic Modelling Report have been summarised in Appendix A, where I summarise the

- ◆ Conservatism and appropriateness of the Supporting Growth Southern Sector SATURN Model (S3M) for assessing the predicted effects of the Drury East Plan Changes
- ◆ Lack of agreement between experts on the appropriateness of the Network Capacity Criteria that has been used to assess the network performance when considering development triggers
- ◆ Effects about the wider transport network.

A summary of the above is captured in Appendix A, where reference to submitter evidence has also been provided. My views on the above are set out below, with further detail covered in the following sections of this report.

### Conservatism and appropriateness of the Supporting Growth Southern Sector SATURN Model (S3M)

- ◆ I Support the use of the S3M model for informing the predicted impacts on the surrounding transport network. It provides a reasonable basis to assess the effects of the Drury East Plan Changes. This view is similar to the position of Mr Phillips, as set out in paragraph 5.9 of this EIC and Mr Mein, as set out in paragraph 5.2(a) of his EIC.

### Network performance when considering development triggers

- ◆ It is important to highlight that the Network Capacity Criteria have not been agreed by all transport experts. Additional traffic modelling and criteria have been discussed at expert conferencing, where I expect an updated summary of the network capacity criteria that supports the scenarios set out in Table IX.6.2.1 will be provided in the applicant's rebuttal
- ◆ While there has been a focus on Network Capacity Criteria once road upgrades have been implemented, the transport triggers set out in Table IX.6.2.1 have not considered the effects of

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<sup>1</sup> <https://www.nzta.govt.nz/planning-and-investment/nz-upgrade/auckland-package/mill-road/>

constructing the actual road upgrades. This in my view also presents a potential reverse sensitivity effect should Auckland Transport be responsible for upgrading this infrastructure. In my view, the ability to manage effects associated with the construction of roading infrastructure that provides the primary access to Drury East (roads and intersections) requires some resilience in the network to allow for alternative routes and permeability which is not the case for Drury East

- ◆ For example, based on the current threshold table (Table IX.6.2.1), my question is, “Can the transport network operate (for up to 6 months or more while the Great South Road/Waihoehoe Road intersection or Waihoehoe Bridge is being upgraded to the ultimate layout) when some 2,500 vehicle trips per hour are being generated by Drury East as enabled by the preceding threshold”. This has not been assessed by the applicant
- ◆ It is my view that the level of development enabled by the transport triggers must give regard to the performance of the surrounding transport network when constructing future roading upgrades, in particular where the upgrade is located at the primary access point to the Drury East area. I discuss my recommendations on how this should be addressed in the provisions later in this report.

#### Effects about the surrounding transport network

- ◆ I am of the view that the provisions (as at 5 November 2021) provide guidance with regard to the effects on the surrounding transport network. However, I am conscious that the additional traffic modelling of the southern/western access points to the plan change area has only focussed on the lower development scenarios (Test B and Test C). As such, I suggest that the intersections defined in IX.8.2(5)(d) be extended to include the Fitzgerald Road / Jack Stevens Drive intersection also. I also recommend that “at key intersections” be removed from the assessment criteria, as the section of road between intersections should also be considered.

#### Summary

While progress has been made with aspects of the application following the circulation of evidence, expert conferencing and amendments to the Precinct provisions, I am of the view that the development enabled by transport triggers (as set out in Table IX.6.2.1) need to be amended to ensure integrated land use and transport outcomes. I propose that amendments be made to the Precinct provisions, with the following sections indicating what these are and my reasoning behind them.



## 6 TRANSPORT UPGRADE TRIGGERS, YEILDS ENABLED AND TIMING

The transport upgrades required to support PPC 48-50 have been discussed during expert conferencing, with positions recorded in the joint witness statements (JWS) dated 26 October 2021 and 2 November 2021.

The JWS, dated 26 October 2021, sets out the views of each expert on whether each infrastructure upgrade is supported or not (Appendix 1 – Table 1) with further discussion then being captured on each upgrade in Appendix 1, Table 2. What wasn't confirmed through expert conferencing however, in my view, is the quantum of development enabled by each upgrade. I have elaborated on my position below.

Before doing so however, I am of the view that it is essential that there is an appropriate level of infrastructure that supports the transport outcomes sought for the Drury East plan change area, as set out in Precinct Objectives 1, 4, 5, 5a and 6 and Policies 4, 6, 7, 15a-d and 17. To ensure high take up of active and public transport modes, I consider it essential that transport upgrades that provide primary access points to the area (Waihoehoe Road and Fitzgerald Road) or form the spine of the active mode and public transport network (encouraging alternative modes of travel) are delivered early, with other upgrades controlling the level of development enabled where there is some level of certainty.

Coupled with this discussion is the reality of what upgrades are reasonably certain within the foreseeable future and what upgrades or improvements are not certain. The level of uncertainty includes matters such as funding, delivery timeframes, the extent to which the design has been developed, and how the project may or may not deliver the capacity improvements assumed in the Traffic Modelling.

Addressing the certain infrastructure elements is relatively straight forward in my view. How uncertain upgrades are captured in the provisions, or what matters of discretion and assessment criteria is framed around non-compliance, requires some further thought.

Each upgrade is summarised below, with an overview of my position as set out in the respective JWS. I have suggested how the land use threshold and transport upgrade are framed within the Precinct provisions, with a view on simplifying how the triggers are measured. I have considered triggers based on a scenario where the plan change area is either partially zoned, or have a hold point to better align land use enabled with transport upgrades that have some certainty over the next 10 or so years.

### 6.1 Upgrades required prior to any development (Scenario A)

I agree with the interim upgrades required prior to development, however I recommend that an additional upgrade be required, being Fitzgerald Road. These interim upgrades ensure both access points to the Drury East area are upgraded prior to development coming online, therefore minimising the level of disruption when needing to upgrade these accesses at a time when development is enabled and traffic generation about Drury East has increased.

I discuss the following interim upgrades in the subsections below

- ◆ Waihoehoe Road
- ◆ Great South Road/Waihoehoe Road intersection

- ◆ Fitzgerald Road.

### 6.1.1 Waihoehoe Road (interim) upgrade

*JWS summary: Yes, support an interim upgrade and yes, support the trigger, being required before any development occurs.*

Through expert conferencing, the applicant has moved away from the road cross section presented in their evidence to a midblock road cross section which I have proposed. Essentially, the revised interim design is consistent with the documented NOR D2 westbound carriageway, as designed by Auckland Transport. That is, kerblines, traffic lanes, and services can be placed in the general position of the ultimate scheme. This is possible as the NOR for Waihoehoe Road relies on the northern side only for widening, and not the southern side.

While regrading will be required about the Waihoehoe Bridge when the new bridge is constructed (the new bridge will be higher than the existing bridge), the layout of the interim design extending back to Fitzgerald Road would minimise the need for extensive works within the carriageway to construct the ultimate layout, provided it is constructed according to the NOR design requirements. Some minor works will be required within the berm, but importantly, carriageway works will not be required where levels remain unchanged.

A plan from the NOR is provided below, showing the existing and future anticipated grades along the corridor. The plan shows the extent of works required on Waihoehoe Road when upgrading the Waihoehoe Bridge. East of Kath Henry Lane, much of the corridor should remain unchanged from the interim solution.

**Figure 1: Waihoehoe NOR D2 Corridor Detail**



The interim design provides a safe walking and cycling connection (via a shared path on the southern side of the road) and importantly provides a westbound bus lane, which allows buses to avoid queues predicted in the traffic modelling. I do not consider an eastbound bus lane is required in the early years, noting that the Great South Road/Waihoehoe Road intersection is proposed to be upgraded to traffic signals, with each movement into Waihoehoe Road being limited to one traffic lane. This will therefore

manage inbound traffic volumes and somewhat control the level of internal congestion for general vehicles and buses.

The NOR design provides for a separate walking and cycling facility. I support the use of a shared path on the southern side of the corridor during the interim solution, as it provides for both pedestrians and cyclists. I understand that the northern side of the carriageway is needed for stormwater management. Any development on the northern side, within PPC 50 would need to provide crossing facilities at intersections with Fitzgerald Road or Kath Henry Lane during the interim period, providing a safe place for pedestrians to access the shared path.

I recommend that this cross section be required on Waihoehoe Road (between Waihoehoe Road Bridge and Fitzgerald Road). Terminating the bus lane on the eastern side of Waihoehoe Road (about Flanagan Rd) allows buses to bypass any extensive queues and allows the bridge structure to remain as it is.

As set out in the JWS, my preference is for a separate bridge structure that allows for walking and cycling to be provided to the south of the current Waihoehoe Bridge during the interim period. I note that there has been no engineering assessment as to whether a separate structure can be delivered alongside Waihoehoe Bridge and I expect fairly significant engineering constraints will exist, such as services, rail electrification and retaining. As such, as a minimum, I support some form of active mode provision across the southern side of the existing Waihoehoe Bridge, as proposed by the applicant.

As for the timing, I agree with the Provisions that requires these works prior to any development being occupied.

### 6.1.2 Great South Road/Waihoehoe Road intersection (interim) upgrade

*JWS summary: **Yes**, support an interim upgrade and **yes**, support the trigger, being required before any development occurs.*

The interim upgrade of the Great South Road/Waihoehoe Road intersection was initially proposed to be a roundabout. I was concerned with a roundabout in that

- ◆ A roundabout does not provide the road controlling authority the ability to manage traffic flow
- ◆ The design requires pedestrians and cyclists to cross multiple lanes (without the aid of signalised pedestrian crossings) which is not safe and
- ◆ The vertical treatments proposed in my view did not align with those expected on an arterial road where heavy trucks and bus routes operate.

As such, I support an interim signalised intersection being in place prior to any development occurring, where some effort should be made to place kerbs, services etc in the final position on the approaches where the current designation allows.

I agree that these works are required prior to any development being occupied.

### 6.1.3 Fitzgerald Road (Interim Upgrade)

*JWS position: As set out in the comments on Provisions during the 2 November 2021 conferencing, I recommend Fitzgerald Road be upgraded prior to development.*

An interim upgrade of Fitzgerald Road relies on assessment criteria (IX.8.2(1)(g)) which is delivered through progressively upgrading the rural road network between a development site and the Waihoehoe Road/Fitzgerald Road intersection. As per the comments made alongside assessment criteria IX.8.2(1)(g) in Appendix 1 of the JWS, dated 2 November 2021, I am of the view that Fitzgerald Road, between Brookfield Road and Waihoehoe Road should be upgraded prior to too much traffic being enabled within Drury East. In fact, this could be extended to cover the length of Fitzgerald Road.

The traffic modelling has demonstrated that there are two key access points relied on for the Drury East development, being Waihoehoe Road to the north/west and Fitzgerald Road to the south. In my view the provisions focus on transport upgrades for the north/west (Waihoehoe Road), with little emphasis on the access to the south (Fitzgerald Road), albeit that the traffic modelling predicts, when more development comes online, considerable volumes using the southern access.

As development is enabled about the three plan change areas, the upgrade of Fitzgerald Road is reliant on PPC48 or PPC 49 forming an access at the southern end of Fitzgerald Road. Should an access not be formed towards the southern end of Fitzgerald Road, no upgrade will be required.

The longer it takes to create a new connection or development about the southern extents of the plan change area, the level of traffic enabled by development increases, which will therefore make it very difficult to manage effects while upgrading the secondary access to the Drury East area (Fitzgerald Road).

It is therefore, in my view important to upgrade Fitzgerald Road (to an interim design – minimum) prior to large levels of development coming online, therefore ensuring a safe and efficient transport network is provided for all modes and that significant effects do not result on the basis that it will take some time for Fitzgerald Road to be upgraded. It is for this reason that I recommend that the entire length of Fitzgerald Road is upgraded prior to traffic levels increasing considerably, which I have aligned with retail activity and housing increasing from that initially enabled.

#### 6.1.4 Summary (Scenario A)

A summary of the interim transport infrastructure required to enable the initial 710 dwellings is set out below.

**Table 1: Interim Upgrades – Prior to any development (Scenario A)**

Column 1 Land Use trigger	Column 2 Required transport project to be constructed and operation	
Prior to any development	(a)	Interim upgrade to Great South Road/Waihoehoe Road intersection to traffic signals
		Interim upgrade of Waihoehoe Road, between Great South Road and Fitzgerald Road in accordance with Appendix A (amended cross section and design)
		Interim upgrade of Fitzgerald Road, between Waihoehoe Road and Drury Hills Road in accordance with Appendix A

## 6.2 Upgrades to allow for more than 710 dwellings (Scenario B)

I agree with the widening of State Highway 1 (Stage 1B) upgrade being required prior to allowing any development beyond 710 dwellings. I consider that additional upgrades are required however to ensure the transport outcomes sought for the area, being high active mode and public transport uptake is achieved and travel behaviour is set as early as possible. For this reason, I strongly recommend that the Drury Central Train Station be constructed and operational also. I discuss each below.

### 6.2.1 State Highway 1 widening - Stage 1B Upgrade

*JWS summary: Yes, support the trigger requiring State Highway 1 – Stage 1B project being complete prior to allowing more than 710 dwellings.*

Traffic modelling has been provided, demonstrating that the SH1/Drury Interchange can safely operate during Scenario B, noting that the widening will attract more drivers to use SH1 (rather than Great South Road), and that the direct connection from SH1 into the development is not proposed as part of this upgrade.

As set out in paragraph 5.2 of the JWS, dated 26 October 2021, the Network Capacity Criteria currently excludes a metric which considers the extent of queues on SH1 when assessing the performance of the network. I am of the view that queue lengths on the southbound off ramp need to align with Waka Kotahi design requirements, as this ensures a safe network.

My experience with Waka Kotahi (in designing and assessing land use impacts) is for static queues not to extend to be within 140m of the offramp diverge with the mainline. An example of this criteria is set out in the Puhinui Precinct, at I432.6.1.2(3)(a)(i). Queues extending beyond this point is not safe given the risk of high-speed crashes should queues extent to be within the deceleration zone. I can confirm that the left turn queues on the southbound off ramp are predicted to be 145m and 165m during the AM Peak and PM Peaks respectively. With the off-ramp length being some 350m, the criterion is achieved for Scenario B. However, no evidence has been provided to suggest Scenario C development levels can be accommodated on the off ramp without the direct connection in place.



While the applicant has put forward this trigger, I note that the construction of the State Highway Stage 1B upgrade is already underway and has commitment from NZUP. I am therefore of the view that it is unnecessary to bring this requirement into the Precinct provisions. So, while I have made comment on the trigger, and agree that it is required, I consider its inclusion in the Precinct provisions as unnecessary.

### 6.2.2 Drury Central Train Station

*JWS summary: Yes, support the Drury Central Train Station. As per the JWS, 26 October 2021, Appendix 1, Table 2, I am of the view that the Drury Central Train Station should be operating prior to allowing more than 710 dwellings.*

The Drury Central Train Station is a key element to successfully providing for alternative travel modes and reducing the reliance of private motor vehicles. The Precinct objectives speak to promoting mode shift, with Objective 1 centred around Drury Centre being a “vibrant and intensive transit-orientated development that supports high density residential, employment-generating and retail activities within walking distance to rapid transit, and which prioritises public and active modes of transport to and within the centre”.

To achieve the above, it is important that the Train Station is operational prior to employment activities being established, for both retail and commercial activities. Without the train station operating, the requirements of Travel Demand Management plans, as identified in the Precinct Provisions and enabling alternative modes of travel cannot be achieved.

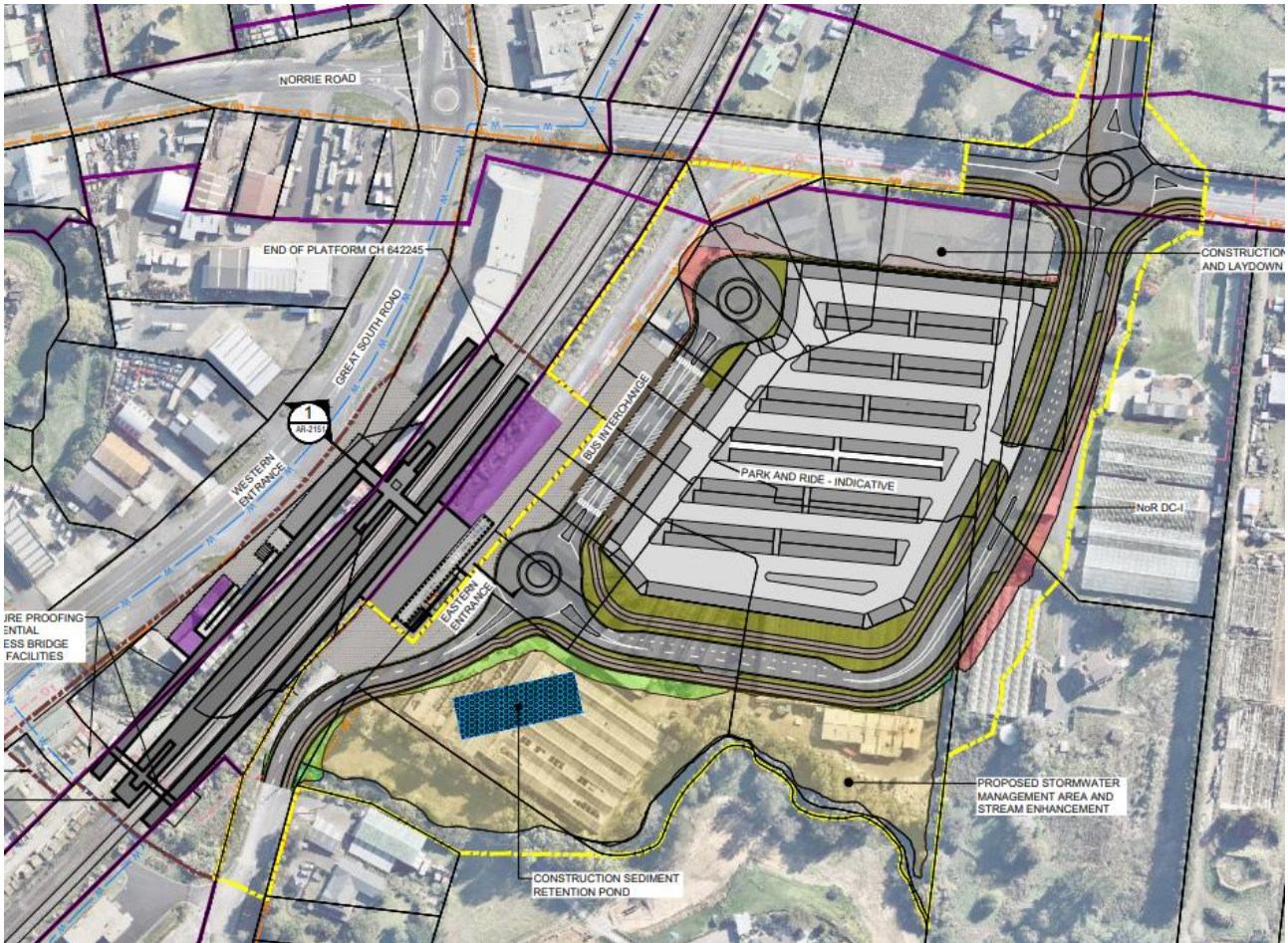
I note that an NOR for the train station has been lodged with the Environmental Protection Authority (EPA)<sup>2</sup> through the fast track process, by KiwiRail. Volume 3 of the application documents provides two plans of the Drury Central Train Station design. The general arrangement plan is shown below, with the application drawings also showing a plan for a wetland option.

It is important to highlight, when looking at the Drury Central Train Station NOR that

- ◆ An interim intersection is being proposed with Waihoehoe Road, where the walking and cycling provision is shown on the southern side of Waihoehoe Road. This is consistent with the interim upgrade put forward, as discussed above, and
- ◆ The NOR for the station does not impact on Waihoehoe Bridge. That is, there appears to be no requirement for the Waihoehoe bridge upgrade.

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<sup>2</sup> <https://www.epa.govt.nz/fast-track-consenting/referred-projects/drury-central-and-paerata-stations/>



I therefore support the train station as a transport upgrade, but consider that it is required prior to any retail, commercial or additional houses (to that enabled by the interim upgrades) being occupied.

### 6.2.3 Summary (Scenario B)

A summary of the transport infrastructure that I consider should be required to enable activities or subdivision, beyond the initial 710 dwellings is set out below.

**Table 2: Upgrades required to allow additional development (Scenario B)**

Column 1 Land Use trigger	Column 2 Required transport project to be constructed and operation	
Residential development above 710 dwellings, allowing up to 1,300 dwellings Any non-residential floor space, allowing up to 30,000m <sup>2</sup> non-residential floorspace	(b)	Upgrades in (a) above and Drury Central Train Station

### 6.3 Next development threshold (Scenario C/D)

Enabling more development above that already released in Scenario B depends on the ability of the network to cater for an increase in traffic volumes, while ensuring the network can perform acceptably when future upgrades are being constructed.

Traffic modelling has been updated to reflect the anticipated transport network discussed through expert conferencing. Traffic results focus on Scenario B and Scenario C, being scenarios prior to the ultimate upgrade of Waihoehoe Road.

I have reviewed the traffic model results. In my view the performance of the Great South Road/Waihoehoe Road intersection is consistent across both tests. While I am supportive of the Network Capacity Criteria allowing a poorer level of service during the commuter peaks when determining development levels, I do not have the same view when considering how the transport network needs to perform when significant construction works need to occur at the primary access point to Drury East. With the results between Scenario B and Scenario C at the intersection being similar, the outcome of this (on the basis that Scenario C enables more traffic) is an increase in traffic using the southern network to exit the development.

**Table 3: Traffic Modelling Analysis – GSR/Waihoehoe Road intersection (PM Peak)**

Approach	Scenario B - PM Peak (Volume (vph) / LOS)	Scenario C - PM Peak (Volume (vph) / LOS)
Great South Road (south)	485 / LOS F	317/ LOS E
Waihoehoe Road (east)	1,150 / LOS D	1,135 / LOS E
Great South Road (north)	1,090 / LOS D	1,095 / LOS E
Norrie Road (west)	500 / LOS D	480 / LOS D
Overall Intersection	3,225 / LOS E	3,025 / LOS E
Waihoehoe Road (two-way traffic volume)	2,080	1,795

For this Scenario, I am not only considering the capacity delivered by further upgrades, but the ability of the network (in particular the southern rural road network) to operate efficiently when constructing major upgrades that sit on the key access points to the Drury East plan change area, specifically Waihoehoe Bridge and Waihoehoe Road FTN upgrade, which are not proposed until Scenario D of the applicants Provisions.

I am of the view that one needs to be cognisant of the level of development and therefore traffic being enabled about Drury East prior to the Waihoehoe Road FTN upgrade being in place, noting that significant road works are required to deliver the final upgrade of Waihoehoe Bridge, Waihoehoe Road FTN corridor and the Great South Road/Waihoehoe Road intersection which requires significant regrading of Waihoehoe Road, the primary access point serving Drury East.

With regard to Waihoehoe upgrades, I note the following

- ◆ The Waihoehoe Road upgrade, while being included in the Auckland Regional Land Transport Plan 2021-31, is forecast to occur towards the later years of the RLTP (being 2027-31) and has the lowest prioritisation of 3, where changes are required to current funding settings to fund this project. At this time, I would consider this funding uncertain
- ◆ NOR D2 (Waihoehoe Road) has a 15-year lapse clause, with NOR General Condition 4 having the designation lapse should the designation not be given effect from the date it is included in the AUP. Condition 18 requires a Construction Traffic Management Plan, where the objective is to



avoid, remedy or mitigate as far as practicable, adverse construction traffic effects. It is important to note that this current project secures the designation, and does not include the construction of the project. Based on the lapse period, the designation extends to 2036. Again, this presents some uncertainty as to delivery timeframes

- ◆ As set out in the evidence of Pam Butler, KiwiRail has proposed a staged implementation of the Drury Central Train Station. I understand that the current stage provides for two platforms and works within the two track envelope. All works, whether it be platform design and electrification however allows for additional tracks to occur in the future. When increasing the number of tracks, this will require the upgrade and replacement of Waihoehoe Bridge, allowing for a wider bridge span and height. There is no timeframe associated with these works as yet. I understand through conversations with Supporting Growth that the current Bridge can allow for electrification, and hence not needing to be replaced as part of the current electrification works.

While I appreciate that the NOR for Waihoehoe Road will require the Road Controlling Authority to manage the effects of construction, I am mindful that the Drury East plan changes are also reliant on this infrastructure to progress with further development beyond that enabled by preceding triggers. At this time, there is no certainty around when the Waihoehoe Road upgrade will occur.

The Drury East plan changes are responsible for managing the effects of development on the transport network which could be severely impacted for a period of 6-12 months or more during construction of Waihoehoe Road. I am therefore of the view that while Waihoehoe Road, as captured in the Precinct Provisions and Waihoehoe Road as captured in the NOR conditions are separate processes, the effects of construction (being consistent across each) should be front of mind when determining what level of development/traffic generation is enabled by preceding transport upgrades set out in the Drury East plan changes.

While not required to support the NOR, the direct connection from State Highway 1 into the Drury Centre will relieve pressure from Waihoehoe Road, however the direct connection only provides capacity into Drury Centre, not out of Drury Centre, with Drury East traffic continuing to rely on Waihoehoe Road or Fitzgerald Road to exit.

Based on the recent traffic modelling results, and my recommendations above which recommends the Drury Central Train Station to be requires in Scenario B, I consider Scenario C be deleted from Table IX.6.2.1, with the Direct connection being included in Scenario D.

### 6.3.1 Summary (Scenario C/D)

Confirming the above, I suggest that the Scenario C be deleted from Table IX.6.2.1 and the Direct connection from State Highway 1 to Drury Centre is included in Scenario D along with the Waihoehoe Bridge, Waihoehoe Road FTN upgrade and Great South Road/Waihoehoe Road intersection upgrade. The key reason for this is, that the Waihoehoe Road upgrades provides

- ◆ for bus lanes entering and leaving the area which is essential to support ongoing development and mode share which the objectives and policies speak to
- ◆ additional capacity for traffic leaving the plan change area is provided, such that significant traffic effects are managed on the southern and western (wider) parts of the local road network.

A summary of the transport infrastructure that I consider should be required to enable activities or subdivision, beyond that of the previous threshold is set out below. I appreciate that there is uncertainty on the delivery of the Waihoehoe upgrade. I am equally uncertain as to the timing of the Direct Connection from State Highway 1 to Drury Central.

**Table 4: Upgrades required to allow additional development (Scenario D)**

Column 1 Land Use trigger	Column 2 Required transport project to be constructed and operation	
Residential development above 1,300 dwellings, allowing up to 3,300 dwellings Non-residential floor space above 30,000m <sup>2</sup> , allowing up to 75,000m <sup>2</sup>	(c)	Upgrades in (a) and (b) above Direct Connection from State Highway 1 to Drury Central Waihoehoe Road Frequent Transit Network (FTN) upgrade, including: <ul style="list-style-type: none"> <li>• Two general traffic lanes and two bus lanes on Waihoehoe Road</li> <li>• A new bridge over the railway corridor</li> <li>• Upgrade and increased capacity at the Great South Road/Waihoehoe Road signalised intersection.</li> </ul>

## 6.4 Long term transport upgrades and development threshold

Beyond the upgrades set out above, the proposed Precinct provisions include long term infrastructure in Table IX.6.2.1 (e) and (f). This includes

- ◆ Southern connection between Fitzgerald Road and State Highway 1, including Drury South Interchange (Table IX.6.2.1 (e))
- ◆ Mill Road northern connection (Table IX.6.2.1 (f)), and
- ◆ Opāheke Northern Connection.

The Opāheke Northern Connection has an NOR currently being pursued by Auckland Transport (NOR D4). Like Waihoehoe Road, the delivery of this connection is somewhat uncertain, noting that a designation and construction are separate. While the NORs include a design which allows the anticipated traffic response of the connection to be understood, the 20 year lapse period in the NOR conditions (NOR General Condition 4) combined with the lack of funding and construction timeframe of the upgrade make the delivery of this connection uncertain.

Roading upgrades that have even more uncertainty include the Southern connection between Fitzgerald Road and State Highway 1, including the Drury South interchange and the Mill Road northern connection. Both of these transport upgrades, to my knowledge have no design, no designation, no commitment from the road controlling authorities, no funding and therefore no understanding as to whether the assumptions applied in the traffic modelling assessment are reasonable or not.

While I agree that these connections are required, as they will provide additional capacity and travel options to the Drury East area, the extent to which they release the level of development set out in Table

IX.6.2.1 carries little weight as the form and function of these connections in the future may change from that assumed.

For this reason, the quantum of development released about Drury East beyond the Waihoehoe Road FTN upgrade and the Direct Connection from SH1 into Drury Centre is in my view uncertain and somewhat too far into the future to reasonably shape triggers around.

It is therefore my view that beyond the Waihoehoe Road FTN upgrade and SH1 Direct Connection into the Drury Centre being constructed, the release of any further land use development should be subject to further assessment at a time where more certainty exists.

The mechanism from which this is addressed needs to be discussed, but I suspect options may include partial zoning of the Drury East plan change area (as suggested above), with ongoing development (beyond 75,000m<sup>2</sup> non-residential activities) having an activity status that requires a comprehensive check in on the transport landscape where commitment to projects that are uncertain today are more certain in the future. I will take guidance from the Planners as to how this is captured within the Provisions but am essentially creating some form of hold point from which the uncertain elements of the current transport assessment may become more certain in the future.

For example, an RLTP in 6-10 years may have a very different outlook in terms of commitment and funding of wider projects, which then may provide more reassurance as to the transport effects of further development and the triggers that align land use with transport upgrades.

## 7 OTHER TRANSPORT MATTERS

### 7.1 Matters of Discretion

Where development or subdivision does not comply with Standard IX.6.2, matters of discretion are set out in IX.8.1(5). The draft provisions have included additional matters in response to submitters. At the time of writing this Addendum, discussions on these matters are still occurring.

I support the inclusions suggested to date, as set out in the draft provisions (5 November 2021) and note the following

- ◆ For (a) being effects of traffic generation on the safety and efficiency of the transport network, I consider some refinement is needed. In my view safety and bus journey reliability should be the focus about the immediate Metropolitan Centre transport network. Outside of the immediate Metropolitan Centre safety and efficiency of the transport network is important, but the scope of consideration shouldn't extend to include the performance of State Highway 1. As such, I recommend that this matter be refined to
  - Effects of traffic generation on the safety and efficiency of the wider local road network, including intersections with State Highway 1
  - Effects on the performance and reliability of public transport 'bus' routes
- ◆ For (f) effects about the western local road network should not only capture the SH22 (Karakā Road)/Great South Road intersection, but also the Great South Road/Quarry Road intersection. I recommend that the provisions include some form of assessment criteria around the need to

assess the adequacy of the Great South Road/Quarry Road intersections, noting that the Revised Traffic Modelling assessment includes upgrades that are not required as a rule in the Drury South Industrial Precinct, but as an assessment criteria also.

- ◆ A new matter of discretion which requires assessing development effects of future construction works.

## 7.2 Assessment Criteria

### 7.2.1 Assessment Criteria IX.8.2(1)(f)

The Key Retail Street provides a direct connection between the Drury Central Train Station and the southern areas of PPC 48, which also provides connectivity across to PPC 49 via the Pitt Road (east) connection shown on Precinct Plan 2 Structural Elements of PPC 48.

To promote public transport and to achieve the objectives and policies of the Precinct, I am of the view that the Key Retail Street and Pitt Road (east) need to be delivered at the same time as development in the southern area of PPC 48. These links ensure connectivity between the Drury Central Train Station for PPC 48, but also provide attractive connections for PPC 49. As such, I am of the view that the upgrades are needed to assist with promoting public transport across the wider area, rather than PPC 48 specifically.

The provisions in my view potentially push the delivery of these important connections to a later date, and leave the delivery of the Key Retail Street (or not) being a topic of debate at Resource Consent when development about Sub-Precinct B and F is lodged. Assessment Criteria IX.8.2(1)(f) requires that connections are provided, but provides an out clause, being “unless an alternative is provided that achieves a better or equal degree of connectivity”.

Assessment Criteria IX.8.2(1)(f)(i) requires any development within Sub-Precinct B and F to provide for a direct, legible and safe pedestrian and cycle connection to the Drury Central Train Station via Drury Boulevard or the Key Retail Street. While this should provide some confidence, it is subject to assessment and in my view could be argued that an equal alternative is being provided. If the intent is to deliver the connection, stronger wording is needed in the criteria to ensure delivery at the time of any development about the southern area of PPC 48.

### 7.2.2 Assessment Criteria IX.8.2(1)(g)

Assessment Criteria IX.8.2(1)(g) for PPC 48 currently refers to the progressive upgrade of Fitzgerald Road and Brookfield Road, whereas PPC 49 is more general, referring to rural roads. I recommend that the criteria capture road ‘mid-blocks’ and ‘intersections’.

I also recommend that any interim upgrade of rural roads is constructed in a way where the interim carriageway upgrade is in according to long term (ultimate) carriageway layout. This therefore reduces any further works within the carriageway, with differences only related to rear berm and footpath widths, which is generally minor between what can be achieved within the current 20m road reserve and what is allowed for in a 23m road reserve.

Confirmation of the interim rural road design is needed, including construction that aligns with the long-term elements within the 20m space provided, in my view is critical. The cross-section detail provided in Appendix 1A is currently being clarified to achieve this outcome.

### 7.3 Special Information Requirements

Several mechanisms are included in the special information requirements at IX.9(4) that encourage and help reinforce mode choice. This includes parking rules that reduce as the quantum of commercial development and public transport provision increase, employee travel management plans for all businesses, cycle parking and end of trip facilities.

All of these measures are supported, however I note that the ability to successfully implement each of these requires a well-functioning, reliable, safe and attractive active mode and public transport network to be in place from the outset, as I have suggested above and recommended through my proposed thresholds.

I support the requirement of an Integrated Transport Assessment being needed to support future resource consent applications that infringe standard IX.6.2, as set out in IX.9(5).

### 7.4 Precinct Plan - Brookfield Road Connection to Quarry Road

As per the JWS Transport, dated 26 October 2021, I recommend that Precinct Plan 2 shows an indicative arrow that highlights the potential for Brookfield Road to be extended in the future to connect with Quarry Road. I appreciate that this requires third party land that the landowner does not currently have control of and may never have control of. However should the opportunity arise in the future, any works on Brookfield Road should be mindful of this possibility, and therefore not place infrastructure or intersections (for example) in locations that that may prohibit a connection in the future.

A connection would provide greater permeability of traffic about the roading network, while noting that the traffic modelling completed to date has not relied specifically on this upgrade. I note that the DOSP includes this connection, and that Auckland Transport request it also as it is included in the Supporting Growth network. As the road is not defined as an Arterial Road, the designation and acquisition of land cannot be progressed by the applicant, and as such, my view of not precluding the connection is considered the logical outcome.

I note that the inclusion of local roads on Precinct Plans sought by Auckland Transport has not worked well in other Precincts, particularly when the road is not considered to be an Arterial. Plan Change 5 in Whenuapai is a current example where a connecting road between Hobsonville Road and Sinton Road is shown but is unachievable given that land is required on either side and would only be achieved at considerable cost. I understand that Auckland Transport, as a road controlling authority have a position where they designate and acquire land for arterial roads and busways/bus stations, not local roads.

I support the assessment criteria (Assessment Criteria (bb)) that considers whether development within Precinct F precludes the future construction of a connection between Brookfield Road and Quarry Road.

## 7.5 Appendix 1 Design Details

Cross section details for new roads are currently being proposed across a number of precincts about the Drury area. I support the use of the table, as it provides the general form and function of the road, rather than locking in an actual cross section which is subject to changing engineering requirements and Engineering Plan Approval by the road controlling authority.

In noting the above, this is somewhat separate to the interim cross section details for the existing rural roads. While subtle changes may be required through Engineering Plan Approval (EPA), it is important to include a cross section to define key dimensions, such as kerb location, stormwater devices and paths relative to the ultimate or final design intended by Auckland Transport as included in the NOR.

The cross-section details included in IX.11 are generally aligned with other recent plan changes, such as PC 52 and PC 58. I do however suggest that the specific detail included in the table should be removed, as this is a point of detail that can be confirmed at EPA and be aligned with the appropriate design standards at that time.

I have suggested amendment to the table as set out below, while including similar tables from Plan Change 52 and 58 in Appendix B.

This Appendix sets out the guideline for the construction of roads in the precinct but is not intended to represent the only design solution.

Table 5: Minimum road width, function and required design elements

Road description (refer to Precinct Plan 2)	Proposed role and function of road in precinct area	Minimum road reserve	Total number of lanes	Design speed	Median	Cycle provision	Pedestrian provision	Street trees/rain garden/parking	Vehicle access restriction
Creek Road, Drury Boulevard, Pitt Road (east)	Collector Road (Type 1)	23m	2	40 km/h	No	Yes Separated both sides	Both sides	Trees /rain garden each side. On-street parking (interspersed between trees).	No
Station Road	Collector Road (Type 2)	23m	2	30 km/h	No	Yes Separated both sides	Both sides	Trees /rain garden each side. On-street parking (interspersed between trees).	No
N/A	Local Road	16m	2	30 km/h	No	No	Yes	Trees /rain garden each side. On-street parking (interspersed between trees).	No
N/A	Local Road – Park Edge	13.5m	2	30 km/h	No	Yes (3m shared path park side)	Yes (Lot side)	Trees /rain garden each side. On-street parking (interspersed between trees).	No
Key Retail Street	Local Road	20m	2	30 km/h	No	No	Yes (3m both sides)	Trees /rain garden each side. On-street parking (interspersed between trees).  Landscaping can be provided in the footpath zone using tree pits instead	Yes

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# APPENDIX A      Revised Traffic Modelling Report Matters

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## Conservatism and appropriateness of the traffic model

Several matters are raised in relation to the conservatism of the traffic model, with views covering the level of land use included, trip generation, and the exclusion of construction traffic.

My views on the matters raised are summarised below.

**Table 6: Conservatism of the traffic model**

<p><b>For the Applicant,</b> Mr Hughes and Mr McKenzie in their evidence (paragraph 7.6) suggest that the traffic model is conservative, based on the views of Mr Roberts in his evidence (paragraph 10.4), where he suggests that the actual rate of development could be slower than the model anticipates.</p>
<p><b>Comment:</b> While this may be the case for some areas about the Southern area, of the 2,475 dwellings about Pukekohe and Paerata where Mr Robert’s suggests there is some uncertainty given the need for transport network improvements to unlock the area, I note that some 1,700 dwelling are located in Paerata where development is live zoned and is progressing.</p>
<p><b>For Auckland Transport,</b> Mr Prosser set out his concerns at Paragraph G and H, where he notes that</p> <ul style="list-style-type: none"> <li>• several upgrades that are not funded are included in the traffic model,</li> <li>• pre-2028 vehicle trip generation rates appear to be understated given the context of such development ahead of the Drury Central Rail Station and</li> <li>• the applicants’ modelling has not considered nor has it confirmed the more detailed inputs required with their approach, such as construction traffic / construction capacity effects and bus reliability.</li> </ul>
<p><b>Comment:</b> I am of the view that</p> <ul style="list-style-type: none"> <li>• the Norrie Road bridge upgrade will have little impact on the overall results of the modelling. Few vehicles associated with Drury East travel on Norrie Road</li> <li>• the sensitivity of assumptions relating to vehicle trip generation, prior to the delivery of the Drury Central Train Station, will depend on the extent of network upgrades delivered prior to development progressing.</li> <li>• construction of land use activities will be addressed through construction traffic management plans. With regard to the construction of transport infrastructure, I provide further comment on this below.</li> </ul>

As such, the extent to which the traffic model conservatism is having a material impact on the assessment of infrastructure is, in my view, likely to be minor in scale.

I support the use of the S3M model for informing the predicted impacts about the surround transport network. It provides a reasonable basis to assess the effects of the Drury East Plan Changes. This view is similar to the position of Mr Phillips, as set out in paragraph 5.9 of this EIC and Mr Mein, as set out in paragraph 5.2(a) of his EIC.

## Network Capacity Criteria

The Revised Traffic Modelling Report introduces a series of ‘Points of Assessment’ which test the predicted performance of the transport network against anticipated vehicle trips generated by differing development yields. The suitability of the network to cater for the trips generated is determined through Network Capacity Criteria set out in Section 3.3 of the Revised Traffic Modelling Report and paragraph 7.17 of Mr Hughes and Mr McKenzie’s EIC.

I note that the underlying years from which the tests have been performed attempt to align the delivery of the infrastructure with the predicted level of background traffic in the area at the time. I agree with this process in that the modelling accounts for wider background growth, while acknowledging that there is no certainty of the infrastructure being provided by the assumed date. The assessment, in my view, forms a reasonable basis from which forecast network effects can be assessed.

In noting the above however, while network capacity and overall transport network performance definitions were created in collaboration with the Road Controlling Authorities' transport engineers, there has been no agreement or acceptance of the criteria used in the assessment. This was highlighted in the applicant's evidence (as summarised below). I also speak to the short comings of the Network Capacity Criteria at paragraph 5.2 of the JWS, dated 26 October 2021.

**Table 7: Network Capacity Criteria**

<p><b>For the Applicant</b>, the Revised Traffic Modelling Report correctly notes that a ‘broad consensus’ on the overall approach was reached with the modelling approach undertaken, albeit with some outstanding questions regarding the analysis either being resolved in the updated report or remaining issues being discussed in traffic caucusing.</p>
<p><b>Comment:</b> My view of the Network Capacity Criteria is set out in the Transport JWS, dated 26 October 2021 at paragraph 5.2. To ensure a safe and effective transport network and to ensure the development enabled by PPC48 delivers on the objectives and policies associated with public transport and active modes, additional criteria are needed that</p> <ul style="list-style-type: none"> <li>▪ protects the reliability and efficiency of bus routes within the immediate area (such as Waihoehoe Road westbound) rather than dampening down impacts on public transport by only reporting on overall journey time for all road users</li> <li>▪ ensures the extent of queues on SH1 align with Waka Kotahi design requirements. That is, static queues are not to extend to be within 140m of the nose of the offramp diverge with the mainline.</li> </ul> <p>Additional information was provided via email by Mr Hughes on 7 November 2021. This shows that the left turn from the SH1 southbound off ramp (being the movement that the Drury East plan changes rely on can operate within the above criteria during Test 2 when the Direct Connection is not in place)</p>
<p><b>For Auckland Transport</b>, Mr Prosser, at paragraph H(d) notes that the network performance thresholds were not agreed with the wider DIFF and private plan change transport expert group and he considers these to be inappropriate. As an example, the use of average queue length and queue storage to adjacent intersections (up to 700m away) provides development-release thresholds that will result in severe congestion and queueing. Such conditions will impact local access to existing and future business areas, impact bus reliability, and impact on wider network resilience.</p>
<p><b>Comment:</b> I support the discussion in paragraph 7.16 of Mr Hughes and Mr McKenzie’s evidence about the need for more contemporary thinking, when it comes to assessing network performance. This however should not be at the expense of the wider network performance about existing and future business areas, bus reliability and attractiveness, impact on wider network resilience and safety. As set out in the Transport JWS, dated 26 October 2021, the LOS criterion is amended to LOS D, rather than LOS F.</p>
<p><b>For Waka Kotahi</b>, Mr Mein provides commentary on the Network Capacity Criteria at Table 1 of his EIC, where he seeks criteria which demonstrates that public transport routes that connect to the Drury Central train station and the Drury Centre can operate effectively and efficiently at all times and suggests that the LoS should be more practical, particularly for the interpeak period.</p>
<p><b>Comment:</b> I agree with the view of Mr Mein, as summarised above and note that the LOS criterion has been amended to LOS D, as per the Transport JWS, dated 26 October 2021.</p>

Network capacity criteria are being clarified by the applicant as detailed through the JWS. I expect details on Network Criteria which considers public transport and state highway interchange performance may be presented in rebuttal. It is important that the criteria are agreed, as this forms the basis for assessing the level of development that can be accommodated on the transport network for each transport trigger.

The level of traffic enabled by a transport upgrade/improvement, in my view, also needs to consider the possible impacts of constructing future improvements. This consideration would sit to the side of the

Network Capacity Criteria set out above but should be front of mind when considering future upgrades and yields set out in Table IX.6.2.1.

For example, based on the current threshold table (Table IX.6.2.1), my question is, “Can the transport network operate (for up to 6 months or more when the Great South Road/Waihoehoe Road intersection or Waihoehoe Bridge is being upgraded to the ultimate layout) when some 2,500 vehicle trips are being generated by Drury East as enabled by the preceding threshold”. This has not been assessed by the applicant.

Construction impacts associated with development (buildings) can be addressed through construction traffic management plans which generally form part of land use resource consents.

Similarly, construction impacts of delivering new arterial roads (using the full upgrade of Waihoehoe Road, the Waihoehoe bridge replacement and the GSR/Waihoehoe Road intersection) are anticipated to be captured through NOR construction traffic management plan provisions (noting that these NORs are currently being considered by Council).

A gap exists however. That is, the transport thresholds have not considered the effects of constructing the actual road upgrades. This in my view presents a potential reverse sensitivity effect. In my view, the ability to manage effects associated with the construction of roading infrastructure that provides primary access to Drury East (roads and intersections) requires some resilience in the network to allow for alternative routes and permeability which is not the case for Drury East. Similar concerns were also raised by Mr Prosser at paragraph G(b) in his EIC and Mr Mein at paragraph 5.10 in his EIC and are discussed in the following sections of this report.

It is my view that the level of development enabled by the transport triggers included in IX.6.2.1 must give regard to the performance of the transport network of future roading upgrades where they are located on the key access points to the Plan Change area. For me, this includes Waihoehoe Road and Fitzgerald Road. I consider the timing of these upgrades below.

### **Effects about the wider transport network**

Aside from the Great South Road/Waihoehoe Road intersection, the only opportunity to access the Drury East development in the foreseeable future is via Quarry Road, with traffic either traveling south to Ramarama Interchange via the Drury South Industrial Precinct or travelling via Great South Road and the SH22 (Karaka Road) intersection.

The extent to which traffic is using this alternative route (refer to Figure 3-3 of the Revised Traffic Modelling Report) provides some insight to the level of congestion predicted about Waihoehoe Road and the Great South Road/Waihoehoe Road intersection, with a number of vehicles predicted to use this longer route (Fitzgerald Road and Quarry Road) to exit the development. While congestion to general vehicles about the immediate vicinity of a metropolitan centre should not be viewed as a poor outcome (as it presents slower traffic speeds and encourages alternative modes of transport – which require priority), the effects of the wider transport network should still be considered, both in terms of safety and efficiency.

During expert conferencing, there has been an improvement in the planning provisions around ensuring the roading network about the southern area (Quarry Road and Great South Road (feeding through to SH22)) is safe and efficient. Further traffic modelling has been provided to the experts by the applicant, which I have viewed. In particular, I have considered the traffic modelling of

- ♦ the SH22 (Karaka Road) / Great South Road intersection, where an additional right turn lane and localised intersection widening improves the predicted performance of the intersection, improving the PM Peak performance from LOS E (with key movements operating at LOS F) to LOS C (with key movements operating at LOS D or better)
- ♦ the Fitzgerald Road/Jack Stevens Drive/Road 8/Road 9 intersection and Maketu Drive/Road 8 intersection within the Drury South development, where the intersections are predicted to operate at LOC, where all movements operates at LOS D or better

The above modelling however only reflects Test B and Test C as set out in Table IX.6.2.1. As such, it is my understanding that the results only consider land use up to some 2,000 vehicle trips (Test B) and 2,500 vehicle trips (Test C) as shown on Figure 3-2 of the Revised Traffic Modelling Report. It therefore remains unclear as to how the above intersections will operate beyond these tests.

The matter of discretion included in the latest version of the Provisions (when writing this report) circulated on 5 November 2021 includes assessment criteria that requires the safety and effectiveness of the surrounding road network to be considered (IX.8.1(5)(a)), while also requiring the SH22 (Karaka Road)/Great South Road intersection to be assessed, in terms of its safety and effectiveness.

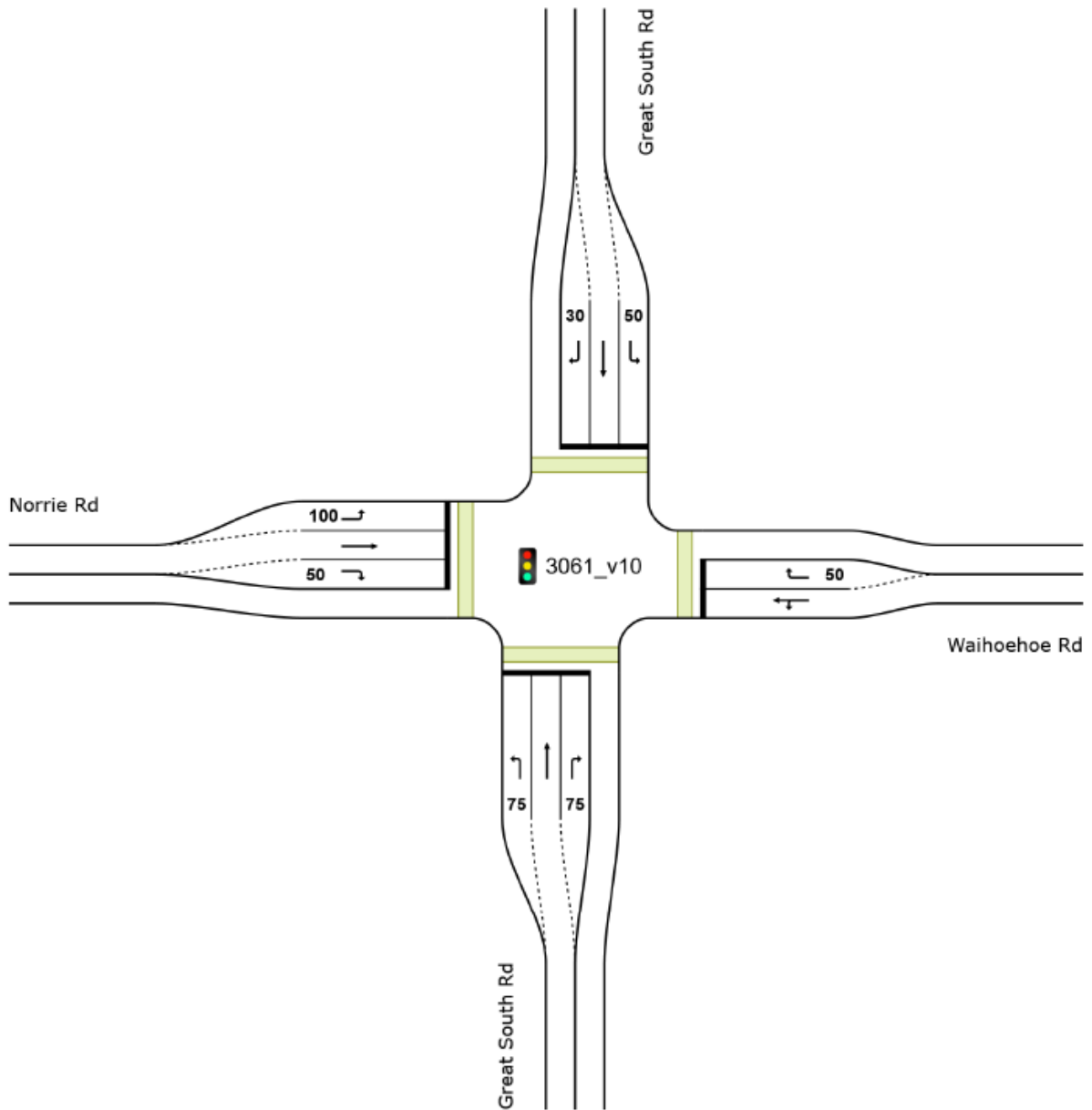
Matters of Discretion, set out at IX.8.2(5)(d) points to the key intersections that need to be assessed, with IX.6.2(5)(l) captured the SH22 (Karaka Road) /Great South Road intersection.

I am of the view that the provisions (as at 5 November 2021) provide guidance with regard to the effects on the surrounding transport network. I however am conscious that the additional traffic modelling of the southern/western access points to the plan change area have only focussed on the lower development scenarios (Test B and Test C) and as such, suggest that the intersections defined in IX.8.2(5)(d) be extended to include the Fitzgerald Road / Jack Stevens Drive intersection also. I also recommend that “at key intersections” be removed from the assessment criteria, as the road sections should also be considered.

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## **APPENDIX B      Updated traffic modelling outputs**

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**Great South Road/Waihoehoe Road – PM Peak – Scenario B Results**

**MOVEMENT SUMMARY**

**Site: 3061\_v10 [Scenario62n : PM 2028 - GSR / Waihoehoe\_Sig\_Fast\_Track\_Optm\_Phasing (Site Folder: 3061 - GSR / Waihoehoe)]**

Scenario62n : PM 2028 - GSR / Waihoehoe\_Sig\_Fast\_Track\_Optm\_Phasing  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 84 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Great South Rd														
1	L2	22	2	22	9.1	0.075	37.1	LOS D	0.5	3.6	0.87	0.69	0.87	30.4
2	T1	212	23	212	10.8	1.085	135.3	LOS F	11.1	84.8	1.00	1.62	2.53	17.3
3	R2	209	15	209	7.2	1.092	145.1	LOS F	11.2	83.1	1.00	1.56	2.58	13.2
Approach		443	40	443	9.0	1.092	135.0	LOS F	11.2	84.8	0.99	1.55	2.47	15.7
East: Waihoehoe Rd														
4	L2	470	25	470	5.3	*0.769	24.4	LOS C	10.8	79.0	0.91	0.93	0.96	34.5
5	T1	130	6	130	4.6	0.769	19.8	LOS B	10.8	79.0	0.91	0.93	0.96	31.4
6	R2	493	28	493	5.7	*0.983	74.0	LOS E	18.2	133.8	0.86	1.20	1.60	21.0
Approach		1093	59	1093	5.4	0.983	46.2	LOS D	18.2	133.8	0.89	1.05	1.25	26.4
North: Great South Rd														
7	L2	533	29	533	5.4	*0.586	15.3	LOS B	5.7	41.8	0.76	0.82	0.76	38.5
8	T1	291	22	291	7.6	1.008	84.8	LOS F	11.8	87.8	1.00	1.43	1.97	23.1
9	R2	204	10	204	4.9	0.830	48.3	LOS D	5.6	40.8	1.00	0.98	1.32	27.4
Approach		1028	61	1028	5.9	1.008	41.5	LOS D	11.8	87.8	0.87	1.03	1.21	29.5
West: Norrie Rd														
10	L2	320	14	320	4.4	0.770	41.1	LOS D	8.2	59.5	0.99	0.91	1.12	29.2
11	T1	140	4	140	2.9	*0.855	49.2	LOS D	4.0	28.8	1.00	1.00	1.45	22.3
12	R2	20	0	20	0.0	0.145	46.3	LOS D	0.5	3.5	0.97	0.69	0.97	28.0
Approach		480	18	480	3.8	0.855	43.6	LOS D	8.2	59.5	1.00	0.93	1.21	27.3
All Vehicles		3044	178	3044	5.8	1.092	57.1	LOS E	18.2	133.8	0.92	1.10	1.41	24.7



**Great South Road/Waihoehoe Road – PM Peak – Scenario C Results**

**MOVEMENT SUMMARY**

**Site: 3061\_v10 [Scenario62o : PM 2028 - GSR / Waihoehoe\_Sig\_Fast\_Track\_Optm\_Phasing (Site Folder: 3061 - GSR / Waihoehoe)]**

Scenario62o : PM 2028 - GSR / Waihoehoe\_Sig\_Fast\_Track\_Optm\_Phasing  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

<b>Vehicle Movement Performance</b>														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
<b>South: Great South Rd</b>														
1	L2	21	1	21	4.8	0.071	35.8	LOS D	0.4	3.2	0.88	0.69	0.88	30.8
2	T1	172	28	172	16.3	0.990	73.5	LOS E	6.1	49.1	1.00	1.32	2.03	25.0
3	R2	87	8	87	9.2	0.497	43.9	LOS D	2.1	15.9	0.99	0.77	0.99	27.3
Approach		280	37	280	13.2	0.990	61.4	LOS E	6.1	49.1	0.99	1.10	1.62	25.9
<b>East: Waihoehoe Rd</b>														
4	L2	441	25	441	5.7	*0.788	26.5	LOS C	10.4	76.1	0.94	0.96	1.02	33.6
5	T1	126	4	126	3.2	0.788	21.9	LOS C	10.4	76.1	0.94	0.96	1.02	30.4
6	R2	511	27	511	5.3	*1.031	103.6	LOS F	24.0	175.3	1.00	1.42	2.06	17.0
Approach		1078	56	1078	5.2	1.031	62.5	LOS E	24.0	175.3	0.97	1.18	1.52	22.6
<b>North: Great South Rd</b>														
7	L2	462	25	462	5.4	*0.521	12.8	LOS B	4.6	34.0	0.73	0.77	0.73	39.9
8	T1	329	31	329	9.4	1.068	121.4	LOS F	16.2	122.3	1.00	1.71	2.39	18.6
9	R2	237	11	237	4.6	0.952	64.3	LOS E	7.6	55.7	1.00	1.21	1.77	23.9
Approach		1028	67	1028	6.5	1.068	59.4	LOS E	16.2	122.3	0.88	1.17	1.50	25.1
<b>West: Norrie Rd</b>														
10	L2	366	14	366	3.8	0.792	39.2	LOS D	9.1	65.5	0.99	0.93	1.15	29.8
11	T1	76	3	76	3.9	*0.447	39.8	LOS D	1.8	13.3	0.99	0.75	0.99	24.9
12	R2	20	0	20	0.0	0.139	44.0	LOS D	0.5	3.3	0.96	0.69	0.96	28.6
Approach		462	17	462	3.7	0.792	39.5	LOS D	9.1	65.5	0.99	0.89	1.11	29.0
All Vehicles		2848	177	2848	6.2	1.068	57.5	LOS E	24.0	175.3	0.94	1.12	1.46	24.8

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# APPENDIX C      Road design information – other Drury precincts

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**Plan Change 52 – Gatland and Great South Road Precinct, Papakura**

**Appendix Ixx. Gatland and Great South Road Precinct – Typical Road Construction Guidelines**

This appendix sets out the guideline for the construction of roads in the precinct but is not intended to represent the only design solution.

**Table 1: Road Construction Guidelines – Gatland and Great South Road Precinct**

Road name	Proposed Role and Function of Road in Precinct Area	Minimum Road Reserve	Total number of lanes	Design Speed	Median	Cycle provision	Pedestrian provision	Freight or Heavy Vehicle route	Access Restrictions	Bus Provision
Gatland Road	Local	20m	2	30km/h	No	No	Both Sides	No	No	No
Great South Road to Gatland Link Road	Local	20m	2	30km/h	No	Preferable	Both Sides	No	No	No
Local Internal Roads	Local	16m	2	30km/h	No	No	Both Sides	No	No	No

Plan Change 58 – 470 & 476 Great South Road and 2 & 8 Gatland Road, Papakura

This Appendix sets out the guideline for the construction of roads in the precinct but is not intended to represent the only design solution.

**Table 1: Minimum road width, function and required design elements**

<u>Road name (1)</u>	<u>Proposed role and function of road in precinct area</u>	<u>Minimum road reserve (2)</u>	<u>Total number of lanes</u>	<u>Design speed</u>	<u>median</u>	<u>Cycle provisions (3)</u>	<u>Pedestrian provision</u>	<u>Freight restrictions</u>	<u>Access restrictions</u>	<u>Bus Provision</u>
<u>Great South Rd</u>	<u>Arterial</u>	<u>30m</u>	<u>4</u>	<u>60km/h</u>	<u>Flush</u>	<u>Y</u>	<u>Both sides</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>
<u>Gatland Rd</u>	<u>Local</u>	<u>16m (5)</u>	<u>2</u>	<u>30km/h</u>	<u>N</u>	<u>N</u>	<u>Both sides</u>	<u>N</u>	<u>N</u>	<u>N</u>
<u>Amenity Link Rd</u>	<u>Local</u>	<u>22.2m</u>	<u>2</u>	<u>30km/h</u>	<u>N (4)</u>	<u>N</u>	<u>Both sides</u>	<u>N</u>	<u>N</u>	<u>N</u>
<u>Local internal roads</u>	<u>Local</u>	<u>16m</u>	<u>2</u>	<u>30km/h</u>	<u>N</u>	<u>N</u>	<u>Both sides</u>	<u>N</u>	<u>N</u>	<u>N</u>

**Note 1:** The inclusion of the minimum road width, function and required design elements for Great South Road and Gatland Road in Table 1 are provided for context only.

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## APPENDIX D

## Submitter expert evidence summary

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## OVERVIEW OF SUBMITTER EVIDENCE

As set out in Section 4, I have reviewed the EIC circulated by the applicant and submitters. I have provided an overview of the submitter evidence below, where relevant to transport.

I have provided a general overview of Auckland Council (as submitter), Auckland Transport (Corporate) and Waka Kotahi (Corporate) evidence below, with a detailed summary of transport expert evidence following. This includes Mr Andrew Prosser for Auckland Transport, Mr Andrew Mein for Waka Kotahi, Mr Joseph Phillips for Drury South Limited.

### Auckland Council

#### ***Brigid Duffield (Infrastructure Financing and Funding)***

- ◆ Details the funding gap for infrastructure to support development in Drury over the next 10 years, in particular the infrastructure required to support PPCs 48 to 50, 51 and 60. . While doing so, they also identify that there is no identified means to close this funding gap
- ◆ Highlights the need for coordination of development and infrastructure finance and funding,
- ◆ Allowing PPCs 48 to 50 (and the other Drury Plan Changes) to proceed without a plan for how the necessary infrastructure can be financed and funded within the foreseeable future, presents a significant risk that the growth will be effectively orphaned without suitable infrastructure
- ◆ Any decision to allow growth in the PPCs 48 to 50 and other Drury Plan Change areas, prior to a solution for infrastructure financing and funding, will be forcing an infrastructure expectation onto Council (and Crown) without a plan for how it is to be paid for.
- ◆ Council is (and has been for several years) actively looking at ways to finance and fund infrastructure in Drury. However, no resolution has been reached, and there is no certainty as to when a solution may be found.

#### ***Peter Gudsell (Finance)***

- ◆ Council cannot afford any more than the \$475 million (including \$243m on Transport) expected to be spent on supporting growth in Drury over the next 10 years.

### Auckland Transport

#### ***Josephine Tam (Corporate)***

- ◆ Auckland Transport is opposed to PPCs 48 to 50 as Auckland Transport's main concerns have not been addressed.
- ◆ Auckland Transport's main concern relates to the lack of any certainty around funding of the infrastructure and implementation/delivery required to support development enabled by PPCs 48 to 50.
- ◆ A closely related issue is around the robustness of any provisions in PPCs 48 to 50 to prevent development occurring ahead of the required improvements.
- ◆ It is anticipated the development enabled by the approval of PPCs 48, 49 and 50 would result in poor planning outcomes and significant adverse effects (including significant adverse effects on

health and safety) that do not give effect to the land use transport integration direction set out in the RPS (and NPS-UD).

- ◆ Auckland Transport is, therefore, of the view that PPCs 48 to 50 should be declined. If, however, the Panel decides to approve PPCs 48 to 50, then the “trigger” rules and related provisions outlined in the planning evidence of Ms Sinclair should be included in the Precinct provisions as a minimum

## Waka Kotahi

### *Evan Keating (Corporate)*

- ◆ Waka Kotahi supports the Plan Changes (48-50) overall, however there are residual concerns outstanding in relation to the planning provisions, particularly around the alignment and integration of infrastructure upgrades and stages of development. Waka Kotahi seeks amendments to the Plan Changes to address these.
- ◆ Notes that of most relevance to the Drury East Plan Changes are the Mill Road and Papakura to Drury SH1 upgrade:
  - Government announced in June 2021 that NZUP funding would only extend to a smaller scale Mill Road Project with a focus on addressing safety issues. The corridor for which NZUP funding has now been confirmed is expected to involve an upgrade of two lanes, instead of four, between Flat Bush and Alfriston, tying in the existing urban Redoubt Road dynamic lanes. There will also be targeted safety improvements between Alfriston and Papakura. Mill Road remains a component of the Board approved strategic transport network developed by Supporting Growth Alliance
  - Papakura to Drury (P2D) is a stage of the Waka Kotahi Papakura to Bombay Project (P2B), which aims to improve the safety and travel time reliability for SH1 and provide for long term growth in the south of Auckland. P2D has confirmed funding under NZUP.
    - Stage 1A has been consented and construction commenced in 2021. This stage involves works to add additional lanes in each direction and widened shoulders between the Papakura Interchange and the BP service station.
    - An application for Stage 1B1 has been lodged with the EPA under the COVID-19 Recovery (Fast-track consenting) Act 2020 (COVID Act) process, as a listed project. This stage of the Project involves the works between the Papakura Interchange to just south of the Drury Interchange (Quarry Road) and includes a shared path and other items alongside the Stage 1A works.
    - Stage 1B2 includes works on the Otūwairoa (Slippery Creek) Bridge and is located between Stages 1A and the main 1B1 works at Drury Interchange. Design and consent preparation for this stage of works is underway.
  - The Government's recent announcement on NZUP funding noted that it included some funding for Drury local transport upgrades, including walking and cycling and public transport connections, that will support the release of additional housing.

- ◆ Waka Kotahi requests the Plan Changes be amended in the manner outlined in the evidence of Ms Heppelthwaite and approved.

## Transport Expert Evidence of Submitters

I have reviewed the transport expert evidence. A summary of the key matters raised by each is provided below, with a comprehensive review of their evidence and my response to matters raised included in Appendix C.

### Mr Joseph Phillips, for Drury South Limited

- ◆ **Wider area effects.** More than minor adverse effects on the Drury South Precinct, with traffic diverting through Drury South to avoid congestion at GSR/Waihoehoe Road intersection.
- ◆ **Network Capacity Criteria.** Does not consider that it is acceptable for an industrial precinct, such as the Drury South Precinct, to be operating at a Level of Service of F during the inter-peak periods and, therefore, likely a worse level of performance in the weekday peak periods.
- ◆ **Land use and transport integration.** Requests better alignment between development / subdivision thresholds with the provision of transport infrastructure, particularly in terms of the timing of the GSR/Waihoehoe Road intersection upgrade and Waihoehoe Road corridor upgrade.
- ◆ **Transport triggers.** There remain unresolved challenges in monitoring the external trip generation for the Plan Changes in order for trip generation to be able to be adequately assessed.
- ◆ **Assessment Criteria.** Further assessment criteria required to adequately assess the actual and potential adverse effects on the Drury South Precinct.

From the expert conferencing that has occurred, I am of the view that a number of the above matters have been, or are in the process of being resolved, or are consistent with what I have proposed in this Addendum Report. The Precinct Provisions amended through conferencing address bullets 2, 4 and 5. The timing of upgrades have not been addressed, noting that I also recommend the timing of upgrades be reconsidered.

### Mr Andrew Mein, for Waka Kotahi

- ◆ **Land use and transport integration.** The Waihoehoe Road / Great South Road upgrade to traffic signals is a more appropriate upgrade and should be brought forward in place of the interim upgrade
- ◆ **Transport upgrades – Brookfield Link.** The Plan Change area should be supported with an additional access (Brookfield – Quarry link) to give resilience and sufficient traffic capacity to support the development
- ◆ **Construction Effects.** Modelling may underestimate the cumulative traffic effects (including combined construction and operational traffic from the Plan Changes and surrounding area), particularly during the early stages of development
- ◆ **Public Transport.** Public transport functions, operation, and the ability to achieve the uptake in public transport required to support development have not been adequately addressed.



- ◆ **Network Capacity Criteria and Assessment Criteria.** Amendments are required to the Assessment Criteria (for proposals which do not meet Staging of Development with Transport Upgrades Provisions)

Expert conferencing has reduced several matters raised in evidence, with Waihoehoe Road/Great South Road (interim) upgrade including traffic signals and additional assessment criteria being added at the request of Waka Kotahi. The timing of upgrades have not been addressed, noting that I also recommend the timing of upgrades be reconsidered.

#### **Mr Andrew Prosser, for Auckland Transport**

- ◆ **Construction Effects.** Significant concern that there has been no consideration of the potential effect of construction traffic-related demands generated by any of the three Proposals
- ◆ **Construction Effects.** There has been no assessment of the probable impact of prolonged construction generating high volumes of heavy commercial traffic on the existing rural road pavements.
- ◆ **Construction Effects.** Similarly, there has no assessment relating to the obvious effects of needing to re-route traffic within Drury East (noting it has limited alternative transport alternatives) while the existing rural roads are indeed upgraded to their required urban and structural form.
- ◆ **Network Capacity Criteria.** Network performance thresholds were not agreed with the wider DIFF and private plan change transport expert group.
- ◆ **Transport upgrades – Brookfield Link.** Agrees with the recommendations of the Drury – Opaheke Structure Plan and SGA’s DIFF assessment that Brookfield Road needs to be upgraded to a Collector to provide a new connection.
- ◆ **Land use and transport integration.** 27 DIFF projects, plus 1 non-DIFF project is assessed as being needed in the first five years (starting 2023). 8 further projects are needed in the first 10 years.
- ◆ **Land use and transport integration.** Does not agree with the interim upgrade of the Great South Road/Waihoehoe Road intersection.
- ◆ **Active Mode Network.** No detail on how extensive that proposed network is. The early allowance for that network is supported, however its effectiveness would be very low if only provided adjacent to development, and not to key destinations.
- ◆ **Funding.** There are financing and funding concerns as to how the required transport improvements will be financed and funded.
- ◆ **Drury Central Train Station.** The analysis appears to allow full use of all available capacity for development, so it is unclear if allowance is provided for the Rail Station access traffic, namely that associated with Park and Ride etc.

While expert conferencing has possibly addressed some of the minor comments raised in Mr Prosser’s evidence, I am of the view that Mr Prosser has not moved from the views expressed in his EIC.

<b>Summary of submissions, applicant responses, and Flow comment</b>			
<b>Submitter/Name</b>	<b>Evidence Topic/Reference</b>	<b>Evidence Summary</b>	<b>Position of Council Traffic Engineer (Terry Church)</b>
Joe Phillips, Drury South Limited	Transport Effects Para 1.2(a) Para 5.13-5.22	<p>The updated modelling report indicates that there are potentially more than minor adverse effects on the Drury South Precinct, with traffic diverting through Drury South to avoid congestion at GSR/Waihoehoe Road intersection.</p> <p>Mr Phillips acknowledges that, as part of the DSL subdivision consents for the Drury South Precinct, transport upgrades have already been completed or are currently proposed. He notes the need for future upgrades will be determined through the assessment criteria for the Drury South Precinct and should therefore not simply be identified as "required" by DSL.</p>	The modelling assumes upgrades as per SGA model about southern network. I agree with the views of Mr Phillips.
	GSR/Waihoehoe Road upgrade Provisions Para 1.2(a), 1.4(a) Para 5.24-5.25, 6.8	<p>Considers that the current development threshold of 1,800 residential units, up to 32,000m<sup>2</sup> of retail GFA, up to 8,700m<sup>2</sup> of commercial GFA, and 1,000m<sup>2</sup> of community prior to the Waihoehoe Road Upgrade will adversely impact the efficient operation of the road network within the Drury South Precinct during the weekday peak periods and throughout the day.</p> <p>Effects can be appropriately managed by better aligning the enabled development / subdivision thresholds with the provision of transport infrastructure, particularly in terms of the timing of the GSR/Waihoehoe Road intersection upgrade and Waihoehoe Road corridor upgrade.</p> <p>Recommends that the development thresholds in the Revised Provisions be amended, such that no more than 710 dwellings can occur prior to the Waihoehoe Road Upgrade</p> <p>Mr Phillips does not agree that the funding of the Waihoehoe Road Upgrade is confirmed and can yet be relied upon unless this can be confirmed by AT.</p>	<p>I agree with the views of Mr Phillips (in part) in that the GSR/Waihoehoe Road upgrade needs to come forward and Waihoehoe Road corridor improvements are needed.</p> <p>I however am of the view that Waihoehoe Road can be upgraded within the current 20m road reserve, forming the ultimate outcome for the southern side of the corridor and therefore providing an improved corridor performance to that currently proposed.</p>

<b>Summary of submissions, applicant responses, and Flow comment</b>			
<b>Submitter/Name</b>	<b>Evidence Topic/Reference</b>	<b>Evidence Summary</b>	<b>Position of Council Traffic Engineer (Terry Church)</b>
	Trip generation thresholds Para 1.2(b), 6.9-6.12	There remain unresolved challenges in monitoring the external trip generation for the Plan Changes in order for trip generation to be able to be adequately assessed.  It is unclear how the external trip generation thresholds will be implemented, given that there will be challenges that arise with monitoring trip generation levels across a complex arrangement of multiple development sites across an area with multiple access points	I agree with views of Mr Phillips, noting that Drury East does allow through traffic and as such, decisively measuring trips associated with Drury East will be difficult.
	Assessment criteria Effects of Drury South Industrial Precinct Para 1.2(c), 5.26, 5.28	I do not consider the further assessment criteria provide adequate further assessment of the actual and potential adverse effects on the Drury South Precinct.  Does not consider that it is acceptable for an industrial precinct, such as the Drury South Precinct, to be operating at a Level of Service of F during the inter-peak periods and, therefore, likely a worse level of performance in the weekday peak periods.	I agree with Mr Philips and consider that the corridors of Quarry Road and Great South Road, and the intersections along this route need to be captured within the provisions. Considering these as assessment criteria would be my preference, noting that other developments (namely Drury South Industrial) are also required to review the same intersections. Further the assessment criteria sets a LOS F as the measure for intersection which allows for any delay.
Andrew Mein, Waka Kotahi	GSR/Waihoehoe Road intersection upgrade Para 1.4(a) Para 5.19	Considers the transport modelling to have overestimated the traffic capacity and underestimated traffic congestion and vehicle delay that would result on the Waihoehoe Road/Great South Road intersection as a result of the interim upgrade.  The Waihoehoe Road / Great South Road upgrade to traffic signals is a more appropriate upgrade and should be brought forward in place of the interim upgrade as put forward by the Applicants.  Considers that signalisation and increased capacity at the Great South Road/Waihoehoe Road intersection needs to be in place prior to the development of the 710 dwellings.	I agree that upgrades at the GSR/Waihoehoe Road intersection and corridor need to occur sooner than assessed, however am unsure as to the extent of the signalisation being required by Waka Kotahi, in that the full signalisation cannot occur until such time as the Waihoehoe Bridge is widened.  I do however suggest that the GSR/Waihoehoe Road intersection is upgraded early, and where possible consistent with the long term design to reduce construction impacts.

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	Need for an additional access Para 1.4(b) Para 5.20-5.29	<p>The SGA DIFF assessment concludes the Plan Change area should be supported with an additional access (Brookfield – Quarry link) to give resilience and sufficient traffic capacity to support the development while delivering reliable public transport. Andrew agrees with the SGA conclusions and consider the potential for an additional access has not been adequately addressed in the ITA and modelling.</p> <p>Reduce demand on Waihoehoe Road and Fitzgerald Road and improve network resilience to better service the Plan Change areas (including the future public transport network).</p>	While the applicant has modelled a scenario which includes this link, and SGA include it in their work, the link requires third party land and therefore AT to designate it. This will be problematic in my view as the link is not an Arterial Road and as such will not occur unless of course the landowners acquire the land. This connection could be shown as an indicative connection, using and indicative arrow within the Precinct boundary, therefore presenting this outcome (and not precluding it) when developing the transport network about Brookfield Road
	Effects of Construction Para 1.4(c) Para 5.8-5.10	<p>The transport modelling used to inform the Staging of Development with Transport Upgrades Provisions underestimates the potential cumulative traffic effects of the Plan Changes as they do not include consideration of construction traffic</p> <p>Andrew considers the Applicants’ modelling may underestimate the cumulative traffic effects (including combined construction and operational traffic from the Plan Changes and surrounding area), particularly during the early stages of development.</p> <p>This would be particularly evident during the initial stage the first 3 to 10 years, of construction within the Plan Change areas including if new roads are being established, existing roads are upgraded, the construction of the Drury station, bulk earthworks occurring and other development commences. The Applicants’ proposed upgrades to the road network and their intersections would further impact the available traffic capacity</p>	I also note that construction traffic has been excluded from the assessment, and the need to consider the implications of this when locking in trigger thresholds, noting that it will become very difficult to construct and manage effects when needing to construct an upgrade with large scale development operating at the same time. I therefore agree that some consideration of constructability and impacts during construction should be considered when locking in threshold triggers.

<b>Summary of submissions, applicant responses, and Flow comment</b>			
<b>Submitter/Name</b>	<b>Evidence Topic/Reference</b>	<b>Evidence Summary</b>	<b>Position of Council Traffic Engineer (Terry Church)</b>
	Protecting Public Transport Uptake Para 1.4(d) Para 5.16	Public transport functions, operation, and the ability to achieve the uptake in public transport required to support development have not been adequately addressed.  The extent of traffic queueing, as predicted with the modelling, does not provide confidence that bus services can operate as required to achieve the necessary uptake in public transport, for both bus and rail.  To genuinely reflect the importance of public transport, the Applicants should include a public transportation trigger at each development threshold in the provisions	I support the need to protect and ensure public transport services are frequent and attractive, therefore resulting in mode share consistent with the assessment.  Requiring some form of public transport patronage calculation to be monitored as a threshold trigger would in my view be challenging and something which is somewhat out of the landowners hands in that Auckland Transport is in charge of bus services, frequency and coverage.
	Amendment to Assessment Criteria Network Performance Thresholds Para 1.4 (e)	Amendments are required to the Assessment Criteria (for proposals which do not meet Staging of Development with Transport Upgrades Provisions) <ul style="list-style-type: none"> <li>• Requires a basis of public transport service operation, allowing impacts of further trip generation</li> <li>• Does not support LOS F criteria regarding intersection performance</li> <li>• Increased use of public transport allowing for more development requires observed data to demonstrate actual vs ITA assumptions.</li> </ul>	I support the need for the assessment criteria to be extended. I will see what is tabled at expert conferencing in relation to public transport and as per my comments above, am of the view that the average intersection LOS for the interpeak period should be reduced to LOS D.

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
Andrew Prosser Auckland Transport	Adequacy of the traffic modelling which informs precinct provisions Para H Para 8.4(c) Trip generation	<p>Several upgrades which are not funded are included in the traffic model, including Norrie Road bridge upgrade and the DSL Maketu-Fitzgerald Links.</p> <p>The Applicants' assessment of that trip generation as being 'conservative' is not, in my opinion, supported by robust evidence.</p> <p>Pre-2028 trip generation rates appear to be understated given the context of such development ahead of the Drury Central Rail Station, urban street networks, full walk/cycle networks and local services and facilities to allow short-distance and active mode travel.</p> <p>Applicants' modelling has not considered nor has it confirmed the more detailed inputs required with their approach, such as construction traffic / construction capacity effects and bus reliability.</p>	<p>I am of the view that the Norrie Road bridge upgrade will have little impact on the overall results of the modelling.</p> <p>I have provided my views on the conservative nature of the modelling, and in my view, the results a conservative in the fact that the earlier years exclude construction traffic.</p> <p>I am of the view that the discussion on trip rates somewhat blends in with exclusion of construction traffic in the assessment of early thresholds.</p>
	Substandard condition of the local rural roads, particularly during construction Para G, Para 6.3	<p>Significant concern that there has been no consideration of the potential effect of construction traffic-related demands generated by any of the three Proposals</p> <p>There has been no assessment of the probable impact of prolonged construction generating high volumes of heavy commercial traffic on the existing rural road pavements.</p> <p>Similarly, there has no assessment relating to the obvious effects of needing to re-route traffic within Drury East (noting it has limited alternative transport alternatives) while the existing rural roads are indeed upgraded to their required urban and structural form.</p> <p>Andrew has concluded that the existing rural roads will require significant upgrades to ensure they have the correct structural integrity, levels of capacity, geometric design, and road safety.</p>	<p>The matters raised relate to pavement condition and adequacy of the current pavements to withstand heavy loads associated with construction. This has been a significant issue with Jesmond Road at the Auranga development. While this is an issue, this matter sits with a pavement expert, and is outside of my expertise.</p> <p>I can however have a view on how poor pavement quality provides an unsafe environment for motorists and the need for resource consent applications to have pavement conditioning, monitoring and rehabilitation conditions included.</p>

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	Network Performance Thresholds Para H(d) Para 8.7-8.16	<p>Network performance thresholds were not agreed with the wider DIFF and private plan change transport expert group (i.e. including transport advisors representing SGA, Waka Kotahi, Auckland Council, Auckland Transport as well as the Applicants) and I consider these to be inappropriate.</p> <p>Threshold measures do not reflect DIFF principles, which Mr Hughes had stated at a pre-hearing meeting he agreed with.</p> <p>(a) the peak congestion on critical access routes (with limited alternative routes) is overly severe and will result in significant network reliability and resilience issues.</p> <p>(b) they allow severe congestion during interpeak periods (up to LoS F).</p> <p>(c) they do not adequately consider bus performance and effects of congestion / queuing on bus reliability (nor increased operational costs due to inefficient conditions), especially on the critical Waihoehoe Road FTN route.</p>	I agree with this position and note that some sensitivity of the performance criteria is needed.

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	<p>Brookfield Road link</p> <p>Additional access to the west</p> <p>Para H(e), 8.19, 8.23(e) and (g)</p> <p>Para 7.10 (Brookfield Road status)</p>	<p>Brookfield Road link and its ability to address access and resilience issues is inadequate. This is especially relevant given that the need for a western access link was identified in the Drury-Ōpaheke Structure Plan. It was a feature of the network plan provided in the Plan Change ITA and was included because of its role and ability to address access issues as demonstrated in the DIFF assessment.</p> <p>To simply dismiss this connection on the basis it crosses land not owned by Kiwi Properties Limited (the Applicant for PPC 48) is completely immaterial. This connection, like many others contained in SGA's DIFF report also traverse across privately owned land and this road has already been proven to be required.</p> <p>Andrew agrees with the recommendations of the Drury – Opaheke Structure Plan and SGA's DIFF assessment that Brookfield Road needs to be upgraded to a Collector to provide a new connection enabling a future strategic western link through to Great South Road and SH22, via Quarry Road.</p>	<p>While the applicant has modelled a scenario which includes this link, and SGA include it in their work, the link requires third party land and therefore AT to designate it. This will be problematic in my view as the link is not an Arterial Road and as such will not occur unless of course the landowners acquire the land. This connection could be shown as an indicative connection, using an indicative arrow within the Precinct boundary, therefore presenting this outcome (and not precluding it) when developing the transport network about Brookfield Road</p>



Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	Extent of mitigation included in Precinct Provisions Para N, P	<p>The DIFF Report identifies at least 51 transport projects (of a total of 70 projects) that Andrew assesses as being required because of the three PPCs in Drury East. 27 DIFF projects, plus 1 non-DIFF project is assessed as being needed in the first five years (starting 2023). 8 further projects are needed in the first 10 years.</p> <p>Without their timely and sequential establishment, Andrew concluded that the traffic-related effects of the three PPCs will be significantly greater than the Applicants have assessed.</p>	<p>I have gone through each of the 28 projects. These are set out below in Table 2. Of the 28 projects, I am of the view that</p> <ul style="list-style-type: none"> <li>- 6 should not be the responsibility of the developer</li> <li>- 1 should be possibly added to the provisions</li> <li>- 19 are already captured within the planning provisions, which need to be further refined or clarified</li> <li>- 2 need to be clarified before a position can be reached</li> </ul>
	Fitzgerald Road and Brookfield Road status (Collector Road) Para 7.3	<p>Fitzgerald Road and Brookfield Road are also expected to have their classifications raised from Local roads to Collector status whereupon they too will be required to provide two dedicated traffic lanes, additional sealed pavement width to enable on road car parking and have separated off road walking and cycling facilities. Applicant plans to upgrade to a Local Road standard only.</p>	<p>I support the view that Fitzgerald Road needs to be upgraded to a Collector Road status, noting also that numerous Collector Roads within the Precinct connect to Fitzgerald Road.</p>

<b>Summary of submissions, applicant responses, and Flow comment</b>			
<b>Submitter/Name</b>	<b>Evidence Topic/Reference</b>	<b>Evidence Summary</b>	<b>Position of Council Traffic Engineer (Terry Church)</b>
	Great South Road/Waihoehoe Road Para P, 7.12 8.20, 8.23(f)	<p>Andrew sees no reason to provide a raised platform at this location, especially given the volume of traffic the four interconnecting roads are predicted to support; queued vehicles obstructing inter-visibility between pedestrians and vehicles; these roads are also expected to support bus services and as such any vertical displacement will place such passengers at risk as seat belts are not mandatory for buses; unsafe for other road users and the intersection; will be less efficient due to the controlled delays arising from negotiating over its vertical profile.</p> <p>All scenarios' results have taken development to levels that are predicted to have significant queueing on GSR/Waihoehoe Road, which would impact the bus network effectiveness.</p> <p>Agrees with the DIFF assessment in that Great South Road and Waihoehoe Road will both exceed their current carrying capacity, from as early as 2028, without additional traffic lanes and upgraded intersection storage and controls.</p>	<p>The design put forward is conceptual and would more likely require Swedish tables to support bus services and their placement on an Arterial Road.</p> <p>I have raised concern as to the ability to construct the signalised intersection upgrade following the level of development permitted prior to the upgrade. As highlighted elsewhere in Andrew's evidence, the lack of construction traffic in the analysis presents a risk to the function of the network.</p>
	Waihoehoe Road Upgrade Para 8.6(b), 8.13	The assessment does not appear to have considered the impact on access during construction of the Waihoehoe Road project. The modelling assumes full available capacity and no alternative route, other than Quarry Road. This is a critical oversight.	The Provisions allow for the interim upgrade of Waihoehoe Road early in the piece. I have proposed that the interim layout be revised to reflect the ultimate westbound layout, with the two general traffic lanes allowing for two way traffic.

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	Active Mode Para 8.22(d) Para 7.13	<p>The first stage states 'active mode network', however there is no detail on how extensive that proposed network is. The early allowance for that network is supported, however its effectiveness would be very low if only provided adjacent to development, and not to key destinations.</p> <p>PPC 48 proposes to establish a new Access Road connecting with Great South Road, opposite the southbound off ramp from SH1. Waka Kotahi are not opposed to this new connection. It is proposed to be a one way / entry only road. It will not contain walking or cycling provisions.</p>	<p>The provisions speak to establishing active mode connections to key destinations. Refer Policy 5a(b). I note changes related to this Policy.</p> <p>I have seen a concept of this connection, where the link provided comes directly off the SH1 southbound mainline, rather than a connection being formed from the interchange. Nevertheless, a corridor is provided from which an active facility can be established.</p>
	Funding and Financing	<p>If the transport improvement works proposed are incorporated into the precinct provisions for each of the PPCs, there are financing and funding concerns as to how the required transport improvements will be financed and funded. Ms Josephine Tam in her corporate evidence for AT, and other witnesses being called by the Auckland Council, will address those matters further.</p>	<p>Development will occur over time and while there are wider area upgrades required for the Drury area, ensuring those that are critical to providing an effective and safe transport network, with efficient active and public transport facilities is the key.</p>

Summary of submissions, applicant responses, and Flow comment			
Submitter/Name	Evidence Topic/Reference	Evidence Summary	Position of Council Traffic Engineer (Terry Church)
	Drury Central Train Station Access Para 8.22(c), 8.23(i)	<p>The analysis appears to allow full use of all available capacity for development, so it is unclear if allowance is provided for the Rail Station access traffic.</p> <p>The SATURN modelling (and SIDRA) indicates significant congestion at the Waihoehoe Road/Rail Station Access Road intersection (opposite Kath Henry Lane). This is not discussed in the report, yet it is critical for both access to the development and to the train station.</p>	<p>I am of the view that the development of the Train Station access will need to mitigate the effects of the access through the NOR process. I am therefore of the view that this matter will be dealt with through the NZUP project.</p> <p>I support the need however for the thresholds, which relate back to intersection performance needing to account for this traffic, noting that the station will generate traffic – albeit I consider this to be a conflicting outcome with the intent of the metropolitan centre and focus on active modes etc about the Metropolitan centre.</p>

Table 8: Projects identified in Auckland Transport’s evidence

Andrew Prosser evidence reference	Karyn Sinclair provisions reference	Project	DIFF description	DIFF developer attribution	DIFF timing	Position of Council Traffic Engineer (Terry Church)
1	Para 7.22 Table IX.6.X 710 dwellings	Great South Road improvements (Waihoehoe Road to Drury Interchange) DIFF No 1a/1b	4-lane urban corridor with segregated walk/cycle. Opportunities for interim walk/cycle facilities between Firth Street and Waihoehoe Road	Cumulative Drury	2022 (1a) 2036 (1b)	<p>It has been clarified that by the Applicant that this upgrade is not included in the traffic model used to assess Drury East performance.</p> <p>I am of the view that this upgrade is <b>not required</b> to mitigate the effects of the Drury East plan changes. Refer JWS 26 October 2021.</p>

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name		Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)
2	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	Great South Road improvements – From Drury School to Waihoehoe Road (Interim Solution) DIFF No 2a	2-lane urban with active modes on both sides + intersection treatments	Cumulative Drury East + local developments	2026	I am of the view that this upgrade is <b>not required</b> to mitigate the effects of the Drury East plan changes. Refer JWS 26 October 2021.
3	Para 7.22 Table IX.6.X 710 dwellings	Waihoehoe Rd East upgrades- from Fitzgerald Rd to Cossey Rd (PPC 49 development boundary). DIFF No 4	2-lane urban with active modes on both sides, 24m cross-section	Fulton Hogan	2022	I agree that this upgrade is required. Policy 5c and the assessment criteria require the progressive upgrade of rural roads (IX.8.2(1)(h) and (i)) <b>Captured within planning provisions.</b> Need to confirm cross section detail – Appendix 1A.
4	Para 7.22 Table IX.6.X 710 dwellings	Drury Central Rail Station DIFF No 5	Per NZUP scope	Cumulative Drury East + Auranga	2022	<b>NZUP</b> has committed to funding and delivery of the Drury Central Station, noting that it has also survived the recent revised programme. Captured within the threshold table (Table IX.6.2.1) – <b>Need to clarify appropriate timing. Bring Forward</b>
5	Para 7.22 Table IX.6.X 710 dwellings	Drury Central Rail Station connection DIFF No 6	Per NZUP scope, station access road	Cumulative Drury East + Auranga	2022	<b>NZUP</b> has committed to funding and delivery of the Drury Central Station, noting that it has also survived the recent revised programme. Captured within the threshold table (Table IX.6.2.1) – <b>Need to clarify appropriate timing. Bring Forward</b>
6	Para 7.22 Table IX.6.X 710 dwellings	Fitzgerald Rd upgrades (from Waihoehoe Rd to north of Brookfield Road). DIFF No 7	2-lane urban – upgrade with active modes on both sides	Fulton Hogan + Kiwi	2022	I agree that this upgrade is required. Captured within planning provisions as Assessment Criteria. Preference is as a Standard. <b>Need to confirm cross section detail – Appendix 1A.</b>

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name		Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)
7	Para 7.22 Table IX.6.X 710 dwellings	Fielding Rd upgrades (Waihoehoe Rd to East West Collector Rd). DIFF No 8	2-lane urban – upgrade with active modes on both sides	Fulton Hogan	2022	I agree that this upgrade is required. Policy 5c and the assessment criteria require the progressive upgrade of roads (IX.8.2(1)(h) and (i))  Captured within planning provisions. Need to confirm cross section detail – Appendix 1A.
8	Para 7.22 Table IX.6.X 710 dwellings	Great South Road / Waihoehoe Road / Norrie Road intersection upgrade DIFF No 9a	Intersection updated with active modes crossings and increased approach capacity.	Cumulative Drury East + Auranga + Station Park & Ride	2022	While the RLTP includes this upgrade, I note that the timing of the upgrade and funding is not secured.  Captured within planning provisions. The timing and detail around the upgrade needs to be confirmed.
9	Para 7.22 Table IX.6.X 710 dwellings	New intersection on Waihoehoe Rd/ Fitzgerald Rd (Ultimate form). DIFF No 10b	Upgrade to ultimate form	Cumulative Drury East	2023	While the RLTP includes this upgrade, I note that the timing of the upgrade and funding is not secured.  Captured within planning provisions. The timing and detail around the upgrade needs to be confirmed.
10	Para 7.22 Table IX.6.X 710 dwellings	Intersection upgrade Waihoehoe Rd/ Fielding Rd/ Appleby Rd DIFF No11	Roundabout as per SGA NOR Design	Fulton Hogan	2023	While the provisions speak to upgrading roads, the provisions do not speak to intersections along the roads.  Include ‘intersections’ within the Assessment Criteria IX.8.2(1)(h) and (i).
11	Para 7.22 Table IX.6.X 710 dwellings	Interim walking, cycling and bus connections to Drury Centre (includes Bremner / Norrie / Firth intersection upgrades, active mode on Norrie) DIFF No 12	Intersection improvements on Bremner-Firth, Norrie/Firth, GSR/Firth. Active mode facilities on both sides of Firth and Norrie Road	Fulton Hogan + Kiwi Property + Oyster + Auranga	2022	Auranga A has already upgraded some of this network especially the footpaths through to Drury  I don’t not consider these upgrades to be funded by Drury East Plan Changes.

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name	Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)	
12	Para 7.22 Table IX.6.X 710 dwellings	N-S Opāheke Arterial across PPC 50 development (up to Waihoehoe Stream as Interim Solution) DIFF No 13a	2-lane urban – new 2 lane arterial with active modes on both sides +intersection improvements (TDM)	Oyster	2022	The N-S alignment is shown in the Precinct Plan, however it is defined as a Collector, rather than an Arterial (as per the NOR). Long term upgrade. <b>Captured within planning provisions.</b> Clarification is needed as to whether the Arterial Road corridor is being protected and what is being constructed.
13	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	Upgrade Brookfield Road from Fitzgerald to Quarry Rd with new connection + Intersections on Quarry & Fitzgerald. DIFF No 14	2-lane urban – new 2 lane arterial with active modes on both sides +intersection improvements + new connection to Quarry Rd	Cumulative Drury East	2026	Brookfield Road cross section is defined as a Local Road with a 20m cross section. DIFF defines this as a collector road, however this is due to the proposed connection to Quarry Road. Captured within planning provisions as Assessment Criteria, and also Precinct Plan as an indicative connection.
14	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	New Collector road E-W from Fitzgerald Rd to Rail Station and Intersections. (Station Road) DIFF No 15	2-lane urban – new 2 lane arterial with active modes on both sides +intersection improvements (TDM)	Kiwi (progress with development staging)	2026	Station Road is included in the Precinct Plan and is defined as a Collector Road, where design criteria is provided in Appendix 1 Captured within planning provisions as Assessment Criteria. Preference as a Standrd
15	Para 7.22 Table IX.6.X 710 dwellings	2-Lane bridge over Bremner / Waihoehoe Road DIFF No 16a	2 lane urban road with active modes on both sides	Cumulative Drury (funded through NZUP)	2022	<b>Funded as per NZUP. No requirement</b> , in my view to be included in Drury East provisions

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name	Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)	
16	Para 7.22 Table IX.6.X 710 dwellings	SH1 / Drury interchange including ramps DIFF 19-2	Upgrade to Drury Interchange	Funded through NZUP/Papakura 2 Drury Business Case	2022	Stage 1, being Papakura to Drury is still progressing which I understand pushes substantial changes to the Drury Interchange to the next, unfunded phases. In light of this however, I understand that this does not prevent the ability to establish the SH1 SB direct connection.  Captured within planning provisions. Discussion required as to when the Direct Connection is provided and whether Kiwi have control of the land in which it lands within the Precinct. A design from Waka Kotahi is required to demonstrate feasibility.
17	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	Upgrade Fitzgerald Rd from Brookfield to Ramarama Rd DIFF No 20	2-lane urban – upgrade with active modes on both sides + intersection upgrades (TDM)	Fulton Hogan (progress with development staging) + Cumulative Drury East	2026	I agree that this upgrade is required. Policy 5c and the assessment criteria require the progressive upgrade of roads (IX.8.2(1)(h) and (i))  Captured within planning provisions. Preference would be to have this road upgraded (interim) as a standard. The interim cross section needs to be confirmed.
18	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	Fielding Rd upgrades for activemodes (from Fitzgerald Rd to new East-West Collector). DIFF No 21	Active mode upgrades – existing road layout with active modes on both sides + intersection upgrades for active mode crossing	Fulton Hogan (progress with development staging)	2026	I agree that this upgrade is required. Policy 5c and the assessment criteria require the progressive upgrade of roads (IX.8.2(1)(h) and (i))  Captured within planning provisions. The interim cross section needs to be confirmed.



Summary of submissions, applicant responses, and Flow comment						
Submitter/Name		Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)
19	Para 7.22 Table IX.6.X 710 dwellings	Upgrade Intersection at Quarry Rd / Great South Rd. DIFF No 22	Upgrade intersection (roundabout) with active mode facilities (TDM)	Cumulative Drury East + Drury South	2023	The DIFF modelling assumes a roundabout at this location. I note that this intersection also forms part of Assessment Criteria for the Drury South Industrial Precinct.  Captured within revised planning provisions as Assessment Criteria.
20	Para 7.22 Table IX.6.X 710 dwellings	Waihoehoe Rd West upgrades – between Great South Rd & Fitzgerald Rd, including bridge replacement over the rail corridor. (Ultimate Solution) DIFF No 23	4 lane urban FTN – upgrade with active modes on both sides, SGA Design	Cumulative Drury East and Opāheke	2022	The precinct provisions require the upgrade of Waihoehoe Road (west) with the first trigger in Table IX.6.2.1 requiring this  Captured within planning provisions as worked through conferencing. <b>The interim cross section needs to be confirmed.</b>
21	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	New collector in N-S direction parallel to Fitzgerald Rd (Drury Boulevard) DIFF No 28	2-lane urban – upgrade with active modes on both sides + intersection upgrades (TDM)	Kiwi – progress with Town Centre development staging	2026	Included in the Precinct Plan, with assessment criteria determining timing of delivery.  Captured within planning provisions.
22	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	New collector in E-W direction between Flanagan & Fitzgerald Rd (collector 2). DIFF No 29	2-lane urban – upgrade with active modes on both sides + intersection upgrades (TDM)	Kiwi – progress with development staging	2026	The new collector is included in the Precinct Plan and is defined as a Collector Road, where design criteria is provided in Appendix 1  <b>Captured within planning provisions.</b> Design criteria needs to be confirmed.

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name		Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)
23	Para 7.22 Table IX.6.X 710 dwellings	New 2-lane internal Collector Rd between Fitzgerald & Fielding Rd, E-W direction DIFF No 30-1	2-lane urban – upgrade with active modes on both sides + intersection upgrades (TDM)	Fulton Hogan – progress with development staging	2022	The new collector is included in the Precinct Plan and is defined as a Collector Road, where design criteria is provided in Appendix 1  <b>Captured within planning provisions.</b> Design criteria needs to be confirmed.
24	Para 7.22 Table IX.6.X 710 dwellings	Upgrade Fitzgerald Rd from DIFF Report Project # 7 to Brookfield Rd. DIFF No 33	2-lane urban – upgrade with active modes on both sides + intersection upgrades (TDM)	Fulton Hogan + Kiwi	2022	I agree that this upgrade is required. Policy 5c and the assessment criteria require the progressive upgrade of roads (IX.8.2(1)(h) and (i))  <b>Captured within planning provisions.</b> The interim cross section needs to be confirmed.
25	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	New Drury Interchange connection to PPC 48. DIFF No 34	New direct access from SH1 into Kiwi development, potentially coordinated with reconstruction of Drury Interchange.	Kiwi – depends on pace of centre development and coordination with Papakura to Drury	2026	Stage 1 works, being Papakura to Drury is progressing. I understand that delaying Stage 2 does not prevent the ability to establish the SH1 SB direct connection.  <b>Captured within planning provisions.</b> Discussion required as to when the link is provided and whether Kiwi have control of the land it is to land within. A design from Waka Kotahi is required to demonstrate feasibility.
26	Para 7.22 Table IX.6.X 710 dwellings	Upgrades in Great South Rd / Firth Rd intersection (overlap with DIFF Report Project # 12) DIFF No 46	Possible signals for active mode crossing, depending on Station Access signals	Fulton Hogan + Kiwi + Oyster + Auranga	2022	I am of the view that this upgrade rests with the Drury Train Station NOR and is excluded from mitigation associated with the Drury East Precinct.

Summary of submissions, applicant responses, and Flow comment						
Submitter/Name		Evidence Topic/Reference	Evidence Summary			Position of Council Traffic Engineer (Terry Church)
27	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	Active mode corridor from Drury East Town Centre to Great South Road DIFF No 67	Segregated active mode corridor beside rail corridor	Cumulative Drury + Cumulative South-West	2026	I am of the view that this upgrades rests with the Drury Train Station NOR and is excluded from mitigation associated with the Drury East Precinct.
28	Para 7.22 Table IX.6.X 1,300 dwellings + Commercial	New Public Bus Services Across Drury (Not a DIFF Report Project – Auckland Transport recommendation)	N/A	N/A	N/A	Auckland Transport manage the bus network. An existing route exists which may be expanded, or I suspect a bus service will be implemented in line with the Station operation.  JWS 26 October 2021 confirms AT's view that this is not the responsibility of the applicant and not to be included in Precinct Provisions.



## **ATTACHMENT 3**

### **MEMO FROM ANDREW GORDON**



## Specialist Memo – Noise & vibration (reverse sensitivity effects)

**To:** David Mead - Director, Hill Young Cooper Ltd  
**From:** Andrew Gordon, Specialist, Specialist Input, Resource Consents  
**Subject:** Private Plan Change 48: Drury Centre Precinct  
**Date:** 18 November 2021

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### 1. Qualification and experience

1.1 I have been employed as a Specialist since December 2017 and was in a similar role in the councils Environmental Health Team from November 2016. I hold a BSc from the University of Auckland, a National Diploma in Environmental Health from Wellington Polytechnic and a Certificate in Noise Assessment and Control from the University of Western Sydney (extramural). I have approximately 20 years of experience working in the regulatory and environmental health field for territorial authorities and this includes peer reviewing noise effects for resource consent applications, undertaking noise monitoring surveys and conducting noise complaint investigations. I am a member of the New Zealand Institute of Environmental Health and New Zealand Acoustics Society.

### 2. Scope of review

2.1 I have been requested to provide comments on submissions related to noise effects from existing rail and future road infrastructure on proposed residential and other activities sensitive to noise which form part of PPCs 48, 49 and 50.

2.2 The following documents relevant to the noise and vibration subject area submitted as part of PPC 48 have been reviewed for this memo:

- a) Statement of Evidence of Curt Robinson on behalf of the Applicant dated 1 July 2021.
- b) Statement of Evidence of Rhys Leonard Hegley on behalf of Kainga Ora – Homes and Communities dated 15 July 2021.
- c) Evidence of Pam Butler Senior RMA Advisor, KiwiRail Holdings Ltd; Submitter 24.
- d) Statement of Evidence of Claire Drewery on behalf of Auckland Transport (As Submitter) Acoustics dated 15 July 2021.

I have also reviewed the evidence of Dr Chiles for PPC 51 (Waka Kotahi), dated 24 August 2021.

2.3 By way of context, NZS 6806:2010 *Acoustics – Road-traffic noise – New and Altered Roads* recommends an internal noise limit of 40 dBA LAeq(24hr) for buildings used for residential activities – this applies to new or altered roads only. Waka Kotahi have adopted 40 dBA LAeq(24hr) as the design level in their guidelines.

2.4 I note that noise sensitive activities in Business Zones are subject to E25.6.10. E25.6.10 sets an internal noise limit for the daytime period (in this case 7am – 11pm) and a lower noise limit for the night time period. The LAeq noise standards are required to be assessed in accordance with NZS 6802:2008 which specifies an averaging period as short as 15 minutes. For traffic noise, averaging over the 24-hour day is deemed appropriate for assessment rather than short term monitoring such as over 15 minutes (or up to 1 hour).

### 3. Arterial Road Traffic Noise (Waihoehoe Road)

3.1 The applicant expects traffic noise from Waihoehoe Rd is unlikely to exceed 65 dB LAeq(24 hour) at the façade of the closest buildings in proximity to Waihoehoe Rd. Therefore, acoustic treatment required to comply with E25.6.10 will be sufficient to comply with an internal design limit of 40 dB LAeq(24hour). However, the applicant has not calculated future traffic noise levels from an upgraded Waihoehoe Rd with increased traffic flows.

- 3.2 In AT's submission it is reported a noise modelling exercise has been completed (as part of another project) which indicates traffic noise may be up to 69 dB LAeq(24hour) at the Waihoehoe Rd boundary of the PPC 48 site. This assumes AT adopt the "do minimum" approach which does not include any noise mitigation measures. I note a 4 dB difference is perceptible and generally equivalent to having a slight noise impact.
- 3.3 It will be practicable to meet the above internal design limit by implementing additional acoustic treatment. However, it is difficult to be precise as to required designs for this until the road configuration/upgrade was finalised. In any case the relevant recommended precinct provision will provide for this by specifically stating the façade design must meet the traffic noise design limit of 40 dB LAeq(24hour).
- 3.4 A noise level reduction of approximately 15 dB can be achieved where windows are open for ventilation which is sufficient for rooms with facades exposed to less than 55 dB LAeq(24hour). Therefore, only buildings with facades exposed to noise levels greater than 55 dB LAeq(24hour) need to be considered for mechanical ventilation systems.
- 3.5 A noise level reduction of 20 – 25 dB is typically achieved by a standard new building façade construction and glazing arrangement provided the windows are closed. Given that traffic noise levels in the future are predicted up to 68 dB LAeq(24hour), specific acoustic treatment and mechanical ventilation will be required to ensure compliance with the internal noise limit.
- 3.6 Compliance with the suggested standard is only likely to affect the first row of buildings although may extend to the second row of buildings depending on the building location/orientation with the road. In my view prescribing setback distances is not recommended as the screening effects from buildings is not considered.
- 3.7 I do not see the need for a specific road vibration standard. Vehicles driving along a well maintained road free of any potholes or other uneven surfaces are expected to create negligible vibration at immediately adjacent buildings.
- 4. Rail noise**
- 4.1 New buildings containing residential and other noise sensitive activities may be located 10m from the rail corridor.
- 4.2 The applicant recommends adopting KiwiRail's internal guideline limits for buildings (containing activities sensitive to noise) located within 60m of the rail corridor.
- 4.3 I agree that acoustic treatment required to comply with E25.6.10 will not be sufficient to meet KiwiRail's reverse sensitivity internal noise limits and that additional acoustic treatment will be required for the closest buildings. This is generally supported in the submission from KiwiRail.
- 4.4 For design purposes a train noise level of 70 dB LAeq(1 hour) at 12m is referenced. This noise level appears representative based on reviews of train noise measurements at sites similar to the project site. I understand the rail network is operating at capacity with up to two freight trains per hour and this is not expected to change in the immediate future. I note that when electrification is extended to Pukekohe noise from commuter trains will be significantly quieter than diesel locomotives.
- 4.5 The submission from Kainga Ora questions the existing level of train noise and appropriateness of the above design noise level, but provides no evidence as to existing train noise levels at the PPC 48 site. This can be remedied by the applicant completing noise measurements to better inform the required level of façade noise mitigation.
- 5. Rail vibration**
- 5.1 Vibration from passing trains may give rise to adverse effects, in particular at night, as new buildings may be constructed 10m from the rail corridor. At this setback distance vibration may be experienced by building occupants. Vibration may be perceivable for approximately 40-50 seconds



as a train passes. Vibration levels depend on various variables including ground conditions, building foundation construction, the condition of the rails/train wheels and the train speed.

- 5.2 KiwiRail recommend a requirement that new buildings and alterations to buildings within 60m of the rail corridor are designed and constructed to enable compliance with Class C of 0.3 mm/s  $V_{w,95}$  as recommended in Norwegian Standard NS 8176A:2005. I note that Class C relates to 15% of receivers being potentially disturbed by vibration. The Class A limit of 0.1 mm/s and Class B limit of 0.15 mm/s provide greater protection against vibration effects, but have not been adopted by KiwiRail.
- 5.3 The applicant considers that rail and train wheel maintenance is sufficient by itself to ensure low vibration levels and therefore a requirement to specify a vibration limit is not necessary. I disagree as rail maintenance is only one factor and therefore matters under the control of the applicant such as building design and setback distance should consider vibration effects.
- 5.4 The submission from Kainga Ora is of the view that a vibration limit is impractical as vibration levels are controlled by the rail/train wheel condition which is outside the applicants control. In my view it is practicable to obtain reliable vibration measurements from passing trains to assist in determining the level of effect and the extent of vibration mitigation design (if required).

## 6. Recommended Precinct standards

- 6.1 Appropriately worded standards must include requirements and numerical limits to avoid and/or to mitigate, as far as practicable, adverse noise and vibration effects from existing road and rail infrastructure. This approach aligns with the AUP (OP) E25 objective and policy namely: -

### ***E25.2 Objectives***

***(3) Existing and authorised activities and infrastructure, which by their nature produce high levels of noise, are appropriately protected from reverse sensitivity effects where it is reasonable to do so.***

### ***E25.3 Policies***

***(7) Require activities to be appropriately located and/or designed to avoid where practicable or otherwise remedy or mitigate reverse sensitivity effects on: (a) existing or authorised infrastructure;***

- 6.2 I support the following standards being incorporated into the Precinct namely: -

#### ***IX.6.X Noise sensitive activities within 60m of the rail corridor***

*Any new building or alteration to an existing building that contains an activity sensitive to noise, within 60 metres of the rail corridor, must be designed, constructed and maintained to:*

- (a) *not exceed 35 dB LAeq (1 hour) for sleeping areas and 40 dB LAeq(1 hour) for all other habitable spaces.*
- (b) *achieve rail vibration levels not exceeding 0.3mm/s  $V_{w,95}$*

*Note: Railway noise is assumed to be 70 dB LAeq(1 hour) at a distance of 12 metres from the track and must be deemed to reduce at a rate of 3 dB per doubling of distance up to 40 metres and 6 dB per doubling of distance beyond 40 metres.*

#### **IX.6.X Noise sensitive activities Adjacent to an Existing or Future Arterial Road**

*(1) Any new building or alteration to an existing building that contains an activity sensitive to noise within:*

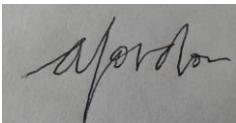
- (a) *a Road Traffic Noise Control Area or*

*(b) if no Control Area is identified, 40 metres from the boundary of an Existing or Future Arterial Road  
(as identified on the AUP or Precinct Plan maps)  
must be designed, constructed and maintained to not exceed 40 dB LAeq (24hour) for all habitable spaces.*

*(2) If windows must be closed to achieve the design noise levels in Rule IX.6.X, the building must be designed, constructed and maintained with a mechanical ventilation system that meets the requirements of E25.6.10(3) (b).*

*(3) A report must be submitted by a suitably qualified and experienced person to the council demonstrating compliance with Rule IX.6.X prior to the construction or alteration of any building containing an activity sensitive to noise where any habitable room will be exposed to traffic noise levels greater than 55 dB LAeq(24hour).*

*For the purposes of the standard, road noise is to be based on predicted noise levels 10 years hence, taking into account any planned upgrades of the road or the addition of 3 dB to existing measured or predicted noise levels. Predicted noise levels may be based on any estimates made as part of relevant Notices of Requirement, or average growth in traffic levels.*



**Andrew Gordon**  
**Specialist**