

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE
KAIKOURA DISTRICT COUNCIL**

IN THE MATTER OF

The Resource Management Act 1991 (**RMA** or
the Act)

AND

IN THE MATTER OF

Proposed Plan Change 4 (**PC4**) to the Kaikoura
District Plan (**KDP** or **the Plan**) brought by
Kaikoura Business Park Limited (**KBP**)

AND

IN THE MATTER OF

The Hearing of Submissions and Further
Submissions on PC4

**EVIDENCE OF ANDY CARR FOR THE APPLICANT
KAIKOURA BUSINESS PARK LIMITED**

Dated: 13 March 2024

Presented for filing by:
Margo Perpick
Saunders & Co
PO Box 18, Christchurch
027 227 2026
margo.perpick@saunders.co.nz

INTRODUCTION

- 1 My name is Andrew ("Andy") David Carr.
- 2 I am a Chartered Professional Engineer and an International Professional Engineer (New Zealand section of the register). I hold a Masters degree in Transport Engineering and Operations and also a Masters degree in Business Administration.
- 3 I served on the national committee of the Resource Management Law Association between 2013-14 and 2015-17, and I am a past Chair of the Canterbury branch of the organisation. I am also a Chartered Member of Engineering New Zealand (formerly the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.
- 4 I have more than 34 years' experience in traffic engineering, over which time I have been responsible for investigating and evaluating the traffic and transportation impacts of a wide range of land use developments, both in New Zealand and the United Kingdom.
- 5 I am presently a director of Carriageway Consulting Limited, a specialist traffic engineering and transport planning consultancy which I founded in early 2014. My role primarily involves undertaking and reviewing traffic analyses for both resource consent applications and proposed plan changes for a variety of different development types, for both local authorities and private organisations. I have previously been a Hearings Commissioner and acted in that role for Greater Wellington Regional Council, Ashburton District Council, Waimakariri District Council and Christchurch City Council.
- 6 Prior to forming Carriageway Consulting Limited I was employed by traffic engineering consultancies where I had senior roles in developing the business, undertaking technical work and supervising project teams primarily within the South Island.

- 7 My experience includes providing transportation assessments for proposed industry/business activities, and also for private plan change requests. Of relevance, I have assessed the transportation effects of the following:
- (a) A proposed commercial and visitor accommodation complex at West End, Kaikōura (the Adelphi site);
 - (b) A submission to the Queenstown Lakes District Plan Review and subsequent plan change request for a 4ha site in Wanaka, to rezone from Rural to Rural Industrial;
 - (c) A submission to the Selwyn District Plan Review for a 17ha site in Darfield, to rezone from Rural to General Industrial;
 - (d) Ashburton District Plan Change 2 (North East Industrial Park), for the rezoning of 124ha of land north of Ashburton for business/industrial purposes, including effects on the adjacent state highway and the construction of a new rail spur;
 - (e) Selwyn District Plan Change 24 (Darfield), for rezoning 113ha of land for residential and business development and
 - (f) Christchurch City District Plan, Plan Change 35 (Memorial Avenue) for the rezoning of 35ha of land in northwest Christchurch for business/commercial uses.
- 8 As a result of my experience, I consider that I am fully familiar with the transportation characteristics of the type of activities that could establish if PC4 is approved.
- 9 I confirm I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

SCOPE OF EVIDENCE

- 10 My evidence is presented on behalf of the plan change proponents, Kaikōura Business Park Limited.
- 11 I previously prepared a Transportation Assessment (dated: 2 November 2022) which addressed the transportation aspects of PC4. I also met with Waka Kotahi NZ Transport Agency (**Waka Kotahi**) to discuss the proposal in June 2022 and subsequently participated in a 'round table' discussion on transportation matters with the Council and Waka Kotahi in August 2022.
- 12 Subject to any points of difference, clarification or addition detailed below, my evidence for this hearing comprises:
- (a) A summary of my initial assessment of the transportation effects of the development facilitated by PC4 (Carriageway Consulting Transportation Assessment report dated 2 November 2021, Appendix 10 of the plan change request), updated as appropriate to take into account the most recent information.
 - (b) My letters dated 6 July 2022 and 22 August 2022 to Waka Kotahi, relating to the proposed access arrangements (Appendix 8 of the plan change request), updated as appropriate to take into account the most recent information.
 - (c) the relevant parts of the Section 42A Report which I state below that I agree with and adopt;
 - (d) this Statement of Evidence.

SUMMARY OF TRANSPORTATION ASSESSMENT

- 13 I previously produced a detailed assessment of the anticipated transportation-related effects of development facilitated by PC4. I summarise the key aspects of this below, and have updated relevant information as appropriate.

- 14 There have been no changes to the prevailing physical infrastructure in the vicinity of the site (Section 3 of the Transportation Assessment) but there is further information available regarding traffic flows and crash records since the report was produced.
- 15 In the Transportation Assessment I noted that traffic volumes on the highway at the time were diminished due to restrictions on overseas tourists due to the Covid-19 pandemic. Consequently, this meant that the observed traffic flows were factored to allow for summer volumes and with tourists present (Figure 6 of the Transportation Assessment). This showed a calculated peak hour volume of 315-376 vehicles crossing the Kowhai River, in the peak summer (January to February) period.
- 16 Waka Kotahi has a traffic counter located on the state highway just north of the bridge. At present, data is only available for part of December 2023, which shows peak hour volumes of 255 to 296 vehicles in this location. December is not the busiest time (this is during January and February, as noted above) but a comparison with the same period in December 2019 (prior to Covid-19) shows that the peak hour traffic flows were 249 and 295 vehicles. This suggests that traffic volumes have returned to their pre-Covid levels.
- 17 In Figures 5 and 7 of the Transportation Assessment, I set out graphs that determined whether an auxiliary right-turn bay is warranted at the State Highway 1 / Inland Kaikōura Road intersection. Based on the calculated/factored traffic flows set out in that report, I concluded that such a turning lane was needed under the (synthesized) expected current conditions.
- 18 To ensure that the most recent information is used in the assessment, I have repeated the traffic survey at the State Highway 1 / Inland Kaikōura Road intersection described in Section 4.1 of the Transportation Assessment. The survey was carried out on 25 and 26 January 2024, which means it took place during the summer period, and showed that in the evening peak hour:
- (a) Traffic flows on the highway were 39% higher than had been calculated in the Transportation Assessment; but

(b) Right-turning movements from the highway onto Inland Kaikōura Road were 53% lower than had been calculated in the Transportation Assessment.

19 Below is the graph included as Figure 7 of the Transportation Assessment, showing how the calculated traffic volumes resulted in a data point (circled) located to the right of the blue graph, and meaning that a right-turn bay is warranted. **Annexure A** provides further details about how the graph is used.

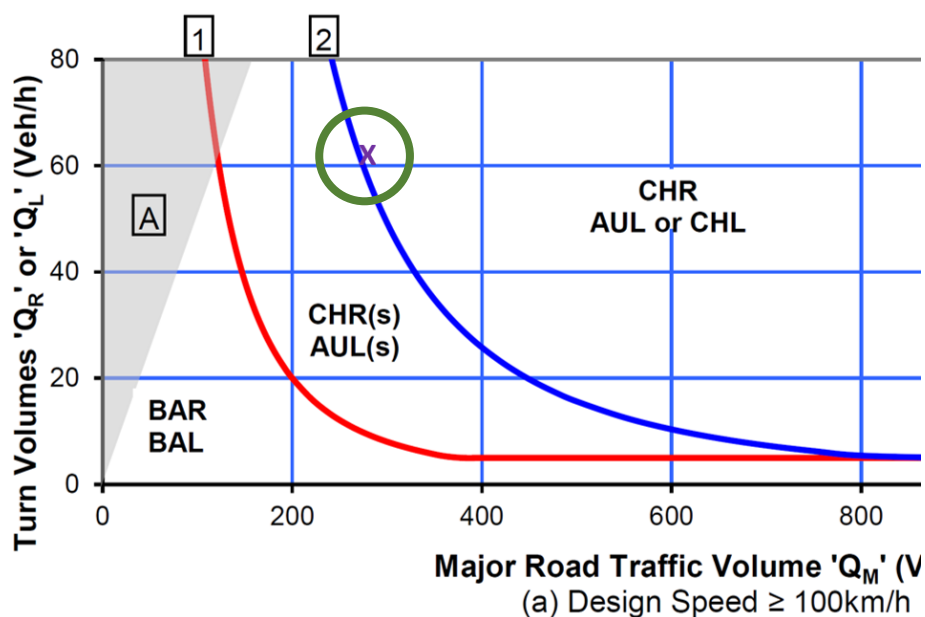


Figure 1: Copy of Figure 7 from Transportation Assessment, Showing Traffic Flows and Warrants for Right-Turn Bays (2022 Evening Peak Hour, Factored)

20 I have added the new data point onto this graph for the 2024 observed traffic volumes (dotted circle).

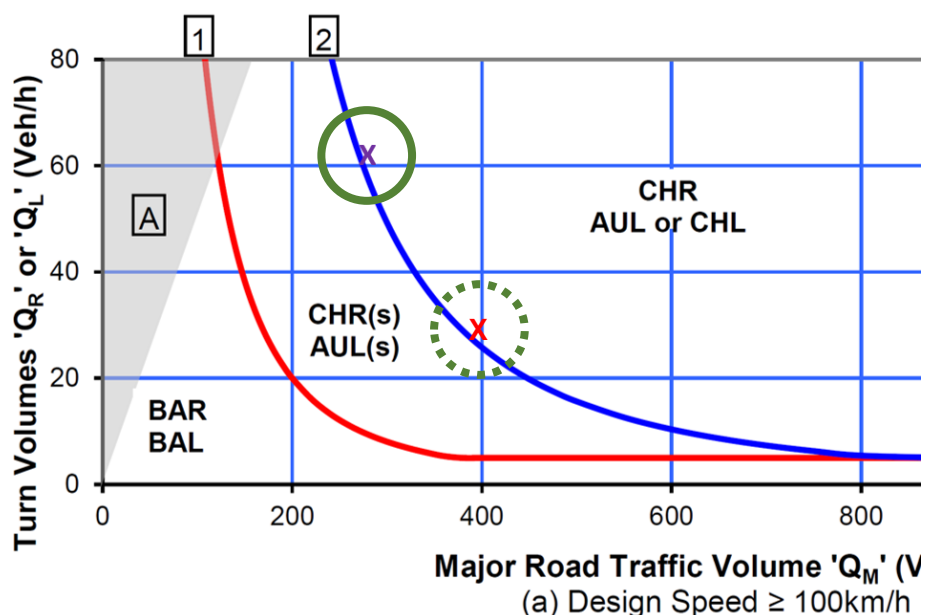


Figure 2: Traffic Flows and Warrants for Right-Turn Bays (2022 Evening Peak Hour, Factored Plus 2024 Observed Volumes)

- 21 Although the 2022 calculated and 2024 observed traffic volumes are different, the new data point remains to the right of the blue line. This demonstrates that under current traffic conditions, a right-turn bay at the State Highway 1 / Inland Kaikōura Road intersection is warranted.
- 22 Given this finding is the same as in the Transportation Assessment, my earlier comments set out regarding the ability to implement such a turning lane at the State Highway 1 / Inland Kaikōura Road intersection remain relevant, as set out in my letter to Waka Kotahi (6 July 2022)
- (a) The traffic data shows that a right-turn bay is already required at the intersection irrespective of the plan change request.
 - (b) There is insufficient length between the existing intersection and the end of the bridge to accommodate the required taper and the right-turn bay.
 - (c) The need for the turning bay will only increase in future due to general (ambient) traffic growth, and the potential for a crash will increase as the deficiency becomes more significant.

- (d) Due to the prevailing vehicle speeds, any crash in this location has a higher chance of resulting in serious injuries or death.
- (e) The risk of a collision is further elevated due to the presence of the accesses to the STED and the picnic area, because those accesses are located closer to the intersection than is expected in Waka Kotahi guides. There is also a likely shortfall in the sight distances at the existing intersection.

23 The Transportation Assessment also assesses reported crashes in the area (Section 4.3 of the report). This showed that between 2015 and 2019, there had been only one crash reported, and this did not result in any injuries. I have taken the opportunity to review the subsequent crash record, and find that no additional crashes have been reported at the time of checking (18 January 2024).

24 Having reviewed the remaining sections of the Transportation Assessment, I confirm that they remain valid and there is no further information available that is of relevance. Consequently I remain of the view expressed in Section 9 of the Transportation Assessment, that:

- (a) A right-turn bay is justified at the State Highway 1 / Inland Kaikōura Road intersection under current traffic flows (that is, without the plan change site being rezoned), but cannot easily or economically be created due to the proximity of the Kowhai River bridge.
- (b) There is an existing STED located just west of the existing State Highway 1 / Inland Kaikōura Road intersection, which has accesses that do not meet expected separation distances from the intersection. A picnic area on the eastern side of the highway also has an access that does not meet expected separations.
- (c) The provisions of PC4 allow for a right-turn bay to be created through the realignment of part of Inland Kaikōura Road and this both resolves the existing deficiency and provides appropriate access to the Site. The

realignment also resolves the issues associated with the STED and picnic area.

- (d) The crash history in the vicinity of the Site does not indicate that there would be any adverse safety effects from the requested rezoning, especially given the roading improvement schemes that are proposed.
- (e) The improved/relocated State Highway 1 / Inland Kaikōura Road intersection and the realigned Inland Kaikōura Road can be constructed to fully meet relevant standards/guides.
- (f) The traffic generated by the rezoned plan change site can be accommodated on the adjacent roading network without capacity or efficiency issues arising.

25 I remain of the view that the requested rezoning can therefore be supported from a traffic and transportation perspective.

RESPONSE TO MATTERS RAISED BY SUBMITTERS

26 I have reviewed the submissions received on the PC4 which mention traffic matters. There is only one submission opposing the plan change request which raises traffic issues, and two submissions that neither oppose nor support the plan change request but where traffic matters are noted.

27 Mr Paul opposes PC4 and raises increases in traffic within his submission. However he does not expand on this further, meaning that I have been unable to specifically evaluate his particular concerns. I therefore rely on my earlier Transportation Assessment, which reviewed the transportation matters and found that the vehicles associated with development of the plan change site could be accommodated on the adjacent roading network without capacity or efficiency issues arising. However I also understand that Mr Paul has now withdrawn his submission.

28 Waka Kotahi neither supports nor opposes PC4 but has requested that the plan change provisions include:

- (a) a rule that the intersection upgrade, the right turn bay, and access to the STED are “dealt with” prior to any land use and/or subdivision, and that the rule also includes an advice note to ensure that Waka Kotahi is consulted with on the detailed design and that a CAR is required prior to any works within the state highway road reserve.
- (b) a rule that access is limited to Route 70 and/or the internal roading system that is at least 60m from the SH1 intersection.

29 In respect of the first proposed Rule, my assessment to date has been based on the ability to construct a complying right-turn bay at the State Highway 1 / Inland Kaikōura Road intersection (which in turn means that the intersection needs to be relocated). No analysis has been undertaken that assumes that the intersection remains unimproved and in its current location. Accordingly, I support the principles underlying the first of the rules requested by Waka Kotahi.

30 I note that the notified rules package does not appear to include this, rather, light industrial activity is a Permitted Activity irrespective of whether the intersection has been upgraded. Accordingly, I consider that a revision is required in order to include this rule.

31 In practice, there are several activities that would increase the number of vehicles turning between the highway and Inland Kaikōura Road, being:

- (a) Works needed to realign Inland Kaikōura Road;
- (b) Works needed to construct the right-turn bay;
- (c) Works needed to change the access arrangements to the STED;
- (d) Works needed for earthworks or roadway formation on the site;
- (e) The construction of buildings on the site; and
- (f) Staff and customer travel to the activities on the site

32 Although it is possible that each of these scenarios will attract traffic travelling to and from the west, the location of the site and general lack of development

towards the west means that in my view, the majority of traffic will use the state highway.

- 33 Items (a) to (e) listed above are all temporary activities, which will change the prevailing traffic conditions at the State Highway 1 / Inland Kaikōura Road intersection. As such, this falls within the remit of a separate document and process of the Code of Practice for Temporary Traffic Management (**CoPTTM**). This has been developed by Waka Kotahi to "*meet the statutory duty of road controlling authorities to ensure so far as reasonably practical the safe and efficient operation of the roading network under their authority*" (CoPTTM Preface, and s 353 of the Local Government Act 1974). In this regard CoPTTM applies to "*any activity that varies the normal conditions of any road*" (CoPTTM Preface).
- 34 In practice, this means that when some activity is being undertaken (such as a large construction project) where the normal conditions of a road are varied (such as would occur with the movement of construction vehicles) then CoPTTM automatically applies and there is a requirement to have an approved Temporary Traffic Management Plan (TTMP) before any construction vehicles can use the roads. Approvals are given by the road controlling authority, which in this case would be both Waka Kotahi and Kaikōura District Council.
- 35 One part of any TTMP is ensuring that construction traffic can be accommodated safely. I therefore anticipate that the TTMP will consider movements at the State Highway 1 / Inland Kaikōura Road intersection to ensure that no adverse transportation effects arise. This could include, for example, a temporary speed limit reduction on the highway.
- 36 To reiterate, this is a process that occurs separately to the Resource Management Act, and it is a requirement that the approved TTMP is implemented by the contractor. In my experience there can be certainty that it will be adhered to.
- 37 With this in mind, in my view it would be appropriate for a Rule associated with PC4 to specify that:

- (a) occupation of any commercial building within the PC4 area is a Restricted Discretionary Activity until construction of a right-turn bay at the State Highway 1 / Inland Kaikōura Road intersection has been commenced.
- (b) Discretion is limited to the effects on the efficiency and safety of the State Highway 1 / Inland Kaikōura Road intersection.
- (c) Any application for resource consent shall be notified to Waka Kotahi New Zealand Transport Agency unless their written approval has already been provided.

38 This provision ensures that site works and works associated with changes to the roading can occur (as these would be controlled by temporary traffic management) but that permanent changes to the traffic environment arising from the activities within the site could not occur until the right turn bay was either under construction (when it would be controlled through temporary traffic management) or is in place.

39 In the event that an application was made for occupation of a commercial unit without any right turn bay present or under construction, then the last part of the Rule ensures that this is notified to Waka Kotahi unless the Agency has already given its approval.

40 I have reviewed the revised rules proposed by Ms Bensemman. This now includes a revised Standard LIZ-S6 that includes the provisions set out in paragraph 37 above. I consider that this addresses Waka Kotahi's concerns in this regard.

41 With regard to the second potential rule, I consider that it would be *preferable* to ensure that all access to the plan change site is gained from Inland Kaikōura Road, but I can also envisage that there may be a case for some types of activity to have direct access onto the highway (such as an activity that predominately generates long-distance traffic). Consequently I support the inclusion of the requested rule insofar that direct access onto the highway should not be a Permitted Activity but in my view it should be subject to a specific assessment of the road safety and efficiency effects, and with Waka Kotahi being notified

as an Affected Party. This approach will ensure that if a direct access is sought, then a resource consent will be required, the effects of the access will be evaluated at the time, and that Waka Kotahi will have the opportunity to consider the application on its own merits.

- 42 Notified Standard LIZ-S6 has now been modified to include a provision that no lot within the PC4 shall have direct access onto the highway as of right, but again, in the event that this was sought, the rule provisions mean that Waka Kotahi will either have given its approval or will be notified.
- 43 Finally, while I agree that an appropriate separation distance is required between any access onto Inland Kaikōura Road and the highway, there is already an existing provision (through table TRAN-Table 3) of the District Plan which specifies minimum setbacks for accesses from intersections. I consider that there can be reliance on this for the purposes of ensuring that the safe and efficient operation of the highway is not adversely affected due to an access being located in close proximity.
- 44 I understand that Waka Kotahi has reviewed the revised rules package proposed by Ms Bensemman and considers that the matters set out in their submission have been adequately addressed. Accordingly, the Agency no longer wishes to appear at the Hearing.
- 45 Fire and Emergency New Zealand (**FENZ**) also neither supports nor opposes the plan change request but seeks to highlight that any future subdivision consents should take into account emergency access requirements noting in particular that the use of narrower roads could result in emergency services blocking other road users.
- 46 In my experience, the needs of the emergency services are taken into account as a matter of course when larger sites are designed, and in this case the industrial nature of the activities that could establish will typically require wider roads to allow for the movement of delivery / service vehicles on a frequent basis. I agree with FENZ that the matter is most appropriately addressed when subdivision consents are sought.

RESPONSE TO SECTION 42A REPORT

47 I have read the report of Ms Melanie Foote, consultant planner to Kaikōura District Council, who notes that no transportation matters remain outstanding (her paragraph 62). Overall, she considers that the plan change request can be recommended for approval, and from a transportation perspective, I concur with her opinion.

CONCLUSIONS

48 On the basis of my review of the anticipated outcomes at full development of the PC4 site, I remain of the view that the traffic generated can be accommodated on the adjacent roading network without capacity or efficiency issues arising. Although there is a need for a right-turn bay at the State Highway 1 / Inland Kaikōura Road intersection, I consider that the provisions of the plan change ensure appropriate protection of the safety and efficiency of the highway.

49 The submissions received that relate to transportation matters have been valuable and have led to (minor) updates to the notified rules to address the issues raised. The revised rules package effectively addresses these concerns in my view, and as a result, I understand that Waka Kotahi no longer wishes to appear at the Hearing as its concerns have now been addressed.

50 Having reviewed the transportation comments set out in the Council's s 42A report, the Council's consultant planner Ms Foote considers that the plan change request can be recommended for approval. From a transportation perspective, I concur with her opinion.

51 Overall, I remain able to support the plan change request from a transportation perspective, and in my view there are no transportation reasons why PC4 could not be recommended for approval.

Andy Carr

Dated: 13 March 2024

ANNEXURE A: FURTHER EXPLANATION OF GRAPHS

INTRODUCTION

- 1 This annexure provides further details regarding the graphs used to determine the warrant for right-turn bays and left-turn lanes, as shown on Figures 1 and 2 above.
- 2 The source of the graph is Austroads Guide to Traffic Management Part 8 ('Intersections, Interchanges and Crossings'). This guide is well-known by traffic engineers and has a high degree of acceptance in the profession.
- 3 The approach of standardising the way in which turning lanes are provided has been implemented to ensure that drivers are presented with a consistent roading environment for situations where traffic flows are similar.

RIGHT-TURN BAY

- 4 The vertical axis is the number of vehicles that turn right from the major road into the minor road in the peak hour (in this case, from State Highway 1 (north) into Inland Kaikōura Road).
- 5 The horizontal axis is the total amount of through traffic on the major road in the peak hour, plus also the number of vehicles that turn left from the major road into the minor road in the peak hour (in this case, from State Highway 1 (south) into Inland Kaikōura Road).
- 6 Once the data is plotted onto the graph, this determines the type of intersection layout.
- 7 Where a data point lies between the axes and the red line, the intersection is expected to be a 'basic' layout, with no formal turning lanes but with widened shoulders.
- 8 Where a data point lies between the red line and the blue line, the type of intersection layout is one that is not used in New Zealand due to road safety concerns (in essence, it is a layout where short lengths of turning lanes are provided and these lengths are sub-standard in this country).
- 9 For previous versions of the Austroads Guide, Waka Kotahi issued formal guidance about how data points lying in this area of the graph were to be

treated. This advice stated that such intersections were to be designed as 'basic' layout with just widened shoulders. While this guidance has been formally withdrawn, to my knowledge Waka Kotahi still applies this principle.

- 10 Where a data point lies towards the right of the blue line, the type of intersection layout is one where a full auxiliary right-turn bay is required.

LEFT-TURN LANE

- 11 The vertical axis is the number of vehicles that turn left from the major road into the minor road in the peak hour (in this case, from State Highway 1 (south) into Inland Kaikōura Road).
- 12 The horizontal axis is the through traffic on the major road in the peak hour travelling in the same direction as the other traffic that turned left (which in this case, is from State Highway 1 (south) to State Highway 1 (north). For the avoidance of doubt, traffic travelling from north to south is not included in this calculation.
- 13 Once the data is plotted onto the graph, this determines the type of intersection layout. As above, where a data point lies between the axes and the red line, the intersection is expected to be a 'basic' layout, with no formal turning lanes but with widened shoulders.
- 14 Where a data point lies between the red line and the blue line, the type of intersection layout is one that is not used in New Zealand due to road safety concerns, and the common practice is to design these as 'basic' layouts with just widened shoulders.
- 15 Where a data point lies towards the right of the blue line, the type of intersection layout is one where a full left-turn lane is required.