

**BEFORE INDEPENDENT HEARING
COMMISSIONERS IN CHRISTCHURCH**

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of the hearing of submissions on

Private Plan Change 23: Whisper Creek,
Spencerville to the Christchurch City Plan.

STATEMENT OF PRIMARY EVIDENCE OF
MICHAEL GRANT SMITH

On behalf of the

OURUHIA RESIDENTS GROUP

Dated 12 May 2026

Executive Summary

1. My full name is Michael Grant Smith. I am a director of Hollyford Consulting, a specialist Transport Planning Consultancy
2. I have prepared this statement of evidence at the request of the Ouruhia Residents Group in respect of a proposal to include Private Plan Change 23 Whisper Creek, Spencerville into the Christchurch District Plan (PPC23)
3. My evidence focuses on traffic and transportation matters.
4. I have reviewed the Application, the Integrated Transportation Assessment (ITA) prepared by Novo Group, including a modelling report prepared by QTP, the evidence of David Smith on behalf of the Council, and that of Nick Fuller on behalf of the Applicant.
5. I **conclude** that the transport modelling on which the ITA relies is deficient and that PPC23 has been prepared with no regard to the existing and planned road hierarchy.
6. I **recommend** that the application be declined.

Introduction

7. My full name is Michael Grant Smith. I am the director of Hollyford Consulting Limited, a specialist transport planning consultancy. I have been in this position for almost 2 years.
8. I have prepared this statement of evidence at the request of the Ouruhia Residents Group in respect of matters arising from the Submissions and evidence prepared for Private Plan Change 23 (PPC23) Whisper Creek, Spencerville to the Christchurch District Plan.
9. Before preparing this evidence, I have
 - a. Reviewed the following documents
 - i. Integrated Transportation Assessment (ITA) prepared by Novo group dated 16 April 2025 (Section 32 Appendix E).
 - ii. Traffic Network Effects Modelling Technical Report prepared by QTP in March 2025 and attached as an appendix to the ITA
 - iii. The Statement of primary evidence prepared by David Smith on behalf of the Christchurch City Council. (Section 42A Appendix 11)
 - iv. Evidence of Nick Fuller (5 May 2026)
 - b. Undertaken a site visit on the morning of Sunday 3 May 2026 where I drove over the network between Marshland Road and Spencerville including Spencerville Road, Lower Styx Road, Turners Road and Teapes Road in order to refresh my memory of the roads in the area and the changes that have occurred in recent years.

Qualifications and experience



10. I hold a Bachelor of Engineering (Civil) degree from the University of Canterbury. I am a Chartered Engineer (UK), a Fellow of Engineering New Zealand (FEngNZ) and a Member of the Institution of Civil Engineers (MICE). I am a member of the Engineering NZ Transport technical group and of the NZ Modelling User Group (NZMUGS) subgroup of the Transportation Group.
11. I have practiced as an engineer for over 50 years, starting in the UK in 1973 and on returning to New Zealand in 1975 to join Gabites Porter, initially as a transport planner and from 1992 as the sole director and shareholder. In 2013, I sold Gabites Porter to Traffic Design Group, who, in turn were acquired by Stantec in 2018. I was a Market Sector Leader with Stantec from then until 2024. I left Stantec in July 2024 to form Hollyford Consulting.
12. Prior to joining Stantec, I have provided expert transport planning and traffic engineering evidence at numerous local authority and Environment Court hearings, with my first (from memory) being before the Planning Tribunal in Timaru in 1985. While at Stantec I concentrated on transport modelling projects, but since leaving, I have been involved with several projects under the fast-track legislation in Queenstown and Hamilton. Over the years, I have worked with almost every local authority in New Zealand, many on the eastern coast of Australia, and on projects in Malaysia, South Africa, Hong Kong and Bhutan.

Code of Conduct

13. Although this is not an Environment Court hearing, I have read the Code of Conduct for Expert Witnesses included in the Environment Court Practice Note 2023 and agree to comply with it. Except where I state that I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

Scope

14. This statement of evidence covers the following matters
- a. A discussion on the Roding Hierarchy in the Spencerville area
 - b. A review of the Integrated Transport Assessment prepared by Novo Group
 - c. A review of the transport modelling report prepared by QTP
 - d. A review of the Section 42A Report Appendix 11 Transport (primary evidence of David Smith (20 April 2026))
 - e. A brief review of the evidence of Nick Fuller for the applicant
 - f. Development Construction effects

The Roding Hierarchy

15. When the existing zoning was proposed as Plan Change 45, the Commissioner's decision noted

The principal entrance to the complex will be from Lower Styx Road by way of a new bridge over the river...

and

Lower Styx Rd., a minor arterial in the City hierarchy, is likely to carry about 5000 vpd following development but even then will be operating at the lower end of its plan category. Presently the road is not formed to minor arterial standards, although room exists within the road reserve to enable that to occur. It is likely that upgrading work will be required. Similarly that part of Spencerville Rd. as lies between Turners and Lower Styx Roads may rise to about 1300 vpd placing it in the middle of the range expected for the relevant category of collector roads.

16. At that time (2010) Lower Styx Road was classified as a Minor Arterial Road, Spencerville as a collector Road, and Marshland Road as a Major Arterial Road. Since the opening of the Christchurch Northern Corridor motorway in December 2020, Marshland Road was downgraded to a Minor Arterial, and Lower Styx Road to a Collector – presumably in recognition of the relatively low traffic flows expected with the golf course zoning. Figure 1 shows the current Road hierarchy on the area.

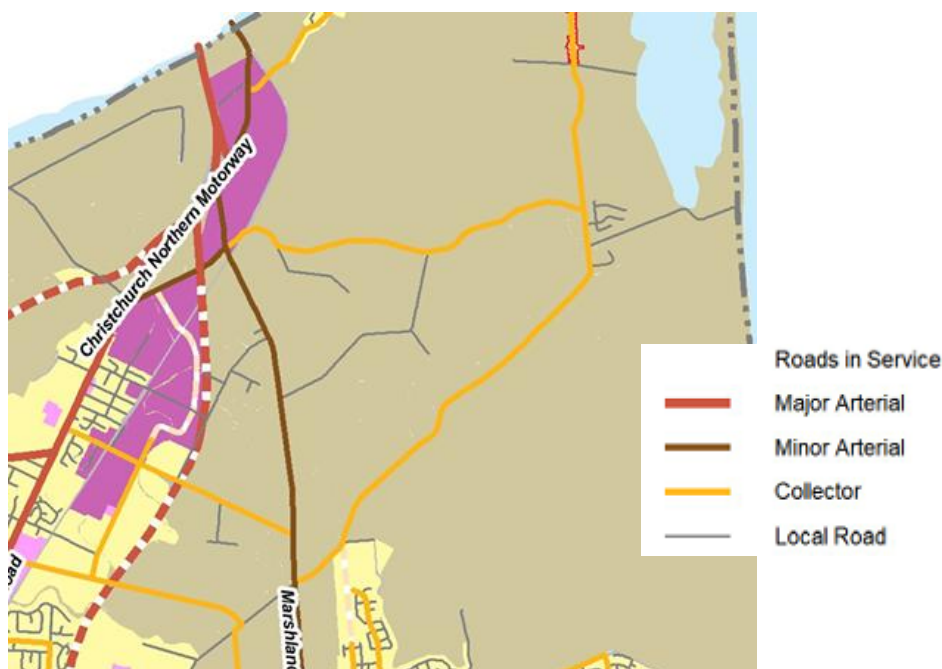


Figure 1 – Spencerville area road Hierarchy (extracted from the CCC District Plan)

17. The District Plan include the following description of the levels

Minor Arterial Roads (Marshland Road)

Roads that provide connections between major arterial roads and the major rural, suburban and industrial areas and commercial centres. Generally, these roads cater for trips of intermediate length. They will generally connect to other minor arterial roads and major arterial roads and

to collector roads. Arterial roads provide the most important movement function and as such require the highest degree of movement function protection. They may also define the boundaries of neighbourhood areas.

Collector Roads (Lower Styx Road)

Roads that distribute and collect local traffic between neighbourhood areas and the arterial road network. These are of little or no regional significance, except for the loads they place on the arterial road network. They link to the arterial road network and act as local spine roads, and often as bus routes within neighbourhoods, but generally do not contain traffic signals. Their traffic movement function must be balanced against the significant property access function which they provide.

Local Roads (Turners Road, Teapes Road)

These roads function almost entirely for access purposes and are not intended to act as through routes for motor vehicles

18. An earlier version of the District Plan included a description of the performance expected of the various levels of the Hierarchy. I have not been able to find a similar table in the current plan, but the principles do not change.

Christchurch City Council – City Plan (a ‘proposed district plan’ as at August 2001)

Appendix 2 – Roading hierarchy standards												
Road classification (refer to Appendix 3)	Typical total daily traffic flows (VPD)	Road widths (m)		Roadway widths (m)		Minimum lanes	Number of Footpaths	Median	Amenity strip	Parking	Cycle facilities	Access controls
		Minimum	Maximum	Minimum	Maximum							
Major arterial – Urban	>12,000	30	40	24	34	4	2	Yes	Yes	Yes	Yes	Yes
Major arterial – Rural	>10,000	40	50	30	34	4	No	Yes	Yes	Yes	Yes	Yes
Minor arterial – Urban	3,000 to 15,000	20	30	14	22	2	2	*	Yes	Yes	Yes	Yes
Minor arterial – Rural	2,000 to 12,000	20	30	12	22	2	No	*	No	Yes	Yes	(1)
Collector – Urban	1,000 to 6,000	18	20	12	14	2	2	No	Yes	Yes	*	*
Collector – Rural	100 to 2,500	18	20	9	14	2	No	No	No	Yes	*	No
Local – Business	–	18	20	12	14	2	1	No	No	Yes	*	No
Local – Urban	>250	14	20	9	14	2	2	No	Yes	Yes	*	No
Local – Urban	<250	12	18	8.5	12	2	1	No	Yes	Yes	*	No
Local – Rural	<250	16	20	7	14	2	No	No	Yes	Yes	*	No

Clarification of standards

- Where the road width and/or standard of construction requires road widening, the Council may initiate purchase or designation procedures as required.
- "Yes" means that the provision of those facilities shall be incorporated into the design and construction of the road.
- * means that the provision of those facilities is allowed for in the standards for road design and construction and/or shall be considered as conditions of consent on subdivision roading under Clause 5.2 of these rules.
- Amenity strips shall only be required on rural roads where these adjoin a Living Zone.
- (1) indicates that adequate spacing will be required between high traffic generators.
- For the purposes of calculating "Typical total daily traffic flows (VPD)" on local roads, the minimum vacant allotment size for the respective zone shall determine the number of household units, which in turn will be deemed to generate 10 vehicle movements per day.
- Local hillside roads (on any part of a zone on the slopes of the Port Hills) may only require one footpath.
- Some localised road widening may be required at intersections to increase capacity.

9. The minimum diameter for a cul-de-sac turning head is:

Residential	25 metres
Business	30 metres

19. A rural local road is expected to carry less than 250vpd, a rural collector between 100 and 2,500vpd, and a minor arterial between 2,000 and 12,000vpd. Currently, as far as I can tell from the documents, Marshland Road is carrying around 8,200vpd, Lower Styx 1600-2000vpd, Spencerville 500 to 1000vpd, and Turners 220-800¹vpd, meaning that all are operating with expected levels.
20. Hierarchies are included in District Plans for a reason. They exist to give residents confidence in the likely future operation of their surrounding network. In my view, residents

¹ The figure of 800vpd seems high but it is likely to be a count taken near the school and reflects the specific generating characteristics of the school.

should be able to rely on the hierarchy and the likely traffic levels when making lifestyle and locational decisions, and proposed developments should be cognisant that these are the policy positions of Council.

21. It is interesting to note that the traffic generation of the golf course zoning (as calculated in the ITA) is 3,700 per day of which (according to the PC45 decision) 2,500vpd would use Lower Styx Road. That flow added to the existing traffic would produce a flow on Lower Styx Road of around 5,000vpd which brings into question the Council decision to reclassify the road as a Collector. In my view it should have been retained as a Minor Arterial.

The Integrated Transport Assessment

22. There is little point in summarising the ITA – that has been well canvassed by others. What is worth saying is that the whole design of the proposal has been based on the premise that it is appropriate to access an 800-lot subdivision and a Neighbourhood Commercial Centre primarily from a local rural road. In my view it is not appropriate – and incidentally I came to that view before I had any conversations with the submitters. In the following paragraphs I will deal with specific issues that I have with the ITA in the order that they appear.

The ITA has identified 24 crashes between 2020 and 2025, of which only 5 involved minor injuries, with no fatalities and no serious injury crashes. I have looked at crash data (as shown in Figure 3) from 2021-2026 and have identified three serious crashes in 2025 – one on Marshland near Turners, one the Turners/ Teapes corner, and one on Spencerville Road near Farrells. Anecdotally, the residents note that there have been several more crashes at the Turners/Teapes corner that have gone unreported. This is a relatively high rate given the very low traffic flow on Turners Road. In addition, there were fourteen minor injury crashes in the period with six on Marshland, five on Spencerville (with one at the rail crossing) and three on Lower Styx Road. There were also 18 non-injury crashes. Accordingly, the ITA may be giving a misleading picture.

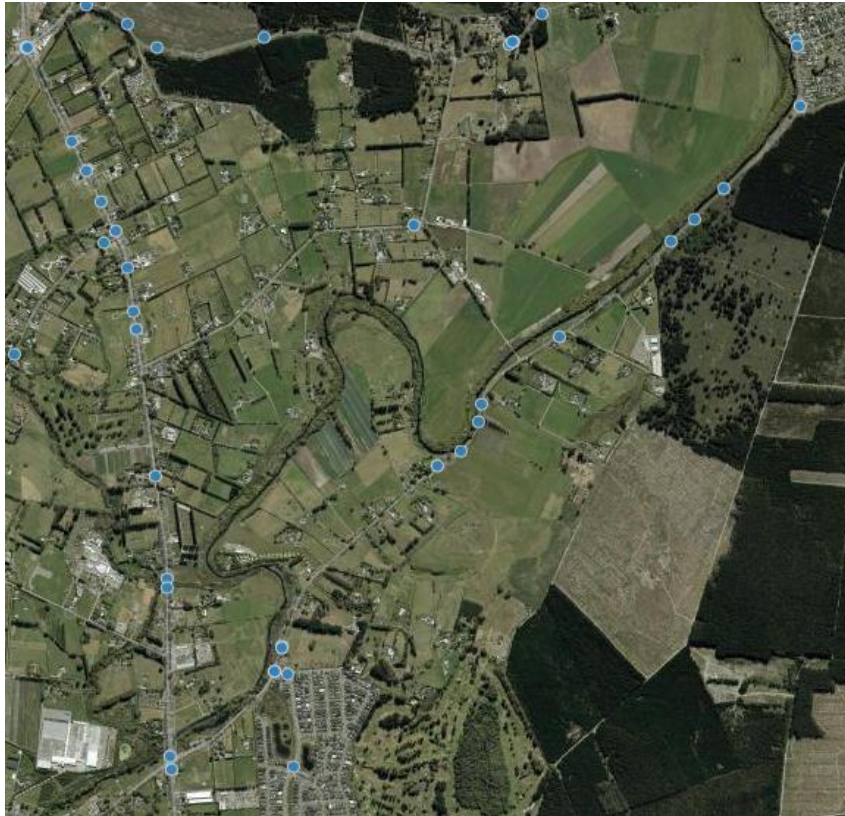


Figure 3 – Crash locations 2021-2026 (from NZTA open data portal)

23. If the Commissioner is minded to approve the Plan Change, then I would suggest that a road safety audit is carried out at each stage of the project – namely consenting, detailed design, construction and post construction.
24. I accept the trip generation calculations in the ITA as being within the generally accepted ranges and the application of these within the QTP modelling report. However, these rates inherently assume a degree of public transport service. Even if the level of service described in the report eventuated, the current and probable future timetable is an hourly frequency, which to my mind is almost equivalent to no service. The generation could be 10-15% higher than that adopted in the ITA.
25. Much of the ITA relies on the QTP modelling report, and I will comment on that later in this evidence.
26. The ITA covers the way in which intersections might be arranged given the proposed access positions. I am satisfied that there is sufficient space for these to be designed to the appropriate standards.
27. However, if the proposed development is approved, then Turners Road will be expected to carry 62% of the daily generation of 6,250vpd – or almost 4,000vpd, and would logically need to be reclassified at least as a collector road, but more probably as a minor arterial. In that case it would need two 3.5m lanes for traffic, two 1.0m shoulders and two 1.5m lanes

for cyclists – a total sealed width of 12m. If there is to be any frontage development onto Turners Road, then a further 3m would be needed for parking (including the shoulders).

28. David Smith, in his evidence has dealt with walking and cycling issues, and I defer to that analysis. I would add that, wherever possible, the cycle lanes and pedestrian footpaths should be physically separated from the main carriageway.
29. In summary, the ITA has described the impacts of a development that is totally inappropriate for that part of the network that it has access to. It has failed to address the alternative where the access is predominantly served by Lower Styx Road as is the case with the current Golf Course zoning. This alternative would address many of the issues that I have raised and others which have been identified by submitters.

Review of the QTP Modelling Report.

30. I have a number of concerns about the modelling which I address below in no particular order, but before I do, the flow pattern as reported intuitively looks sensible. It may well be that my concerns are to do with reporting rather than the technical analysis undertaken by QTP.
31. The CAST model uses Saturn modelling software, which means the trip generation and the origins and destinations of the development trips need to be derived exogenously. The report states:
- The initial estimate of travel demands for the CAST model come from the parent Christchurch Transportation Model (CTM) which uses demographic inputs as the basis of estimating travel demands in Greater Christchurch. (Section 3.1.1)*
32. I take this to mean the base demands used in the model vs count comparisons contained in the section 3. The trip generation has been accepted from the ITA but the origins and destinations of trips to and from the development have been assumed to be the same as those from the existing Spencerville settlement (section 4.1.1). While this is a pragmatic technique, it assumes that the new subdivision will have exactly the same characteristics as the houses that are already in Spencerville – car ownership, socio-economic groups, household size, family makeup-etc. In my view that is most unlikely. The development should have first been included in the CTM and the demands from it passed down into CAST
33. The model has used 2018 as the base year with local area validation checks which is standard practice. My concern is that land use activity and the transport infrastructure have changed significantly between then and 2026. The modellers have recognised this by ‘forecasting’ from 2018 to 2021 and checking flows against 2021 counts, on the basis that

The previous model update, v21 was completed in 2021, with the model base year being 2018. This was the last census year for which demographic data is presently available. (Section 3.1.1)

34. That statement is not correct. The 2023 Census data was available in November 2024 and could have been incorporated into a 2023 model update, prior to preparation of the ITA in March/April 2025.
35. Using 2021 as a validation base is fraught with difficulty. The disruptive effects of Covid in 2020 continued well into 2021 and 2022. My experience with model proving in both New Zealand and Australia is the travel patterns and traffic counts in those years are unreliable and should not be used as confirmation that a model is fit for purpose.
36. Secondly, when the model didn't fit well, QTP has used matrix estimation techniques to 'improve' the fit. This is a process by which the travel demand matrix (specific OD pairs) is modified to match the counts. This is a process which I believe should only be used as a diagnostic tool as it destroys the forecasting ability of the model. In this case, with significant questions on the counts, it should not be used. It is quite possible that more confidence can be placed on the base 2021 model than that which has been modified to match questionable counts.
37. Thirdly, the report then compares the 2021 modified model flows against the flows that were used to modify it as 'proof' that the model is validated. This is a circular process and merely serves to confirm that the matrix estimation algorithm built into Saturn is doing what it should.
38. Even if the 2021 counts were reliable, the 2018 model should have had the matrix estimation changes applied to it and the validation process repeated at 2018 to confirm that the modified model provided a better fit and could be used in a forecasting mode to 2038.
39. This raises the issue as to how a matrix estimated model can be used in forecasting. The QTP report simply says

For the purpose of this study, the 2038 base model is the v23 generic 2038 model, with the network and zonal demands subsequently refined as described above for 2021 (including the zone splitting and matrix estimation changes). (section 3.6.1)

40. The report needs to answer two questions – namely 'what is the rationale for using 2038 rather than some other future year' and 'how were the matrix estimation changes applied?'
41. As a (probably) minor point – the report says

For the AM peak period, the 07:30-08:30 time-slice was adopted as a basis of more robust assessment than the traditional 08:00-09:00 peak hour modelled for central Christchurch due to higher counts and modelled flows on Marshland Road during this period. (section 1.9)

but the reporting is for the 08:00 to 09:00 hour. Is that just a mislabel or have the model flows from 07:30 to 08:30 been compared against 08:00 to 09:00 counts?

42. The Model has not included any consideration of the commercial land use, stating as justification:

We note that the subdivision plan includes for a limited amount (around 1.5 ha) of commercial activities. It is anticipated that this would service the proposed residential subdivision, rather than forming a destination for trips from other residential areas. (Section 4.2.2)

With respect, this completely misunderstands the real world. There are no commercial activities currently available for the Spencerville residents. A commercial centre of 1.5ha could have 5,000 – 7,500m² of GFA – typically containing a small supermarket, possibly a restaurant or café and supporting retail. Typically, a centre such as this would be expected to generate around 7 trips/100m² in the evening peak hour or 50-60 trips /100m² per day which would equate to around 300-500 trips per hour, or a further 2,500-3000 trips per day.

43. Given that the nearest supermarket is at Preston's Road, around 6km away, these shops will be very attractive to both the development and Spencerville residents, and the centre needs to be included in the model.
44. Finally, the modelling has made the same assumptions as the ITA and the application – namely that there will be no access to Lower Styx Road. The option of using Lower Styx should have been explored and analysed.

Review of the Section 42A Report Appendix 11

45. In general, I agree with the points made by David Smith in his primary statement of evidence, but would comment as follows

46. In paragraph 30, Mr Smith says

I have reviewed the traffic modelling presented in the ITA and have concluded that this is generally undertaken in line with best practice.

For the reasons discussed above in paragraphs 30 to 44, I do not agree with this statement. The modelling may be current practice in Christchurch, but it is certainly not best practice.

47. In paragraph 35 Mr Smith discusses the one-way bridge on Spencerville Road concluding that it is not clear what effect the proposed Commercial activity will have on traffic on the bridge. I agree with these comments and believe that the commercial land use should be included in the model, the effects established, and a conclusion formed as to whether the bridge should be widened. Access to Lower Styx Road is unlikely to have much, if any effect on the Spencerville bridge, but again that should be assessed using the model.

48. I agree with Mr Smith when he concludes that he is unable to support the proposal in its present form.

Review of evidence of Nick Fuller (5 May 2026)

49. Mr Fuller's evidence is largely in response to David Smith's evidence provided as part of the Section 42A report and as such I have little comment on it. Mr Smith can advise whether it meets his concerns. It does little if anything to address the issue I have raised in the preceding paragraphs. I comment further in the following paragraphs.

50. In paragraphs 49 to 53 Mr Fuller discusses the suggestion of an access to Lower Styx Road via a bridge across the Styx River and gives an opinion on the way traffic might re-route as a result in Paragraph 50 – an opinion that I largely agree with – but which would benefit from testing through the model.

51. When considering the function and form of the network, I do not agree that the bridge is not required. If a bridge was considered necessary for the current zoning with a significantly lower traffic generation, then it is difficult to see why it is not necessary to support the present application.

52. In paragraph 83, Mr Fuller addresses the one lane bridge on Spencerville Road quoting the 2018 census of 162 households. I have looked at the Stats NZ data for the 2023 Census which shows 267 in the Spencerville area² and a further 393 in the wider Ouruhia area³. The catchment for the Commercial activity is much larger than that assumed by Mr Fuller. The point is also illustrated by Mr Fuller's diagram showing accessibility to Activity centres by car and cycle as being very poor for the whole of the Spencerville/Ouruhia area. As noted above, the commercial centre needs to be in the model and the CTM used to analyse demand. The demand/capacity of the bridge will be an output of that analysis.

53. Finally, I would comment on the analysis discussed in Paragraph 74 of Mr Fuller's statement. I don't agree that Level of Service 'F' is ever acceptable. It runs the risk of driver frustration and poor decisions leading to an increased safety risk at an intersection which, by Mr Smith's analysis, already has a poor safety record.

Traffic effects during site development

54. The application in Appendix B – Infrastructure notes that there will be 260,000 m³ of fill required, but it is not clear whether this will come from cut on site, or trucked in. If it is

² SA2 317100

³ SA2 317201

trucked in that would entail some 10,000 truck and trailer loads (20,000 movements) or roughly twice that if just a truck were used.

55. With no access to Lower Styx Road, these movements would need to access the site from Spencerville Road, or Turners Road. Trucks drivers do not like the railway crossing at Spencerville Road. They prefer to avoid this route because of the entry and departure angles of the railway crossing that is so steep they can get their tow bars hitting the ground. Turners Road will be the preferred access, and it will rapidly fail with that level of loading. This is an aspect that needs to be addressed prior to any approval being given. It is another argument for the Lower Styx access.

Summary

56. The proposed plan change has been prepared with no regard given to the existing and planned road hierarchy in the area. Turners Road – a local rural road is expected to serve as the primary access route for the development, both during construction and after the development is completed. It has completely ignored the option of providing access to Lower Styx Road – a road much more suited to the expected traffic and which connects to the arterial network using the signalised intersection at Marshland Road.
57. The proposed plan change should not be approved unless there is no access to Turners Road, and Lower Styx Road used as the primary access. In that event, Lower Styx Road should be reclassified to its earlier status as a Minor Arterial Road.
58. In my view, the modelling that the proposed plan relies on is deficient in that
- a. The model proving should be based on using the 2023 census data and checked against 2023 traffic counts.
 - b. Matrix estimation should not be used except as a diagnostic tool
 - c. The modelling does not take into account traffic which will be generated by the Retail Centre
 - d. The distribution of traffic is based on an assumption by the analyst rather than being calculated through the CTM.
 - e. There has been no analysis of the use of Lower Syx Road as the primary access, nor a comparative analysis of that against using Turners Road as the access.
59. Once the Retail Centre is included in the modelling, the function of the one-lane bridge on Spencerville Road needs to be revisited.

Conclusion

60. In my view, the Proposed Plan Change should be declined in its present form.



Grant Smith
12 May 2026

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