

**BEFORE AN INDEPENDENT HEARINGS PANEL
OF THE WAIKATO DISTRICT COUNCIL**

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the proposed Waikato
District Plan (Stage 1)
Hearing 25

**EVIDENCE OF TODD JAMES LANGWELL ON BEHALF OF HYNDS PIPE SYSTEMS
LIMITED AND THE HYNDS FOUNDATION IN OPPOSITION TO REZONING
REQUESTS**

TRAFFIC

17 March 2021

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1. INTRODUCTION

1.1 My full name is Todd James Langwell.

1.2 I hold a New Zealand Certificate of Engineering (Civil) and a post-graduate Certificate of Transport Planning, Management & Control from the University of New South Wales, Australia. I have been with Traffic Planning Consultants Limited (**TPC**) for the past 23 years and a director of the company for the past 12 years. Prior to that I gained 7 years of experience as a Traffic Engineer for Auckland City Council. During my time with TPC, I have been engaged by local authorities and the private sector for advice on many matters covering traffic engineering, road safety, design and network management.

1.3 I have read the Code of Conduct for Expert Witnesses (**Code**) outlined in the Environment Court's Consolidated Practice Note 2014 and confirm that I will comply with it in preparing my evidence. I confirm that the issues I will address are within my area of expertise, except where I state that I rely upon the evidence of other expert witnesses. I also confirm that I will not omit to consider material facts known to me that might alter or detract from my opinions.

2. SCOPE OF EVIDENCE

2.1 I was engaged by Hynds Pipe Systems Limited and the Hynds Foundation in October 2020 to provide traffic engineering advice and provide evidence on behalf of the Hynds Pipe Systems Limited and the Hynds Foundation in relation to their submissions/further submissions on the Proposed Waikato District Plan (**Proposed Plan**). Hynds Pipe Systems Limited and the Hynds Foundation are referred to collectively as **Hynds** in this evidence unless the distinction is made between the two organisations.

2.2 The focus of this evidence is on the submissions lodged by other parties, in particular Havelock Village Limited (**HVL**) and Tata Valley Ltd (**TVL**), seeking that the elevated land west of Hynds' site be rezoned from Rural (notified Proposed Plan) to Residential.

2.3 I have read the transport related sections of the Waikato District Council Framework Report prepared in accordance with s42A of the RMA (**Council's**

s42A Report) and the evidence prepared by Mr Leo Hills on behalf of HVL and TVL.

2.4 My evidence will cover the following matters:

- (a) The characteristics of McDonald Road and its suitability for residential transport use;
- (b) The anticipated use of McDonald Road by traffic from the HVL and TVL sites and the potential effects and mitigations;
- (c) Comments on the Council Reporting Officer's s42A Framework Report; and
- (d) Conclusions

3. MCDONALD ROAD

3.1 McDonald Road is a local road that bounds the Hynds Factory Site's north-western boundary with a posted speed limit of 50 km/h. To the north-east it meets Great South Road at an intersection with a Give Way priority control. The Proposed Plan indicates the primary function of a local road is one of property access.

3.2 The current zoning along McDonald Road is Heavy Industrial (Industrial 2 in the Operative Waikato District Plan) along the southern side, including the Hynds site at 9 McDonald Road and Light Industrial on the northern side. McDonald Road therefore experiences a higher than typical level of heavy vehicle activity associated with this type of land use.

3.3 McDonald Road has a kerb-to-kerb carriageway width of approximately 12 metres within the vicinity of the Hynds site, which allows for one traffic lane in each direction and on-street parking on both sides of the road. A short section of McDonald Road to the north of the Hynds site has a narrower carriageway as it approaches a level railway crossing, before widening out at the intersection with Great South Road to provide separate turning lanes into Great South Road.

- 3.4** Traffic flows on McDonald Road have not been recently recorded. I have estimated that the current vehicle flow to be in the order of about 900-1,000 vehicles per day (**vpd**)¹. Typically, the busiest hours will be about 10% of the daily flows or around 90-100 vehicles per hour (**vph**).
- 3.5** There are no detailed traffic counts of heavy vehicle activity on McDonald Road, however information provided by Hynds indicates that the average proportion of heavy vehicles using their site daily is about 15 to 20% of the total movements to and from the site. If this proportion is applied to the current traffic flow on McDonald Road, this would equate to about 200 heavy vehicle movements per day.
- 3.6** There are still vacant lots and undeveloped portions of industrial land on McDonald Road yet to be completed. I have considered the extent of undeveloped land that may have access to McDonald Road and estimate that about 50% of the land area is currently undeveloped. With current flows measuring at about 1,000 vpd, I would anticipate that future flows along McDonald Road will grow to around 2,000 vpd once all adjacent industrial land is developed as currently zoned. I would therefore expect the level of heavy vehicle activity to increase proportionately as well with up to 400 heavy vehicle movements per day.
- 3.7** McDonald Road serves only industrial land uses, and as a result a low volume of pedestrians and cyclists use the road. This is reflective of the current pedestrian facilities with a footpath only provided on its northern side and no cycling facilities either on or off road. This type of activity is therefore kept relatively separate from the heavy industrial activities and the Hynds site.
- 3.8** Recently bus stops have been introduced on both sides of McDonald Road outside the Hynds site which has now introduced the need for more pedestrians to cross the road to and from the bus stop.
- 3.9** I would anticipate as the industrial zoned land is developed there will be an increase in the pedestrian activity in the street and consideration will need to be given to providing footpaths on both sides of the road. However, I consider these

¹ Based on current land use activity that has access to McDonald Road.

activities will continue to remain relatively low and can occur safely with the anticipated vehicle movement associated with the industrial activity.

4. PROPOSED USE OF MCDONALD ROAD

Increases Vehicle Activity

- 4.1** The evidence of Mr Leo Hills on behalf of HVL has predicted that 40%² of vehicle movements generated by their proposed zoning will use McDonald Road. Mr. Hills does not indicate a daily flow prediction for the residential activity however does indicate a peak flow of about 510 vph for the overall development of 600 dwellings³.
- 4.2** Typically, peak hour volumes represent around 10% of the daily flow of a residential activity. Applying that figure, I have calculated the zoning proposed by HVL will generate around 5,100 vpd with around 2,040 vpd of these movements using McDonald Road.
- 4.3** Mr Hills has indicated that a conservative estimate of around 1,480 vpd⁴ are predicted from the rezoning proposed by TVL. Although not specifically addressed in Mr Hills' evidence, I anticipate that the similar distribution of traffic will apply to the proposed vehicle movements associated with TVL site with about 40% utilising McDonald Road or around 600 vpd.
- 4.4** Mr Hills also indicates that some special events that would occur with the TVL zone⁵ will generate additional traffic movements from time to time with most expected to access the site via Yashili Drive and the immediate network around it. I consider that as this would not be a daily occurrence that it is not included within any future trip generation or modelling on road capacity. I do however mention it as events will attract people not familiar with Pokeno and the industrial activities on McDonald Road adding to the effects of safety and disruption that I discuss later in my evidence.

² Paragraph 5.6 of the evidence of Leo Hills on behalf of HVL.

³ Paragraph 5.3 of the evidence of Leo Hills on behalf of HVL.

⁴ Paragraph 5.10 of the evidence of Leo Hills on behalf of TVL.

⁵ Paragraph 7.2 of the evidence of Leo Hills on behalf of TVL.

- 4.5** The proposed connection to Yashili Drive and Gateway Park Drive from both these rezoning proposals will provide a convenient and direct connection to State Highway 1 and the south facing ramps on the Waikato Expressway via McDonald Road.
- 4.6** McDonald Road will also provide a shorter and therefore quicker route for residents of the HVL and TVL proposed developments travelling to and from Pokeno Village. Motorists from these two zones will have two options to access the Village either via Hitchen Road, a travelling distance of about 1,400 metres or McDonald Road, about 1,200 metres from the end of Yashili Drive. Figure 1 illustrates the route for each from Yashili Drive to Pokeno Village and the Motorway Ramps.

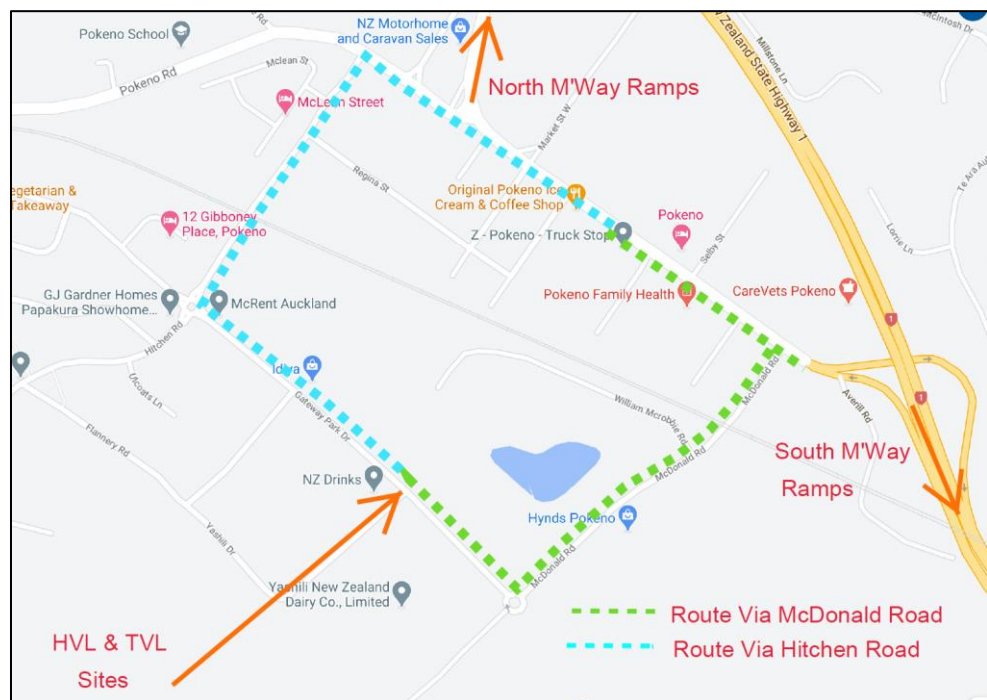


Figure 1 – Routes to Pokeno Village and M'Way Ramps

- 4.7** This will depend to some degree on whether the trip to the Village is the sole purpose of the trip, or whether they intend to travel to another destination. However, residents will become accustomed to using the most convenient route if others are congested and to avoid having to “double back”. For example, residents of HVL’s proposed development may choose to use McDonald Road to access the supermarket in the Village before heading north or as a return trip from the north, so they can avoid travelling back north again towards Pokeno Road and Hitchens Road.

- 4.8** Furthermore, Hitchens Road is anticipated to service several other residential areas and during peak times could be perceived to have a higher level of congestion compared to McDonald Road. This route involves a series of right turns to get to the Village, whereas the route via McDonald Road will have more left turns, which typically involves less delay.
- 4.9** The Pokeno Intersection Assessment that was carried out by Beca in December 2016 and is included in Mr Hills' evidence for HVL recommends that the key intersections be signalised including the Pokeno Road / Great South Road intersection. This can be also a deterrent to motorists who will seek to avoid long queues and lengthy delays at signalised intersections.
- 4.10** Similarly, I anticipate Gateway Drive and McDonald Road will become the preferred route to and from the south for trips generated by other industrial activities on Gateway Drive and residential activities further north that want to avoid the delays at the right turn from Hitchens Road onto Pokeno Road and the right turn from Pokeno Road onto Great South Road (towards the Village), particularly during those peak times. Mr Hills appears to have not taken this into account in his assessment.
- 4.11** For these reasons, I consider there is a risk that McDonald Road may become more attractive to users than the 40% estimated by Mr Hills and could easily be used by greater than 50% of the trips generated from the HVL and TVL proposed rezoning, plus an additional 500 to 1,000 vpd from other land use activities on Gateway Drive and in the Hitchens Road area.
- 4.12** Combining each of these predicted flows with my projected future flows on McDonald Road from growth in existing industrial zoned activities on McDonald Road, I would anticipate that McDonald Road could experience up to 6,500 vpd.
- 4.13** Typically, local roads with a single lane in each direction can accommodate up to 5,000 vpd and about 500 vph before it will begin to experience any notable congestion and safety risks can arise. I would therefore anticipate that its status would need to change from a local to a collector road which may require a number of upgrades and changes.
- 4.14** I am not aware of any specifics as to what upgrades are proposed by HVL to address the additional flows, the increase in safety risks and how these will be

delivered. This may well require staging of development and monitoring of effects. In my opinion this information needs to be provided before the effects of the rezoning proposal can be fully assessed.

Increases Pedestrian and Cycling Activity

- 4.15** Together with any increase in residential vehicle activity, I expect that McDonald Road would be subject to increases in pedestrian and cycle movements between both the HVL and TVL developments and Pokeno Village.
- 4.16** As discussed above, McDonald Road provides a shorter and less circuitous route between Yashili Drive and Pokeno Village. Pedestrians and cyclists are therefore likely to take a greater advantage of McDonald Road when travelling between these two locations.
- 4.17** I would also anticipate that McDonald Road will form part of an attractive loop for any recreational walking, running, and cycling that includes the Village and Hitchen Road.
- 4.18** Although not shown as a road or vehicle connection in the HVL masterplan, any residential zoned land close to the end of McDonald Road does provide the opportunity for a future pedestrian or cycling connection directly onto McDonald Road. If this occurs, the distance direct to Pokeno Village would be less than any route via Yashili Drive.
- 4.19** It is difficult to quantify the exact volume of pedestrians and cyclists that may use these routes. In my experience it would be reasonable to assume that it would be at least 5% of the likely vehicle trip generation that would also be using McDonald Road or around 200-250 movements per day.

Suitability of Cole Road and Bluff Road

- 4.20** I have visited the Hynds Factory Site and the surrounding road network and assessed the suitability of Bluff Road and Cole Road for residential use. I agree with Mr Hills' evidence⁶ on this matter. Both these roads would need to be upgraded to enable safe use for any residential activity. These roads have a

⁶ Paragraph 4.14 of the evidence of Leo Hills on behalf of HVL.

varied width and can only provide for one-way flow at regular locations along the route.

- 4.21** Although Mr Hills states Bluff Road is not intended to be the primary access route for HVL's proposed development⁷, and not initially expected to be connected, I consider the use of this connection (provided substantial upgrades are carried out) to be a lost opportunity to mitigate any effects on other parts of the network and manage future demands. If an upgraded connection is provided via Bluff Road, this will also have a direct impact of minimising residential vehicle activity on McDonald Road and any adverse effects on the safety and operation of that street.

Transport Effects & Potential Mitigation

- 4.22** With the increase in vehicle activity beyond 5,000 vpd, the resultant effects on McDonald Road and the mix of traffic movements with the industrial activities will in my opinion need addressing. I expect the following effects with this level of vehicle activity on McDonald Road:

- (a) Heavy vehicles require greater gaps in traffic as they turn slower and require more time to accelerate. Any increases in flows will affect heavy vehicle movements and may lead to trucks making unsafe manoeuvres when turning;
- (b) Left turning heavy vehicles into the industrial activities will also slow following vehicles. There is a risk of them attempting to overtake the turning truck. Due to a truck's size the following vehicle will have limited sight lines towards opposing vehicles and those that might be turning right out of the same access the truck is turning into or pedestrians crossing the road;
- (c) Added pedestrian and cycling activity on McDonald Road will mix with the industrial traffic and increase the risk of conflicts and road safety issues occurring. This will occur at the intersections where pedestrians will cross the road and at each of the site access points where industrial traffic is turning;

⁷ Paragraph 4.11 of the evidence of Leo Hills on behalf of HVL.

- (d) The added vehicle activity will also increase the risk for people crossing the road to and from bus stops, or to access the industrial lots; and
- (e) There is no mention in any documentation of the upgrade to the level rail crossing on McDonald Road. However, I would anticipate that with this level of predicted vehicle activity and the frequency of movement the safety risk at this crossing will be high. Certainly, with any added frequency of future passenger train services, the safety risk at this crossing will increase for both vehicles, pedestrians and cyclists.

4.23 To address these effects, I consider there is a need to reduce the ability for future residential trips to utilise McDonald Road. This includes both vehicle and the active modes of walking and cycling. These measures should be put in place before any zoning is approved on the HVL and TVL sites to ensure any future industrial traffic demands can be accommodated and continued to be managed safely.

4.24 This will be challenging with a connected public road network that needs to be able to service the existing industrial zoned activities. Road users will tend to take the path of least resistance and unless roads are closed these effects cannot be completely addressed.

4.25 Promoting alternative routes and minimising the level of residential vehicle use on McDonald Road so that traffic flows remains below 5,000 vpd may be sufficient to address the effects I have raised. Although there will always be a risk if congestion increases in other parts of the network and McDonald Road remains an attractive option for residential transport use.

4.26 Although not relied upon in Mr Hills' evidence, I consider the use of Cole Road and Bluff Road to connect the HVL site to Pioneer Road and State Highway 1 will be critical to reduce the loads on McDonald Road and other parts of the local road network in Pokeno. Pioneer Road leads to on and off ramps in both directions on State Highway 1 and provides all the options of regional travel. Vehicles travelling to and from HVL and TVL sites without the need to visit Pokeno Village can utilise this route.

- 4.27** As highlighted by Mr Hills, and I agree with his conclusion, both Cole Road and Bluff Road will require an upgrade to the necessary standards to enable suitable and safe use with any added vehicle activity.
- 4.28** Based on information provided by Hynds' consultants The Surveying Company, I understand part of the existing formation of Cole Road is located within the Hynds property at 62 Bluff Road. No specific details of a future alignment of Cole Road have been indicated in Mr Hills' evidence. Therefore, I am uncertain that an upgrade of Cole Road would be possible without the cooperation of Hynds.
- 4.29** Similarly, and to be able to manage the amount of pedestrian and cyclist use of McDonald Road, upgrades to pedestrian and cycling facilities along the McDonald Road route are required to ensure these modes are suitably separated and safely managed.
- 4.30** Furthermore, and more critically, no pedestrian connection direct from the HVL site and the end of McDonald Road should be provided.
- 4.31** An alternative more direct route needs to be provided between the end of Yashili Drive towards the east connecting with William McRobbie Road, the proposed Railway Station and across the railway line to Marlborough Street and onto the Pokeno Village.
- 4.32** Finally, consideration will need to be given to upgrading the level rail crossing on McDonald Road if traffic volumes continue and train frequencies increase.

5. COMMENTS ON THE COUNCIL SECTION 42A REPORT

- 5.1** I have reviewed the Council's s42A Framework Report⁸. Although it does not specifically address the HVL and TVL rezoning proposals, it sets out the Council's best practice guidance for rezoning.

⁸ Dr Mark Davey Hearing 25 Zone Extents Framework Report (19 January 2021).

5.2 In particular, the report sets out additional locations criteria for general business and industrial zoned land⁹. The following is stated for industrial zones with regards to access through residential activities:

b. ease of access to the regional road network (without passing through towns and village centres or through residential areas

5.3 Although the guidance does not specifically address the effects of residential traffic in industrial areas, there is an intention to separate these types of activities.

5.4 As I have set out above, too much residential traffic travelling through an industrial zone can have an adverse effect. This can increase the safety risk concerns and the mixing with heavy industrial vehicles and in particular the vulnerable road users such as pedestrians and cyclists.

6. CONCLUSION

6.1 I have considered the existing and future transport environment of McDonald Road.

6.2 I have analysed the anticipated traffic generation activity from the rezoning proposed by HVL and TVL to understand the potential traffic effects on McDonald Road.

6.3 I consider there is a high possibility that traffic flows on McDonald Road will be far greater than indicated by HVL and TVL and in the evidence prepared by Mr Hill.

6.4 As a result, I have identified several adverse effects on McDonald Road. The mix of residential traffic movements with the traffic associated with industrial activities will in my opinion need addressing before residential rezoning can occur.

Todd James Langwell

17 March 2021

⁹ Zone Extents Framework Report at paragraph 162.