



## Memorandum

To	Stuart Pearson
Copy	
From	Robert Swears
Office	Hamilton
Date	5 December 2023
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Subject	West Coast PDP

Dear Stuart

This memorandum has been prepared in response to questions raised by the Commissioners hearing the Waka Kotahi submission in relation to the West Coast PDP. The memo describes my consideration of two matters:

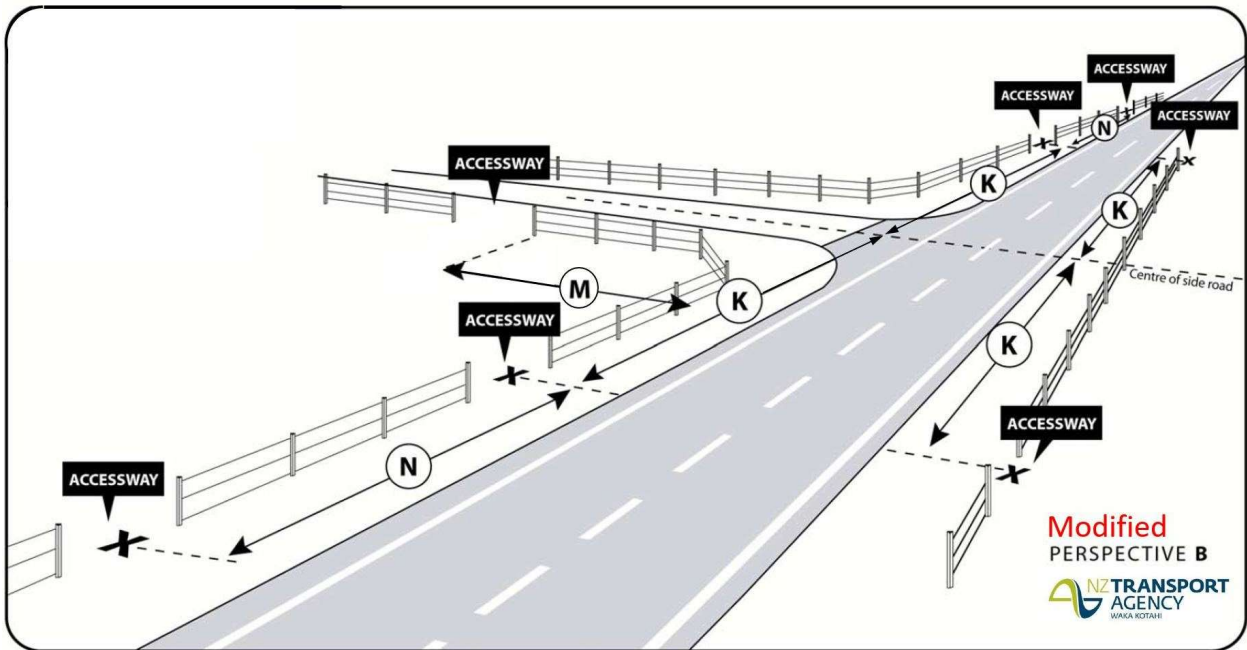
- Accessway separation
- Transport assessment criteria

### 1 Accessway Separation

In Section 5 of my statement of evidence, which described accessway separation, I referred (inter alia):

- It may be practicable to adopt a TCD 4 approach of having three speed limit bands.
- The PPM Perspective B approach is a useful starting place.
- Notwithstanding Perspective B, I prefer the approach described by Figure 1 of your statement.
- There may be merit in incorporating zones as a consideration.

Taking those points into account, I note the access separation as described in the modified PPM Perspective B is as shown below. However, those separations are not aligned with the desirable spacings described in Table App5B/3 - Guidelines for minimum accessway spacings, of the PPM.



Speed Limit (km/h)	Distance (m)		
	K	M	N
50	30	20	
60	30	20	
70	100	45	40
80	100	45	100
90	200	60	200
100	200	60	200

In my statement I referred to the possibility of referring to zones, however, that was with the intention of applying a metric that may identify whether an access will have heavy vehicles. The reason for differentiating between accesses that do and do not have heavy vehicles is the length of road occupied by a heavy vehicle as it comes to a very slow speed to turn into an access. However, if we adopt a PPM type approach of identifying whether there are heavy vehicles using an access, that could be the criteria for specifying access separation. The only difficulty in that regard is that the use of an access may change, however, the underlying zone is less likely to change. Taking these matters into consideration, the tables below describe two possible approaches for specifying accessway separation for inclusion in the West Coast PDP.

Type of traffic using accessway (more than one slow, heavy or long vehicle movements per week?)	Separation (m) for Posted Speed Limit (km/h)								
	30 - 50 km/h			60 - 70 km/h			80 - 100 km/h		
	K	M	N	K	M	N	K	M	N
Yes	30	30	5	60	40	40	200	60	200
No	20	20	5	60	30	20	150	60	200

Land Use	Separation (m) for Posted Speed Limit (km/h)								
	30 - 50 km/h			60 - 70 km/h			80 - 100 km/h		
	K	M	N	K	M	N	K	M	N
Industrial / Rural / Special Purpose Zones	30	30	5	60	40	40	200	60	200
All Other Zones	20	20	5	60	30	20	150	60	200

The philosophy behind the separations is as follows:

- K: Sufficient length to accommodate the turning vehicles without obstructing the intersection, plus adequate separation to reduce the potential for confusion between a vehicle signalling to use an accessway and a vehicle signalling to use the intersection.
- M: For the intersecting road, the separation between the intersection and the nearest access should be at least equal to the length of the vehicles that will be turning into that access, plus a margin for following turning vehicles to be able to accommodate vehicles in front of them turning into the access.
- N: Providing adequate separation between accesses to reduce the number of conflict points along a section of road. The higher the speed limit and associated crash impact speeds the more important it is to reduce the number of conflict points. In addition, those roads that have higher speed limits tend to be the roads that have a higher traffic movement function.

While the approach described in the tables includes a three banded speed limit approach, this is not aligned with the three banded approach included in the current draft of Part 4 of the Traffic Control Devices Manual. However, it is moderately well aligned with a crash risk approach.

## 2 Transport Assessment

### 2.1 Criteria for Assessment

In my statement of evidence for the West Coast PDP I referred to the Environment Court decision for the Thames-Coromandel District Plan where the criteria for assessment of the effects on the transport network of a land use development are based on the road hierarchy and the trip generation associated with the proposed development. The table below is taken from the Environment Court decision.

<u>Vehicle Trip Generation</u>	<u>Road Hierarchy</u>			
	<u>Local</u>	<u>Collector</u>	<u>Arterial</u>	<u>Regional</u>
<u>Low (51-100 ECU per day)</u>	<u>n/a</u>	<u>n/a</u>	<u>Traffic Impact Assessment</u>	<u>Traffic Impact Assessment</u>
<u>Medium (101-250 ECU per day)</u>	<u>n/a</u>	<u>Traffic Impact Assessment</u>	<u>Traffic Impact Assessment</u>	<u>Integrated Transport Assessment</u>
<u>High (&gt;250 ECU per day)</u>	<u>Integrated Transport Assessment</u>	<u>Integrated Transport Assessment</u>	<u>Integrated Transport Assessment</u>	<u>Integrated Transport Assessment</u>

In the Joint Witness Statement (JWS) signed on 30 November 2023 in relation to the Waimakariri PDP, I proposed the following matrix for determining the appropriate level of transport assessment for land use development based on the road hierarchy. The criteria I proposed are different from those proposed by the two other experts that are signatories to the JWS, however, they are relatively closely aligned with those proposed by Shane Binder (Senior Transportation Engineer, Waimakariri District Council).

Equivalent Car Movements per day	Access is to a road classified as:			
	Local	Collector	Arterial	Strategic
0-100	n/a	n/a	n/a	n/a
101-200	n/a	Basic	Basic	Full
201-400	Basic	Basic	Full	Full
>400	Full	Full	Full	Full

In response to my proposal that an approach similar to the Environment Court decision for the Thames-Coromandel District Plan could be applied for the West Coast PDP, but with the hierarchy based on the One Network Framework (ONF), the Commissioners hearing the Waka Kotahi evidence in relation to the West Coast PDP requested that we table such a proposal for them to consider. While neither I nor the Commissioners for the hearing were aware of the ONF having been applied to the road network for the West Coast; I have learned since the hearing that many of the roads have been assigned an ONF designation and these are described in MegaMaps. Notwithstanding that, the One Network Road Classification (ONRC) system has been applied to roads across the Region through the Road Assessment and Maintenance Management (RAMM) system. The three tables below illustrate the manner in which thresholds for transportation assessments could be assigned using either the ONRC or the ONF as the road hierarchy.

### One Network Framework: Rural

Equivalent Car Movements per day	Access is to a road classified as:			
	Stopping Places	Rural Roads / Peri-Urban	Rural Connectors	Interregional Connectors
0-100	n/a	n/a	n/a	n/a
101-200	Basic	Basic	Basic	Full
201-400	Basic	Basic	Full	Full
>400	Full	Full	Full	Full

The framework for the Waimakariri PDP did not include a transport assessment for the lowest level road where trip generation is 101 – 200 ecm. However, because with the ONF we are dividing the hierarchy into urban and rural, it is important to consider the type of activities being carried out along these types of road. A stopping place will typically be a relatively localised section of road at which there is a high level of place function, which means high levels of the use of the road corridor for activities other than movement. For example, there is a short section of SH6 at Punakaiki that has been identified as a “Stopping Place”. Therefore, I have included a proposal for a Basic level transport assessment for Stopping Places where equivalent car movements are in the 101 – 200 ecm range to encourage more detailed consideration of interactions between traffic using the proposed development and vulnerable road users using the “Stopping Place”.

### One Network Framework: Urban

Equivalent Car Movements per day	Access is to a road classified as:			
	Civic Spaces / Local Streets	Activity Streets / Main Streets	Urban Connectors / City Hubs	Transit Corridors
0-100	n/a	n/a	n/a	Full
101-200	n/a	Basic	Basic	Full
201-400	Basic	Basic	Full	Full
>400	Full	Full	Full	Full

The approach described above for urban roads is slightly less conservative than that applied for the Waimakariri PDP. The reason being that the West Coast Region does not presently

have any “Transit Corridors” under the ONF, therefore, “Urban Connectors / City Hubs” are the urban roads within the Region that will have the highest movement function. Noting that Transit Corridors are essentially motorways, I have set the level of assessment as “Full” for all equivalent car movements, however, that is unlikely to affect the West Coast Region.

**One Network Road Classification**

Equivalent Car Movements per day	Access is to a road classified as:			
	Access	Primary / Secondary Collector	Arterial	Regional / National
0-100	n/a	n/a	n/a	n/a
101-200	n/a	Basic	Basic	Full
201-400	Basic	Basic	Full	Full
>400	Full	Full	Full	Full

I have endeavoured to adopt an approach that is consistent with that presented in the Waimakariri JWS, however, there is not perfect alignment of the Waimakariri hierarchy with the ONRC and / or the ONF. Notwithstanding that, I consider the tables above are a reasonable starting place for discussion purposes.

**2.2 Contents of Assessment**

With regard to the assessments, I consider that the precise names given to the assessments is not as important as the content of those assessments. By way of example, the Waka Kotahi “Integrated transport assessment guidelines, Research Report 422” (2010) describe a four-tiered scope for transport assessments. By contrast, the Waka Kotahi Planning Policy Manual describes contents for a single type of assessment.

In my opinion, an approach such as that described in Appendix 8 of the TCDC District Plan (refer [https://eplan.tcdc.govt.nz/pages/plan/Book.aspx?exhibit=TCDC\\_Appeals2016\\_External&hid=110898&s=Transport+assessment](https://eplan.tcdc.govt.nz/pages/plan/Book.aspx?exhibit=TCDC_Appeals2016_External&hid=110898&s=Transport+assessment) ) suitably documents the contents for a Traffic Impact Assessment (which is commensurate with the Basic assessment described in this memorandum) and an Integrated Transport Assessment (which is commensurate with the Full transport assessment described in this memorandum). Selwyn District Council also describes the basic contents for two types of assessment in its partially operative District Plan, with “Traffic Assessment” and “Integrated Traffic Assessment” being the titles given to those assessments.

I consider it desirable for Waka Kotahi to provide simple but provide clear guidance to the Region. Based on terminology that is normally used, I consider it would be best if we refer to the "Basic" one either as a "Basic Integrated Transport Assessment" or as a "Traffic Impact Assessment" and if we refer to the "Full" assessment as either a "Full Integrated Transport Assessment" or as an "Integrated Transport Assessment".

The Thames-Coromandel and Selwyn examples are reasonable starting places from which the Region could determine the definition of the two types of transport assessments to be incorporated into the combined District Plan.

Please contact me if you have any questions regarding the proposals presented in this memorandum for consideration by Waka Kotahi and the combined West Coast District councils.

Regards

Robert Swears  
Technical Principal - Road Safety and Traffic Engineering