

# **Appendix E**

## **Expert Advice**

12 February 2020

Clare Douglas  
Hamilton City Council  
Privat Bag 3010  
Hamilton 3240



Gray Matter Ltd  
2 Alfred Street  
PO Box 14178  
Hamilton, 3252  
Tel: 07 853 8997

14\_312

Dear Clare

## PLAN CHANGE 6: REGULATORY EFFECTIVENESS AND EFFICIENCY PROGRAMME (REEP) – TRANSPORTATION SUBMISSIONS

### 1. Introduction and Purpose

The Regulatory Effectiveness and Efficiency Programme (REEP) was set up to ensure the Council's regulatory functions are delivered in an effective, efficient and customer-focused manner. Plan Change 6 (PC6) incorporates recommendations from REEP to make our District Plan more enabling and workable.

The proposed changes of PC6<sup>1</sup> to Chapter 25.14 Transportation include:

- = Include an exemption to the vehicle separation distance requirements where there is no ability to comply with the separation distance requirements.
- = Amend requirements for internal access widths to state legal widths and identify when public roads might be required and what standard of design is expected.
- = Amend the design and access width requirements to include minimum width and height of access, require splays, require internal vehicle access to remain unobstructed.
- = Exclude access and loading provision in the definition of service area.
- = Include tracking curve diagrams in the District Plan for 99th percentile car tracking curve for internal manoeuvring, 90th percentile car tracking curve for parking space manoeuvring, 8m Medium Rigid Truck for loading spaces.
- = Amend the tables for Simple and Broad Integrated Transport Assessment checklists to remove unnecessarily onerous information requirements.
- = Alter the thresholds and circumstances under which requirement to provide any Integrated Transport Assessment is triggered.

The purpose of this review is to review and provide responses to the transportation related submissions.

### 2. Transport Submissions

#### 2.1. Overview

There are a number of transport related submissions which we have reviewed. We have provided comment on each of the submission points in the table attached at Appendix 1. More detailed explanation of the following points is provided in this letter:

- = Rule 25.14.1 h) Design and Access Widths;
- = Rule 25.14.4.3 Integrated Transport Assessment Requirements; and
- = Rule 23.7.4 Large Lot Residential Zone – road cross-section widths.

<sup>1</sup> <https://www.hamilton.govt.nz/our-council/council-publications/districtplans/ODP/District%20Plan%20Change%206/Summaryplanchange6.PDF>

## 2.2. Rule 25.14.1 h) Design and Access Widths.

A number of submissions was received on the Rule 25.14.4.1h) relating to internal access width. Submissions raised concerns with:

- = Thresholds for different cross-sections at 6 lots and 20 lots;
- = Ownership of access to 7-20 lots; and
- = Width of public roads.

### 2.2.1. Threshold and Ownership

Providing a threshold for different cross-sections at 6 lots and 20 lots is consistent with the thresholds provided NZS4404<sup>2</sup>.

As shown below, PC6 provides two ownership arrangements for access to 7-20 lots, either as a 16m wide public road or 6m wide private way with a unit title arrangement. Council considers it important that public roads include footpaths, recessed parking and service berms which increase the width of public road.

This philosophy has been applied in the Subdivision chapter (Rule 23.7.3 – 23.7.4), except for Large Lot Residential Zone. I have addressed this separately.

Internal Vehicle Access	Use of Access	Minimum Formation Width (m)	Minimum Legal Width
Residential units	1-6 units	3.0	3.6
	More than 6 units 7-20 units (where access is to form common property under a unit title arrangement)	5.5	6.0
	7-20 units (where access to vest as road as part of a fee simple subdivision)	6.0	16.0
	More than 20 units (Local Road)	6.0	20.0
	More than 20 units (Collector Road)	9.0	23.0
Residential centres, visitor accommodation	1-12 occupants	3.0	3.6
	More than 12 occupants	5.5	-
Car parking facilities	Up to 15 spaces	3.0	-
	More than 15 spaces	6.0	-
All other sites used for industrial or business activities	Up to 5 occupancies	6.0	-
	More than 5 occupancies	8.0	-

Figure 1: Rule 25.14.4.1h)

### 2.2.2. Carriageway Width

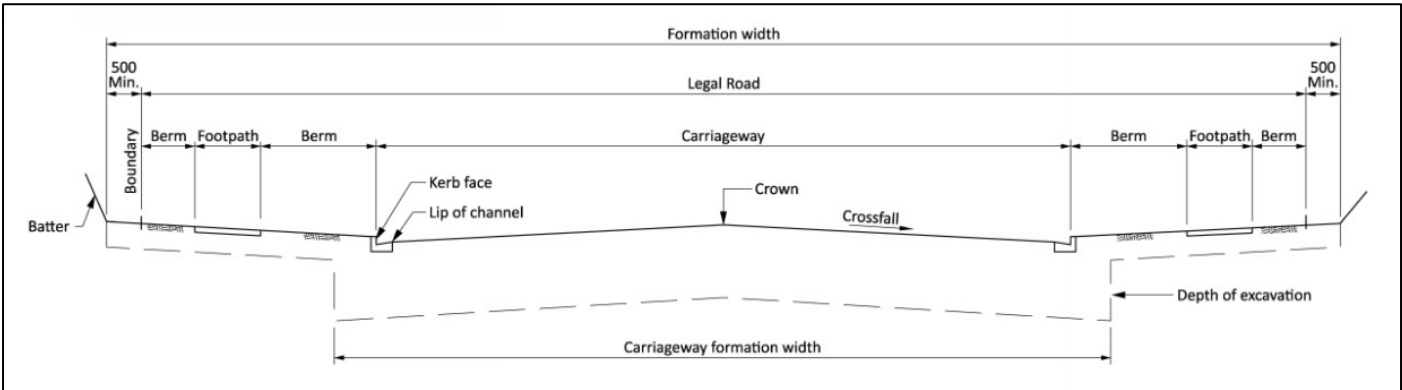
Road widths need to provide adequate movement lanes, footpaths and berms to balance the need for movement (both by vehicles and alternative modes), retain amenity values and provide for services. HCC is concerned that narrower road widths sought in submissions will not adequately provide this balance, especially when considering the need for on-street parking, walking and cycling, services and refuse collection. Council's preference is that recessed parking is provided on both sides of the road so that the carriageway is available for two-way movement.

A lack of on-street parking can result in poor parking behaviour adversely affecting property access, efficiency by blocking through routes for refuse trucks and emergency vehicles, and damage from parking on the berm

<sup>2</sup> NZS4404:2010 Land Development and Subdivision Infrastructure

(if available). Council’s new rubbish collection service by wheelie bin changes the way rubbish and recycling is collected. Narrow roads can comprise the ability for trucks to access the bins.

The District Plan currently requires a 6m carriageway width for all residential local roads while NZS4404 provides for a movement width of 5.5-5.7m (excluding shoulders). For clarity, the RITS (D3.1.1) defines the carriageway as the width from kerb face to kerb face. This is consistent with Austroads guidance<sup>3</sup>. This is important as recently constructed subdivisions include a modified kerb profile in parking bays/vehicle crossings which has reduced the effective width of the parking bays.



**Figure 2: Extract from LASS RITS D3.1.1**

In discussing the requirements for carriageway widths NZS4404 (C3.3.1) states that:

*“A width in the range of 5.5-5.7m providing for ability to park on one side of the road and one through lane, or alternatively two through lanes. This is often not defined at engineering stage and is instead left to road users to choose this type of road is provided for in the standard and is typically appropriate for shorter streets up to approximately 250m, to assist with achieved a slower operating speed.”*

Austroads Guide to Road Design Part 3: Geometric Design, Section 4.10.2 Parallel Parking relies on NZS2890 Parking Facilities. Under normal conditions they require 2.3m wide parallel parking reducing to 2.1m where there is restricted roadway width. Both references<sup>4</sup> states that parallel on-street parking is generally applicable where traffic speeds past the site do not generally exceed 60km/h and desirable there should be 0.5m clearance from the nearest moving traffic lane. The desirable clearance increases with increasing traffic speeds.

We have visited recently constructed subdivisions at Greenhill Park and Rotokauri where recessed parking with narrow carriageways. The Greenhill Park subdivision provides a 5.5m carriageway plus 2.1m recessed parking (noting that the 2.1m appears to be measured to the back of the kerb). The combination of the narrow carriageway, narrow recessed parking and no clearance/shoulder between the carriageway and parking results in vehicles overhanging into the movement lane.

<sup>3</sup> Austroads, Guide to Road Design, Part 3: Geometric Design, Section 4.2.4

<sup>4</sup> NZS2890.5, Parking Facilities Part 5: On-street Parking, Section 2.4 Roadway Width Limitations for Parallel and Angle Parking



**Figure 3: Parallel Parking Encroaching into Movement Lane**

As stated above, Council's preference is to provide for recessed parking on both sides of local residential roads, retaining the carriageway for two-way vehicle movement is important for rubbish collection and emergency vehicle access. These large vehicles require additional space for vehicle tracking especially at intersections and on curves. A 6m carriageway (measured kerb face to kerb face) provides the minimum movement lane width of 5.5m (refer NZS4404) plus a narrow shoulder providing 0.25m clearance to the recessed parking bays.

The District Plan (Rule 23.7.3a)) requires a minimum transport corridor boundary of 15m for a front site. A 250m long road would provide for 16 lots on each side of the roads (32 lots total). We note that the threshold for carriageway widths is set at 20 lots. We recommend that the carriageway width for Local (low volume) transport corridors is retained at 6m.

Local residential roads with more than 20 lots are likely to be longer than 250m and we support retaining a 6m carriageway width.

### **2.2.3. Service Berm**

We understand that service authorities have confirmed to some developers that 1.5m berms adequately provide space for the required services. HCC has not been provided with written confirmation from service providers, but is satisfied that 1.5m berms are adequate.

It is desirable that written confirmation was received from the various service authorities. Submitters may be able to provide this for recently consented developments.

### **2.3. Correction to Rule 23.7.5c)**

Rule 23.7.5c) should be amended so that to refers to "1-6 allotments" (not 1-4 allotments). The revised rule should read:

*c) Minimum private way width serving 1-6 allotment                      3.5m*

### **2.4. Rule 25.14.4.3 Integrated Transport Assessment (ITA) Requirements**

PC6 seeks to simplify the trip generation triggers for ITAs in Rule 25.14.4.3a). However, these simplifications were not continued in Rule 25.14.4.3b) relating to triggers at existing vehicle accesses. We recommend that the rule is amended to remove the reference to activity status and only require a Simple ITA.

We recommend the rule be amended to:



Rule 25.14.4.3b) For existing vehicle accesses to a strategic network or major arterial transport corridor, or where it takes access across an existing railway level crossing a Simple ITA shall be prepared for any activity that increases the use of the vehicle access by more than 100 vehicles per day.

The 100 vehicle per day trigger relates to the when an auxiliary lane (e.g. right-turn bay) may be triggered and remains the appropriate trigger.

## 2.5. Rule 23.7.4 Large Lot Residential Zone

Submitters raised concerns with the proposed cross-section widths in the Large Lot Residential Zone. The minimum widths in Rule 23.7.4 and criteria at Appendix 15, Table 15-6a(ii) are the same in all residential zones. Large lot residential development has a lower development density reducing the demand for walking and cycling facilities. Due to the larger lot size, there is likely to be less demand for on-street parking.

23.7.4 Large Lot Residential Zone	
a) Minimum transport corridor boundary length for a front site	40m
b) Minimum rear boundary length of a front site	10m
c) Maximum number of allotments served by a single private way	6
d) Minimum private way width serving 1-6 allotments	3.6m
e) <del>Minimum private way width serving 6 allotments</del>	<del>4.5m</del>
e) Public road serving 7 – 20 allotments	16.0m
f) Public road serving more than 20 allotments (Local Road)	20.0m
g) Public road serving more than 20 allotments (Collector Road)	23.0m

Figure 4: PC6 Cross-Section Widths

As shown below, for Rural places NZS4404 only requires footpaths on collector roads (20m road width). In Live and Play areas walking is provided on the shoulder and berm. Parking is provided for on the shoulder.

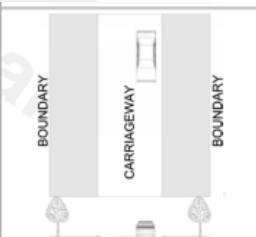
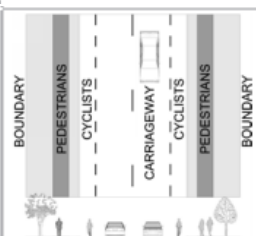
PLACE CONTEXT			DESIGN ENVIRONMENT				LINK CONTEXT				TYPICAL PLAN AND CROSS SECTION	
Area	Land use	Local attributes	Locality served	Target operating speed (km/h)	Min. road width (m)	Max. grade	Pedestrians	Passing, parking, loading and shoulder	Cyclists	Movement lane (excluding shoulder)	Classification	See Appendix E for larger versions of figures
Notes	See 3.2.4, table 3.1 & 3.3.1.6	See table 3.1	See table 3.1	See 3.3.5	See 1.2.2, 3.3.1.9, & 3.4.16		See 3.3.11	See 3.3.6 & 3.3.1.4	See 3.3.1.5, 3.3.7, & 3.3.11.2	See 1.2.2, 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.10, 3.3.11.3	See 3.2.4.2 & 3.3.16 (Typical max. volumes)	
Rur	Live and play	Access to housing	1 to 150 du	70	15	12.5%	Shared (on shoulder and berm)	Total shoulder 1.0 m, sealed shoulder 0.5 m	Shared (in movement lane)	5.5 - 5.7	Local road (~ 1000 vpd)	
Notes	See 3.2.4, table 3.1 & 3.3.1.6	See table 3.1	See table 3.1	See 3.3.5	See 1.2.2, 3.3.1.9, & 3.4.16		See 3.3.11	See 3.3.6 & 3.3.1.4	See 3.3.1.5, 3.3.7, & 3.3.11.2	See 1.2.2, 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.10, 3.3.11.3	See 3.2.4.2 & 3.3.16 (Typical max. volumes)	
Rural (3.3.1.7, 3.3.1.8)	All other situations (where not specified elsewhere)	All (serving land uses not specified elsewhere in this table)	-	up to 100	20	10%	Separate from the carriageway, 1.5 m each side	Total shoulder 1.5 m, sealed shoulder 1.0 m	On sealed shoulder where it is a local authority defined cycle route.	5.5 - 5.7	Connector/collector (~ 2,500 vpd)	

Figure 5: NZS4440 Cross-Sections

We recommend reducing the road width and cross-section in the Large Lot Residential Zone as shown below. This will require amendments to Rule 23.7.4e), f), g) and Appendix 15, Table 15-6a)ii) to introduce a new land use environment.

Element	Large Lot Residential Local Road (7-20 lots)	Large Lot Residential Local Road (>20 lots)	Large Lot Residential Collector Road
Design Speed Environment	40km/h	40km/h	50 to 60km/h
Legal road width	11.5m	12.5m	15m
Carriageway width	7m	8m	9m
Movement lane width	6m (plus 0.5m shoulder each side)	6m (plus 1m shoulder each side)	6m (plus 1.5m shoulder each side)
Berm requirements	4.5m total	4.5m total	3m both sides (6m total)
On-street parking	On shoulder	On shoulder	On shoulder
Passenger transport	None	None	None
Footpath	1.5m wide footpath, one side	1.5m wide footpath, one side	1.5m wide footpath, both sides
Cyclepath	Shared in movement lane	Shared in movement lane	On shoulder and shared in movement lane
Service Corridor	1.5m both sides	1.5m both sides	1.5m both sides

**Table 1: Suggested Amendments to Large Lot Residential Road Widths and Criteria**

### 3. Conclusion

We have reviewed the transport related submissions to PC6 providing comment in the attached table with more detailed explanation of some matters in this letter. We have recommended changes to the carriageway width on local residential transport corridors that has consequential effects on other parts of the District Plan.

Please contact me if you have any queries.

Yours sincerely



Alastair Black  
**Transportation Engineer**

## Appendix A: Responses to Transport Related Submission Points