

Dunedin 2GP Variation 3

Integrated Transport Assessment Triggers

Prepared for	Dunedin City Council
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1. Background

Abley Ltd (Abley) was engaged by Dunedin City Council (DCC) to provide expert transport advice relating to the High Trip Generator (HTG) / Integrated Transport Assessment (ITA) trigger rules in the Dunedin Second Generation District Plan (2GP). This forms part of wider plan change process initiated by DCC (DIS-2023-1 – Variation 3). The plan change is said to relate to minor improvements to the 2GP.

HTGs are currently defined in the 2GP as:

The group of activities which includes:

- a. new or additions to parking areas that result in 50 or more new parking spaces; and*
- b. Any activities that generate 250 or more vehicle movements per day.*

DCC seeks to improve the rule from a plan user perspective and to ensure that any changes to the rule align with transportation planning / engineering best practice.

2. Methodology

The methodology is presented in this section.

2.1 Review of other ITA Triggers in NZ (Benchmarking)

We undertook a review of national and international best practice using the NZTA Planning Policy Manual (PPM) and NZTA Research Report 422 respectively. We then reviewed the ITA triggers in nine other District Plans throughout New Zealand, as follows:

- Hamilton District Plan
- Napier District Plan
- Tauranga District Plan
- Auckland Unitary Plan
- New Plymouth District Plan
- Mackenzie District Plan
- Timaru District Plan

- Selwyn District Plan
- Christchurch District Plan

These plans were chosen because they provided a relatively wide cross-section to how ITA triggers are implemented. The review concluded that although there are varying approaches to ITA triggers throughout New Zealand, there is also a high degree of consistency between Mackenzie, Timaru, Selwyn & Christchurch. Those District Plans all have two-stage threshold triggers; one for 'Basic' ITAs and another for 'Full' ITAs. The activity definitions are generally consistent also and the trigger points are similar. Refer to Appendix A & Appendix B for comparison tables.

Trip generation rate analysis was undertaken using best practice trip rates for the different activities. We reviewed the triggers for Basic and Full ITAs in Mackenzie, Timaru, Selwyn & Christchurch District Plans and converted these back to peak hour trips. This exercise confirmed that although there are outliers, 40-60 vehicle movements per peak hour is a standard trigger for basic ITAs and 100-120 for full ITAs. Refer to Appendix C.

2.2 Meeting with Dunedin City Council

A meeting was held with the DCC Policy and Transportation Planners on Tuesday 21 May to discuss the findings of our benchmarking exercise. Abley presented the findings in Section 2.1 to DCC and discussed how the HTG rule could be improved. Key points from the discussion were:

- It was agreed between Abley and DCC that the current 2GP HTG rule is difficult to apply because it is triggered by activities that generate 250 or more vehicle movements per day or where 50 or more car parks are developed. The number of vehicle movements generated by a particular activity was seen as a potential point of contention between Council and developers, and so the way it is implemented is not clear.
- The approach taken in Mackenzie, Timaru, Selwyn and Christchurch DPs is that the requirement for ITAs (or otherwise) to be prepared is typically triggered by the scale of the activity (eg. building size, number of residential units/lots, number of students etc). These are generally seamless triggers for plan users to apply and this approach removes the potential for debate as to how many vehicle movements any given activity might generate.
- DCC were interested to understand if heavy vehicle movements could be incorporated into the HTG rule.
- Subsequent to the meeting, DCC confirmed its preference to not have a staged approach to the HTG rule as has been adopted in Mackenzie, Timaru, Selwyn and Christchurch DPs. Instead, it was considered sufficient in the Dunedin context to base the triggers on 'basic' ITA thresholds.

3. Recommended Thresholds for the Dunedin 2GP

Following our meeting, DCC's policy planners reviewed the ITA thresholds that emerged from the benchmarking exercise. The purpose of the review was to determine how the activity types in Appendix A might align with the current activity definitions in the 2GP. It was considered important to ensure that any thresholds developed for Dunedin aligned with current activity definitions, reducing the need for further District Plan changes (e.g, changes to activity definitions).

DCC developed an excel spreadsheet which set out all of the current activity definitions and compared them with the activity definitions listed in Appendix A. Each activity was aligned with those in the ITA trigger table proposed to be adopted in the 2GP, demonstrating how the current activity types would be grouped. Abley reviewed the spreadsheet and provided advice where requested by DCC.

Proposed High Trip Generator Thresholds to be implemented in the 2GP were developed using this methodology. These are included in Appendix D

4. Specific Questions Raised by Dunedin City Council

DCC supplied Abley with the proposed threshold table in Appendix D on 21 June with the following outstanding questions/comments for our feedback:

4.1 Cumulative Threshold Approach

DCC consider that the thresholds in Appendix D should apply to the parts of an existing activity where it is being expanded in order to address cumulative transportation effects.

They provided an example where an existing warehousing activity is already exceeding the proposed threshold of 10,000m², and queried if the existing warehouse sought to expand by 1,000m², would this require an ITA (i.e., accounting for the existing space and the new space), or alternatively should an expansion only trigger the need for an ITA if there is 10,000m² of new warehousing space?

Abley response

On the one hand, we consider that if the thresholds do not take into account the existing approved floor area, there is a chance that applicants or developers might circumvent the system. This could lead to inadequate assessment being provided. For example, the proposed trigger for an office activity is 2,000m² gross floor area. A developer could opt to develop the activity across separate consenting stages (say two stages with each one comprising 1,500m² each). Although the total gross floor area would be 3,000m², a staged approach would technically avoid the need for an ITA to be prepared, despite the intent of the Plan being that an ITA should be triggered. Such an outcome would be undesirable. Accounting for cumulative development would address that issue and in that regard the approach could be supported.

On the other hand, we see that accounting for cumulative development could potentially result in triggering the need for ITAs when in practice the transport effects of a development would be small. Using the DCC-provided industrial example above, adding 1,000m² of warehousing would result in an additional five vehicle movements in the peak hour which corresponds to one extra vehicle every 12 minutes. The effects of that level of increase would likely be insignificant and in our view an ITA would therefore be unnecessary.

On that basis, we consider that discretion is required so that unnecessary assessment is not triggered whilst at the same time allowing Council some flexibility in situations where Council has concerns regarding transport effects. We have discussed this matter with DCC who have referenced the current Rule 6.14.2 wording which states "Council will generally require an ITA for applications for high trip generators...". DCC has proposed a change to 6.14.2 as follows:

"Council will generally require an Integrated Transport Assessment (ITA) for applications for high trip generators unless the application is for a small expansion of an existing activity, provided the effects on accessibility and on the safety and efficiency of the transport network are likely to be no more than minor¹."

In our view, the proposed addition to Rule 6.14.2 adds useful clarity in that it confirms that Council has discretion over whether or not to require an ITA if an activity exceeds the proposed HTG thresholds. In practice then, if Council considers the likely transport effects of a particular expansion do not warrant an ITA, then it may choose to advise the applicant that it is not required. We are supportive of this approach.

¹ Underlined text represents proposed additions.

4.2 Vehicle Movements vs Vehicle Trips

DCC queried whether ‘vehicle movements’ (currently defined in the 2GP²) is the same as ‘vehicle trips’ (currently in the proposed catch all row in Appendix C).

Abley response

These two terms have the same meaning, and DCC could therefore adjust the catch all row to align with the current 2GP terminology. It may be helpful to include a footnote to make it clear these are two-way movements (or trips) so would include both vehicles travelling to and travelling from an activity.

4.3 Heavy Vehicle Definition

DCC requested a definition for ‘heavy vehicle’ for application of the catch all row in Appendix C.

Abley response

The New Zealand Transport Agency defines a ‘heavy vehicle’ as a motor vehicle with a gross laden weight of which exceeds 3,500 kilograms³. This definition would be appropriate to include in the 2GP.

4.4 Peak Hour vs Any hour

DCC raised a concern that reference to ‘peak hours’ in the catch-all row in Appendix C “overly limits the application of the threshold” and therefore expressed a preference for it to apply to any hour, rather than specified hours.

Abley response

A reference to peak hours could create ambiguity in that different activities have different peak hours. Peak hours for the transport network could be defined in the Plan, but there may be cases where a particular activity’s peak hour does not coincide with the peak hour on the transport network.

From a traffic efficiency perspective, this may appear inconsequential, as the transport network typically has significantly greater spare capacity outside of peak times than in peak times (and so it is likely that traffic generated by the activity outside of peak times would be able to assimilate without any significant network capacity effects). However, this does not account for wider transport effects such as accessibility of a site to pedestrians and cyclists, road safety, parking demand (which may be high outside of transport network peak hours).

The catch all thresholds should apply to any hour, rather than referring to peak hours only.

5. Summary

This technical note sets out the approach taken to improve the current HTG rule in the 2GP. It includes recommended ITA trigger thresholds for Dunedin and addresses specific matters raised by DCC’s Policy and Transportation Planners.

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² As “a single journey to or from a particular site by a person or persons in a motor vehicle”.

³ <https://www.nzta.govt.nz/vehicles/vehicle-types/heavy-trucks/#:~:text=A%20heavy%20vehicle%20has%20a,Heavy%20goods%20>

Appendix A. Basic ITA Comparison Table

Activity	Mackenzie District Plan		Timaru District Plan		Selwyn District Plan		Christchurch District Plan	
Education - Preschool	40 children		40 children		40 children		More than 50 children	
Education – Schools	70 students		70 students		70 students		More than 150 students	
Education – Tertiary	250 FTE students		250 FTE students		250 FTE students		More than 250 FTE students	
Industrial	Industrial, warehousing and distribution	5,000m² GFA	Excluding warehousing and distribution	5,000m² GFA	Industrial	5,000m² GFA	Excluding warehousing and distribution, high technology industrial activities and heavy industrial activities	More than 5,000m²
			Warehousing and distribution	6,500m² GFA	Warehousing and Distribution	6,500m² GFA	Warehousing and distribution	More than 10,000m²
Healthcare Facility	300m² GFA		280m² GFA		300m² GFA		More than 500m² GFA	
Office	2,000m² GFA		2,000m² GFA		2,000m² GFA		More than 1,750m²	
Residential	50 residential sites/units		40 residential units / lots		Excluding retirement villages not in Medium Density Residential Zone	50 residential units	More than 60 residential units	
					Excluding retirement villages in Medium Density Residential Zone	60 residential unts		
Retail	Retail – Shops and supermarket	250m²	General Retail and Supermarkets	200m² GLFA	Retail – Shops and supermarket	250m² GLFA	Retail (excluding factory shops, retail park zones, trade suppliers and food and beverage outlets)	More than 500m²
	Retail - general	500m²	Large Format Retail other than trade suppliers	550m² GLFA	Large format and bulk goods (excluding trade retail and trade supply activities	550m² GLFA	Retail (factory shops, retail park zones, but excluding trade suppliers and food and beverage outlets	More than 1,000m²
Service stations	2 filling points		2 filling points		2 filling points		N/A	
Mixed use or other activities not otherwise listed above	50 vehicles per peak hour or 250 heavy vehicle trips per day, whichever is greater		50 vehicle movements per peak hour or 250 vehicle movements per day, which is the greatest of the above		50 vehicles per peak hour		More than 50 vehicle trips per peak hour or 250 heavy vehicle trips per day (whichever is met first). Peak hour are those hours between 1500 and 1900hrs on a weekday.	

Appendix B. Full ITA Comparison Table

Activity	Mackenzie District Plan		Timaru District Plan		Selwyn District Plan		Christchurch District Plan	
Education - Preschool	90 children		90 children		90 children		More than 150 children	
Education – Schools	170 students		170 students		170 students		More than 450 students	
Education – Tertiary	750 FTE students		750 FTE students		750 FTE students		More than 750 FTE students	
Industrial, warehousing and distribution	12,000m² GFA		Excluding warehousing and distribution	12,000m² GFA	Industrial	12,000m² GFA	Excluding warehousing and distribution, high technology industrial activities and heavy industrial activities	More than 10,000m²
			Warehousing and distribution	25,000m²	Warehousing and Distribution	25,000m² GFA	Warehousing and distribution	More than 20,000m²
Healthcare Facility	1,200m² GFA		1,200m² GFA		1,200m²		More than 1,000m²	
Office	4,800m² GFA		4,800m² GFA		4,800m²		More than 4,000m²	
Residential	120 residential sites/units		90 residential units / lots		Excluding retirement villages not in Medium Density Residential Zone	120 residential units	More than 120 residential units	
					Excluding retirement villages in Medium Density Residential Zone	150 residential units		
Retail	Retail – Shops and supermarket	900m² GFA	General Retail and Supermarkets	800m² GLFA	Retail – Shops and supermarket	900m² GLFA	Retail (excluding factory shops, retail park zones, trade suppliers and food and beverage outlets)	More than 1,000m² GLFA and/or in a Local Centre or Neighbourhood Centre where the total area of development over any three year period exceeds 1,000m² GLFA
	Retail	2,200m² GFA	Large Format Retail other than trade suppliers	2,300m² GLFA	Large format and bulk goods (excluding trade retail and trade supply activities)	2,200m² GLFA	Retail (factory shops, retail park zones, but excluding trade suppliers and food and beverage outlets)	More than 2,000m² GLFA
Service stations	6 filling points		6 filling points		6 filling points		N/A	
Mixed use or other activities not otherwise listed above	120 vehicles per peak hour or 1,000 heavy vehicle trips per day, whichever is greater		120 vehicle movements per peak hour or 1,000 vehicle movements per day		120 vehicle per peak hour		More than 120 vehicle trips per peak hour or 1,000m vehicle trips per day (whichever is met first).	

Appendix C. Trip Generation Conversion

Trip generation rate analysis - Basic ITAs

Activity	Threshold Range		Trip Rates		Veh in peak hour	
	Min	Max	Rate	Unit	Min	Max
Preschool	40	50	1.27	/child	51	64
School	70	150	0.64	/student	45	95
Tertiary	250	250	0.20	/student	50	50
Industrial	5000	5000	1.00	/100sqm GFA	50	50
Warehouse/Dist	6500	10000	0.50	/100sqm GFA	33	50
Healthcare	280	500	12.91	/100sqm GFA	36	65
Office	1750	2000	2.27	/100sqm GFA	40	45
Residential	40	60	0.90	/hh unit	36	54
Retail shops/Supermarkets	200	500	19.00	/100sqm GFA	38	95
Retail large format	500	1000	8.00	/100sqm GFA	40	80
Service stations	2	2	15.46	/bay	31	31
Mixed use	50	50	1.00	/veh	50	50

Trip generation rate analysis - Full ITAs

Activity	Threshold Range		Trip Rates		Veh in peak hour	
	Min	Max	Rate	Unit	Min	Max
Preschool	90	150	1.27	/child	115	191
School	170	450	0.64	/student	108	286
Tertiary	750	750	0.20	/student	150	150
Industrial	10000	12000	1.00	/100sqm GFA	100	120
Warehouse/Dist	20000	25000	0.50	/100sqm GFA	100	125
Healthcare	1000	1200	12.91	/100sqm GFA	129	155
Office	4000	4800	2.27	/100sqm GFA	91	109
Residential	90	150	0.90	/hh unit	81	135
Retail shops/Supermarkets	800	1000	19.00	/100sqm GFA	152	190
Retail general	2000	2300	8.00	/100sqm GFA	160	184
Service stations	6	6	15.46	/bay	93	93
Mixed use	120	120	1.00	/veh	120	120

Appendix D. Proposed High Trip Generator Thresholds

<u>Land use activity</u>	<u>Threshold (including any existing activity)</u>
<u>Office, except training and education</u>	<u>2,000m² gross floor area</u>
<u>Training and education</u> <u>Rural research – large scale</u>	<u>250 full time equivalent students</u>
<u>Restaurant – drive through</u>	<u>100m² gross floor area</u>
<u>Retail, except bulky goods retail and trade related retail</u>	<u>250m² gross floor area</u>
<u>Bulky goods retail</u> <u>Trade related retail</u>	<u>550m² gross floor area</u>
<u>Service stations</u>	<u>2 dispensing facilities</u>
<u>Visitor accommodation, except campgrounds</u>	<u>50 visitor accommodation units</u>
<u>Supported living facilities</u>	<u>150 beds</u>
<u>Standard residential</u>	<u>50 residential units</u>
<u>Community and leisure – large scale</u>	<u>As per activity definition</u>
<u>Early childhood education – large scale</u>	<u>As per activity definition</u>
<u>Healthcare</u> <u>Hospital</u>	<u>300m² gross floor area</u>
<u>Industry</u>	<u>5,000m² gross floor area</u>
<u>Port</u>	<u>10,000m² gross floor area</u>
<u>Schools</u>	<u>70 students</u>
<u>Conference, meeting and function</u> <u>Entertainment and exhibition</u> <u>Restaurants</u> <u>Sport and recreation</u> <u>Landfills</u> <u>Mining</u> <u>Rural tourism – large scale</u> <u>Prisons and detention centres</u>	<u>50 vehicle movements per hour or</u> <u>250 heavy vehicle movements per</u> <u>day, whichever is met first.</u>

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