

Rural and Residential Review: Plan Change 50

Assessment of Transport-related Provisions

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Rural and Residential Review: Plan Change 50

Assessment of Transport-related Provisions

0 Context

- 0.1 Upper Hutt City Council is currently undertaking a review of rural and residential provisions as part of the Plan Change 50 project (PC50). Draft provisions are being created and require additional input regarding transport and traffic-oriented provisions.
- 0.2 Currently there are no specific requirements to undertake transport assessments in the Upper Hutt district for residential activities such as working from home or indeed for any transport assessment thresholds. If such thresholds are needed, in the absence of any specific local advice, Waka Kotahi (NZTA) advise that a research project¹ be consulted. However, this covers a wide range of scenarios and therefore still needs to be interpreted to allow for local conditions.
- 0.3 As with all activities, definitions are important and the figures quoted in this note are national estimates, subject to confirmation and could be made more specific to Upper Hutt in a number of cases.
- 0.4 It can be difficult in every case to specify precisely when a particular activity is likely to generate more than minor effects that warrant more detailed consideration and potentially mitigation. There would therefore be merit in defining some general traffic thresholds, above which further considerations would apply. In this respect two basic thresholds might be
 - i) Where residential amenity is affected, and/or
 - ii) Where additional traffic movements may cause efficiency and/or safety issues on the transport network.
- 0.5 Within this context, consideration has been given to the six questions in the brief, both from first principles and with reference to available literature / data.
- 0.6 Issues number 1 (homeworking) and 2 (Maymorn) are relatively freestanding and therefore addressed specifically.
- 0.7 Issues 2 and 3 require the assessment of rural road corridors to accommodate future activities.
- 0.8 Issues 3 (Staglands), 4 (Naturist Club), 5 (Childcare Centres) and 6 (Retirement Centres) have some similarities (with each other), as they represent (potentially) larger scale activities than those associated with individual residences and are also (or could be) activities that primarily rely on existing use rights rather than having been developed in full compliance² with underlying District Plan zoning.
- 0.9 Cases which do comply with zoning are also addressed in addressing questions 5 and 6.
- 0.10 The six specific issues are addressed (individually) below:

¹ Integrated Transport Assessment Guidelines, NZTA Research Report 422, November 2010

² For example, some (or all) of these developments may not have received formal planning permission and/or resource consent.

1 Home occupation businesses (residential and rural)

- 1.1 Current rules do not capture maximum vehicle movement controls, which has been identified as a gap in current controls to ensure anticipated rural and residential amenity can be met.
- 1.2 The practice of working from home has been increasing rapidly in recent years³ and the effects of COVID have accelerated this trend, at least temporarily, with 42 percent of employed people in New Zealand worked from home during level 4. In the longer-term post-COVID the proportion of people working from home could settle at a higher level, with one estimate being that it may be as high as double the pre-COVID proportion⁴.
- 1.3 The forecast rise in homeworking may have the effect of reducing commuting volumes slightly in the short term, but in the long-term probably not, as commuting patterns respond to the availability of any new peak capacity through induced traffic effects, so to claim (say) that negative effects of traffic nuisance associated with homeworking may be justified because of wider benefits is unlikely to be a tenable argument. Furthermore, it is not proven that working from home is better in environmental terms as it can lead to an increase in car travel⁵.
- 1.4 It is important to note the difference between:
 - i) Homeworking, where an individual employee is simply based at home, for part or all of the week, instead of travelling to the employers premises, and in most cases the effects of this on residential amenity may be negligible, and
 - ii) Operating a home-based business which involves some degree of trading or client servicing from residential premises, where effects may be much more noticeable.
- 1.5 The key test of the effects of working from home has been suggested⁶ to be: *“whether the overall character of the dwelling will change as a result of the business”*. The same approach could potentially be applied to an area, to ask, for example: *could a series of such business activities change the overall character of a residential locality?*
- 1.6 Many potentially negative effects of home-based business activity are (or could be) effectively managed by controls on aspects such as hours of operation, number of workers on site, noise limitations, light overspill prevention, odour control, health and environmental regulations.
- 1.7 Consideration could also (potentially) be given to specifying the proportion of a home that is used for business purposes, for example, if more than 25% it may trigger an Inland Revenue tax allowance check⁷ and if more than 50%, it would (de facto) cease to be primarily residential.
- 1.8 It is also potentially helpful to specifically exclude certain types of activity, possibly: retailing, manufacturing, construction/joinery, food production, motor trades, warehousing/storage, tool/plant hire/repair, livestock/poultry and other activities that are generally likely to be incompatible with a typical residential area, and (unless of a very minor cottage-industry type nature) are virtually certain to generate problems.
- 1.9 It is however very difficult to consider all possibilities and circumstances in specifying controls and exclusions and therefore limitations on traffic movements are potentially useful additional safeguards in order to maintain residential amenity.
- 1.10 Residential properties typically generate several vehicle movements per day. The NZTA research report No. 453 estimates an average residential traffic generation at 11 vehicle movements per

³ Census data indicating increased work at home mode share, recorded as 8.4% in 2018, up from 5.0% in 2013.

⁴ What a Transportation Professional Needs to Know about Counts and Studies during a Pandemic, Institute of Transportation Engineers, July 2020.

⁵ Telecommuting and Other Trips: An English Case Study, University of Birmingham, October 2020.

⁶ Planning Permission | Working from home | NZ Planning Portal https://www.planningportal.co.uk/info/200130/common_projects/56/working_from_home

⁷ Working assumption based on accountancy practice.

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day (VPD) with 10% of these movements occurring in each peak hour (AM and PM). From residential areas, most trips are likely to be outbound in the morning and inbound in the evening, although the number and proportion of residential trips, in practice, will vary from area to area.

- 1.11 In terms of definitions, to be effective the vehicle movements need to be related not only to the premises, but also to any associated on-street activity. Also, for traffic generation purposes vehicle movements can most effectively be defined in terms of light vehicle (LV) units⁸, or passenger car units (PCU) where one car movement equals one PCU with heavy vehicles (HV) representing 2 PCU because of their commonly accepted traffic engineering impact⁹.
- 1.12 There are also differences between the trip generation characteristics of individual properties depending on the size, occupation and type of dwelling. If the average generation is 11 PCU, the 85th percentile can be inferred to be within a range of 12 to 20 PCU. It is probable (from NZTA research report No. 453¹⁰) that a level of 30 PCU would cover virtually all individual residential trip leg movements were they all to be made as home-based vehicle trips even from the largest and high occupancy households. In reality however a 30 PCU threshold allows for a mix of residential and home-based work/business activity. Vehicle movements in excess of 30 PCU represents activity that is clearly non-residential in nature.
- 1.13 In terms of assisting monitoring and enforcement PCU daily limits could usefully be translated into PCU hourly limits. In setting hourly limits some flexibility is needed to accommodate variations in arrival and departure profiles. The hourly limits also need to be exceeded regularly¹¹ (representing work/business activities) rather than relating to a single instance (for example, an infrequent social gathering). Suitable hourly threshold levels are suggested to be as follows:
 - i) Peak¹² movements: 6 PCU per hour (representing 6 outbound trips or 3 return trips, i.e., double the average 10% peak trip ratio applied to the 30 PCU daily maximum), and
 - ii) Non-peak movements: 4 PCU per hour (two return trips) in the inter-peak (daytime) or non-peak (overnight).
- 1.14 Because of the increased effect of HVs on residential amenity, it is suggested that 2 other HV movements would be permitted in residential areas associated with home business or work-related activities.¹³ This would still permit occasional HV movements associated with (say) property maintenance, repair, waste vehicles, removals and food deliveries, providing they were for domestic residential purposes. Monitoring of this would then only need to identify any non-complying HV activity at any time.
- 1.15 It would be possible (potentially) to adopt lower hourly PCU thresholds for (say) smaller dwellings (by floor area or number of bedrooms) and/or to consider specific thresholds linked to other categorisations, perhaps by area type urban/rural, road hierarchy and availability of on-site / off-site parking. However, these would be more difficult to justify and there is merit in maintaining an upper limit on residential traffic movements and using other controls to deal with issues such as access on/off busy roads or any associated parking problems.
- 1.16 There are some potential issues in respect of enforcement, for example, if traffic generation limits are exceeded, could Council impose sanctions on an individual householder? If traffic generation

⁸ A vehicle with a gross vehicle mass not exceeding 3.5 tonnes.

⁹ It is accepted that HVs may have greater impacts when considering parking or amenity requirements.

¹⁰ Trips and Car Parking Relating to land Use, NZTA Research Report 453, November 2011

¹¹ Suggested that 'regular' is taken to mean two separate days in any consecutive seven-day period

¹² Typical times are AM peak period (07.00-09.00 hrs) AM peak hour (07.30-08.30 hrs) PM peak period (16.00-18.00 hrs) PM peak hour (16.30-17.30 hrs) Inter-peak period (09.00-16.00 hrs) Off-peak period(18.00-07.00 hrs)

¹³ This represents one return HV movement (to and from a residential property) per week for a single delivery trip (note: courier services typically use LVs rather than HVs).

limits were included as District Plan rules/regulations or even bylaws, could such sanctions be imposed when (say) a household may not be in control of who is visiting their premises? Also, could there be exemptions to the generation limits through an application to Council on certain grounds?

2 High-level roading capacity of Maymorn Road / Plateau Road

- 2.1 The context for this is possible development opportunities within the Maymorn area, which could result in up to a maximum additional yield of 480 dwellings being constructed. One of the issues to be addressed is the capacity of the roading infrastructure from the Parkes Line / Maymorn Road intersection to SH2, including multimodal transport suitability.

Current Conditions

- 2.2 SH2 has a two-way flow of 1,100 VPH (Vehicles Per Hour) in the PM peak hour approaching Plateau Road from the south. In link volume terms this is well within the equivalent modelled two-way capacity of 3,600 VPH¹⁴.
- 2.3 Although SH2 through Upper Hutt does have period capacity issues at some intersections, initial SIDRA testing of demands in the PM peak indicates that the SH2/Plateau Road intersection (where the dominant turning movements are left-out from Plateau Road onto SH2 in the AM peak and right turn-in from SH2 to Plateau Road) operates satisfactorily in the PM peak.
- 2.4 Plateau Road itself is busiest on the section between the Maymorn Road and SH2, and particularly north of Molloys Road, where two-way modelled PM peak traffic volumes are currently estimated to be around 280 VPH and the daily volume on this section is 2,427 VPD (source count site 327 4/4/2018).
- 2.5 Plateau Road is an urban road with a 50 km/hr speed limit, footpaths on both sides of the road between SH2 and Maymorn Road, and a bus route with an hourly service (No. 112). There are two sharp bends close to the Maymorn Road / Plateau Road which act to reduce traffic speeds through this area.
- 2.6 The northern section of Maymorn Road is also urban in nature, from its intersection with Plateau Road until the 50 km/hr zone ends at the commencement to the industrial area and the start of the 80 km / hr limit.
- 2.7 Maymorn Road is 80 km/hr through an industrial area, beyond this the road is rural in character and remains 80 km/hr to and along Parke Line Road. The 80 km/hr section of Maymorn Road and Parkes Line Road are single carriageway, generally of reasonable alignment, intersection. These roads also have verges, but without any consistently marked shoulders or footpaths, and neither are currently bus routes.
- 2.8 Maymorn Rail Station is served by 5 trains per weekday in each direction with one additional return train on Friday and two return trains a day at weekends. Facilities at the station are basic, with no signage, poor access, unsurfaced car parking, a lack of real-time information and a train 'replacement' stop located 2 km away, on SH2.

Potential Effect of PC50 Residential Zoning

Traffic Capacity

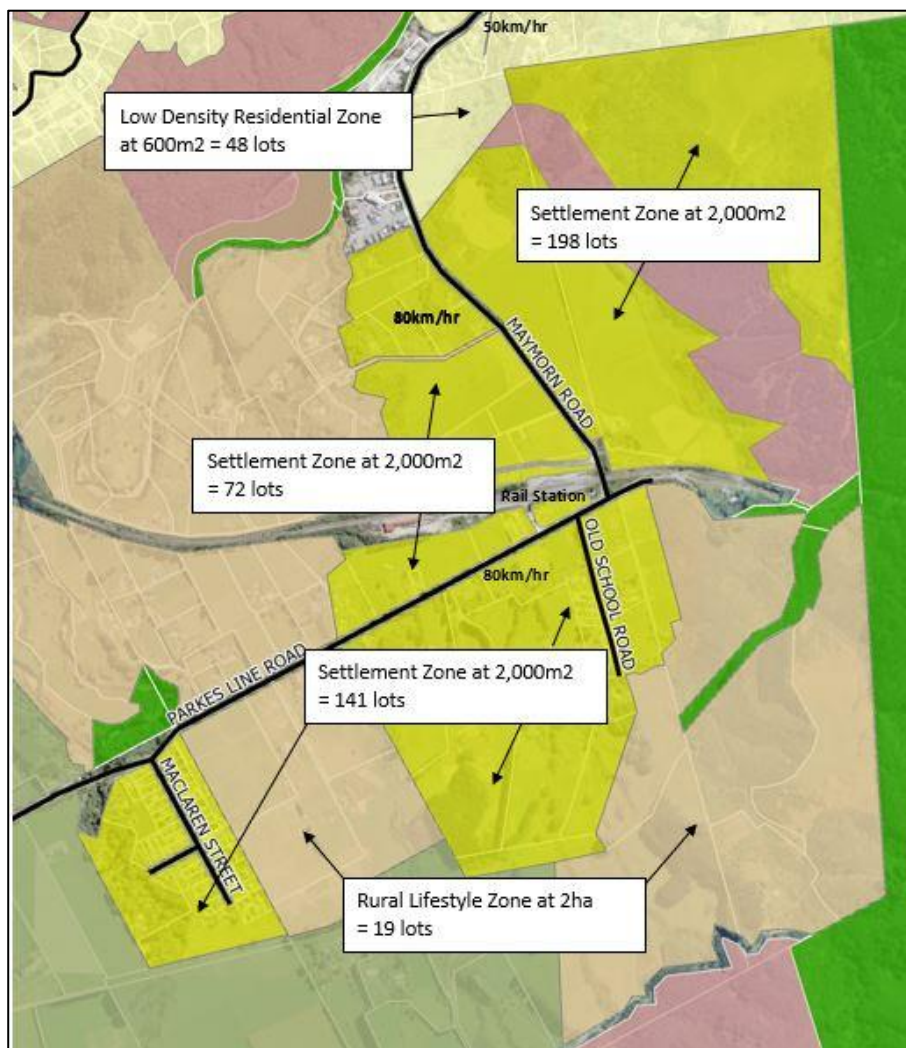
- 2.9 The effect of PC50 draft zoning is the enablement of up to an additional 480 dwellings located on land either side of Maymorn Station and also to the east of Maymorn Road. It is also possible that

¹⁴ North Wellington SATURN Model

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a focal point could be developed close to the rail station, given the need for some local services, commuter activity and leisure-related (cycle trail / rail heritage) demand.

Figure1: Context Plan



- 2.10 An estimate of potential traffic generation has been applied to the SATURN model, indicating an increase of around 330 additional inbound peak hour movements from SH2 into Maymorn Drive (north of Molloy's Rd) and approximately 160 additional outbound car movements towards SH2 in the PM peak.
- 2.11 More detailed SIDRA testing of these additional traffic demands indicated that operational conditions would remain acceptable (no worse than LOS D in the PM peak) at the SH2/ Plateau Road intersection.
- 2.12 Local roads are also expected to operate well within capacity following implementation of PC50. Plateau Road and Maymorn Road are coded at 1,350 PCU per direction in the SATURN model and Parkes Line Road at 1,250 PCU per direction. In contrast, the maximum volume forecast on local roads post-PC50 is on Plateau Road with a two-way volume of approximately 840 PCU per hr.

Other Modes

- 2.13 Current facilities in the vicinity of the plan change areas are consistent with the treatment of a rural road, being either poor or non-existent. There is however good potential to facilitate:

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- i) Increased walking and cycling between residential areas and to local destinations, and
- ii) Better public transport access to Upper Hutt City Centre and other regional destinations.

2.14 Traffic movements could be reduced if convenient walking, cycling and public transport access was available to, from and within the new PC50 residential areas.

Walking and Cycling

2.15 Measures to assist walking and cycling in conjunction with the new PC50 residential developments could include:

- i) Speed reduction along Maymorn Road (from 80 km/hr) to make it consistently 50 km/hr.
- ii) Speed reduction along Parke Line Road (from 80 km/hr to 50 km/hr) from the Maymorn Road intersection through the new PC50 residential area.
- iii) Seal widening to create 3.5m traffic lanes¹⁵ in either direction and 1.5m (min) roadside shoulders on either side along the new 50 km /hr sections of Maymorn Road and Parke Line Road.
- iv) Provision of 1.5m (min) footpath on one side (at least) along the new 50 km /hr sections of Maymorn Road and Parke Line Road.
- v) A possible alternative to the shoulder and footpath provisions suggested above may be a 3m two-way shared path.
- vi) Reduction in speed limit on Plateau Road (from SH2 to Maymorn), Molloys Road and Maymorn Road immediately south of the Plateau Road intersection to beyond the sharp bend to 30 km/hr.
- vii) Where a footpath or shared path crosses an accessway,- raised tables should be considered to lower the speed of any conflicting traffic movements.
- viii) Appropriate crossing facilities (pedestrian/cyclist refuges) close to key intersections and demand points, such as over Plateau Road at the intersection with the Molloys Road and Maymorn intersections, Plus on Maymorn Road near the rail station and at the new residential access roads connecting with Maymorn Road and Parke Line Road.
- ix) Convenient grade separated pedestrian/ cyclist crossing either at or very close to the rail station to enable direct access (the use of Maymorn Road under-rail access is not ideal, as it is indirect and difficult to accommodate pedestrians comfortably).
- x) The internal residential road networks of the new residential areas should also be low speed (ideally 30 km/hr) with attractive walking and cycling facilities.
- xi) Appropriate lighting is needed along pedestrian and cycling corridors.

Public Transport

2.16 Public transport facilities are similarly only consistent with a rural environment at present and a number of improvement measures could be considered by Greater Wellington Regional Council¹⁶, as follows:

¹⁵ In response to increased vehicle traffic and to accommodate bus services.

¹⁶ In their role as the public transport authority.

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- Improved railway station signage, access improvement, car park surfacing and real time information display.
- Provision of bus stop/shelter and turning bay at or near the rail station to accommodate bus replacement services.
- Review of potential for service bus access to serve the new residential areas (potential for existing Plateau Rd No. 112 service to be extended to terminate at Maymorn Rail station).
- Improved rail services at Maymorn in conjunction with planned changes to the Wairarapa line timetable, involving additional peak and inter-peak rail services.

Overview

- 2.17 It would be helpful, when more details are known, for the new PC50 residential areas to be supported by Integrated Transport Assessments and Travel Plans. There would be advantages in comprehensive assessment and planning at the earliest possible stage to ensure walking, cycling and public transport networks are available when residential areas are first occupied.

3 Staglands Precinct / High-level Akatarawa Road Capacity

- 3.1 The Staglands precinct is accessed from Akatarawa Road which is of a low standard for most of its length and may be subject to proposals in the future for further rural-residential intensification.

Existing Conditions

- 3.2 Akatarawa Road is an unusual but important route, being of low standard but high strategic significance and one of only three routes connecting the Hutt Valley with the west coast. The road traverses the Tararua mountains and is the slowest and least used of the three routes, carrying very little 'through-traffic' (travelling from Upper Hutt City to Waikanae) and operating predominantly as a local road.
- 3.3 Traffic volumes vary throughout its length, dropping in the central section near the Upper Hutt boundary with Kapiti to an average daily two-way volume of 127 VPD (count site No. 516, 17/5/2017) whilst approaching Staglands it is 215 VPD (count site No. 515, 17/5/17) and immediately north of Crest Road it is 704 (count site No. 514, 17/5/17).
- 3.4 Two-way modelled demand is estimated at 111 PCU north of Crest Road and 25 PCU north of Karapoti Road. From Crest Road to the Kapiti Boundary the modelled capacity of the road is 600 PCU per lane in each direction, due to the poor alignment and narrow nature of much of the route, which often requires single lane working for opposing vehicles to safely pass one another which can be inferred to reduce the two-way capacity of the road to around 600 PCU on single lane working sections.
- 3.5 In normal current conditions the Akatarawa Road can be said to operate satisfactorily in capacity terms although when demand is relatively high, and the mix of traffic includes large vehicles (such as HVs and coaches) progress along the route is slow.
- 3.6 The current speed limit, along the majority of the route, is currently 70 km/hr, which appears high in view of the nature of the road and (in practice) an average of around 40 km/hr (also the modelled speed) is closer to a safely achievable average speed, raising a potential need to set a more appropriate limit, possibly 50 km/hr.
- 3.7 Approaching SH2 Akatarawa Road is an urban road with a 50 km/hr speed limit and the state highway intersection is a busy intersection used by 1,660 PCU in the evening peak hour, of which 760 PCU are on Akatarawa Road. The link capacity of Akatarawa Road at this point is 2,900 PCU.

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- 3.8 Road junctions and private accesses along the route are relatively frequent within 4 km of SH2 (to Crest Road) but from there to the Kapiti boundary, direct accesses onto Akatarawa Road are very infrequent.
- 3.9 Staglands is a popular / important attraction, in a remote location, 17 km from SH2 and 20 km from SH1, with current demand likely to exceed 38,000 visits per annum¹⁷. Demand is likely to be concentrated on some weekends and during busy holiday periods. Sensitivity testing has been undertaken to simulate maximum peak arrival / departure rates at around 200 PCU . This would be mainly one-way and would be within the link capacity of Akatarawa Road.
- 3.10 Such arrival and departure rates do have potential to cause access problems (leaving and entering Akatarawa Road at the site accesses (related to gradient and visibility), internal circulation issues poorly marked vehicle paths and parking slots and it is also possible that site parking capacity is exceeded. Given also that Staglands has an overflow car-parking area, it is likely that, at times, Staglands operates at site capacity (in transport terms) on busy days.

Further Development Effects

- 3.11 Given the current capacity constraints at the Staglands site, any future development likely to accommodate or to generate additional traffic, is suggested that, assuming previous consenting¹⁸ documentation does not adequately cover this issue, that a full integrated transport assessment (ITA) and travel plan (TP) is undertaken for the Staglands complex, including existing and future facilities.
- 3.12 Further developments of any type along Akatarawa Road (between Crest Road to the Kapiti Boundary) requiring new accesses are undesirable and should be resisted given the poor alignment and width of the route, due to the effects in safety and capacity terms.
- 3.13 Intensifications of existing accesses (between Crest Road to the Kapiti Boundary) are suggested to undertake an ITA if greater than 30 PCU per day.
- 3.14 It is suggested that any new (multiple-residential or non-residential traffic generating activities (between Crest Road to the Kapiti Boundary), say over 100 PCU per day¹⁹ would not be appropriate, under any circumstances.
- 3.15 Safeguards are also suggested to limit the potential for cumulative effects of multiple small-scale developments collectively creating difficulties, even if any-one development could have 'less than minor effects' when assessed individually.

4 Te Marua Naturalist Club Precinct

- 4.1 The underlying zoning of the Naturalist Club is changing and a precinct overlay may be needed to able its ongoing use as a place for visitor accommodation and recreation taking account of current access constraints.
- 4.2 The naturist club is accessed from Molloys Road, at the head of the cul-de-sac, immediately adjacent to Plateau primary school, with restricted public parking on either side. The club has its own on-site parking.
- 4.3 At school times Molloys Road operates at capacity due to parking and turning vehicles near the school. The section of Plateau Road between Molloys Road and SH2 is the busiest section on the local road network.

¹⁷ Wellington City Council, Visitor Centre Project, Appendix 4, Comparative visitor numbers, 2009.

¹⁸ Namely, the consents referred to in Staglands, The First 40 Years, J Simister, 2012.

¹⁹ This raises the general issue of the threshold at which an ITA (in all circumstances) is triggered for new developments, For the purposes of this note, this is taken to be 100 PCU per day, see Annex for further explanation.

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- 4.4 On site club activities could (potentially) involve 120 members plus day and overnight visitors using site accommodation (4 cabins and 150 camp sites). The club therefore has the potential to generate substantial traffic volumes at certain arrival and departure times. Activities are likely to be weekend / holiday period based, meaning there is likely to be limited conflict with adjacent school activities although all club traffic must enter and leave the site via local residential roads.
- 4.5 For any future development, such as additional buildings for accommodation or anything likely to generate additional traffic, it is suggested that, assuming previous consenting documentation does not adequately cover this issue, a full ITA and TP is undertaken of the whole complex, including existing and future facilities.
- 4.6 An alternative approach, though not as satisfactory, would be to trigger an ITA/TP if likely traffic generation was expected to be either >30 PCU per day to reflect an underlying zoning of residential, or >100 PCU per day to reflect the non-residential nature of the activity involved. The reason this would be less satisfactory is a situation could exist where any additional traffic generation is problematic and until this is ascertained permitting an additional PCU threshold may inadvertently worsen the situation.

5 Early Childhood Centres

- 5.1 Early childhood centres can generate substantial vehicle activity and this may require regulation when incompatible with residential amenity.
- 5.2 Average trip rates from Early Childhood Centres are relatively high compared with those for residential generations. For example, NZTA Research Report No. 453, estimates pre-school traffic generation at 1.4 VPH per child in the peak hour, and all-day rates at 4.1 VPD per child.
- 5.3 A small childcare business, with (say) up to 5 children at a residential address, could be assumed to be within the residential home working generation guidelines suggested above based on average generation rates, as in the peak hour an average of 4.3 children²⁰ would generate 6 PCU and all day would generate 17.1 PCU, although other residential activities might add to this.
- 5.4 If a childcare facility (whether or not it is an existing facility) is in a residential area, does not have a specific consent and exceeds the hourly residential PCU limit (i.e., by having 6 or more children) it is suggested that this triggers a requirement for an ITA/TP.
- 5.5 If a childcare facility (whether or not it is an existing facility) is in a non-residential area, does not have a specific consent and exceeds 100 PCU per day limit it is suggested that this triggers a requirement for an ITA/TP.

6 Retirement Villages / Rest Homes

- 6.1 Retirement centres can generate substantial vehicle activity and may require regulation when this incompatible with residential amenity.
- 6.2 NZTA Research Report No. 453 differentiates between 'retirement villages' and 'rest homes'. The former implies a greater degree of independence and that the latter a staff component.
- 6.3 Peak demands from retirement villages are similar to the overall average residential for peak hours (1 PCU per unit) but only around 25% of all day demand (2.4 PCU per day)
- 6.4 Rest homes are approximately half (0.45 PCU per hour) of overall average residential peak demand and all day (5.0 PCU per day)

²⁰ This should be rounded (up) to 5 children for regulatory purposes.

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- 6.5 This implies retirement villages of up to 6 units would be within the residential guidelines of 6 peak hour movements.
- 6.6 Rest homes of up to 6 beds would also be within the residential guidelines of 30 daily movements.
- 6.7 Assuming no consent exists for the activity, if these peak or daily levels are exceeded in a residential area, or if a level of 100 PCU per day is exceeded in a non-residential area, it is suggested this triggers a requirement for an ITA/TP.

Annex

Traffic Generation Threshold for Transport Assessments

A1 Purpose

- A1.1 To review the requirement for an Integrated Transport Assessment (ITA)²¹ above a vehicle activity threshold.

A2 Context

- A2.1 In the case of a particular development, a detailed ITA may or may not be required. However, all developments must comply with District Plan (DP) and other regulatory requirements, including: the location and design of access, parking and a range of other matters.
- A2.2 The reason that PDP threshold units are set where possible in terms of daily two-way vehicle movements, is that it is usually easier and therefore more reliable for a developer to estimate future traffic volumes in terms of the number of vehicles per day (VPD).
- A2.3 Traffic activity thresholds are used to determine when Council is likely to require additional information prior to the determination of resource consent issues. The location, scale and nature of the issues involved should be used to determine the scope and detail of the ITA to be undertaken in each case.

A3 Traffic Generation for Permitted Activities

- A3.1 It is possible that in some circumstances that traffic flows of 100 VPD could have a significant impact, if (say) for example:
- (i) An intersection was already at or over capacity in terms of existing traffic usage, although in such a case it is likely to be programmed for improvement with or without development.
 - (ii) Vehicles would be turning right onto a busy major road. In such circumstances, safety concerns are likely to be more appropriate and effective in preventing or limiting vehicle conflicts, rather than relying on the outcome of traffic capacity analysis.
- A3.2 For these reasons it is considered that unless otherwise specified in the plan, the proposed daily two-way PDP threshold at which an ITA should be considered by Council, is 100 vehicles per day.

A4 Scope And Content Of Transport Assessments

- A4.1 All developments must comply with DP and other regulatory requirements, in respect to the location and design of accesses, parking provision and all other access and movement related requirements.
- A4.2 In addition to these requirements, where an ITA has to be undertaken, this should address all relevant issues for the development concerned.
- A4.3 Topics required to be addressed in ITAs typically include:

²¹ See NZTA Research Report 422, Integrated transport assessment guidelines, November 2010.

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- i) Access assessment (suitability of access location and design).
- ii) Traffic capacity and delay.
- iii) Road safety.
- iv) Network integration aspects (local roads, state highways, public transport and walking/cycling networks).
- v) Other modal effects (e.g. on public transport, walking and cycling) incorporated into a Travel Plan.
- vi) Environmental and amenity issues (e.g., emissions, noise, visual effects, amenity).
- vii) Parking and loading (off-road provision and on-road impacts).
- viii) Any other relevant effects determined by Council.

A4.4 The topics listed above are not necessarily required in every case and are not intended to be exhaustive. It will save time and effort if Council approval is sought for the scope and content of an ITA prior to commissioning any detailed preparatory or analytical work.

A4.5 In terms of methodology, prior to an ITA being undertaken, Council needs assurance that data sources, assumptions and techniques to be used are appropriate in the context of the development concerned. Therefore, the outline method to be adopted in preparing an ITA should be part of the scoping discussions held with Council.