

TECHNICAL PAPER

HOW DISTRICT PLANS CAN CONTRIBUTE TO INTEGRATED LAND USE AND TRANSPORT PLANNING – THE SELWYN EXAMPLE

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ABSTRACT

The Selwyn District Council (SDC) is revising its District Plan's transport provisions to ensure they reflect the strategic direction of Council, current national and regional policy, the need for better integration of transport and land use planning and good urban design. ViaStrada engineers and planners have worked closely with SDC staff to review the District Plan and prepare the resulting plan change.

This paper details the gap analysis undertaken on the existing plan, the considerations made to address the gaps and the resulting proposed plan changes. The Plan moves from the traditional, narrow focus of safety and efficiency to a Plan that considers wider issues such as network connectivity and accessibility for all modes of transport. This is achieved through the introduction of new issues, objectives and policies, which requires Council, developers and other parties to take an integrated approach. New and updated rules introduce a more flexible and relevant local road classifications, allow for closer intersection spacing in low speed urban areas, requirements for walking and cycling linkages, layout considerations for car park areas and much more. This paper discusses how these changes can contribute to better integration of land use and transport and concludes that integration is promoted and achievable through the proposed Plan update.

INTRODUCTION

District Plans are the primary land use planning documents under the Resource Management Act 1991 (RMA) that control the effects of activities on natural and physical resources in New Zealand. The controls relevant to the integration of land use and transport include designations, zoning of land, the activities allowable in each zone, and the respective controls on those activities relating to the surrounding transport network. Historically transport controls in district plans have focused on road function, access, safety and parking. Policy controls promoting and facilitating a sustainable land transport system and the integration of land use and transport planning have generally been lacking and accordingly councils have not been well placed to give due consideration to these aspects, despite the will to consider and act upon them.

But times are changing. There are now numerous plan changes underway throughout New Zealand, essentially representing what has been termed a 'second generation' of district plans that address the issue of integration. A case in point is the Selwyn District Council (SDC). SDC has taken the opportunity to revise the District Plan's growth and transport provisions to ensure that they reflect the strategic direction of Council; this direction is essentially a move away from market-led development to Council-led promotion of sustainable development that includes the integration land use and transport.

The authors consider that District Plans have a great potential to make connections between people, places and products if undertaken appropriately. This paper outlines the review of the Selwyn District Plan and the resulting proposed plan changes, which respond to the growth pressure issues that the District faces, and that will contribute to integrating land use and transport as part of a number of strategic responses to achieve sustainable development.

THE SELWYN DISTRICT PLAN

The strategic direction of the SDC has also been influenced by the adoption of the Greater Christchurch Urban Development Strategy (UDS)¹ and its associated Travel Demand Management Strategy (ECan *et al* 2006), and its own concerns about developer led growth. The growth predicted for greenfield developments within the greater Christchurch area through to 2041 is 40% of the total anticipated growth and much of this falls within the Selwyn District. SDC is the first UDS partner to undertake this level of district plan review and throughout the process has aimed to address the direction of the UDS partners who at a sub-committee level meet regularly as the Greater Christchurch UDS Transport Group.

The revision of the Plan was also driven by the release of the Selwyn District Walking and Cycling Strategy, the Christchurch and the Rolleston and Environs Transportation Study (CRETS) and also Council's recognition of the importance of good urban design as is reflected in the recently released SDC Subdivision Design Guide (SDC 2009). The review also was seen as an opportunity to future-proof transport planning within the district (for example, by setting the scene for potential park and ride sites and rail-based freight opportunities).

A team of ViaStrada engineers and planners undertook the review and updated the existing District Plan transport sections (both in the Township and Rural Volumes). The growth sections of the Plan are subject to other parallel plan changes resulting from several structure plans developed for urban areas in the district. Selwyn is a diverse authority with

¹ The UDS is a joint strategic planning partnership for managing urban development that protects water, enhances open spaces, improves transport links, creates more liveable centres and manages population growth in a sustainable way involving Environment Canterbury, Christchurch City Council, Selwyn District Council, Waimakariri District Council and the New Zealand Transport Agency.

large rural areas and rapidly growing urban townships. The district spans from the Canterbury high country across the Canterbury plains to the urban boundary of Christchurch. The potential for district-wide change in some aspects is limited by the characteristics of particular locales (for example, setting maximum parking limits or reducing motor vehicle usage dramatically). The team felt that the greatest potential for reducing motor vehicle use was the promotion of active modes in townships for short trips and the Plan Change strongly reflects this desire.

In light of this, the review team considered that a cautious and measured approach was required reflecting a “learn to walk before running” philosophy. In some cases this meant introducing concepts rather than imposing rules that might be considered unreasonable given the district characteristics and possible rejection that may jeopardise the Plan Change process. Essentially the plan moves away from out dated ‘roading’ considerations to modern and inclusive ‘transport’ considerations and results in provisions that promote Councils ‘work, live and play’ way of life for the district.

INTEGRATION OF LAND USE AND TRANSPORT PLANNING

The authors felt that a definition of what the integration of land use and transport planning actually meant to them was important to set the framework for the content of this paper and the outcomes we reached. The authors derived the following somewhat simplified definition:

“The integration of land use and transport planning involves the development of public and private infrastructure, activities and services occurring side by side to ensure sustainable outcomes and that no opportunities are lost to contribute to the community’s present and future well being.”

An example of a good integration outcome for Selwyn would be a greenfields subdivision that is located appropriately (as identified through the Outline Development Plan (ODP) process). It would be close to or include the provision of local services including public transport and its street and path layouts would allow a good level of permeability (providing choice and ease of movement through the urban network in particular) particularly for active transport modes. Its streets, paths and car parks would all have high amenity values.

At a national level, the desire for better integration of land use and transport is reflected in the Integrated Approach to Planning (IAP) project initiated by the government. This project was identified as one of the priorities in the 2005 Transport Sector Strategic Directions (TSSD) document (MoT 2006) to achieve a sustainable transport system. Since that time the project has resulted in the publication of various phase reports, literature reviews, think-pieces, New Zealand Transport Agency (NZTA) research reports and numerous other resources. Many of these identify barriers to integration and make recommendations on the way forward; the 2008 New Zealand Transport Strategy (NZTS) reflects these.

One of the most relevant national resources drawn on in the Selwyn District Plan review was the NZTA research paper titled ‘Incorporating Sustainable Land Transport into District Plans: Discussion Document and Best Practice Guidance’ (Tonkin and Taylor, 2008).

THE SELWYN DISTRICT PLAN REVIEW PROCESS

Methodology

As noted above the NZTA paper (Tonkin and Taylor, 2008) was useful in the development of a methodology for the Selwyn review. In particular it gave useful guidance on the consideration of national, regional and local strategies / policy outcomes and assessing these against the current district plan via a gap analysis of the plan provisions.

The mix of professionals on the combined consultant-council project team proved to be a huge benefit and facilitated an integrated approach throughout the review. The team comprised of traffic engineers, asset engineers, a road safety co-ordinator, transport planners, land use and resource management planners, consenting officers and policy planners.

The review also included the consideration of a list of operational issues that SDC staff had compiled over the years associated with use of the current roading provisions in the Plan. The origins of the district plan can be traced back to the three separate plans brought together when amalgamation occurred that created the Selwyn district in the late 1980's. A project team workshop to discuss this list and the gap analysis outcomes was held early in the project. At the same workshop some ideas were presented on how the gaps in the plan could be addressed. This gave the ViaStrada team an indication of the direction and extent of the plan changes that SDC would support and also identified how some might be administered on a day to day basis by council staff.

Further workshops were held to discuss the fine details of the plan changes and interim discussion documents were circulated for feedback. These discussion documents were essential for the consideration of options that were identified by the ViaStrada team to address the various issues. For example: what method should be used for updating the car parking allowances; whether the Plan reflects minimum, actual, busiest demand or even maximum limits; and parking allowances for schools. The parking allowance for schools, day care centres etc was an important issue as the Council currently receives a lot of negative feedback regarding parking and traffic issues from these activities on adjoining roads. Another aspect that required careful thought was how the plan could facilitate the requirement for integrated transport assessments² (known as an ITA) above and beyond traditional traffic impact assessments.

Early on it was decided that wider stakeholder feedback would be sought on the draft plan changes once the project team had verified the draft and resulting Section 32 report (required under the RMA for plan changes). However, as several State Highways pass through the district, and as a UDS partner, the NZTA was considered a major stakeholder and should be engaged early in the process. NZTA was asked to comment on the current Plan and they raised many similar issues to those identified in the gap analysis.

The outcomes of the various steps in the process are now discussed in more detail.

Consideration of national, regional and local strategies

The relevant Acts, Policies, Strategies and Plans that funnel into the District Plan were identified and this is shown in Figure 1. This figure illustrates a top-down approach representing the recent amendments to the RMA that require national policy statements to be immediately reflected in district plans. Accordingly, it is important that the District Plan, and any document forming part of the Plan, can readily accommodate this method of top-down policy implementation. Figure 1 is simplistic in that the relationships between the various Acts and the different focus that each has is not diagrammatically shown. Other figures in the various IAP documents cover this aspect well so it was felt that replicating this added no benefit.

² Guidelines on the content of an ITA have been developed by Auckland Regional Transport Authority and national guidelines are currently being developed by NZTA.

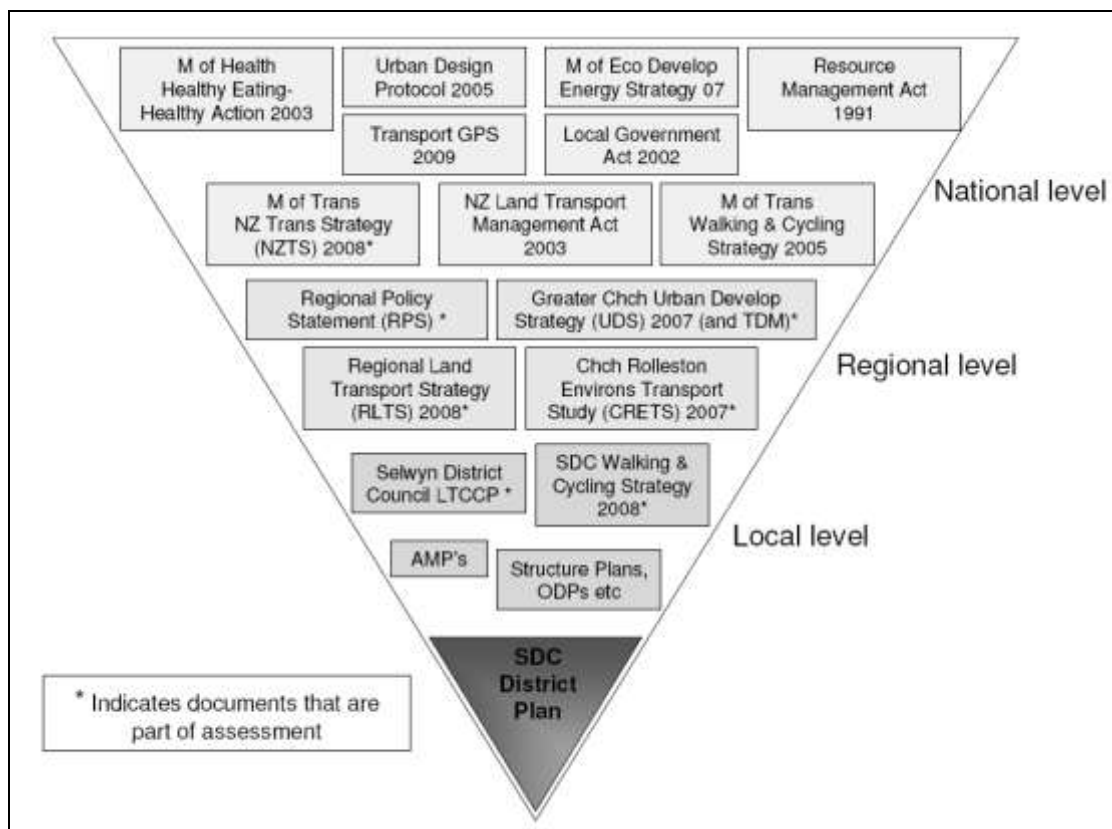


Figure 1: Top down policy implementation

Outcomes of relevant land transport policy documents

The research carried out by Tonkin and Taylor (2008) highlighted a number of issues and concepts that can form the building blocks of a sustainable land transport system. These sustainable 'building blocks' represent the outcomes sought to achieve a sustainable land transport system and are: **environmental sustainability, accessibility, improved health, functional transport networks, economic development, integrated urban form, and safety**

The Selwyn review continued to use these building blocks in the assessment of the national, regional and local strategies. Each document was assessed by listing the outcomes the strategies seek to achieve, the opportunity district plans have to indirectly or directly influence the outcomes and the relevant building blocks. An example of one of the assessments is shown below in Table 1.

Table 1: Example assessment table - Selwyn District Walking and Cycling Strategy

Local Strategy or Policy or Plan	Outcomes sought	District plan influence	Building Blocks
Walking and Cycling Strategy 2009 (provides an over-arching framework for walking and cycling in the Selwyn district)	Improved Safety for Pedestrians and Cyclists	Direct	Safety
	More People Choosing to Walk and Cycle More Often	Indirect	All
	Convenient and Safe Community Environments and Transport Systems that Encourage and Support Walking and Cycling	Direct	Safety Accessibility Functional transport network Integrated urban form
	A Transport System that is More Sustainable in the Long Term	Direct	Environmental sustainability

Gap analysis - How well is the Selwyn District Plan achieving the outcomes?

An analysis focusing on those transport building blocks directly influenced by the district plan (environmental sustainability, accessibility, functional transport networks, integrated urban form, and safety) was carried out to determine where the Plan required change or improvement. Public health and economic development with respect to land transport were two building blocks excluded from the analysis as they generally have indirect outcomes (e.g. encouraging walking and cycling improve public health) and are difficult to link directly to district plan rules (except for aspects such as noise). It should be noted that to fully achieve these sustainable transport outcomes, they also need to be reflected in non-transport sections of the District Plan such as 'growth' (i.e. residential density, mixed use and subdivision). As mentioned earlier, several SDC plan changes are in process to address this, for example in the Lincoln Plan Change (SDC 2008), which reflected a formal structure plan process for this provincial township. The Lincoln Plan Change was in draft form when this review began allowing the review team to ensure alignment and consistency of terms - and indeed integration.

The District Plan components that were analysed are described below in terms of their intended purpose.

- An **'issue'** is a clear statement about something that needs to be addressed in order to achieve the purpose of the RMA. For example, what are the problems / concerns in the district and why these need to be overcome.
- An **'objective'** is a positive statement in a district plan of what will be achieved when the issue is resolved. The objectives of the district plan will be to assist in achieving the outcomes sought in the national policy and legislation, and also regional and local directions.
- A **'policy'** describes the position, consideration or criteria applied in deciding whether an activity or effects should be allowed. They guide the local authority on what will be allowed in any given circumstance. Policies should be directional and describe how a particular objective is to be achieved.
- A **'method'** is how the policies will be implemented (including regulatory and non regulatory methods). Examples of methods include zoning for land use, Plan rules, standards, structure plans, designations, limited access roads, design guidelines etc.

It was apparent from the local strategies, policies and also from the Council's own LTCCP that Selwyn District has a vision of a sustainable land transport system. However the degree to which the district plan can successfully promote the sustainability of land transport will depend on district characteristics and the specific issues it faces. It will also rely on political, community, and other stakeholder acceptance such as by developers (i.e. any change is subject to public consultation in the plan change process). Considering the issues specific to the district is important so that inappropriate objectives, policies and methods are not promoted. The review noted these specific issues relevant to Selwyn:

- A large number of people commute between Selwyn and Christchurch City,
- The District is growing: growth areas and limits are being set by a revised Regional Policy Statement reflecting the UDS,
- The district has urban and rural areas (reflected in two district plan volumes) with distinct issues and differing potential for achieving sustainability,
- Studies are underway to determine a future response to public transport, these were not concluded during the review,
- Selwyn is seen as needing to fulfil a desire to live in a more rural environment close to Christchurch that offers a range of living environments need to cater for this, and
- A number of established developments have poor internal and external connectivity.

The gap analysis showed that a number of current and emerging transport issues are not included in the Plan and subsequently are not reflected in the objectives, policies and methods. The conclusions of each of the five building blocks that directly influence the transport outcomes are summarised below:

Environmental Sustainability – There is a heavy focus in the Plan on reducing adverse effects of the transport network and surrounding land uses, however there is no linkage to the sustainability that can result from a transport system that is well planned and maintained.

Accessibility – This outcome was not covered in the Plan in relation to accessibility to transport networks for all potential users. The Plan generally focuses on accessing the network from adjacent land. It was suggested that the rural volume would not need the same level of emphasis on accessibility as the township volume as options were more limited.

Functional transport networks – This appeared to be covered sufficiently as transport networks have traditionally focused on efficiency and hence reasonable functionality, however the future proofing of functional networks was deficient.

Integrated urban form – This outcome was not covered in the Plan in relation to transport networks. Any changes to the Plan to reflect this outcome would need to be mirrored in the growth sections of the Plan. It was anticipated that the rural volume will have a lesser focus on this outcome.

Safety - This appeared to be covered sufficiently throughout the Plan however some specific values, such as sight distances, were based on out of date references. There was no reference to the potential for lower speed limits in urban areas, an aspect that can improve safety for pedestrians and cyclists.

At a workshop with SDC staff the recommended changes to address the gaps were discussed generally but not in any great detail. The concept of two volumes being merged was discussed but it was agreed that the nature of the district lends itself to keeping the rural and township volumes at the present time.

The outcome of the workshop provided the ViaStrada team with some valuable feedback and allowed the next stage of drafting the plan changes to commence. The concept of a development bonus or credits (i.e. acknowledging a developer that that provides a high degree of transport network permeability, accessibility and sustainable land transport outcomes) was discussed. Although considered an interesting concept, it was decided that given the infancy of the design guidelines and potential for debate over how this could be objectively assessed, the development bonus idea would not be developed further at this time. A stage report documented suggested ways to address the strategic level gaps in the Plan and the agreed outcomes.

Consideration of Urban Design principles

At the same workshop the aspect of urban design was discussed as the Council was in the process of finalising a set of guidelines for the design of residential subdivision in urban living zones. The purpose of this guide is to explain to developers, designers and landowners what outcomes the Council is seeking for new subdivisions in and around the townships of the district. It is an aid to interpreting the provisions (objectives, policies, rules and assessment matters) of the Selwyn District Plan.

The specific outcomes that the design guide seeks with respect to transport are listed in Table 2 along with how these outcomes can be achieved using the District Plan and other methods. The potential methods were discussed at the workshop and it was agreed that the use of the Subdivision Design Guide (SDC 2009) as an assessment matter and the use of a Engineering Code of Practice (currently being developed) that supported this for technical details was appropriate. The introduction of new local road sub-levels in the district plan

hierarchy was also supported. Also at the workshop it was recognised that the inter-relationship of this transport plan change is closely related to the Lincoln Structure Plan (SDC 2008) and corresponding Plan Change that also identified a number of common issues, and that consistency over urban design matters was necessary.

Table 2: Urban design outcomes and potential methods to achieve these

Outcomes sought	Methods Available
A road network that is simple and logical	By using the guidelines as an Assessment Matter in the Plan.
Appropriate street widths	Road hierarchy flexible to cater for varying types of local roads
Restrict the use of culs de sac and where used keep short	Introduce a rule defining maximum length of cul de sac allowable and encourage links.
The road area within cul de sac heads should be kept to a minimum	Rule already exists for minimum radius; potentially introduce a maximum radius.
Avoid the need for obscured and/or contorted pedestrian/cycle routes in urban areas	Restrict the length of routes and the angle of deviation of routes in the Engineering Code of Practice.
Safe pedestrian and cycle accessways	Introduce a rule that defines a minimum corridor width of ped/cycle accessways. Define other design features in the Engineering Code of Practice.
Minimal deviation from pedestrian and cyclist desire lines	By using the guidelines as an Assessment Matter
Connect to adjacent pedestrian and cycle links	By using the guidelines as an Assessment Matter also provide link to the Walking and Cycling Strategy.
Make allowance for potential future connections	By using the guidelines as an Assessment Matter
Walkable residential blocks of 800m perimeter	By using the guidelines as an Assessment Matter Review intersection spacing in District Plan
Making allowance for bus route	By using the guidelines as an Assessment Matter, needs early involvement from regional council.
Use right of ways sparingly and for the appropriate location	Rule already exists in respect to maximum number of sites off a ROW, this number is proposed to be reduced further.
Local road intersection spacing reduced from District Plan Requirements	Review intersection spacing in District Plan as it may be possible to allow closer spacing on local roads without compromising safety in appropriately designed environments
Combination of all desired outcomes	Allow some development bonus (density, reserves etc) where the accessibility meets a certain score etc. A developer can get some 'credits' by upgrading the entire route (including existing roads) to a better standard, and gain some development benefit as well.

It was interesting to learn whilst preparing this paper that, during the Selwyn Plan review, an Urban Design Stocktake of Resource Management Plans and Policies was undertaken by the Ministry for the Environment (MfE 2009). This was to support the NZ Urban Design Protocol. The stocktake involved the review of 25 plans against a set of urban design sub criteria, based on established urban design principles and issues (such as the seven Cs³). The findings with respect to provincial councils (nine plans were assessed) showed a high variability in the number of urban design provisions in the plans. Given the changes planned for Selwyn the urban design sub-criteria used in the stocktake now appear to be well covered by the Selwyn District Plan.

³ The seven Cs - Context, character, choice, connections, creativity, custodianship and collaboration.

OUTLINE OF PROPOSED CHANGES TO THE PLAN

The key issues identified in the review, and those that required attention, can be broadly categorised as:

1. The need to integrate land use and transport systems in a sustainable manner.
2. The need to provide for, and protect future transport corridors and systems to achieve the Communities environmental, social, economic and cultural wellbeings.
3. The need to encourage and provide for alternative sustainable transport modes.
4. Enhancing the provision of safe and efficient transport systems for people and goods.
5. The important role of transport in meeting good urban form outcomes sought. .
6. The need to reduce effects on land uses and the surrounding environment such as air pollution, noise, dust, visual amenity and vibration from traffic.
7. The need to reduce environmental effects and constraints on the efficient operation of transport networks.
8. The correction of operational deficiencies within the Plan identified by staff during routine planning processes

The plan review also provided an opportunity to align numbering, definitions and approaches within the two volumes (borne from its ancestry from previously amalgamated plans). In particular the proposed and amended issues, objectives and policies result in a closer alignment of the transport provisions in the two volumes of the Plan. This was considered necessary as roads and transport networks by their nature pass through both rural and urban environments and thus to assist in their integrated and sustainable management the two volumes of the Plan should be consistent, or at least compatible.

Table 3 summarises the key changes that pertain to the integration of land use and transport. Some further explanation is provided in the remainder of this section under headings generally aligned with the key issues listed above. Further details on the draft changes can be found on the Selwyn District Council website (www.selwyn.govt.nz).

Table 3: Key plan changes and how they contribute to integration

Key Plan Changes	How it contributes to integration
'Transport Issues' were amended and added to reflect the need for integration	Sets the scene for what SDC is aiming to achieve, encourages collaboration and coordination, etc
'Transport Objectives' were amended and added to in support of the revised issues	States the positive outcomes that will be achieved through compliance with the plan
Transport policies amended and added to achieve the objectives	The main benefit of the update is that it allows SDC more scope for consideration of projects from an integrated perspective
Health and Safety policy updated to allow consideration of effects of transport on the local receiving environment	In order to fully consider the integration of land use and transport it is necessary to assess the effects at all scales
New rules for Point Strips (link strips) between adjacent developments	Achieves integration between adjoining developments, land uses and transport networks.

Key Plan Changes	How it contributes to integration
Updated rules introducing more local road hierarchy sub layers and updated design standards	Allows a more defined and flexible hierarchy in urban areas and results in less land required for road corridors and improved amenity for residential areas through appropriate layout of roads. Also provides for walking, cycling and public transport within the road network and for more innovative designs.
Updated rules to decrease minimum intersection spacing	Allows for a more permeable local road network to encourage walking and to facilitate higher density developments
Updated rules for property accesses	Prevents long right of ways and improves design of accessways and access controls on roads higher in the hierarchy
Parking policies, rules and rates updated,	Allows for better use of land, offers alternative methods such as shared parking between sites and also the consideration of lower parking rates if a TDM based alternative is provided.
Cycle parking polices and rules updated	Ensures that cycle parking is appropriately catered for and designed for ease of accessibility and use etc.
Car park design rules added	Encourages good design of car parks to achieve overall balance between vehicles, pedestrians, amenity and security and the appropriate positioning of car parking within the site.

Allowing a more integrated approach

The introduction of new issues and objectives, and the amendment of the existing issues and objectives in the plan, allows the integration of land use and transport to be given more prominence. For example in the rural volume of the plan, two additional objectives have been included that specifically seek to integrate land use and transport systems to minimise adverse effects between these systems and adjoining land uses. They also provide for and protect future road and transport corridors and systems that encourage the provision of alternative, sustainable forms of transport and the movement of freight.

The updated Plan allows assessments appropriate to the level of effects. This includes all or some of the components for an Integrated Transport Assessment (ITA) as necessary, based on effects. In particular the objectives and policies guide what effects should be considered and how decision making should be managed by the Selwyn District Council. Assessments that do not cover matters in the relevant objectives and policies can be refused as incomplete or additional information can be requested. The Plan is also consistent with the direction of the RPS and UDS and ensures some appropriate provisions are in place to support ITA outcomes once these have been established through these high level planning processes. For example, for greenfield developments ITAs are required as part of the approval process for outline development plans.

In addition to the general provisions, it is proposed that the activity status of the rule relating to activities and vehicle movements in the rural zone be changed from restricted discretionary to discretionary. This recognises the need for more integrated traffic assessments and the consideration of a variety of factors that are not usually adequately addressed through a restricted discretionary activity status. The matters for which Council's discretion was previously restricted have been amended and retained for guidance, however care has been taken in the proposed wording to make it explicit that discretion is not limited to just these matters.

As a number of developments in Selwyn have proceeded with no linkage to adjacent sites, essentially creating developments with only one entry / exit point, policies and subdivision rules have been amended to utilise legal instruments such as point or link strips as a mechanism to achieve integration and connectivity between adjoining developments, land uses and transport networks. Recent structure planning processes for the Lincoln and Rolleston townships have identified strategic transport connections, and the use of these types of mechanisms will enable Council and developers access interests to be maintained in a fair and reasonable manner based on the proposed rules associated with these.

Future transport networks for various modes are interrelated and there is a need for integrated land use and transport planning. For example off road cycle and pedestrian links can be provided between townships to offer alternative travel options, and Council is proposing a number of these in through its Walking and Cycling Strategy. Future roads created by subdivisions need to be appropriately merged into the existing road network and designed to accommodate all potential road users including buses, pedestrians and cyclists. This need to future proof the transport corridors and the network will now be included in the Plan.

Sustainable transport

The current policies include some reference to providing for pedestrians, cyclists and public transport however these have been amended or new policies added, tightening up requirements to ensure these modes are considered in all regards of the transport network. This reflects the desires outlined in the Selwyn District Walking and Cycling Strategy and the new Subdivision Design Guide in terms of providing for alternative modes, increased accessibility and environmental sustainability. Work on utilities within the road corridor can also affect pedestrians and cyclists, and they are now recognised as legitimate component of any traffic duly affected. Furthermore car park design now seeks clear consideration of pedestrian and cyclist access to and through car parks. Cycle parking rules were updated to reduce the tendency for cycle parks to be provided as an afterthought and in locations that cyclists are not aware of or are inconvenient or unsafe. Bus routes are also required to be accessed for inclusion into the design of any subdivisions to facilitate any possible services that maybe introduced now or in the future.

Safety and efficiency

The key changes to support the Plan's safety objectives relate to sight distances, corner splays, access provisions and car park design. Specifically the existing sight distance values in the Plan are based on a superseded version of the NZTA Planning and Policy Manual (NZTA, 2007). There are currently no rules with respect to corner splays; however as there are a number of benefits from requiring corner splays at intersections (particularly in rural areas), and rules are now proposed to facilitate these. In addition rules are to be amended to restrict access to corner sites from one road only, increase accessway minimum widths and amend access separation distances. A new policy and rule requires consideration of pedestrians within larger car parks.

Good urban form

The desire for good urban form is described in the SDC Subdivision Design Guide and is now reflected in the Plan through a series of amendments and additions, including updated road and path design requirements, intersection spacings and limits on culs de sac and accessways to allow a connected and permeable street and path network. Street and car park design rules are included to improve amenity.

The proposed changes to local road classifications in townships reflect the anticipated functioning and role of the roads within the hierarchy to seek better urban form. The

changes provide opportunities for range of street widths and forms, which can allow a reduction in the use of rear sections and rights of way without adversely affecting the developers lot yield - and also allow different living options like shared space or a street with slow traffic and a different character. Shared space streets can accommodate a number of functions, by utilising shared pathways, open space and amenity and infrastructure/service provision such as storm water rain gardens etc. The following local road classifications are proposed as part of the Plan Change for the Township Volume:

- Local Major – also known as a ‘local area’ street
- Local Intermediate – also known as a ‘neighbourhood’ street
- Local Minor – also known as ‘residents’ street (allows shared space)
- Cycle / Pedestrian Accessway – an accessway for non-motorised users

Also in the Township Volume a rule has been added to the matters over which the Council has restricted the exercise of its discretion with respect to roads, reserves and walkways or cycleways. This rule requires that the design of any road shall ensure the design speed is achieved with respect to the type of road and supports the facilitation of the new local road sub-hierarchy.

The existing District plan roading requirements for new roads are limited to specifying legal widths, carriageway widths and whether kerb and channel and footpaths are required in townships. The proposed requirements amend these to coincide with those concepts promoted in Councils Subdivision Guidelines while also reflecting a need to better provide for parking, cyclists and pedestrians. Further technical details are will be provided in Councils Engineering Code of Practice.

Larger parking areas can impact on pedestrian (and cycle) access onto and within sites and are a contributing factor in terms of urban design and amenity. The Plan change includes the provision of rules and policies requiring consideration of interaction between amenity, vehicles, pedestrians and security and the appropriate positioning of car parking within the site.

Minimising the effects of transport and land use on each other

Consideration of effects of transport on the local environment was added to an existing policy within the Health and Safety section of the Plan (one of the few non transport section changes to be made). This policy now recognises that effects of transport systems, whilst not significant on the wider living zone, may be noticeable for localised environments. It also recognises that higher traffic movements maybe able to be accommodated in less sensitive environments. In order to fully consider the integration of land use and transport it is necessary to assess the effects at all scales.

Inadequate parking on the roadside can impact on the safety and efficiency of traffic on the road in a number of ways; particularly due to potential delays and conflict with manoeuvring vehicles on the side of the road and through reduced lane widths. High levels of road side parking can also noticeably impact on the character and amenity of a street. Whilst it is important to avoid adverse effects associated with inadequate parking provision on-site, vehicle parking facilitates the use of private motor vehicles and can therefore be counterproductive to encouraging travel by more sustainable modes. It is therefore necessary to recognise opportunities to reduce vehicle parking in certain circumstances as a tool in encouraging public and active transport.

The issues associated with parking therefore reflect at site or development level the need for integration of land use and transport planning. In the rural zone parking requirements are amended to require parking to meet actual demand. In the living and business zones the Plan Change amends parking requirements to require parking at a level to cater for demand

at all but the busiest times of year; this will be generally effective at reducing / mitigating the majority of adverse effects associated with on-road parking. At a policy level a TDM alternative to the provision of a full complement of parking spaces is provided (but only where it is likely to have a noticeable reduction in parking demand and can be conditioned and enforced through a resource consent process).

CONCLUSIONS

Historically the planning of some developments, including associated changes to the transport system, has been undertaken with a narrow focus rather than integrating the development with the surrounding area to achieve desirable transport and community outcomes.

The following conclusions can be made with respect to how the Selwyn District Plan, within its mandate, will contribute to improvements to the integration of land use and transport systems within the district:

1. The amended District Plan transport objectives will better achieve the purpose of the RMA 'to promote the sustainable management of natural and physical resources' through greater integration of land use and transport systems and acknowledgement of the impact that each has on the other.
2. The updated Plan will allow transport assessments appropriate to the level of effects, and can include all or some of the components for an Integrated Transport Assessment as deemed necessary based on likely effects.
3. Reducing the dependency on the private motor vehicle, for short trips at least, can be aided by District Plan provisions that require good connectivity and permeability, through and between urban areas, for more sustainable transport options such walking, cycling and public transport.
4. All of the new and amended rules combine to assist with the outcome of achieving environmental sustainability, accessibility, and integrated urban form.

The collaboration of disciplines on the project team was crucial to achieving what is viewed as a well balanced 'transport plan change' that will provide a platform to enable these initiatives to be progressively expanded on over time, as knowledge and experience improves. This outcome sets Selwyn on track to connect people, places and products in a more integrated and sustainable manner.

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