

C. Supplementary Document Two

ARTA Guidance Note for Achieving Multi-modal Developments – May 2007

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1. Introduction

The Auckland Regional Transport Authority (ARTA), assisted by Flow Transportation Specialists Limited, has developed this document to give guidance on how to achieve multi-modal developments. These guidelines will assist ARTA, Auckland Regional Council (ARC), developers, local authorities, Transit New Zealand and any other parties involved in development proposals to facilitate better use of all modes of transport into development proposals of all sizes and/or uses.

The purpose of this document is to provide guidance on the various approaches and options that should be considered and, where appropriate, integrated into a development proposal for a multi-modal land use and transport approach. This document should be read in conjunction with the Integrated Transport Assessment Guidelines (ITA), developed by ARTA which provide a framework for assessing the impact of proposals on the transport network.

The document is intended to provide a range of approaches to developing a multi-modal development by discussing:

- > How to facilitate a multi-modal development
- > The various planning processes and stages where multi-modal approaches can be integrated
- > A range of multi-modal considerations, measure and means of achieving a multi-modal development, and
- > The extent of facilities required for a multi-modal development.

2. Background

While it is recognised that many local authority district plans and Transit's Planning Policy Manual provide a range of transport objectives, policies, requirements and standards, transport considerations on development proposals in the past have generally been limited to:

- > The effects of vehicles on the surrounding road network, including impacts on the State Highway network where appropriate
- > The provision of car parks and
- > The design of the accessways in and out of a development.

As such, many transport assessments neglect to consider other transport users or provide facilities that encourage a multi-modal approach. Often this is due to the limited information available or the fact that certain standards, quality or quantity of infrastructure to support other modes is unknown. The ITA Guidelines have provided a step in the right direction by developing a framework to robustly assess all transport opportunities and constraints that

may occur from land use changes and outline how a proposed development will function in terms of accessibility.

The ITA Guidelines assist in identifying how a development will interact with the existing transport networks, where traffic capacity constraints may occur, where passenger transport services are sufficient or extra services may be required, and the level of accessibility for walking and cycling. However it is recognised that there is a gap between assessing how a proposal will interact as a multi-modal development, and the types of provisions and infrastructure that should be required through the planning process as part of the development to support more sustainable travel modes and create a highly accessible multi-modal development. It is proposed this document will help to address that gap.

3. Facilitating Multi-modal Developments

Multi-modal developments will vary in size and scale depending on their location and may have varying levels of existing transport access. The important aspect to consider when designing a multi-modal development is that it needs to support all forms of transportation, including sustainable forms of travel, such as, walking, cycling, and passenger transport and travel demand management (TDM) initiatives. In some cases infrastructure and service provision for a range of modes may already be in place and it is only a matter of integrating these with the existing network, in other places the provision of transport infrastructure and services may be some years away, which may require the development to be sequenced with the implementation of the planned infrastructure and services or be flexible enough to build a multi-modal network over time. By developing a multi-modal approach there is the opportunity to achieve a number of social benefits from improving access to the majority of the population rather than only those who have a driver's licence and access to a car¹.

Traditionally transport considerations have been limited to the provision of adequate off-street parking, vehicle access and the effects of traffic on the capacity and safety of the roading network generated by a development. While these provisions are still very important aspects when considering the impacts of a development proposal, by only considering these provisions users of the development are subliminally encouraged to travel by car, as that is often the main design element in regard to transport. As such, carparks are often over-supplied and dominate the landscape leaving pedestrians to find their way through large car parking lots to access the entrance of a building.

Territorial authorities, through their district plans, generally provide a range of objectives and policies to support all transport modes however the rules in the district plan generally only address minimum requirements for the provision of car park spaces and vehicle crossing designs which limits the assessment of other modes. Depending on land use, development proposal are rarely assessed in terms of access by other transport modes or whether or not a development achieves any of the district plans objectives and policies for other modes.

¹ New Zealand has 2.5 million registered cars and over four million people – an average of 0.6 cars per person, meaning that at least 40% of the population does not have direct access to a car.

Therefore by default councils have been supporting journeys by car,² rather than encouraging a range of accessibility even though many of the councils objectives and policies support access by a range of other modes.

The form and type of infrastructure or TDM initiative recommended to provide for a multi-modal development will vary. For example, the design of safe and adequate cycle and pedestrian facilities' may be the only requirement for one development, where for larger proposals a range of infrastructure and TDM initiatives may be sought. Just as important in providing these facilities is the need to locate them in an appropriate location and to provide sufficient facilities for their expected use. All this needs to be considered early in the planning and design process and needs to be incorporated into each stage of the process of the proposal.

The following section provides guidance on what should be addressed at different stages of the planning process and details of what transportation management techniques or measure can be applied to achieve multimodal developments.

4. Planning Processes

There are several stages of the planning process where multi-modal provisions can be incorporated to ensure the provision of facilities that will enable and encourage modes of transport other than the single occupant car. The following stages are:

- > Structure plans
- > District plans, plan changes and plan variations
- > Comprehensive development plans/concept plans (these may be a requirement of a district plan policy or may be another layer in the structure plan process depending on the local authorities planning requirements)
- > Resource consents
- > Building consents.

Each stage provides an important step in the planning process, although, not every development will evolve from a structure plan process. As such it is important to acknowledge that multi-modal considerations and measures can be incorporated at a difference planning levels as outlined below in sections 4.1-4.5 and in Table 5.1.

4.1 Structure Plans

As outlined in Plan Change 6 to the Regional Policy Statement, "Structure Planning is both a strategic planning tool, a design tool and a comprehensive planning process with public and

² The exception being in the Auckland CBD area, which has maximum parking requirements and Albany Town Centre, which specifies parking requirements in a minimum/maximum range.

technical input"³. Structure plans provide higher levels of certainty to developers, the council, the public and affected parties regarding the layout, character and costs of development in an area allocated for growth or redevelopment.

With regard to transport, structure plans will typically include details of the key linkages and connections of roads, pedestrian/cycle routes and green routes (through parks and reserves) through the examination of the existing and proposed patterns of development both within and adjoining the development area. The establishment of design guidelines or design codes necessary to achieve the desired quality of development might include a range of infrastructural features, such as carriageway widths and the provision of cycle lanes. Often flexibility is provided in the structure plan process which provides for multi-modal developments and still leaves flexibility for developers.

To achieve a multi-modal development a structure plan process needs to consider a number of strategic issues in particular:

- > How a development can achieve integrated land use and transport outcomes by spatially incorporating the objectives and policies of a number of national, regional and local transport planning and land use documents
- > Recognition of strategic transport issues, strategies and plans, including planned passenger transport improvements and the strategic roading network, and
- > Local transport and accessibility issues, and in particular the need for safe and attractive walking environments, with good links to passenger transport and local facilities and amenities, cycling provision and good integration between the local and strategic transport network.

When developing structure plans in terms of transport and land use outcomes it is vital that the layout of the transport network is conducive to a multi-modal approach that enhances accessibility choice for people using the transport network. In regard to land use the density, design and layout of the development can also significantly enhance accessibility for people. It is at this stage that the key design aspects of the development start to encourage a multi-modal approach.

At this stage of planning the key design considerations should include:

- > Deciding whether the location is appropriate for the desired land use, can it be supported by a range of modes which provide access to a range of facilities?
- > Do the proposed zonings and land use assumptions reflect appropriate densities to support passenger transport?
- > Can new technology and infrastructure be incorporated to provide for high-quality telecommunication services to reduce travel demand?

³ Appendix A-4 Plan Change 6 to the Regional Policy Statement

- > Designing the development to integrate with the existing community. Can the layout and network design seamlessly integrate into the existing facilities and is there an opportunity to enhance access for the existing community by providing new or additional through site connections? Is there an opportunity to provide green linkages through parks and reserves?
- > Designing for all modes including cycle and pedestrian links and potential passenger transport routes
- > Ensuring potential passenger transport routes occur within/and/or adjacent to the high-density areas of the development (use Appendix H of Plan Change 6 to the RPS for density guidance depending on the type of service levels)
- > Spatially locating community facilities such as schools, hospitals, town centres and open space adjacent to potential bus routes and well designed walking and cycling networks
- > Does the development need to be staged to integrate with longer term transport infrastructure and service timeframes?

4.2 District Plans, Plan Changes and Variation

District plans are developed by local authorities to set out councils' resource management strategies. They include planning policies and rules for activities and development, where provisions are usually generalised and district wide.

District plans have a statutory requirement to be reviewed every 10 years to update the plan with current planning practices that have evolved over the time that the plan was made operative. However district plans can also be subject to a plan change or a variation by either the local council or a private developer at any time.

A plan change and /or variation is usually undertaken to change any provision (or introduce new provisions) in any district or regional plan. Where plan changes and/or variations are to rezone land to provide for residential expansion or rural residential development, the creation of a business park or a new town development; there is an excellent opportunity to include or amend objectives, policies and rules to ensure a multi-modal development takes place.

To encourage a multi-modal development via the district plan change and /or variation the objectives, policies and rules should require a developer to give effect to multi-modal considerations.

The objectives, policies and rules need to be written in a manner which ensure:

- > All objectives, policies and rules in the plan change or variation are consistent with the Regional Policy Statement (RPS), Regional Growth Strategy (RGS) and Regional Land Transport Strategy (RLTS)

- > That any proposed development should be supported by appropriate local facilities within passenger transport, walking or cycling distance to reduce unnecessary vehicle trips and enable access to those who do not drive
- > The layout of the development integrates with the existing/surrounding community
- > Zoning and density requirements have regard to the RGS and Appendix H of Plan Change 6 to the RPS to support passenger transport infrastructure and service investment
- > Building design controls reflect multi modal access
- > That all modes of transport are considered in the design of the development including passenger transport, walking and cycling
- > Connectivity and accessibility for passenger transport, carpooling, walking and cycling are considered high priority components of the development and as such designed in an appropriate manner
- > Safety and shelter for all modes of transport are key considerations
- > Appropriate telecommunications infrastructure is required to encourage work from home behaviour and
- > Car parking provisions are flexible and measured against accessibility of all modes and access to local facilities rather than the traditional standards and minimum approach.

4.3 Comprehensive Development/Concept Plans

Comprehensive Development Plans (CDP)/Concept Plans (CP) have recently become popular requirements from local authorities through changes to district plan policies. In some cases the land parcel may have undergone a structure plan process and the CPD or CP is for an area within the structure plan or alternatively required to comprehensively plan for a large parcel of land. These plans must reflect the outcomes of the structure plan process (if one exists) and the objectives policies and rules of the district plan by providing a detailed spatial plan that addresses, in more detail:

- > The location for the desired land use and whether it will be supported by a range of modes which provide access to a range of facilities.
- > The zoning, land use assumptions, densities and roading layout to support passenger transport, walking and cycling
- > The incorporation of new technology and infrastructure to provide high-quality telecommunication infrastructure and services to reduce travel demand.
- > Integration with the existing community and future (if areas are still to develop)

- > Designs for all modes including cycle and pedestrian links and potential passenger transport routes
- > Spatial location of community facilities such as schools, hospitals, town centres and open space adjacent to potential bus routes and well designed walking and cycling networks
- > Staging of the development to integrate with longer term transport infrastructure and service timeframes.

4.4 Resource Consents

All developments will require a resource consent, however many applications may not have been through a major planning process such as structure plan, district plan change/variation or comprehensive development plan and as such the consent application may need to include a significant amount of information regarding how the proposal will be integrated with transport and the types of measures required to achieve a multi-modal development.

All consent applications need to be aligned with statutory regional and local policy documents and reflect the requirements of the district plan. Typically consents include conditions that have to be met and these can include ones that allow the activity to provide for all modes of transport.

Consent applications should include the following measures or conditions to encourage a multi-modal development:

- > Building layout and design, including floor area ratios or square metres to ensure land use achieves the right density and design controls to encourage access by all modes
- > Safe access areas for vehicles, passenger transport, pedestrians and , cyclists
- > Priority connections for pedestrians and cyclists to passenger transport services
- > Car parking and cycle parking requirements
- > Lighting and way finding requirements for safe walking and cycling
- > Shower and locker facilities for work places, so employees who choose to walk, run, cycle to work can shower and store clothing.

Note: If the resource consent application is for a large area consideration of other measures from the structure plan, district plans, CPD process should also be incorporated.

4.5 Building Consents

Building consents are approved by local councils to carry out building works at a specific site. These consents ensure that building, plumbing, drainage and fire safety requirements are in compliance with the NZ Building Code. Generally, the provision of transport related facilities will have been addressed in a resource consent or higher levels of planning, however if

conditions are put on to consents through the planning process such as requirements for pedestrian and cycle access or for showers and locker/storage facilities these will need to be incorporated into the plans submitted for building consent. By including these aspects the final Building Consent stage it will ensure that they are integrated appropriately into the development and are design in a safe and accessible location.

5. Multimodal Considerations

In considering the extent of facilities or measures available to develop a multi-modal development, Table 5.1 provides a list of measures that might be appropriate for different modes of travel, this is not an exhaustive list but provides a range of considerations and measures to achieve a multi-modal development. It is noted that the provision of any of these measures needs to be done in such a way that the facilities, such as bicycle parking, changing rooms, showers, lockers, cloakrooms and drying areas, etc. are easily accessible, safe and adequate for the number of people using them.

Table 5.1 Physical measures to promote and facilitate multimodal development

Facilitating a multi-modal development	Multi-Modal Considerations	Planning Process	Measures	Means
<p>Appropriate location and integrating the development</p>	<ul style="list-style-type: none"> ▪ Is the proposed development in a location which is supported by local facilities ▪ Are the zoning and density provisions supportive of a multi modal development ▪ The provision of new technology and infrastructure to provide high quality telecommunication infrastructure and services ▪ Designing the development to integrate with the existing community-linkages through parks and reserves? ▪ Designing for all modes including cycle and pedestrian links and potential passenger transport routes. ▪ Spatially locate community facilities adjacent potential bus routes and well designed walking and cycling networks. ▪ Does the development need to be staged to integrate with longer term transport infrastructure and service timeframes? 	<ul style="list-style-type: none"> ▪ Structure plan, comprehensive development /concept plans, resource consent stages 	<ul style="list-style-type: none"> ▪ An accessibility assessment in regard to existing local facilities ▪ Alignment of zoning requirements with the district plan or surrounding land uses. ▪ Alignment of density figures with those in Appendix H of Proposed Plan Change 6 to the RPS ▪ Inclusion of new telecommunication infrastructure and services. ▪ Spatially connecting with the existing community ▪ Located within a comprehensive and safe pedestrian network and cycle network ▪ Connections to part of the comprehensive passenger transport network ▪ Existing HOV facilities on the surrounding road network, including HOV lanes ▪ Infrastructure and service alignment 	<ul style="list-style-type: none"> ▪ Consideration and incorporation of these measures need to be undertaken as part of the Integrated Transport Assessment to indicate that the proposal is in an appropriate location. This should be undertaken in alignment with the assessment of environmental effects to ensure good land use and transport outcomes. This can be required to be undertaken at any stage of the planning process depending on which stage the development proposal is at. ▪ Review of councils LTCCP transport programmes, ARTA's Passenger Transport Network Plan and Transit NZ's 10 year state highway forecast for potential alignment with the major transport infrastructure or service improvements.

Facilitating a multi-modal development	Multi-Modal Considerations	Planning Process	Measures	Means
Passenger Transport	<ul style="list-style-type: none"> ▪ The Rapid, Quality and Local Connector Passenger Transport Networks ▪ Safe pedestrian facilities to and from passenger transport nodes, including wide footpaths, road crossings and lighting ▪ Bus lanes ▪ Other passenger transport infrastructure including, stations, shelters, bus bays, real time information displays ▪ Does the development need to be staged to integrate with longer term passenger transport infrastructure and service timeframes? 	<ul style="list-style-type: none"> ▪ Structure plan, comprehensive development /concept plans, district plan, resource consent stages 	<ul style="list-style-type: none"> ▪ Ensure the density and location of the development is within the services level provisions identified in ARTA's Passenger Transport Network Plan. ▪ Provide passenger transport infrastructure including, stations, shelters, bus bays, real time information displays where appropriate. ▪ Ensure road carriageway widths allow for bus lanes where appropriate, ▪ Integrate with provisions for pedestrian and cycle access 	<ul style="list-style-type: none"> ▪ All provisions for passenger transport infrastructure and service requirements will need to be discussed with ARTA and the local authority. Consideration for passenger transport infrastructure and services should be undertaken as part of the ITA. ▪ A review of ARTA's Passenger Transport Network Plan and the local authorities LTCCP will need to be undertaken to sequence the development longer term passenger transport infrastructure and service timeframes where appropriate.
Cycling	<ul style="list-style-type: none"> ▪ Comprehensive cycle network ▪ Cycle paths/lanes, priority crossing treatment ▪ Secure parking ▪ Changing facilities, showers, lockers and drying areas 	<ul style="list-style-type: none"> ▪ Structure plan , comprehensive development /concept plans, district plan, resource consent and building consent stages 	<ul style="list-style-type: none"> ▪ Connections to the existing cycle network ▪ Route identification and/or design of cycle paths/lanes, priority crossing treatment ▪ Identification and/or design of changing facilities, showers, lockers, cloakrooms and drying areas ▪ Security provisions for cycle parking ▪ Identification and/or location of cycle parking provisions 	<ul style="list-style-type: none"> ▪ Depending on the stage of the planning process these need to be incorporated in to each phase. If a structure plan process is taking place cycle routes and network development may be the only consideration. As a proposal moves through the planning process it will require more detail for example at the consent stage route design, cycle parking facilities' and changing facilities' including showers should be visible on the plan.

Facilitating a multi-modal development	Multi-Modal Considerations	Planning Process	Measures	Means
Walking	<ul style="list-style-type: none"> ▪ Comprehensive and safe pedestrian network ▪ Safe walking access including ▪ Priority treatment for pedestrian access (e.g. as opposed to the main access to a building being from the car park) ▪ Changing facilities, showers, lockers, cloakrooms and drying areas 	<ul style="list-style-type: none"> ▪ Structure plan , comprehensive development /concept plans, district plan, resource consent and building consent stages 	<ul style="list-style-type: none"> ▪ Priority treatment for pedestrian access ▪ Safe pedestrian facilities to and from public transport nodes, including wide footpaths, road crossings and lighting ▪ Safe walking access including wide footpaths, road crossings, lighting ▪ Covered verandas ▪ Identification and/or design of changing facilities, showers, lockers, cloakrooms and drying areas ▪ Security provisions for pedestrian networks 	<ul style="list-style-type: none"> ▪ As above for cycling, this would depend on the stage that the development proposal was at.
Appropriate car parking provision and management	<ul style="list-style-type: none"> ▪ Provision for appropriate levels of car parking. This should be a balance between the accessibility of other modes ▪ Location of car parking (i.e should not dominate the landscape, rather be hidden underground or behind buildings) ▪ Provision of HOV parking ▪ Consideration of long and short-term provisions and pricing mechanisms to appropriately manage car parking 	<ul style="list-style-type: none"> ▪ Structure plan , comprehensive development /concept plans, district plan, resource consent 	<ul style="list-style-type: none"> ▪ Regional Parking Strategy Guidance (currently under development) ▪ Appropriate district plan policies and standards to provide flexibility depending on accessibility of other modes particularly passenger transport ▪ Appropriate location of parking facilities' (i.e underground parking and behind buildings) ▪ Identification of priority parking(i.e higher level of access to disability and HOV parking spaces) 	<ul style="list-style-type: none"> ▪ Consideration for car parking provisions for a development should be undertaken as part of the ITA ▪ Car parking ratios for a new development need to be based on passenger transport, walking and cycling accessibility to a range of services. Where new standards are being developed they need to be flexible to enable developers to appropriately assess the level of demand and manage car parking to meet that demand. ▪ If district plan standards are too high, justification for reduced standards can be made through either a plan change or variation process or through the resource consent process depending on the size and scale of the development.

Facilitating a multi-modal development	Multi-Modal Considerations	Planning Process	Measures	Means
Motorised two wheelers	<ul style="list-style-type: none"> ▪ Secure covered parking ▪ Changing facilities, showers, lockers, cloakrooms and drying areas 	<ul style="list-style-type: none"> ▪ Resource consent, building consent stages 	<ul style="list-style-type: none"> ▪ Identification and/or design of changing facilities, showers, lockers, cloakrooms and drying areas ▪ Safe and secure parking provisions 	<ul style="list-style-type: none"> ▪ This is likely to be incorporated at the resource and/or building consent stage to ensure the appropriate facilities are included in the plans for the construction of the development.
Travel Plans	<ul style="list-style-type: none"> ▪ To achieve a successful travel plan all of the above multi-modal considerations need to be incorporated into a well designed development to provide a high level of safe access by all modes to local facilities and services 	<ul style="list-style-type: none"> ▪ Structure plan , comprehensive development /concept plans, and building consent stage 		<ul style="list-style-type: none"> ▪ Travel plans should be undertaken as a voluntary process supported by an employer for a workplace travel plan or body corporate for a residential development. ▪ The infrastructure to support travel planning will need to be incorporated at the structure plan, comprehensive development /concept plans, resource and building consent stages. The infrastructure will need to be safe and accessible by all modes and need to incorporate all of the above multi modal considerations to achieve a successful outcome. ▪ A number of other soft measure incentives can be incorporated into travel plans and information regarding the development of a successful travel plan process is available on ARTA's website.

Facilitating a multi-modal development	Multi-Modal Considerations	Planning Process	Measures	Means
Ride sharing	<ul style="list-style-type: none"> ▪ High occupant vehicle (HOV) facilities, including HOV lanes ▪ Priority parking facilities 	<ul style="list-style-type: none"> ▪ Structure plan, comprehensive development /concept plans, district plan, resource consent and building consent stages 	<ul style="list-style-type: none"> ▪ HOV facilities, including HOV lanes ▪ Priority HOV car parking 	<ul style="list-style-type: none"> ▪ Ride sharing programmes are popular measures that can be implemented from through travel plans and are incentivised where HOV lanes and priority parking are provided. ▪ The HOV lane infrastructure provisions will need to be incorporated into the planning process for large scale land use developments usually at the structure plan, comprehensive development /concept plans and district plan stages. However a smaller development can implement a ride share programme and car parking priority can be outlined in the resource consent.
Remote work, shopping	<ul style="list-style-type: none"> ▪ Internet access, broadband connection 	<ul style="list-style-type: none"> ▪ Structure plan, comprehensive development /concept plans, district plan, resource consent and building consent stages 	<ul style="list-style-type: none"> ▪ Inclusion of new telecommunication infrastructure and services 	<ul style="list-style-type: none"> ▪ Telecommunication infrastructure will require discussions and agreements with services providers at any stage of the planning process and could be difficult in existing developments where infrastructure may require upgrading. This should be a key consideration during the structure planning phase of a development.

6. Extent of Facilities Required for Multi-modal developments

Providing facilities to enable and encourage non-single occupant car travel modes should be incorporated in all developments, and the car parking standards should be flexible to represent the level of accessibility by other modes. The extent of these facilities and the extent to which they can potentially offset parking provisions should be developed from basic principles.

For pedestrian, cyclist and public transport networks and on-road facilities, consultation should be undertaken with the relevant local authority to determine the appropriate provisions. Generally, this should be consistent with councils' pedestrian and cycle policies and strategies.

The recommended numbers of car parking spaces provided for each land use type are specific to each local authority, and generally based on surveys. The recommended levels represent parking requirements needed to meet the peak parking accumulations observed, without consideration of seasonal variations. The relationships between land use activity and parking illustrate the operation of the developments that were surveyed. A better method of determining car parking and other travel mode facility requirements would be based on the number of employees at a development. However, this number is not usually known at the time that a development application is lodged. Also, specific uses of the development might change with time and change in the use of developments does not always require planning consent. Parking requirements will also vary with the parking policies of the local authorities with regards to whether the parking demand is to be met on site, or whether car parking is to be used as a policy tool to restrict commuter travel by private vehicles. Accordingly, any guidance with regards to facilities to enable multi-modal developments should be considered in light of the policies of the local authority and the likely travel mode splits that will eventuate for the particular land use activity.

The following example investigates work-based trips and typical facilities required by a job orientated developments. The example below is for the Auckland region as a whole and should be adapted to local conditions using meshblock Census data and or local knowledge.

6.1 Work-based Developments

6.2 Current Journey to Work Mode Split

The 2006 Census provides information on the primary mode of travel to work for the employed population on the day of the Census. The data is grouped into a number of different geographical groupings related to regional councils; territorial authorities, urban areas and meshblocks. The groupings include the Auckland region, Rodney District, North Shore City, Waitakere City, Auckland City, Manukau City, Papakura District and Franklin District. The following table summarises the mode splits for these areas on the census day, excluding those that did not go to work that day, "other" responses and "not elsewhere included" responses.

Table 6.2.1 2006 Census, Main Means of Travel to Work, for the Census Usually Resident Population Count Aged 15 Years and Over and Employed Percent by Mode

Area	Worked at Home	Public Bus	Train	Bicycle	Walked or Jogged	Motorcycle or Power Cycle	Drove a Private or Company Car, Truck or Van	Passenger in a Car, Truck, Van or Company Bus
Rodney District	15.1%	2.0%	0.1%	0.4%	3.1%	0.8%	74.5%	4.0%
North Shore City	8.0%	6.9%	0.1%	0.8%	3.5%	0.6%	75.4%	4.7%
Waitakere City	6.4%	3.9%	1.7%	0.9%	2.7%	0.7%	77.8%	5.9%
Auckland City	7.6%	8.6%	1.2%	1.4%	7.8%	0.7%	67.8%	4.9%
Manukau City	5.5%	3.0%	1.1%	0.6%	2.4%	0.4%	80.1%	6.9%
Papakura District	6.6%	1.3%	3.4%	0.8%	3.7%	0.4%	77.7%	6.0%
Franklin District	14.5%	0.2%	0.9%	0.5%	3.7%	0.9%	74.8%	4.4%
Auckland Region	7.7%	5.4%	1.1%	0.9%	4.5%	0.6%	74.3%	5.4%

Depending on the location of a development, quite a large proportion, around 20 to 30% would benefit from having improved facilities to facilitate them working remotely or travelling by active modes and public transport. Where developments are located in mixed use or public transport corridors, then the need for appropriate facilities for active and public transport modes will increase.

6.3 Facilities to be Provided

Information presented in the 2005 Auckland Regional Land Transport Strategy has been used for the development of forecast mode splits. The RLTS identifies the expected increase in public transport mode share as well as the increase in walking and cycling mode shares by 2016 for the region as a whole. According to the strategy, this will be accomplished through a combination of a number of initiatives, including increased rail and bus services and frequencies. Page 111 of the report notes that 11% of the peak hour trips are expected to be made by public transport in 2016 and that 18% of all of the motorised trips into the Auckland Isthmus will be by public transport.

For any development that is located where significant public transport infrastructure and routes is or will be established, it is expected that the public transport mode share will be higher than the regional average, particularly during peak commuter travel periods.

On page 114 of the RLTS, a target is set for walking and cycling trips to account for 15.5% of all trips during the morning peak period. The strategy also notes that currently 15.1% of all trips during the morning peak period are walking and cycling trips. It is understood that many of these trips are completed by students going to school and university, as substantiated by the 2006 Census data of 5.4% for active modes for journeys to work. As such, it is not expected the job-based developments will be able to obtain a percent walking and cycling equal to the strategy's target. A similar increase to the overall percentage of active modes results in an estimate of 5.5% for the journey to work trips, and this has been assumed for this example.

It is expected that the remaining trips will be completed by car. These trips will be divided among drive alone and passenger trips. With the introduction of HOV lanes in many areas of the region, and other means to encourage ridesharing, it is expected that the number of vehicle passengers will increase and the number of drive-alone trips will decrease.

The Census data indicates an average vehicle occupancy of 1.07 people per vehicle for journeys to work in 2006. The RTA Guide⁴ suggests a car occupancy of 1.19 based on surveys undertaken in 1979. An estimate of 1.2 has been assumed for this example.

Working at home is assumed to increase marginally to 8%, although with faster broadband services, this could increase to 10% or more in the future.

The resulting mode share forecast is shown in the following table.

⁴ Guide to Traffic Generating Developments, Roads and Traffic Authority, NSW, October 2002

Table 6.3.1 Potential Means of Travel to Work, Percent by Mode – Auckland Region

Region	Work at Home	Public Bus	Train	Bicycle	Walk or Jog	Car Driver	Passenger in Car
Auckland Region	8%	9%	2%	1%	5%	60%	15%

With regards to office job-related development, a further assessment of the number of employees typically employed in an office activity should be investigated. The RTA Guide assumes a mean employee density of 4.75 employees per 100m² of gross floor area (GFA) (i.e. one person per 21m² GFA). With a typical parking requirement for offices of one per 40m² gross floor area and assuming a car occupancy of 1.2, then this parking requirement would accommodate 63% of employees. The remaining employees will use other modes including remote working, although in reality, a significant proportion of the remaining employees are likely to park elsewhere.

Based on the above, provisions for those using public and passenger transport and active modes would be provided in all office developments, with approximately the following proportions:

- > One locker (sufficient to store clothes and other belongings etc.) per 120m² GFA (for all active travellers, public transport and motorised two-wheel travellers)
- > A minimum of one shower and changing facilities up to 1,500m² GFA, with an additional shower for every additional 1,500m² GFA (assumes average 15-minute use, four users per hour)
- > One bike locker per 2,000m² GFA
- > 20% of parking spaces to be for HOV use.

It is noted that the above example is for the whole Auckland region, where the mode split is dominated by car travel to work. Where developments are located in areas where cycling, walking and public transport are much more realistic modes of transport, the provisions will be different. For example, for Auckland City, the resulting mode share forecast is shown in the following table.

Table 6.3.2 Potential Means of Travel to Work, Percent by Mode – Auckland Region

Region	Work at Home	Public Bus	Train	Bicycle	Walk or Jog	Car Driver	Passenger in Car
Auckland Region	8%	16%	2%	2%	8%	51%	13%

The associated locker, shower, bicycle and HOV parking provisions would be as follows:

- > One locker per 30m² GFA (for all active travellers, public transport and motorised two wheel travellers)
- > A minimum of one shower and changing facilities up to 360m² GFA, with an additional shower for every additional 360m² GFA (assumes average 15-minute use, four users per hour)
- > One bike locker per 500m² GFA
- > 20% of parking spaces to be for HOV use.

Different types of developments should be considered on a case-by-case basis, in a manner similar to the above, based on their specific location and proximity to public transport, residential activity and their likely level of employment for the particular use allowed by resource consent.

6.4 Offsetting Car Park Requirements

Where it can be shown that a development will be able to support a higher proportion of non-single occupant car travel, the provision of facilities that encourage and enable other transport could be used to offset parking requirements. A similar exercise to that undertaken above would provide an indication of the extent of such facilities. Any investigation in this matter should be undertaken in consultation with the local authorities concerned.

6.5 Residential Developments

Basic principles of car ownership have been applied to develop requirements for residential accommodation. Census data for 2006 that provides car ownership has been researched. The following table summarises the results for the Auckland region.

Table 6.4.1 Number of Motor Vehicles per Household (if stated) – Percent

Region	Zero vehicles	One Vehicle	Two Vehicles	More than three Vehicles
Auckland Region	9.4%	37.8%	38.0%	14.8%

Regardless of car ownership, the provision of broadband in homes will enable people to work and shop from home. Where such a provision is made, residential parking requirements should be investigated on a case-by-case basis, and related to the proximity of community, convenience, public transport and other essential services that encourage other modes of travel to the single occupant car.

