

- Discussion Paper -
Transport



1. TRANSPORT EXECUTIVE SUMMARY

Key Facts

- Willoughby City contains major trip generators including the Chatswood and St Leonards sub-regional employment and retail centres, and is located at the crossroads of the major north-south metropolitan rail line and arterial road network
- Willoughby residents make 306,000 trips per average weekday and 247,000 trips per average weekend day. This equates to weekday trips per person being approximately 4.5 (NSW Transport Data Centre, Key Transport Indicators by LGA 2010-11).
- Roads comprise a substantial 401 ha (19%) of Willoughby's land area.
- Willoughby has 234km's of roads including 13 state & regional roads that experience significant peak hour congestion and an increasing amount of freight movement.
- Council maintains approximately 480km of footpaths, and a number of bike paths
- Major transport infrastructure projects impacting on Willoughby currently under discussion are the north west train link (connecting Chatswood with the north west) and the bus rapid travel service from Dee Why to Chatswood.
- Public transport is the only efficient way of moving a large number of people (1 train = 15km of cars) (SMH, 11.6.2005).
- Willoughby is conveniently located in relation to amenities and facilities and is generally well serviced by public transport.
- The rail network is at capacity. Bus services outside peak travelling to the Chatswood CBD are under utilised. Cross-City links and certain areas such as the peninsulas are not well serviced by public transport.
- 44.7% of workers in Willoughby travel to work by car and 31% travel by public transport (ABS Census 2011).
- Cars are increasingly used for the majority of resident, commuter and visitor trips given the perceived benefits of car use in terms of convenience, comfort and flexibility.
- The large number of private vehicles pick up / drop off trips of school children within Willoughby contributes to the peak hour traffic and air pollution.
- The impacts of this ever-increasing car use include peak hour congestion on our main roads, use of local streets, air pollution, road safety and increasing travel and infrastructure costs.

Challenges

Changing these unsustainable travel patterns into the future requires addressing key challenges:

- Reducing car travel and reliance on car use & associated impacts on the City's amenity;
- Overcoming the practice of building more or widening roads. Experience has shown that the demand for car use will always outstrip any new road capacity that is provided by new freeways or additional lanes;
- Implementing demand management of road space such as bus lanes and pedestrian areas to favour active and public transport modes at the expense of cars, and influencing the provision and type of parking spaces available at travel destinations in order to reduce car use;
- Managing the traffic impacts of a growing Chatswood CBD.
- Encouraging more sustainable active (cycling and walking) and public transport use;
- Continuing improvements to pedestrian accessibility and priority with connecting networks;
- Ensuring access for those areas with low accessibility away from the railway and major bus corridors (for example the peninsulas), and to serve those persons who have low levels of accessibility including the elderly, teenagers, disabled, those without a car;
- Implementation of planned connecting local and regional bike paths, shared local pathways and bicycle parking and storage facilities to increase use of bicycles;
- Improvement of the existing rail and bus services including transport interchanges;
- Expansion of public transport networks to address the increasing cross regional travel patterns along routes to Parramatta, the North West Sector, the Central Coast, the Northern Beaches and the Sydney CBD;
- Encourage the implementation of a flexible Demand Responsive Public Transport service, such as a continuous multi-hire taxi to address the gap between mass and private transit;
- Further integration of land use and transport to improve accessibility and reduce travel demand;
- Updating the existing Willoughby Integrated Transport Plan (2001);
- Improvement of local road traffic and safety;
- Management of on-street car parking and overcoming users conflicting parking priorities.

2. Transport in Willoughby

Willoughby City is located at the cross roads of the north-south metropolitan rail line and an arterial road network. It is a funnel for transport from the Warringah Peninsula, North Shore and North West to the Sydney CBD and southern suburbs.

While the trends in public and active transport use are mostly positive, the number of car trips in the LGA is increasing with a corresponding increase in traffic congestion levels. In 2011, Willoughby is seeing an additional 8,000 car driver trips across the LGA daily than in 2007 and an additional 12,000 car passenger trips. Data suggests that people are increasingly 'serving passengers' (for example, driving children to school and sporting activities). On the positive side we are seeing 1,000 more train trips daily and 8,000 more walking trips (NSW Transport and Infrastructure data, 2010-2011).

The continued increase in car use within Willoughby (and to and from most other places across the metropolitan area) for the majority of trips is a major logistical, economic, environmental and social problem. While planners believe that building more roads and car parks will exacerbate these problems and is not sustainable or equitable in the long term, the community is divided on how to reduce our use of and dependence upon motor vehicles.

One view is that until good public transport and other alternative modes of access are available, we must continue to provide for car use generated by development and our activities. The alternative view is that, so long as it is relatively easy to use a car people won't use public transport. To achieve this alternate view we must positively discourage the use of cars in congested, densely developed locations at the same time as building better alternative and public transport networks.

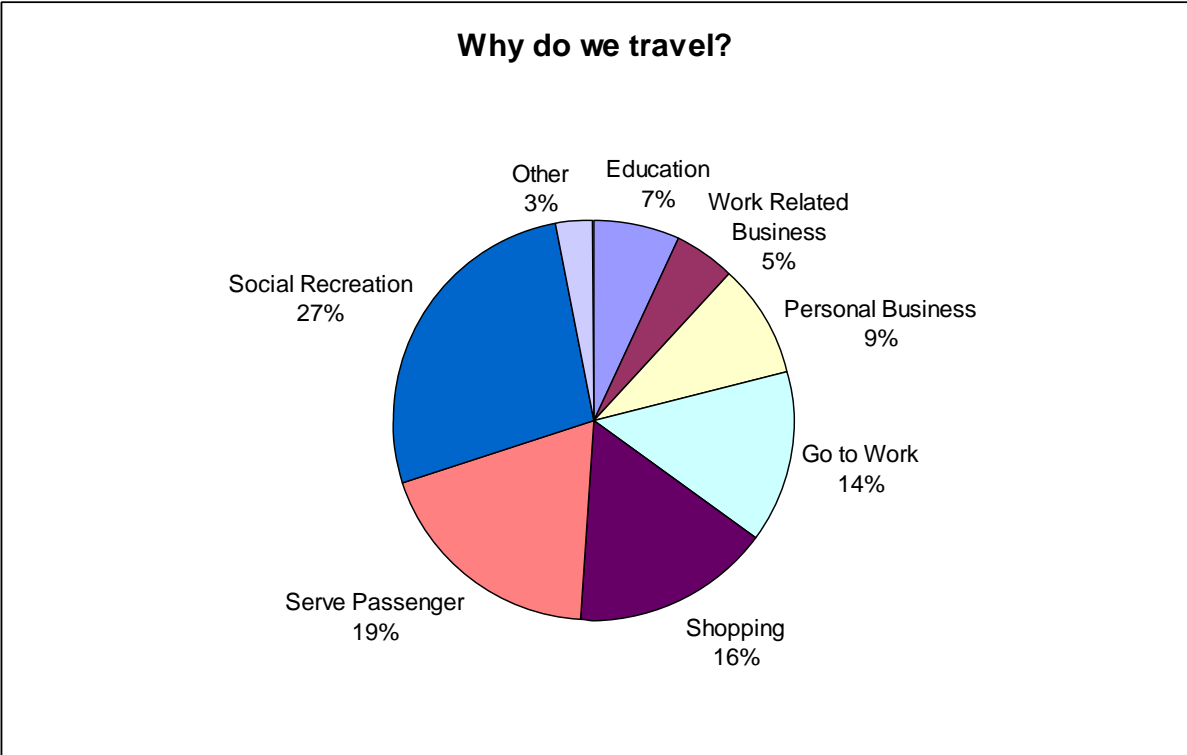
Encouraging the use of alternative transport where appropriate, can be achieved by giving priority on the roads to favour public transport, providing improved pathways for pedestrians and cyclists, introduction of free or low cost public transport, improvement and expansion of the existing rail and bus services and accommodating our daily needs at our local shopping precincts.

Transport in Willoughby today

Willoughby plays a vital linking role for regional transport. Chatswood and St Leonards generate trips from all over Sydney and are located at the intersections of major North-South and East-West road and rail transport routes. People travel in cars, taxis and buses via a network of roadways including a number of major arterial roads and the Gore Hill Freeway, which also accommodates significant goods movement. Trains operating along the North Shore Railway line serve 3 stations within Willoughby City. Pedestrians and cyclists utilize a series of walkways on road routes and bike paths through the City.

Why do we travel?

An analysis of Willoughby resident's travel patterns has identified that approximately 306,000 trips are conducted each weekday, averaging approximately 4.5 daily trips per resident (NSW Department of Transport, Transport Data Centre, Key Transport Indicators for Willoughby 2010-2011). Travel patterns are characterised by cross-city off-peak travel with multiple purpose trips resulting in a higher total number of trips and travel periods than work related travel, which accounts for only 14% of trips.



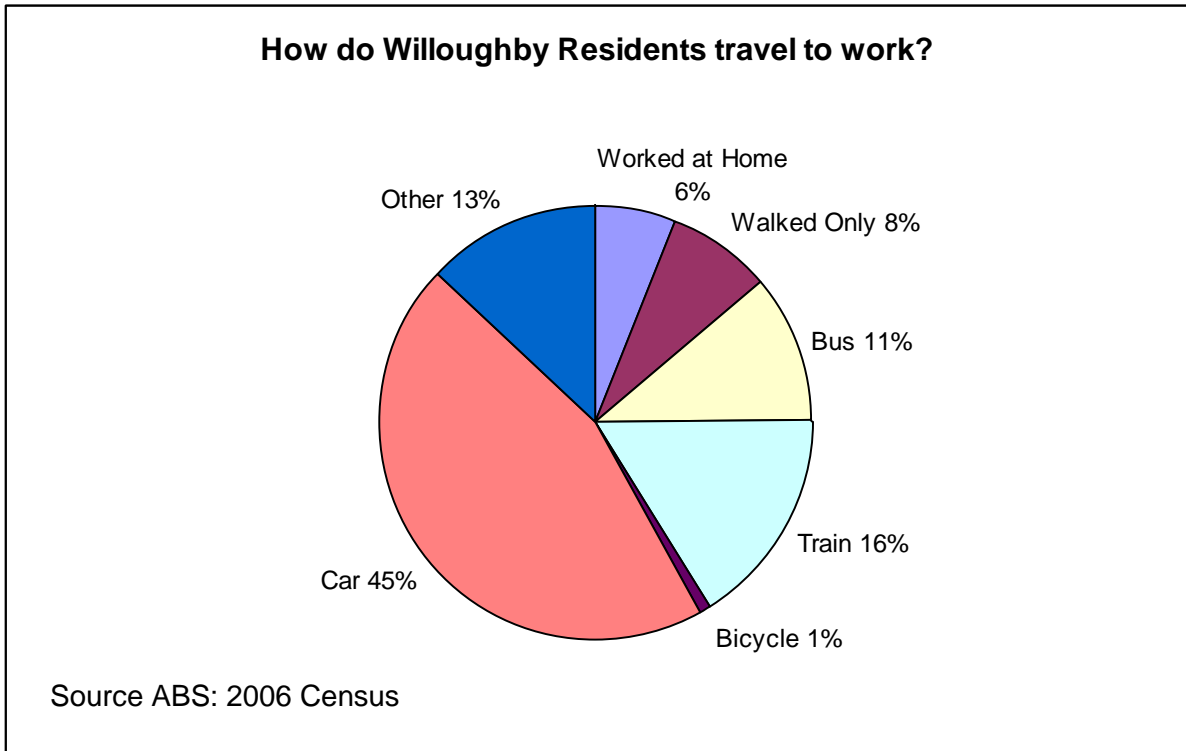
Source: NSW Department of Transport, Transport Data Centre, Key Transport Indicators for Willoughby 2010-2011

Reasons for travel apart from business (commuting and work related business) include: social / recreational (dining, entertainment, sport, visiting friends, relatives); serving a passenger (driving someone else to a destination); shopping (daily, weekly) and personal business and education.

Journey to work

How do Willoughby residents get to work?

- In 2011, the method of travel by the 33,530 employed Willoughby residents to work has remained steady over the last 20 years. Cars still dominate travel to work (44.7%), with 31% using public transport, 7% walking and 1% cycling (ABS 2006 Census).



The majority of Willoughby residents workplace destination was the Lower North Shore (41%) and Inner Sydney (22%) (ABS 2011 Census).

How do all employed persons get to work in Willoughby?

In 2011, 69% of the persons employed within Willoughby City (including both residents and non-residents), used a car or truck as a single method of travel to work in Willoughby, with 22.2% using public transport, 6.5% walking and 0.7% cycling (ABS Census 2011).

The Chatswood CBD is the largest employment generator within Willoughby. The Chatswood CBD currently generates approximately 20 million shopper visits per annum, with the majority of these visits being car (Draft WCC Chatswood Civic Improvement Plan 2008).

The forecasted continuing expansion of the employment and retail sectors within the Chatswood CBD, when combined with significant vehicular access capacity constraints on existing roads, as well as increasing road constraint on local streets, is likely to leave the additional workforce with little alternative but to use public transport for journeys to work or contribute to increasing congestion and parking or overspill into surrounding residential areas.

Transport infrastructure

The City of Willoughby has nearly 240 km of roads. Of these, 210 km are local roads under the care and control of Council. The remaining 30km are state or regional roads. State roads are wholly owned and maintained by the RMS, regional roads are owned by the RMS and maintenance is carried out by Council with the assistance of grants from the RMS. Traffic volumes on state and regional roads are particularly high, especially during peak hours.

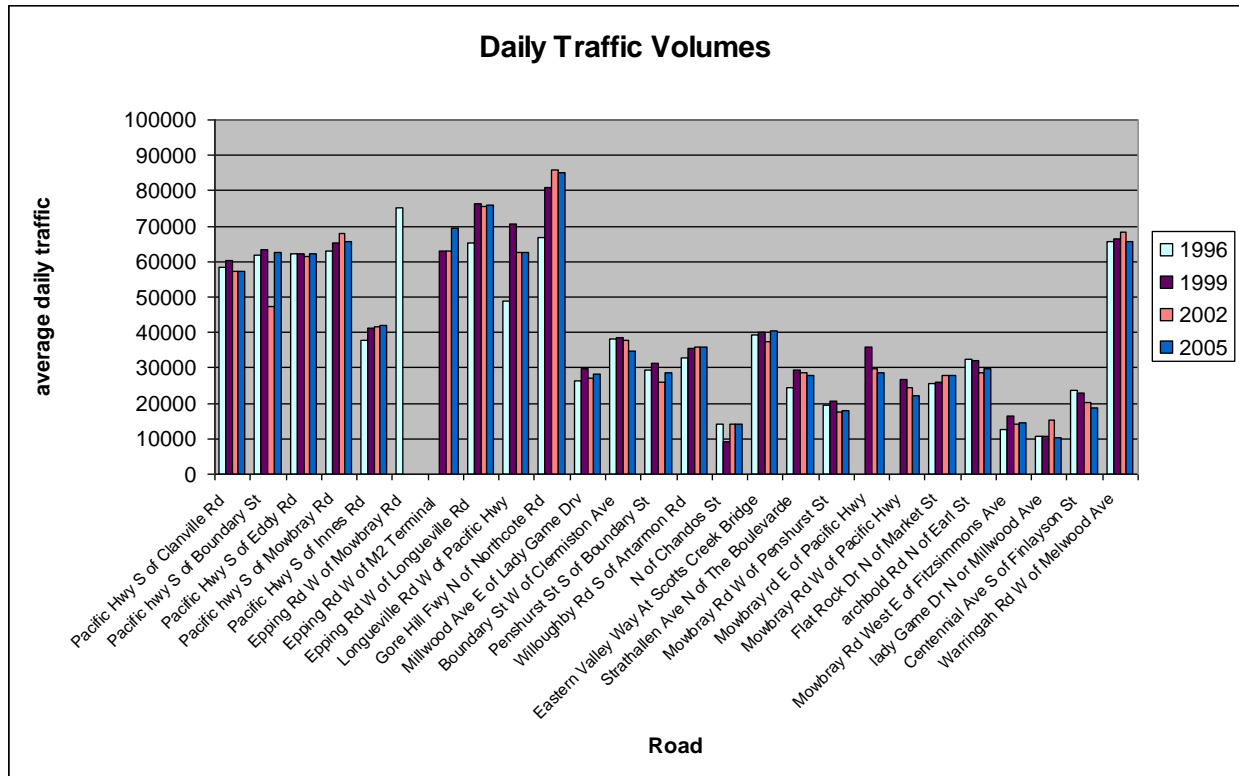


Figure: Daily traffic volumes on Willoughby City roads (Source: RMS website (Annual average daily traffic data, 2005))

The capacity of the road network is assessed according to intersection standards of service (A to F) and by RMS criteria for the environmental limits of roads within a hierarchy.

- Arterial - desirable maximum traffic - No limit,
- Sub-Arterial - desirable maximum traffic - 20,000veh/day,
- Collector - desirable maximum traffic - 5,000veh/day
- Local - desirable maximum traffic - 500-1000veh/day.

Due to the location at the intersection of major North-South and East-West roads, routes connecting the Warringah Peninsular and Sydney's Northern suburbs, and the radial traffic pattern to Chatswood/Artarmon St Leonards / Sydney CBD employment centres, Willoughby plays a vital linking role in regional road transport. The majority of the 13 State & Regional Roads within Willoughby have experienced growth in traffic movement and congestion over the last decade with these roads at or near capacity. Epping Road and the Gore Hill Expressway have the greatest traffic flows of 76,000 and 85,000 Average Annual Daily Trips respectively (AADT, Source RMS, 2005).

The lack of adequate capacity in the State Arterial Road system remains the major cause of Willoughby's traffic problems. An ever increasing proportion of this traffic is freight movements, with poor rail service resulting in the majority of freight movement occurring on the road network, adding further congestion within Willoughby's arterial road network.

The 3.6km Lane Cove Tunnel connecting the Gore Hill Freeway with the M2 (as part of Sydney's orbital network) provided an additional lane in each direction on the Gore Hill Freeway. However little change in traffic volumes has occurred on roads within the Willoughby LGA. A 7.5km pedestrian and bicycle facility constructed in conjunction with and alongside the tunnel has resulted in a growth in cyclist numbers commuting to Willoughby City via the new bike path.

Australian and International experience has generally been that expanding road capacity (new roads, freeways or additional lanes) is only a short term solution to traffic demand. The additional capacity is generally absorbed and saturation point resumed.

There have been no effective increases to traffic capacity nor relief from traffic growth in recent years. Traffic in the Chatswood CBD is approaching grid lock during peak hours and Traffic Modelling conducted as part of the Chatswood CBD Traffic Study completed for Council in 2008 predicted that traffic conditions would be gridlocked by 2018 unless significant demand management measures were introduced (WCC, 2008). It is not economically/environmentally feasible nor physically practical to increase road network capacity. As a result the RMS has no significant road upgrades for this area on the drawing board. The intersection of Pacific Highway with Mowbray Road has recently been upgraded to provide some extra capacity and similar work is proposed for Pacific Highway and Boundary Street however the works are not predicted to result in lasting improvements to traffic conditions. Many intersections on the State Road Network within Willoughby LGA perform at unsatisfactory levels of service. Furthermore, all it takes is one incident for an already choked road system to come to a standstill. Traffic volumes are at saturation point during peak time, with the gridlock effect of traffic at intersections causing delays which increase exponentially with only small increases in traffic. Peak hour is getting longer and longer (7-10am & 3-7pm), with commuters leaving home earlier each year to beat the traffic and get a car parking spot. It is also noted that children's journeys to and from school also have a major effect on congestion during peak hours.

The increase in traffic congestion has resulted in an increase in through traffic or 'rat-running' through the Chatswood CBD and residential areas by motorists wanting to avoid the delays. This impacts on the efficiency and functioning of the CBD. It has also spilled over into local streets resulting in concerns about speeding and traffic volumes from through traffic movements. In response Local Area Traffic Management (LATM) schemes have been introduced that implement traffic control devices such as speed humps and chicanes. However introducing LATM is not always favoured given difficulty in reaching consensus amongst the community regarding the location of such proposals, removal of on street parking and lack of effectiveness in calming traffic.

In response to the increasing amount of regional traffic flowing on Council's local roads, Council has successfully lobbied the State Government to classify a number of local streets as Regional roads. These include the Archer Street between Mowbray Rd and Albert Ave, Chatswood; Albert Avenue between Pacific Highway and Archer Street, Chatswood and Archer Street, between Malvern Avenue and Boundary Street, Chatswood.

The Artarmon Industrial area experiences significant traffic safety issues due to insufficient on-site loading facilities, with trucks double parking and significant on-street parking associated with car repair stations. Council has initiated changes to the road network,

introduced on-street parking restrictions and changed its planning controls for servicing in an effort to address these issues.

Public Transport

Willoughby is well serviced by public transport along main arterials with regional rail and bus links connecting to major centres, and a relatively good network of local public and private bus services along main roads. In particular, the Chatswood and St Leonards bus / rail interchanges are a hub for public transport.

Council is involved in programs to fill the gaps in the State government's provision of public transport away from main arterial routes.

- The Artarmon Loop is a free shuttle service, travelling on a loop from St Leonards station through the Artarmon industrial area, with some of these services also accessing Westbourne Street and the RNSH and Artarmon shops / station. The service aims to encourage the use of public transport and reduce car usage across the City of Willoughby while also enhancing the viability of the Artarmon business precinct.
- The Loop is a free bus service providing transport to key destinations across the local government area of Willoughby. The Loop runs from 10.15am to 3.30pm, Monday to Friday, servicing a different area of Willoughby each day.
- CouncilCab has been created by Council and provides a flexible transport service operating within the Willoughby City Council area. CouncilCab taxis operate on a shared ride basis and are available at the price of \$5 per passenger for travel anywhere within the Willoughby area.

Willoughby's ageing population are expected to have greater reliance on public transport services. The aging of the population also means that there will be an increasing number of people with physical mobility problems on public transport. With regards to Council's Loop Bus Services, 52% of the patronage is aged 65 and over. Council's Council Cab taxi service is patronized almost exclusively by aged passengers many with mobility problems. Pensioners also comprise a significant proportion of the patronage on Government buses in off peak periods.

The traditional transport focus of the State government has been on providing public transport services to the Sydney CBD. For the last 100 years, the North Shore Rail line has provided public transport services to the western part of the local government area (in particular Chatswood, Artarmon and St Leonards). Bus routes have also developed over more recent times with a focus to the Sydney CBD and regional (north-south) destinations. Less services have been provided for local cross LGA and cross regional (east-west) bus connections, making them less convenient for potential users.

Rail

An estimated 40,000 passengers per day use Chatswood Station since the opening of the Epping to Chatswood Rail Link (RailCorp 2009). The rail services via the North Shore Line and Epping to Chatswood Line with connections at either Hornsby, Town Hall, Central or Strathfield, provide public transport access to all other parts of Sydney served by the railway network and the Central Coast region. However, the Chatswood CBD lags behind the Sydney and North Sydney CBD's in public transport use.

The Chatswood- Epping Rail link, completed in 2008, has improved the image, attractiveness and operational effectiveness of public transport in Chatswood including:

- greater access to Macquarie Park Business precinct, Epping, the Main Northern Rail Line and the North West Sector of Sydney.
- Shorter waiting times for trains - the frequency of services to Sydney CBD has increased to a metro level with minimum of 8 services per hour, meaning there is now no need to consult a timetable during peak periods.
- More convenient interchange between rail and bus with accessible platforms. The redevelopment of the Chatswood Transport Interchange associated with the Chatswood- Epping rail link has improved access to Chatswood Station and provides better linkages between the existing bus and rail modes. The bus interchange is however poorly designed and under capacity and has poor pedestrian access from several directions

The role of Chatswood is likely to change with the increased train frequency resulting from the construction of the North-West Rail Link with increased use of public transport resulting but also attracting greater numbers of cross regional commuters who may try to park in residential streets surrounding Chatswood CBD.

Following the completion of the Chatswood to Epping Rail extension the North Shore Line is near capacity for the safe operation of train services. In addition, Council has been required to implement the state government policy of urban consolidation around train stations to further increase the use of train services. Unlike other international cities, the Government has failed to provide the Sydney Metropolitan area with an expanded rail network to keep pace with population growth. The North Shore Line has no alternative connection to the west to maintain services in the event of delays from train breakdowns, incidents or planned maintenance. The proposed introduction of the North-west Rail Link must therefore be accompanied by a duplication of rail lines across the Harbour (either over the Sydney Harbour Bridge or via a new tunnel network) and to connect the Chatswood to Epping line to Parramatta as originally proposed.

Reliability also needs to be improved, with the on time running rate of peak hour services within Sydney apparently declining. After the Sydney Olympics in 2000 on-time reliability was reportedly running at 90% based upon a definition of on-time as being up to 3 minutes late. In 2012 this rate is still at 90% (RailCorp 2012) but based upon a more relaxed 5 minute definition of "on-time". Using the 3 minutes definition adopted in 2000 the on-time rate drops to 66%.

The train service is not well integrated with local and regional bus services for cross-regional trips, with delays being experienced especially during non-peak hour periods. This is compounded by the unreliability of the train service with connections frequently missed. Difficulties experienced and the length of time it takes switching from different travel modes of public transport need to be addressed.

Integrated electronic ticketing for bus, rail and ferry fares is still to become a reality although the current State government advises that it is committed to its introduction (TfNSW Feb 2012). Improvements to bus ticketing with the introduction of the My Multi, My Bus and My Train ticketing systems has improved the ability of commuters to transfer between modes on the one ticket however timetabling between modes remains disconnected and unresponsive to delays.

The redevelopment of the Chatswood Bus-Rail Interchange in conjunction with the Epping Rail Link represented a major opportunity to improve the image, attractiveness and operational efficiency of public transport in Chatswood. While some improvements eventuated the outcomes fell short of expectations particularly in respect to bus interchange arrangements.

Bus

Existing bus routes in the area serve a significant part of northern Sydney and are focused on either the Chatswood CBD or North Sydney and the Sydney CBD. The catchment area extends to Manly, Brookvale and Mona Vale to the east, Hornsby to the north, Ryde, Epping and Parramatta to the west, and the Sydney CBD, Kings Cross and Bondi Junction to the south. The Chatswood CBD is a terminus for many of these bus routes (State Transit, Forest and Shore Coach). Approximately 16,000 passengers per day travel by bus within the Willoughby LGA (NSW Bureau of Transport Statistics, 2010-2011).

The current combination of government and private bus operators in the areas to the north, north-east and west of Chatswood has historically not facilitated optimum public transport usage levels because of the separate fare structures and restrictions on route coverage and pickup or set-down of passengers within a specified area. In 2008/2009, public and private bus company areas of operation were reviewed and altered to improve the level of services to the public. Also the introduction of the My Bus ticketing system, whereby a single ticket can provide access to all public and private bus service contractors, has improved bus services. A lack of effective bus priority measures on arterial road routes into Chatswood is seen as the biggest barrier to efficient bus travel at present.

Bus services to the Sydney CBD are generally concentrated along Eastern Valley Way / Strathallen Avenue and Penshurst Street/Willoughby Road. Similarly bus services from the east to Chatswood are all concentrated along Victoria Avenue. As a result there are a number of areas not well serviced and there is a small proportion of overall bus usage related to trips within Willoughby LGA. The introduction of the Metro 40 and Metro 20 bus services which provide high frequency cross regional travel has been a significant benefit for the Willoughby LGA however further Metro services would increase bus patronage levels.

Areas currently not well served by State Government funded bus services include the Middle Harbour peninsula areas, Chatswood West, the Artarmon Industrial Area and Naremburn. Council has sought to fill these gaps, which are most notable in the off-peak periods, by introducing the Artarmon Loop and Loop Bus Services. However the high cost of funding these services and the inability of Council to charge for these services due to the state government regulation, limits Council's ability to provide an efficient service.

With the exception of Gore Hill Freeway Express buses (which do not stop within the Willoughby LGA) there are no bus routes that currently cross the railway line from east to west at any location between Chatswood and St Leonards. This contributes to a significant local isolation of parts of the Artarmon industrial area (including RNSH) from the major part of Willoughby LGA. The low bus patronage for employees within the East Chatswood Industrial Area has also been attributed to the low level of service provided.

The dispersed nature of low density housing (approximately 50% of Willoughby housing) results in a lower level of accessibility in suburbs such as Middle Cove, Castle Cove, Northbridge and Chatswood West. These suburbs have the lowest levels of public transport usage.

Council is aware of the problems with existing local transport services being fragmented and lacking co-ordination. Unmet travel needs in Willoughby Area exist particularly for older people, young people and people with mobility difficulties. Physical accessibility for persons who are disabled needs to be improved to allow persons to board/alight at both railway stations and on buses. It is these concerns which have given rise to the advent of Loop bus services and Council Cab.

Taxi

Taxis play an important role in Willoughby's public transport provision especially for those persons who are not well serviced by rail and bus or who do not own a car. These include those making non-peak hour cross-city trips, and the frail and aging. The NSW Taxi Council has advised in 2010 that there is demand for greater provision of taxi ranks on the eastern side of Chatswood railway station and in response to these concerns Council has introduced Taxi Zones in Spring Street, Endeavour Street and an after hours zone on Victoria Avenue at The Concourse. No Parking zones have also been created throughout the CBD to facilitate easier drop off and pick up of passengers. There is also demand for the provision of legal places for taxis to stop throughout the City although finding space for Taxi Zones in high demand areas is often problematic given the competing demands for parking in areas with limited availability of kerb space.

As previously noted, Council has been involved in the creation of the CouncilCab service, a shared, pre-booked taxi service operating within the Willoughby Council area. This service is subsidised by Council, thereby providing a discount to users.

Active transport

Active transport (walking, cycling) has benefits in terms of cost, efficiency, health and environmental quality. The objective is to increase the use of and to ensure that safe and comfortable walking and cycling conditions are provided on all streets, with particular emphasis on those linking centres and major trip generators.

The provision of high quality walking and cycling routes has the potential to significantly reduce car use for short to medium distance trips. The use of bicycles for travel is expected to rise and the importance of providing safe routes to accommodate this growth is critical. Many trips within the Willoughby LGA could be undertaken by active transport rather than car. Yet within the Willoughby LGA travel by bicycle still accounts for under 3% of all trips (including commuting, education, shopping, personal business, social / recreation, serving passengers) (NSW Government Bureau of Transport Statistics 2012). The same study reveals that 24% of trips are undertaken by walking (significantly lower than the results for walking and cycling in North Sydney and Sydney City LGA's)

The State Government continues to provide limited funding for cycling initiatives and has failed to implement the regional bikes routes under the previous government's Action for Transport 2010. Routes outlined in the NSW Bike Plan prepared in 2010 remain uncoded with no apparent progress towards implementation of routes outlined in that plan through the Willoughby LGA.

Walking

A safe walking environment supports public transport use as most public transport users are walkers for some part of their journey.

Council is committed to improving pedestrian access and is consistently expanding and upgrading its footpath network. Council maintains approximately 480 km of footpath within its area with most streets having a constructed footpath on at least one side, and many with both sides. Council has a mixture of asphalt paths, concrete paths and pavers. Council has a footpath construction and maintenance program that ensures that pedestrian safety requirements are met and gives high priority to public transport routes and pathways serving high pedestrian volumes.

It is often difficult, unsafe and unpleasant for pedestrians and cyclists to share the road pavement, hence strategies to encourage active transport must give higher priority to pedestrians and cyclists within the road network.

Chatswood CBD has been designated as a 40km/h speed zone. The speed limit in the CBD precinct has been lowered to reflect the high pedestrian activity of the area and reduce the speed differential between motor vehicles, pedestrians and bicycles.

Council has also recently completed a pedestrian linkages plan with the focus on better providing for safe and convenient pedestrian movement throughout the Willoughby LGA.

Cycling

Willoughby actively supports bike facilities and has built several bike routes in recent years as part of its program to implement routes outlined in Council's 2006 Bike Plan. Of the 27 new bike routes identified in the 2006 Bike Plan, 9 have been implemented by 2012. Another 4 bike routes have been partially completed and a further 6 identified as priorities for funding in 2012-2013. The work carried out under the 2006 Bike Plan has resulted in increasing the total bike network within the Willoughby LGA to approximately 35km. The NSW Government has also completed the regional shared user path between North Ryde and Naremburn in 2008, with the number of users on this path growing steadily.

Council has conducted regular bicycle counts on shared paths, with the RTA conducting counts on the Gore Hill Freeway shared user path. In the Willoughby LGA, the regional commuter cycle routes have seen the greatest increase in cyclist numbers.

Willoughby Council has been involved in the creation of the Northern Sydney Cycling Map, which is now distributed as the cycling map for 5 North Shore Council areas (Willoughby, North Sydney, Lane Cove, Mosman, and Ku ring gai). Approximately 5000 copies of this map are distributed within the Willoughby Council area annually. Council is also involved in promoting cycling through NSW Bike week events, the National Ride to Work Day and by offering cycling skills and bike maintenance workshops to staff and the community.

Council has also received funding from the NSW Office of Environment and Heritage under the "Lets clear the Air" programme for a project known as "Local Motion" which aims to encourage residents to reduce use of private cars and make more sustainable transport choices. The project has been undertaken as a pilot program in the Artarmon area in 2010-2011, and has involved a travel survey of households in order to identify active transport needs and residents being invited to participate by committing to a small change in travel behaviour. Participating households have been offered information and assistance / incentives through cycling workshops and neighbourhood events. This programme may be expanded to other areas in the future.

The 2006 Bike Plan has been reviewed in 2012 with the focus being on developing a connected network and an improvement in the standard of bike related facilities (such as more shared areas). The review continues Council's commitment to providing facilities for cycling and to promote and encourage greater take up of cycling within the LGA.

In the design of Council infrastructure projects, the amenity and safety of cyclists is considered from the outset, with the aim of ensuring that the needs of cyclists are considered on each new project and improving the connectivity with existing on and off road bicycle facilities in accordance with RMS and other applicable guidelines for bicycle design.

Other

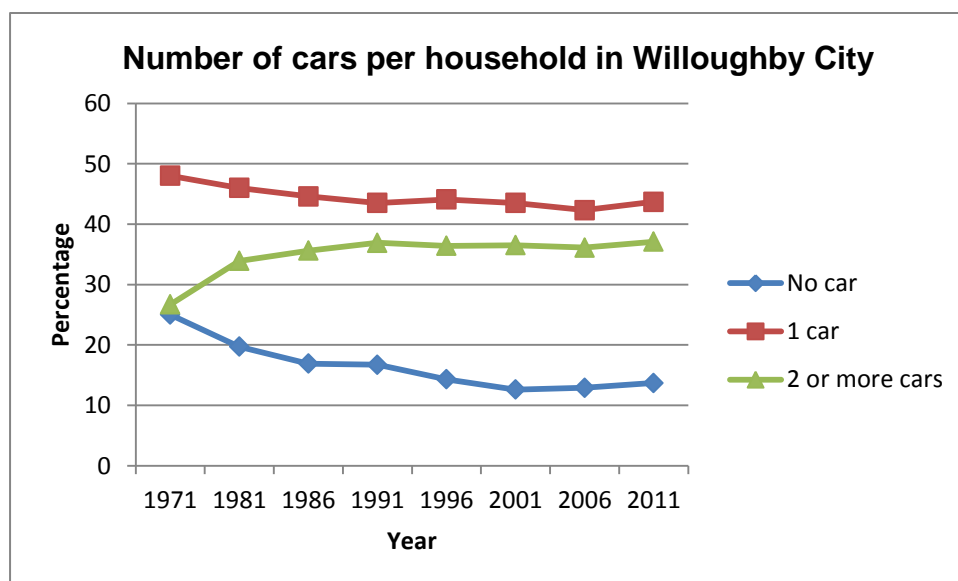
Willoughby Council and [GoGet](#) are working together to establish a car share program in the Willoughby area. There are currently stations set up in Chatswood and St Leonards with plans to extend the program in the future. Car sharing is an initiative where a driver signs up for 24/7 access to a car without the organization and expense of owning a car or using traditional car hire. Car sharing is cheaper and puts less pressure on parking and traffic congestion than owning a car.

Boats are also used primarily for recreational purposes in the Middle Harbour areas served by private moorings and the Northbridge marina. There is no plan to introduce a commuter ferry service from Middle Harbour to other harbour destinations.

2. CURRENT TRENDS IN TRANSPORT – WHERE ARE WE HEADING?

Dominance of the private motor car

Australia has one of the highest car ownership rates in the world. The growth of car and truck volumes throughout WCC has outstripped population growth with an ever increasing majority of trips carried out in private motor vehicles. The private motor car has been shown to dominate all trips conducted by residents and workers within Willoughby. This is reflected in a consistent or steady increase in the rate of car ownership within Willoughby over the past 35 years.



(Source: ABS Census, CDATA)

Why do we use cars?

The increase in car use is due to a number of factors including:

- the ability of cars to provide quick transport (travel time costs);
- problems with the public transport system as an alternative;
- absolute flexibility – door to door convenience, “trip chaining” multiple purpose trips e.g. Picking up the kids and shopping on the way home from work;
- concerns about personal and road safety of walking, cycling, public transport;
- relative comfort of your own car – a/c, audio system, hands free mobile phone etc;
- affordability of car ownership;
- entrenched behavior governing car (it is far more difficult to change travel behavior once established);
- the majority of drivers want government to spend more money on improving road infrastructure. In response to the public’s reliance on cars, there has been a lack of political will at state and federal level to adopt long term strategies on sustainable transport. This is due to the consequences required to break the dominance of cars and the short term political cycle. This leads to a continuing cycle that relies more on cars and less on public transport;
- lack of integration between land use and transport;
- Previous planning focused on private car usage rather than active transport modes;
- cars are a status symbol;
- Owners place a significant investment in purchasing and maintaining cars, and as a result they do not want to restrict their use;
- cars provided as part of salary packages and company owned vehicles;

The unsustainable impacts of car use

The growing social, environmental and economic costs of growing car use include:

Social

- Lower levels of health due to lack of physical activity of occupants and pollution from cars. Cars account for the majority of carbon monoxide and nitrogen dioxide emissions, pollution of groundwater with oil, cadmium, chrome, lead, zinc and copper. This causes air quality problems at a local, regional and global level. Air quality issues are especially relevant given the significant number of state and regional roads located in Willoughby including the air ventilation system for the Lane Cove Tunnel;
- Poor urban design outcomes with large spaces devoted to roads and car parking structures;
- Cars are responsible for a proportionally much higher incidence of accidents and fatalities of car occupants and other road users when compared with bus or rail travel;
- Traffic congestion leads to time delays, stress, causing division of communities at peak times. Road rage is a significant concern for motorists;
- Car parking on residential streets impacts on neighbourhood amenity;
- Social inequity, isolation and reduced access to services for those who are disadvantaged by not being able to travel in a car.

Environmental

- Air, water and noise pollution;
- Increase in greenhouse gas emissions from car exhaust carbon monoxide;
- Additional space required for roads and car parking. Currently 19% of Willoughby is taken up by roads (WCC);
- Use of finite fossil fuel resources to power cars.

Economic

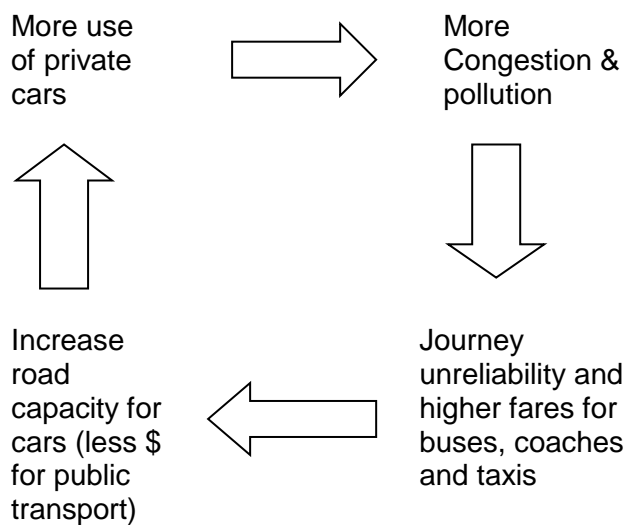
- Increased travel costs, including the cost of congestion;
- Reduced efficiency in the road network and movement of goods;
- Road network infrastructure, land acquisition, utility/service relocation, and additional car parking is very costly in an existing urban area;
- Reduced patronage and support of public transport, walking and cycling;
- Costs of road construction and ongoing maintenance;
- Increased cost of running cars including fuel and road tolls;
- Global petroleum peak supply scenarios and insecurity of supply within the coming decades.

Demographic trends in Willoughby show an aging population, continued population growth and employment growth. Willoughby contains a significant number of workers particularly in the Chatswood CBD and is located within Sydney's economic 'global arc', providing further incentive to reduce our dependence on cars which are an unsustainable form of access.

Winding back the dominance of the private motorcar is the single biggest transport issue confronting Willoughby City. This requires Council and other bodies to incorporate the true social, environmental and economic costs of car use in our decision-making. If left unabated, it is clear that the car will increasingly stifle the livability, economic development and environmental qualities of the City.

Reducing our reliance on cars

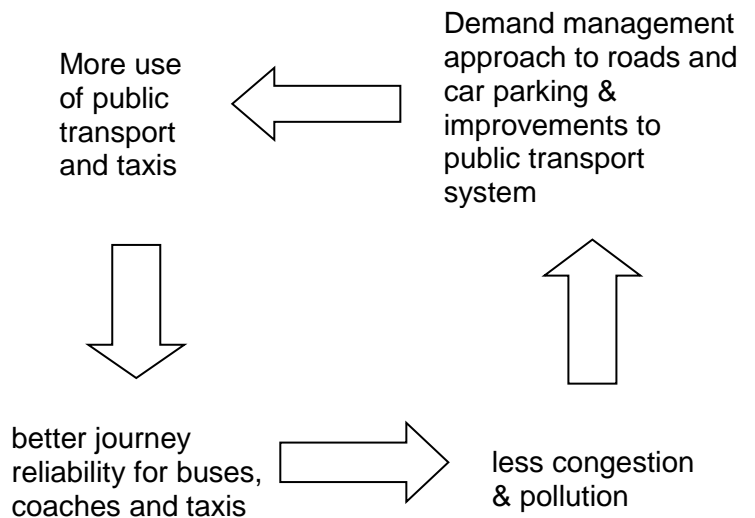
Increasing the capacity of our State and regional roads and car parking areas is not the answer, rather it must be acknowledged that our road network has a finite capacity which is already close to its maximum. The last 50 years of urban development in Sydney has shown us that at best, increasing road capacity is only going to offset gridlock for a short period and within a few years the new traffic lanes fill up and traffic conditions and speeds reduce to what they were previously or worse. Money spent on improving the access and intersection capacity of the existing local and regional road network and on new roads construction encourages more car trips at the expense of bus, train and taxi patronage, with less money spent on public transport leading to lower reliability.



However, the growing awareness of the impacts of car use on the Willoughby community and our society as a whole is not enough in itself to change peoples travel habits and rely less on cars. Researchers point out that car drivers are not rational in their transport choices and require massive time savings and inducements to leave their cars. Whilst the most effective way to change driver behavior remains through penalties such as parking restrictions, this is not a solution on its own. A series of integrated strategies are therefore required to both actively discourage use of the private motor car and also to improve public transport to encourage drivers to switch travel mode.

Council has taken the important first steps over the last decade to address this issue. Council has supported the trend toward a policy framework of travel demand management, with probably the most effective policy being restriction and pricing of car parking at trip destinations. Other strategies include: advocating to state transport agencies for improved performance of the existing public transport and expansion of existing public transport networks, promotion of active transport (through better footpaths, cycle paths and bicycle facilities in new developments), better integration between transport modes and types (including private to public) with physical examples being the St Leonards and Chatswood Interchange upgrades, promoting bikes onto buses and trains etc (modal shift), and better integration of transport with land use (placing jobs and population growth around transport hubs).

The implementation of these policies is slowly growing in support by the various stakeholders, however a significant shift in attitudes from the community and decision makers is required to realize the true costs of car use and address the current imbalance in the road and the public and active transport system. Measures such as these to make use of public transport more appealing, together with implementation of travel demand management principles on the road network and car parking areas, will gradually reverse the cycle of increasing car usage. A higher proportion of peak hour travel by public transport will result in significant travel time and cost savings from road ‘de-congestion benefits’ for remaining traffic on the road network.



These benefits can be significant for even a relatively small 3 to 4 percent reduction in road traffic volumes because when traffic volumes on the road network are close to saturation, the gridlock effect of traffic at intersections causes delays that increase exponentially with only small increases in traffic.

A 15 year vision for access in Willoughby has been developed to encompass these issues and the Council’s current Delivery Plan and Integrated Transport Plan objectives.

3. EXISTING VISION AND STRATEGIES FOR TRANSPORT IN WILLOUGHBY (ADOPTED IN 2009 BY WCS)

Council’s existing Transport goal for the next 15 years is:

“To manage the transport needs of the community in a sustainable manner by reducing car dependence and increasing public transport use, walking and cycling.”

It is proposed to achieve this goal with three objectives, which are outlined below together with the supporting strategies.

1. Increased use of public transport.

Strategies:

- a. Improve integration between transport modes.
- b. Improve local accessibility and options for local public transport between suburbs in Willoughby.
- c. Improve physical mobility access to public transport.
- d. Improve Chatswood Transport Interchange provision for rail, bus, and taxi transport, pedestrians and cyclists.

- e. Advocate for improvement in the level of service of and connections between public transport (trains and buses).
 - f. Improve cross City transport.
 - g. Work in partnership with government and the private sector for improved local public transport.
2. Transport management balancing necessary private vehicle trips with alternative, more sustainable transport.

Strategies:

- a. Plan and develop higher density land uses within and around existing centres, where infrastructure and services are located.
 - b. Manage car parking in developments in order to promote public transport use instead of private vehicle use.
 - c. Control public parking in areas served by public transport through pricing and parking time.
 - d. Involve the business community in transport initiatives.
 - e. Identify and implement traffic mitigation strategies and alternative transport options for industrial areas.
3. Increased use of active and alternative transport.

Strategies:

- a. Provide leadership in the promotion of active transport.
- b. Provide regional and local bike paths, safe bicycle parking and storage facilities.
- c. Promote sustainable transport and conduct education programs.
- d. Provide new pedestrian and cyclist focused precincts within local centres.
- e. Identify improvements for a City-wide network of accessible, local walking trails linking activity areas and public transport services.
- f. Design best practice cycling and pedestrian pathways.
- g. Enhance pedestrian safety.

4. HOW TO ACHIEVE THE VISION AND STRATEGIES

To achieve this vision, Council has a direct role to play in:

- the provision and efficient operation of sustainable transport friendly infrastructure (being pedestrian, bicycle and public transport);
- the strategic planning and control of development that integrates land use and transport;
- the implementation of demand management parking strategies to support public transport use and discourage use of the car, sustainable management of its own transportation and education, communication and marketing of safe and sustainable transport.

Council has a role to lobby the State Government in relation to producing and implementing a new Strategic Transport Vision for Metropolitan Sydney that embraces sustainable transport to avoid ad hoc solutions. In this regard, the State government called for community comment on its draft NSW Long Term Transport MasterPlan 2012, and Council made a submission. The draft was made available in September 2012 and will be finalized by the end of 2012. The final MasterPlan is intended to guide transport planning and delivery

in NSW for the next 20 years, providing a completely integrated approach to transport planning, bringing together all modes of transport, roads and freight as well as more detailed regional, precinct, modal and interchange delivery plans.

Council may work in partnerships with the State Government, councils within our region and the private sector (where appropriate) to assist in increasing the use of public transport. Council also has a role to play in providing input into State Government bus reforms and strategic bus corridors, and advocacy for the provision of an alternative Demand Responsive Transport system (such as a flexible bus or multi-hire taxi service) to meet demand for trips that are not adequately serviced by the existing bus and rail network or are currently serviced by motor car.

Sustainable Transport Use

The intent of this objective is to reduce the reliance on cars and increase the use of alternative transport such as public and active transport especially for commuters to the city's employment areas and major trip generators.

Strategies include both demand management “big stick” and incentive “carrot” approaches as outlined below.

a) Implementing a travel demand management approach

i) Road network demand management

The management of road traffic flow on local roads requires the State Government to pursue the priority of transport modes including allocating a greater percentage of road space for active and public transport and high occupancy vehicles at the expense of private cars. The reduction of traffic space includes bus and transit lanes, which are required to be regularly enforced by officers and including use of cameras and “b” signals to avoid buses being caught up in traffic. Frequent policing of transit and bus lanes is required for this strategy to work. Council's role is to lobby and negotiate with State Government.

Demand management also includes treatments to improve pedestrian and cycling environments such as increasing footpath capacity by road reduction or closure. Council will continue to promote after hours deliveries within the Chatswood CBD in order to free up road space.

Other alternative demand management measures that warrant investigation include:

- a congestion charge similar to that implemented in Melbourne, London and Singapore to discourage use of cars. Such a charge would initially be applied to the Sydney CBD, encouraging Willoughby residents and commuters not to travel by car but utilise public transport networks when travelling from and through Willoughby. If successful it could be applied to the sub-regional centres at Chatswood and St Leonards.
- Amend resident parking permits to charge owners of high-fuel-consumption vehicles (according to the Green Vehicle Guide) a higher rate for parking permits, with fuel-efficient cars paying lower fees (North Sydney Council policy).

- Tax concessions to individuals or companies who use public transport (in the same way that car use is granted significant tax concessions). This could also be extended to smaller more fuel-efficient vehicles.
- Car sharing schemes (eg, GoGet)
- Opportunities arising from the State government Metro Parking Policy and the Parking Space Levy Act in relation to St Leonards and Chatswood CBD's

ii) **Parking Demand Management**

The availability of car parking is a great influence on the choice of mode of transport by commuters. If parking is not available at the travel destination the likelihood of a trip being conducted on a mode alternative to a car is increased. As a result on and off street parking should be severely restricted in areas well served by public transport, and less restricted away from public transport. This also leads to efficiency gains by not catering for peak demand which leaves an under-utilised car park.

On-street parking demand is managed within the Chatswood CBD through pricing and parking time restrictions with an emphasis on maximising short stay use. Council has introduced an electronic guidance system to inform shoppers where car spaces are available. Parking restrictions by commuters and shoppers in adjoining residential areas is managed through the implementation of "resident parking schemes". These schemes aim to achieve an equitable management of on-street parking by applying the principals of demand management to parking by commuters, whilst protecting the amenity of residents through resident parking schemes. Parking restrictions are applied to ensure an efficient turn over of parking spaces. The amount of long-stay parking is limited at those destinations that have good alternative access by public transport, for example Chatswood CBD. Council will continue to enforce parking controls through its Compliance Section to achieve a greater compliance rate with car parking restrictions within Willoughby.

Council does not issue resident parking permits to residents of multiunit developments built since 1998 as this does not meet the intention to provide parking for all residents off-street and to encourage the use of public transport.

The Willoughby Development Control Plan contains a reduced car parking rate for new development close to public transport and recognises alternative, more sustainable forms of transport. The WDCP contains detail on how a Green Travel Plan may be introduced as part of a commercial or industrial redevelopment in order to encourage employees to make greater use of public transport, cycling, walking and car sharing for commuting and work related journeys. In this circumstance, following written agreement between Council and a site owner, Council may impose conditions to a development consent requiring implementation of a Green Travel Plan.

Adjoining areas that allow greater car parking provision undermine the effectiveness of Council's demand management parking strategies. Council will lobby the State Government and neighbouring councils in the "Global Arc" for the development of a comprehensive regionally based plan for commuter parking.

iii) **Improving the quality of public transport**

The State Government, in particular its key transport based agencies Roads and Maritime Services, RailCorp, State Transit, and the Department of Transport largely influence transport. There is a limitation on Council's role in relation to public transport; its biggest influence being in the areas of integration of transport with land use and the management of parking. However, Council has a vital role in lobbying, negotiating and facilitating public transport improvements.

Increased use of public transport cannot occur without substantial improvements to our public transport system. Improvements are required to ensure public transport is frequent, reliable, comfortable, clean and safe, affordable, convenient and easily navigable.

iv) Improved rail network

The state government rail network requires new and improved stations, incorporating accessible, larger capacity platforms. More reliable trains with a high level of on-time running, and additional peak hour and weekend services are required. This includes increases in the rail network capacity along the North Shore Line (see below under expansion of the rail network). Improved communication of train times and delays including use of technology to allow up to date real time information displays for all platforms would also improve the rail service.

The greatest barrier to using the train at Artarmon station is the lack of accessibility for the elderly, people with a disability, and children in strollers to the station platform, as access is by stairs only. Despite being a very busy station on the North Shore Line, Artarmon Station has been overlooked for an access upgrade by the State government and Council will continue to advocate for this.

v) Improved bus network/route services

The State Government is responsible for the provision of bus transport by public and private services. The previously mentioned new bus contracts have made for a more efficient bus service to and from the Chatswood CBD and are supported by Council. However there is still much to be done to improve bus services in the Willoughby area. In particular this has resulted in Council implementing the Artarmon shuttle and loop bus service.

Willoughby Council considers that bus priority measures should be considered for introduction on all major arterial roads as a matter of urgency. This includes transit lanes, bus lanes, bus only lanes and priority traffic signals.

The State government is involved in a study on options for a bus rapid transport system from the northern beaches to the Sydney CBD and also Chatswood. While Council supports additional measures along the Military Road/Spit corridor, Council feels that it is very important that the study considers a wider area including the Warringah Road corridor, where there are currently no bus priority measures to support bus transit.

State and local government quality improvements to infrastructure to encourage positive perceptions of public transport that can be made include:

- Bus stop upgrades for disabled access;
- Bus shelters and seating improvements to the majority of bus stops within the City;
- Improved footpaths and street lighting and identification;
- Improved buses, new technologies such as real time information at each stop automatic vehicle location systems;
- traffic lights to give bus priority through GPS technology.

vi) Improved taxi facilities

Opportunities to further improve taxi facilities include:

- Provision of additional taxi ranks;
- Provision of legal places for taxis to stop;
- Better integration of taxi services in the Chatswood Transport Interchange development. At present, there is no taxi rank within the interchange area, with all taxi provision arranged elsewhere in the CBD by Council. Council continues to work with the NSW Taxi Council to resolve this issue;
- Road network demand management measures that prioritise taxis and buses (see above).

vii) Better integration between transport modes

Use of public transport is maximised through better integration of transport modes – bus/rail interchanges, accessible walking and cycle paths to service buses and trains and providing public car parks in outer suburban stations as park and ride areas. This includes better lighting and improved level of safety at transport interchanges & pedestrian links, provision of drop-off zones at railway stations and better provision for bicycles on trains. Integrated ticketing has been introduced for bus travel but does not integrate with rail and ferries.

Council has prepared a footpath masterplan which is a comprehensive database of linkages, attractors and generators to prioritise the future provision of footpaths and on-going maintenance.

viii) Expanding public transport networks

a) Lobby, negotiate and facilitate with the State Government to:

1. Prepare detailed plans and implement strategies based on previous commitments for public transport infrastructure over the next 15 years such as the improvement of cross regional routes that match the region's changing travel patterns and are linked to public transport nodes. This includes:
 - completion of the North-West Rail and Parramatta to Epping (Chatswood) rail links;
 - a second Harbour rail crossing and fast North Shore line;
 - bus priority or light rail link from Chatswood to the Northern Beaches;
 - transport strategies for Military-Spit Corridor, Victoria Rd, Pennant Hills Rd and the Pacific Hwy;
 - bus/train interchanges for Macquarie Park and St Leonards; and

- improved regional rail services to the Central Coast and Newcastle.
2. Provide better public transport connections to high trip generators including:
 - Chatswood CBD - workforce of approximately 20,000 persons, retail generating 20 million shopper visits per annum (WCC Chatswood City Centre Plan 2008);
 - East Chatswood and Artarmon Industrial Areas workforce;
 - Royal North Shore Hospital & St Leonards TAFE;
 - St Leonards East Commercial precinct;
 - Multi-unit housing areas within medium and high density zones;
 - Local shopping centres throughout Willoughby;
 - Educational establishments including 15 schools that contribute to a significant proportion of morning peak hour traffic, and serve passenger trips;
 - Leisure and entertainment facilities.
 3. Improve the Chatswood Transport Interchange as the facility is inadequate in its current form. The redeveloped Chatswood Transport Interchange has inadequate capacity for existing buses, taxis, bicycle storage, seating and shelter, and poor pedestrian and disability access.
 4. Increase the use of public / private partnerships to financially support and achieve the above projects, greater opportunity exists for the private sector to provide public transport infrastructure with the State Government (as occurs in Western Sydney).
- b) Changing regulations to enable charging passengers for local bus services.

Freight movement

Freight must be given higher priority on the rail network in order for it to be utilized and switch over from the road network. Council will lobby the Federal and State governments for a comprehensive road freight transport plan integrated with rail freight services including: additional freight rail lines; inter modal stations to transfer from rail to road; and a north south freight line to allow the more efficient and safe movement of freight on rail from Melbourne to Brisbane. This will reduce traffic on main roads through Sydney, and associated road maintenance and congestion costs.

Active Transport

a) Walking

Council will continue to promote increased walking as a transport mode through a number of ongoing initiatives including:

- Improving pedestrian accessibility and priority, ensuring connectivity and continuity along major pedestrian routes and providing links between public transport and pedestrian attractors;

- improvement works aimed at recreating the Chatswood CBD and local centres as pedestrian focussed precincts. This includes extending the separation of cars from pedestrians, increasing pedestrian space, providing road closures and associated devices, slowing traffic by frequent pedestrian crossings, quality material pavement & street furniture, active shop frontages and street trees;
- Reduced speed zones within centres. Chatswood CBD has a 40km/h speed zone;
- Preparation of Transport Access Guides (TAGS), Pedestrian access and mobility plans (PAMPS) and pedestrian and cycling catchment maps. These provide customised travel information to encourage the use of active and public transport for major trip generators within Willoughby;
- Accessible paths of travel to high volume pedestrian areas / public transport nodes and open space/recreational areas including provision of access to foreshore areas of Middle Harbour and Lane Cove River;
- New development to comply with the WDCP requirement for an accessible path of travel to be provided to ensure access for disabled persons;
- Promote pedestrian infrastructure and through site links in redevelopment of major sites;
- Increasing walking and cycling opportunities to schools.

b) Cycling

Council has prepared a Draft Willoughby Bike Plan 2012 (revising the current 2006 plan).

Actions to encourage increase in bicycle use include:

- Implementation of regional bike paths (in particular the regional route north of Chatswood to connect Willoughby and Ku ring gai LGA's);
- Provision of safe cycle facilities as part of all major road construction and maintenance of existing roads;
- Provision of bicycle parking and storage facilities at major public transport nodes and trip generators such as shopping and employment centres;
- Making available to members of the public cycling proficiency education;
- Requiring new development to incorporate bicycle parking and industrial and commercial development to provide a workplace travel plan (green travel plans);
- Expanding cycling and pedestrian linkages / shared pathways and end of trip facilities;
- Design of open spaces and road reserves to prioritise walking and cycling;

Integration of land use & transport

The intent of this objective is that the integration of land use and transport reduces growth in the number and length of private car journeys, making walking, cycling and public transport use more attractive.

Higher density development (involving jobs, housing, community services) will be located proximate to public transport and existing centres. This is also referred to as Transit Oriented Development (TOD) and provides the 'critical mass' that makes public transport more viable and maximises single multi-purpose trips. Development within Willoughby will therefore be planned for:

- Concentrated (walking distance) catchments, with commercial and mixed land uses, around St Leonards, Artarmon and Chatswood transport interchanges;
- linear concentrations along major bus routes corridors and main streets including the Pacific Highway, Victoria Avenue, Penshurst Street and Willoughby Road; and

- development adjacent to existing local centres.

In the same way, land use management is to avoid the dispersion of major developments and high trip generators to those areas with lower levels of accessibility away from the railway and major bus corridors, for example, in the foreshore areas.

Education, communication, lobbying & marketing of sustainable transport and road safety

The intent of this objective is that education and promotion occur over time so that motorists accept that the overall road network has a finite capacity and that there are personal and community benefits in reducing car use and increased use of other transport options. In this regard, Council will promote:

- Transport Action Guides, Access and Mobility Plans;
- Opportunities taken for major developments to contribute towards sustainable transport initiatives;
- Council's workplace travel plan. Key initiatives include: work from home policies, environmental performance of Council's vehicles, interest free loans for staff on public transport, provision of lockers, bike racks to encourage cycling and walking, community and staff education;
- Requiring new development to provide a green travel plan which is a series of strategies that utilise active and public transport, home teleworking, flexible working hours to reduce peak hour demand, carpooling and car sharing services, to reduce car dependency;
- Use of alternative fuels, ethanol use, hybrid or electric cars or other alternative energies, greater use of LPG, smaller more fuel-efficient cars, support introduction of new technology to help reduce vehicle emissions. Provide an example with Council's own vehicle fleet;
- The State and Federal governments removing subsidies and tax breaks that encourage people to use cars, and to support more sustainable forms of public transport (including support for gas fuelled buses and reductions in Greenhouse gas emissions resulting from public transport);
- Sustainable transport and road safety at various expos and community events.

Road safety

The intent of this objective is to reduce the incidence and severity of accidents on our roads by educating the community and thereby changing driver, pedestrian and cyclist behaviour.

Council's Road Safety Plan and various campaigns are to target the following areas:

- Pedestrian, cyclist and passenger safety;
- Integration of road safety into transport, traffic and access management issues, with an emphasis on local centres;
- Maintenance and improvement of the pathway network to improve safety for vulnerable users;
- Enforcement and deterrence.