2. Strategic justification and project need

This chapter discusses the strategic justification and need for the project and identifies the relationship of the project to the NSW Government's infrastructure planning and development strategies. It describes the role of the project in meeting Sydney's strategic transport needs. The project objectives and the strategic context of the proposed upgrade works are outlined. This section should be read in conjunction with Chapter 3 of this environmental assessment, which provides an assessment of project alternatives.

Director-General's Requirements	Where addressed
Strategic justification	
the environmental assessment must outline the strategic need and justification for the project, taking into account existing and proposed transport infrastructure and services within the adjoining subregions,	*Sections 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6*
and as relevant the outcomes and objectives of the State Plan (2006), City of Cities: A Plan for Sydney's Future (2005) (the "Metropolitan Strategy") and the accompanying draft subregional strategies, and the NSW Government's Urban Transport Statement (November, 2006).	*Sections 2.2.1, 2.2.2, 2.2.3, 2.2.4*

2.1 Transport infrastructure and services

2.1.1 Strategic setting

At the time of construction, the M2 Motorway was a priority section of the 'Sydney Orbital Route' identified in the Department of Main Roads publication *Roads 2000* (1987), which included a strategic plan for Sydney's road needs to the year 2000. Upon opening, the M2 Motorway provided much needed accessibility and capacity for commuter, commercial, freight and road-based public transport, thereby reducing travel times and peak hour congestion. It also serviced heavy vehicle and public transport demand, in the absence of a rail line. The need and justification for the M2 Motorway enhancement relates to servicing residential and employment growth in Sydney's North West Growth Centre and the deficiencies of the existing arterial road network, which was operating at or near capacity in the early 1990s.

Major transport projects completed in the vicinity of the M2 Motorway since its opening include:

- M7 Motorway, which opened to traffic in December 2005 and links to the western end of the M2 Motorway.
- Lane Cove Tunnel, which opened to traffic in March 2007 and links to the eastern extent of the M2 Motorway.

Since the M2 Motorway opened to traffic over a decade ago, land use density has increased within the M2 Motorway catchment particularly in Sydney's north west. In addition, the completion of the Sydney Orbital Motorway network has improved accessibility for businesses along the M2 Motorway, and has led to agglomeration benefits for IT-related businesses around the Macquarie Park area. The M2 Motorway now functions primarily as a key freight route (particularly in the west) and commercial and commuter route (particularly in the east).

The M2 Motorway is an essential element of the Sydney Orbital and serves not only the north west but traffic from the south and west seeking to travel to Sydney's north, the Central Coast and the Hunter

Valley. The section between the M7 Motorway and Pennant Hills Road now functions as part of the Federal Auslink Network. In addition, bus use of the M2 Motorway has increased significantly in recent years, and continues to grow.

To this end, the need and justification for the proposed M2 Upgrade project is focused on five key strategic themes, which are as follows:

- Address existing constraints and traffic congestion – The need to address existing constraints on the Sydney Motorway Network to minimise traffic spilling over onto parallel arterial roads and to provide relief to traffic congestion in Sydney's north west.
- Support economic growth – The need to support economic growth in Sydney's north west and to support industry agglomeration at Macquarie Park through enhancing road network capacity.
- Provide for population growth – The need to provide for travel demands generated by population growth.
- Enhance accessibility – The need to enhance accessibility to growing residential and employment areas.
- Enhance public transport – The need to create opportunities to enhance public transport and support its growth.

These are discussed in the following sections.

2.1.2 Address existing constraints and traffic congestion

The M2 Motorway is the principal transport link connecting Sydney's north west to the lower North Shore and the Sydney Orbital Motorway network leading to North Sydney and Sydney's CBD. It is a heavily utilised transport corridor, currently used (average in June quarter 2009) by 103,000 vehicle trips per work day.

The busiest sections of the M2 Motorway are used by up to 4,200 vehicles per hour eastbound in the morning peak and 4,800 vehicles per hour westbound in the evening peak. Contra-peak flows are about 50 percent of peak directional flows.

The average travel time for the M2 Motorway eastbound in the AM peak, between Old Windsor Road and the Lane Cove Tunnel, is 38 minutes (base year of 2011), which is forecast to increase to 50 minutes by 2021 with no upgrade. Conversely, the average travel time westbound in the PM peak is 29 minutes in 2011, increasing to 36 minutes in 2021 with no upgrade (Transurban, 2010).

With the completion of the Sydney Orbital Motorway network, the M2 Motorway has become part of a major strategic network for Sydney. The opening of the M7 Motorway in December 2005 also increased traffic volumes on the M2 Motorway (Hills M2, 2008).

A temporary measure to manage predicted traffic increases associated with the opening of the Lane Cove Tunnel was implemented in March 2007 consisting of an additional westbound lane created through line marking between Lane Cove Road and Beecroft Road. This scheme is not a long term solution for the following reasons:

- The reduced lane widths and the removal of the shoulder (breakdown/bicycle lane) are inconsistent with design standards along the remainder of the M2 Motorway.
- The westbound speed limit on the M2 Motorway between Lane Cove Road and Beecroft Road has been reduced by up to 30 kilometres per hour, significantly impacting the travel time benefits of the M2 Motorway in off-peak periods.
- The reallocation of road space has required the diversion of westbound cyclists off a section of the M2 Motorway. This diversion provides a reduced standard of facility for cyclists and is not preferred by these users as a long-term solution.

The highest peak hour traffic flows on the M2 Motorway are recorded on the following sections:

- Westbound – Herring Road to Beecroft Road in the PM peak.
- Eastbound – Beecroft Road to Christie Road in the AM peak.

Volumes in these sections are highest as the M2 Motorway provides access from Epping, Baulkham Hills, Castle Hill and Pennant Hills residential areas to the specialised centres of Macquarie Park and Norwest Business Park. The following critical capacity constraints have been identified:

- Westbound – Lane Cove Road to Pennant Hills Road in the PM peak.
- Eastbound – M7 Motorway/Abbott Road to Christie Road in the AM Peak.

Currently, midblock traffic volumes (traffic travelling on the M2 Motorway between interchanges) often exceed theoretical motorway lane capacities leading to congestion and increased travel times, particularly during peak periods. This also impacts on the surrounding arterial road network due to traffic seeking alternative routes. By providing additional lane capacity, the project would alleviate this existing congestion along the M2 Motorway and provide relief for surrounding arterial routes.

Key benefits of the widened M2 Motorway include:

- Capacity enhancement at locations of constraint.
- Improved travel speeds and travel time reliability.

2.1.3 Support economic growth

As described in the Sydney Metropolitan Strategy, titled *City of Cities: A Plan for Sydney's Future* (December 2005) (Metropolitan Strategy), the M2 Motorway plays an important and strategic function in providing high quality access between Sydney's north west and the 'global arc', spanning from Macquarie Park, Chatswood, St Leonards, North Sydney, Sydney CBD, Sydney Airport and Port Botany.

The M2 Motorway services key employment and educational precincts, including:

- Norwest Business Park.
- Macquarie Business Park.
- Macquarie University.
- TAFE NSW Northern Sydney Institute.
- Rouse Hill Town Centre.
- Industrial areas in Blacktown, Ryde and Castle Hill.

Over the next 25 to 30 years, the Metropolitan Strategy predicts that 99,000 jobs will be created in Sydney's north west, with over 55,000 new jobs being created in the immediate vicinity of the M2 corridor. The project would provide better access to the employment hubs in Sydney's west and north west and improved accessibility to the specialised centre at Macquarie Park to the Sydney Orbital Motorway network. The M2 Motorway is supporting agglomeration of high technology industries in Norwest Business Park and Macquarie Park.

In addition, the M2 Motorway will continue to form a key section of the Federal Auslink Network, connecting the M7 Motorway to the F3 Freeway via Pennant Hills Road. Freight transport along this section of the M2 Motorway (Precincts 1 and 2) is predicted to grow in line with predicted urban growth.

2.1.4 Provide for population growth

The Sydney region currently has a population of 4.3 million people (2006) and is projected to grow to 6.0 million by 2036, which is an increase of 1.7 million or 40 percent over the period (DoP, 2008).

The Metropolitan Strategy states that in Sydney's north west, dwelling stock is forecast to increase by 70,000 houses from 250,000 to 320,000 (a 28 percent increase) by 2031 and post-2031 by up to 140,000 (DoP, 2005). In particular, the North West Growth Centre, located just to the west of the M2 Motorway is planned to accommodate a significant proportion of Greenfield residential development under the Strategy.

The project would facilitate access between residential and employment lands and educational and recreational facilities. In particular, the proposed new west facing ramps at Windsor Road would enhance the accessibility to the Rouse Hill Town Centre.

2.1.5 Enhance accessibility

The project includes the provision of west facing ramps at Windsor Road, including local widening of Windsor Road at the interchange of the M2 Motorway at Baulkham Hills to accommodate turning movements, and east facing ramps at Herring Road and Christie Road at Macquarie Park. The west facing ramps at Windsor Road would enhance accessibility to and from the M2 Motorway for residents and businesses located in North Rocks, Parramatta, Blacktown, Seven Hills, Kings Langley and Baulkham Hills. The Windsor Road ramps are supported by the Western Sydney Regional Organisation of Councils and, in particular, the Hills Shire Council. The east facing ramps at Herring Road and Christie Road would increase the accessibility of Macquarie Business Park and Macquarie University to the M2 Motorway and are supported by The City of Ryde and Macquarie University.

Key benefits of the enhanced accessibility that would be provided by these new ramp connections include:

- Reduced congestion on surrounding arterial roads.
- Reduced vehicle kilometres travelled (VKTs) on local roads.
- Increased accessibility to Sydney Orbital Motorway network and travel time saving.
- Reduced travel times.
- Support for the agglomeration of high technology businesses at focal points on the M2 Motorway.

2.1.6 Enhance public transport

The M2 Motorway is a major bus corridor, being one of the key bus corridors identified in the *Review of Bus Services in NSW* (2004). Approximately 600 'Hillsbus' services use the M2 Motorway each weekday (eastbound and westbound). Patronage data indicates that the M2 Motorway services carried over 17,000 passengers each workday in 2008 (Hillsbus, pers. comm., 2008).

Buses using the M2 Motorway serve Sydney's north west, with routes to Sydney CBD and North Sydney and to a lesser extent Lane Cove, Epping and Macquarie Park. Service levels and reliability of bus operations along M2 Motorway routes are dependent on traffic conditions on the M2 Motorway as well as on the surrounding sub-arterial and arterial road network. Further discussion of public transport conditions is provided in Section 9.1.

In the three years prior to 2008, M2 Motorway bus patronage grew at a rate of approximately 35 percent per annum. Further growth in services and patronage has been enabled in the past year as a result of the commencement of delivery of new buses under the NSW Government's Growth Buses program. Under this program funding for 300 new buses (113 in the North West) was committed.

The M2 Motorway already includes significant public transport infrastructure, comprising a two-lane (two-way) eight kilometre bus way in the median from Beecroft Road to Windsor Road. Bus stops are located at Gooden Reserve (Model Farms), Cropley Drive (Baulkham Hills), Barclay Road (North Rocks) and Oakes Road (Carlingford North).

Bus patronage has increased markedly in the last few years, particularly trips to/from Macquarie Park and the Sydney CBD, and is predicted to experience strong growth into the future. The project would improve bus travel times and reliability in the short term and into the future, because of the increased capacity on the M2 Motorway provided by the project. The direct advantage of the project in relation to bus operations is the provision of an eastbound T2 transit lane between Terrys Creek and Lane Cove Road. Subject to the enforcement of the T2 lane, buses would experience faster travel times and consequently improved reliability.

In addition to improved travel times, the project provides an opportunity to increase the public transport accessibility of the Macquarie Business Park and University precinct by providing new access points at Christie and Herring Roads that could be utilised to achieve more efficient access to the Macquarie Centre Bus Interchange. The provision of these new access points also provides the opportunity for new bus routes to be developed. The NSW Department of Transport and Infrastructure is considering the upgrade of the Macquarie Centre Bus Interchange at Herring Road which would further enhance the bus facilities in the M2 corridor.

2.2 NSW Government plans and strategies

The NSW Government has released a number of plans and strategies in recent years to guide the growth and development of Sydney, which is forecast to continue to experience significant population, economic and travel growth. The concept for the project has been developed within the context of these strategic plans and seeks to respond to the existing and emerging demands of this dynamic part of Sydney. The following sections discuss the relationship between the project and the relevant outcomes and objectives of key NSW Government planning documents.

2.2.1 State Plan

The project would contribute to the following Priorities in the State Plan, titled *A New Direction for Sydney* (November 2006a):

- *Priority P2 – Maintain and invest in infrastructure*: With the opening of the M7 Motorway in December 2005, the western section of the M2 Motorway between the M7 Motorway and Pennant Hills Road became part of the Federal AusLink Network. As a result, traffic on the M2 Motorway, particularly heavy vehicles, has increased substantially. The M2 Motorway needs to be enhanced to serve the growth in commuter and freight traffic. The project would contribute to the maintenance of, and investment in, infrastructure required for growth across NSW.
- *Priority P5 – AAA rating maintained*: Funding of the project by the private sector (refer to Section 1.4 for description of project funding) would assist in maintaining the State's AAA credit rating, which provides confidence to investors and underpins business confidence by maintaining the operating budget in surplus through the budget cycle.
- *Priority E3 – Cleaner air and progress on greenhouse gas reductions*: The project would improve traffic flow on the M2 Motorway and reduce traffic on some existing alternative routes to the M2 Motorway. Reducing traffic congestion on the M2 Motorway and surrounding road network would potentially result in reduced vehicle emissions and a net reduction in greenhouse gas emissions. Improving public transport facilities through faster travel times, improved access points and more potential route options may also generate greenhouse gas emission savings by encouraging the use of public transport.
- *Priority E5 – Jobs closer to home*: The project would improve access within Sydney's north west where 140,000 new dwellings and 99,000 new jobs are planned over the next 25 to 30 years. The new access points would provide more and better route options in the M2 corridor and adjacent areas. This would reduce travel distances and times between home and work. Improved access to the M2 Motorway would encourage further development around the M2 corridor.
- *Priority E7 – Improve the efficiency of the road network*: The project would improve traffic flow on the M2 Motorway and reduce traffic on some existing alternative routes to the M2 Motorway. This would increase peak period travel speeds along the M2 Motorway.
- *Priority S7 – Safer Roads*: An enhanced and widened M2 Motorway with increased capacity would result in safer trips on the M2 Motorway and the surrounding network, including improved safety for pedestrians, cyclists and local traffic.

An updated State Plan was released in October 2009, which had very similar priorities. The M2 Upgrade project would contribute to these priorities.

2.2.2 Metropolitan Strategy

The project is consistent with the Metropolitan Strategy. The supporting information to the Metropolitan Strategy identifies the possible widening of the M2 Motorway to serve residential and employment growth in Sydney's north west. The project is consistent with this objective. In particular, the project would support the Metropolitan Strategy with respect to the following considerations:

- Improving access within and to employment lands in Sydney's north west where 99,000 new jobs are planned by 2031 including:
- Identified Specialised Centres such as Macquarie Park, with projected job growth to reach 55,000 (a 70 percent increase) and Norwest Business Park, with a projected job growth to reach 15,000.
- Castle Hill, identified as a Major Centre with projected job growth to reach 12,000.
- Rouse Hill, identified as a Planned Major Centre with projected job growth to reach 9,000.
- Other key industrial and business localities including Blacktown and the University of Western Sydney.
- Improving access within and to residences in Sydney's north west where dwelling stock is predicted to increase by 70,000 houses from 250,000 to 320,000 (a 28 percent increase) by 2031 and by up to 140,000 into the future.
- The M2 Motorway is identified as a key bus route with strong patronage growth forecast which would be facilitated by the project through improved bus travel times and more efficient access to Macquarie Park businesses and rail facilities.
- The east facing ramps at Christie Road and Herring Road would improve the accessibility of the specialised centre at Macquarie Park to the Sydney Orbital Motorway network. In particular, traffic from the east would be able to access the area directly from the Sydney Orbital.
- The west facing ramps at Windsor Road would improve the accessibility of the Norwest Business Park, the planned growth centre at Rouse Hill and Blacktown to the Sydney Orbital.
- Reducing traffic, including heavy vehicles, on some existing alternative routes to the M2 Motorway, such as Epping Road, Carlingford Road, North Rocks Road, Norwest Boulevard, Seven Hills Road and Churchill Drive/Caroline Chisholm Drive. This would provide enhanced opportunities for public transport, cycling and pedestrians on these roads.

2.2.3 Metropolitan Subregional Strategies

The M2 Motorway traverses local government areas (LGAs, as underlined) within four metropolitan Sydney subregions, as defined by the Metropolitan Strategy, which are:

- Inner North Subregion (Lane Cove, North Sydney, Ryde, Willoughby, Hunters Hill, Mosman LGAs).
- North Subregion (Hornsby, Ku-ring-gai LGAs).
- West Central Subregion (Auburn, Bankstown, Fairfield, Holroyd, Parramatta LGAs).
- North West Subregion (Baulkham Hills, Blacktown, Blue Mountains, Hawkesbury, Penrith LGAs).

Subregional strategies have been adopted for each of the four relevant subregions to translate objectives of the Metropolitan Strategy's long-term planning blueprint to the local level.

Overall, the project would contribute to the following key actions, which are consistent across the four relevant subregional strategies:

- *D1.1 – Extension of rail and bus networks to connect centres*: The project would contribute to bus capacity, particularly during morning peak, through an eastbound T2 lane (Terrys Creek to Lane Cove Road) and greater capacity for bus access to Macquarie Park (a 'Specialised Centre'). The project would also provide improved connections to Macquarie Park.
- *D1.2 – Extension of transport networks to serve growth*: The project would serve growth in the area through providing additional capacity on the M2 Motorway delivering improvements in travel time.
- *D1.3 – Connect regions and economic gateways within the greater metropolitan region*: The project would provide the greater metropolitan region with more capacity to access key economic centres in the area including Norwest Business Park, Macquarie Park and Macquarie University.
- *D2.1 – Complete major transport infrastructure projects*: The completion of the upgrade of the M2 Motorway would provide critical transport infrastructure for the area.
- *D2.3 – Improve integration of public transport:* The project would improve the integration of public transport through allowing more efficient use of bus fleets, faster transit times and the provision of new access points that would enable the future development of new bus route options.
- *D3.1 – Improve local and regional walking and cycling networks*: The project would improve local and regional cycling networks through reinstatement of cyclist access to the breakdown lane for the entire length of the M2 Motorway.

For further discussion regarding the transport outcomes, refer to Technical Paper 1 and Section 9.1 and 9.2 of this environmental assessment. The following subsections describe the existing and proposed transport infrastructure and services within the adjoining subregions, as relevant to the objectives of the subregional strategies. Four subregional strategies cover the M2 corridor and the surrounding localities.

Inner North Subregional Strategy

As described in the *Inner North Subregional Strategy* (DoP, 2007a) the Inner North Subregion is a key component in Sydney's Global Economic corridor, forming the northern section of the M2 corridor from North Sydney to Macquarie Park. The Strategy recognises that the Inner North has a well established transport network, but some key links, such as the M2 Motorway, are operating beyond their technical capacity. Several projects including mainly rail and road infrastructure, are currently in progress or proposed that, in addition to the upgrade of the M2 Motorway, would further improve the transport network of the Inner North Subregion.

As described in the Inner North Subregional Strategy, Macquarie Park is currently predominantly accessed via cars, due to limited public transport alternatives and the quantity of off street parking provided. However, the Epping-Chatswood Rail Link provides direct rail access to Macquarie Park and the University. The upgrade of the M2 Motorway would also facilitate efficient and reliable bus access to this key centre through works including a T2 lane and widening of the Christie Road Bridge and Talavera Road.

Several roads in the Inner North Subregion are operating at or close to capacity, especially during peak periods. These roads include Epping Road, Lane Cove Road, the Pacific Highway, Victoria Road and sections of the M2 Motorway and the intersections that connect them. The upgrade of the M2 Motorway would relieve congestion and improve access in this region, thereby assisting in meeting the objectives of the *Inner North Subregional Strategy* (DoP, 2007a).

North Subregional Strategy

As described in the *North Subregional Strategy* (DoP, 2007a) the North Subregion acts as a gateway to the Central Coast and historically population growth has been associated with the two rail lines servicing the subregion. The North Subregion has good accessibility to the rest of Sydney's metropolitan areas by road and rail. The subregion contains environmentally sensitive landforms, including 175 square kilometres of National Park (Ku-ring-gai Chase National Park).

Settlement in this subregion has occurred along the ridges, following the two rail lines and the two major arterial roads, the Pacific Highway and Pennant Hills Road. Rail is the main form of public transport at present. None of the existing bus services operate along major bus corridors. The existing bus services in the north subregion are generally operating below capacity. As this subregion grows, trip making is becoming more complex, especially as the focus on Macquarie Park grows. Bus services in the north subregion will be improved through the implementation of four strategic bus corridors, linking Hornsby to its surrounding Strategic Centres, including Castle Hill, Parramatta, Chatswood and Macquarie Park. The upgrade of the M2 Motorway and resultant improvements to traffic conditions would provide for improved bus operations in these corridors and would assist in the delivery of the objectives of the *North Subregional Strategy* (DoP, 2007a).

West Central Subregional Strategy

As described in the *West Central Subregional Strategy* (DoP, 2007d) the West Central Subregion is a key economic driver of the Greater Metropolitan Region. Parramatta, identified as one of Sydney Region's key centres, is considered to be Sydney's second CBD. There has been a consistent focus from Government on development within this centre and this has led to the delivery of infrastructure and service improvements to facilitate sustainable growth of Parramatta Regional City.

Although the West Central Subregion is relatively well resourced with public transport infrastructure, traffic volumes can be heavy even outside peak periods. Improvements to the public transport system identified by the *West Central Subregional Strategy* will encourage an increase in patronage and will in turn relieve road congestion. These improvements include the provision of strategic bus corridors that would improve access to Parramatta from Hornsby, Chatswood, Ryde and Macquarie Park. A key outcome of the project would be improved travel times for buses and access points that enable new bus route options to be developed in the future.

North West Subregional Strategy

As described in the *North West Subregional Strategy* (DoP, 2007c) the North West is the largest and fastest growing of Sydney's subregions. The North West subregion plays an important role in Sydney's economy. The north west growth centre is located within the subregion and would be the focus for new land release over the next 25 years. Recent employment growth in this subregion has been above average, and this trend is expected to continue with further employment growth planned in the Western Sydney Employment Hub and Norwest Business Park. Agglomeration benefits to businesses in the areas will be strengthened through the upgrading of the M2 Motorway.

Through increased development in the north west, there has been increased pressure on the M4 and M2 Motorways and a number of arterial roads during peak periods. A strategic initiative is to maximise use of existing road infrastructure through the promotion of self containment of employment within the subregion to decrease pressure on the transport network. The *North West Subregional Strategy* states that the upgrade of the M2 Motorway would alleviate the pressures associated with the increased

development in the north west by providing a more efficient and reliable transport corridor (DoP, 2007c).

2.2.4 Urban Transport Statement

The NSW Government's *Urban Transport Statement* (November 2006b) identifies the efficient movement of people and goods in and around Sydney as a key transport objective. This Statement confirms the strategic importance of the Sydney Orbital Motorway network and identifies the M2 Motorway as a key part of the Macquarie Park to Port Botany Economic corridor, or Global Arc, with a total daily travel volume of 8.25 million passenger kilometres. The Statement also identifies a number of possible motorway connections to this network, including the connection of the M2 Motorway to the F3 Freeway. The project, which includes road widening, would relieve current congestion through the Global Arc, thereby facilitating more efficient movement of people and goods and would be consistent with potential future development of a motorway to the F3 Freeway connection.

2.2.5 Strategic Bus Corridor Strategy

The NSW Government has identified 43 strategic bus corridors across the Sydney metropolitan area following the Unsworth report of 2004. Bus priority measures, such as bus lanes and bus priority signals, are being implemented along these corridors to protect bus services from traffic congestion and achieve average peak period bus speeds of 20-25 kilometres per hour. Strategic bus corridors within the M2 Motorway corridor include Castle Hill – City via Macquarie, Macquarie – City, Macquarie – Burwood, Parramatta – City via Macquarie. The strategic bus corridors are shown in Figure 16.

On 1st March 2010, the NSW Government announced that 2,000 state government buses had been fitted with a special global positioning priority system linking them to traffic lights to help late buses make up lost time. This Public Transport Information and Priority System (PTIPS) is part of a $295 million package of bus priority measures to support the operation of strategic bus corridors across the Sydney road network. Bus priority is part of the *Strategic Bus Corridor Strategy* and its overall $50.2 billion *Metropolitan Transport Plan*.

The *Metropolitan Transport Plan* has allocated $2.9 billion for extra buses for strategic corridors and local routes and bus depots, including an additional 1,000 buses for these strategic corridors and local routes in Sydney, Wollongong, Newcastle and the Central Coast. The *Metropolitan Transport Plan* reports that 31 of these corridors have already been fully or partially delivered.

2.2.6 State Infrastructure Strategy

The *State Infrastructure Strategy* (NSW Treasury) is a rolling 10-year plan that guides the State's expenditure on capital assets and describes the infrastructure to be provided in Sydney over the next ten years. The Strategy describes how to manage public investment growth in line with funding sources. It is updated every two years and was last updated in 2008.

As the M2 Motorway is a privately operated motorway and as the enhancements would be privately funded, the project is not currently included in the State Infrastructure Strategy. With continuing growth in the north west subregion, it is appropriate to enhance the existing network serving that area where benefits and value for money can be demonstrated. The M2 Motorway operator and the NSW Government signed an In Principle agreement for the M2 Upgrade project since the last revision of the Strategy. Hence it would be possible to include the proposed upgrade in the Strategy at the next revision.

2.2.7 Metropolitan Transport Plan

On 21 February 2010, the Premier of NSW released the *Metropolitan Transport Plan*, which was prepared by the newly created transport authority – NSW Transport and Infrastructure. The *Metropolitan Transport Plan* outlines a 25 year vision for land use planning in Sydney together with a ten year fully funded package of transport infrastructure to support it. The vision of the *Metropolitan Transport Plan* is: for commuting to work to be easy and quick; for transport and services to be accessible to all members of our community; for an efficient, integrated and customer focused public transport system; and for revitalised neighbourhoods with improved transport hubs. Six main objectives are outlined to achieve this vision. These are to:

- Manage population and employment growth.
- Reduce congestion on our roads.
- Increase capacity on public transport.
- Improve pedestrian and cycle links.
- Improve the customer experience.
- Improve governance structures.

The largest increase in dwellings and jobs in the next 10 years for the Sydney region is expected to be in the north west subregion. The project would support the objective of managing population and employment growth through increasing the capacity of the M2 Motorway which services this area. In addition, the increase in capacity of the M2 Motorway would support the objective of reducing congestion on our roads, both on the M2 Motorway and on the surrounding local road network. Further, public transport improvements would be achieved through the introduction of an eastbound T2 transit lane and the upgrade of the Windsor Road and Christie and Herring Road interchanges. These upgrade works would provide new access points for buses to the M2 Motorway and create the potential for new bus route options to be developed in the future. Cycle links would also be improved through the reinstatement of cyclist access to the breakdown lane for the entire length of the M2 Motorway.

To meet travel demand generated by planned growth in the north west, the Metropolitan Transport Plan specifically commits to the delivery of an extra lane each way on the M2 Motorway within the next ten years, and identifies the M2 Motorway as a strategic bus corridor. The project would deliver the additional eastbound and westbound lane in the sector of the M2 Motorway proposed to be upgraded, and, through the introduction of a transit lane and interchange upgrades the project would facilitate improved bus services in the M2 corridor.

2.2.8 Action for Air

Action for Air was prepared by DECCW and adopted in 1998 (updated 2009) as the State Government's 25 year plan for managing air quality in Sydney, the Illawarra and the Lower Hunter. The objectives of *Action for Air* include reducing vehicle emissions, making businesses cleaner, making homes and local environments cleaner, healthier and more liveable, reducing particle pollution in regional NSW and improved communication and air quality education.

Reducing motor vehicle emissions is a substantial focus of the report as these are the dominant source of ozone forming pollutants in Sydney (DECCW, 2009d). Emission reduction strategies under *Action for Air* include the use of cleaner fuels, vehicles and fleets, reduced vehicle use through land use changes and sustainable transport initiatives including public and active transport.

The project would support the *Action for Air* through greater efficiency of traffic movement in the corridor. Reduced congestion following the upgrade of the M2 Motorway would provide driving conditions that result in lower vehicle emissions for each kilometre of travel.

The project would improve access to new commercial centres such as Norwest Business Park and Macquarie Business Park through new on and off ramps at Windsor Road, Christie Road and Herring Road. This improved motorway access would encourage the further development of these commercial precincts, reduce congestion on local roads and provide employment opportunities for the expanding residential areas in Sydney's north west. The location of jobs closer to residential areas would reduce the need to travel and the distance travelled.

2.3 Identification of project objectives

The M2 Motorway provides accessibility and capacity for commuter, commercial, freight and road-based public transport. The project is significant to the State and region as it would improve traffic flow and reduce bus travel times. The following objectives establish intent and provide justification for the project.

- Support the NSW Government's State Plan, Metropolitan Strategy, Urban Transport Statement, State Infrastructure Strategy, Action for Air and Metropolitan Transport Plan.
- Support for strategy objectives and targets of relevant plans.
- Aligns with other planned transport projects.
- Enhance the strategic road network in Sydney's north west to support economic growth.
- Accessibility between key traffic generators.
- Heavy and commercial vehicle growth.
- To improve access to and accessibility between key residential, employment and educational precincts in Sydney's north west.
- Accessibility between residential, employment and educational precincts.
- Improved reliability and safety for local and regional traffic.
- Improve travel times by reducing congestion during peak periods for the benefit of local and regional traffic.
- Enhanced capacity of the corridor.
- Travel time savings.
- Reliability of travel times.
- Improve safety and amenity for road users and surrounding communities.
- Reduced crash rates.
- Improved safety management measures.
- Relieve traffic pressure on surrounding local traffic routes.
- Provide opportunities to improve road based public transport.
- Improved bus travel times and reliability.
- Improved public transport accessibility in the North West corridor.
- Provide opportunities for additional public transport facilities.
- Provide value for money to the community.
- Viable cost benefit analysis.
- Consideration of wider economic benefits.
- Minimise environmental and social impacts during construction and operation.

- Avoid, minimise and manage adverse environmental and social impacts.
- Maximise environmental and social benefits.

2.4 Transport infrastructure and services

The M2 Upgrade project is essential to the State of NSW as it provides essential improvements to a key link in the Sydney Orbital Motorway network and integrated efficient public transport (bus) facilities, which would support the significant growth planned in Sydney's north west and the 'global arc'. The project is consistent with the goals and objectives described in key NSW Government strategy documents, including the State Plan, Metropolitan Strategy and Metropolitan Transport Plan. The project would provide:

- Improved accessibility for cars, freight vehicles, public transport and bicycles.
- Improved capacity and efficiency of existing commuter, commercial, freight and road-based public transport infrastructure.
- Improved traffic flow and reduced peak hour travel times.
- Improved public transport which is a more attractive and reliable option for passengers.
- Reduced congestion on the M2 Motorway and the surrounding local road network.
- Provision of traffic conditions that result in lower vehicle emissions for each kilometre travelled.
- Sufficient capacity to service planned residential and commercial growth in the north west.