

7.8 Land use, property and socio-economic

This section assesses the land use, property and socio-economic impacts of the project. The assessment is supported by the Land use, property and socio-economic working paper, which has been included as working paper 9 in Volume 4 of this EIS. The Director General's requirements for the EIS identify land use, property and socio-economic considerations as a key issue. The Director General's requirements have been addressed in this chapter and in the Land use, property and socio-economic working paper (Volume 4 - Working paper 9) as detailed in **Table 7-64** below. The requirements of Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* have also been addressed.

Table 7-64 Director General's requirements

Director General's requirements	Where addressed
<p>The EIS must address the following specific matters:</p> <p>Land use, property and socio-economic – including but not limited to:</p>	
<ul style="list-style-type: none"> Impacts on directly affected properties and land uses, including impacts related to access, land use, property acquisition and amenity related changes. 	<p>Sections 7.8.3 and 7.8.4</p>
<ul style="list-style-type: none"> Impacts of the project on tourist and recreational uses of Thompson Square, the town centre and the Hawkesbury River and its foreshores. 	<p>Sections 7.8.3 and 7.8.4</p>
<ul style="list-style-type: none"> Social and economic impacts to the Windsor town centre businesses and the community associated with traffic, access, property, public domain and amenity related changes. 	<p>Sections 7.8.3 and 7.8.4</p>

The project is located within the Hawkesbury LGA. This assessment has considered the impacts on the LGA as well as the suburbs of Windsor and Richmond.

7.8.1 Guidelines and methodology

Data sources

A review of the existing land use, property and socio-economic environment was undertaken to provide a baseline against which the impacts of the project can be assessed. Data from the 2006 and 2011 Australian Bureau of Statistics Census of Population and Housing have been used to describe the existing environment where it is relevant to the project and the assessment. Where available, the 2006 and 2011 Census information has been supplemented with more recent data, including from:

- The Australian Bureau of Statistics' National Regional Profiles and counts of Australian businesses.
- The Department of Education, Employment and Workplace Relations' information on unemployment.
- Space Time Research Pty Ltd information on employment forecasts by industry.
- Transport and Infrastructure Transport Data Centre, including transport indicators for the Hawkesbury LGA.

- A survey of pedestrian and cyclist movements conducted at Windsor by Skyhigh Data Australia Pty Ltd in late 2009.
- Survey of 55 Windsor businesses undertaken in December 2009. The purpose of these surveys was to collect information about the current function of the Windsor town centre and the potential impacts of bridge replacement options. Specifically, information was sought about the level of trade attributed to passing traffic, customer origin and travel patterns, the purpose of visits to the town, and reasons for choosing to visit the Windsor town centre instead of other centres.
- Community and stakeholder consultation undertaken during assessment of project options and selection of the preferred option.
- Previous land use, property and socio-economic assessments undertaken for the project (SGS Economics and Planning, 2010).
- Property and landuse information including strategic plans, zoning information, landuse databases and other information.
- Other working papers prepared for the project.

Existing land use, property and socio-economic environment

The description of the existing land use, property and socio-economic environment provides a baseline from which impacts of the project can be assessed. It included both qualitative and quantitative analysis, including:

- A review of relevant social, economic, land use and planning policies and strategies, including local and state government strategies and policies.
- Review of existing and proposed future land uses.
- Analysis of key population and demographic indicators, to identify those groups within the community that may be vulnerable to changes brought about by the project, due to such things as their level of economic resources, age, need for assistance and cultural background.
- Review of economic data, including that relating to employment, income and local business and industry indicators; housing costs and dwelling characteristics.
- A visual site analysis of local businesses, including the nature and types of businesses directly adjacent to the project and Thompson Square.
- Identification of tourist and recreational uses new to the project, including key tourist destinations and facilities.
- Analysis of existing transport and access, including journey to work data; freight forecasts; local and regional road network; and public transport, walking and cycling facilities.
- Review of existing and planned social infrastructure, including open space and community services and facilities closest to the project.

Identification of existing community values, including those relating to local amenity and character, local access and connectivity, community cohesion and environmental values. This was informed by existing local and state government social policies, outcomes of community consultation, observations from the site visit and desktop data analysis.

Impact assessment and mitigation

Potential benefits for and impacts on local and regional land use, property and the socio-economic environment were identified and evaluated. This included an assessment of direct and indirect impacts associated with the project's design, construction and operation, including:

- Property impacts, such as impacts of property acquisition and changes to access.
- Impacts on local amenity, including the public domain, social infrastructure, open space and local business.
- Changes to local and regional access and connectivity, including for properties in the vicinity of the project.
- Land use impacts, such as changes to existing land use and implications of future development.
- Impacts on the local and regional economy, including an assessment of the project's contribution to the regional economy during construction and operation and the economic benefits from improved access and connectivity across the region.
- Impacts on local business including potential changes to business income/turnover and sustainability and impacts on local employment. This included consideration of factors such as changes to passing traffic, accessibility, visibility and amenity.
- Opportunities and impacts for regional industry including through economic benefits from improved access and connectivity in the region.
- Potential impacts and opportunities for tourist and recreational access and uses in Windsor specifically, the town centre, Thompson Square, and the Hawkesbury River and its foreshores.
- Impacts on community values due to the construction and operation of the project.
- Potential impacts on social infrastructure, including both direct and indirect impacts on local, district and regional level community services and facilities.
- Based on the assessment of potential impacts, environmental management measures were identified to enhance project benefits and avoid or reduce potential adverse impacts of construction and operation.

7.8.2 Existing environment

Property and land use

Overview

The project is located adjacent to the town centre of Windsor in the Hawkesbury LGA. Land use in the LGA is guided by a number of statutory and strategic environmental planning policies and plans including:

- *Hawkesbury Local Environmental Plan 2012* (Hawkesbury LEP) – this statutory planning instrument defines land use zonings and objectives, the types of development permissible in specific zones, assessment and consent requirements, and other statutory planning matters.
- Draft North West Draft North West Sub-regional Strategy 2007 - The Draft North West Sub-regional Strategy was released by the NSW Government in December 2007. It covers the Baulkham Hills, Blacktown, Blue Mountains, Hawkesbury and Penrith local government areas. The strategy identifies a number of town centres, including Windsor and Richmond (located approximately seven kilometres from the project site), which play an important role in serving the surrounding catchments.
- Hawkesbury Community Strategic Plan 2010-2030- The Hawkesbury Community Strategic Plan 2010-2030 was adopted by the Hawkesbury City Council in October 2009. The plan sets out the key community aspirations for the community under five vision statements.
- Hawkesbury Employment Lands Strategy (Hawkesbury City Council, 2008) - The Hawkesbury Employment Lands Strategy 2008 provides a framework to support and enhance the Hawkesbury region's competitiveness. The Windsor town centre serves as the Hawkesbury local government area's traditional retail main street centre.
- Hawkesbury Residential Lands Strategy - The Hawkesbury Residential Land Strategy was released in 2011. The objectives of the strategy were to:
 - Accommodate between 5,000 and 6,000 additional dwellings by 2031, primarily within the existing urban areas identified in the Department of Planning's North West Sub-regional Strategy.
 - Preserve the unique and high quality natural environment of the local government area.
 - Accommodate changing population, which presents new demands in terms of housing, services and access.
 - Identify ongoing development pressures to expand into natural and rural areas, as well as new development both in and around existing centres.
 - Identify physical constraints of flood, native vegetation and bushfire risk.

Further information on the strategic plans and an assessment of the project against the objectives, targets and/or actions in the plans is presented in Chapter 3.

Regional land use

Land use in the Hawkesbury local government area is generally characterised by pastoral and agricultural lands, business and industry, residential and tourism and recreational uses. Key characteristics of land use and development in the Hawkesbury local government area include:

- The primary retail and commercial centres within the local government area are located in Windsor and Richmond, with these providing a range of facilities for local residents and businesses, including supermarkets, community facilities, medical centres, schools and other key infrastructure services.
- Important government and community facilities such as the combined Hawkesbury District Health Service and Hawkesbury Private Hospital, located one kilometre from the Windsor town centre on Macquarie Street, and the Richmond RAAF base, located on the Hawkesbury Valley Highway at Richmond.
- Agricultural land in the region provides a substantial resource base for the Sydney basin, including dairy farming and food production. Large turf farms are located adjacent to the project area and within the Hawkesbury local government area.
- Tourism is a key industry for the region, building on the area's historic and Aboriginal heritage and natural values. The area around the project includes a number of tourist uses and attractions, such as the Hawkesbury Paddle Wheeler and the Hawkesbury Regional Gallery.
- The Hawkesbury River, which provides important environmental, amenity and recreational values, and which supports a range of tourist and primary industry uses. Recreational uses include the Bridge to Bridge Power Boat Race and the Bridge to Bridge Water Ski Classic held annually.
- Environmental features, such as the Hawkesbury River, Windsor Downs Nature Reserve, Scheyville National Park, Cattai National Park and access to the Blue Mountains National Park.
- The potential for urban growth is constrained by the area's built and natural environment, including location of national parks, bushfire prone areas, flooding along the Hawkesbury River, limited development capacity within existing centres, high value agricultural land and the Richmond RAAF base.

Windsor

- Residential uses, primarily comprising detached dwellings and rural residential living and farming properties.
- Commercial / industrial uses at Windsor and South Windsor, which support a broad mix of industrial uses.
- Education, health and community services and retail uses, which provide the region with a high level of employment self containment.
- Pastoral / agricultural uses located north and south of the Windsor town centre, extending to Ebenezer in the north, and Marsden Park in the south.
- Heritage buildings and spaces, including Thompson Square.

Commercial land use in Windsor town centre is described in **Figure 7-38**.

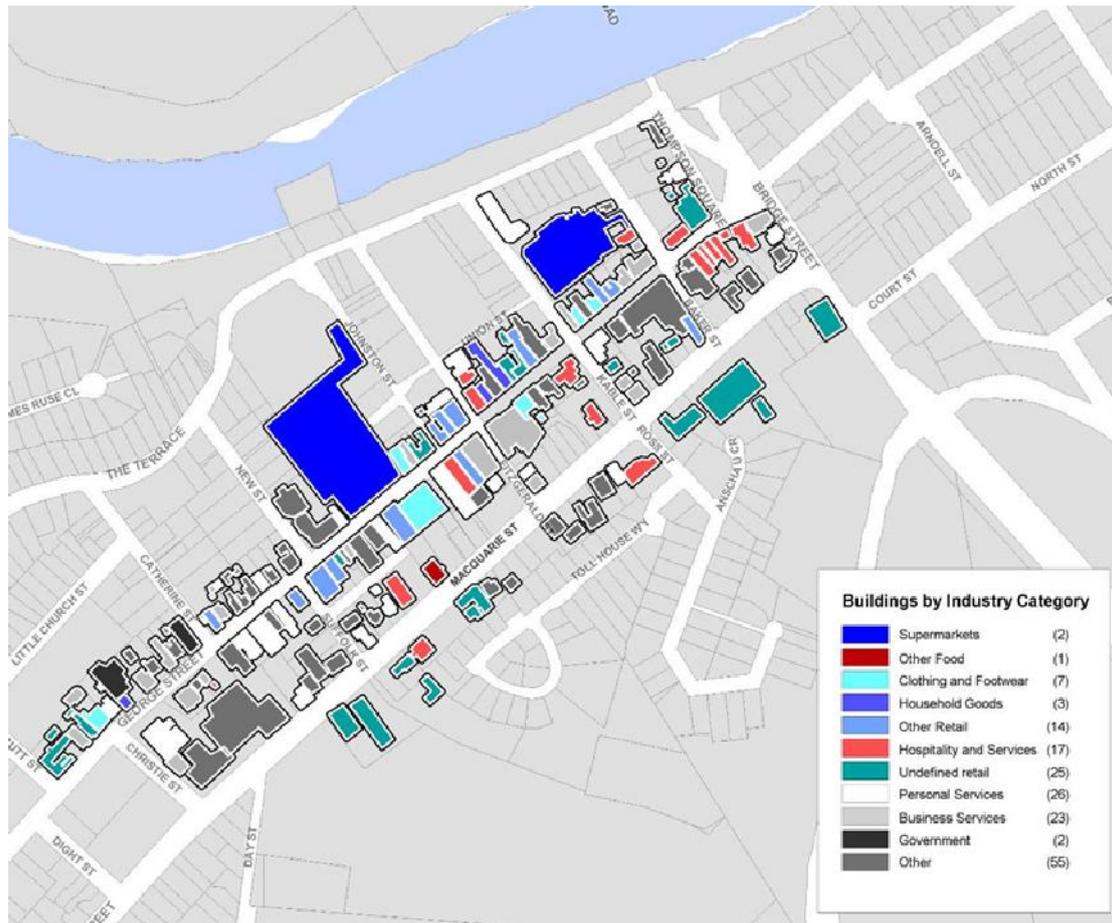


Figure 7-38 Commercial land use in Windsor town centre

Land use within the project area

The existing Windsor bridge is located adjacent to the town centre, crossing the Hawkesbury River to Freemans Reach Road and Wilberforce Road on the north bank of the river.

Land uses on the southern side of Windsor bridge include residential, commercial, retail and professional uses. Land to the south and south-west of the bridge mainly comprises urban residences. Businesses directly adjacent to the project alignment include a music shop and solicitors office. Other businesses within or near Thompson Square include accommodation, hospitality, business services and professional services.

Residential properties are more sparsely located on the northern side of the bridge, consisting mostly of open farmland and rural-residential dwellings. There is one residence at the corner of Freemans Reach Road and Wilberforce Road. Other land uses adjacent to the northern end of the project are turf farms and the recreational area of Macquarie Park.

Thompson Square parkland and the foreshore area associated with Windsor Wharf are recreational areas used for a variety of informal and formal uses. The southern approach road to the existing Windsor bridge which bisects Thompson Square parkland, reduces the functionality, accessibility and popularity of this recreational space.

Recreation and tourism

Recreation

Windsor provides for a diverse range of recreational, sporting and leisure activities, for both local and regional communities.

There are five parkland areas in Windsor, including Thompson Square and Macquarie Park. Thompson Square is located in the town centre of Windsor and comprises a small area of open space with picnic tables and gardens. The square is surrounded by historic buildings and is an important area for both the local community and tourism. Macquarie Park, located adjacent to the existing bridge on the northern side of the river, is a popular area for swimming, picnicking and organised events.

The Hawkesbury River is used for many aquatic activities, including boating, fishing, water skiing and swimming. Public boat access to the river is available from Windsor wharf and a boat ramp at Governor Phillip Park to the east of the town centre. The Hawkesbury River is one of the most popular waterways for recreational power vessels in NSW (RTA, 2011). The river is used extensively by recreational boaters engaging in high speed water skiing and racing, and the area immediately downstream of the existing Windsor bridge is used for racing by local boating clubs.

Key events on the river include the Hawkesbury Canoe Classic, the Bridge to Bridge Power Boat Race and the Bridge to Bridge Water Ski Classic from Brooklyn to Windsor. These events generate substantial financial income for local businesses (RTA, 2011).

Sporting grounds are located in Windsor, South Windsor and Richmond and cater for local and regional communities. Windsor and South Windsor together provide two golf courses, a netball centre, a ten pin bowling centre and a lawn bowls club, which are used by both local residents and surrounding communities.

Tourism

Tourism is an important industry for Windsor and the wider Hawkesbury local government area. Between September 2008 and September 2011, an average of 795,000 people visited the Hawkesbury region annually, of which over 80 per cent were day trippers. Key trends include:

- Almost 18 per cent of domestic visitors stayed overnight in the Hawkesbury local government area, with an average length of stay just under three nights.
- The majority of domestic visitors to the Hawkesbury local government area were from NSW (83 per cent), followed by visitors from the Australian Capital Territory (5.7 per cent) and Queensland (4.6 per cent).
- The primary reasons for visiting the Hawkesbury region were for holidays (50.5 per cent) or to visit friends and relatives (32.5 per cent).
- Overnight visitors generally chose to stay with friends or relatives (46.2 per cent), while 11.8 per cent of visitors stayed in hotels, motels and motor inns.

Tourist facilities within the Windsor town centre include:

- Cultural and arts facilities, including the Hawkesbury Museum and Tourist Centre, the Hawkesbury Regional Gallery and the Thompson Square precinct.
- Natural attractions such as the Hawkesbury River and its foreshores and the Windsor Downs Nature Reserve.
- Windsor Wharf, which supports river based tourism operations such as the Hawkesbury Paddle Wheeler.
- Touring routes, trails and heritage walks.
- Tourist accommodation uses, including caravan parks, hotels and motels and bed and breakfasts.

Tourist facilities located nearest to the project include:

- Thompson Square precinct.
- Macquarie Park.
- Governor Philip Park and a public boat ramp.
- Windsor Wharf.
- The Windsor Motel and the Windsor Terrace Motel, which are located within 200 metres of the project.

Several tourist attractions also contribute to the overall landscape character and heritage value of the Windsor township. For example, Thompson Square, the Hawkesbury Museum and Tourist centre and surrounding buildings are listed on several local and state heritage registers. These buildings contribute to the overall amenity and heritage character of Windsor and are valued by the local community.

Access and connectivity to the region is important in supporting day trippers and overnight visitors, particularly those from the Sydney region. The existing Windsor Bridge also supports access to regional facilities, surrounding tourist regions, and to various tourist drives, heritage walks and trails promoted in the area.

Socio-economic profile

Labour force, employment and income

Key areas of employment in the Windsor and the Richmond-Windsor urban locality include manufacturing, construction, retail trade, public administration and safety. Manufacturing is the largest employing industry in Windsor (11.4 per cent), followed by retail trade (11.0 per cent). The proportion of people employed in retail in Windsor was higher than the Hawkesbury LGA as a whole. Key occupations within these areas of employment include technical and trade positions, clerical and administrative positions, in addition to other public and private sector professional occupations.

The manufacturing industry is forecast to experience the largest reduction in contribution to employment (2.5 per cent), followed by the construction industry, which is forecast to decline by 2.3 per cent. These industries are, however, expected to remain key employers in the region.

The population of the region is ageing, which will result in health care and social assistance services becoming increasingly important areas of employment in the Hawkesbury LGA between now and 2031. Retail trade and accommodation and food service industries are also forecast to grow. Employment in the arts and recreation services industry is expected to remain stable.

Between 2006 and 2011, unemployment was consistently lower and the labour force participation was consistently higher in the Hawkesbury LGA relative to NSW. Median weekly incomes in the Hawkesbury LGA were higher than the state average in 2006, reflecting the relatively lower levels of unemployment in the Hawkesbury LGA. However, there is a higher proportion of low-income households in Windsor compared to the wider region, indicating there are pockets of relative disadvantage.

Population

In 2011, Windsor had a population of 1,803 people. At the same time, the Hawkesbury local government area had a population of 62,353 people (ABS, 2012). **Table 7-65** shows population growth for Windsor the Hawkesbury local government area and NSW between 2006 and 2011. Annual population growth in the Hawkesbury local government area was below the rate of growth for NSW during this time, while average annual population growth in Windsor exceeded the state average.

Table 7-65 Population growth 2006-2011

Region	Population	Average annual population growth 2006-2011 (percent)
Windsor	1,803	1.58
Hawkesbury local government area	62,353	0.08
NSW	7,300,000	1.13

Source: ABS (2006) Census of Population and Housing and ABS (2011) Census of Population and Housing.

The NSW Department of Planning and Infrastructure has predicted population growth in the NSW and each LGA based upon census data and fertility, migration and mortality rates. This does not take into account regional planning targets or strategies. The population of the Hawkesbury LGA is projected to increase to 90,083 by 2036, an average increase of 1.5 per cent annually. Over the same period, the average rate of population growth in NSW as a whole is projected to be lower, at 1.1 per cent annually. Predicted populations for the Hawkesbury LGA and NSW between 2006 and 2036 are shown in **Table 7-66**.

Table 7-66 Predicted populations, 2006-2036

Region	2006	2016	2026	2036	Average annual growth rate (per cent)
Hawkesbury LGA	62,105	67,222	77,877	90,083	1.5
NSW	6,816,100	7,559,600	8,322,800	9,066,100	1.1

Source: NSW Department of Planning and Infrastructure, local area population projects, 2010

As can be seen in **Table 7-65** and **Table 7-66**, actual population growth in the LGA between 2006 and 2011 has not been as high as predicted by the Department of Planning and Infrastructure.

Social infrastructure and services

Social infrastructure refers to community facilities, services and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community well-being. It includes community support, education and training, sport and recreation, cultural, health, and emergency facilities and services.

Within the Hawkesbury LGA, social infrastructure is generally focused in the towns of Windsor and Richmond. Windsor provides access to a range of local and regional facilities to cater for the needs of local residents, as well as the regional community. These include:

- Education facilities, including Windsor Park Public School, Windsor Public School, Windsor South Public School and Windsor High School.
- Child care services.
- Health facilities, including the Hawkesbury District Health Service, the Hawkesbury Community Health Centre and various aged care facilities.
- Emergency services, including police, fire brigade and ambulance.
- Cultural facilities, including the Hawkesbury Regional Museum, the Hawkesbury Regional Gallery and public library services.
- Community support services, including youth services, mental health services and preventative health and education services.

7.8.3 Construction impacts

Property and land use

The land acquisition requirements for the project are detailed in **Table 7-67**. Total acquisition of two rural commercial properties and partial acquisition of two additional rural commercial properties on the northern bank of the river would be required. These properties are currently used for turf farming, a common activity in the region. While the turf farm could also be suitable for a higher value horticultural enterprise (eg. vegetable production), its close proximity to the river would make the risks and consequent losses associated with this activity higher due to the higher likelihood of flooding. The acquisition of the turf farm land would be expected to have a minor impact on land use in the region given:

- The area of land acquired would be relatively small.
- There are other opportunities for turf farming and horticulture in the region.
- The land is flood prone (below the level of the three year flood event), which limits its potential uses and value to agricultural and horticultural enterprises.

Due to the final configuration of the new roads in this area, it would not be practical to return any excess land to agricultural or horticultural production.

Appropriate compensation in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* would be provided for all land acquired as part of the project.

On the southern bank, full acquisition of two parcels of Crown land would be required, however only part of these lots would be used to accommodate the southern approach road to the replacement bridge. This would affect the lower parkland area of Thompson Square and the council carpark and foreshore area adjacent to Windsor Wharf and The Terrace (see **Table 7-67**). Specifically, 338 square metres would need to be acquired from the lower parkland area of Thompson Square (amounting to 65 per cent of the total 524 square metre area of the lower parkland) and 334 square metres would need to be acquired from the council carpark and foreshore area near the wharf (amounting to 4.7 per cent of the total 7089 square metre area of this lot). The remaining part of the lower Thompson Square parkland and the council carpark area adjacent to the wharf would be used for a temporary construction compound during the construction period and would be closed to public use during this time. Pedestrian access to Windsor Wharf would be maintained at all times throughout the construction period and the affected carpark and foreshore area would be restored and returned to public use at the completion of construction. This is further discussed in **Section 7.8.4**.

The two Crown land lots to be acquired for the project are currently subject to land claims under NSW legislation by the Deerubbin Aboriginal Land Council.

Old Bridge Street would also need to be acquired from Hawkesbury City Council to allow construction of the southern approach road to the new bridge.

During construction there would be a temporary loss of access to recreational land on the southern bank, however other land uses would not be affected.

Table 7-67 Land acquisition and use during construction

Property	Tenure	Existing land use	Impact
Northern bank			
Lot 2 DP1096472	Private	Commercial – turf farm	Total acquisition of 8960 m ² of which about 40% would be within the operational project footprint and the remainder would be used for construction facilities.
Lot 2 DP65136	Private	Commercial – turf farm	Total acquisition of 4650 m ² of which about 70% would be within the operational project footprint and the remainder would be used for construction facilities.
Lot 1 DP1096472	Private	Residential/ commercial – turf farm	Partial acquisition (422 m ² of 4770 m ²)
Lot 68 DP751665	Private	Commercial – turf farm	Partial acquisition (135 m ² of 139,600 m ²)
Southern bank			
Lot 345 DP752061	Crown land	Thompson Square	Total acquisition – 338 m ² of the 524 m ² lot area would be in the operational project footprint and the remainder would be used for construction facilities..
Lot 7008 DP1029964	Crown land	Park, car parking and Windsor Wharf	Total acquisition – 334 m ² of the 7089 m ² lot area would be would be in the operational project footprint and about 60% of remainder would be used for construction facilities.

Amenity

There would be amenity impacts on properties and land uses close to the project during construction as a result of construction noise, dust and the visible presence of construction sites and activities. Construction activities may also cause some disruptions to traffic flows and require temporary changes to traffic movements. While these impacts would be minimised wherever possible, they cannot be avoided entirely. In particular, there are likely to be some periods when construction noise impacts are substantial and the visible presence of construction activities would impact views from and to the foreshore area and the existing bridge. The measures that would be implemented to minimise traffic, visual and noise impacts during construction are presented in **Sections 7.3, 7.4 and 7.5**.

The proposed locations for the main construction sites and compound areas would minimise impacts on the commercial centre of Windsor and the upper parkland area of Thompson Square. The sequential staging of the construction and commissioning of the replacement bridge prior to demolition of the existing bridge would also minimise impacts on local and regional traffic movements, including access to the Windsor commercial centre and Thompson Square. The construction works and staging of construction activities are described in **Section 5.4**. The land uses and properties that would experience the most substantial amenity impacts would be the three properties on Old Bridge Street and the property at the corner of Freemans Reach Road and Wilberforce Road. These properties would be in close proximity to the construction site. Other properties and landuse around Thompson Square would experience some amenity impacts, however, this would be reduced as these are located further away from the construction area.

Traffic and access

The potential impacts of the project on traffic and access during the construction period would be as follows:

- Increased traffic on local roads due to construction traffic movements, with the potential to cause minor local traffic delays (refer to **Section 7.3**).
- Minor reduction in street parking and public parking near Windsor Wharf.
- Temporary, short-term restrictions in vehicle access to Numbers 4 and 6 Old Bridge Street during construction of the southern approach road to the replacement bridge.
- Loss of public vehicle access to Windsor Wharf.
- Loss of access to the lower parkland area of Thompson Square and the eastern portion of The Terrace during construction of the replacement bridge and approach roads and during subsequent restoration and landscaping works within the parkland.
- Partial loss of access to the upper parkland area of Thompson Square during the infilling of the existing Bridge Street cutting.
- Loss of access to the upper parkland area of Thompson Square during the restoration and landscaping works within the parkland.

All of the above impacts would be temporary, being limited to the construction period. The community and affected property owners would be consulted well in advance and kept fully informed of all access changes.

Overall impacts on traffic, parking and access during construction would be minor. While there would be a temporary reduction in parking spaces, alternative parking spaces are available in nearby streets. Further details of construction traffic and access impacts, including impacts on parking spaces, are provided in **Section 7.3**.

Pedestrian access to the wharf and all properties would be maintained throughout the construction period. Pedestrian and cyclist access near the construction works, including along The Terrace and the riverbank would be maintained where possible, although access may be restricted during certain periods to maintain public safety. Access across the existing Windsor bridge would be maintained until commissioning of the replacement bridge. After the replacement bridge is commissioned, access to the existing bridge would be removed and the bridge would be demolished.

In Thompson Square, access to the upper parkland area would generally remain available throughout the construction period until the start of the restoration and landscaping works. Loss of access to the upper parkland area during the restoration and landscaping works would be short-term and would be minimised as far as practicable. There would be no significant disruptions to access of Macquarie Park, the Hawkesbury Visitor Centre, Hawkesbury Regional Museum or short term accommodation businesses.

Recreation and tourism

The potential impacts of the project on recreation and tourism during the construction period would be largely associated with the impacts on amenity, traffic and access, as described in the previous sections.

In particular, the proximity of construction activities to Thompson Square and the river foreshore, and the corresponding potential for loss of amenity in these areas, may result in a temporary reduction in patronage of recreation and tourist sites and facilities, such as Thompson Square itself, the Macquarie Arms Hotel, and the Hawkesbury Paddle Wheeler. Although it should be recognised that construction activity during the weekend (the peak period for visiting day trippers) would be limited to Saturday morning and therefore noise and dust impacts during the weekend would be substantially lower.

Construction would also have a minor impact on boating activities on the river due to the presence of temporary exclusion zones around pier construction areas, although the river would generally remain open to passage by water vessels. An exception to this would be during the demolition of the existing bridge, when access to the area of the river in the immediate vicinity of the bridge would be restricted for safety reasons.

Macquarie Park, the Hawkesbury Visitor Centre, Hawkesbury Regional Museum and short term accommodation businesses are not expected to be adversely affected as a result of construction.

Social and economic impacts to Windsor

As discussed above the project may have temporary adverse impacts on some local businesses adjacent to construction site as a result of amenity impacts. Adverse impacts on environmental amenity during construction may result in a temporary reduction in the number of recreational and tourist visitors to Windsor, and a corresponding reduction in the patronage of some local businesses such as the Macquarie Hotel, restaurants and accommodation services. It is anticipated, however, that any adverse impacts on local businesses during the construction period would be offset to some degree by the influx of project construction workers, who are likely to patronise hotels, restaurants and retail outlets during and after work hours.

Construction of the project is estimated to provide the following benefits to the local and regional economy:

- Contribution of \$7.8 million to household income in north western Sydney and another \$7.8 million to household income in the rest of NSW.
- Provision of \$12.9 million in value added benefits to the north western Sydney region and another \$13.5 million in value added benefits to the rest of NSW.
- Creation of 242 full-time equivalent jobs (including 108 jobs in the north western Sydney region, 125 jobs in the rest of NSW and nine jobs in the rest of Australia).

There would be a temporary loss in the public domain area with closure of the lower Thompson Square parkland and the Windsor Wharf foreshore area. However, the upper Thompson Square parkland and other public domain areas in Windsor would generally remain open and accessible. There would no substantial impacts on traffic or access to the Windsor town centre during construction of the project.

Access to schools, medical centres and health care facilities would be maintained during construction, however some minor delays may occur as a result of temporary traffic changes. Procedures would be put in place during construction to minimise the potential for impacts on access to the area by emergency services. With the implementation of these procedures, the project is not anticipated to have a significant impact on emergency access. There would be no significant impacts on social infrastructure.

7.8.4 Operational impacts

Land use and property

Once construction and rehabilitation of Thompson Square and other areas have been completed, there would be an overall increase in the area of usable public space both on the northern and southern side of the river.

On the northern side of the river, land acquired which is not directly in the operational project footprint and the northern approach road to the existing bridge would be landscaped. Paths linking the shared path on the new bridge to Macquarie Park would also be provided. This would create about 1400 square metres of additional accessible usable open space directly adjacent to Macquarie Park.

On the southern side of the river, the parkland areas of Thompson Square would be unified by the infilling and landscaping of the southern approach road to the existing bridge. This would create about 1400 square metres of additional accessible usable open space within Thompson Square parkland. This would be a substantial improvement compared to the existing configuration of Thompson Square parkland.

The Terrace would also be rejoined providing continuous access along the foreshore. The foreshore area associated with Windsor Wharf would also be reopened to public access with only a minor loss of area (less than five per cent of the lot) compared to the existing situation.

Overall the impacts of the project on landuse would be positive due to the increase in the area and accessibility of public open space.

Amenity

There would be amenity impacts on properties and landuses from the operation of the project.

Noise impacts from the operation of the project are described in **Section 7.5**. Overall the noise impacts from the project would be similar to the existing road and bridge. Three residential properties would qualify for architectural treatments to mitigate noise impacts. This is not because noise levels would increase significantly but rather the existing noise levels are high and the redevelopment of the road corridor triggers the requirement to consider noise mitigation. Properties on the southern and western side of Thompson Square would experience little change in noise impacts from the existing conditions. Noise levels were also assessed in Thompson Square parkland. Generally noise levels would be similar to those currently experienced in the parkland areas, with a small reduction in the area experiencing the highest noise levels.

Air quality impacts from the project would be similar to noise, with most properties experiencing similar impacts from the existing road and bridge (see **Section 7.10**).

The most significant amenity impact would be from changes in the heritage vistas and views from and to Thompson Square. These impacts are described in detail in **Section 7.1** and **7.4**. The properties that would experience the most significant impacts would be the most northern properties on Thompson Square (eg. Doctors House and 4 Old Bridge Street) as the existing road, bridge and associated traffic are generally not visible. With the project the new roads and bridge would be highly visible and would place an essentially modern structure within a heritage vista.

Access

Changes in access to properties due to the project are described in **Section 7.3**. Overall, there would only be a partial loss in access to two properties (4 and 6 Old Bridge Street). Access to these properties would be left-in left out only once the project becomes operational. This minor change in access to these two properties is not significant.

There would also be minor changes in access to at least three other properties, however, there would no actual loss of access to these properties.

Recreation and tourism

The items of significant heritage value in Windsor contribute to the overall character of the town, and subsequently increase the attractiveness of the town to tourists. Therefore, some impacts on tourism during operation may be experienced. However, impacts on tourism associated with the project are not expected to be significant, since there would still remain a large number of heritage attractions, as well as a number of natural resource and recreational attractions. Additionally, it is unlikely that tourists' main desire to visit the Windsor town centre would be to see the existing bridge, given the number of other tourism opportunities.

Further, the road and bridge design as well as changes to Thompson Square has considered archaeological impacts, impact to views and vistas and setting to arrive at a design for the bridge and the treatment of the square which is sensitive to existing character. In addition, the project would consolidate the two existing public reserves on Thompson Square to form one open space that would be designed to be a usable civic space again. This amalgamated space may be more favourable to tourism as it would provide a landscaped picnic area, recreational space and location for events. Improved pedestrian and cyclist facilities would also improve the usability of the square.

The project would also enhance opportunities for river-based tourism by increasing the navigational clearance on the Hawkesbury River, allowing more water traffic to access waters upstream of Windsor. It is also possible that tourists may visit the town centre to view changes, further contributing to tourist numbers.

Baseline tourism data in the region indicates that for over one third of domestic visitors, the primary purpose of the visit is to see family members. These visitors would not be expected to reduce the frequency or duration of visits to the town centre from changes associated with the project. The assessment therefore concludes that overall impacts on tourism during operation are expected to be minimal.

Socio-economic impacts

The main potential socio-economic impact of the project would be associated with the changes to the heritage vistas of Windsor and Thompson Square. While the change in vistas would impact the heritage values and landscape of the Thompson Square area, it is unlikely that visitors and tourists would decide not to go Windsor because of the impacts of the project. There are many factors that influence the attraction and experience of visitors to Windsor, including the historic buildings surrounding Thompson Square, the many tourist orientated retail, accommodation and food outlets, the proximity of the river and foreshore areas, and the presence of the Thompson Square open space and the community events held there. These elements would be largely unaffected by the project and would continue to draw visitors to the area.

The potential adverse socio-economic impacts associated with changes in heritage vistas would also be offset to some degree by the following benefits of the project:

- Improved vehicle, bicycle and pedestrian access in the following areas:
 - Across the river.
 - To/from Macquarie Park.
 - Between the southern foreshore and Windsor town centre via Thompson Square.
 - Along the southern foreshore.
- Improved amenity and safety of pedestrian and cyclist access within and around Thompson Square.
- Consolidation of the existing fragmented parkland area within Thompson Square, resulting in an overall increase in the amount of usable parkland area and the amenity of the parkland area.
- More public open space on the northern side of the river.
- Improved navigational clearance beneath the new Windsor bridge, enhancing recreational opportunities on the Hawkesbury River.
- Reduced traffic delays and congestion in peak periods.
- Improved flood immunity of the river crossing.

There would be some changes to access to the town centre and other areas of Windsor as a result of the project. The right turn from Bridge Street south into George Street east would be banned and access to east Windsor and Governor Phillip Park would be via Court Street. This affects relatively few motorists and would be well signposted.

The right turn from Bridge Street north into George Street west may be banned in the PM peak at some stage in the future when traffic numbers have increased. Alternative access to the town centre would be available via Macquarie Street and Kable Street. This may result in some motorist bypassing Windsor town centre, however, the number of vehicles performing this movement in the PM peak is very small.

7.8.5 Environmental management measures

Construction

Temporary access and amenity impacts would be minimised wherever possible through the implementation of appropriate environmental management measures. Construction environmental management measures for traffic and access, visual impacts, noise and vibration are detailed in **Sections 7.3, 7.4 and 7.5**. The additional environmental management measures that would be implemented are as follows:

- Early and ongoing consultation and communication with residents and local businesses will be undertaken to provide information on construction activities, including timing, duration and likely impacts.
- Affected local business owners will be consulted prior to construction to identify appropriate measures to manage potential impacts.
- Operators of the Hawkesbury Paddle Wheeler will be consulted prior to construction to identify appropriate measures to manage the temporary access changes to Windsor wharf.
- Public access will be maintained to key areas of the Hawkesbury River during existing planned events.
- Appropriate compensation will be provided in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* for properties acquired as a result of the project.
- The town centre and businesses will be protected from the visual impacts of construction through careful placement of appropriate and visually sensitive screening wherever possible.
- Visitor access to key tourist areas and attractions will be assisted throughout the construction period through the placement of appropriate signage.
- Strategies for enhancing the local economic benefits of project construction, such as local employment strategies and sourcing materials from existing local industries, will be considered in the detailed design.
- Areas affected by construction will be reinstated and restored in accordance with the urban design and landscape concept for the project (see **Section 7.4**) as soon as practicable.

Operation

The operation of the project would generally result in positive social and economic outcomes for the local area and the Hawkesbury LGA. The project would improve local traffic conditions and access, which would cater for future growth in population and economic activity.

Measures to manage the potential adverse land use, property and socio-economic impacts of project from the changes in the heritage vistas of Thompson Square have been incorporated into the concept design. Additional measures and consultation as detailed in **Section 7.4.6** will also be implemented to further mitigate visual impacts and maximise the opportunities to create usable and attractive public open space in Thompson Square and adjacent areas.