A grade separated crossing of the rail line at Garfield Road would be needed to achieve the optimal benefit from Stage 2 of the Quakers Hill to Vineyard Project. The construction of Stage 2 of the Project and the Riverstone Railway Overpass would be coordinated with RailCorp, RTA, TIDC and GCC to ensure that combined construction phase impacts are appropriately managed.

Impacts on patrons and station access would be further addressed in the CEMP as the construction planning is refined.

The provision of rail replacement bus services during track possessions would be provided by RailCorp as per RailCorp's existing rail possession timetable and rail replacement bussing operations plan.

Operation

The following recommendations are made considering the impacts investigated throughout the assessment:

- Provision for future parking demand will be determined through consultation with GCC and RailCorp. This is particularly relevant at Vineyard Station. When the phase one allocation of spaces reaches capacity, this may act as a trigger to provide the second stage of parking.

8.3 Socio-economic impacts

This Section summarises impacts of the Project on the social and economic environment affecting local businesses and residents, and outlines management measures to address any impacts. The Director-General's environmental assessment requirements (DGRs) for the assessment of social and economic impacts of the Project are listed in Table 8-6.

Table 8-6 DGRs for the assessment of social and economic impacts

DGR	Where addressed
Social and economic	
▪ Economic and social impacts on adjoining communities and businesses at a station and catchment level	Sections 8.3.2, 8.3.3
▪ The relocation of Schofields Station and the reorientation of the town centre, including an assessment of impacts to and opportunities for businesses, access, community identity and cohesion, and service relocation or business closure.	Sections 8.3.2 and 8.3.3 (generally), 8.3.4 (specifically)

The most significant impact was identified as the relocation of Schofields Station approximately 800 metres to the south. The impacts associated with this relocation are addressed specifically in Section 8.3.4.

8.3.1 Assessment approach

Social and economic impacts of the Project were assessed using both qualitative and quantitative methods.

Communities and businesses (at station and catchment levels) were assessed using qualitative methods, including desktop research into predicted impacts resulting from the Project. The location of communities, and the location and type of local businesses potentially affected by the construction and operation of the Project were recorded.

Qualitative assessments of the expected impacts on communities and businesses were undertaken to identify both positive and negative social and economic factors. The information used for these assessments was obtained from the Project team, technical reports, and submissions made by, and in consultation with, local communities and businesses directly affected by the Project.

The relocation of Schofields Station was identified as a significant impact requiring a more detailed assessment. As discussed in Section 3.3.3, RailCorp conducted a survey of rail commuters at Schofields Station in August 2007 and July 2008 to determine typical commuter patterns at this station. These surveys have been analysed to determine potential relationships between commuter travel patterns and patronage of the current Schofields village centre businesses. Potential impacts on existing businesses and the community were based on conclusions drawn from these surveys as well as general qualitative methods detailed above. Consultation outcomes were particularly important in the assessment of Schofields Station and have been drawn on to assess the perceived impacts to community and businesses (refer Chapter 4).

Social and economic impacts relate closely to urban and residential amenity issues, including land use and property impacts (Section 8.1), traffic (Section 8.2), noise and vibration (Section 8.4), visual and urban amenity (Section 9.1) and air quality (Section 9.4). These sections have been referenced where appropriate.

Mitigation measures, which assist in directly or indirectly reducing negative impacts resulting from the Project, have also been discussed. Wider influences such as the NWGC initiatives have also been considered.

8.3.2 Social impacts

Social impacts for the local communities would be expected during construction and operation of the Project. As mentioned previously in Section 3.3.3, primary communities in this assessment include the established suburbs of Quakers Hill, Schofields, Riverstone and Vineyard (relatively undeveloped). Secondary (catchment level) communities have also been considered in this impact assessment; however, the focus of the assessment has been on the primary communities and businesses as these would be more directly affected by the Project. Social impacts are discussed further in this section, as identified in Table 8-7.

Table 8-7 Key potential and actual social impacts

Phase	Impact	Negative	Positive
Pre-construction	Uncertainty about impacts and development possibilities, the future of the region, future accessibility for some members of the community and property values.	✓	
	Uncertainty can lead to stress, anxiety and frustration for members of the community, particularly those directly affected by the Project.		
	Impacts on community cohesion.		
	The relocation of Schofields Station in particular has the potential to change the cohesive nature of the Schofields village centre.	✓	
	The Project would require the acquisition of a total of 11 hectares of privately owned land.	Neutral	
	Typically narrow strips of land are proposed to be acquired. Existing land uses on adjacent properties are unlikely to change due to the Project or the establishment of construction sites. The acquisition of land would comply with the requirements of the Land Acquisition (Just Terms Compensation) Act 1991, for fair compensation.		
Construction	Traffic and accessibility impacts	✓	
	Access to and from properties and across the corridor would be provided at all times; however, traffic impacts such as increases in travel times are likely due to: ▪ *increased number of construction vehicles on local and regional roads* ▪ *full and partial closure of Westminster Street bridge* ▪ *track possessions where rail users would need to use buses replacing train services.*		
	Impacts to access across the rail corridor	Neutral	
	During the construction of the Project, severance of communities between Quakers Hill and Vineyard is expected to be minimal as the existing pedestrian level crossings would remain operational until the completion of new footbridges.		
	In locations where vehicle level crossings are temporarily closed, alternative crossings would be available.		
	Limited access to Riverstone Station	✓	
	During construction, sections of Riverstone Station would be isolated from commuters. Inconvenience to commuters is expected to be minimal as access to the station and services would be maintained during these works. Exceptions to this would be for works occurring during a possession when buses would replace trains.		

Phase	Impact	Negative	Positive
	Amenity impacts associated with noise, vibration, changes to air quality and visual impacts affecting receivers surrounding the Project from the construction of the Project and the location of site compounds. (refer Section 8.4, 9.1, 9.4 and Chapter 10). *Construction activities resulting in these impacts are expected to be short-term in nature. Construction site compounds would be established in appropriate locations to achieve minimal impacts to adjacent residential areas. Impacts from site compounds would be short-term as construction site compounds would be removed upon completion of works and the areas reinstated.*	✓	
	Disruption to existing water, communication and power services to residential and commercial premises. *Disruption to services is expected to be minimal as services would be relocated prior to disruption and affected residents or businesses notified prior to disruptions.*	Neutral	
	Changes to the local demographic. *Changes to the local demographic due to an influx of a construction workforce has the potential to benefit the local economy.*		✓
	Cumulative impacts of construction of the NWGC. *The NWGC is targeted for significant development over the next 25–30 years. Cumulative impacts from construction of a number of developments in the area may compound impacts to community health and wellbeing over a period of time.*	✓	
Operation	Changes to the Schofields village due to the relocation of Schofields Station. The relocation of Schofields Station could have the following impacts: ▪ changes to the character of Schofields due to the relocation or closure of any shops (economic impacts to the shops at Schofields are assessed in more detail in Section 8.3.3) ▪ local residents may move to properties located closer to public transport ▪ create a sense of abandonment if the old station site is not adequately rehabilitated. *Schofields Station is a focal point for the Schofields village centre; the closure or relocation of businesses could negatively impact the community character, accessibility to local shopping for the community of Schofields and the overall vitality of the village centre.*	✓	

Phase	Impact	Negative	Positive
	Improved transport services, reliability and accessibility		✓
	The existing single line sections of the Richmond Branch Line limit service frequency as trains travelling in each direction need to share the same track. The Project would result in increased frequency of trains and improved access to public transport facilities providing commuters with more choice regarding time of and mode of travel. The increased frequency and reliability of train services, and the provision of facilities such as new car parks, bus interchanges, and taxi and kiss-and-ride spaces is likely to reduce some commuters' reliance on private vehicles, as they see the train as a more efficient, convenient and cost-effective option.		
	Changes to distance and travel times for some commuters due to the relocation of Schofields and Vineyard stations.	✓	✓
	Relocation of Schofields and Vineyard stations would alter (both increase and decrease) the distance to and from the station for commuters. The impact would be greatest for those who commute on a regular basis and those with limited mobility living near the existing Schofields station who would now have a further distance to travel.		
	Negative impacts on noise amenity for some adjacent residents (refer Section 8.4)	✓	
	Some adverse impacts on visual amenity (refer Section 9.1)	✓	
	Changes to bus routes.	✓	✓
	Two bus services currently operate close to the existing Schofields Station site — T75 (Blacktown to Rouse Hill Town Centre and Riverstone) and 742 (Rouse Hill to Riverstone via Rouse Hill Caravan Park or Schofields).		
	The MoT is currently undertaking an extensive review of metropolitan bus services in accordance with the recommendations of the Unsworth Review. A review of bus services in Region 1, which incorporates the Project, went to community consultation in November 2008 and the new network is scheduled for implementation in early 2009. There are no immediate plans to alter either of the two existing bus routes to link the proposed new station location with the existing site. However, the option to modify one or both of the existing bus routes would be considered as part of the annual service review prior to the new station reaching completion in 2011.		
	The longer term development of bus services is envisaged to provide transport services for new release areas in the vicinity of the Richmond Line, especially with regard to the Alex Avenue, Schofields and Riverstone East precincts. These longer term bus services are envisaged to provide connections from the existing Schofields township and surrounding new development to the proposed new Schofields Station.		
	The MoT has engaged a consultant to undertake a long term bus servicing strategy for the North West Sector. It is anticipated that this study will be completed in early 2009, at which time the MoT will be better placed to provide information regarding future bus networks to service the North West Sector.		
	Changes to pedestrian crossings of the rail corridor.		✓
	The Project would retain accessibility across the rail corridor by providing new facilities that meet easy access requirements (e.g. lifts at station facilities, ramps). The existing pedestrian level crossings would be replaced with footbridges. While the footbridges would increase the distance and time travelled across the rail corridor, pedestrian safety conditions would improve.		

Both negative and positive social impacts would be expected during the pre-construction, construction and operation phases due to the nature of the Project and its location in a rural-residential area. Impacts and benefits associated with the pre-construction and construction phases of the Project are expected to be short-term, while the impacts from the operational phase of the Project would be long-term in nature. It is considered that the long-term operational impacts would be predominately positive for the local and regional communities. Impacts, including land use and property, traffic and transport, amenity, and social and community profile are discussed below.

Impact on primary communities (station-level assessment)

As discussed in Chapter 3, 'primary communities' are defined as communities directly affected by a project. For the purposes of this assessment, primary communities were assumed to be within 500 metres of the stations along the Quakers Hill to Vineyard rail corridor. Secondary communities are defined as communities located between 500 metres and 2.5 kilometres of the stations (Quakers Hill, Schofields, Riverstone and Vineyard) and generally include those outside of walking distance of the stations.

Quakers Hill

Quakers Hill functions as a community centre for the primary community, the wider Quakers Hill catchment area and for surrounding, less developed suburbs such as Schofields. Social impacts due to construction activities are unavoidable due to the nature of the Project and its location in a residential area.

Construction activities resulting in noise, vibration, air quality and traffic disturbances are expected and would primarily affect those residents of or visitors to the Quakers Hill primary community. These inconveniences are, however, expected to be short-term. Mitigation measures addressed in Section 8.3.5 would help reduce or eliminate these impacts.

The replacement of the existing level pedestrian crossing with a pedestrian overbridge would increase walking distance to cross the rail line. It is noted, however, that the existing town centre has developed around the existing rail line and access across the rail corridor in this area is already limited, so severance impacts at Quakers Hill would be minimal.

Impacts and benefits associated with the operational phase of the Project would be long-lasting and predominately positive for both the primary and wider Quakers Hill communities. The improved rail infrastructure and transport linkages expected to result from the Project would encourage local and regional residents to use public transport. The improved transport network has the potential to encourage new employment and investment opportunities in the local area.

Schofields

Section 8.3.4 addresses the specific social impacts of the Project on the Schofields primary community and wider catchment area.

Riverstone

The community services provided at Riverstone support the Riverstone primary community, the wider Riverstone catchment area, and the communities of Schofields and Vineyard.

The construction phase of the Project would impact residents and businesses in the primary Riverstone community due to traffic, noise and visual impacts.

Benefits to the Riverstone primary community are expected during the operational phase of the Project. The station would be upgraded to accommodate easy access to the station platforms and concourse for all passengers. Existing level crossings would be replaced with pedestrian footbridges. While these footbridges would increase the distance and time to travel across the rail corridor, pedestrian safety conditions would greatly improve. As the train station becomes an important transport hub, land values would be expected to improve for those properties near the station in the Riverstone primary community.

Vineyard

The Vineyard primary catchment is relatively undeveloped, largely comprising rural-residential land, and although the existing station would be relocated, minimal impacts would be expected during the construction or operational phases of the Project — the area is sparsely populated and only a small number of commuters (an average of 30 commuters entering the station at the time of surveys undertaken in 2007) use the train station in a 24-hour period.

Benefits to the Vineyard community would be expected during the operational phase of the Project. The new train station would include easy access amenities for disabled passengers as well as a more frequent service. A new train station with more frequent and reliable train services would enhance the opportunity for the development of a community centred on regular use of public transport for employment and social purposes.

Impact on secondary communities (catchment-level assessment)

Wider Quakers Hill area

During the construction phase of the Project, residents of the wider Quakers Hill catchment area may be affected by traffic due to construction vehicle movements or changed traffic conditions. Dust and noise impacts would also potentially be significant for those residents in proximity to the rail corridor.

Benefits to the wider catchment area as a result of the operational phase would be expected to be less significant than those for the primary community, as these areas are likely to have a lower proportion of regular rail users. Those residents who do use the train are more likely to access the station by car. Given that no additional parking facilities are proposed at this station as part of the Project, benefits to the wider area are less pronounced than for the primary community. Overall, the Project would be expected to have a positive impact on the wider community.

Wider Schofields area

Section 8.3.4 addresses specific social impacts of the Project on the Schofields primary community and wider catchment area.

Wider Riverstone area

While the construction phase of the Project would impact residents and businesses in the primary Riverstone community, the extended catchment area is expected to be less significantly impacted. However, dust and noise impacts may be experienced by those residents in proximity to the rail corridor. Disturbance due to changed traffic conditions or construction vehicle movements may impact residents of the wider area. Access to Riverstone or other shops may also be temporarily affected by construction activities. These impacts are expected to be both relatively minor and short-term.

Upon the commencement of operation, the benefits of the Project to the wider community are similar but less pronounced than for the community within the immediate station catchment. Rail users within this wider catchment are more likely to access the station by car, and as the Project would not provide additional parking at Riverstone, the benefits to this community would be associated primarily with the increased train frequency provided. Notably, however, for some residents the additional parking provided at Vineyard and Schofields may be of positive benefit.

Wider Vineyard area

Given the sparse population in the wider Vineyard area, social impacts during construction are expected to be relatively minor — the existing station would remain operational until the new station is commissioned, and impacts associated with construction traffic and noise would be unlikely to have a considerable impact on the wider area.

Upon the commencement of operation, relocation of the station would have a positive impact through the provision of improved parking facilities and more frequent train services. With the longer-term development of the NWGC, the population within this area would increase, and as such, the benefits to this future community are expected to be more significant.

Some commuters may have to travel further to reach the new Vineyard Station; however, these impacts are outweighed by the improvement in overall frequency of service and new Vineyard Station amenity. There is also the benefit of moving the station away from Bandon Road, which may lead to safer station access for pedestrians travelling south to the new Vineyard Station.

8.3.3 Local economic impacts

During the construction and operation of the Project, both positive and negative economic impacts on local businesses would be expected. Effects would be focused on businesses in the vicinity of the affected stations. Economic impacts are identified in Table 8-8.

Table 8-8 Key potential and actual economic impacts

Phase	Impact	Negative	Positive
Pre-construction	Uncertainty about impacts and development possibilities, including future viability of businesses.	✓	
	Uncertainty can lead to stress, anxiety and loss of confidence in the local economic markets, particularly for those businesses directly affected by the Project.		
	Increased economic confidence for some businesses recognising the potential injection of revenue into the local community via the construction workforce and its anticipated demand for local services.		✓

Phase	Impact	Negative	Positive
Construction	Disruptions to local businesses due to traffic congestion, reduced access, noise, dust and visual amenity impacts.	✓	
	Changes to pedestrian access.	✓	
	Impacts to businesses during construction due to changes in pedestrian access are expected to be minimal. Pedestrian access points would be maintained throughout construction and level crossings (Quakers Hill, Schofields, Riverstone) would remain open until replacement footbridges are complete.		
	Changes to vehicular access.	✓	
	The full 3-day closure of Westminster Street overbridge could impact businesses in Quakers Hill, Schofields and/or Riverstone as residents travelling by vehicle would need to take a detour to cross the rail corridor.		
	Changes to the local demographic.		✓
	The presence of a significant number of construction workers may have the potential to generate positive economic impacts on local and regional businesses, especially contractors, suppliers, and, landscape and construction workers.		
	Businesses such as service stations, eateries, food stores and other retail and/or accommodation services would benefit from flow-on effects associated with an influx of construction, engineering and landscape workers.		
Operation	Changes to business patronage		✓
	Businesses in the vicinity of the rail network are expected to experience beneficial impacts associated with more commuters accessing the area due to improvements in the reliability and efficiency of travel, improved safety and accessibility. This may increase business viability for some businesses in the longer term.		
	Additional cost for commuters.	✓	
	Commuters who currently walk to Schofields Station may choose to drive or catch a bus instead of walking the extra 800 metres to the new station. This would result in additional costs for those commuters.		
	More frequent and reliable rail services may make commuting a more economically viable and convenient option for commuters than travel by private vehicle.		✓
	Cycleway between Schofields and new Schofields Station — benefits for cyclists and those wishing to access Schofields via bicycle. This aims to encourage more commuters to cycle to the station rather than using a private vehicle.		
	Commuter parking — benefit to residents to encourage use of public transport		

Construction impacts and benefits on the local economy would, however, be temporary and would only apply for the limited construction phase of the Project. Operational effects on the local economy would be longer lasting and would be primarily positive.

The economic impacts discussed here are focused on those businesses located in the primary communities surrounding the stations, directly affected by the Project. Impacts to businesses in the extended catchment areas are difficult to predict and have not been included in this assessment.

Impact on primary communities (station-level assessment)

Quakers Hill

The commercial centre surrounding Quakers Hill Station services the local community as well as the less developed communities, including Schofields, and wider secondary communities. While Quakers Hill businesses may be impacted temporarily by construction impacts, these impacts are expected to be short-term. Quakers Hill is the largest commercial centre in the area, and while some short-term impacts on amenity are likely to be experienced during construction, accessibility would be unchanged as a result of the construction of the Project, so impacts on the viability of businesses during this time are expected not to be significant. Sensitive receivers such as the Kerry Jones Childcare Centre and Quakers Hill Preschool may experience elevated noise levels during construction, contributing to a decrease in the immediate amenity of these receivers.

In the longer term, the impacts of the Project on the local community would be positive as a result of the improved frequency of rail services. However, although data on the proportion of trade that is associated with rail commuters was not available, it is likely that any increase in trade as a result of the Project would not be substantial.

Schofields

Specific economic impacts of the Project to the businesses near the existing Schofields Station are addressed in Section 8.3.4.

Riverstone

Like Quakers Hill, Riverstone town centre provides a number of community and commercial services to the local Riverstone area as well as Schofields and Vineyard. Temporary impacts during construction could impact local businesses as a result of increased disruption from traffic, noise and dust, and through any temporary loss of parking due to the establishment of a construction compound in the Riverstone car park. Riverstone is already subject to high noise levels associated with a high volume of vehicle traffic on Garfield Road (refer Section 8.4). This would reduce the severity of impact of the construction works on amenity within the town centre, and consequently, trade for local businesses. As a commercial centre for a wide area, Riverstone businesses are not expected to experience long-lasting negative effects from the Project.

The improved transport services as a result of the Project may encourage more residential and commercial growth in the area, leading to more patrons and positive impacts on the local economy.

Vineyard

Two businesses are located near Vineyard Station: Vineyard Children's Early Learning Centre (corner of Bandon Road and Wallace Road) and the Tadpoles Swim School (along St James Road). These businesses are located approximately 250 and 500 metres north of Vineyard Station respectively. Both businesses most likely cater to children in the local area. There may be some impacts due to traffic, noise and dust during the construction period; however, these are unlikely to be significant.

The two businesses in Vineyard may be impacted during the operational phase of the Project. The relocation of Vineyard Station approximately 250 metres to the south would only have an impact on these businesses if their patrons arrive at Vineyard via train. This impact is expected to be low as patronage figures for Vineyard Station (refer to Section 3.2.2) indicate that an average of only 30 people currently use Vineyard Station over a 24-hour period (an average of 30 commuters were recorded to enter the station at the time of surveys undertaken in 2007).

Impact on secondary communities (catchment-level assessment)

Wider Quakers Hill area

Shops and businesses in Quakers Hill are generally located in the vicinity of the station, while the wider Quakers Hill area comprises predominantly residential development. Small-scale and home businesses are likely to be scattered throughout the wider area; however, the extent to which these businesses rely on the rail line is likely to be marginal. As such, the economic impacts on the wider community are not expected to be significant.

Wider Schofields area

Section 8.3.4 addresses specific impacts of the Project on the Schofields area.

Wider Riverstone area

General economic impacts at Riverstone are likely to be similar to those experienced at Quakers Hill. That is, the wider area generally consists of suburban residential development, and as such, economic impacts as a result of the Project are unlikely to be significant.

The Riverstone Meatworks industrial estate is located approximately one kilometre north of Riverstone Station. Access for employees and deliveries, both into and out of the site, may be affected during the construction phase of the Project.

Wider Vineyard area

Economic impacts to the wider Vineyard area are expected to be minimal in relation to the existing population due to its scarcity.

As public transport becomes a more feasible option for employees with increased frequency of rail services and new car parking facilities at the relocated Vineyard Station, some businesses may choose to locate or relocate in the wider Vineyard area.

NWGC and future economic growth

The development of the NWGC will result in significant long-term changes to the current economic environment of the wider Project area; the Project would help facilitate this development of the NWGC. As the population of the area develops, there will be a long-term increase in patrons in the areas surrounding each of the affected stations. The increased number of patrons would likely have a positive, long-lasting effect on existing businesses, leading to improved business vitality. However, this could also increase the number of service providers, increasing competition and affecting the viability of some businesses. These impacts are expected as a result of the broad-scale changes to the region, not as a direct impact of the Project.

The rail duplication would result in a structural improvement to the social and economic infrastructure of the North West region. This improvement could have an effect of improving the viability of existing businesses, which is potentially separate and independent from that expected from the NWGC. Increased investments and population growth would result in an increased demand for goods and services. Existing businesses may expand, or new businesses could be established to meet demands. In addition, the Project would improve linkages to employment centres across the region, making residential areas in the vicinity of train stations more desirable, which could ultimately improve these land values; such impacts would be expected to lead to economic growth in the region.

8.3.4 Impacts on Schofields village

As discussed above, given the significant concerns raised by the community in relation to the proposed relocation of the existing Schofields Station, detailed consideration has been given to the potential social and economic impacts on Schofields village.

Community identity and cohesion

The existing Schofields Station is the focal point for Schofields village. A pedestrian level crossing located at the station acts as the connection point between the eastern and western sides of Schofields. During the community information sessions (refer Chapter 4), a number of Schofields residents expressed concern that the relocation of Schofields Station would destroy community connectivity and cohesion of Schofields village. Without mitigation, the removal of the station could have the following impacts to the Schofields Community:

- create a sense of isolation because of the removal of a key transport facility
- trigger migration from existing Schofields to properties located closer to the new station
- create a sense of abandonment if the old station site is not adequately rehabilitated.

The Schofields community has shown considerable interest in the changes proposed as part of this Project and plans for the NWGC. This interest is expected to reinforce the cohesive nature of the Schofields community.

Access

The relocation of Schofields Station approximately 800 metres to the south would change the walking distance for residents to the station (predominantly resulting in longer trips for residents currently north of or close to the existing station). A survey of rail commuters was undertaken in August 2007 and June 2008 (RailCorp 2007, 2008). On both occasions, approximately 40% of those people surveyed accessed Schofields Station on foot. In the 2007 survey, approximately 20% of these patrons walked from Advance Street or Bridge

Street, which are both located close to the existing station; this figure increased to 40% for the 2008 survey. With the relocation of the station, these commuters would need to travel further distances on foot, or drive or cycle to the new station, or wait for a connecting bus service. The impact would be greatest for those who commute on a regular basis and those with limited mobility (e.g. the elderly, disabled and parents with young children), with an additional concern that access may be less safe during evening periods and throughout winter given decreased or no natural lighting.

The MoT is currently undertaking an extensive review of metropolitan bus services in accordance with the recommendations of the Unsworth Review. A review of bus services in Region 1, which incorporates the Project, went to community consultation in November 2008 and the new network is scheduled for implementation in early 2009. There are no immediate plans to alter either of the two existing bus routes to link the proposed new station location with the existing site. However, the option to modify one or both of the existing bus routes will be considered as part of the annual service review prior to the new station reaching completion in 2011.

The longer term development of bus services is envisaged to provide transport services for new release areas in the vicinity of the Richmond Rail Line, especially with regard to the Alex Avenue, Schofields and Riverstone East precincts. These longer term bus services are envisaged to provide connections from the existing Schofields township and surrounding new development to the proposed new Schofields Station.

Notwithstanding the MoT's review of the bus services for the region, it is expected that travel times to the new Schofields Station would be longer and less convenient for most commuters than the existing situation. A limited number of residents of the south-eastern end of Bridge Street would have a shorter distance to travel to the new Schofields Station than to the existing station. The provision of a pedestrian and cyclist access from the existing station to the new Schofields Station would also reduce travel distances for some residents, while the provision of a car park on the western side of the new Schofields Station would accommodate park-and-ride commuters accessing the train station from the western side of the rail corridor.

Pedestrian access across the rail corridor at Schofields is currently limited, with the only crossing located at the existing station. This crossing would be retained as part of the Project, and as such, severance impacts at Schofields would be minimal. The existing pedestrian level crossing would, however, be replaced with a pedestrian footbridge. While the footbridge would increase the distance and time to cross the rail corridor (because the current level crossing would be replaced with a footbridge with ramps), this impact is expected to be minimal. In addition, the new footbridge would improve the safety of the crossing by removing the need for pedestrians to enter the rail corridor when using the crossing.

Two important social/community services may be affected by the relocation of the train station:

- Schofields Medical Surgery (also a commercial business) — which is located across from the existing station, around the corner from the take-away food shop
- St Joseph Catholic Church — which is located on Grange Street, approximately 400 metres behind the existing station.

While the relocation of Schofields Station would result in a longer walking distance between these services and the station, the users of these services are likely to be predominantly community members that do not exclusively access the services by train. Both of the above services are likely to be accessed by patrons travelling by car, foot, bicycle or bus. As such, the impact on their viability is expected to be minimal.

Impacts and opportunities for businesses

During the construction phase, both the disruption and benefits to businesses located near Schofields Station would be similar to those experienced by any local businesses mentioned in Section 8.3.3. These impacts and benefits would, however, be temporary and would only apply for the limited construction phase of the Project.

During the operational phase of the Project, limited immediate impact on local businesses is expected. As detailed below, only a small proportion of patrons who visited the shops at Schofields did so on the way to or from the Schofields Station. Therefore, it is assumed that the shops have a dedicated local clientele, which is not expected to change as a result of the station relocation.

As discussed in Section 3.3.5, survey data collected by RailCorp (2008) indicated that on the day surveyed only 13% of people who used the Schofields village shops did so on their way to and/or from Schofields Station. Although the data did not indicate the specific shop(s) visited by commuters, some shops are more likely to be affected than others. Table 8-9 identifies those shops predicted to be most impacted by the station relocation.

Table 8-9 Summary of Schofields business impacts

Shop name	Type of business	Patrons	Potential impact
The Naked Grill	Take-away food	Local and commuter	Low to medium impact. Potential marginal loss in trade due to reduced exposure to passing commuters.
Schofields General Store	General hardware store	Local	Minimal to no impact. Most patrons are expected to make a dedicated trip to the hardware store.
3D Paint and Colour	Paint store	Local	Minimal to no impact. Most patrons are expected to make a dedicated trip to the paint store.
Schofields Newsagency	Newsagent	Commuter	Medium to high impact: mix of commuters and local residents. Decreased exposure to commuters has the potential to result in a loss in trade.
Simply Bakery	Bakery	Local and commuter	Medium impact: mix of commuters and local residents. Potential marginal loss in trade due to reduced exposure to passing commuters
Schofields Pharmacy	Pharmacy	Local and commuter	Minimal to medium impact: mix of commuters and local residents. Potential marginal loss in trade due to reduced exposure to passing commuters
Scissor Scene	Hairdresser	Local	Minimal to no impact. Most patrons make a dedicated trip to the hairdresser.

Shop name	Type of business	Patrons	Potential impact
Harry's Liquor	Liquor shop	Local and commuter	Minimal to medium impact: mix of commuters and local residents. The shop is in a separate location from the other shops and may already require a specific trip for many patrons, indicating that the station location would result in minimal impact to impact to the business

For those patrons making dedicated trips to the Schofields shops, parking accessibility is expected to increase, which may lead to an increase in the number of customers visiting the shops.

Business owners could also use this opportunity to respond to the changes in the local area by reassessing the type and/or composition of their existing business to meet changing consumer choices and preferences. Existing businesses could consolidate or expand to improve their viability.

Figure 8-4 Businesses located in Schofields village

Service relocation and business closure

With the change in station location, existing businesses may be affected by decreased exposure to rail patrons and the perceived change in town centre focal point provided by the station. Businesses surrounding the existing station may choose to remain open in the current location, relocate or close. As mentioned above, the majority of the businesses surrounding the existing Schofields Station rely primarily on local patrons as opposed to commuter trade. This is not expected to change with the station relocation indicating that, in the short-term, businesses would be minimally to moderately affected by the relocated station.

Impacts to the shops at the existing Schofields Station may arise if similar businesses are established at the new Schofields Station and town centre. Existing shops may experience a decrease in patronage leading to decreased profits or potentially forced closure.

Long-term effects on the existing business viability, however, are difficult to assess. The Schofields area is expected to be substantially redeveloped as part of the NWGC. GCC plans for the area are expected to include the rehabilitation of the existing Schofields Station site to aid in the revitalisation of the Schofields village centre. A revitalised village centre would likely lead to sustained or increased patronage for existing businesses.

The NWGC is planned to accommodate approximately 70,000 new homes. As the population of the local area increases, there will be an increase in the number of consumers within the region, potentially leading to increased patronage for any operating local business. This however, could also lead to an increase in the number of service providers, increasing competition, and therefore, affect the viability of some businesses. These impacts are difficult to anticipate and are expected as a result of the broad scale changes to the region, and not as a direct response to the operation of the Project.

Impacts to the wider Schofields area

Social and economic impacts to the wider Schofields area would be less significant than those impacts on the primary Schofields community.

During the construction phase of the Project, traffic inconveniences caused by altered traffic conditions or construction vehicle movement may affect residents of the wider Schofields area attempting to travel to or through the Schofields primary community. Noise, dust and visual impacts to these residents are expected to be relatively minor, although these would be pronounced for any residents in close proximity to the rail corridor.

Residents of the wider Schofields community are likely to currently drive to the train station. Improved car parking facilities would be provided at the new Schofields Station, which may make train travel a more appealing option for travel.

As a worst-case scenario, the relocation of the station may result in the closure of some or all of the businesses surrounding the existing Schofields Station. These businesses currently serve as a focal point for the community; without them, residents of the wider catchment area may experience a loss of community identity and cohesion.

Economic impacts to the wider Schofields area are expected to be minimal.

8.3.5 Management measures

Social impacts

Many of the proposed management measures to address social impacts are already covered in other sections of this Environmental Assessment. Proposed management measures for adverse social impacts are summarised below:

- Ongoing consultation would be undertaken with property owners and residents throughout the planning, assessment and construction stages (refer Chapter 4). This would include the provision of regular construction updates, and the early communication of access changes and road closures (refer Section 8.2). Early and ongoing communication would ensure that community issues are addressed and managed promptly (refer Section 4.6).
- Management measures for traffic, noise and dust (e.g. covering stockpiles) would be developed and adhered to (refer sections 8.2, 8.4 and 9.4).
- Service interruptions (if required) would be scheduled to avoid peak demand times (i.e. early morning and evenings, and during weekends) to minimise the impact on residents. Prior to service interruptions, residents and businesses would be notified of the scheduled service interruption through door knocks or calling cards.
- Sites would be reinstated to at least their pre-construction condition, unless otherwise agreed.
- All construction staff would be inducted so they are made aware of expected behaviour when dealing and interacting with the public. All complaints made to site staff would be reported immediately to the site supervisor. In addition, the contact details of the site supervisor and Community Relations Representative would be carried by site staff and would be provided to members of the community when necessary.
- Noise mitigation measures would be considered and implemented where appropriate. Priority would be given to at-source noise mitigation measures (refer Section 8.4.8).
- Landscaping and vegetation screening would be incorporated into landscape concept plans (refer Section 9.1.4).
- Full or partial acquisition of all required land would be carried out in consultation with the affected landholders in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.

Economic impacts

Proposed management measures for the identified adverse economic impacts are summarised below.

- Ongoing consultation would be undertaken with businesses potentially affected by the Project prior to and during construction to address individual concerns and issues, and to ensure impacts are minimised where possible. This consultation would be separate from general community consultation.
- Service interruptions (if required) would be scheduled to avoid peak demand times (i.e. early morning and evenings and during weekends) to minimise the impact on businesses. Prior to service interruptions, residents and businesses would be notified of the scheduled service interruption through door knocks or calling cards.

- Further consultation with the GCC and RailCorp would be undertaken to determine the future plans for the Schofields village centre and the plans for rehabilitation of the existing station site.
- Further discussion with the MoT would be undertaken regarding the provision of a bus service between the existing and new Schofield stations (refer Section 8.2).

While not part of the Project, the rehabilitation of the Schofields village is part of the GCC plans for revitalisation of the Schofields village centre. Plans for the village centre have not yet been released; however, it is likely that these plans would focus on the following outcomes:

- encouraging further commercial development within the village centre to complement and support the existing small businesses
- encouraging the revitalisation of Schofields as a village centre to differentiate it from the new Schofields town centre (at the new station location)
- retaining the existing community feel within Schofields village by promoting development that is consistent with a village community.

8.4 Noise and vibration

This section summarises the potential noise and vibration impacts of the Project based on the findings of Technical Paper 2 — *Noise and Vibration Assessment* (Volume 2). The existing noise environment in the Project area is described in Section 3.4.

8.4.1 Assessment approach

Airborne construction noise

Unattended background noise monitoring was undertaken during February and March 2007 at nine locations in the vicinity of the proposed construction works between Quakers Hill and Vineyard (refer Figure 3-17). Results of the unattended noise monitoring are described in Section 3.4.2.

Construction noise modelling scenarios were developed for the Project construction phases considered to have the highest potential for noise impacts (refer Section 9.7 of Technical Paper 2). Predicted noise levels were calculated for both 'typical' and 'worst case' construction activities, assuming plant would be operating in the area closest to the respective receivers.

The main noise metrics used to describe construction noise emissions in the modelling and assessments are:

- $L_{A1(60\ second)}$ — the typical maximum noise level for an event, used in the assessment of potential sleep disturbance during night-time periods
- $L_{A10(15\ minute)}$ — the average maximum noise level during construction activities, used to assess the construction noise impacts