

George Street, Hunter to Bathurst Street

View 1-3: George Street, view south at the corner with King Street

In this location the study area is characterised by some of Sydney's finest sandstone buildings including the former General Post Office and former Bank buildings at Martin Place, and the Strand Arcade, for example. The ground plane is visually active with four lanes of traffic, light poles with banners, street furniture and active street level commercial frontages. The architecture is an eclectic mix of historic and ultra-modern. Viewpoint 1-3 is representative of views on George Street between Hunter and Bathurst streets.

During construction this view would change as service relocations begin, and the turning lanes at King Street are removed. These impacts would be more substantial as the view becomes focused on a construction work site, undertaken as intersection works and inter-block works

consecutively. The sites would be surrounded by visually opaque hoarding which would channel views along the footpaths, and block views to the lower building levels. The hoarding would also enclose the footpath, and block sunlight into these areas, which would become more heavily shaded. These changes to the view are not visually consistent with the character of this area and surrounding urban landscape of George Street.

Construction Assessment

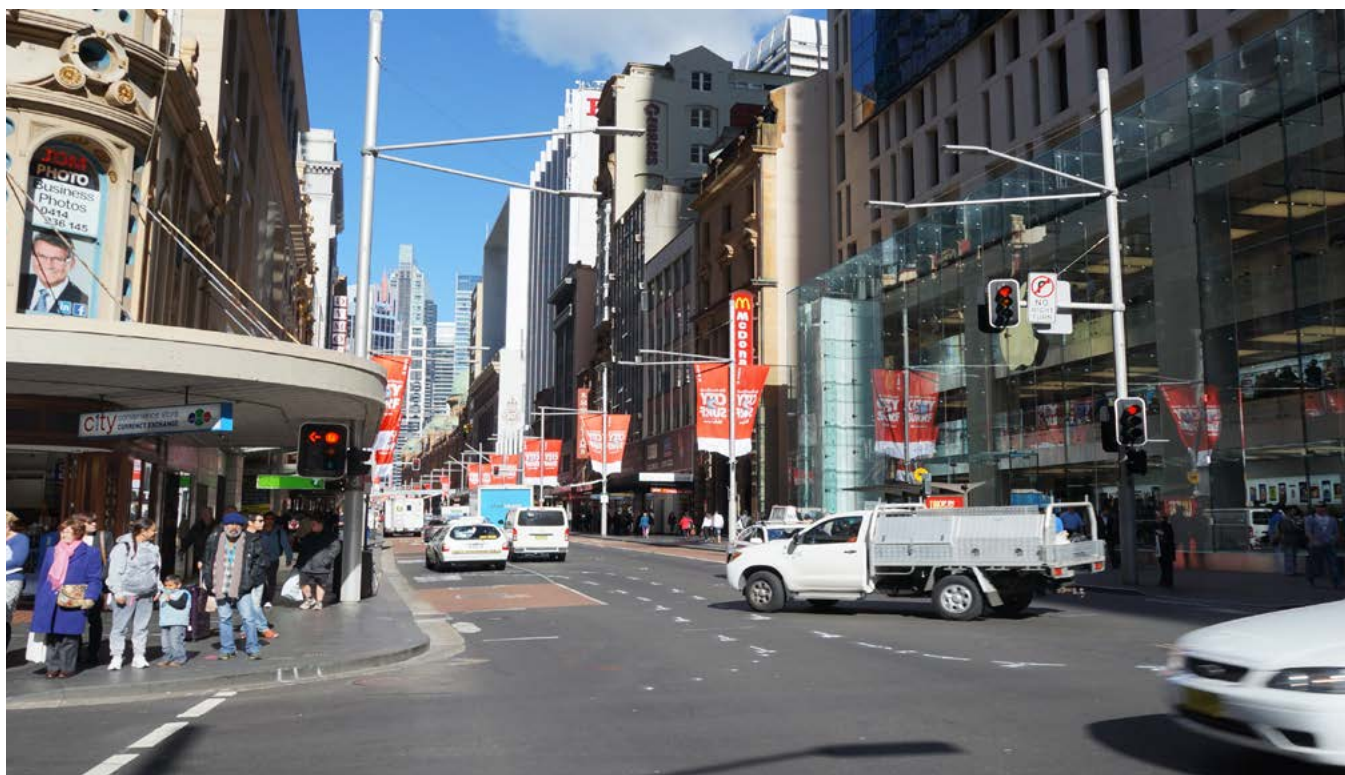
It is expected that the proposal would create a considerable reduction in visual amenity of a view of state sensitivity, resulting in a **very high adverse visual impact**. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view the traffic would be removed and a wire-free light rail corridor would be located centrally in George Street. The visual clutter created by the traffic would be removed and a high quality urban plaza space would be developed from building edge to building edge.

LRVs would be seen moving north and south along the corridor, with a visual envelope extending for up to 45m. These vehicles would be visually prominent due their length and scale. It is expected that in the future street trees would be introduced in accordance with the City of Sydney's vision for George Street, further adding to the general upgrade of the public realm.

Operations Assessment

As traffic would be removed and replaced with a less visually obtrusive wire-free light rail corridor, and expected de-cluttering of the space, it is expected that the proposal would create a considerable improvement to the visual character of these views. In these views of state sensitivity, the proposal would have a **very high beneficial visual impact** during operation.



View 1-3: George Street, view south at the corner with King Street

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Assessment of Daytime Visual Impacts

George Street, Hunter to Bathurst Street

View 1-4: George Street, view south at the corner with Market Street

In this location the study area is characterised by the grand Queen Victoria Building (QVB) with its highly ornate façade and grand copper domes. The ground plane is visually active with four lanes of traffic, light poles with banners, street furniture and active street level commercial frontages. Views are channelled along the narrow street to modern high-rise buildings in the background of the view. Viewpoint 1-4 is representative of views towards the QVB stop on George Street.

During construction this view would change substantially as service relocations begin. This change would increase as the view becomes focused on a construction work site during the civil works, which would be undertaken as intersection works and inter-block works consecutively. These changes to the view are not visually consistent with the character of this area and surrounding

urban landscape of George Street. The opaque hoarding that would surround the work sites would obscure and limit views to the ornate QVB building facade.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of state visual sensitivity during both early works and civil construction, as the visibility of the QVB is affected. This results in a **very high adverse visual impact**. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view the traffic along George Street would be removed and a wire-free light rail corridor would be located centrally in George Street. Traffic along Market Street would be retained, crossing George Street in the foreground of the view. The Town Hall stop would be located in the middle ground of the view, beyond the intersection, which would include catenary and overhead wires along the length of the platform. The visual clutter created by the traffic would be removed and a high quality urban plaza space

would be developed from building edge to building edge. Views to the façade of the QVB would be opened up as the street becomes essentially a forecourt to the building. There would, however, be some clutter created by the stop and overhead wires and the LRVs that would be seen moving along the corridor, and stationary at the stop. These vehicles would be visually prominent due their length and scale. Beyond the stop, in the middle ground of the view, it is expected that sometime in the future street trees would be seen, incorporated into the plaza in accordance with the City of Sydney George Street Master plan.

Operations Assessment

Due to the high quality public domain created in this view, it is expected that the proposal would create a considerable improvement to the visual character of these views. In these views of state sensitivity, the proposal would have a **very high beneficial visual impact** during operation.



View 1-4: George Street, view south at the corner with Market Street

George Street, Hunter to Bathurst Street

View 1-5: George Street, view north to Town Hall

In this location the study area is characterised by Sydney's Town Hall building and QVB. The street level is visually active with four lanes of traffic, light poles with banners, street furniture and active street level commercial frontages. Views are channelled along the narrow street to modern high-rise buildings in the background of the view. Viewpoint 1-5 is representative of views towards the Sydney Town Hall.

During construction this view would change as service relocations begin and the turning lanes at Bathurst Street are removed. Traffic along Bathurst Street would be retained, crossing George Street in the foreground of the view. Impacts would increase as the view becomes focused on a construction work site during the civil works phase, which would be undertaken as intersection works and inter-block works consecutively. These changes to the view are not visually consistent with the character of this area

and surrounding urban landscape of George Street. The work site hoarding would extend across the view, obscuring and limiting views to the QVB in the background, and Town Hall building façade in the middle ground. The clock tower, however, is likely to be visible protruding above the work site.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of state visual sensitivity during both early works and civil construction. This results in a **very high adverse visual impact**. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view the traffic would be removed and a wire-free light rail corridor would be located centrally in George Street. A stop would be located in the centre of the view with a catenary structure and overhead wires located along the length of the station platforms. These elements would not obstruct views to the town hall façade and clock tower. LRVs would be seen moving north and south along the corridor,

with a visual envelope extending for up to 45m. These vehicles would be visually prominent due their length and scale. However, the visual clutter created by the traffic would be removed and a high quality urban plaza space would be developed across George Street. This new area of pedestrianised public realm would allow for new viewing locations to appreciate the Town Hall façade and clock tower that are currently constrained to the adjacent footpaths. Beyond the stop, in the background of the view, it is expected that in the future, street trees may be seen, incorporated into the new pedestrianised George Street, implemented by the City of Sydney in accordance with the George Street Master plan.

Operations Assessment

Due to the high quality public domain created in this view, and improvement to the setting of the Sydney Town Hall, it is expected that the proposal would create a considerable improvement to the visual character of these views. In these views of state sensitivity, the proposal would have a **very high beneficial visual impact** during operation.



View 1-5: George Street, view north to Town Hall

06 City Centre

Assessment of Daytime Visual Impacts

George Street, from Bathurst Street to Rawson Place

View 1-6: George Street, view north at Liverpool Street

In this location the study area is characterised by a predominance of three and four storey retail buildings addressing George Street with a number of interesting corner buildings and modern high-rise towers visible overhead. These towers channel views along George Street, drawing the eye away from the busy visually active street level with four lanes of traffic and commercial frontages. Viewpoint 1-6 is representative of views along George Street south of Bathurst Street.

During construction this view would change as the traffic is removed and the view becomes focused on a construction work site. The early works and civil works phases would be divided into intersection works and inter-block works, being undertaken separately and consecutively. Following the corridor civil works phase the World Square Stop would be constructed, visible in the middle ground of the view. The opaque hoarding that would surround the work sites would obscure and limit views to across the

street. These changes to the view are not visually consistent with the character of this area and surrounding urban landscape of George Street.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of regional visual sensitivity, resulting in a **high adverse visual impact** during construction. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view the traffic would be reduced to one northbound and one southbound lane. The rail corridor would follow the centre of George Street with catenary structures and overhead wires visible above. In the middle ground of the view, and located part way across the intersection, would be World Square stop, which would take the form of an island platform and would become the dominant feature of the view. The station adds additional visual clutter at street level, created by the platforms, crossings and roadside barriers all located within this relatively narrow corridor. Due to the island platform, the alignment diverts across the road and creates a less harmonious arrangement for the catenary and wires seen overhead. Whereas they

would typically not be visually prominent, as they are mainly seen against adjacent multi storey buildings, this alignment would be likely to draw attention to these elements. LRVs would be seen moving north and south along the corridor, with a visual envelope extending for up to 45m. These vehicles would be visually prominent due their length and scale. Whilst there would be a reduction in traffic lanes, the introduction of this large station would create additional visual clutter at street level. As a part of the proposal, the existing street trees would be removed and replaced in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013), in consultation with the City of Sydney, and in accordance with the City of Sydney's George Street Master plan, where space allows.

Operations Assessment

Although in this view the number of traffic lanes would be reduced and replaced with rail, it is expected that the proposal would create a considerable reduction in the amenity of these views overall due to the extent of the station and scale of LRVs from views in this area. As these views are of regional sensitivity, it is expected that the during operation there would be an **high adverse visual impact**.



View 1-6: George Street, view north at Liverpool Street

George Street, from Bathurst Street to Rawson Place

View 1-7: George Street, view north east to Hay Street

In this location the study area is characterised by interesting corner buildings, a predominance of three and four storey commercial buildings addressing George Street with a number of modern high-rise towers visible overhead. These towers channel views along George Street, drawing the eye away from the busy visually active street level with four lanes of traffic, bollards and banners, street trees and commercial frontages. The Inner West Light Rail (IWR L) network crosses east to west across George Street in this area of the site, with the Capitol Square stop located to the east of George Street. Viewpoint 1-7 has been selected as representative of a view to the proposal where it intersects with the IWR L.

During construction this view would change considerably as the traffic is removed and the view becomes focused on a construction work site. The early works and civil works phases would be divided into intersection works and inter-block works, being undertaken

separately and consecutively. These changes to the view are not visually consistent with the character of this area and surrounding urban landscape of George Street. The IWR L would remain open during much of this time, however, use of the IWR L corridor would be used as the main access for the work sites along George Street to the southern CSCA, so that there would be a more frequent construction traffic seen in this view.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of regional visual sensitivity. This results in a **high adverse visual impact** during construction. The construction period for the CSEL R project is anticipated to take approximately five to six years.

In this view, the existing light rail network would be seen running across the view, centrally along Hay Street, including catenary structures and overhead wires. These elements are not visually prominent unless an LRV is passing. In this view, the rail corridor would run down the centre of George Street with wires overhead and two lanes of traffic would be retained. LRVs would be seen moving north and south along the corridor, with a visual envelope extending for up to 45m. These

vehicles would be visually prominent due to their length and scale. At the intersection, in the middle ground of the view, there would be a junction with the existing light rail, where there would be two eastbound turns. Whilst there would be a reduction in traffic lanes, the introduction of elements such as platforms, overhead wires and potential roadside barriers would create additional visual clutter at street level. The catenary and wires would not be visually prominent as they are mainly seen against adjacent multi storey buildings and visually merge into the background. As a part of the proposal, the existing street trees on George Street would be removed and replaced in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013), in consultation with the City of Sydney, and located where space allows and in accordance with the City of Sydney's George Street Master plan.

Operations Assessment

As traffic lanes would be reduced and replaced with rail, it is expected that the proposal would be of similar visual character to that which currently exists. There is expected to be no noticeable change to the amenity of these views, which are of regional sensitivity, resulting in a negligible visual impact during operation.



View 1-7: George Street, view north east to Hay Street

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Assessment of Daytime Visual Impacts

Rawson Place to Central Station

View 1-8: Rawson Place, view toward Central Station

In this location there are glimpsed views to the Central Station clock tower, and more direct views to the twin sandstone railway bridges which create visual interest as they create shadow on the street and views are framed by the arched spans. The McKell Building dominates Rawson Place with its bulky concrete staircase, tall blank walls and inactive street frontage. It creates a visually harsh edge to the street which channels and constrains views which are only visually softened at street level by four London Plane street trees. On the southern side of Rawson Place a finer grain of architecture and awnings covering the streets create a more visually interesting and active street level. Viewpoint 1-8 has been selected as representative of a view to the proposal in this area. In this view, landmark twin sandstone rail bridges at Central Station can be seen in the far background creating a focal point for these views. During construction this view would change considerably as traffic is removed from Rawson Place and the site is established. The works would then include

demolition, utility relocations, civil works and stop construction. The southern footpath and commercial frontages would remain open, however, the lower levels of this streetscape would not be seen from this location. The twin sandstone rail bridges would largely be obscured; however, the Central Station façade may be seen above the hoarding and construction activities.

Construction Assessment

These changes to the view are not visually consistent with the character of this area and therefore it is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of regional visual sensitivity resulting in a **high adverse visual impact** during early works and civil construction. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view, the rail corridor would run down the southern edge of Rawson Place with catenary structures and wires overhead, two bus lanes would be located at the east reducing to one turning lane along the northern side. In the middle ground of the view, an interchange stop would be developed, with a visually interesting roof structure covering the

entire stop. This structure would intervene in views to the bridges, currently the focal point of this view. The stop would also require the development of a number of ramps, walls and barriers that would create visual clutter at street level. LRVs would be seen moving east and west along the corridor, and stationary at the stop. These vehicles would be visually prominent in the landscape due their length and scale. The existing street trees would be removed and replaced with street trees in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013) in consultation with the City of Sydney, where space allows, visually softening and filtering the view to the built elements. Whilst there would be a removal of traffic lanes, the introduction of elements such as the canopy, platforms, overhead wires, roadside barriers, ramps etc. would create additional visual clutter at street level.

Operations Assessment

As traffic lanes would be replaced with rail, it is expected that the proposal would be a noticeable reduction in the visual amenity of these views. From views in this area, which are of regional sensitivity, it is expected that there would be a **moderate adverse visual impact** during operation.



View 1-8: Rawson Place, view toward Central Station

Rawson Place to Central Station

View 1-9: Eddy Avenue, view west at Central Station

In this location the landmark façade and clock tower of Central Station is the focal point of views, with visual interest created by the twin sandstone railway bridges which lie to the east and west of the main station buildings, creating a visual 'gateway' to the city. The view is dominated by the six lanes of busy road traffic at street level and four lanes of the coach terminal and parking. Viewpoint 1-9 shows the Central Station building creating a visual edge to what is seen as a visually enclosed space, fringed with green open space to the north.

During construction this view would change as the bus lanes are relocated so that roughly half of the interstate coach terminal space becomes a construction site. The works would then include demolition, utility relocations, civil works and stop construction. Views to the twin sandstone rail bridges in the background

and façade of the Central Station building would largely be obscured; however the clock tower is likely to be visible above the hoarding and construction activities. This change to the view removes the prominence of the historic station building.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of state visual sensitivity, resulting in a **very high adverse visual impact** during early works and civil construction. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view, the 10 lanes would be redistributed so that there would be dedicated lanes for general use, dedicated bus lanes, and three light rail lines all in parallel, with the rail platform aligned parallel and adjacent to the Station Building. The interstate coach terminal would be relocated to the northern side of Eddy Avenue to allow for the light rail platforms. The stop development would

also require minimal changes to the surrounding public realm and open space. There is no opportunity for the introduction of trees into this area. LRVs would be seen moving east and west along the corridor and stationary at times as the site is used for temporary LRV stabling. These vehicles would be visually prominent in the landscape due their length and scale. The overall width and general character of the corridor in this view would be visually similar to that which currently exists. There would be the addition of catenary structures and overhead wires; however, these should be visually absorbed into this complex view.

Operation Assessment

With the introduction of the proposal it is expected that there would be no perceived reduction or improvement in the amenity of the view. From views in this area, which are of state sensitivity, this would result in a **negligible visual impact** during the operation of the proposal.



View 1-9: Eddy Avenue, view west at Central Station

06 City Centre

Assessment of Daytime Visual Impacts

Rawson Place to Central Station

View 1-10 Central Station, view along Chalmers Street

In this location the townscape of the study area is characterised by a wide roadway and broad footpaths with a consistent building line. The warehouse and terracing typologies together with the Central Railway Station buildings and more contemporary buildings, in the background, protruding above the station platforms present a varied and incoherent townscape. The Ibero-American Plaza, complete with a series of busts mounted on sandstone plinths and row of cypress pine trees, draws the eye towards the highly decorative flank wall of the former Railway Workers Institute building which forms part of the state heritage significant Central Railway Station and Sydney Terminal Group. Views of this Anglo-Dutch Federation building are revealed where there is a discontinuity of street trees in front of the plaza. Viewpoint 1-10 is representative of views along Chalmers Street south to Central Railway Station entrance. There are many cross street views and views from the upper levels of residential and commercial buildings and towers throughout this precinct.

During construction this view would change as traffic is removed from Chalmers Street, pedestrian access is diverted, the Central Station entry (at the intersection with Elizabeth Street) is closed, and the site is established. The works would then include removal of a number of mature trees, utility relocations, civil works and stop construction.

Construction Assessment

These changes to the view are not visually consistent with the character of this area and therefore it is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of regional visual sensitivity. This would result in a **high adverse visual impact** during early works and civil construction. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view three vehicle lanes and one bus lane would be reduced to one lane dedicated to traffic, one dedicated light rail and one shared light rail / traffic lane with an island platform stop. The alignment of the light rail and stop would require the loss of street trees on both sides of Chalmers Street as well as trees

at the intersection of Randle, Chalmers and Devonshire streets. As there is little opportunity for trees in this location, new street tree planting is proposed for the corner of Randle and Chalmers streets as appropriate. LRVs would be seen moving north and south along the corridor, and stationary at the stop, with the potential for numerous LRVs to be seen in this location at the same time. These vehicles would be visually prominent in the landscape due their length and scale. The overall width and general character of this view would be visually more urban and less green than what currently exists. However, the proposed public realm improvements (e.g. high quality paving), would improve the setting of the forecourt and station entry. Overall, the loss of street trees would result in a reduction of visual amenity and introduction of elements such as the canopy structure, platform and overhead wires would create additional visual clutter.

Operations Assessment

On balance, from views in this area which are regional sensitivity, it is expected that there would be no perceived reduction or improvement in visual amenity and therefore a **negligible visual impact** overall.



View 1-10 Central Station, view along Chalmers Street

06 Precinct 1: City Centre

Assessment of Night time Visual Impacts

6.8 Assessment of Night Time Visual Impacts

At night the site can be categorised as an area of E4: high district brightness (refer to Section 3). This area includes high levels of traffic on brightly lit streets, areas of active street shop frontages and lights from the windows of surrounding high and mid-rise buildings above. Of particular note, the QVB, Sydney Town Hall and Central Station have lighting to highlight the features of their historic facades and there are seasonal lighting displays at several locations along the alignment. As well as the direct light sources, there is a strong existing skyglow effect around the CBD.

During construction there are likely to be times where there would be 24 hour use of the construction site. At these times the site would include brightly lit areas providing a safe work environment for construction activities to occur. There would also be headlights from construction related traffic including trucks accessing the site. It is expected that lighting on the site would be brighter than the current traffic and street lighting. It is expected that any additional skyglow would be managed by cut-off light fittings and directed lights for the construction tasks.

During operation, the project would introduce LRV headlights and lit stops to an area that is currently occupied by a highly trafficked roadway. There would be LRVs moving along the alignment at regular intervals with headlights which are generally the same size, breadth and brightness as standard car headlights. The LRVs would also include illuminated carriage windows. The stops proposed at Circular Quay, Grosvenor Street, Wynyard, Queen Victoria Building, Town Hall, World Square, Chinatown, Rawson Place and Central Station would be brightly lit to ensure user safety.

Circular Quay

Views to the construction works in this area would be largely unfiltered by vegetation and in close proximity to adjacent commercial, retail and civic uses. This additional lighting would have a visual effect but is generally compatible with the existing bright and dynamic night scene at Circular Quay. There would be some additional lighting associated with traffic accessing work sites, however, this would be seen in the context of existing busy streets.

Construction Assessment

Overall, it is expected that these elements would create no noticeable reduction in the amenity of an area of high district brightness, and result in a **negligible visual impact** for this area overall during evening hours.

During operation, there would be lighting at the light rail stop at Circular Quay as well as headlights on the LRVs following the alignment. Lighting throughout the route would likely be reduced as traffic is condensed or removed. In locations where there are bends and corners in the rail alignment, headlights may be directed into adjacent properties, such as at the corner of George and Alfred streets, and from the stop into the adjacent Customs House plaza. Currently there are vehicle lights pointing in the same direction which includes cars, busses, and trucks. The LRV headlights would constitute a broader but less frequent, more predictable light source than the existing vehicle headlights. It is not expected that there would be any noticeable increase in skyglow as a result of the proposal.

Operations Assessment

Generally, as this is an area of high district brightness, it is expected that these elements would not create a noticeable reduction or improvement in amenity and result in a **negligible visual impact** for the precinct overall during evening hours.

George Street, Alfred to Hunter Street

Views to the works in this area would be largely unfiltered by vegetation and in close proximity to adjacent predominately commercial properties. This additional lighting would have a visual effect but is generally compatible with the existing bright and dynamic night scene along George Street. There would be some additional lighting associated with traffic accessing work sites, however, this would be seen in the context of existing busy streets.

Construction Assessment

Overall, these elements would not create a noticeable reduction in the amenity of an area of high district brightness, and result in a **negligible visual impact** for this area overall during evening hours.

During operation, there would be lighting at the light rail stop at Grosvenor Street and Wynyard as well as headlights on the LRVs following the rail alignment. In locations where there are bends and corners in the rail alignment headlights may be directed into adjacent properties, such as on the western side where the alignment bends from Essex Street through to Bridge Street. Turning into Alfred Street, and turning from George Street into Alfred, lighting may spill under the Cahill Expressway and into "the Rocks" and Circular Quay. Currently there are vehicle lights pointing in this direction which include headlights of cars, busses, and trucks. The LRV would constitute a broader but less frequent, more predictable light source than the existing traffic.

Operations Assessment

Generally, it is expected that these elements would not create a noticeable reduction or improvement in amenity of this area of high district brightness. This results in a **negligible visual impact** for this area during evening hours.

06 City Centre

Assessment of Night time Visual Impacts

George Street, Hunter to Bathurst Street

Views to the works in this area would be largely unfiltered by vegetation and in close proximity to adjacent, mainly commercial, properties. This additional lighting would have a visual effect but is generally compatible with the existing bright and dynamic night scene along George Street. There would be some additional lighting associated with traffic accessing work sites, however, this would be seen in the context of existing busy streets.

Construction Assessment

Overall, these elements would not create a noticeable reduction or improvement in the amenity of an area of high district brightness. This results in a **negligible visual impact** for this area during evening hours.

During operation, there would be lighting at the light rail stop at QVB and Town Hall, as well as headlights on the LRVs following the alignment. In locations where there are bends and corners in the rail alignment, headlights may be directed into adjacent properties, such as at the buildings on the western corner with King Street, on the east of the corner with Park Street, and on the eastern side of the corner with Bathurst Street. Currently there are vehicle lights pointing in the same direction. The LRV would constitute a broader but less frequent and more predictable light source. It is not expected that there would be any noticeable increase in skyglow as a result of the proposal.

Operations Assessment

Generally, as this is an area of high district brightness, it is expected that these elements would not create a noticeable reduction or improvement in amenity and result in a **negligible visual impact** for the precinct overall during evening hours.

George Street, from Bathurst Street via Rawson Place to Central Station

Views to the works in this area would be largely unfiltered by vegetation and in close proximity to adjacent, predominately commercial, properties. This additional lighting would have a visual effect but is generally compatible with the existing bright and dynamic night scene along George Street. There would be some additional lighting associated with traffic accessing work sites, however, this would be seen in the context of existing busy streets.

Construction Assessment

These elements would not create a noticeable reduction or improvement in the amenity of an area of high district brightness. This results in a **negligible visual impact** for this area during evening hours.

During operation, there would be lighting at the light rail stops at World Square, Chinatown, Rawson Place and Central Station at Chalmers Street as well as headlights on the LRVs following the alignment. In locations where there are bends and corners in the rail alignment there would be headlights which may be directed into adjacent properties, such as at the buildings in the vicinity of the bends at Goulburn Street, Campbell and Hay Streets, and as LRVs turn the corner into Rawson Place. Currently there are vehicle lights pointing in the same direction, including cars, trucks and busses. The LRV would constitute a broader but less frequent and more predictable light source than the existing traffic. It is not expected that there would be any noticeable increase in skyglow as a result of the proposal.

Operations Assessment

Generally, as this is an area of high district brightness, it is expected that these elements would not create a noticeable reduction or improvement in amenity and result in a **negligible visual impact** for the precinct overall during evening hours.

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Summary of Impacts

6.9 Summary of Impacts

The following tables summarise the impacts within the precinct:

Landscape impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
1	First Fleet Park, Circular Quay	Considerable reduction	State sensitivity	Very high adverse impact	Noticeable improvement	State sensitivity	High beneficial impact
2	Plaza on Alfred Street, Circular Quay	Noticeable reduction	State sensitivity	High adverse impact	Noticeable improvement	State sensitivity	High beneficial impact
3	Regimental Square at Wynyard	Noticeable reduction	Regional sensitivity	Moderate adverse impact	No perceived change	Regional sensitivity	Negligible
4	Martin Place	Considerable reduction	State sensitivity	Very high adverse impact	Noticeable improvement	State sensitivity	High beneficial impact
5	Queen Victoria Statue and Plaza	Noticeable reduction	State sensitivity	High adverse impact	Noticeable improvement	State sensitivity	High beneficial impact
6	Town Hall and St Andrews Cathedral Square	Noticeable reduction	State sensitivity	High adverse impact	Considerable improvement	State sensitivity	Very high beneficial impact
7	Street trees on George Street	Noticeable reduction	State and regional sensitivity	Moderate to High adverse impact	Noticeable improvement	State and regional sensitivity	Moderate to high beneficial impact
8	McKell Building forecourt plaza	Noticeable reduction	Regional sensitivity	Moderate adverse impact	No perceived change	Regional sensitivity	Negligible
9	Belmore Park	Considerable reduction	State sensitivity	Very high adverse impact	No perceived change	State sensitivity	Negligible
10	Elizabeth Street Gardens	Noticeable reduction	State sensitivity	High adverse impact	Noticeable reduction	State sensitivity	High adverse impact
11	Ibero-American Statues	Noticeable reduction	Regional sensitivity	Moderate adverse impact	No perceived change	Regional sensitivity	Negligible

Table 6.1: Summary of Landscape Assessment

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Summary of Impacts

Day time visual impacts

		Construction			Operation		
No.	Location	Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
	Circular Quay						
1-1	Alfred Street, Circular Quay	Considerable reduction	State sensitivity	Very high adverse impact	Noticeable improvement	State sensitivity	High beneficial impact
	George Street, Alfred to Hunter Street						
1-2	George Street, view north near Jamison Street	Considerable reduction	Regional sensitivity	High adverse impact	No perceived change in amenity	Regional sensitivity	Negligible
	George Street, Hunter to Bathurst Street						
1-3	George Street, view south at the corner with King Street	Considerable reduction	State sensitivity	Very high adverse impact	Considerable improvement	State sensitivity	Very high beneficial impact
1-4	George Street, view south at the corner with Market Street	Considerable reduction	State sensitivity	Very high adverse visual impact	Considerable improvement	State sensitivity	Very high beneficial impact
1-5	George Street, view north near Town Hall	Considerable reduction	State sensitivity	Very high adverse visual impact	Considerable improvement	State sensitivity	Very high beneficial impact
	George Street, Bathurst Street to Rawson Place						
1-6	George Street, view north at Liverpool Street	Considerable reduction	Regional sensitivity	High adverse visual impact	Considerable reduction	Regional sensitivity	High adverse impact
1-7	George Street, view south to Hay Street	Considerable reduction	Regional sensitivity	High adverse visual impact	No perceived change in amenity	Regional sensitivity	Negligible
	Rawson Place to Central Station						
1-8	Rawson Place, view toward Central Station	Considerable reduction	Regional sensitivity	High adverse visual impact	Noticeable reduction	Regional sensitivity	Moderate adverse
1-9	Eddy Avenue, view to Central Station	Considerable reduction	State sensitivity	Very high adverse visual impact	No perceived change in amenity	State sensitivity	Negligible
1-10	Central Station, view along Chalmers Street	Considerable reduction	Regional sensitivity	High adverse visual impact	No perceived change in amenity	Regional sensitivity	Negligible

Table 6.2: Summary of Daytime Viewpoint Assessment

06 City Centre

Summary of Impacts

Night time visual impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
1-1	Circular Quay	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible
1-2	George Street, Alfred to Hunter Street	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible
1-3 to 1-6	George Street, Hunter to Bathurst Street	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible
1-7 to 1-10	George Street, from Bathurst Street to Rawson Place, and to Central via Eddy Street	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible

Table 6.3: Summary of Night time Viewpoint Assessment

Surry Hills





07

07 Surry Hills

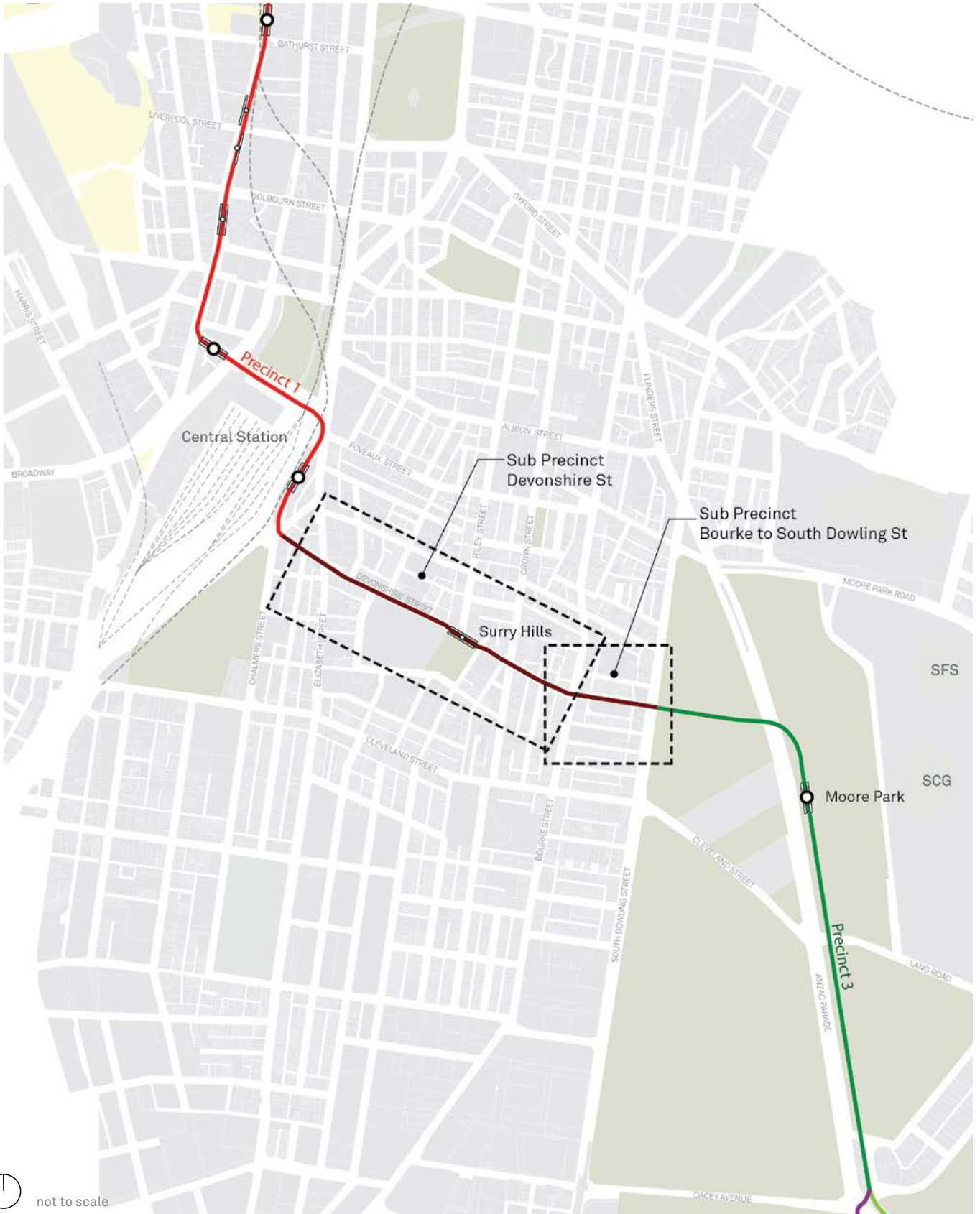
Overview

Overview

This precinct follows Devonshire Street east from Central Railway Station through Surry Hills. Devonshire Street rises to a proposed light rail stop on the ridge at Ward Park. The proposed alignment continues east along Devonshire Street, with the alignment crossing Bourke Street and continuing through Wimbo Park and the Olivia Gardens complex site (which would be demolished) and to South Dowling Street. The CSELR would cross South Dowling Street at grade, and cross the Eastern Distributor with a bridge.



Key Plan



not to scale

07 Surry Hills

Policy Framework

7.1 Policy Framework

The following review identifies key documents which provide the policy context for the landscape and visual impact assessment of the Surry Hills precinct.

Sydney Development Control Plan (DCP), City of Sydney, 2012

The *Sydney Development Control Plan* identifies a number of Special Character Areas (SCAs). In this precinct, the Prince Alfred Park East SCA; Surry Hills Centre SCA; Surry Hills South SCA; and Surry Hill East SCA are of relevance. The desired future character and relevant supporting principles identified for these SCAs are summarised in the following paragraphs.

Prince Alfred Park East Special Character Area

The Prince Alfred Park East SCA includes Prince Alfred Park and a mix of residential terraces interspersed with street level retail, commercial uses and warehouse buildings on the western side. Central Station forms a legible edge to the north of the SCA.

Principles: retain the existing street setbacks and alignment in response to the original street grid pattern of the area.

Surry Hills Centre Special Character Area

Devonshire Street forms the southern edge of this SCA which is centred on the Crown Street neighbourhood centre. Crown Street is characterised by rows of terraces and a high quality public domain.

Principles: maintain views along Riley Street to Ward Park; provide a strong edge and passive surveillance to Ward Park on the corner of Riley and Devonshire Street while creating a gateway to Riley Street from the south.

Surry Hills South Special Character Area

Devonshire Street forms the northern edge of this SCA. The Northcott Estate (with a 14 storey central tower) and Ward Park at the top of the ridgeline are dominant features of this area with finer grain low scale Victorian terraces located at the southern and eastern parts of this SCA.

Principles: new development near Ward Park is to provide passive surveillance; and design suitable development to the edges of Ward Park taking advantage of the amenity provided by this public open space.

Surry Hills East Special Character Area

Devonshire Street terminates at the western edge of the Surry Hills East area. The neighbourhood character is largely characterised by a fine grain of Victorian terraces. Bourke Street, running in a north-south direction and interspersed with small corner shops and cafes, is part of a tree-lined separated cycleway.

Principles: maintain east-west views along Devonshire Street; maintain north-south views along Bourke Street; maintain street tree planting and introduce new street tree planting as part of new development.

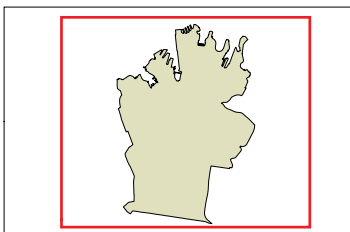


Sydney Development Control Plan 2012

City locality areas map

Legend

- 2.1 Central Sydney
- 2.2 Rosebery Estate
- 2.3 Chippendale, Camperdown, Darlinghurst
- 2.4 City East
- 2.5 Green Square
- 2.6 Glebe and Forest Lodge
- 2.7 Erskineville, Alexandria (west) and Newtown (south)
- 2.8 Millers Point
- 2.9 Paddington/Centennial Park
- 2.10 Southern Industrial Area
- 2.11 Surry Hills
- 2.12 Ultimo/Pymont
- 2.13 Waterloo and Redfern
- City of Sydney - Local Government Area
- Land excluded from this DCP



0 1 Km

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Projection: MGA Zone 56
Datum: GDA84
Paper Size: A3
Prepared By: City Plan Devt.
Printing Date: October 11, 2012
File: SDGP2012_GLA.mxd

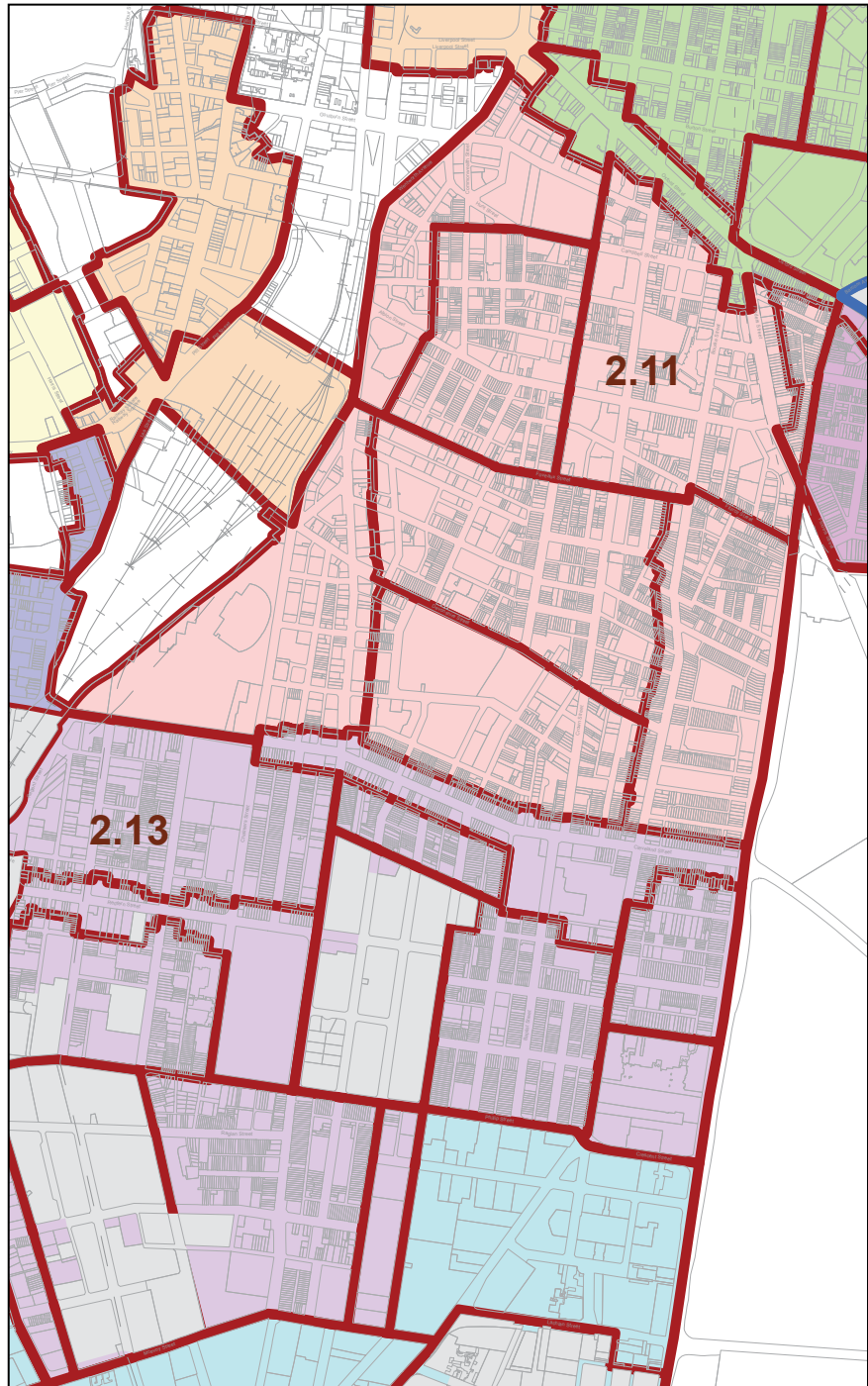


Figure 7.1 The Sydney Development Control Plan, 2012
City of Sydney

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Urban Design Strategy

7.2 Urban Design Strategy

The Urban Design Strategy has been developed in concert with the key stakeholder, the City of Sydney. The project urban design team have worked closely with the City Design team to coordinate and discuss the TfNSW requirements for light rail (including stops, tracks, wires, wire free, poles, shelters, grading, etc.) and the City's George Street Concept Plan. There is now a generally well coordinated and agreed approach to the design of Devonshire Street which incorporates the City's ideas and plans as well as the light rail requirements.

This includes the new City of Sydney Public Domain Suite for street furniture which includes street lighting, seats, benches, tree grilles, bubblers, etc. The Village Suite is suggested as the street furniture for Devonshire Street.

The urban design strategy for the precinct of Surry Hills is for an island stop to be located within the central alignment of Devonshire Street opposite Ward Park.

Village- Material Strategy

Materials are drawn from the Sydney vernacular and strike a balance between the refined and elegant qualities required in the City of Sydney Civic zone, and the Park and Boulevard precincts along the South East route. All materials are chosen to be comfortable for users, cost effective and designed in standard panels for ease of replacement.

Currently a combination of concrete unit paving with bitumen road surfacing is proposed.

Village – Stop Design

The painted steel frame is as per the Civic - traffic zone, and the glazed roof is replaced with a solid roof comprising a tightly battened timber soffit, or a flat metal panel, with a standing seam copper roof. Benches formed with solid timber slats can be fixed between columns, with handrails to match the City of Sydney's new George Street public furniture strategy. The steel frames are proposed to be finished in bronze.

Wimbo Park Strategy

The strategy for the a revitalised Wimbo Park and its extension is centred around the integration of light rail within a new community pocket park. The park aims to provide maximum green space for local residents to use, while providing a safe environment with the integration of the light rail corridor through the new public open space. Planting and trees are positioned to the perimeter of the park, to provide screening for the surrounding residents. The park will also provide an important pedestrian and cycle east-west connection from Surry Hills to Moore Park, via the new pedestrian bridge across South Dowling Street.

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07 Surry Hills

Existing Landscape Character and Visual Conditions

7.3 Existing Landscape Character and Visual Conditions

This precinct is characterised by the topography and inner city heritage character of Surry Hills. Devonshire Street rises steeply eastwards from Chalmers Street, passing a highly active retail and commercial precinct including shop fronts, cafes, pubs, and hotels, as well as numerous terrace houses towards a crest near Ward Park. The street then descends to cross Crown Street and terminates at Bourke Street. The street, approximately 850m long, generally has small scale commercial development in the west and a leafy residential character in the east. The proposal alignment continues on from Devonshire Street eastwards through Wimbo Park and the Olivia Gardens residential complex to South Dowling Street.

The built form of this precinct contrasts noticeably from the CBD precinct, and is marked by a diversity of architectural styles from the last 150 years. The buildings are predominantly two storey terraces with little or no setback from the footpath, and commercial frontages often with awnings. There are several larger buildings, particularly between Chalmers Street and Holt Street. Between Holt Street and Crown Street are mostly terrace houses on the northern side, with small gardens creating a setback from the street. The corners of a number of side streets are marked with current and former hotels and pubs built to the edge of the footpaths. The architecture is interesting, of a smaller scale and provides the street with a heritage character.

Between Clisdell Street and Ward Park the Northcott Estate, a post war residential social housing estate, comprises a four storey brick unit complex on the southern side of Devonshire Street, and up to 14 storey towers behind. The buildings adjacent to Devonshire Street have a zig zag layout that creates pockets of open space alongside the street. This undulating and set back built form contrasts to the surrounding urban grain. The complex is visually softened in the streetscape, particularly in summer, by a very established and mature internal tree

planting along its northern boundary. The canopies of these mature, deciduous trees merge with the mature street trees on Devonshire Street and create areas of almost continuous canopy cover over the street, reducing the perceived massing of the buildings. This vegetation provides a very strong 'borrowed' landscape to Devonshire Street and indeed the broader visual catchment of Surry Hills.

In this area, Devonshire Street is further characterised by the numerous cross streets and side laneways. These create small breaks in Devonshire Street on the northern side, and further reinforce the morphology of inner Sydney – many being one lane in width with zero setbacks to buildings. Many of the side streets and laneways provide access to rear laneways.

Further east along Devonshire Street the built form is varied, including Victorian terrace housing, corner stores and warehouse buildings of various ages and types. St Peter's church on Devonshire Street is a local landmark building set back from the building line.

The Olivia Gardens residential complex adjoins parkland on Bourke Street, introducing a new built form into an otherwise relatively coherent Victorian terrace streetscape. It backs onto a car park fronting South Dowling Street and the Eastern Distributor.

The landscape of Devonshire Street is characterised by a very strong avenue of Plane Trees between Chalmers Street and Elizabeth Street, with smaller and sporadic street tree planting between Elizabeth Street and Clisdell Street. Devonshire Street kinks southwards at Elizabeth Street, where there is a widened footpath and pocket park which accommodates a small grassed area and café seating shaded by mature pepper trees. A very tall and dominant stand of *Populus deltoides* (Cottonwood Poplar) trees, are located adjacent to the Northcott Estate complex, generally between Clisdell and Riley Streets, creating a high canopy.

At the top of the rise is Ward Park, one of the few higher quality public parks in Surry Hills, providing much needed breathing space for the people of Surry

Hills. Ward Park contains a cluster of mature trees above formal hedges and low brick garden walls creating a formal edge to the park. This major local park includes two playground areas, opportunities for recreation, informal sports activities, picnicking and barbecues.

Smaller local parks also connect to Devonshire Street including Nickson Street Park and Wimbo Parks. On Nickson Street, a small pocket park introduces additional street planting and seating, and a setback to an otherwise coherent building line. Wimbo Park includes some mature trees and shrub planting. Views west along Devonshire Street towards Bourke Street terminate at Wimbo Park.

Intersecting with Devonshire Street is one of Sydney's most impressive streetscapes. Bourke Street features a number of large, well-formed and maintained *Platanus acerifolia* trees, with some *Lophostemon confertus* (Queensland Brushbox) trees interspersed. Set in a fairly narrow streetscape, this avenue visually encloses the street.

Finally, at the eastern end of the precinct, a large Fig tree is located in the vicinity of the alignment at South Dowling Street. This fig is very large and provides a significant visual marker along South Dowling Street.

Generally, view corridors are constrained by the tight cross section of Devonshire Street, including the established street and private domain trees, the zero setbacks of housing and buildings, together with the rising and falling topography. In the south, glimpses of Central Station and the Anglo-Dutch Federation (former Railway Institute) building, which sits adjacent to the station entry, are possible in winter from Devonshire Street near Holt Street; however the majority of views into and out of Devonshire Street are short and local views.



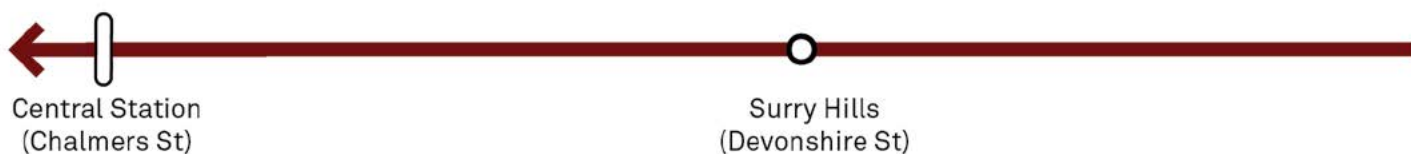
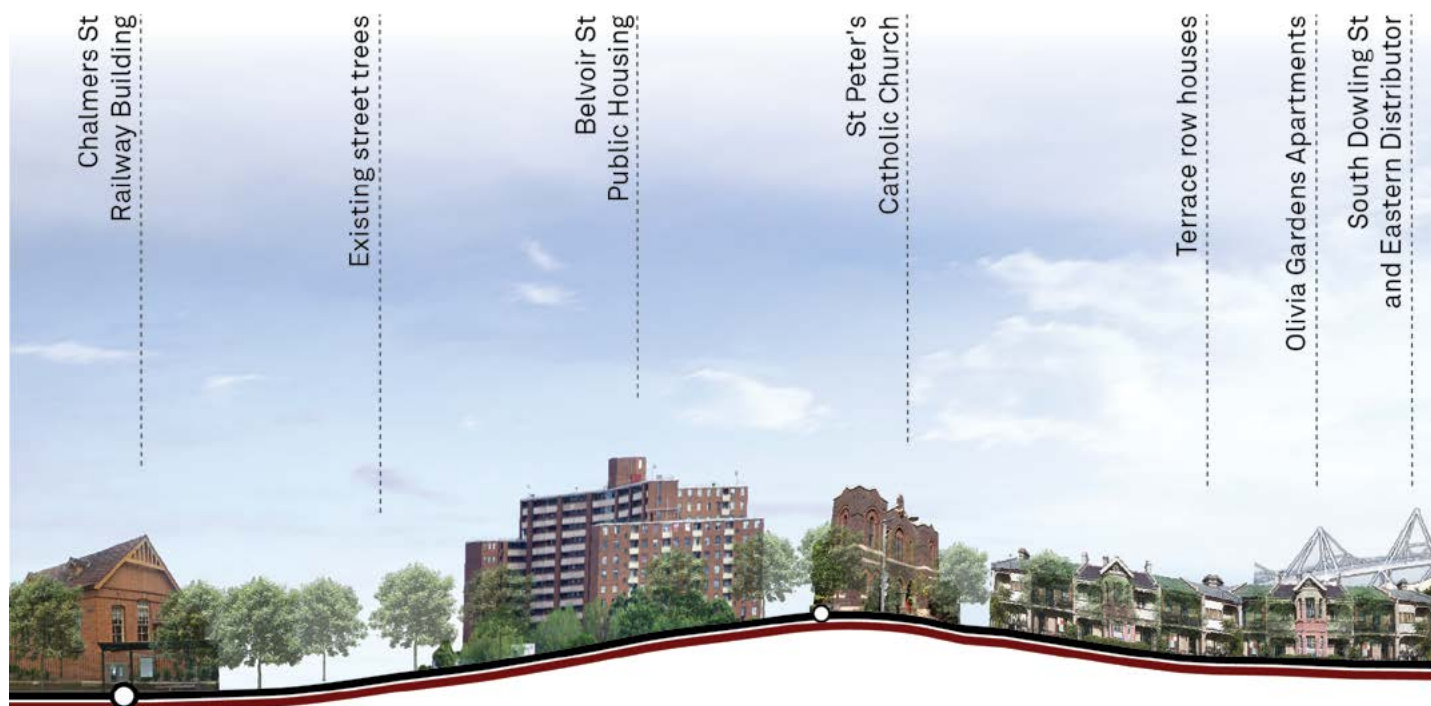
- 01 View along Devonshire Street cnr Bourke Street. Photography by HASSELL
- 02 View along Devonshire Street. Photography by HASSELL
- 03 View along Devonshire Street near Central. Photography by HASSELL
- 04 Existing crossing at cnr of Devonshire, Chalmers and Randall Street, near Central Station. Photography by HASSELL

07 Surry Hills

Existing Landscape Character and Visual Conditions

7.3 Existing Landscape Character and Visual Conditions

The following illustrative section shows the key features along the light rail route and gives a sense of both the ground plane and skyline topography of the site.





Devonshire Street. Photography by HASSELL

07 Surry Hills

Landscape and Visible Components of the Project

7.4 Landscape and Visible Components of the Project

The following assessment is based on the preferred current design alignment as described in the Environmental Impact Statement. Generally, the proposed stop and corridor design for this precinct applies three key treatments along the route. These are:

- Devonshire Street, Light rail with traffic in local suburban street
- Bourke Street to South Dowling Street, Built form removed and new park created
- South Dowling Street, a bridge structure over South Dowling Street and the Eastern Distributor, to Moore Park

Each of these treatments is described generally in the following paragraphs.

Devonshire Street

From Chalmers Street, the route turns into and follows Devonshire Street. The route is primarily located on the southern side of the street with a one-way traffic lane east bound maintained until Crown Street where a dedicated central light rail corridor is provided alongside eastbound and westbound traffic lanes. To allow the light rail corridor to be accommodated on

Devonshire Street, several connecting streets would be closed at the Devonshire Street intersection and no provision for parking would be accommodated along Devonshire Street. The northern side footpath is reinforced as the major footpath with possible widening. This would require the removal of almost all existing trees on Devonshire Street. New street trees would be provided on the northern side of the street where space permits.

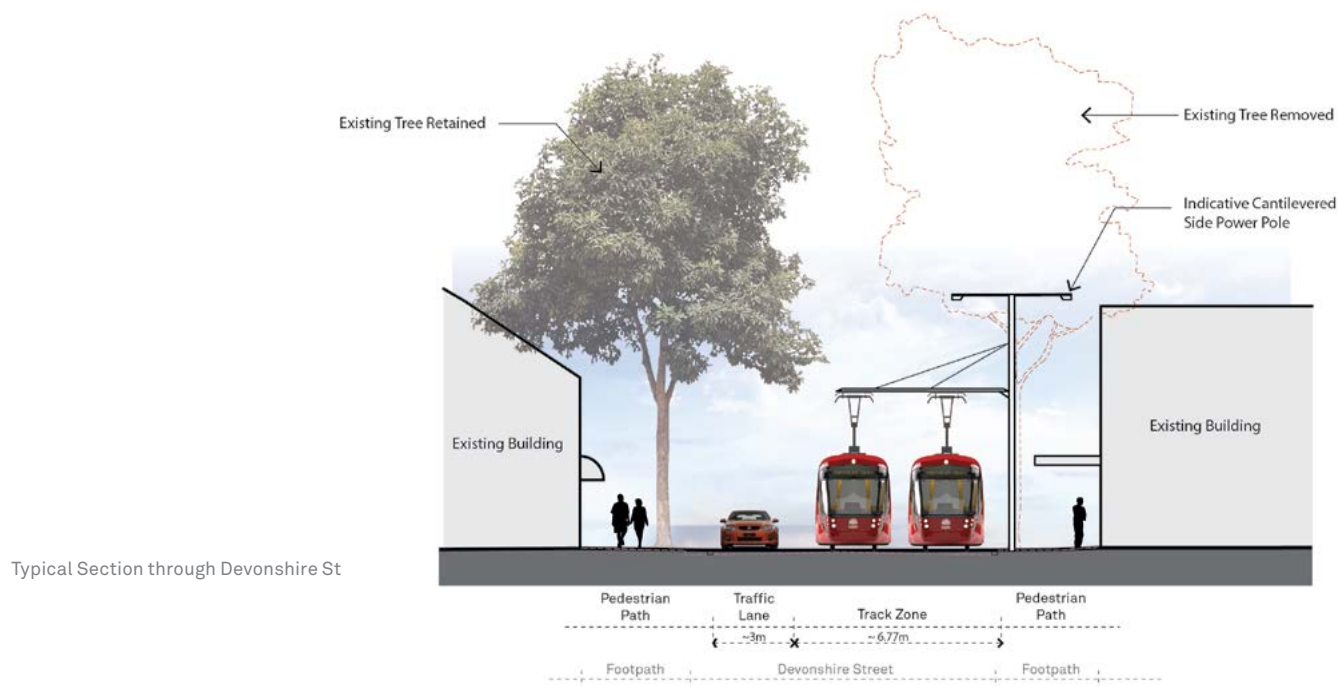
An island platform stop would be located adjacent to Ward Park with a single eastbound traffic lane to the northern side of the stop. Part of the southern footpath of Ward Park and adjacent planting areas would be removed to accommodate the stop and a new plaza space would re-define the edge of Ward Park. A substation would be located between Riley and Malborough streets on the northern side of Devonshire Street.

Bourke Street to South Dowling Street

The route continues along the Devonshire Street alignment as a dedicated central light rail corridor through Wimbo Park and the new Olivia Park (formerly the Olivia Gardens apartments site) meeting South Dowling Street at grade. Wimbo Park would be combined with the Olivia Gardens apartments site and contain a new public square and planting to filter views to the LRV corridor. A major pedestrian pathway would continue along the northern side of the new park, connecting from Devonshire Street to South Dowling Street.

South Dowling Street

From the former Olivia Gardens apartment site, the light rail route would cross South Dowling Street at grade before inclining on a steel truss bridge to be grade separated with the Eastern Distributor before reaching Moore Park to the east of the Eastern Distributor.



Construction

Construction of the proposal in this area would require early works including utility relocations, vegetation and public realm demolition works, minor intersection modifications, preparatory works for the track slab construction and systems works. Kerb side parking would be removed and a number of turning movements and several intersections along Devonshire Street would be closed to accommodate the new light rail corridor. The building demolition and removal works at the Olivia Gardens apartments would be undertaken in this phase of construction. In Devonshire Street the work sites would be surrounded by concrete kerbs and green mesh fencing; however hoarding will surround the Olivia Garden demolition site. Construction of the CSELR proposal is expected to commence in mid-2014 (subject to planning approval) and is anticipated to take approximately five to six years.

Civil and systems works would require a construction zone to be established along the southern edge of Devonshire Street and a centrally located construction zone between Crown Street and Bourke Street as to allow both light rail carriageways to be constructed concurrently. This would require the removal of all traffic for the

majority of Devonshire Street with local diversions and temporary intersection closures required. The track works would include the preparation and construction of the track slab and rail installation, this section is expected to use an Apitrax system.

Track work would be followed by construction of the stop platforms, canopies, reinstatement of pavements and erection of catenary structures and wires at the stations and along the route as required.

Equipment used in this area that may be seen would include Apitrax track machine, slip track machinery, cherry pickers, mobile cranes and 6-wheel tip trucks.

A Construction Site Compound Area (CSCA) would be located on Ward Park, adjacent to the stop site. This site would cover an area of approximately 3200m² and contain site offices, equipment storage, laydown area and workshop. It is also proposed that a substation site compound be located between Riley and Marlborough streets on the northern side of Devonshire Street. The substation works would be predominately civil works including excavation and foundation preparations to allow for the off site manufactured substation to be placed on site.

From Bourke to South Dowling Street, a laydown area of approximately 400m² has been proposed on Wimbo Park between Bourke Street and the current apartment blocks known as Olivia Gardens to allow for the sorting of demolition material. Langton Clinic car park would also be utilised as a laydown area adjacent to the works corridor.

The bridge over the Eastern Distributor would be prefabricated off site. There would be localised impacts during the bridge abutment works on South Dowling Street and the northbound entry ramp to the Eastern Distributor. Civil and systems works would include preparation for and the erection of the steel truss bridge, track slab and rail installation, followed by installation of the overhead wires. Works would be done sequentially to ensure that either street is available as an alternative route whilst the other is disrupted. The duration of works for the truss bridge would be approximately 12 months.

Typical Section through Olivia Gardens



07 Surry Hills

Sensitivity Levels

7.5 Sensitivity Levels

The sensitivity of the precinct is predominantly influenced by the inner city residential fine grain of Victorian terraces and tree lined leafy streets. The following list summarises the assessment of visual sensitivity for the main viewing areas across the study area:

- _ The landscape and visual amenity of Devonshire Street is considered to be of **local level sensitivity** as it is an important area for the Surry Hills community and it includes a number of parks and commercial uses. This street is also a main thoroughfare between Central Station and the Moore Park entertainment and sporting facilities.
- _ The landscape and visual amenity of Ward Park is considered to be of **local level sensitivity** as this is an important local park with both passive and active recreational uses, for the Surry Hills community.
- _ Wimbo and Nickson Street parks are smaller neighbourhood parks. The landscape and amenity of these parks are considered to be of **neighbourhood level sensitivity** as they are important amenity resources for the Surry Hills community.
- _ The landscape and visual sensitivity of South Dowling Street is considered to be of **regional level sensitivity** as this is a major distributor road, channelling traffic from the south eastern suburbs of Sydney. This corridor also includes the Eastern Distributor which links the CBD with the Airport, including a tunnel which emerges at Surry Hills.

These sensitivity levels have been used consistently throughout the following assessment.

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Assessment of Landscape Impacts

7.6 Assessment of Landscape Impacts

The landscapes within this precinct identified as potentially being impacted by the proposal are the:

1. Devonshire Street
2. Ward Park
3. Nickson Street Park
4. Wimbo Park

The following sections summarise the impacts identified by the landscape assessment and site visit observations. This includes impacts during construction and operation. Where the duration of impact is relevant it will be noted.



not to scale

07 Surry Hills

Assessment of Landscape Impacts

Devonshire Street

During construction Devonshire Street would be closed to traffic (except local access), in addition to a number of intersecting streets which would also be closed. This is described in a number of traffic report in the Environmental Impact Statement. The southern side of Devonshire Street would become a construction site. It is likely that north-south pedestrian movement would be diverted and connectivity and legibility in this part of Surry Hills may be impacted. A large number of street trees would be removed from Devonshire Street, between Chalmers and Crown Streets. This includes, in particular, 12 mature trees between Clisdell Street and Ward Park whose canopy cover and enclose the road visually.

Construction Assessment

It is expected that there would be considerable reduction to the landscape quality of this landscape feature of local sensitivity. This results in a **moderate adverse landscape impact** during construction.

The function of Devonshire Street and its intersecting streets would be maintained for pedestrian movements during operation of the proposal and any impacts on building entries and footpath continuity, required for construction, would be restored. It is expected that the street trees removed during construction would be replaced on Devonshire Street in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013) and in consultation with the City of Sydney, along with a range of public realm improvements to create a high quality pedestrian street. These street trees, however, would be smaller and less mature, and located only on the northern side of the street. This would provide some landscape amenity, but not the same sense of visual enclosure as the double avenue which currently exists. A footpath would be provided along the northern side of Devonshire Street that would connect more directly to Moore Park in the east. It is also expected that with the closure of some streets intersecting with Devonshire Street, that there would be the creation of a number of additional pocket parks along Devonshire Street, which may include areas for future outdoor café and restaurant seating or the opportunity for a tree and green space.

Operations Assessment

Primarily owing to the loss of mature street tree cover, it is expected that the proposal creates a noticeable reduction in the landscape quality of this locally sensitive landscape feature. Overall, there is expected to be a **minor adverse landscape impact** during operation.



01 View along Devonshire Street cnr Bourke Street. Photography by HASSELL

02 View along Devonshire Street. Photography by HASSELL

03 View along Devonshire Street near Central. Photography by HASSELL

04 Existing crossing at cnr of Devonshire, Chalmers and Randall Street, near Central Station. Photography by HASSELL

07 Surry Hills

Assessment of Landscape Impacts

Ward Park

During construction Ward Park would be directly affected as approximately 3200m² of the park (in the north eastern corner immediately adjacent to the Northcott Estate) is used to accommodate a number of construction related activities including a site office and laydown area, followed by construction of the Surry Hills stop itself. A number of trees would be removed to accommodate this site, including a number of trees on the Surry Hills stop site. Users of the park would be displaced during construction; the types of activities suitable for this location altered; and the general amenity of the park would be diminished. There is also likely to be a reduced legibility of the area owing to impacts on the view corridor along Riley Street, and impacts on the amenity and directness of the north-south pedestrian movements between Moore Park and Central Station.

Construction Assessment

During construction it is anticipated that there would be a considerable reduction in the quality of this landscape of local sensitivity. This results in a **moderate adverse landscape impact** during construction.

The function of Ward Park would be restored during operation. Adjustments to the character and function of the park would change with the introduction of a light rail stop within the park's northern edge. This would result in the loss of a portion of the park which would now be occupied by a transit plaza with moving and stationary LRVs activating the edge of the park. Trees would have been removed along the park frontage to Devonshire Street; however a high quality plaza design would provide amenity in this area.

Operations Assessment

Overall, it is considered that the proposal creates a noticeable improvement to this landscape feature of local sensitivity. This results in a **minor beneficial landscape impact** during operation.

01 View east along
Devonshire Street
near Moore Park
Photography by
HASSELL

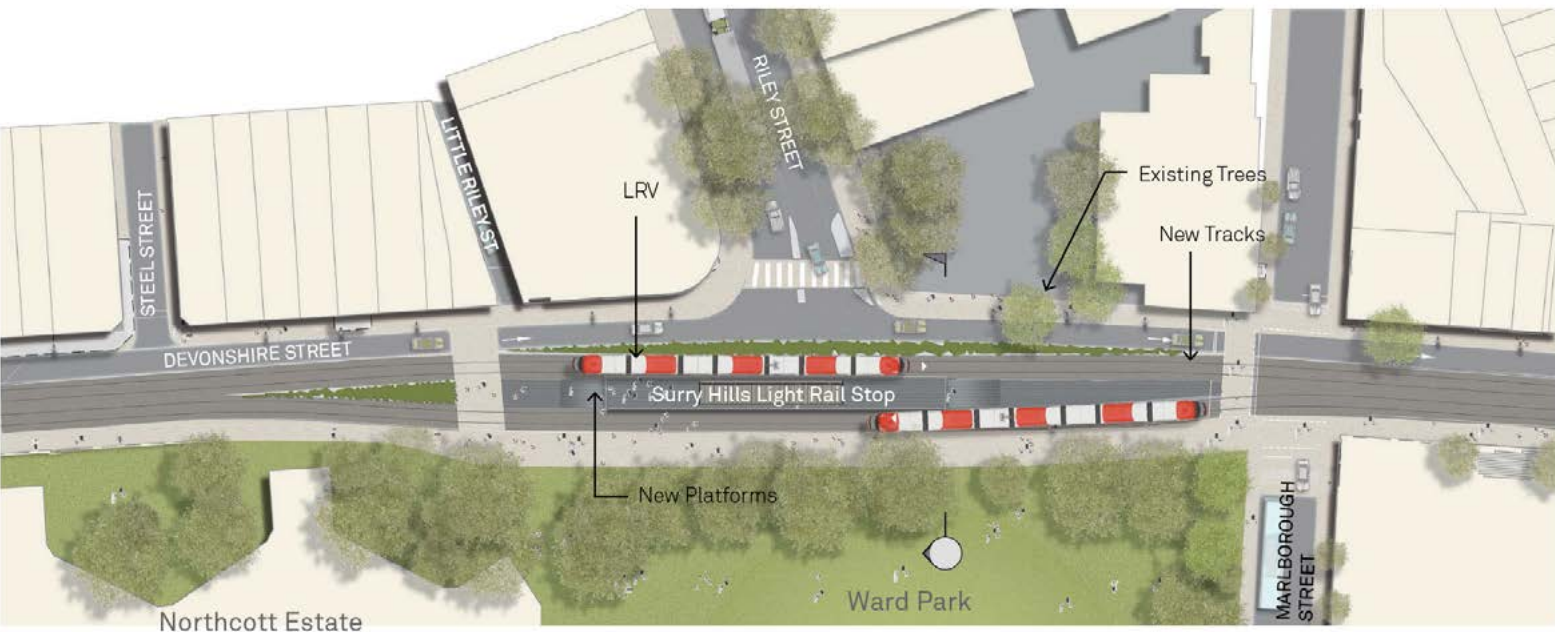
03 View of Ward Park
with Northcott
Estate in
background.
Photography by
HASSELL

02 Pedestrian crossing
to Ward Park
Photography by
HASSELL

04 Illustrative concept
plan of Surry Hills
Stop



04



07 Surry Hills

Assessment of Landscape Impacts

Nickson Street Park

During construction the Nickson Street Park would not be directly impacted. However, when construction works are occurring on Devonshire Street, adjacent to the park, much of the street would become a construction site. It is likely that the flow of pedestrian movement, accessibility to the park, and general amenity may be impacted.

During construction it is expected that there would be a noticeable reduction in the quality of this landscape.

Construction Assessment

This is a landscape feature of neighbourhood sensitivity, and consequently there is expected to be a **negligible landscape impact** during construction.

The function of Nickson Street Park would be maintained during operation of the proposal. Trees along the frontage of Devonshire Street would be removed. General public realm improvement works would be undertaken by way of a uniform paving scheme along the footpath of Devonshire Street, the park's primary frontage. The closure of Nickson Street also creates an opportunity to revitalise the pocket park. On balance, the loss of trees in the road reserve with improvements to the public realm are changes that are compatible with the surrounding urban landscape.

Operations Assessment

There is expected to be no perceived change in landscape amenity of this feature of neighbourhood sensitivity. This results in a **negligible landscape impact** during operation.

01 View of Nickson Street.
Photography by HASSELL

02 View along Devonshire
Street.
Photography by HASSELL



07 Surry Hills

Assessment of Landscape Impacts

Wimbo Park

During construction Wimbo Park would be directly impacted to accommodate construction of the light rail corridor and associated laydown area. Users of the park would be displaced as the park would be greatly reduced in size and the amenity impacted by construction activity. A number of existing trees and planted areas would be removed and the visual connectivity and legibility around the park would be impacted.

Construction Assessment

As a result, it is expected that there would be a considerable reduction in the quality of this landscape feature of neighbourhood sensitivity. This results in a **minor adverse landscape impact** during construction.

The function of Wimbo Park would be restored during operation of the proposal with the exclusion of the southern portion, which would be used to accommodate the track infrastructure. Wimbo Park would be expanded with a new public park that would extend into the Olivia Gardens site. The park would include new trees and planting to a high quality open space design.

Operations Assessment

It is considered that the proposal creates a noticeable improvement to the quality of this landscape feature which is of neighbourhood sensitivity. This results in a **negligible landscape impact** during operation.

01 View of path through Wimbo Park.
Photography by HASSELL

02 View from Parkham lane toward memorial park and mural wall surrounded by plantings
Photography by HASSELL

03 View along Bourke Street towards Wimbo Park.
Photography by HASSELL



07 Surry Hills

Assessment of Daytime Visual Impacts

7.7 Assessment of Daytime Visual Impacts

Selection of Representative Viewpoints

A site visit was undertaken during June and July of 2013. The following viewpoints were selected as representative of the range of views to the site and the proposed development:

Devonshire Street

_ View 2-1 View north along Devonshire Street, Surry Hills

Bourke Street to South Dowling Street

_ View 2-2 View from Devonshire Street to Wimbo Park, Surry Hills

South Dowling Street and the Eastern Distributor

_ View 2-3 View south along South Dowling Street, Surry Hills

Assessment of Representative Viewpoints

The following sections summarise the daytime visual impacts identified in the representative viewpoint assessment and site visit observations.



not to scale

07 Surry Hills

Assessment of Daytime Visual Impacts

Devonshire Street

View 2-1 View north along Devonshire Street, Surry Hills

In this location the townscape of the study area is broadly defined by residential and commercial development undertaken in the Victorian period. There is generally a high level of visual conformity and coherence in this area, with the exception of the post-war Northcott Estate and an infill apartment building which represent the most significant changes to the streetscape. The strong building line created by the terraces together with the near continuous line of mature Fig trees help to create a visual sense of enclosure despite the staggered setback of the estate buildings. The street trees, together with the planting within the front garden of the Estate, provide filtered views of the red brick buildings. Viewpoint 2-1 is representative of views from the western end of Devonshire Street towards its high point at Ward Park.

During construction this view would change as service relocations begin, and Clisdell Street is closed. These impacts would increase as the street trees which characterise this view are removed, and the view becomes focused on a construction work site. In this narrow street, the work site would comprise much of the ground plane of the view, the additional construction traffic would be seen, and cross street visibility reduced. These changes to the view are not visually consistent with the character of this area and surrounding urban landscape of Devonshire Street.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of local visual sensitivity, resulting in a **moderate adverse visual impact** during construction. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view traffic would be reduced to one lane allowing for local access and the footpath on the northern side of the street

would be widened. The large trees which were removed during construction, and are essential to the character of this portion of Devonshire Street, would not be replaced. There would be replacement of trees in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013) and in consultation with the City of Sydney, with smaller specimens and located on northern side of Devonshire Street, filtering views to the terrace housing. However, to the south, the brick buildings of the Northcott Estate would be more visually prominent, particularly in winter. New elements including overhead wires and catenary structures would add visual clutter within the streetscape. LRVs would be seen moving through this view, in place of a former traffic lane. The LRVs would be visually prominent with a visual envelope extending for up to 45m.

Operations Assessment

In views from this area, which are of local visual sensitivity, it is expected that there would be considerable reduction amenity. This results in a **moderate adverse visual impact** during operation.



View 2-1 View north along Devonshire Street, Surry Hills

07 Surry Hills

Assessment of Daytime Visual Impacts

Bourke Street to South Dowling Street

View 2-2 View from Devonshire Street to Wimbo Park, Surry Hills

In this location the study area is characterised by modest, low scale commercial and residential buildings built to the street edge. Both corner buildings present blank flank walls to Devonshire Street, however outdoor seating at the Bourke Street Bakery activates the street edge. Overall, the view is dominated by the foliage from the avenue of trees in Bourke Street and trees within Wimbo Park in front of the Olivia Gardens residential complex which terminates views east along Devonshire Street. Viewpoint 2-2 is representative of views along Devonshire Street, terminating at Wimbo Park.

During construction this view would change during early works, as the view becomes focused on a construction work site surrounded by opaque site hoarding. The works in this area would be

considerable and there would be equipment and trucks seen accessing the site. The Olivia Gardens building in the background of the view would be removed. These changes to the view are not visually consistent with the character of this area and surrounding urban landscape of Devonshire and Bourke Streets. During civil construction work would occur at intersections separately to the inter-block areas and therefore the construction of the CSELR corridor itself would be progressively visible in the foreground of the view, and then the intersection in the middle ground, and through the park in the background of the view.

Construction Assessment

During this work, the proposal creates a considerable reduction in visual amenity, resulting in a **minor adverse visual impact**. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view the street corridor would be altered to accommodate two lanes for local traffic and two light rail lines in the foreground. The light rail corridor would continue into the background of the view, running through the southern portion of Wimbo Park the former Olivia Gardens complex which would have been removed during construction. These sites will be seen as newly established local park, visually filtering the light rail corridor. Although there would be the addition of safety fencing, overhead wires and catenary structures, which would add visual clutter to the view, the improved visual amenity associated with the enhancements to the streetscape and Wimbo Park would result in a noticeable improvement to the visual amenity of views in this area.

Operations Assessment

From views in this area, which are of neighbourhood level sensitivity, it is expected that the proposal would have a **negligible visual impact** during operation.



View 2-2 View from Devonshire Street to Wimbo Park, Surry Hills

South Dowling Street and the Eastern Distributor

View 2-3 View south along South Dowling Street, Surry Hills

In this location the study area is characterised by a grouping of terrace housing interspersed with red brick apartment buildings and warehouse typologies to create a harmonious massing and largely coherent built edge seen against the backdrop of Moore Park. South Dowling Street and the Eastern Distributor create an impenetrable road corridor and barrier to the park and present a highly modified townscape. The landscaped edges along the road corridor are an important feature as they soften views of the road corridor. View 2-3 is a representative view of where the light rail traverses South Dowling Street and the Eastern Distributor from Surry Hills into Moore Park.

During construction this view would change during early works, as utility relocation and minor road adjustments are undertaken and the large fig tree in the centre of the view is removed. Following this, the bridge structure would be progressively installed. These changes to the view are not visually consistent with the character of this area.

Construction Assessment

It is expected that the proposal would create a considerable reduction in the visual amenity of the view, which is of regional visual sensitivity. This would result in a **high adverse visual impact** during the construction period for this area. The construction period for the CSELR project is anticipated to take approximately five to six years.

In this view a new light rail bridge structure would be introduced to the established landscape of the Eastern Distributor. The bridge would be visually prominent in this area, and consistent with the scale and character of these roadways. There would be a loss of trees

along the berm at the edge of Moore Park in the background of the view to allow for bridge abutments; and some existing trees within the corridor where the bridge crosses in the middleground. Owing to the high degree of visual modification within an already modified landscape, the bridge structure would not markedly contrast with the Eastern Distributor, however there would be overhead elements introduced into the view.

Operations Assessment

From views in this area, which are of regional sensitivity, it is expected that there would be a noticeable reduction in visual amenity. The visual impact of the proposal during operation is **minor adverse**.



View 2-3 View south along South Dowling Street, Surry Hills

07 Surry Hills

Assessment of Night time Visual Impacts

7.8 Assessment of Night time Visual Impacts

At night the site can be categorised as an area of E4: high district brightness to E3: medium district brightness (refer to Section 3) depending on the commercial or residential nature of the street. This area includes high traffic level streets with active street shops and restaurants and cafes in commercial areas along much of Devonshire Street. At Bourke Street, the light levels are reduced through the residential areas of Nobbs and Parkham Lane with low to moderate level traffic streets in residential areas. At South Dowling Street and in the vicinity of the Eastern Distributor, the light levels are elevated again due to these brightly lit road corridors. As well as these direct light sources, there is an existing skyglow effect around Surry Hills, particularly to the south of Devonshire Street near Central Station and at South Dowling Street and the Eastern Distributor in the east of the precinct.

The project would introduce lit LRVs to an area that is currently occupied by a moderate to highly trafficked roadway. There would be LRVs moving along the alignment at regular intervals with headlights which are generally the same size, breadth and brightness as standard car headlights. The LRVs would also include lit carriages. The stops proposed at Ward Park would also be brightly lit to ensure community safety.

During construction there may be times when there would be 24 hour use of the construction sites. At these times the site would include brightly lit areas providing a safe work environment for construction activities to occur. There would also be the headlights from construction related traffic including trucks accessing the site.

It is expected that lighting on the site would be brighter than the current traffic and street lighting and that any additional skyglow would be managed by cut-off light fittings and directed lights for the construction tasks.

Devonshire Street

Views to the construction works in this area would be unfiltered by vegetation and in close proximity to adjacent commercial and residential properties.

Construction Assessment

This additional lighting would create a considerable reduction in the amenity of the areas of medium district brightness, between Bolt Street and Crown Street where the street becomes predominantly residential and a noticeable reduction in the areas of high district brightness in other areas along Devonshire Street. This results in a **moderate adverse to negligible visual impact** for this area during evening hours.

During operation, there would be lighting at the light rail stop at Ward Park as well as headlights on the LRVs following the alignment. In locations where there are bends and corners in the rail alignment the LRV headlights may be directed into adjacent properties, such as in the vicinity of the intersection with Elizabeth Street. Currently there are vehicle lights pointing in the same direction. The LRV would be similar to the headlights of cars, currently seen in the street, but seen less frequently and on a more predictable direction. It is not expected that there would be any perceived increase in skyglow as a result of the proposal.

Operations Assessment

Generally, in the areas of high district brightness, it is expected that these elements would not create a noticeable reduction or improvement in amenity and

result in a **negligible visual impact** for the precinct overall during evening hours. In the areas of medium district brightness, these elements would create a noticeable reduction in amenity and result in a **minor adverse visual impact** during evening hours.

Bourke Street to South Dowling Street

During construction, views to the works in this area would be largely unfiltered by vegetation and in close proximity to a predominately residential area. The scale of the work site in this area would create a considerable visual feature at night on the occasion of night construction works. Any additional lighting would have a visual effect that is not compatible with the existing predominantly residential night scene.

Construction Assessment

These elements would create a considerable reduction in the amenity of the areas of medium district brightness and result in a **moderate adverse visual impact** for this area during evening hours.

During operation, as the alignment is relatively straight the headlights and carriages of the LRV would be seen travelling across the view. Therefore there would be limited opportunity for direct light intrusion into any private properties. Light sources within the rail corridor would be partially filtered by the surrounding parkland. It is not expected that there would be any noticeable increase in skyglow as a result of the proposal.

Operations Assessment

In this area of medium district brightness, these elements would create a noticeable reduction in amenity and result in a **minor adverse visual impact** during evening hours.

South Dowling Street and the Eastern Distributor

Views to the works in this area would be partially filtered by vegetation on the surrounding parkland. The night scene in this area is brighter with the larger scale road and adjacent Eastern Distributor Motorway. It is therefore considered that the additional lighting from construction would have a visual effect that is compatible with the existing night scene.

Construction Assessment

These elements would create no perceived reduction in the amenity of the area and result in a **negligible visual impact** for this area during evening hours.

During operation, there would be lighting on the bridge structure as well as headlights on the LRVs following the alignment. Due to the relatively straight alignment, the headlights of the LRVs would be seen travelling across the view, and there would be limited opportunity for direct light intrusion into any private properties. Light sources within the rail corridor would be partially filtered by existing vegetation and vegetation on the surrounding parkland.

Operations Assessment

It is not expected that there would be any noticeable increase in skyglow as a result of the proposal nor create a noticeable reduction in amenity and result in a **negligible visual impact** for the precinct overall during evening hours.

07 Surry Hills

Summary of Impacts

7.9 Summary of Impacts

The following tables summarise the impacts within the precinct:

Landscape impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
1	Devonshire Street	Considerable reduction	Local sensitivity	Moderate adverse impact	Noticeable reduction	Local sensitivity	Minor adverse impact
2	Ward Park	Considerable reduction	Local sensitivity	Moderate adverse impact	Noticeable improvement	Local sensitivity	Minor beneficial impact
3	Nickson Street Park	Noticeable reduction	Neighbourhood sensitivity	Negligible impact	No perceived change	Neighbourhood sensitivity	Negligible impact
4	Wimbo Park	Considerable reduction	Neighbourhood sensitivity	Minor adverse impact	Noticeable improvement	Neighbourhood sensitivity	negligible impact

Table 7.1: Summary of Landscape Assessment

Day time visual impacts

		Construction			Operation		
No.	Location	Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
	Devonshire Street						
2-1	View north along Devonshire Street, Surry Hills	Considerable reduction	Local sensitivity	Moderate adverse impact	Considerable reduction	Local sensitivity	Moderate adverse impact
2-2	View from Devonshire Street to Wimbo Park, Surry Hills	Considerable reduction	Neighbourhood sensitivity	Minor adverse impact	Noticeable improvement	Neighbourhood sensitivity	Negligible
	Bourke Street to South Dowling Street						
2-3	View to northbound traffic along South Dowling Street	Considerable reduction	Regional sensitivity	High adverse impact	Noticeable reduction	Regional sensitivity	Minor adverse

Table 7.2: Summary of Daytime Viewpoint Assessment

Night time visual impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
2-1	Devonshire Street	Noticeable reduction - considerable reduction	Moderate - high district brightness	Moderate adverse to negligible	No perceived change - noticeable reduction	Moderate - high district brightness	Minor adverse - negligible
2-2	Bourke Street to South Dowling Street	Considerable reduction	Moderate district brightness	Moderate adverse	Noticeable reduction	Moderate district brightness	Minor adverse
2-3	South Dowling Street to the Eastern Distributor	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible

Table 7.3: Summary of Night time Viewpoint Assessment

Moore Park





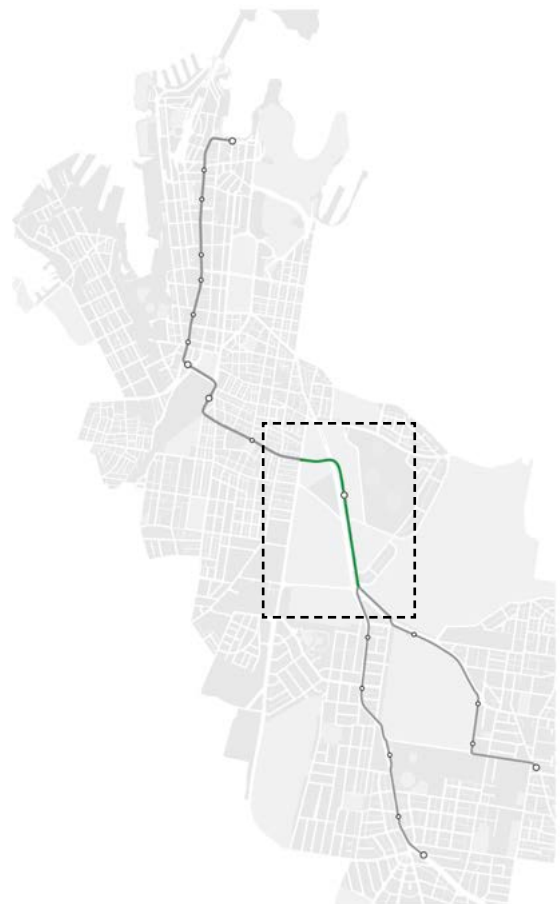
08

08 Moore Park

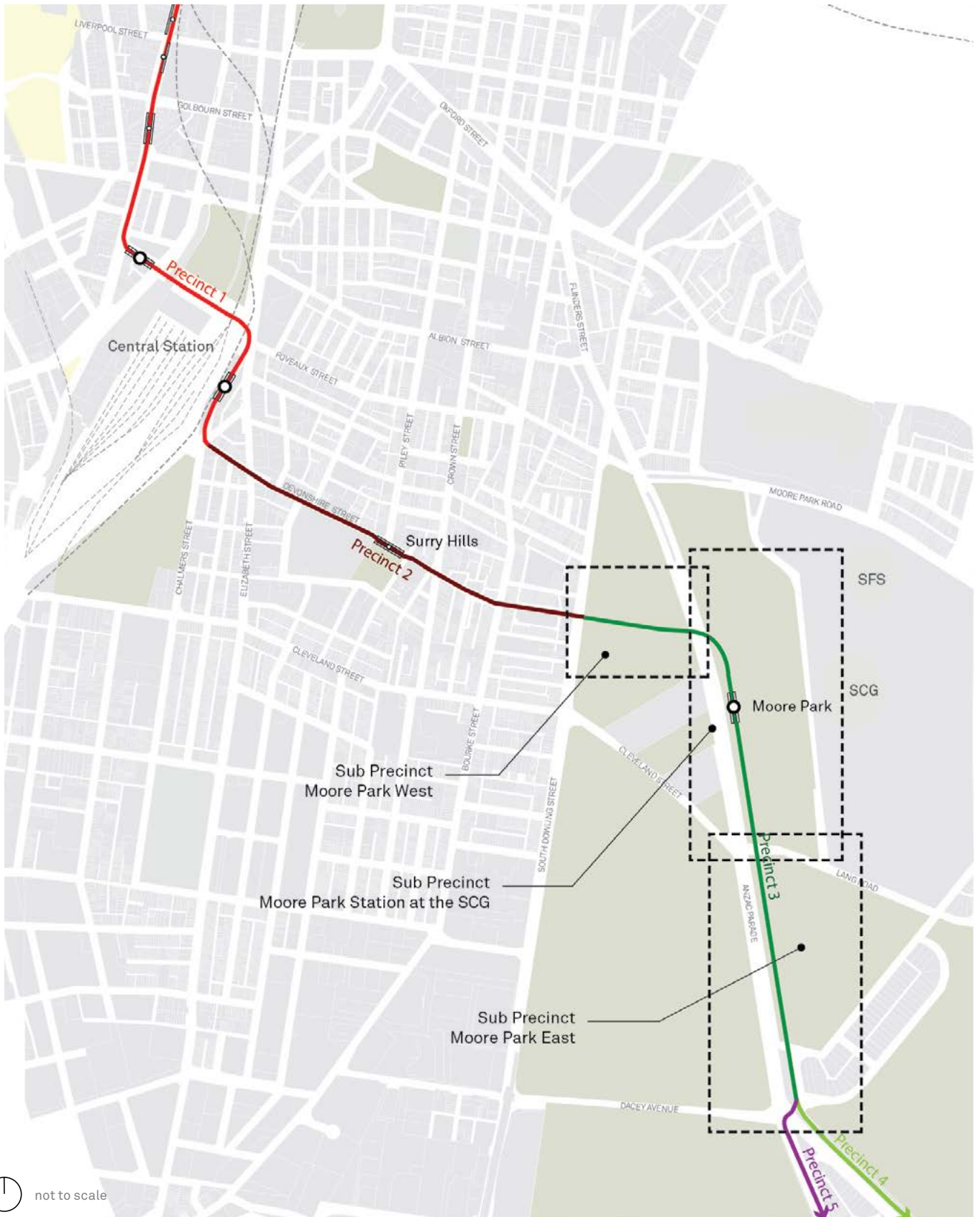
Overview

Overview

This precinct starts at Moore Park West, where the CSELR proposal descends from the bridge over the Eastern Distributor into a cut and cover tunnel which crosses underneath the parkland and Anzac Parade, surfacing near to the Moore Park sporting and entertainment facilities. A stop would be located at grade between the Busway and AFL training field and spanned by pedestrian overbridges. The CSELR alignment continues south, running parallel on the eastern side of the busway, along Anzac Parade until it meets Alison Road. This section passes through some of Sydney's most significant areas of parkland including Moore Park East and West, and the 125 year old Centennial Park.



Key Plan



08 Moore Park Policy Framework

8.1 Policy Framework

The following documents provide a policy framework for this landscape and visual impact assessment.

Randwick Comprehensive Development Control Plan (DCP) 2013

The desired characteristics and streetscape qualities for the area are identified in the DCP for a number of Conservation Areas and specific sites. There are no conservation areas of relevant in this precinct.

Centennial Parklands Conservation Management Plan: Volume 1, Centennial Park and Moore Park Trust, 2011

The heritage listing of Centennial Parklands on the State Heritage Register and Register of the National Estate has led to the development of the Conservation Management Plan (CMP). The CMP provides conservation policies to guide the overall conservation and management of Centennial Parklands' diverse heritage. Heritage 'items' can refer to flora and fauna, planting, fabric, spaces, vistas and places and are subject to their respective conservation processes in relevant charters pending its Natural, Indigenous and Cultural heritage significance. The following key principles relating to the landscape and visual values of the park are included within the CMP:

- _ Protection of the essential character of the Parkland's trees.
- _ Regional views and vistas from the Parklands would be preserved and enhanced through landscape design and maintenance.
- _ Use new planting to strengthen the original design concept and connections, clarify spatial structure and character, mark entrances and junctions and reflect changes in use and/or conditions.
- _ New planting would complement the existing landscape character, have acceptable maintenance and be ecologically appropriate.
- _ Concentrate significant park character and specimen trees along the Parklands boundaries to deter any future proposals that may encroach onto the Parklands.
- _ Any new plantings or replacement plantings would not impact on existing heritage, especially remnant vegetation.
- _ Minimise the visual impact of recreation and sport buildings and structures on the surrounding environment and heritage features of the Parklands.

Tree Master Plan for the Centennial Parklands: Volume 1, Centennial Park and Moore Park Trust, 2002

In concert with the Centennial Parklands Conservation Management Plan a Tree Master Plan has been developed to provide specific guidance relating to the trees within the Parklands. Key recommendations pertaining to the landscape and visual values of the Parkland trees include:

- _ Anzac Parade, Cleveland Street, Dacey Avenue and Driver Avenue to be retained.
- _ Anzac Parade to be Moreton Bay Fig
- _ Cleveland Street to be Port Jackson Fig and Moreton Bay Fig
- _ Dacey Avenue and Driver Avenue to be Hill's Weeping Fig.
- _ Reinforce the Parklands character along the edges of Moore Park by developing South Dowling Street, Moore Park Road and Robertson Road edges as open grassland and woodland dominated by mixed species of figs. This would strengthen the identity of the Parklands and the connection between Moore Park and Centennial Park.
- _ Define the outer corners Moore Park (Drivers Triangle, the corner of South Dowling Street and Dacey Avenue, the corner of Dacey Avenue and Anzac Parade) with landmark plantings consisting of feature trees or palms and/or garden beds.
- _ Develop tree plantings at the junction of Cleveland Street, Anzac Parade and Lang Road to emphasize the main western entry point to the Parklands.
- _ Strengthen the definition of the fairways on Moore Park Golf Course by augmenting the existing belt plantings with a mix of native and exotic planting.

08 Moore Park

Urban Design Strategy

8.2 Urban Design Strategy

The strategy for the Park network is to seamlessly integrate the light rail infrastructure into the high quality public domain that it is located within. This is to be achieved by minimising the impacts to existing significant trees; maintaining maximum pedestrian permeability and access across light rail, while still providing a safe environment; minimising the amount of hard paved areas through parklands; and sensitively selecting materials, to maintain a high quality public amenity throughout.

PARK - Material Strategy

The Park materials should complement the natural palette of materials that currently characterise the area of Moore Park and Centennial Park. These are strongly influenced by the rich texture of the existing fig trees; as well as the open expanse of grassed lawn in and around the parklands.

The most visible element of the light rail infrastructure, the rail track itself, is proposed to be finished with in situ concrete, to allow the appearance of the infrastructure to be integrated yet differentiated (for safety reasons) within the parklands.

The light rail stops will also reflect the natural palette and character of the parklands by utilising sustainable natural materials.

PARK - Stop Design

Due to the expanses of open space that the Park light rail stops are located within, they will be elements that stand out within the landscape potentially becoming highly visible elements that can be seen from a distance. The stops will have clear access and be well lit at night for improved safety and wayfinding. Landscape treatments will also be used to provide wayfinding around the stops, as well as to provide controlled and safe access to the platforms.

Major PARK stops

Moore Park

The Moore Park event stop will service the major events at the Sydney Cricket Ground, Sydney Football Stadium and the Entertainment Quarter. Large crowds of people must be accommodated, by providing safe and easy access to the light rail platforms to cater for events.

08 Moore Park

Existing Landscape Character and Visual Conditions

8.3 Existing Landscape Character and Visual Conditions

This precinct is dominated by open space, including some of Sydney's most significant areas of parkland, such as Moore Park East and West, and the south-eastern corner of the historic Centennial Park. The northern end of Moore Park has an undulating topography, levelling out to a flat topography to cater for a number of sports fields. It is an open parkland defined by linear planting around its perimeter, providing open views across the park, south to the Sydney Boys High School, and east towards the Sydney Cricket Ground, Sydney Football Stadium and Entertainment Quarter.

The northern portion of Moore Park is contained by the linear vehicular corridors of South Dowling Street and Anzac Parade, a former ceremonial route and one of Sydney's best examples of a planted boulevard. The western edge of South Dowling Street creates a largely uniform and visually harmonious setting and backdrop to the park. Although the relationship between Surry Hills and Moore Park is visually foreshortened by the Eastern Distributor tunnel and its associated safety fencing, the landscape treatments on either side of the tunnel and berms along the parkland edge, provide a transition from the road to the parkland.

Anzac Parade is characterised by a majestic avenue of Moreton Bay fig trees. It includes an ANZAC memorial sandstone obelisk, located within the divided carriageway. Moore Park East has a predominately flat topography and open expanses and parkland enhanced by a formal avenue of mature Canary Island Date Palms (*Phoenix Canariensis*) which lead to the forecourt of the Sydney Football Stadium.

Further south along Anzac Parade is the Moore Park golf course with a modified and undulating topography and informal planting. The intersection of Anzac Parade, a major arterial road, and Alison Road provides a visual link to Centennial Park. As Anzac Parade continues onto Kensington the boulevard feel is replaced by a range of informal street tree planting and a suburban landscape of residential buildings with an inconsistent streetscape.



01 Aerial view over Sydney Cricket Ground (SCG) Forecourt.
Photography by HASSELL

02 Aerial view over Moore Park West playing fields.
Photography by HASSELL

03 View of mature trees and pedestrian paths around Moore Park.
Photography by HASSELL

04 View along busway along Anzac Pde towards Alison Rd intersection.
Photography by HASSELL

08 Moore Park

Existing Landscape Character and Visual Conditions

8.3 Existing Landscape Character and Visual Conditions

The following illustrative section shows the key features along the light rail route and gives a sense of both the ground plane and skyline topography of the site.



Moore Park
(Anzac Parade)



Moore Park. Photography by HASSELL

08 Moore Park

Landscape and Visible Components of the Project

8.4 Landscape and Visible Components of the Project

The following assessment is based on the current design alignment as described in the Environmental Impact Statement. Generally, the proposed stop and corridor design for this precinct applies two key treatments along the route. These are:

- Moore Park West, Light rail in a cut and cover tunnel under parkland
- Moore Park East, Light rail and stop in parkland at grade

Each of these treatments is described generally in the following paragraphs.

Moore Park West

From the bridge over the Eastern Distributor, the alignment begins to descend into a cut and cover tunnel under Moore Park. The tunnel would continue across the park and under Anzac Parade. The open space and pedestrian and cyclist connection would be retained across Moore Park.

Moore Park East

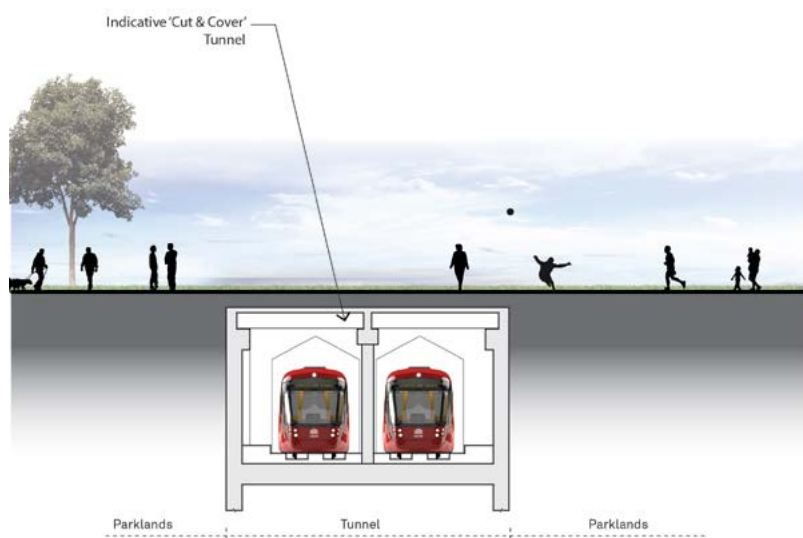
To the east of Anzac Parade the tunnel would surface alongside the existing dedicated busway. At this location the Moore Park stop would be provided as an above ground stop with two 90 metre long island platforms spanned by pedestrian overbridges and a feature canopy. The

route would then continue south and alongside the eastern edge of the busway, crossing Lang Road, and continuing to parallel the busway to the intersection with Alison Road.

South of Lang Road, the light rail route would continue at grade alongside the eastern edge of Anzac Parade busway to Alison Road. This alignment allows both the busway and Anzac Parade to operate as usual and would require minimal disturbance of the existing fig trees which line western the edge of the park.



Typical Section through Anzac Parade



Typical Section through Moore Park East



Typical Section through Moore Park Stop

Construction

Construction of the proposal in this area would require early works including utility relocations and clearing of vegetation. A construction site would be established, surrounded by heras (temporary mesh) fencing and displacing and dissecting the parkland in this area for the duration of works. Early works for this area would occur between 2014 and 2015, for a duration of approximately one year.

Construction of the cut and cover tunnel would require a 50m wide corridor in order to accommodate excavation works, cranes and support equipment. Works around the cut and cover tunnel would require the removal of trees, and enclosure of the site in hoarding. Of particular note are the likely impacts on the mature fig trees avenue on Anzac Parade required to be removed for the tunnelling works underneath the road. There would also be a diversion of the existing pathway network of east west and north south connections through this area of the parkland.

During this work it is essential that Anzac Parade remain open. It is therefore likely that temporary diversion works would be required whilst tunnelling occurs under Anzac Parade, which would create further impacts on the open space areas,

and numerous specimens within the mature fig tree avenue on Anzac Parade. Lang Road would also remain open as a key access to surrounding facilities and would only be shut down for night works at appropriate times.

Civil and systems works would include the preparation and construction of the cut and cover tunnel, track slab, rail and overhead wire installation. Equipment used in this area that may be seen would include slip track machinery, excavators, rollers, cherry pickers, mobile cranes and 6-wheel tip trucks. Truck movement for construction activities within the area would be significant due to the removal of tunnel spoil and materials for tunnel construction including concrete deliveries.

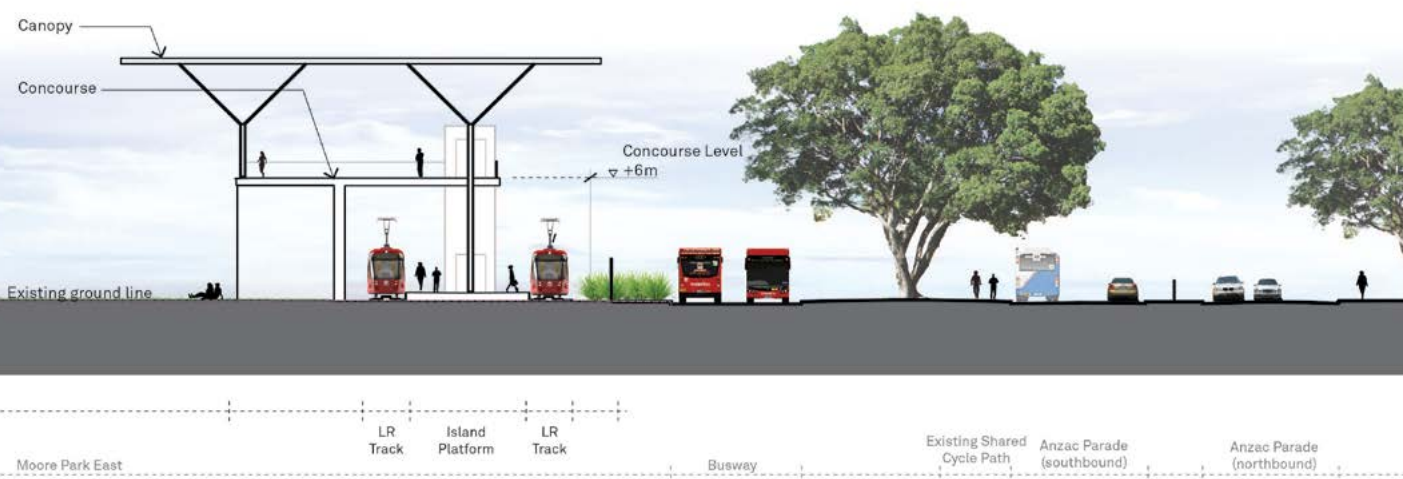
A bridge laydown area is proposed on Moore Park adjacent to the bridge site to the west of the park. This area would include site offices, bridge laydown and cranes.

Two Construction Site Compound Areas (CSCAs) are proposed within Moore Park. One CSCA would be located within Moore Park west and the other at the eastern end of the tunnelling works. Each would cover an areas of approximately 5500m², including laydown area and equipment storage to service the cut and cover tunnelling activity. A wastewater treatment and bentonite plant would be

relocated between the west and eastern side of Anzac Parade following the progression of the cut and cover construction work west to east. These construction sites would be required for the duration of the cut and cover tunnel works.

To facilitate construction of the Moore Park stop, a CSCA is proposed for the AFL training field. With an area of approximately 4800m² it would contain the site office, site facilities and staff carpark. A substation site compound of 250 m² would also be located at the north east corner of Lang Road and Anzac Parade. The substation works would be predominately civil works including excavation and foundation preparations to allow for the off site manufactured substation to be placed on site.

Construction of the CSELR proposal is expected to commence in mid-2014 (subject to planning approval) and is anticipated to take approximately five to six years.



08 Moore Park

Sensitivity Levels

8.5 Sensitivity Levels

This precinct is influenced by the grand mature avenue of figs on Anzac Parade and a number of parks and sports grounds of regional and state significance. The following list summarises the assessment of visual sensitivity for the main viewing areas across the study area:

- _ Moore Park is part of the historic Centennial Parklands, the landscape and visual amenity of this parkland is considered to be of **regional level sensitivity** as this parkland is iconic to the region. Moore Park is the location of two of Sydney's largest sporting venues, the Sydney Cricket Ground and Sydney Football Stadium. Moore Park includes a number of other sporting areas including Kippax Lake, the E.S. Marks Athletics Field, the Moore Park Golf Course, the Parklands Sports Centre and a number of sports fields.
- _ Anzac Parade is a main route from the south-eastern suburbs of Sydney into the CBD. The landscape and visual amenity of this route, with its mature avenue of figs, is considered to be of **regional level sensitivity**. The parade received its name in memory of the ANZACs who marched along this route from their barracks (now a heritage listed part of UNSW) to Sydney Harbour, where they were transported to Europe during World War I. More recently it was a part of marathon during the 2000 Summer Olympics.

These sensitivity levels will be used consistently throughout the following assessment.

08 Moore Park Assessment of Landscape Impacts

8.6 Assessment of Landscape Impacts

Within this precinct, the following landscape features have been identified as potentially being impacted by the project:

- _ Fig Tree Avenue on Anzac Parade
- _ Moore Park

The following section summarises the impacts identified by the landscape assessment and site visit observations. This includes impacts during construction and operation.



not to scale

08 Moore Park

Assessment of Landscape Impacts

01 Fig trees along Anzac Parade.
Photography by HASSELL

03 Fig trees along Anzac Parade.
Photography by HASSELL

02 Fig trees along Anzac Parade.
Photography by HASSELL

Fig Trees Avenue on Anzac Parade

During construction a number of specimens within the mature Fig tree avenue on Anzac Parade would be directly impacted. This would include removal and trimming of specimens to accommodate the tunnel crossing Anzac Parade. This would constitute a loss of significant trees.

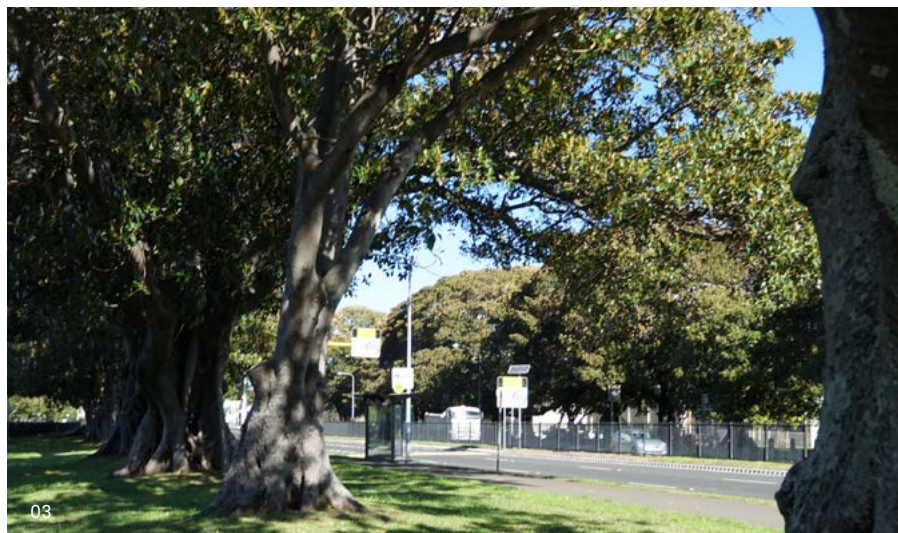
Construction Assessment

During construction it is expected that there would be a considerable reduction in landscape quality of a landscape feature of regional level sensitivity, and therefore there is expected to be a **high adverse landscape impact** during construction.

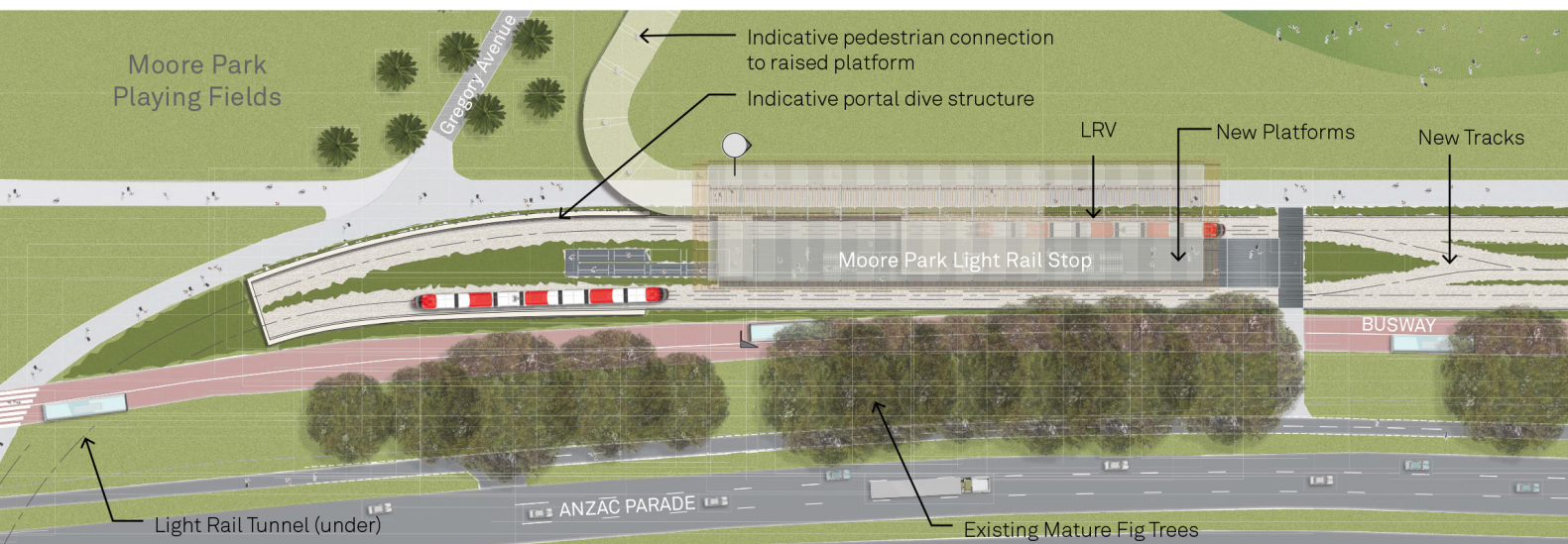
During operation of the proposal the formal avenue of mature Moreton Bay Fig trees will be disrupted by the cut-and-cover section of the light rail corridor where it crosses Anzac Parade. It is not proposed that additional trees will be introduced in this area.

Operation Assessment

During operation it is expected that there will be a noticeable reduction in landscape quality to this landscape feature which is of regional sensitivity. This will result in a **moderate adverse landscape impact**.



01



02



08 Moore Park

Assessment of Landscape Impacts

Moore Park West

During construction the western portion of Moore Park would be directly impacted, potentially disrupting use of the playing fields and pedestrian movement across the open space. This would divide Moore Park west into two separate areas, rendering some recreation and sporting activities no longer suitable for this location. A key pedestrian route across the park between Parkham Street and Driver Avenue would be diverted around the construction site as the cut-and-cover section of construction would be enclosed by heras (temporary mesh) fencing and hoarding as required.

Construction Assessment

During construction it is expected that there would be a considerable reduction in the landscape quality of this landscape feature of regional sensitivity. This results in a **high adverse landscape impact** during construction.

The functionality of the playing fields in Moore Park West is expected to be restored and improved during operation as the park would extend seamlessly over the cut-and-cover section of the alignment. This would allow for pedestrian permeability through the park and result in minimal intrusion on the amenity and function of this space.

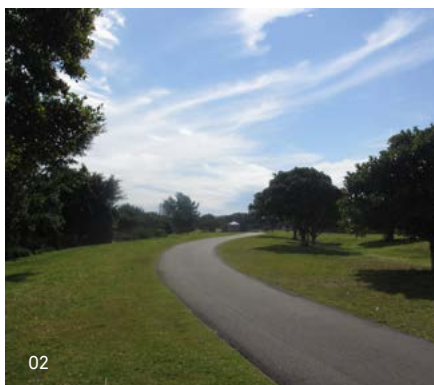
Construction Assessment

It is expected that there would be no noticeable reduction or improvement in the quality of this regionally sensitive landscape. This results in a **negligible landscape impact** to during operation.

01 View of Moore Park West from Anzac Parade.
Photography by HASSELL

02 Shared cycle path adjacent to South Dowling St.
Photography by HASSELL

03 View across Moore Park West.
Photography by HASSELL



01 Kippax Lake, Moore Park.
Photography by HASSELL

02 Views across Moore Park
towards the city.
Photography by HASSELL

03 Sydney Cricket Ground
Forecourt.
Photography by HASSELL

Moore Park East

During construction the eastern edge of Moore Park East, alongside Anzac Parade, would be directly impacted to accommodate a construction and a laydown area of approximately 12000m². This would require the removal of a number of trees and the edge of Moore Park East would be enclosed by heras fencing. The use of this part of Moore Park East would be altered and some visual connectivity and legibility of the park may be impacted owing to the closure of views to the avenue of Fig trees, and continuity of footpath network.

Construction Assessment

During construction it is expected there would be a noticeable reduction in the quality of this landscape which is of regional sensitivity. This results in a **moderate adverse impact** during construction.

During operation, the function of this part of the park would be restored. Although the introduction of a stop in this area would reduce the size of this open space area, and somewhat alter the functionality of the adjacent training fields. The pathway networks and overall landscape character of the park would be maintained.

Operations Assessment

These changes are expected to result in a noticeable reduction to the landscape quality in this part of Moore Park East, which is a landscape resource of regional sensitivity. This would result in a **moderate adverse impact** during operation.



08 Moore Park

Assessment of Daytime Visual Impacts

8.7 Assessment of Daytime Visual Impacts

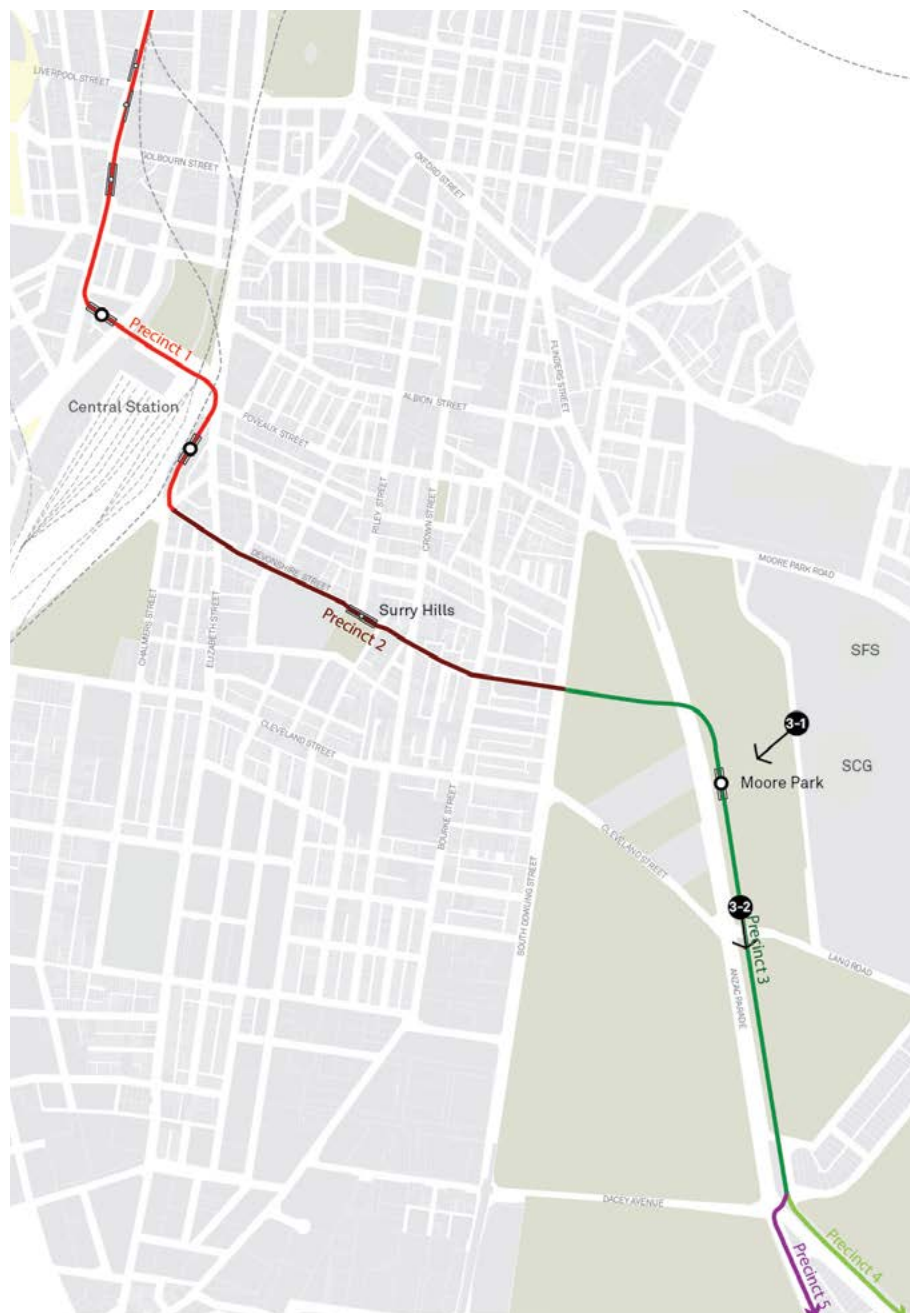
A site visit was undertaken during June and July of 2013. The following viewpoints were selected as representative of the range of views to the site and the proposed development:

Moore Park

- _View 3-1 View from the SCG Entry Forecourt at Driver Avenue, Moore Park
- _View 3-2 View south along Anzac Parade and Busway, Moore Park

Assessment of Representative Viewpoints

The following sections summarise the daytime visual impacts identified in the representative viewpoint assessment and site visit observations.



not to scale

08 Moore Park

Assessment of Daytime Visual Impacts

Moore Park

View 3-1 View from the SCG Entry Forecourt at Driver Avenue, Moore Park

In this location the Sydney Cricket Ground stadium, which presents a large vertical wall to the adjacent parkland defines the character of this area. A transit plaza characterises the foreground of views from Driver Avenue, with an open, paved forecourt enhanced by street furniture including bollards, free standing concrete pylon sign, lighting, and mature Canary Island Date Palms and Fig trees. The AFL training field is visible in the middle ground of the view, framed in the background by the avenue of Figs on Anzac Parade. View 3-2 is representative of views from the Sydney Cricket Ground forecourt looking east across Moore Park to Surry Hills.

During construction this view would change as trees in the background of the view are removed to accommodate road diversions and the tunnelling works. This would include a considerable number of trees on the eastern side of Anzac Parade within Moore Park; a number of the mature Figs on Anzac Parade; and

numerous smaller trees located at the site of the stop site and located alongside the busway. A CSCA would be established on the AFL training field in the middle ground of the view. Beyond this, construction sites for the alignment and stop would be located in the background of the view. These changes to the view are not visually consistent with the character of the surrounding landscape of Moore Park. It is considered that these elements would be visually prominent as they contrast with the surrounding landscape.

Construction Assessment

It is expected that there would be a considerable reduction in the visual amenity of this view which is of regional sensitivity. This results in a **high adverse visual impact** during construction. Construction of the CSELR proposal is expected to commence in mid-2014 (subject to planning approval) and is anticipated to take approximately five to six years.

During operation, the AFL training field would be restored, and visible in the middle ground of the view. Beyond this field, the Moore Park stop with canopy and pedestrian overbridges would be seen. This stop includes two 90 metre long

island platforms which would be a substantial element in the view. LRVs would be seen moving east and west along the corridor, and stationary at the stop. These vehicles would be visually prominent due their length and scale. The scale of this Moore Park stop would have a foreshortening effect on the openness of the fields. However, the size and scale of this stop would be mitigated by distance and filtered by foreground elements in views from this location. The trees that were removed as a part of the construction stage would be replaced replacement of trees in accordance with the Transport for NSW 'Vegetation Offset Guide' (TfNSW 2013) and in consultation with the relevant stakeholders in the parkland as appropriate. This planting would, however, be smaller specimens so that the gaps in these avenues would be seen against the horizon, opening up views to the landscape beyond.

Operations Assessment

Overall, it is considered that there would be a noticeable reduction visual impact in views from the SCG forecourt, which is a location of regional level sensitivity. This results in a **moderate adverse visual impact** during operation.



View 3-1 SCG entry forecourt at Driver Avenue, Moore Park

08 Moore Park

Assessment of Daytime Visual Impacts

Moore Park

View 3-2 View south along Anzac Parade and Busway, Moore Park

In this location the views are enclosed by a mature framework of trees. The character of the view is defined by these trees, the avenue of figs on Anzac Parade, intersecting road corridors, plaza forecourt, remnant historic buildings and other parkland elements. The mature Fig trees are seen as a straight line of planting following the road alignment. This avenue acts to define the southern edge of the Anzac Parade road corridor and largely screens the busway from the Parade. The plaza and iconic canopy structure marks a major entry point to Centennial Park. The intersection of Anzac Parade, Lang Road, and the busway are broad and the visually dominant elements of this area. View 3-3 has been selected as a representative view as it shows the intersection of the light rail with Lang Road and its continuation through Moore Park.

During construction this view would change as there would be large considerable intersection work required and some trees in the background of the view are removed to accommodate the construction of the light rail alignment. This would include a number of trees on the eastern side of Anzac Parade within Centennial Park but does not include the fig tree avenue to the west of the busway. The view to the plaza forecourt and remnant historic buildings will be hidden behind the construction of the alignment which will be surrounded by fencing. These changes to the view are not visually consistent with the character of the surrounding landscape of Moore Park. These elements would be visually prominent as they contrast with the surrounding landscape.

Construction Assessment

It is expected that there would be a considerable reduction in the visual amenity of this view which is of regional sensitivity during. This results in a **high adverse visual impact**. Construction of the CSELR proposal is expected to

commence in mid-2014 (subject to planning approval) and is anticipated to take approximately five to six years.

In this view, the light rail would be seen running parallel to the busway on the western edge of Moore Park. Its corridor would reduce the extent of the gateway forecourt to Centennial Park and add to the visual clutter of this busy intersection. The light rail tracks would match the forecourt paving where it traverses the forecourt to assist in the visual integration of the corridor in this location. LRVs would be seen moving along the corridor. These vehicles would be visually prominent in the landscape due their length and scale. Catenary structures and overhead wires would create some additional visual clutter at street level.

Operations Assessment

Overall, it is expected that the proposal would result in a noticeable reduction in the amenity of these views which are of regional sensitivity. This results in a **moderate adverse visual impact** during operation.



View 3-2 View south along Anzac Parade and

08 Moore Park

Assessment of Night Time Impacts

8.8 Assessment of Night Time Visual Impacts

At night the site can be categorised as an area of E4: high district brightness (refer to Section 3). This area includes a number of highly trafficked, brightly lit arterial roads including Anzac Parade, Cleveland Street, Lang Road, and Allison Road. As well as the direct light sources, there is an existing skyglow effect around this area of the city. During events at the Moore Park Major Sporting Facilities the night scene would include lit plazas and bright field and lighting associated with the sporting venues in the adjacent areas of Moore Park.

The project would introduce LRV headlights into an area that is currently occupied by highly trafficked arterial roadways, local roads and sporting facilities. There would be LRVs moving along the alignment at regular intervals with headlights which are generally the same size, breadth and brightness as standard car headlights. The LRVs would also include lit carriages. The stops proposed at Moore Park would be brightly lit to ensure community safety.

During construction there may be times when there would be 24 hour use of the construction sites. At these times the site would include brightly lit areas providing a safe work environment for construction activities to occur. There would also be the headlights from construction related traffic including trucks accessing the various worksites across the precinct. It is expected that any additional skyglow would be managed by cut-off light fittings and directed lights for the construction tasks.

Moore Park West

Views to the construction works in this area would be localised around the tunnel corridor site and contained within a broad open space area. The fields in this area are not lit at night and therefore visibility of this worksite would be limited to locations around the perimeter of the park. The additional light, viewed from the perimeter of the park, would be filtered somewhat by existing vegetation and seen in the context of the lit footpaths and roadways. Due to the location within the park, there should be limited opportunity for direct light intrusion into private properties. The additional lighting would have a visual effect but is generally compatible with the existing night scene.

Construction Assessment

These elements are not expected to create a noticeable change in the amenity of the area, resulting in a **negligible visual impact** for this area during evening hours.

During operation, there would be minimal lighting introduced as a part of the proposal, as the alignment is largely underground in this location. Light sources would be limited to light at the portal of the tunnel, on the edge of the park. This would be seen in the context of South Dowling Street and the Eastern Distributor Corridor and is considered to be of similar visual character at night. It is not expected that there would be any noticeable increase in skyglow as a result of the proposal.

Operations Assessment

Generally, in this area of high district brightness, it is expected that these elements would not create a noticeable change in the amenity of this area and result in a **negligible visual impact** for this area during evening hours.

Moore Park East

Views to the works in this area would be partially filtered by existing vegetation. Due to the location within the park, there should be limited opportunity for direct light intrusion into private properties. The fields in this area are not lit at night and therefore visibility of this worksite would be limited to locations around the perimeter and on main footpaths through the park. The additional light, viewed from these locations would be filtered somewhat by existing vegetation and seen in the context of the lit footpaths and roadways. Due to the location within the park, there should be limited opportunity for direct light intrusion into private properties. The additional lighting around the works would have a visual effect but is generally compatible with the existing night scene.

Construction Assessment

These elements would not create a noticeable change in the amenity of the area. This would result in a **negligible visual impact** during evening hours.

During operation, the Moore Park stop would be brightly lit to ensure user safety, this would include lighting of the platforms, overbridges, lift cores, staircases and ramps. The headlights on the LRVs moving along the alignment would also be seen moving along the alignment and at the stop. These elements would be seen in the context of nearby lit public footpaths and existing bus transit plaza, and partially filtered by existing vegetation on the surrounding parkland. Due to the location with the park, there should be limited opportunity for direct light intrusion from the project onto any private properties. It is possible that there would be some skyglow visible above the proposal alignment.

Operations Assessment

On balance, it is expected that these elements would create a considerable change in the amenity of this area at night and result in a **minor adverse visual impact**.

08 Moore Park

Summary of Impacts

8.9 Summary of Impacts

The following tables summarise the impacts within the precinct:

Landscape impacts

		Construction			Operation		
No.	Location	Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
1	Fig Tree Avenue on Anzac Parade	Considerable reduction	Regional sensitivity	High adverse impact	Noticeable reduction	Regional sensitivity	Moderate adverse impact
2	Moore Park (West)	Considerable reduction	Regional sensitivity	High adverse impact	Noticeable reduction	Regional sensitivity	Moderate adverse impact

Table 8.1: Summary of Landscape Assessment

Day time visual impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
	Moore Park						
3-1	View from the SCG Entry Forecourt at Driver Avenue, Moore Park	Considerable reduction	Regional sensitivity	High adverse impact	Noticeable reduction	Regional sensitivity	Moderate Adverse
3-2	View south along Anzac Parade and Busway, Moore Park	Considerable reduction	Regional sensitivity	High adverse impact	Noticeable reduction	Regional sensitivity	Moderate Adverse

Table 8.2: Summary of Daytime Viewpoint Assessment

Night time visual impacts

No.	Location	Construction			Operation		
		Modification	Sensitivity	Impact	Modification	Sensitivity	Impact
3-1	Moore Park West	No perceived change	High district brightness	Negligible	No perceived change	High district brightness	Negligible
3-2	Moore Park East	No perceived change	High district brightness	Negligible	Considerable reduction	High district brightness	Minor Adverse

Table 8.3: Summary of Night time Viewpoint Assessment

Randwick





09

09 Randwick

Overview

Overview

This precinct starts at the intersection of Anzac Parade and Alison Road, turning eastwards towards Randwick. Stops would be located at the Randwick Racecourse, Wansey Road, UNSW High Street and High Cross Park. The alignment follows Alison Road initially sharing the busway on the northern side before crossing to the southern side at Doncaster Avenue. It then passes Royal Randwick Racecourse, turns south along Wansey Road, and east along High Street to the Randwick central commercial area. A LRV stabling facility and ancillary buildings would be located at the north-western corner of the Randwick Racecourse.



Key Plan



not to scale

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Policy Framework

9.1 Policy Framework

The following review identifies key documents which provide the policy context for the landscape and visual impact assessment of the Randwick precinct.

Randwick Comprehensive Development Control Plan (DCP) 2013

The desired characteristics and streetscape qualities for the area are identified in the DCP for a number of Conservation Areas and specific sites. In this precinct, the Royal Randwick Racecourse; Randwick Junction Heritage Conservation Area; Randwick Education and Health Specialised Centre; North Randwick Heritage Conservation Area; and High Cross Heritage Conservation Area, are the conservation areas and specific areas of relevance.

Royal Randwick Racecourse

The Royal Randwick Racecourse is identified as a specific site in the DCP. The DCP outlines the vision for this area as being to develop a high quality racecourse and world class facility. The planning and design framework, which has been developed to support this vision, identifies the objectives as being to:

- _ Maintain the site's landmark presence as a major gateway to Randwick City;
- _ Conserve the significant built and landscape heritage components of the site; and
- _ Reinforce the Racecourse's landmark presence on Alison Road with expanded spectator facilities, high quality buildings, improved access infrastructure on-site and improved landscaping reinforcing the green edge.

The DCP for the site also nominates a number of major views which are to be retained and enhanced. Those relevant to this precinct are:

- _ View from Alison Road, near the intersection of Doncaster Avenue, to the iconic racecourse buildings;
- _ Unobscured view to the main gate on Alison Road;

- _ Strong visual presentation of the racecourse entry zone from Alison Road (near the intersection of Darley Road);
- _ Expansive views across the tracks from Alison Road (near the intersection of Cowper Street);
- _ Views to Our Lady of Sacred Heart Convent on Alison Road from Gate 6 to Wansey Road intersection; and
- _ Filtered views into the site from Wansey Road

Randwick Education and Health Specialised Centre

The Randwick Education and Health Specialised Centre specific area is formed by the major institutions and destinations of the University of NSW, the four hospitals making up the Randwick Health Campus and selected sites proximate to High Street and Belmore Road. The vision for this centre is to be an accessible and walkable centre which accommodates innovation in education, health and research. A number of principles have been developed in support of the vision for the Centre, including public domain principles that require: street tree planting and landscaping to contribute to a sense of cohesion; improvements for pedestrian amenity; and the incorporation of local interpretive artwork into the public realm.

North Randwick Heritage Conservation Area

The North Randwick Heritage Conservation Area is dominated by Centennial Park, an area with high scenic and landscape significance, surrounded by Federation streetscapes. The parks' strong rural character, tree lined avenues and perimeter palisade fence are some of its notable elements that should be retained and protected.

Randwick Junction Heritage Conservation Area

The Randwick Junction Heritage Conservation Area is characterised by a vibrant and traditional commercial high street (Belmore Road) and coherent streetscape with two to three storeys buildings. Randwick Junction is highly

visible owing to its position on the ridgeline. The DCP notes there are a number of key view corridors into and out of the Junction, as well as views to the local landmark statue of Captain Cook, that contribute positively to the character and legibility of Randwick Junction. View corridors from Avoca Street to the Prince of Wales Hospital, and from Belmore Road to Perouse Road and High Cross Park and the Royal Hotel, have been identified as being significant. Specific controls pertaining to views require new development to fit within the wider townscape indicated by the view corridors and not disrupt existing visual relationships.

High Cross Heritage Conservation Area

High Cross Park is one of Randwick's major urban spaces, terminating vistas along Belmore Road and Avoca Street. Its surrounds are defined on the north eastern boundary by Victorian, Federation and Inter War period residential buildings and large scale sandstone hospital buildings on the western edge. The visual connection to the statue of Captain Cook, on the corner of Belmore Road and Avoca Street, is an important part of the cross-roads character of this area. The park includes a number of significant trees and an ANZAC war memorial.

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Urban Design Strategy

9.2 Urban Design Strategy

The strategy for the Park network is to seamlessly integrate the light rail infrastructure into the surrounding high quality public domain. This is to be achieved by minimising the impacts to existing significant trees; maintaining maximum pedestrian permeability and access across light rail, while still providing a safe environment; minimising the amount of hard paved areas through parkland; and sensitively selecting materials, to maintain a high quality public amenity throughout.

PARK - Material Strategy

The urban design materials should complement the natural palette of materials that currently characterise the area of Moore Park, Centennial Park, and the Randwick Racecourse. These are strongly influenced by the rich texture of the existing fig trees; as well as the open expanse of grassed lawn in and around the parklands.

The most visible element of the light rail infrastructure, the rail track itself, is proposed to be finished with in situ concrete, to allow the appearance of the infrastructure to be integrated yet differentiated (for safety reasons) within the parklands.

The light rail stops will also reflect the natural palette and character of the parklands by utilising sustainable natural materials.

PARK - Stop Design

Due to the expanses of open space that the Park light rail stops are located within, they will be elements that stand out within the landscape potentially becoming highly visible elements that can be seen from a distance. The stops will have clear access and be well lit at night for improved safety and wayfinding. Landscape treatments will also be used to provide wayfinding around the stops, as well as to provide controlled and safe access to the platforms.

Major PARK stops

Royal Randwick Racecourse

The Racecourse stop will be a local light rail stop for the residential area that it is located within, as well as the students for the nearby TAFE. The stop will also need to be designed to accommodate large crowds during events at the Royal Randwick Racecourse. These events will likely require a shuttle service to be operated where by patrons will be queued in front of the light rail stop in event modes. As with the Moore Park stop, large crowds of people must be accommodated, by providing safe and easy access to the light rail platforms for to and from events.

UNSW High Street Stop

The light rail stop at High Street will provide a significant stop for passengers travelling to the University of NSW's upper campus. This stop is predicted to be the second busiest stop on the light rail network outside of the CBD. Therefore a focus is placed on safe and easy access from the light rail stop to the University campus via a new signalised on-grade crossing, as well as the potential for an integrated grade separated footbridge directly connecting into the heart of the University campus.

Randwick Stop

The light rail terminus stop at Randwick will be a significant interchange point on the network for patrons interchanging from bus services onto light rail. Therefore this stop provides for seamless access from bus stops to light rail platforms, via a cross platform interchange, as well as a direct connection through a revitalised High Cross Park.

09 Randwick

Existing Landscape Character and Visual Conditions

9.3 Existing Landscape Character and Visual Conditions

The Tay Reserve is located at the intersection of Alison Road and Anzac Parade, at the western end of the precinct. The Tay Reserve is a small remnant park with some mature trees. Alison Road is a wide road corridor lined by multi-unit residential dwellings from various periods. To the north of Alison Road is Centennial Park, which is a significant historic and recreational resource for Sydney with high scenic and landscape significance. In this area Alison Road has seven lanes of traffic and a dedicated busway runs along the southern edge of Centennial Park. Away from the road corridor, there is a largely open berm on the edge of Centennial Park, delineating its boundary. From Alison Road, views to the mature trees within undulating parkland characterise this area, with occasional glimpses further into the landscape to lakes and historic features.

Alison Road is typically flat in its topography in the vicinity of Centennial Park and the Royal Randwick Racecourse. Tall street trees frame the northern edge of the road corridor, which includes fencing along its southern side and in the central median. Brick fences, some partially engulfed by mature trees and climbing vines, brick entry gates and associated historic brick buildings mark the major entry points of the Royal Randwick Racecourse off Alison Road. Views into the main public entry to the Racecourse feature a cluster of historic buildings, intermixed with modern structures and a grandstand beyond. In the vicinity of Anzac Parade and Cowper Street a row of large, mature fig trees follow the curve of the racetrack, marking the boundary of the racecourse.

Elevated views of the racecourse are available as Alison Road winds up the hill. The mature row of figs continues along Wansey Road. Here the streetscape is enclosed by a double row of large mature fig trees with overhanging branches, located on the street and within George Dan Reserve. These trees define the character and feel of this residential area. The built form in this area is predominately distinguished by Federation and Interwar dwellings that are afforded an outlook over the racecourse.

The alternating avenue of Port Jackson and Moreton Bay Fig trees located within the racecourse grounds, adjacent to this street, have been identified as being of exceptional significance in the Randwick DCP. They are prominent; visually defining the edge of the racecourse as viewed from across the Racecourse site and associated public realm areas. At the eastern end of Wansey Road, opaque fencing encloses areas of stabling and associated areas of the Racecourse.

As the CSELR route turns into High Street, the character changes from a domestic setting to an institutional setting, comprising the University of NSW and Randwick Health Campus. As the topography of High Street rises to the ridgeline of Belmore Road, the setting retains its institutional feel as well as incorporating some commercial activity. Views towards the heritage precinct of the hospital, statue of Captain Cook and High Cross Park are prominent landscape features marking the cross roads of High Street and Belmore Road.

High Cross Park is a small civic park with an ANZAC memorial and historic plantings. Of particular note are some iconic Cook Pines (*aracaria culminaris*), which have a tall, sculptural form. These pines are visually prominent and visible along a number of vistas including: Avoca Street, the main civic centre of Randwick; High Street, which leads to the Hospital and UNSW; and Coogee Road which is the main historic route to the beach. A number of historic buildings address this park including the Royal Hotel, a National Trust property built in 1887, and the former Destitute Children's Asylum, built in 1856 fronting Avoca Street.



- 01 Significant tree plantings along Alison Road.
Photography by HASSELL
- 02 View toward Royal Randwick Racecourse from Alison Rd.
Photography by HASSELL
- 03 Significant tree plantings along Wansey Road and in George Dan Reserve.
Photography by HASSELL
- 04 Memorial at High Cross Park, Randwick.
Photography by HASSELL

09 Randwick

Landscape and Visible Components of the Project

9.4 Landscape and Visible Components of the Project

The following assessment is based on the current design alignment as described in the Environmental Impact Statement. Generally, the proposed stop and corridor design for this precinct applies three key treatments along the route. These are:

- **Royal Randwick Racecourse**, light rail with four lanes of traffic and stabling yard and ancillary buildings and car park
- **Wansey Road**, light rail parallel to existing local road on the southern side
- **High Street UNSW to the Prince of Wales Hospital**, light rail centre running with one lane of traffic in each direction

Each of these treatments has been described generally in the following paragraphs.

Royal Randwick Racecourse

The light rail alignment follows the busway corridor on the northern side of Alison Road. The alignment crosses Alison Road, veering to southern side of Alison Road in the vicinity of the intersection with Doncaster Avenue. In this area, the alignment will require the removal of the street trees, which are of varying size and maturity, and two historic gateways (and other building elements) which define the entrance to the Racecourse.

A light rail stop would be located to the

south of Alison Road adjacent to the Racecourse comprising of a 45m long island platform and side platform. The light rail track and stop would be set flush with the existing footpaths to allow passengers to cross and access kerbside bus and taxi services with two pedestrian crossings at the ends of the platforms.

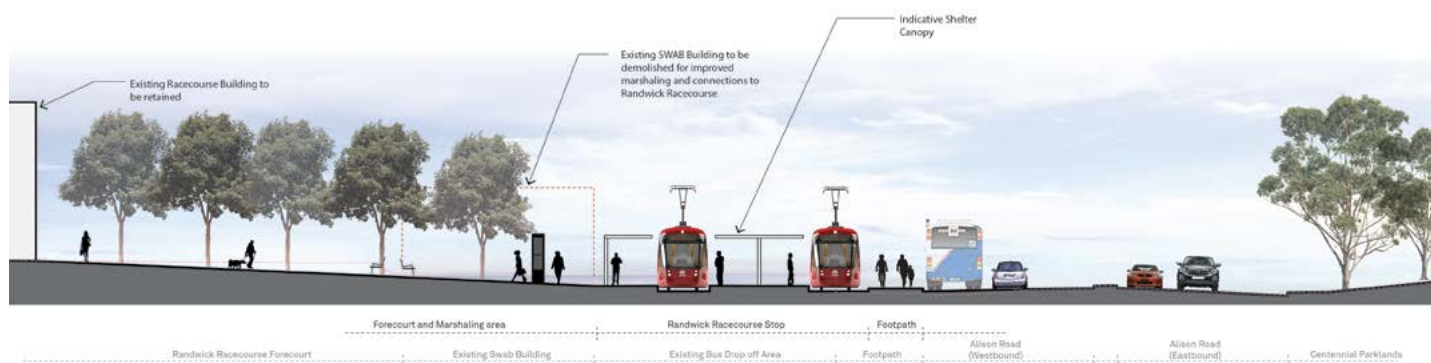
The light rail corridor would continue along the southern side of Alison Road. A footpath would be provided between the light rail corridor and Alison Road. Retaining walls would be required along Alison Road, adjacent to the proposed light rail corridor, due to the existing localised topography. This work would require the removal of a numerous existing trees along the western side of Alison Road, including mature fig trees located alongside the Racecourse in the vicinity of King to Cowper streets.

A stabling yard would be located on a site in the north-western part of the racecourse. It will accommodate a light rail maintenance shed, unloading and storage buildings, staff facilities, substation, car park and an access road from Doncaster Avenue.

Wansey Road

The light rail alignment continues along the southern side of Alison Road before turning on to Wansey Road. On Wansey Road, the light rail would run parallel to the existing local road, on its western side, requiring the loss of a number of the existing mature trees on the street and in George Dan Reserve. Wansey Street would remain as a two lane street with a shared footpath provided between the light rail tracks and the Racecourse. Some retaining walls would be required along Wansey Road adjacent to the proposed light rail corridor due to the challenging existing topography.

This section contains two local stops; Wansey Road and UNSW High Street. The Wansey Road stop would be located near the junction of Alison Road and Wansey Road and would have an island platform. The UNSW High Street stop would be located at the north-west corner of High Street and Wansey Road. This stop would comprise two side platforms with pedestrian crossings at either ends.

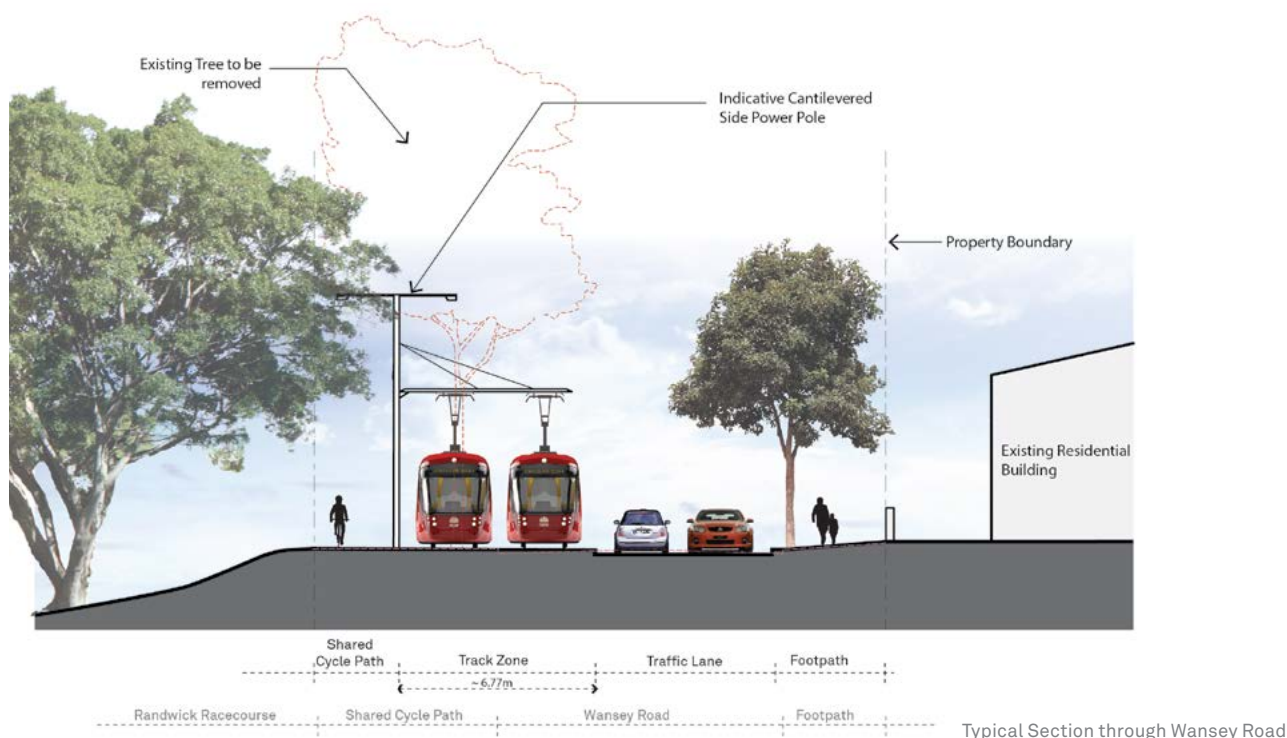


Typical Section through Randwick Racecourse Stop

High Street UNSW to the Prince of Wales Hospital

From Wansey Road, the light rail alignment turns left on to High Street and is located in the centre of the street with one lane of traffic on each side. This would require the removal of some kerbside parking. The alignment veers to the east at the junction with Avoca Street where an interchange and terminus would be located within High Cross Park at Randwick.

The terminus is located on the north eastern side of High Cross Park and provides two 45m side platforms with a cross platform interchange with buses on the eastern platform. Proposed interchange bus stops are located on the streets surrounding the park. The park would be improved with new tree planting, a public plaza and landscape works to offset the impact of removing several trees for the interchange site. The visually prominent and significant Cook Pines and Fig trees would be removed. The existing war memorial would be retained in its current location. A substation is proposed on the Cuthill Street edge of the park with an attached shade structure for patrons using bus services.



09 Randwick

Landscape and Visible Components of the Project

Construction

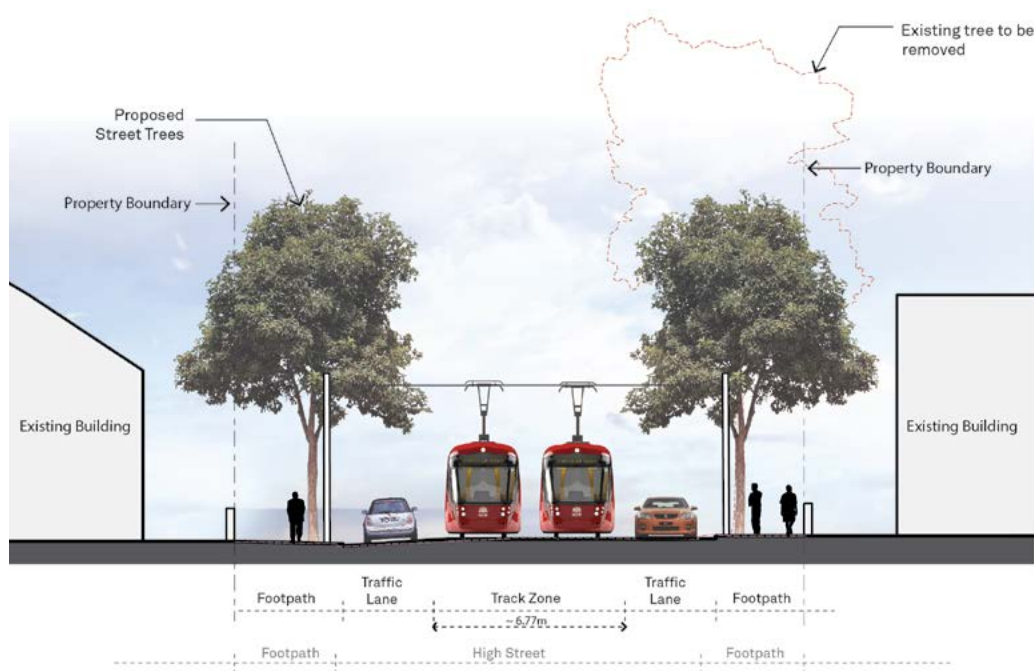
Construction of the proposal in this area would require early works including utility relocations, minor intersection modifications, preparatory works for retaining walls and track slab construction, and systems works. Construction of the CSELR proposal is expected to commence in mid-2014 (subject to planning approval) and is anticipated to take approximately five to six years.

Civil and systems works would begin with the preparation and construction of the track slab and rail installation. Track construction would occur in linear sections with each section being established as a work site with traffic lanes diverted, and enclosed by heras (temporary mesh) fencing, with hoarding used at the Racecourse entry areas and UNSW. Wansey Road would maintain a single southbound lane of traffic during construction to allow for local access, with the east side pedestrian path remaining open during construction. Along High Street, a single eastbound and single westbound traffic lane would be provided. Due to the restricted working width and the need to facilitate access to surrounding properties including the hospital, some handwork will be required

along Wansey Road and High Street. Track work would be followed by the construction of the stop platforms, canopies, reinstatement of pavements and erection of catenary structures and wires as required.

Equipment used in this area that may be seen would include Apitrax track machine, slip track machinery, cherry pickers, mobile cranes and 6-wheel tip trucks.

A Substation Site Compound would be located within the Racecourse, on the Alison Road frontage, in the vicinity of the Wansey Road intersection. The substation works would be predominately civil works including excavation and foundation preparations to allow for the off site manufactured substation to be placed on site. A CSCA with parking and laydown facilities would be provided at the Racecourse encompassing a total area of 4300m². To facilitate the construction of the UNSW light rail stop, a CSCA is proposed to be provided on Wansey Road north of the intersection with High Street. At the terminus, a construction site compound is proposed for High Cross Park and would cover an area of approximately 3000m². This site would contain site offices, laydown area, workshop and a substation.



Typical Section through High Street

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Sensitivity Levels

9.5 Sensitivity Levels

This precinct is influenced by the metropolitan open space of Centennial Park and the Racecourse and the grand mature avenue of figs along its perimeter, its institutional setting and a Victorian era local park. The following list summarises the assessment of visual sensitivity for the main viewing areas across the study area:

1. Centennial Park is a historic parkland set out in the Victorian period tradition of high scenic and landscape significance. This grand park includes formal gardens, ponds, grand avenues, statues, historic buildings and sporting fields. This Parkland is iconic to the region, and is considered to be of **regional sensitivity**.
2. Royal Randwick Racecourse, forms one of the largest areas of open space in Sydney (together with Moore Park and Centennial Park). Its landscape and built features are considered to be of **regional sensitivity** as this racecourse is iconic to the region. The Racecourse is metropolitan Sydney's oldest and longest continually operating racecourse and a place of State heritage significance (Randwick Education and Health Specialised Centre Discussion Paper, 2010).
3. There are a number of private rear gardens at Doncaster Avenue that are located adjacent to the proposal. These properties are private residences and are therefore considered to be of neighbourhood sensitivity.
4. Port Jackson and Moreton Bay Figs at Royal Randwick Racecourse on Alison Road, the George Dan Reserve and Wansey Roads create an avenue of planting which are identified on the Randwick City Council's Register of Significant Trees and are considered to be of **regional sensitivity**. The Figs contribute to the significance of the racecourse as a landscape element and provide amenity to the adjoining streets.
5. High Street UNSW to the Prince of Wales Hospital is part of the institutional setting of Randwick and is considered to be of **regional sensitivity**. The modern character of the University contrasts with the layering of buildings typologies in the health campus, with sandstone featuring prominently in its oldest buildings.
6. High Cross Park is one of Randwick's community gathering spaces, providing an important part of the cross-roads character of the precinct. The mature Cook Pines within the park are rare and culturally important and are both listed and on the Randwick City Council Register of Significant Trees. They also provide an important visual landmark for the area, as is the park's visual connection with the Captain Cook statue and war memorial. Predominately owing to the importance of the Cook Pines this park is considered to be of **regional sensitivity**.

These sensitivity levels will be used consistently throughout the following assessment.

09 Randwick

Assessment of Landscape Impacts

9.6 Assessment of Landscape Impacts

Within this precinct, the following landscape features have been identified as potentially being impacted by the proposal:

- _ Royal Randwick Racecourse
- _ Avenue of Figs at Royal Randwick Racecourse along Alison, George Dan Reserve and Wansey Roads
- _ High Cross Park
- _ Rear Gardens at Doncaster Avenue (stabling)

The following section summarises the impacts identified by the landscape assessment and site visit observations. This includes impacts during construction and operation.



not to scale