

# Croydon Station Upgrade

## **TRAFFIC MANAGEMENT PLAN**

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# 1. Introduction

The delivery of the Croydon Station Upgrade will have an impact on pedestrians and road users, within and around Croydon Railway Station.

John Holland recognises that pedestrian safety and best practice traffic management are critical to the successful completion of the Project. The highest priority will be given to the certainty of providing a safe environment for pedestrians and minimising disruption for all road users during the delivery phase.

This Traffic Management Plan addresses the traffic management framework for the Project, with specific detail in relation to addressing identified pedestrian and traffic impacts. These impacts and proposed mitigation measures will be further developed with stakeholders through John Holland's robust risk management processes.

Full details of impacts and mitigation measures will be incorporated in the Site Traffic Control Plans (TCPs) developed with input from stakeholders. The Site Traffic Control Plans will be the basis for the consultation/approval processes.

The pedestrian and road user impacts as further detailed in Section 8 are summarised below;

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary full road closure
- Temporary traffic diversions
- Temporary relocation of bus stops, taxi ranks
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

John Holland's Traffic Management Plan is designed around achieving the following outcomes;

- The provision of a safe environment for all road users, including public transport users, pedestrians, cyclists and project workers
- The overall impact to road users will be kept to a minimum
- Road users, and the general public (workers and residents) are regularly informed in relation to changed pedestrian and traffic conditions

The Traffic Management Plan specifically addresses the following:

- Traffic management objectives and targets
- Traffic management team and responsibilities
- Risk management process
- Consultation/approval process
- Traffic management methodology
- Identified impacts
- Review, monitoring and reporting
  - Traffic control inspection
  - Road safety audits

- Reporting

## 2. Scope of Works

Transport for New South Wales (TfNSW) has appointed John Holland Pty Ltd (John Holland) under the Head Contract to perform the design, construction, commissioning and completion of the Transport Access Program (TAP): Easy Access Croydon Station Upgrade.

The TAP is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure.

The program aims to provide:

- Stations that are accessible to the disabled, ageing and parents with prams.
- Modern buildings and facilities for all transport modes that meet the needs of a growing population.
- Modern interchanges that support an integrated network and allow seamless transfers between all modes for all customers.
- Safety improvements including extra lighting help points, fences and security measures for car parks and interchanges, including stations, bus stops and wharves.
- Signage improvements so customers can more easily use public transport and transfer between modes at interchanges.
- Other improvements and maintenance such as painting, new fencing and roof replacements.

### 2.1 Station Upgrade – Scope of Works

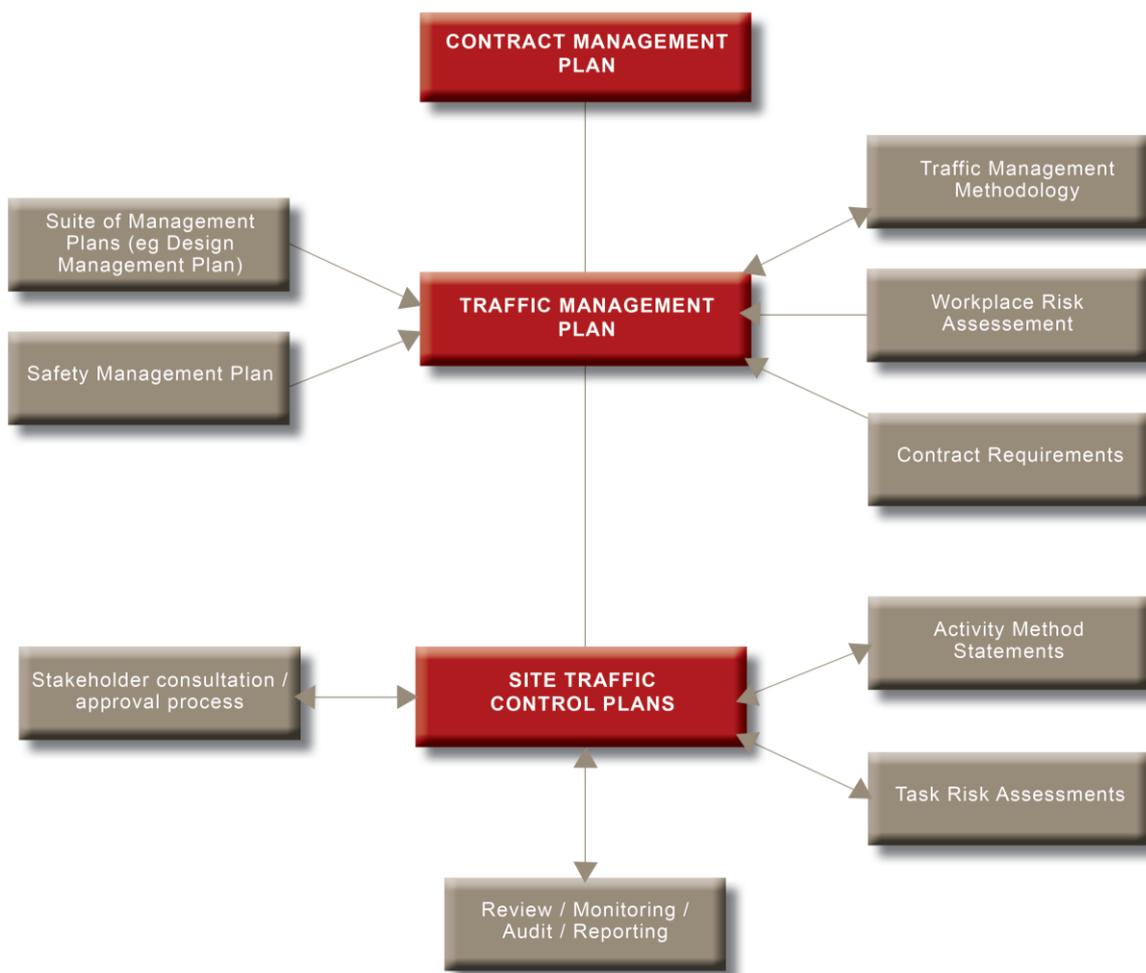
The upgrade works at Croydon station includes:

- Removal and replacement of existing heritage footbridge and concourse with a new sheltered footbridge and concourse spanning from Paisley Road to Hennessy Street;
- New lifts and stairs with canopies to the station platforms;
- Demolition of existing station booking office and retail concession area at the intersection of Paisley Road and Meta Street;
- New station entrance at the intersection of Paisley Road and Meta Street including access ramp and stairs in the plaza area, new booking office and staff facilities, new concession building, new communications equipment room and new main switch room;
- New station entrance at Hennessy Street including access paths and stairs;
- Interchange improvements on Paisley Road and Hennessy Street, including pedestrian crossing, footpath and kerb modifications, bicycle parking facilities, reconfiguration of parking spaces to provide kiss & ride parking and accessible parking;
- Restoration of existing redundant stairs and columns running parallel with Hennessy Street on the northern side of the station as heritage exhibits;
- Station power supply upgrade, adjustment to lighting and augmentation of station communication systems in associated with the new infrastructure;
- Services diversion or relocation to accommodate new infrastructure;
- Modifications to passenger information systems and ticketing facilities; and
- Wayfinding and station identification signage.

### 3. Traffic management documentation/inputs

This Traffic Management Plan operates as the master document and provides a traffic management framework for the Croydon Station Upgrade. The following documents and associated operational documentation and inputs are integrated with and are referenced in the Plan:

- Site Traffic Control Plans
- Construction Methodology
- Workplace Risk Assessment
- Activity Method Statements
- Task Risk Assessments



## 4. Traffic Management Organisation and Responsibility Matrix

### 4.1 Key personnel, authority and roles, lines of responsibility, communication and minimum skill level

#### 1: Traffic and Transport Management Team - Key personnel, authority, roles and responsibilities, lines of communication and minimum skill level

Authority	Role/Accountability	Key Responsibilities	Communication	Minimum Skill Level
<b>Traffic Representative</b>				
Manage project wide road safety, traffic and transport management	<p>To provide leadership and guidance to the Project in the area of road safety and traffic management</p> <p>Support the Project in achieving the road safety and traffic management objectives.</p>	<p>Provide technical advice in the areas of road safety and traffic management</p> <p>Plan, develop, review, consult and obtain approvals of Site Traffic Control Plans</p> <p>Develop strategies to ensure traffic management measures are planned, implemented and maintained in accordance with best practice</p> <p>Assist the Project Team to facilitate the preparation of Traffic Staging and Temporary Works Drawings</p> <p>Assist with obtaining necessary consents from road authorities</p> <p>Support the road authority's incident management strategies</p> <p>Monitor and evaluate the ongoing effectiveness of traffic management activities</p> <p>Manage the Project's road safety audit and inspection program</p> <p>In coordination with the Community Relations Manager, develop a strategy for the dissemination of changed transport condition information</p>	<p>Reports directly to the Project Manager</p> <p>Coordinates consultation/approval processes with stakeholders including RMS, local council and bus/taxi operators</p>	<p>Tertiary education in Engineering</p> <p>Minimum 5 years construction site management</p>

**1: Traffic and Transport Management Team - Key personnel, authority, roles and responsibilities, lines of communication and minimum skill level**

Authority	Role/Accountability	Key Responsibilities	Communication	Minimum Skill Level
<b>Traffic Engineer</b>				
Planning activities for road safety, traffic and transport management site wide	Support the Traffic Representative	Assist with the planning, development, implementation, revisions, and approvals of Site Traffic Control Plans Obtaining lane closure/road occupancy approvals and speed limit consents from the road authority as required Monitoring and evaluation of the ongoing effectiveness of traffic management activities Investigate traffic related incidents/hazards, identify preventative measures and manage corrective actions Conduct road safety inspections	Reports directly to the Traffic Representative Liaise with construction staff, road authorities and other stakeholders including local council and bus/taxi operators	Tertiary education in Engineering Minimum 3 years construction site management
<b>Traffic Surveillance Officers</b>				
As delegated on specific road safety and traffic issues by the Site Traffic Engineer	Conduct field surveillance of the road network with the aim to identify unusual congestion, incidents, non-conforming traffic control and unsafe road conditions.	Assist the Site Traffic Engineer to ensure that all traffic management measures are planned, implemented and maintained in accordance with best practice Actively participate in the response to unplanned incidents/hazards Develop solutions in consultation with the Site Traffic Engineer, to ensure safe conditions for road users are maintained Liaise with construction staff in the planning, coordination, and monitoring of traffic operations, and to facilitate the implementation of corrective actions Assist the Site Traffic Engineer with the Project's road safety audit and inspection process	Reports directly to the Traffic Representative	Tertiary education in traffic management Minimum 1 years construction traffic management

## 5. Traffic Management Approval/Consultation Process

### 5.1 Traffic management stakeholders

The table below identifies stakeholders that have an interest in the traffic management arrangements proposed at Croydon Station where John Holland have legislative or contractual requirement to consult and/or obtain approvals from in relation to traffic management.

Station Upgrades	TfNSW	Local Council	RMS	Sydney Trains	Taxi/Bus Operators
<b>Croydon</b>	✓	✓	✓	✓	✓

### 5.2 Site Traffic Control Plans

The Site Traffic Control Plans will be the basis for the consultation/approval processes and will include full details of pedestrian and road user impacts, along with proposed control to minimise disruption for identified impacts including;

- Temporary pedestrian detours and access narrowing
- Temporary partial road closures
- Temporary full road closures
- Temporary traffic diversions
- Temporary relocation of bus stops and/or taxi ranks
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to surrounding businesses and residents
- Signage changes

### 5.3 Road Occupancy Licence approval process

Where required, John Holland will apply to the applicable authority (local council or RMS) for Road Occupancy Licences (ROL). Lead times for submission of Site Traffic Control Plans and associated documentation for Road Occupancy Licences is ten working days. Following the initial submission it is anticipated revised/additional ROLs may be issued within a shorter time frame.

### 5.4 Duration of Road Occupancy Licences

It is John Holland's policy to minimise the duration of Road Occupancy Licences. Road Occupancy Licences will be requested for the stages and duration as identified in the Site Traffic Control Plans and associated documentation, following consultation/approval by relevant stakeholders.

## 6. Traffic and transport risk management

### 6.1 John Holland's risk management strategy

Effective risk management begins before commencement of works and well before workers are mobilised to a project/workplace. These activities must be incorporated into normal planning activities. The steps summarised below are specifically designed to address management team, stakeholders and workforce identified risks throughout the lifecycle of works.

Reactive and unplanned processes will not ensure effective application and outcomes in relation to the way risks are managed. The manner in which each process step is approached and the actions of the people involved in it will determine the effectiveness of risk management activities.

John Holland's risk management strategy is mandatory across all John Holland projects.

The key documents in this robust risk management process are described below.

### 6.2 Workplace risk assessment (Project Wide)

The Workplace Risk Assessment (WRA) process is intended to capture:

- system, procedural and contractual requirements based on legislative and best practice requirements;
- the requirement for more detailed planning activities (i.e. Activity Method Statement – AMS);
- the training that will be necessary to ensure works are undertaken competently;
- project-wide strategies and
- activity method statements

The Activity Method Statement (AMS) is intended to be a planning process that details;

- a detailed description and nature of each activity;
- methodology and sequence of works required to undertake the activity;
- plant and equipment requirements;
- engineering drawings/calculations;
- permits and approvals;
- legislative references relating to specific hazards and mitigating controls;
- those tasks within each activity which require specific Task Risk Assessments (TRAs);
- specific guidance/procedural documentation;
- other specific risk assessments (e.g. confined space, plant, working at height etc.);
- specific physical control actions;
- specific training, competencies or qualifications; and
- verification, testing, and inspection activities.

Activity Method Statements (AMS) are required as directed by the WRA and must cover all operational aspects of the scope of works including traffic management.

### 6.3 Task Risk Assessment

Task Risk Assessment (TRA) process is intended to identify hazards, assess risks and implement controls associated with specific work tasks.

The Supervisor or responsible person for the works and supervision of the work crew has overall authority and responsibility for the facilitation and briefing of the TRA with those conducting the works.

TRAs will be developed in conjunction with those workers who perform the work or those workers who will be affected by the work (i.e. those workers not directly involved in the activity, for example – adjacent to the works, but likely to be subjected to the same hazards/risks).

## **6.4 Communication and reporting**

The Project's overall risk management depends on communication and reporting. During the delivery phase, the Project Manager is supported by the Construction Managers and their teams who compile a routine:

- summary of the status of key risks and opportunities
- risk and opportunity management status reports to risk owners
- monthly summary report of key risks and opportunities to TfNSW via the Project Manager

## 6.5 Project specific traffic management risks

Table 2: Key traffic and transport risks and mitigation measures

Location	Identified Risks	Mitigation Measure
Croydon Station	Working around live traffic	<p>A nil harm safety culture will be applied as part of the safety program</p> <p>The Site Traffic Control Plans describe how John Holland will safely manage vehicular, cyclist and pedestrian traffic</p> <p>Measures will be applied to separate workers and road users, e.g. safety barriers</p> <p>Where separation cannot be achieved, adequate temporary traffic control will be installed</p>
	Pedestrian safety and management	<p>Minimise and notify changes/impacts to pedestrian access</p> <p>Plan changes to pedestrian paths to avoid peak movement periods</p> <p>Provide formal separation of pedestrian movements with truck movements across footpaths at site access points</p>
	Adverse road network impacts	<p>Where possible, minimise lane closures and speed limit reductions</p> <p>In conjunction with councils/RMS, review road network operations</p> <p>Plan works where practical during low traffic volume periods</p>
	Adverse impacts on public transport and facilities	<p>Minimise changes and impacts to all public transport modes</p> <p>Plan changes to bus stops and routes, taxi stands and other public transport in coordination with relevant authorities and notify users</p>
	Disruption to residents and businesses	<p>The Site Traffic Control Plans describe how John Holland will minimise disruption to residents and businesses</p> <p>Where practical arrange coordinate deliveries to minimise disruption to residents and businesses</p> <p>Liaise with residents and businesses to facilitate best outcome</p>
	Delays in approval of site traffic arrangements	<p>Early preparation of Draft Site Traffic Control Plans to allow the consultation/approval process to commence</p> <p>Developing clear and precise proposed traffic management arrangements</p> <p>Early, open and honest communications with Stakeholders</p>

## 7. Traffic management methodologies

John Holland's construction methodology includes:

- Secure physical separation of public and construction areas;
- Detailed method statements rigorously applied for all activities;
- Efficient use of rail possessions to maximise access opportunities and progress;
- Modular construction to minimise site installation times;
- Minimisation of in-situ element size to facilitate manual construction with light plant;
- Off peak deliveries to ease congestion on adjacent roads;
- Staged construction of the streetscapes work under Road Safety Audit approved traffic management arrangements, which will facilitate continued public road use and pedestrian access; and
- Implementation of TCP's that have been approved by the relevant authorities.

Throughout the delivery of the works, John Holland will maintain safe and intuitive interchange operation ensuring suitable provisions for pedestrians, cyclists, taxi zone, kiss and ride zones, car parking and bus service with clear wayfinding displayed at all times. Where required, temporary interchange facilities will be provided such as bus stops and taxi zones whilst the work takes place.

Site Traffic Control Plans will be developed defining specific traffic layouts where existing arrangements are altered to facilitate the works. John Holland will liaise with relevant stakeholders and authorities as appropriate to secure Road Occupancy Licences. John Holland has extensive in-house experience in production and management of traffic management and established relationships with traffic management contractors.

Works outside the rail corridor will be carried out during normal working hours with conventional plant and will be contained within appropriate fencing. Pedestrian, cycle and road vehicle access will be considered and approved traffic management signage installed ahead of the works.

All construction activity undertaken or proposed for the construction of the Project will comply with the following principles:

- Safe provision for vehicular and pedestrian traffic must be made at all work sites
- Delays to traffic at each work site will be minimised
- Works will be coordinated to ensure that road users do not encounter delays in quick succession
- The project should present a professional and helpful face to road users throughout any construction or maintenance process
- Road Users including pedestrians impacted by construction should have the opportunity to make informed decisions about their journey

Motorists and pedestrians expect a high level of safety and service in using the existing road infrastructure. This requires efficient, effective and reliable traffic management strategies to be put in place which:

- Minimises changes to pedestrian routes and movement
- Ensures reliable and consistent travel times
- Provides clear and early information to allow motorists to make appropriate decisions in relation to their journey

These traffic management objectives will be achieved by:

- Understanding the impacts and identifying mitigations
- Strategic advance planning
- Implementation of traffic control plans that minimise traffic disruption for the shortest possible duration
- Providing a high level of comfort to users
- Ensuring a smooth traffic flow
- Minimising the number of conflicts and unclear information that may lead to incidents and continuously monitoring the traffic and pedestrian systems to anticipate incidents and congestion before they are likely to occur

## 8. Traffic Impacts – Croydon Station

### 8.1 Mitigation Measures

Throughout the delivery of the works John Holland will endeavour to:

- Provide and maintain safe pedestrian access to the station, interchanges and car parks
- Provide safe access for pedestrians at all times to maintain current level of service of travel pathways
- Maintain access to private properties including adequate turning radius into and out of existing properties
- Minimise the net loss of parking spaces
- Maintain sufficient space along Paisley Road to provide parking on one side of the street
- Establish access to the site compound in locations that minimise impacts on traffic flow along Paisley Road and Paisley Lane
- Maintain two directional vehicular thoroughfare along Hennessy and Meta Streets
- Minimise heavy vehicle volumes during non-possession periods

A possession is a planned period of time whereby commuter trains services to specific tracks are suspended by the asset owner. Possession weekend work allows access to the rail corridor to facilitate varying works including:

- Deliveries
- Demolition and installation activities
- Crane works
- Concrete works
- Removal of material

On site resources will vary between possession, non-possession and scope of works. Vehicle movements will occur on a demand basis over the life cycle of the project with varying number of vehicle movements per day. Heavy vehicle movements will be frequent during weekend possession and may include 10-12 movements per day over the 2 day period during each possession weekend.

Where possible, all construction vehicles travel to and from the worksites by state and regional roads. The surrounding road network is well established and would provide direct access to and from the worksite via Frederick Street and the Hume Highway. Where practicable, all contractor vehicles will be parked a minimum of 400m away from the train station. Parking restrictions will be reinforced to the project team via project and site inductions and daily briefings.

Any works outside of standard construction hours will be assessed and approved by TfNSW on a case by case basis. A stringent noise assessments and associated community notification will be required prior to the commencement of works.

## 8.2 Pedestrian Access

General measures that would minimise the impact on the road network and road users:

- The movement patterns of pedestrians needs to be monitored during the temporary pedestrian arrangements and necessary changes made to ensure that pedestrians are able to move safely.
- Water filled barriers, where possible are used as kerb extensions to reduce the width to two traffic lanes for the temporary pedestrian crossings.
- Pedestrian ramps need to be installed along the detoured pedestrian route if necessary to maintain accessibility.
- No stopping distance of 20m on the approach and 10m on the departure sides should be maintained for temporary pedestrian crossing
- Access ramps need to be provided for temporary pedestrian crossings.
- Signage needs to be installed for temporary pedestrian crossings as for a permanent pedestrian crossing.
- Directional signage should be provided where the pedestrian route changes direction.
- Traffic cones are used for delineation.

## 8.3 Site Traffic Control Plans

Site Traffic Control Plans will be developed for specific scope of works throughout the life cycle of the project. The provisions associated with the TCPs are as follows:

- The number of traffic controllers and the location of traffic controllers, if required, need to be regularly reviewed during the construction, based on the pedestrian/driver behaviours on site;
- TCPs need to be audited by RMS certified personnel prior to their implementation on site;
- All traffic control devices must be set up and closed down by an appropriate RMS certified personnel;
- TCPs to be set up and closed down in accordance with procedures outlined in RMS Traffic Control at Work Sites manual;
- All traffic controllers must be certified by RMS and work on site with proper gear and equipment

The week-to-week schedule of works as outlined in Sections 8.2-8.29 is indicative and subject to change according to track possession schedules from Sydney Trains. This schedule and its associated traffic impacts will be updated through the life cycle of the project.

### 8.3.1 Possession 1 WE20 Config 4: 14 - 15 Nov 15

During this period, works include site investigation only on Platforms PL5, PL3/4 & PL1/2 all within the yellow line.

### 8.3.2 Non possession period: 16 Nov – 18 Dec 15

During this mobilization stage of the works we will carry out adjustment works to accommodate subsequent construction activities without impacting on current operational capacity. We will

commence construction of in-situ concrete foundations as soon as design approvals permit. Other activities include,

- Erection of fencing and hoarding around works areas on platforms and on Paisley Rd and mobilization of site establishment. Pedestrian access will be maintained throughout this period;
- Implementation of approved pedestrian and traffic controls on Paisley Rd and Hennessy St;
- Clearing and grubbing around Paisley St where the temporary ticket office is to be situated;
- Form Reo Pour footings to temporary bridge trestle and stairs on Paisley Rd
- Commencing builders works inside Communications Room on PL3/4

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary traffic diversions (possible partial road closure Paisley Road)
- Out of hour works
- Construction equipment and material deliveries
- Signage changes

### **8.3.3 Possession 2 WE25 Config 3: 19 Dec – 20 Dec 15**

During this period works include the following; install platform hoarding on PL3/4 to undertake screw piling for Temporary Pedestrian Footbridge Trestle and Stairs, Install ULX under Mains and Suburban lines and trench and install conduits from the Temporary Footbridge to existing cable pits on PL3/4

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Temporary relocation of bus stops, taxi ranks
- Out of hour works
- Construction equipment and material deliveries
- Signage changes

### **8.3.4 Non possession period: 21 Dec 15 – 15 Jan 16**

During this period, the Temporary Pedestrian Footbridge footings will be poured and continue Communications Room relocations works (relocated existing Distribution boards, demolish internal wall, fire rate walls and install non static vinyl flooring).

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries

- Signage changes

### **8.3.5 Possession 3 WE29 Config 4: 16 Jan – 17 Jan 16**

During this period, deliver and install Temporary Pedestrian Footbridge, install hoarding to the existing ticket Office on the concourse level, demolish the retaining wall on PL5, Piling to OHW footings, install ULX under Locals, install new UGOH Pole 42A, install pole mounted temporary MSB fed from existing Pad Mount Transformer, relocate the Train Radio Tower and install hoarding around OHW footings at the end of the possession.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Signage changes

### **8.3.6 Non possession period: 18 Jan – 26 Feb 16**

During this period, fit out works to the Temporary Pedestrian Bridge, deliver and install the Temporary Ticket Office and Temporary commuter access, install DB boards inside the ticket office, undertake underboring from existing Padmount Transformer to UGOH Pole 42A and Install and Commission AC, New racks, DB and cable trays to the new Communications Room.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.7 Possession 4 WE35 Config 3: 27 Feb – 28 Feb 16**

During this period, install OHW Portal structure between PL3 and PL2, erect hoarding to stope commuter access to PL1/2, demo Stair and Trestle on Hennessy Rd Platform and PL1/2, decommission Overhead HV, interim commissioning of Underground HV to Existing Padmount Transformer and Temp MSB, remove existing poles and OH wire, clear and grub on Hennessy St platform, install Hoarding/GST protection on Hennessy St Platform, excavate and shore for Lift Pit on PL3/4 and PL1/2

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure

- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.8 Non possession period: 29 Feb – 20 May 16**

During this period, continue fitout works to the Temporary Pedestrian Bridge, commission the Temporary Ticket Office, decommission the Old Ticket Office and Commence demolition, form reo pour works to Lift Pits on PL3/4 and PL1/2, install scaffolding access on Hennessy St for piling and capping works, shotcrete the northern batter where required, lift in the piling rig to commence blade wall construction on Hennessy St and FRP Bridge Pier Capping Beam on Hennessy St.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.9 Possession 5 WE47 Config 4: 21 May - 22 May 16**

During this period, demolish stairs and trestles on PL3/4, demolish stairs on PL5, install Portal Frame between PL4 & PL5, reconfigure OHW and disconnect from existing footbridge, demolish Footbridge span between PL4 and PL5, demolish Footbridge span between PL2 and PL3, install Temporary Access Scaffold to PL1/2, install Hoarding to PL3/4 around demolition work, deliver Piling Rig to PL3/4 and park behind hoarding and commence piling to PL3/4 Stairs.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.10 Non possession period: 23 May – 15 July 16**

During this period, excavate and form, reo, pour footings to PL5 Stairs, excavate and form, reo, pour footings to PL3/4 stairs and bridge column and PL3/4 Lift Pit. Install Scaffold to Lift and Headstock on PL3/4. Form, reo, pour PL3/4 Headstock and install bridge bearings. Complete demolition to the Old Ticket Office superstructure.

### Potential Traffic Impact

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

#### **8.3.11 Possession 6 WE3 Config 3: 16 July - 17 Jul 16**

During this period, form, reo, pour the substructure to Hennessy St support structure, Demolish stairs and trestles on PL1/2, trench services on PL1/2 on the City end and regrade and asphalt PL1/2 Country end.

### Potential Traffic Impact

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

#### **8.3.12 Non possession period: 18 July – 29 July 16**

During this period, form, reo, pour footings to Stairs, Bridge Column and Lift Pit on PL1/2. Form, reo, pour substructure to underside of concourse level to PL1/2, PL3/4, PL5 and Hennessy St structure.

### Potential Traffic Impact

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

#### **8.3.13 Possession 7 WE5 Config 4: 30 July - 31 July 16**

During this period, trench along PL3/4 for fire and stormwater services at the Country end. Trenching works on PL3/4 from the CSR to the Canopy Footings for LV and Communications. Trenching works on PL5 for fire and stormwater services on the City end. Piling works to the Canopy footings on

PL3/4. Demolish the Old Ticket Office deck slab. Extend the hoarding on PL5 for canopy construction works at the end of the possession.

**Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

**8.3.14 Non possession period: 31 July – 18 Nov 16**

During this period, complete the form, reo, pour works to the substructure on PL1/2. Form, reo, pour footing for MSB on PL5

**Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

**8.3.15 Possession 8 WE21 Config 3: 19 - 20 Nov 16**

During this period, deliver to site and lift in the prefab stairs to PL1/2 and PL3/4. Deliver and install precast planks between PL3 and Hennessy St. Lift in modular hoarding system and attach to the precast planks. Install structural steel to the Concourse level. Install Lift Shaft on PL1/2 and PL3/4 Structural Steel and extend the scaffold to the Lift shaft on PL1/2 and PL3/4. Regrade and asphalt PL1/2 on the City End.

**Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary full road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents

### **8.3.16 Non possession period: 21 Nov – 2 Dec 16**

During this period, pour Concourse deck slab between Hennessy Rd and PL4.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.17 Possession 9 WE23 Config 4: 3 - 4 Dec 16**

During this period, partially remove scaffold on PL3/4 to facilitate Lift installation works. Install precast planks between PL5 & PL4. Deliver and install Prefab stairs to PL5. Regrade asphalt on PL3/4 at the Country end. Deliver and install new Padmount Transformer. Redirect the 622 Feeder to the New Padmount. Change over MSB and temporary MSB to the New Padmount. Install PL5 Canopy from the Stairs to the existing Building. Extend the PL3/4 hoarding for Platform Canopies. Trench PL3/4 for the Fire and Hydraulic services on the City end.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary full road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents

### **8.3.18 Non possession period: 5 Dec 16 – 17 Feb 17**

During this period, pour Concourse slab between PL5 and PL4. Rough in services, install cladding and glazing. Form, reo, pour to canopy footings and pedestal on PL5 and PL3/4. Commence lift installation. Deliver and erect structural steel and roofing to the station building.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.19 Possession 10 WE34 Config 3: 18 - 19 Feb 17**

During this period, deliver and Install roofing structural steel and gutters to PL3 to Hennessy St.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents

### **8.3.20 Non possession period: 20 February – 24 March 17**

During this period, continue fit off of services. Terminate PL1/2 temporary service feeds back to Temporary Booking Office and Communications Room and replace with permanent containment.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.21 Possession 11 WE39 Config 4: 25 - 26 March 17**

During this period, install Concourse roofing and gutters from PL3/4 to PL5. Remove scaffold around Lift on PL3/4. Deliver and install Platform canopy structural steel.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents

### **8.3.22 Non possession period: 27 March – 19 May 17**

During this period, continue fit off of services and builders works.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing

- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.23 Possession 11 WE47 Config 3: 20 - 21 May 17**

During this period, complete roofing and gutters from PL3 to Hennessy St. Deliver and install half of the canopy roofing on PL3/4. Remove scaffold used for roofing on PL1/2.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents

### **8.3.24 Non possession period: 22 May – 31 June 17**

During this period, commission power and communications to the new station building. Decommission and remove the temporary ticket office.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.25 Possession 12 WE1 Config 4: 1 - 2 July 17**

During this period, remove the temporary footbridge, trestles and stairs. Remove scaffold and hoarding from the concourse structure. Complete remaining roofing to PL3/4 and PL5.

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works

- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.26 Possession 13 WE15 Config 3: 7 - 8 October 17**

During this period, remove hoarding/scaffold to concourse which is positioned over mains lines. Install Canopy around Lift PL1/2

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

### **8.3.27 Possession 14 WE17 Config 4: 21 - 22 October 17**

During this period, regrade and asphalt PL3/4 and PL5

#### **Potential Traffic Impact**

- Temporary pedestrian detours and access narrowing
- Temporary partial road closure
- Temporary traffic diversions
- Out of hour works
- Construction equipment and material deliveries
- Possible inconvenience to existing businesses and residents
- Signage changes

## 9. Review, monitoring and reporting

### 9.1 General

John Holland will conduct routine inspections of the temporary traffic controls during the construction phase. These inspections are carried-out in accordance with Section 6 of the RMS's 'Traffic Control at Worksites Manual' (TC@WS Manual) and Appendix A of Australian Standard 1742.3-2009.

There are four main types of inspections:

1. Pre-start and pre-closedown inspections of short-term traffic control
2. Weekly inspections of long term traffic control
3. Night inspections of long-term traffic control
4. Pre-opening inspections of temporary roads

The Site Traffic Control Plans detail the inspection regime for each traffic impact, including checklists for conducting short-term, long-term, or night inspections, which are based on the Appendix E of the RMS's TC@WS Manual. A comprehensive checklist will be developed for conducting pre-opening inspections, which is based on AUSTRROADS Road Safety Audit guide.

### 9.2 Inspections frequency and responsibility

The responsibility lines and frequency of inspections is summarised below:

Inspection	Responsibility	Frequency
Pre-start and pre-closedown	Traffic Control Team Leader	Before works starts, regularly through the shift and prior to closing down.
Weekly inspections	Foreman or Superintendent	On the day before the work begins, and at least once per week.
Night inspections	Foreman or Superintendent	At least once during the first week and at least every two months.
Short term works inspection	Traffic Control Team Leader	On the day of the short term TCP (possessions, road closures, etc.)

### 9.3 Road safety audits

#### 9.3.1 General

In addition to regular site inspections, John Holland is committed to conduct regular Road Safety Audits of onsite traffic control and management measures by external qualified Road Safety Auditors.

The Road Safety Audit (RSA) process is a formal procedure for checking the design, implementation and operation of road works from a safety perspective. It would be carried out by an independent, qualified auditor who will report on the project's documented and implementation identifying any deficiencies, and or safety hazards, regardless of current practice, standards or operations, to enable John Holland's Traffic Management Team to implement corrective solutions.

#### 9.3.2 Purpose and benefits

The overriding objective of the Road Safety Audit process is to ensure that all existing Site Traffic Control Plans and associated documentation is providing an acceptable level control

The benefits of road safety audits are that:

- The likelihood of accidents on the road and the adjacent network can be reduced
- The severity of accidents can be reduced
- Road safety is given greater prominence in the minds of road designers
- The need for costly remedial work is reduced
- The total cost of a project to the community, including accidents, disruption and trauma, is reduced

### **9.3.3 External auditor qualification and accreditation**

The external audits will be conducted by suitably qualified road safety, and traffic engineering professionals, who have undergone road safety audit training and received certification under the Institute of Public Works Engineering Australia (IPWEA) Accreditation Scheme. John Holland will require an experienced auditor who has achieved Road Safety Accreditation.

## **9.4 Reporting**

### **9.4.1 Reports to TfNSW**

The Transport Representative is responsible for preparing a monthly traffic management report, issued to the Construction Manager and Project Manager for inclusion in Project Monthly Report issued to Transport for NSW for information and review.

### **9.4.2 John Holland internal reporting**

Monthly reporting shall include:

- Implementation status of the project's traffic and transport management system, measured against objectives and targets
- Non-Conformance Reports and Corrective Action Requests raised in relation to traffic and transport
- Training, education and communication undertaken
- Audit, inspection, testing and monitoring activities

### **9.4.3 Continuous improvement**

To continuously improve the effectiveness of the traffic management system, inspections reports, audit reports are monthly reports are review in formal management reviews. This review is designed to identify aspects where corrective and preventive actions can be adopted to improve the overall outcomes of the traffic management system. Subsequently formalized action plans are signed off by the Project Manager, with responsibility assigned for implementation.

### **9.4.4 Stakeholder satisfaction**

TfNSW satisfaction is the key Project driver and ultimately the key Project deliverable, together with the satisfaction of other key stakeholders such as local councils, RMS, and the local community.

John Holland will continually assess its performance with respect to delivering stakeholder satisfaction, and fully meeting TfNSW's project objectives and the contract requirements. This performance goal will be gauged at project monthly meetings and reported in monthly reports.

Through general interaction, formal and informal meetings, feedback will be considered from stakeholders during the project delivery, and upon and post completion. This feedback will be documented and provide the basis for development of strategies for lifting project performance to higher levels.



**Hennessy Street and Paisley Road – Stage 2 (anticipated dates May 2016 to July 2017)**

