



DOMAIN COMMUNITY REFERENCE GROUP

Meeting #7

Wednesday 30 May 2018, Seasons Botanic Gardens





INTRODUCTION

INTRODUCING RAIL PROJECTS VICTORIA

- Melbourne Metro Rail Authority has changed its name to **Rail Projects Victoria**
- RPV better reflects the broadened scope of the projects that we will deliver for Victorians
- **Projects include:**
 - Regional Rail Revival (Bendigo, Geelong, Gippsland, North East, Shepparton, Warrnambool)
 - High speed rail link between Melbourne and Geelong
 - Future rail link to Melbourne Airport
 - More information at bigbuild.vic.gov.au
- No change to the way we engage with you
- Our new name will be reflected in the new branding as we transition





TRANSPORT MANAGEMENT

TRAFFIC IMPACTS ANALYSIS

ANZAC TRANSPORT MONITORING MARCH

(IMPACTED BY THE AUSTRALIAN GRAND PRIX)

ROAD	AM PEAK PERIOD (northbound)		PM PEAK PERIOD (southbound)		DAILY (all directions)	
	Δ Journey Time	Δ Volume	Δ Journey Time	Δ Volume	Δ Volume	% Difference
St Kilda Rd	▲ 5.9 mins (Glen Eira Rd to Flinders St)	+ 230 veh (at Commercial Rd)	▲ 3.3 mins (Flinders St to Glen Eira Rd)	- 80 veh (at Commercial Rd)	+ 2,310 veh (at Commercial Rd)	+ 6%
Kings Way / Queens Rd	▲ 6.1 mins (Chapel St to Flinders St)	+ 300 veh (at Albert Rd)	▲ 1.3 mins (Flinders St to Chapel St)	+ 20 veh (at Albert Rd)	+ 910 veh (at Albert Rd)	+ 1%
Punt Rd	▲ 3.7 mins (St Kilda Jct to Wellington Pde)	- 10 veh (at Toorak Rd)	▲ 0.6 mins (Wellington Pde to St Kilda Jct)	+ 40 veh (at Toorak Rd)	+ 600 veh (at Toorak Rd)	+ 1%
Canterbury Rd / Ferrars St	n/a	+ 200 veh (at Albert Rd)	n/a	- 60 veh (at Fitzroy St)	+ 2,940 veh (at Albert Rd & Fitzroy St)	+ 14%

Notes:

- All comparisons are made to the baseline six month average prior to February 2018
- Weekday peak periods are defined between 7:30-9:00am towards to CBD and 4:30-6:00pm from the CBD
- Data excludes weekends, public holidays and school holidays
- Journey times and volumes have been sourced from VicRoads using Bluetooth and SCATS data

ANZAC TRANSPORT MONITORING APRIL

(EXCLUDING SCHOOL HOLIDAYS BETWEEN 3/04 - 13/04)

ROAD	AM PEAK PERIOD (northbound)		PM PEAK PERIOD (southbound)		DAILY (all directions)	
	Δ Journey Time	Δ Volume	Δ Journey Time	Δ Volume	Δ Volume	% Difference
St Kilda Rd	▲ 2.4 mins (Glen Eira Rd to Flinders St)	- 660 veh (at Commercial Rd)	▲ 1.0 mins (Flinders St to Glen Eira Rd)	- 280 veh (at Commercial Rd)	- 4,080 veh (at Commercial Rd)	-11 %
Kings Way / Queens Rd	▲ 3.2 mins (Chapel St to Flinders St)	- 200 veh (at Albert Rd)	▼ 1.0 mins (Flinders St to Chapel St)	+ 260 veh (at Albert Rd)	- 580 veh (at Albert Rd)	- 1%
Punt Rd	▲ 5.3 mins (St Kilda Jct to Wellington Pde)	- 60 veh (at Toorak Rd)	▲ 0.8 mins (Wellington Pde to St Kilda Jct)	- 40 veh (at Toorak Rd)	- 570 veh (at Toorak Rd)	- 4%
Canterbury Rd / Ferrars St	n/a	+ 50 veh (at Albert Rd)	n/a	+ 20 veh (at Fitzroy St)	+ 240 veh (at Albert Rd & Fitzroy St)	- 1%

Notes:

- All comparisons are made to the baseline six month average prior to February 2018
- Weekday peak periods are defined between 7:30-9:00am towards to CBD and 4:30-6:00pm from the CBD
- Data excludes weekends, public holidays and school holidays
- Journey times and volumes have been sourced from VicRoads using Bluetooth and SCATS data

PARK STREET/WELLS STREET INTERSECTION ANALYSIS

- Video Survey undertaken from 1 to 7 May
- Analysis of data from 6.30am-9.30pm to identify key trends at busiest times of the day
- The average weekday movements over the 15 hour survey period:
 - 310 total illegal movements (out of 11,000 movements at the intersection)
 - 77% cars driving towards St Kilda Road making illegal U-Turns/right turns back towards Kings Way/Palmerston Crescent
 - 23% cars driving towards Kings Way making illegal U-Turns/right turns back towards St Kilda Road/Wells Street

PARK STREET/WELLS STREET NEXT STEPS

- Google Maps has not picked up turn bans.
 - Working with VicRoads to fix.
- Traffic data to be read in conjunction with Yarra Trams crash data which shows 19 vehicle/tram incidents on this section of Park Street for the 3 years to mid 2017.
- Any treatment needs to respond to current conditions (22 trams on Route 58 between 8am and 9am) and future conditions with 3 tram routes and higher number of tram movements
- RPV will work with City of Port Phillip and Yarra Trams to develop appropriate physical treatments

City of Port Phillip, Tram/Vehicle Incident frequencies

'Top Ten' Streets for Tram Road Safety Incidents	Number of incidents	
Fitzroy Street	34	
St Kilda Road	24	
The Esplanade	24	900m
Clarendon Street	20	1.6km
Park Street, S. Melbourne	19	1km
Carlisle Street	19	2km
Park Street (Domain)	19	300m
Brighton Rd	18	
Acland St	18	300m
Park St, St Kilda	14	900m

FAWKNER PARK TRAM STOP PARK STREET/ TOORAK ROAD INTERSECTION

- Video Surveys undertaken:
 - At intersection from 14 to 20 March
 - At stop/childcare centre entry from 1 to 7 May
- Analysis of data from 6.30am-6.30pm to identify key trends at busiest times of the day including full coverage of childcare centre opening hours
- 1 vehicle (outbound), 1 bike (inbound) observed to be overtaking a stopped tram out of 60,000+ movements over the 5 day period
- Minor non compliance issues at Park/Toorak intersection with ~10 illegal u-turns per day and some queueing over tram tracks at peak times

FAWKNER PARK TRAM STOP POST IMPLEMENTATION CHANGES

New treatments to improve safety have been installed since day 1:

- New specialised signs installed on approaches to stops (improve compliance with stopping behind trams, including increased visibility of signs at night)
- Keep Clear line marking on eastbound carriageway (improve egress from childcare centre and for u-turners near Millswyn Street)
- Yellow separator line at edge of stop between traffic line and platform waiting area (reduce incursion of vehicles into pedestrian area)
- City of Melbourne tree trimming to increase visibility to signs and signals to occur this week





FURTHER CHANGES TO BE IMPLEMENTED

Further treatments to be completed by 9 June:

- Yellow edge line on bluestone edge between raised traffic lane and lowered tram line (increase visibility of level difference)
- Chevron signs on approach to kerb extensions for platforms (improve guidance to drivers on lane location)
- No u-turn sign facing eastbound traffic on Toorak Road West at Park Street



CROSS YARRA PARTNERSHIP

MAY WORKS UPDATE

CURRENT WORKS – 19 APRIL



CURRENT WORKS – NORTHERN BOX



CURRENT WORKS – SOUTHERN BOX



CURRENT WORKS



CURRENT WORKS



UPCOMING TRAFFIC CHANGES



UPCOMING WORKS

- Diaphragm Wall Construction
- Ongoing site establishment
- Piling platform – North and South Station Boxes
- Guide wall construction
- Ground anchor removal, including tree removal
- Geotechnical investigations and soil sampling
- Bentonite plant installation



REGULAR UPDATE- TREE REMOVAL

St Kilda Road:

- 14 Trees to be removed this month
- PH167 - PH132
- PH168 - PH133
- PH169 - PH134
- PH170 - PH135
- PH171 - PH136
- PH173 - PH137
- PH174 - PH138

Edmund Herring Oval

- Up to 15 to be removed in June
- 4 trees replanted in Shrine grounds



WESTGATE PARK SOIL DONATION

- More than 300 cubic metres of top soil removed from Edmund Herring Oval has been donated to land care group Friends of Westgate Park.
- Ten trucks transported the top soil to Westgate Park in Fishermen's Bend, which is being used to transform a section of the park from degraded land into beautiful wetlands for local birdlife and native plants.
- Four trees from Edmund Herring Oval have also been replanted in the Shrine grounds



NOISE MODELLING

Scenario ID No.	Description of works	Working hours	Start date	Finish date
D1	Northern box D-Walls and piling	Monday to Friday 7am to 6pm	May 2018	September 2018
D2	Southern box D-Walls and piling – Stage 1	Saturday – 7am to 1pm	October 2018	December 2018
D3	Roof slab construction of northern box including excavation activities prior to shed construction (including pile break back/ demolition of D-walls and pile detail and backfill works)		September 2018	December 2018
D4	Roof slab construction of southern box- Stage 1 (including excavation, pile break back, demolition of D-walls and pile detail and backfill works)		January 2019	May 2019

RESIDENTIAL BREAKDOWN

Noise sensitive receiver location	External noise target, dB L _{Aeq} (15min)	Unmitigated Predicted Noise Level, dB L _{Aeq} (15min)			
		D1	D2	D3	D4
Seasons Botanic Gardens	66 "Noise Affected"	60	57	61	54
Hallmark Apartments		71	64	71	62
Domain Hill		70	64	70	63
Albert Tower		66	63	67	63
50 Albert Road.		63	62	65	61
St James' Apartments		60	56	60	55
Royal Domain Apts		65	61	64	54
Royal Domain Tower		65	60	64	59
Royal Domain Plaza		62	59	63	51
320 St Kilda Road		55	51	55	48
Elm apartments	75 "Highly Noise Affected"	55	52	55	50
Vista		33	32	33	31
Metro		31	29	32	29
Plaza		34	32	34	31
The Tower		36	34	36	33
Parkside		43	40	45	35
Capri		39	44	38	44
The Emerald Apartments		62	61	66	65

RESIDENTIAL BREAKDOWN (CONTINUES)

Noise sensitive receiver location	External noise target, dB L _{Aeq} (15min)	Unmitigated Predicted Noise Level, dB L _{Aeq} (15min)			
		D1	D2	D3	D4
The Domain	66 "Noise Affected"	66	82	72	78
The Botanica		55	64	59	78
City Condos	75 "Highly Noise Affected"	56	58	60	67
Promenade		44	53	47	52
Princeton Apartments		38	48	39	56
401 St Kilda Road		54	57	56	61
405 St Kilda Road		53	56	55	59
Royce Hotel		57	62	61	68

SENSITIVE RECEIVER BREAKDOWN

Noise sensitive receiver location	Internal noise target, dB L _{Aeq} (15min)	Unmitigated Predicted Noise Level, dB L _{Aeq} (15min)			
		D1	D2	D3	D4
Domain Health	45	<20	<20	<20	<20
Albert Road Clinic		40	37	43	33
Melbourne Grammar School		46	48	56	48

MITIGATION MEASURES

Equipment selection

- Where required fitted with silencers and acoustic enclosures and noise attenuation
- Project requirement for fitting of broadband reverse beepers
- Selection of less noise and vibration emitting devices
- Sub contractors to be made aware of plant requirement during tender and onboarding process
- Grinders, impact wrenches, hammers etc. will be used in specifically designated areas and preferably separated by a barrier.

Use and siting of plant

- Reduce simultaneous operation of noisy plant
- Offset the distance between noisy plant
- Plant to be shut down or throttled down when not in use
- Weekly inspections of plant on site

Acoustic barriers

- Erecting barriers on site at source where it will reduce the impact of noise at receivers



MANAGING NOISE

- These are predicted results - live monitoring in place during construction
- On site team and environment team receive alerts when approaching exceedances, team then check that all agreed measures in place
- Review effectiveness of measures as work progresses
- Present back to CRG on the results and how we're tracking against these predicted levels
- If you are experiencing noise issues – contact the Metro Tunnel Project Information Line on 1800 105 105 (24 hours a day, 7 days a week). Press 2 and follow the prompts

VIBRATION MODELLING

Area	Activity	Sensitive Receiver	Vibration Compliance Guideline NV11	Vibration Compliance Guideline NV8	Predicted Vibration Levels	Vibration Mitigation	Regenerated Noise Compliance Guideline	Predicted Regen Noise	Regen Noise Mitigation
D1	DWall with Liebherr 885	The Domain	0.2 to 0.4m/s ¹⁷³ (daytime)	5 to 10mm/s	<0.1mm/s	Compliant	40dBA (evening) 35dBA (night)	<30dBA	Compliant
		Albert Tower			<0.1mm/s	Compliant		<30dBA	Compliant
		Domain Hill Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Hallmark Apartments			0.2mm/s	Compliant		<30dBA	Compliant
		Royal Domain Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Melbourne Grammar School - Auditorium			1.2mm/s	Adjustment to practices may be required when immediately adjacent to MGS that could include reduced operating period or undertaking activities outside normal school hours	55dBA	Adjustment to practices may be required when immediately adjacent to MGS that could include reduced operating period or undertaking activities outside normal school hours	
	Bored piers	The Domain	0.2 to 0.4m/s ¹⁷³ (daytime)	5 to 10mm/s	<0.1mm/s	Compliant	40dBA (evening) 35dBA (night)	<30dBA	Compliant
		Albert Tower			<0.1mm/s	Compliant		<30dBA	Compliant
		Domain Hill Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Hallmark Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Royal Domain Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Melbourne Grammar School - Auditorium			0.2mm/s	Compliant	32dBA	Compliant	
	Truck movements around D1 area	The Domain	0.2 to 0.4m/s ¹⁷³ (daytime)	5 to 10mm/s	<0.1mm/s	Compliant	40dBA (evening) 35dBA (night)	<30dBA	Compliant
		Albert Tower			<0.1mm/s	Compliant		<30dBA	Compliant
		Domain Hill Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Hallmark Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Royal Domain Apartments			<0.1mm/s	Compliant		<30dBA	Compliant
		Melbourne Grammar School - Auditorium			<0.1mm/s	Compliant	<30dBA	Compliant	

AIRBORNE NOISE DURING NORMAL WORKING HOURS

A. Airborne Noise Management Levels during Normal Working Hours

A1. The CVNMP must adopt daytime Management Levels for airborne noise at residences during Normal Working Hours (as defined in EPR NV6) in accordance with Table NV21-A. The Management Level in Table NV21-A is not a noise limit or target, but represents noise levels above which community reaction may be adverse and which should trigger management actions to minimize the noise impact.

Table NV21-A Airborne Noise Management Levels during Normal Working Hours

Construction noise level	How to apply
Background noise level +10 dB	<p>The noise affected level represents the point above which there may be some community reaction to noise.</p> <p>Where the predicted or measured $L_{Aeq(15\text{ min})}$, due to construction noise from the Melbourne Metro project, is greater than the noise affected level, the proponent should apply all practicable work practices to meet the noise affected level.</p> <p>The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.</p>
75 dB(A)	<p>The highly noise affected level represents the point above which there may be strong community reaction to noise.</p> <p>Where construction noise from the Melbourne Metro project is above this level, the relevant authority may require respite periods by restricting the hours that the very noisy activities can occur, taking into account:</p> <ol style="list-style-type: none">1. times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences)2. if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

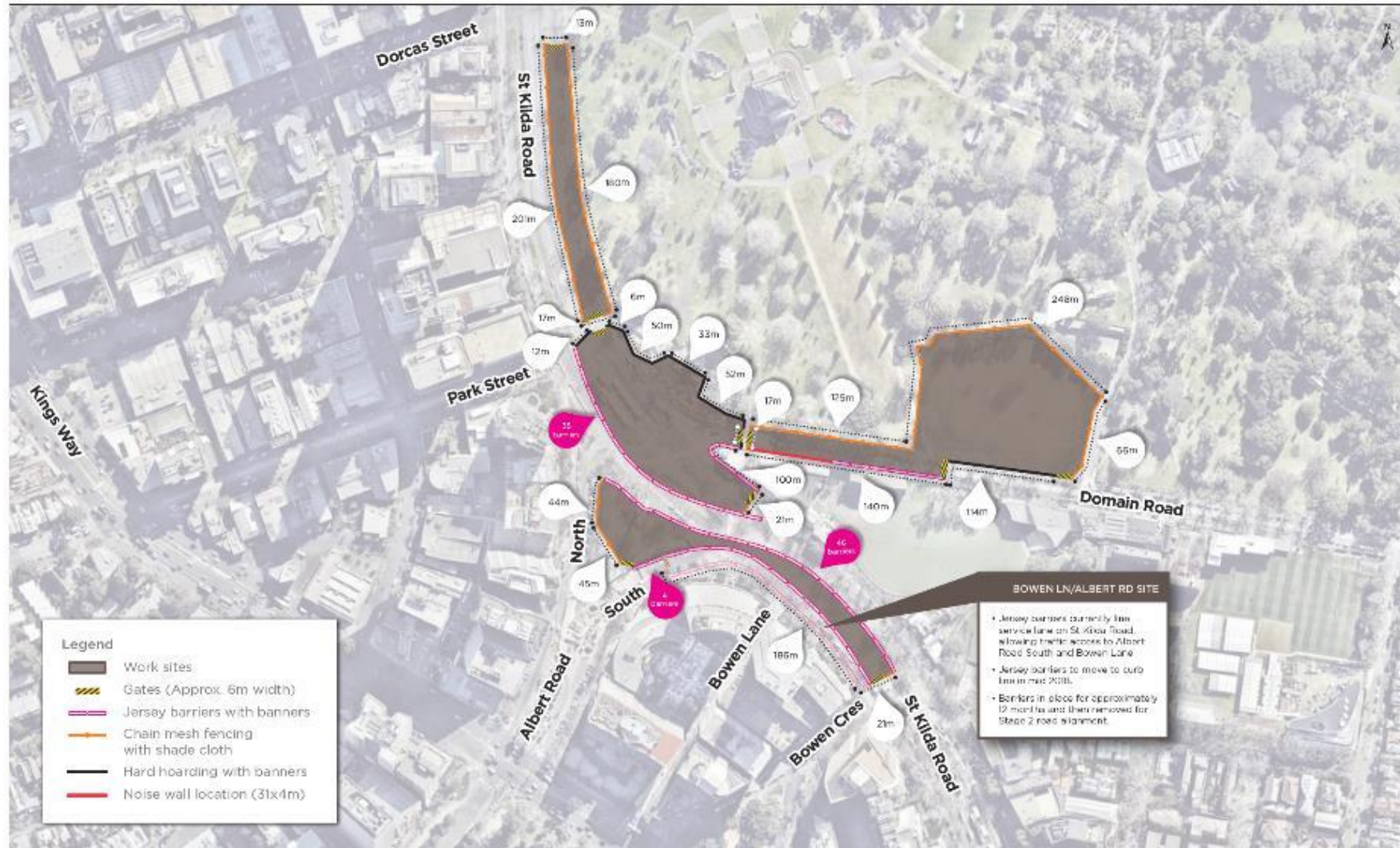
AIR QUALITY- NORTHERN BOX

- Ambient air quality objective:

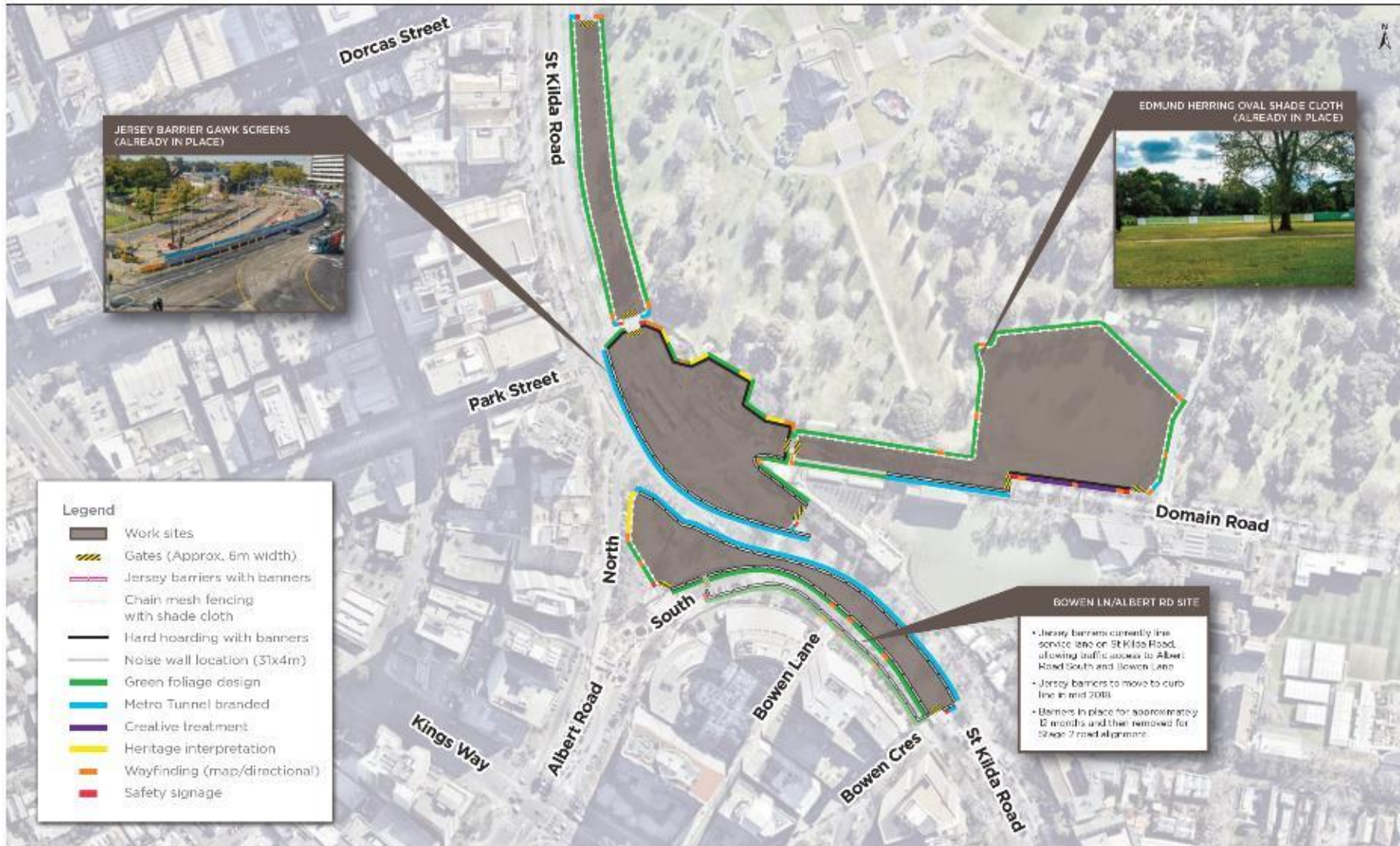
Pollutant	Averaging period	Objective
Particles as PM ₁₀	24-Hr	60 µg/m ³
Particles as PM _{2.5}	24-Hr	36 µg/m ³
Respirable crystalline silica (as PM _{2.5})	Annual	3 ug/m ³

- Current modelling shows all residential buildings well within these objectives prior to any mitigation
- Mitigation measures including site watering will be in place
- Air quality monitors will be installed in locations around the precinct

SITE FENCING AND HOARDING (TYPOLOGY)



SITE FENCING AND HOARDING (TREATMENT)



SITE FENCING AND HOARDING (EXAMPLES)



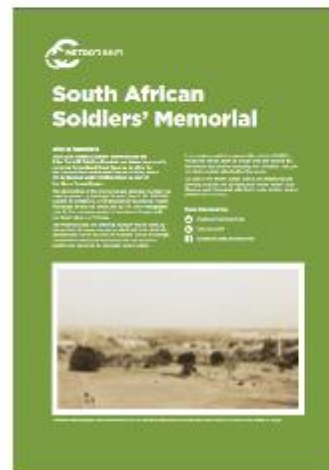
Metro Tunnel Project branding



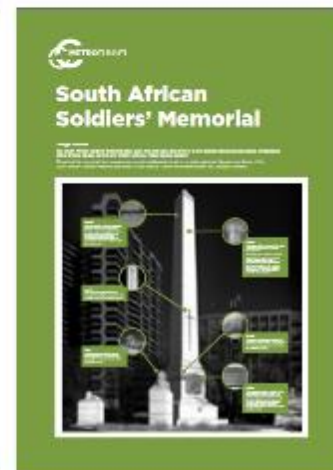
Green 'foliage' with branding



Wayfinding map and directional blade signage



Heritage interpretation



QUESTIONS?



ANZAC STATION



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