



# Rozelle Interchange

## Air Quality Community Consultative Committee

Meeting 1

5 October 2021

# Agenda

- Introduction to the project team and AQCCC members
- Overview of the project
- Role and responsibilities of the AQCCC
- Overview of ventilation system and air quality monitoring stations
- Agenda and date for the next meeting
- Questions



# Introductions

# Independent Chair

Name	Role	Organisation
Abigail Goldberg	Chair and Director	GoldbergBlaise

# Community representatives, Council

Name	Role	Organisation
Peter Nvylyt	Community representative	Rozelle
Ashley Douglas	Community representative	Rozelle
Ain Kalmus	Community representative	Rozelle
Helena Keyworth	Community representative	Iron Cove
Ben Prag	Community representative	Iron Cove
Brian Gorman	Community representative	Iron Cove
Kendall Banfield	Senior Transport Planner	Inner West Council
Manod Wickramasinghe	Traffic and Transport Planning Manager	Inner West Council

# Transport for NSW and JHCPB project team

Name	Role	Organisation
Peter Morrall	Senior Manager Environment & Sustainability	Transport for NSW
Antoinette Kovach	Senior Comms and SE Manager	Transport for NSW
Chris O'Brien	A/Principal Manager Communications	Transport for NSW
Charles Scarf	Manager – Environment and Sustainability	JHCPB (Contractor)
Carla Poggioli	Manager – Stakeholder Engagement	JHCPB (Contractor)
Adrian Broger	Approval Advisor	JHCPB (Contractor)

# WestConnex, Transurban project team

Name	Role	Organisation
Verity Turner	Environment and Planning Manager	WestConnex
Matthew Callander	Fire Life Safety and Integration	WestConnex
Peter Redwin	Head of Operations and Maintenance	Transurban
Nicholas Francesconi	Environment and Planning Manager	WestConnex
Dr Ian Longley	Independent Air Quality Specialist	NIWA NZ

# Authorities

Name	Role	Organisation
Stuart Clark	Senior Environmental Officer	NSW EPA
Rob Sherry	Team Leader Compliance	Department of Planning, Industry and Environment



## Relationship between TfNSW and WCX/Transurban

- Rozelle Interchange project is being constructed by JHCPB on behalf of Transport for NSW
- The Rozelle Interchange project is scheduled for opening in December 2023
- On opening, the Rozelle Interchange will be handed over to WestConnex | Transurban to be operated as part of the WestConnex motorway network
- A separate AQCCC has been established for the M4-M5 Link Tunnels project and has been in operation since March 2021
- On opening, WestConnex | Transurban may combine the Rozelle Interchange AQCCC with the M4-M5 Link Tunnels AQCCC



# Overview of the Rozelle Interchange project



Rozelle Interchange  
WestConnex

**JOHN**  
**HOLLAND** |   
CONTRACTORS

# Project Introduction

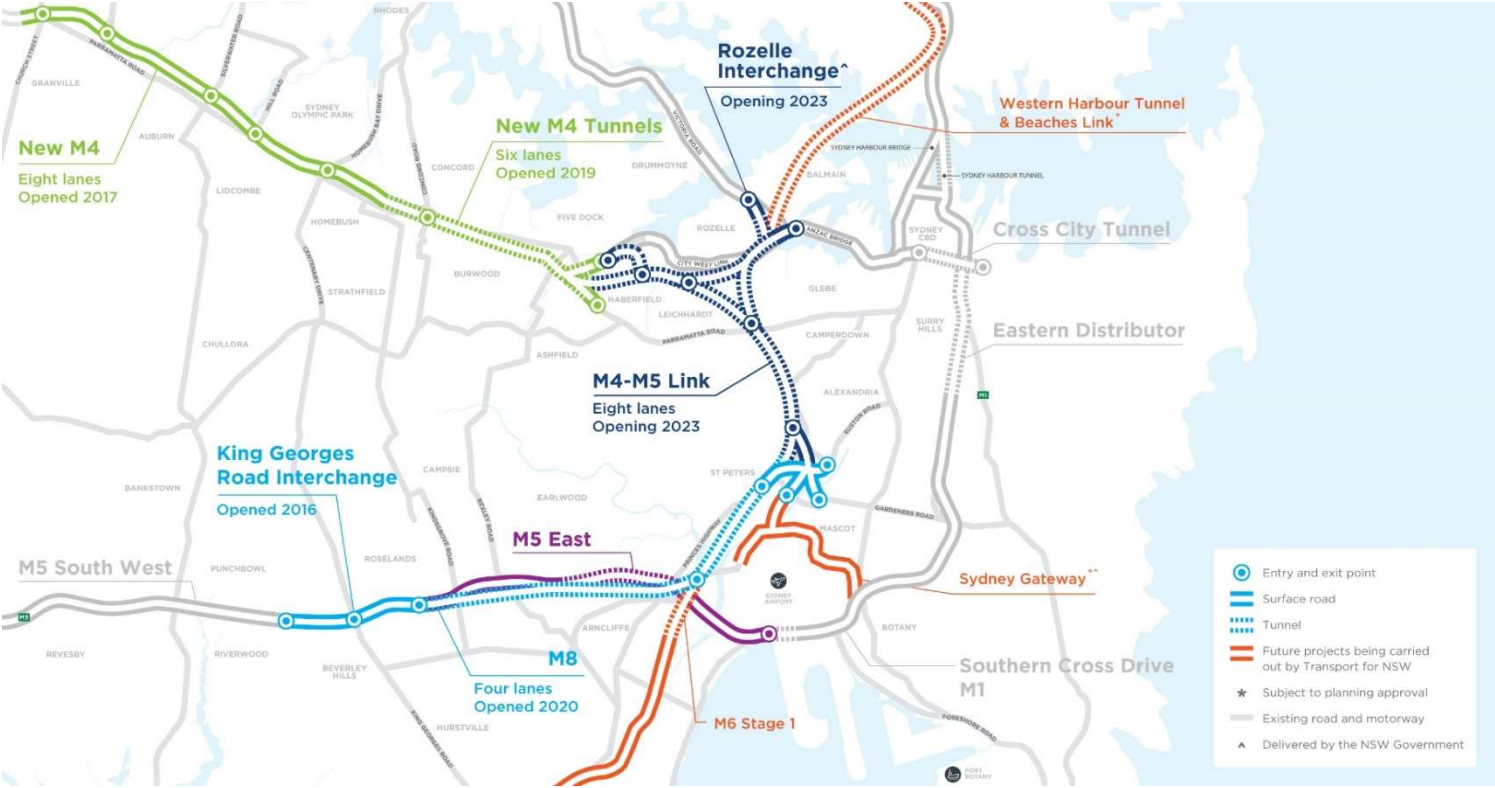
## AQCCC

15/07/2021

# Agenda

1. Project overview
2. Key dates & milestones
3. Community considerations

# WestConnex project

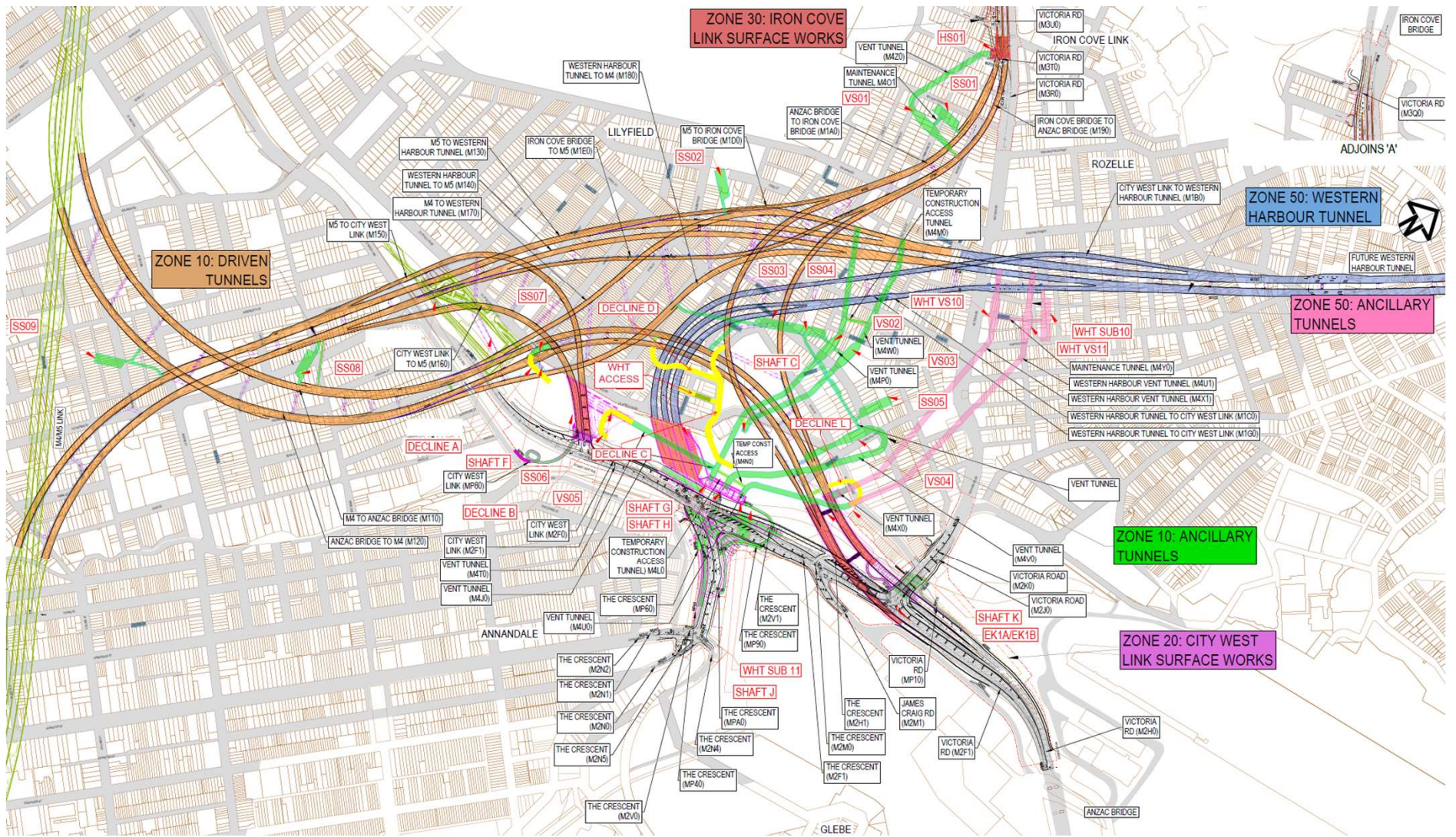


# Project Overview



## Rozelle Interchange

- Underground motorway interchange with connections to the New M4, M8, future Western Harbour Tunnel, Anzac Bridge and Iron Cove Bridge
- Provision of over 9 hectares of public open space and improved connectivity for pedestrians and cyclists



# Overview - Rozelle Parkland

- Key Project Elements
- 1 Rozelle West Motorway Operations Complex
  - 2 Sydney Light Rail Depot
  - 3 Rozelle Ventilation Facility
  - 4 M5 Portals
  - 5 Western Harbour Tunnel Portal
  - 6 Constructed wetland
  - 7 Rozelle Rail Yards parkland
  - 8 M4-Anzac Portals
  - 9 Victoria Road Bridge
  - 10 Victoria Road Shared User Path Bridge
  - 11 Green Link Bridge
  - 12 Brennan Street Shared User Path Bridge
  - 13 Rozelle Bay Shared User Path Bridge
  - 14 Residual Land (subject to the Residual Land Management Plan)







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WestConnex

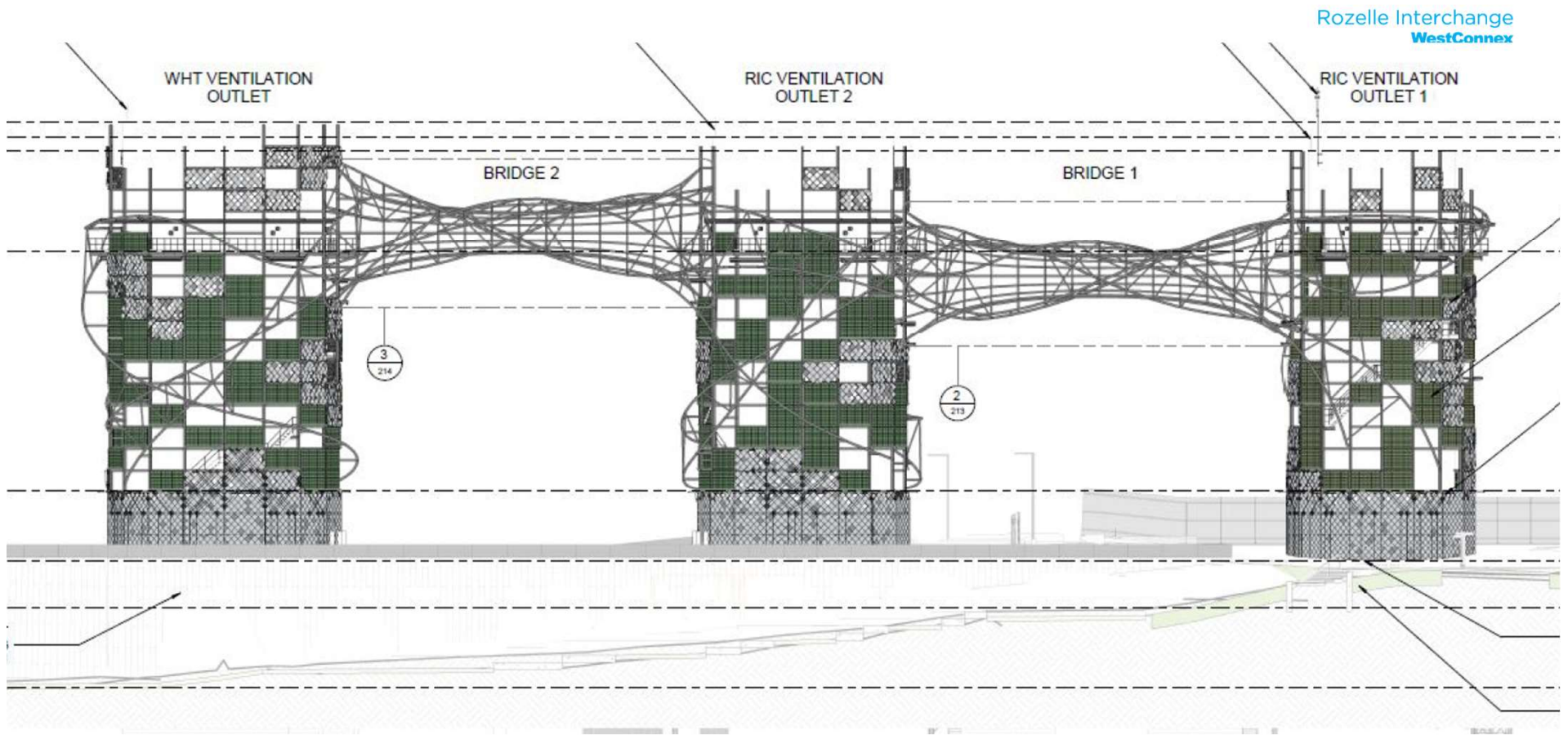
**JOHN HOLLAND** | **CPB CONTRACTORS**



Artist's Impression - Aerial view over City West LHA  
(Landscape shown at full maturity and is indicative only)



Artist's Impression - Aerial view over the Village Green precinct  
(Landscape shown at full maturity and is indicative only)



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WestConnex



# Overview - Iron Cove

- LEGEND -
- 1 Iron Cove Link Portals
  - 2 Iron Cove Link Ventilation Facility
  - 3 Iron Cove Link surface fixed facility
  - 4 Iron Cove Link - Green Link - linear park
  - 5 Foreshore parklands and The Bay Run
  - 6 Iron Cove Bridge
- Residual land subject to the Residual Land Management Plan

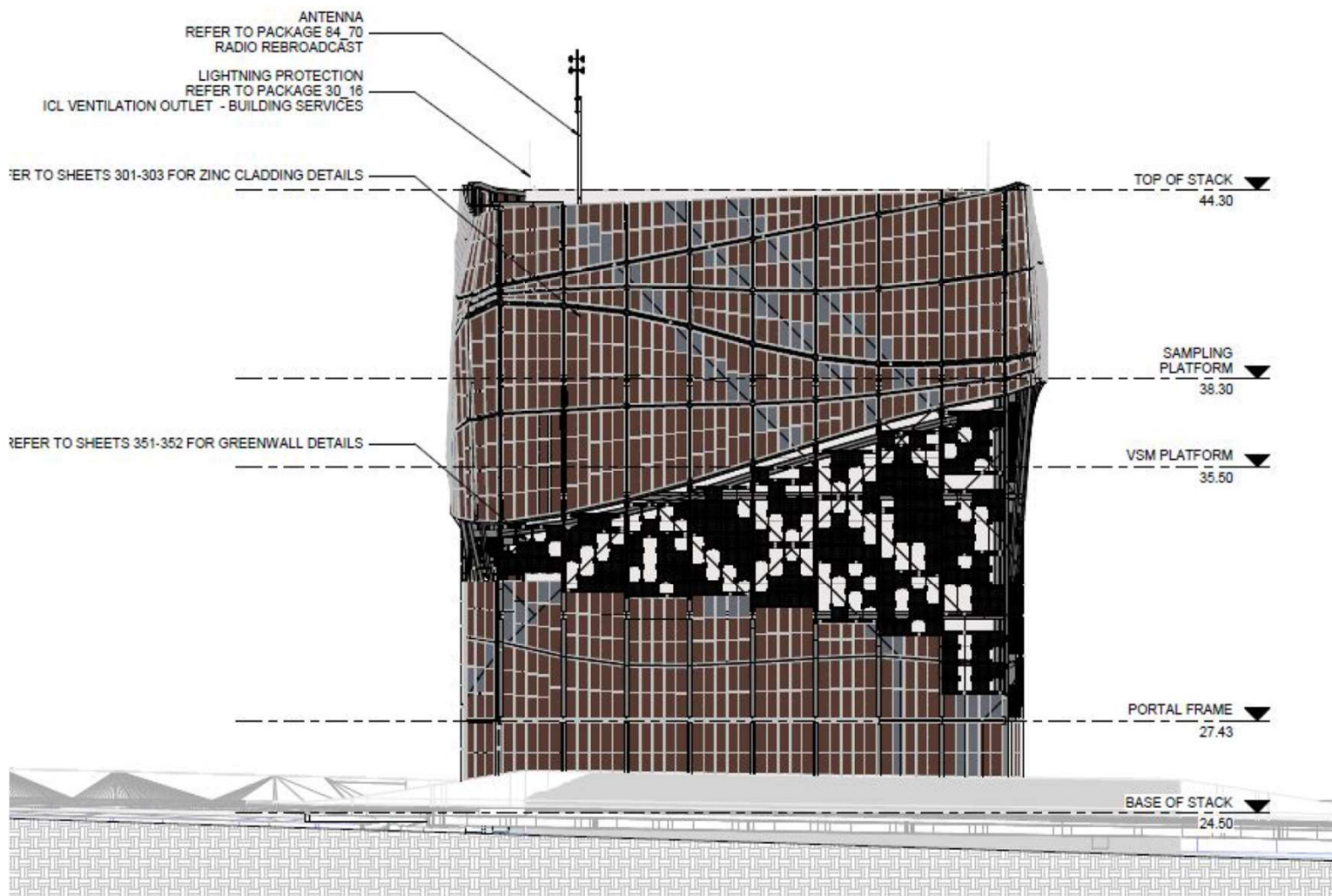




Artist Impression: Aerial view over Victoria Road  
(Landscape shown at full maturity and is indicative only)

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WestConnex

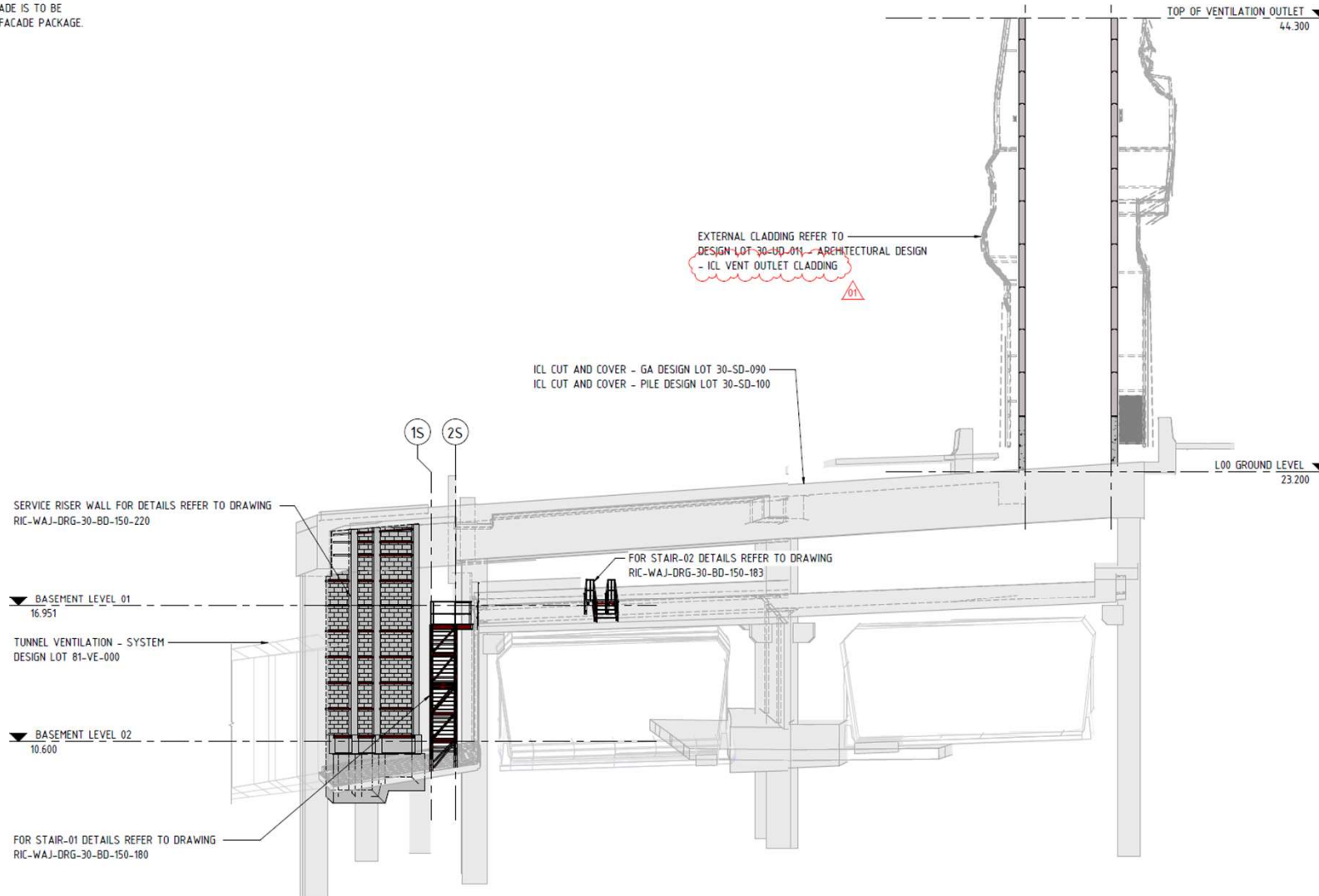
**JOHN HOLLAND** | **CPB**  
CONTRACTORS



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WestConnex

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FACADE PACKAGE.



EXTERNAL CLADDING REFER TO  
DESIGN LOT 30-SD-011 - ARCHITECTURAL DESIGN  
- ICL VENT OUTLET CLADDING

ICL CUT AND COVER - GA DESIGN LOT 30-SD-090  
ICL CUT AND COVER - PILE DESIGN LOT 30-SD-100

SERVICE RISER WALL FOR DETAILS REFER TO DRAWING  
RIC-WAJ-DRG-30-BD-150-220

BASEMENT LEVEL 01  
16.951

TUNNEL VENTILATION - SYSTEM  
DESIGN LOT 81-VE-000

BASEMENT LEVEL 02  
10.600

FOR STAIR-01 DETAILS REFER TO DRAWING  
RIC-WAJ-DRG-30-BD-150-180

FOR STAIR-02 DETAILS REFER TO DRAWING  
RIC-WAJ-DRG-30-BD-150-183

TOP OF VENTILATION OUTLET  
44.300

L00 GROUND LEVEL  
23.200

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# Project Construction Update





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### Victoria Rd / The Crescent Intersection

- 50% of Victoria Rd bridge demolished and rebuilt
- Temporary access roads divert traffic around the works
- M4 East Portals excavation started



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## Rozelle Ventilation Outlet

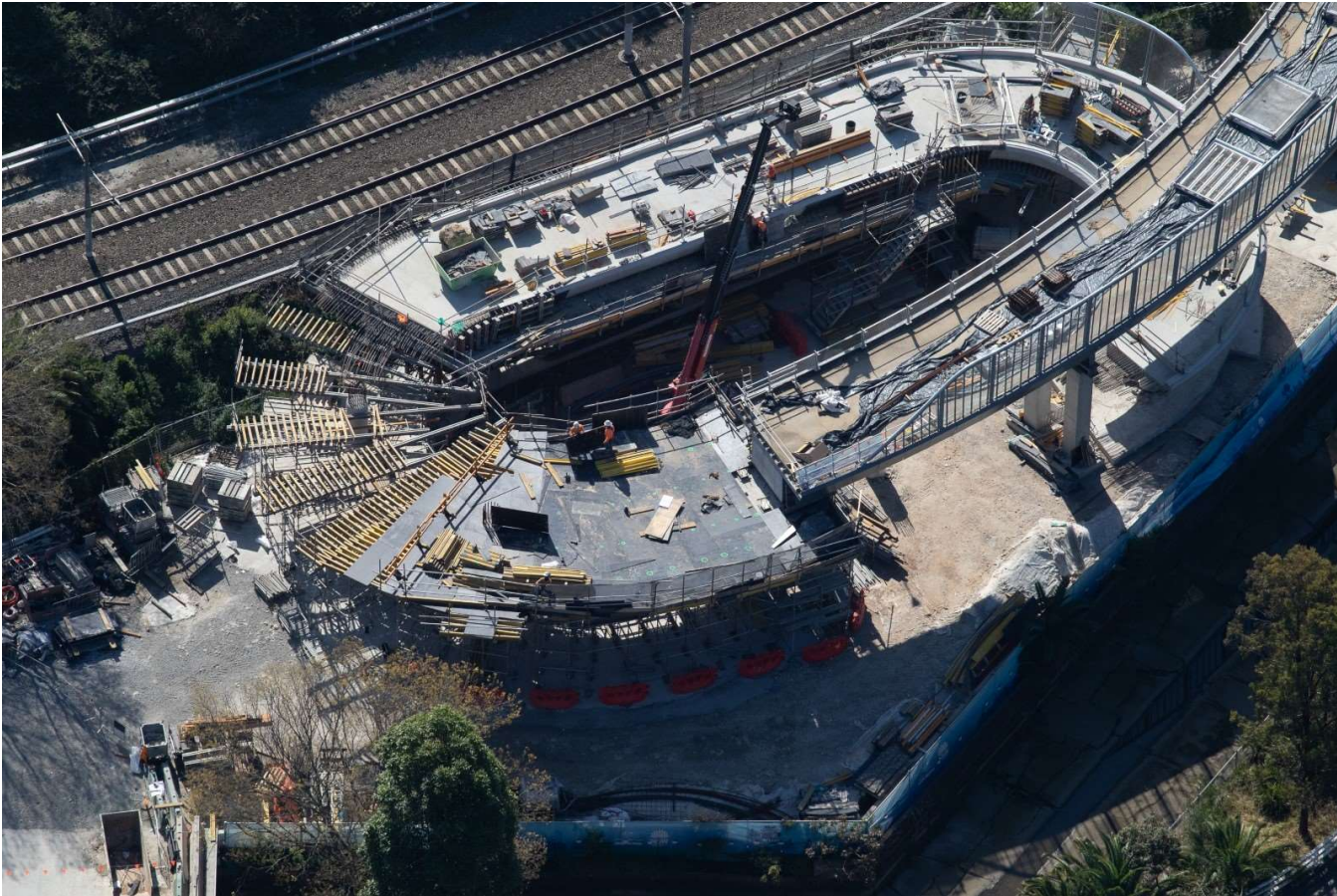


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## Green bridge

Connecting Rozelle Bay  
Light Rail Station with the  
future parkland under  
construction



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## **Brennan St Shared User Bridge**

Connecting Whites Creek Cycle  
Path with the future parklands  
under construction

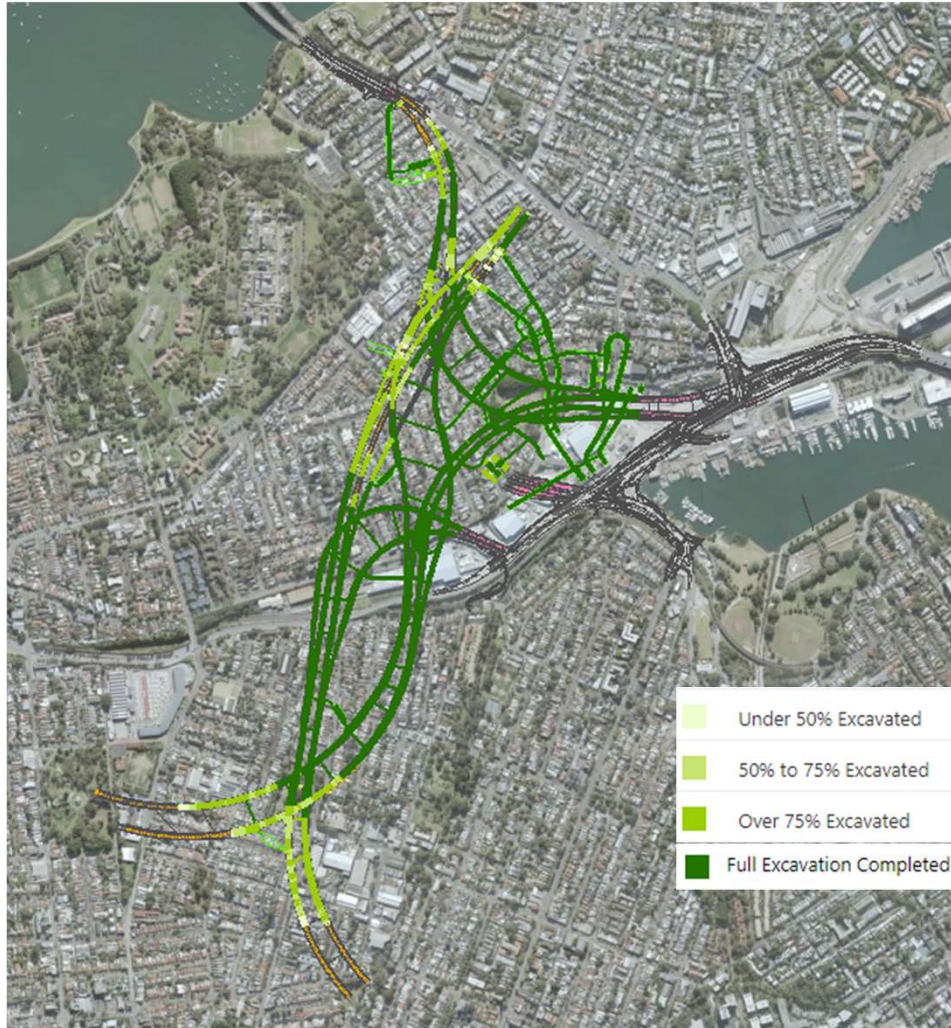


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### Victoria Rd Iron Cove

- Final surface roads and shared user path complete
- Portal excavation started
- Ventilation outlet construction 2022



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## Tunnelling

75% complete

Completion target: early Q2 2022

# Key Dates & Milestones



- Target opening late 2023
- Ambient background monitoring to commence by August 2022
- Ambient Air Quality Goal Protocol submitted to DPIE by August 2022
- Ambient air quality auditor, consulted with EPA and AQCCC & Approved by DPIE prior to opening



# Roles and responsibilities of the AQCCC



# Role and responsibilities of the AQCCC

- Terms of Reference
- AQCCC's role:
  - In accordance with the Conditions of Approval issued by the Department of Planning, Industry and Environment for the project
  - Advisory and consultative role, to provide advice prior to and during operation of the Rozelle Interchange project
  - Review, provide advice on and agree on the location of the air quality monitoring stations
  - Review and provide advice on the operational environmental management plans and operation stage documents, compliance tracking reporting, audit reports and complaints as they relate to air quality
  - Interaction with the local community
- Topics unrelated to the AQCCC:
  - The AQCCC is not a forum to discuss general project or Rozelle Interchange matters that are unrelated to air quality, including general issues around construction, operation, tolling or policy decisions relating to the project or the wider transport network
  - Other avenues are in place for community members to raise these matters, for example by the Project's toll free 1800 number, project email address and directly to the construction contractor



# Presentation from Dr Ian Longley

## Who am I?

- Researcher –
  - leader of NZ Government's air quality research programme
- Consultant –
  - Environmental reporting (MfE)
  - Development of Standards and Guidelines (MfE, NZ Transport Agency)
  - Development of next-generation air monitoring networks (NZTA and councils)
- Interests -
  - development of best practice in air quality management
  - Better community engagement

## Some relevant history

- Advisory Committee on Tunnel Air Quality (NSW)
- Reviewer of EIS (on behalf of Chief Scientist & Engineer) for North Connex, West Connex, F6, Western Harbour & Beaches Link tunnel projects
- Advisor to Ministry of Planning regarding SEARs
- Independent Expert, M4 East AQCCC and M8 AQCCC

## Why monitor?

Design changes

Operational error

Design flaws

“world” has changed

Changes to operation

Fine details that weren't modelled

- NOTE Some protection already provided by modelling conservatism

## The issue

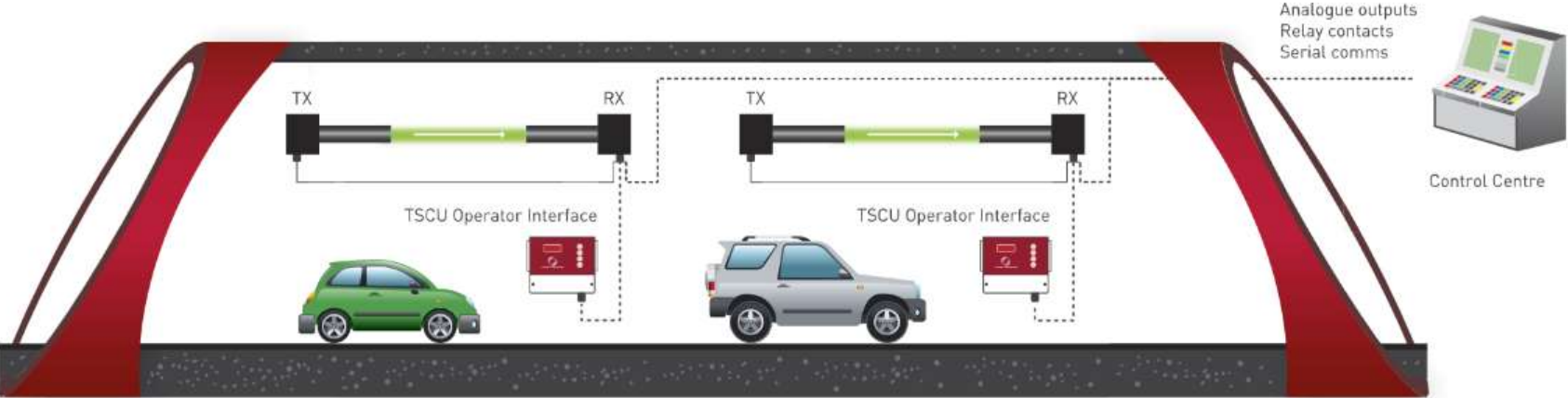
- Changes in air quality - Is the project to blame?



## General approach

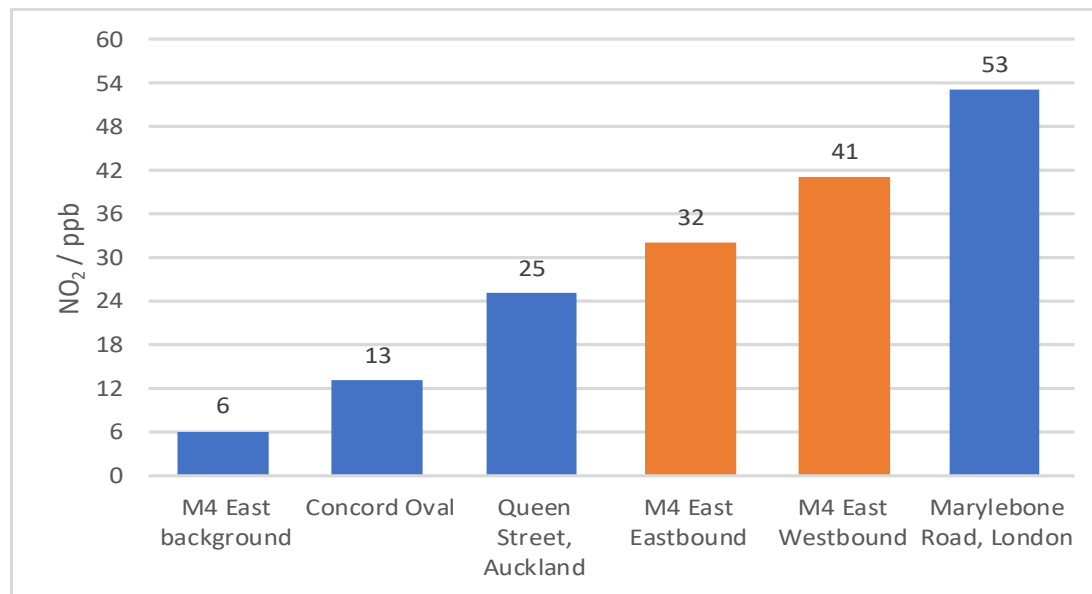
- Data quality review
- In-tunnel air quality
- Ventilation outlet emissions
- Changes in ambient air quality

# In-Tunnel Air Quality





# Air in the tunnel – average weekday daytime (9 – 6) NO<sub>2</sub> concentrations



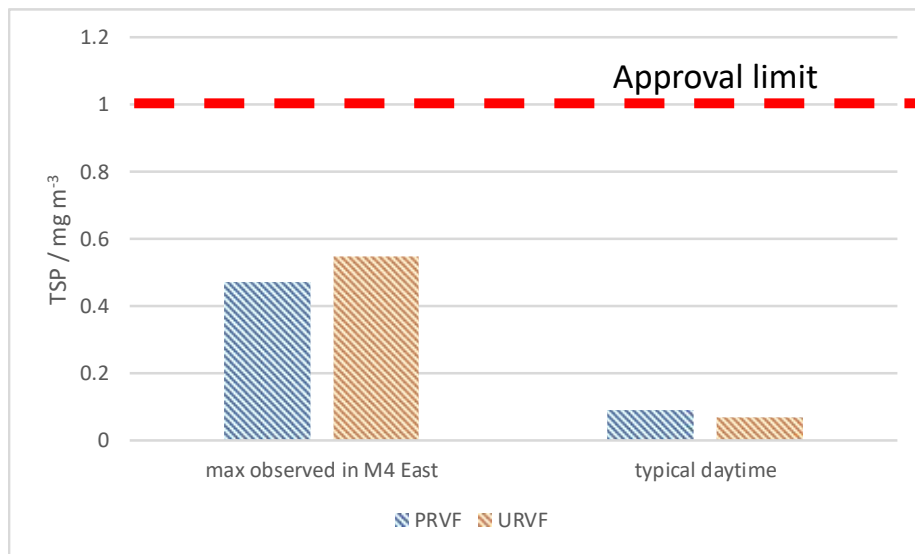
## Ventilation outlet emissions



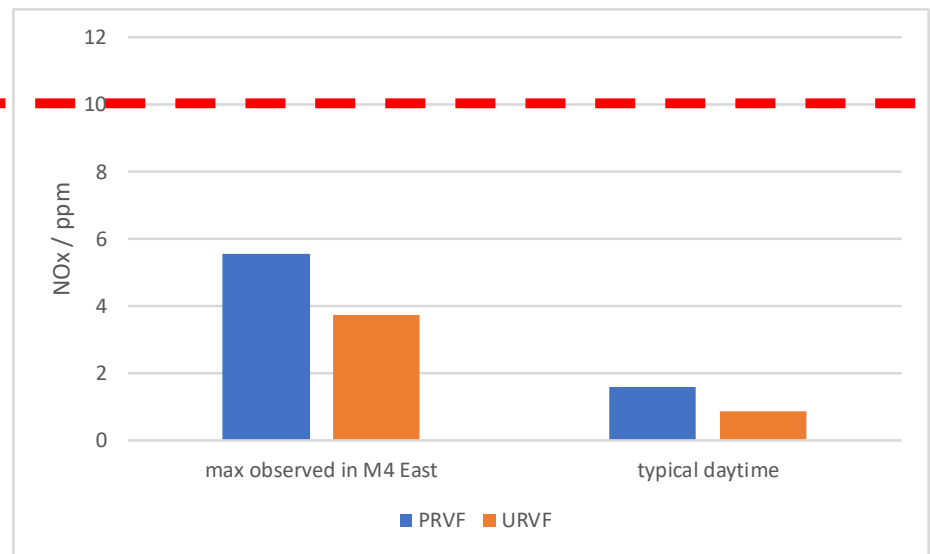
Climate, Freshwater & Ocean Science

# Air in the outlets

### Particles



### Oxides of nitrogen



## Ambient air quality

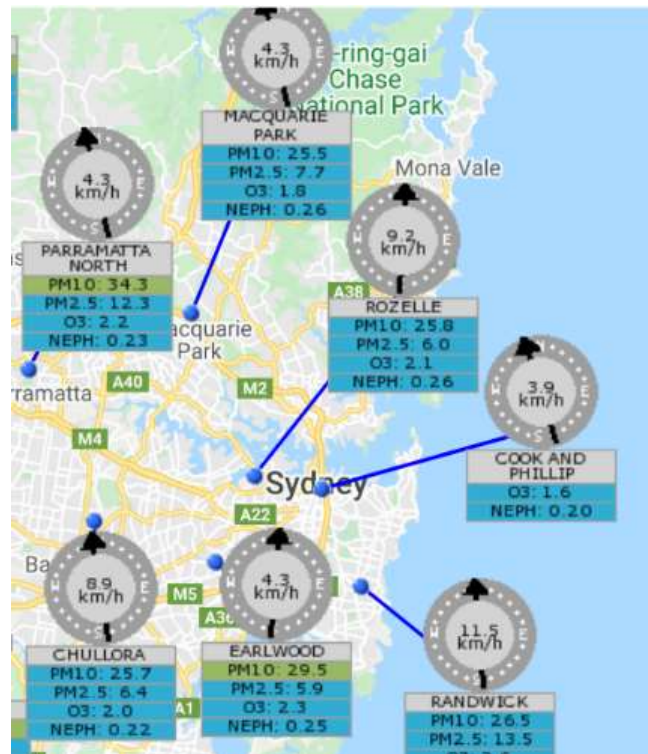
- Changes in ambient air quality
  - Impact of “background” influences on local air quality
  - Impacts due to changes to surface traffic
  - Impacts due to ventilation outlet emissions



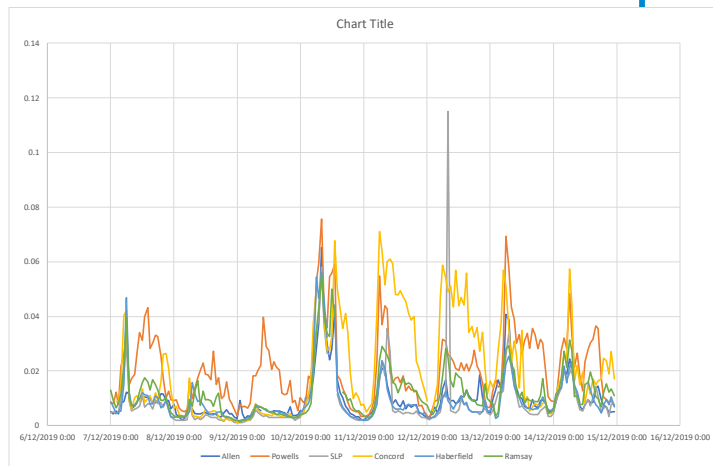
## Impact of other factors on local air quality

- Background sources
- Cleaning of the vehicle fleet
- Bushfires
- COVID
- Meteorology

# NOx is down 1 – 8 % over OEH network 2018-2019



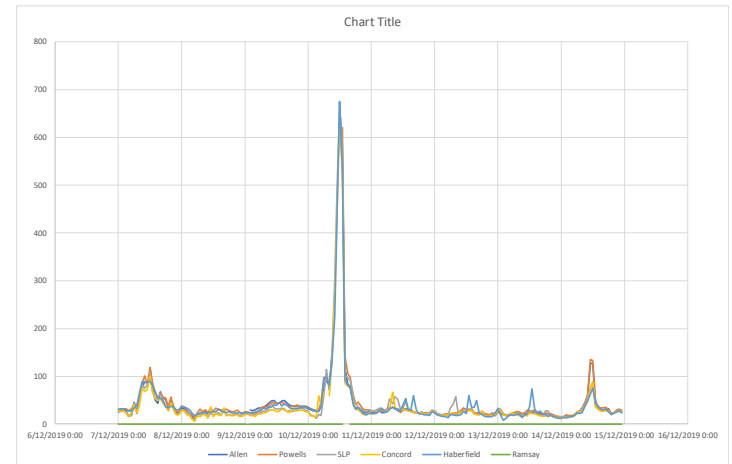
# Bushfire smoke and air pollutants



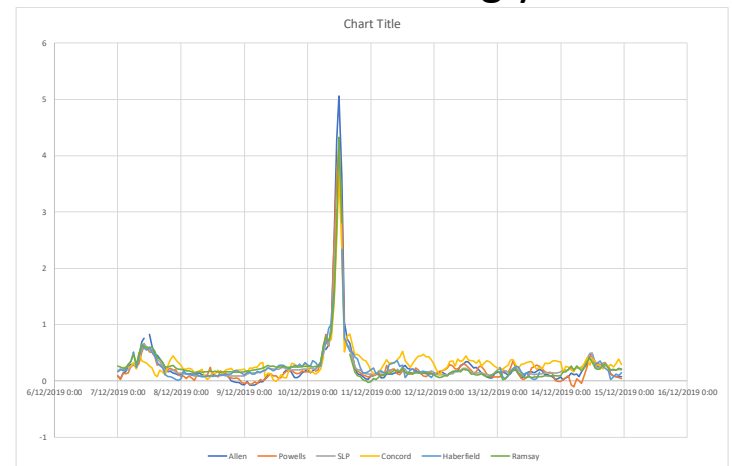
NOx – no distinguishable impact

**Bushfire smoke is easy to detect and exclude from analysis**

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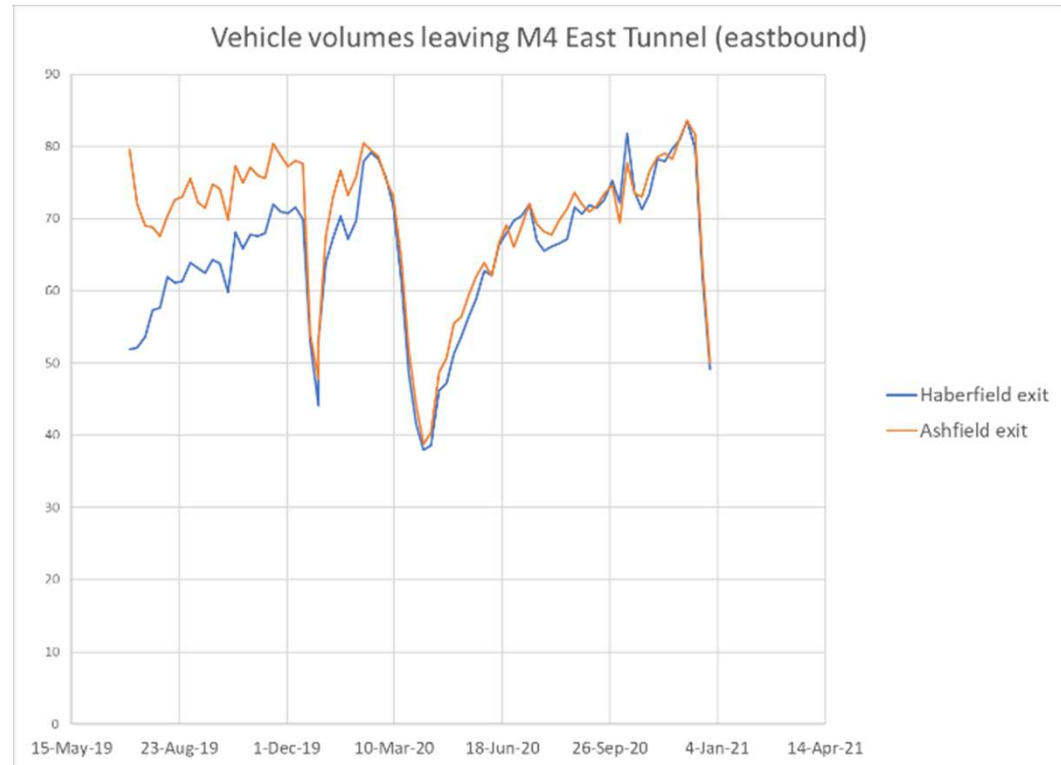


PM2.5 and CO – strongly elevated



## COVID

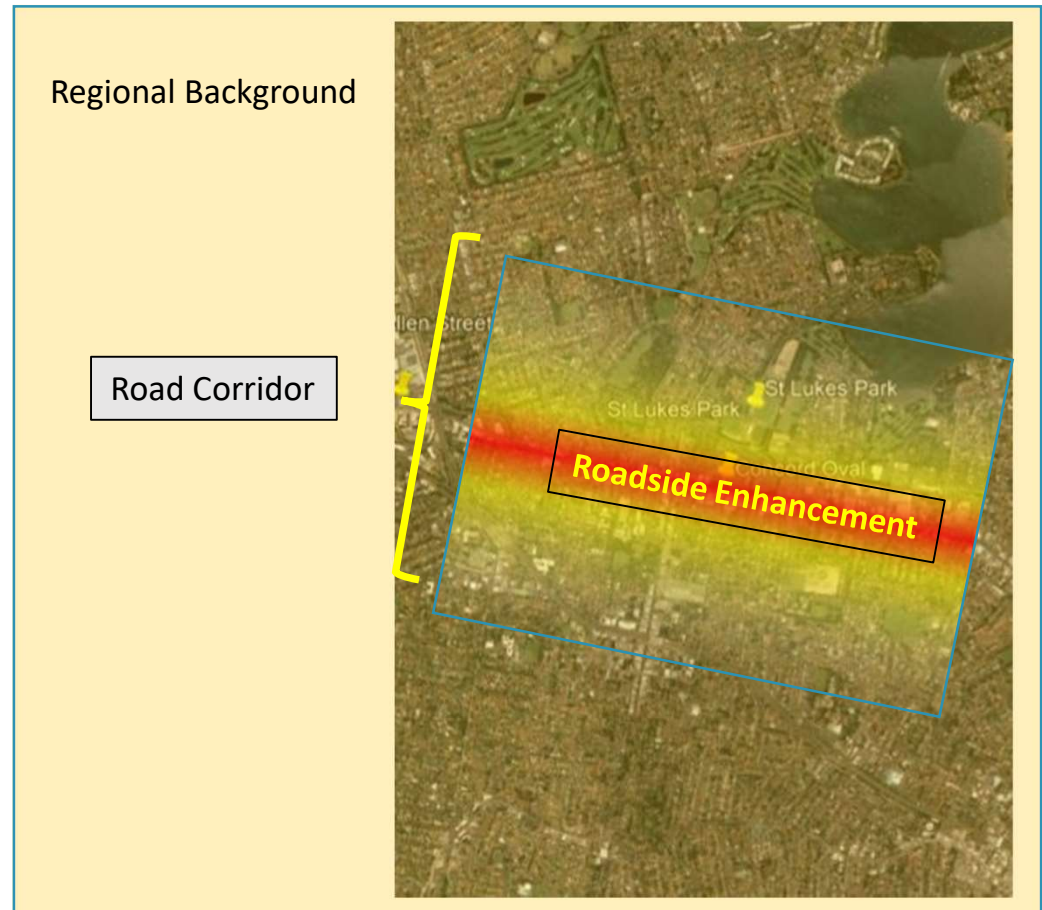
- Traffic volumes down by half in early April
- Traffic volumes down 10 – 20 % Jun – Nov 2020





## Background and Surface road impacts

- Background is higher in winter and in the morning
- Roadside enhancement is very sensitive to meteorology



# Effect of wind direction



Concentrations



# Effect of wind speed



Concentrations

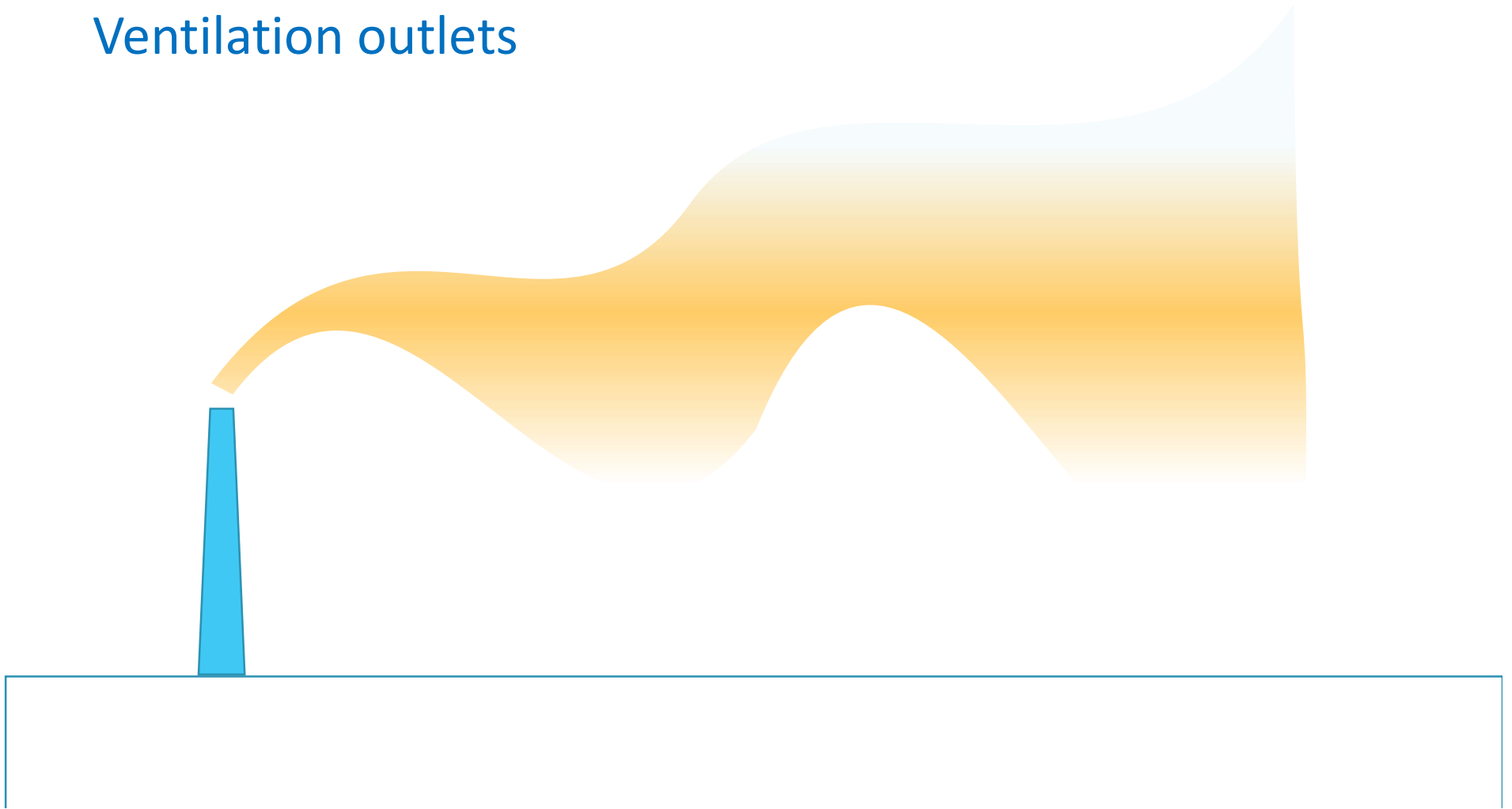


## Portal emissions

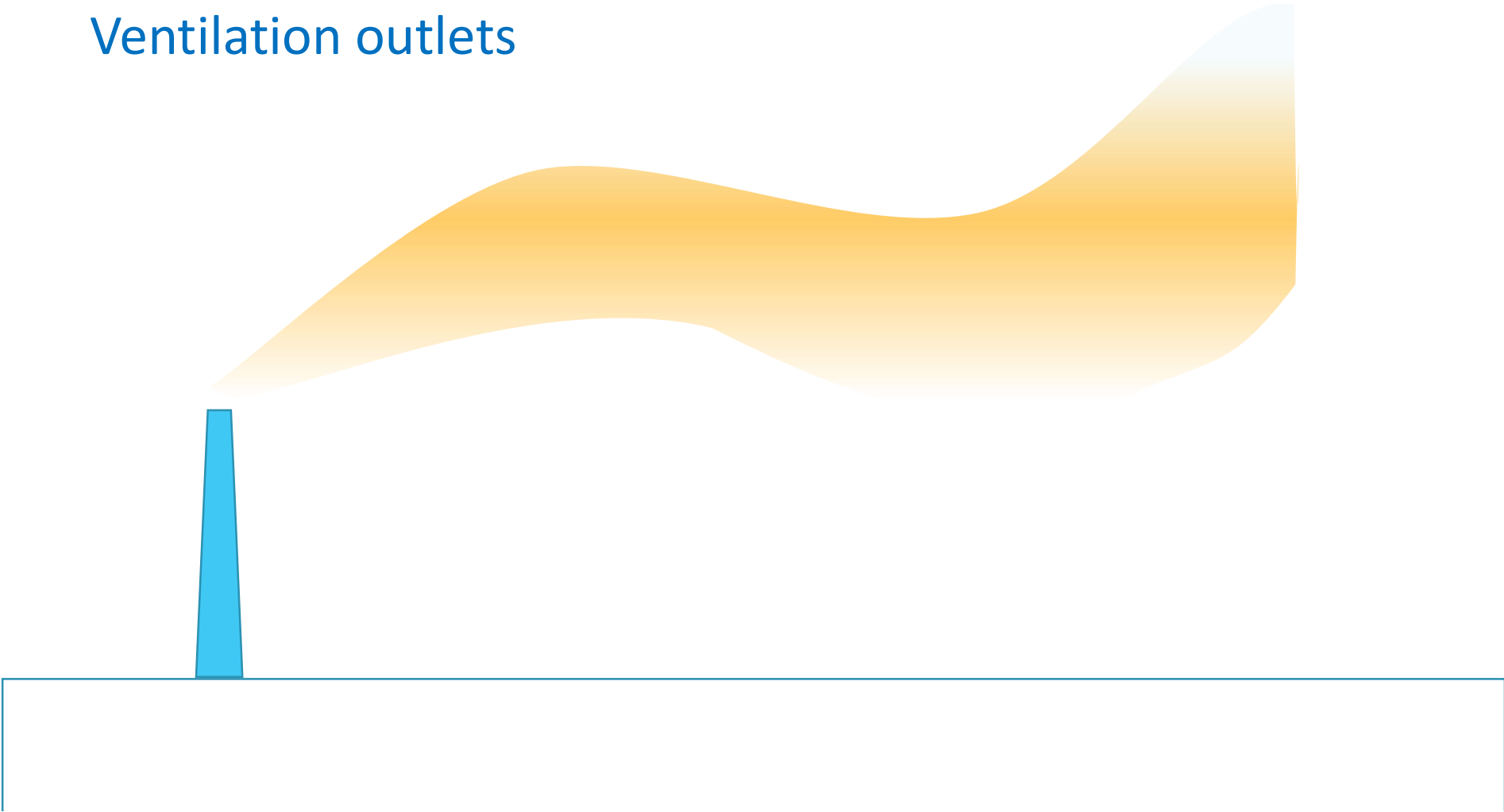
- Zero portal emissions as operating condition
- Monitors not sited to detect portal emissions



## Ventilation outlets



# Ventilation outlets



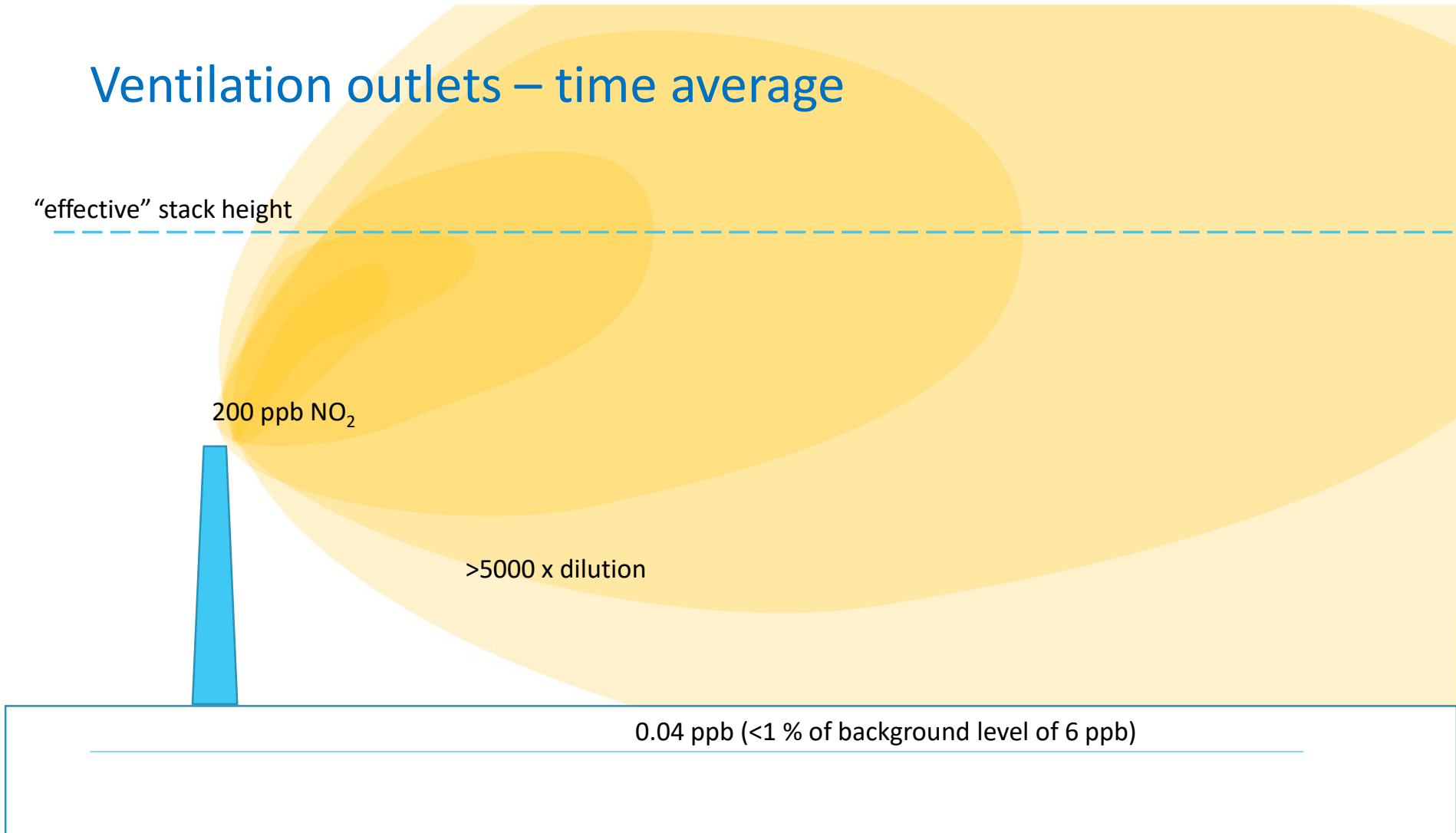
# Ventilation outlets – time average

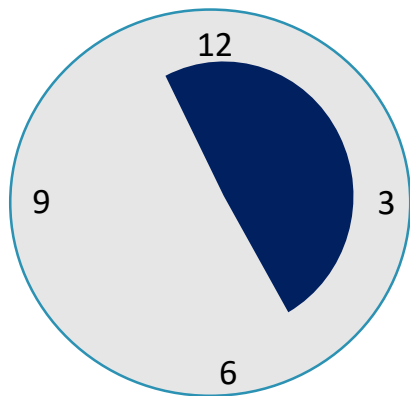
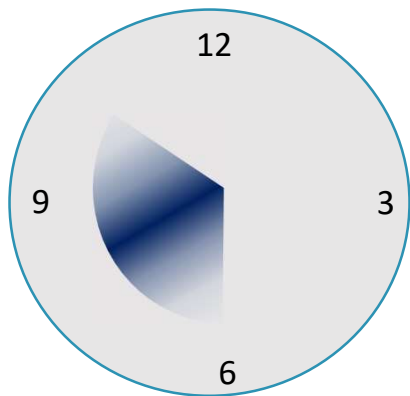
“effective” stack height

200 ppb NO<sub>2</sub>

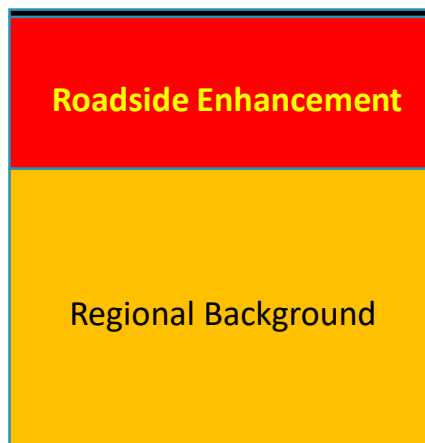
>5000 x dilution

0.04 ppb (<1 % of background level of 6 ppb)

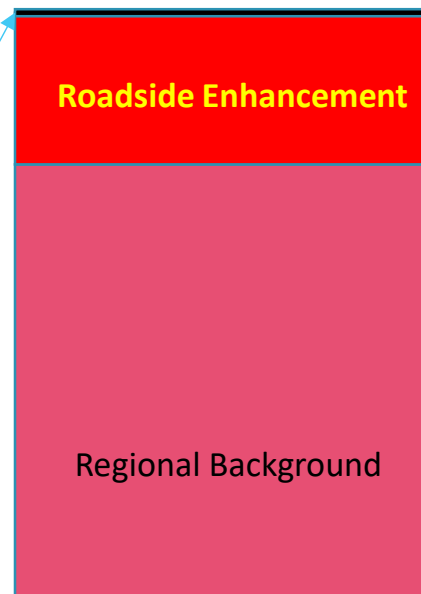
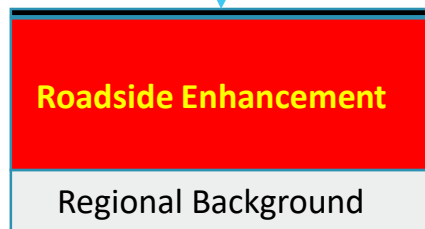




Bushfire events

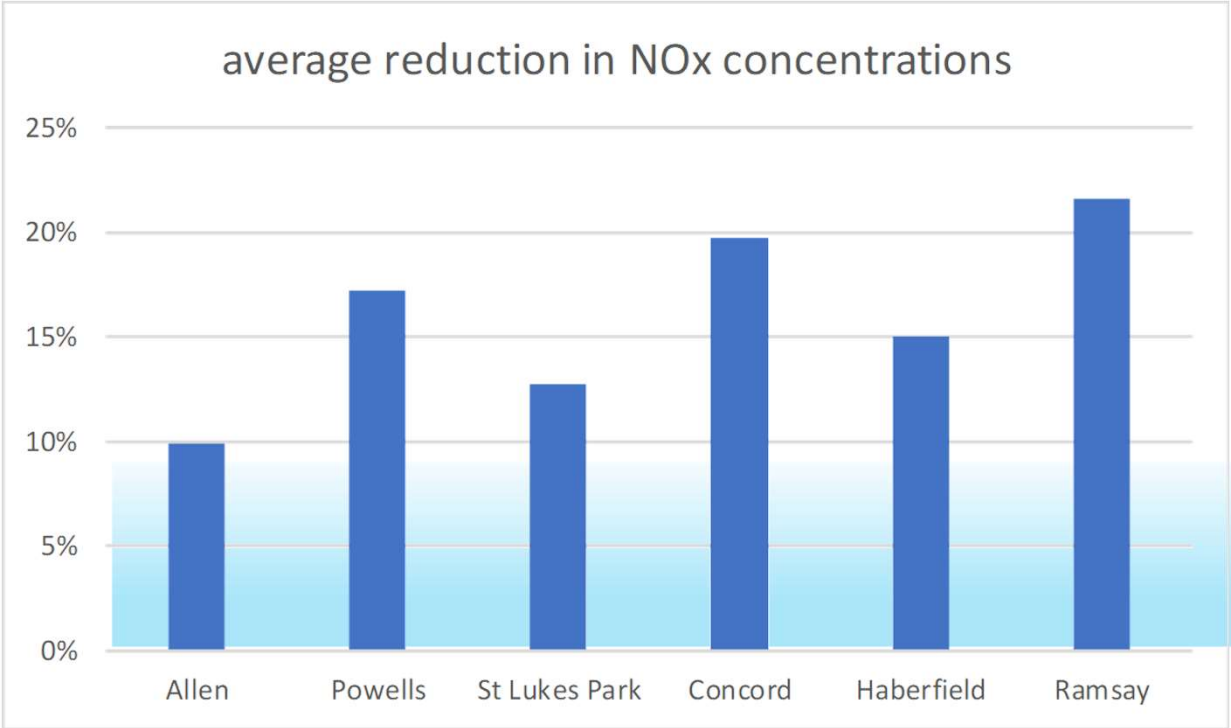


Max stack contribution

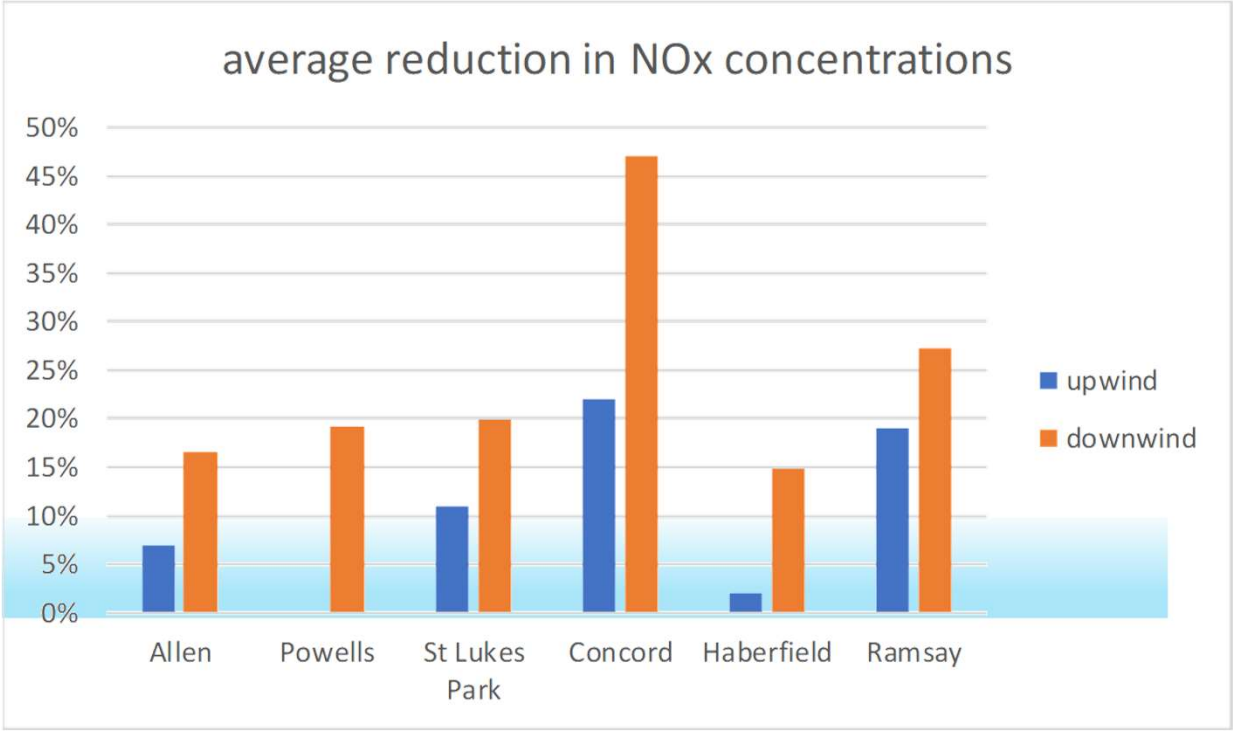




# Some results from M4 East (after 6 months)



# Some results from M4 East (after 6 months)



## Effect of ventilation outlets

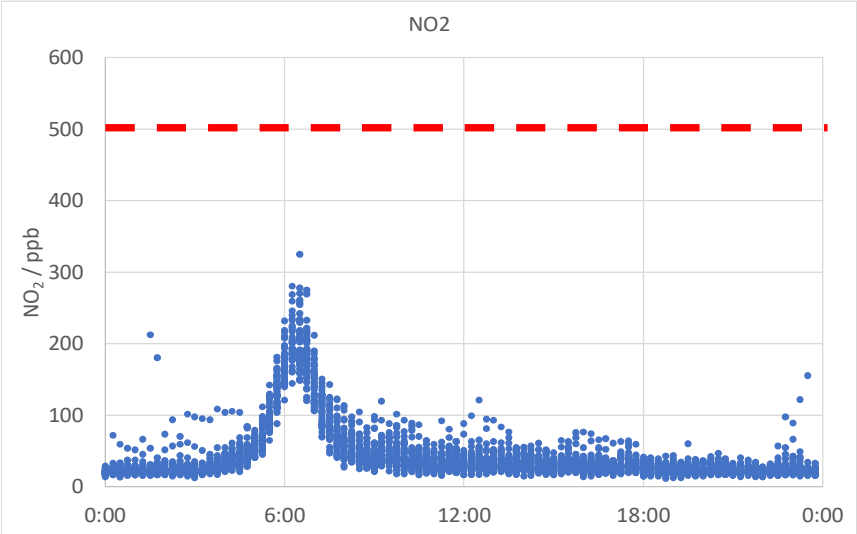


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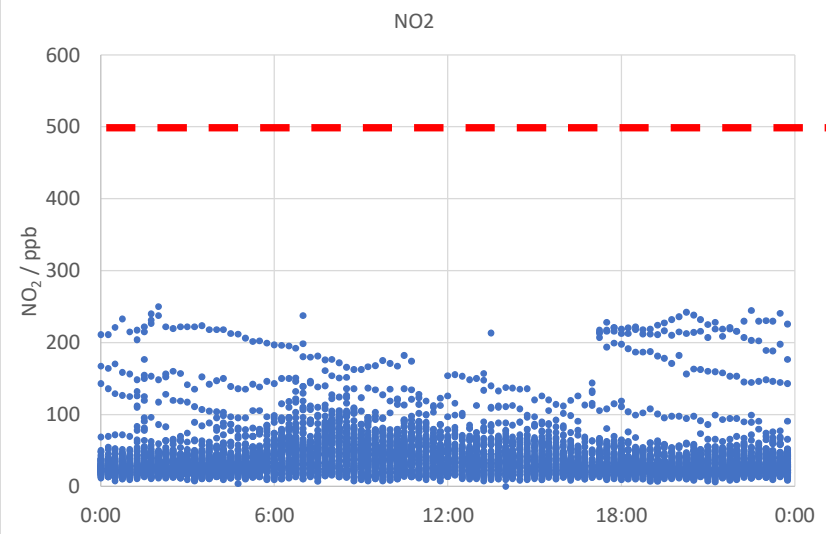
- Look for increase in maximum hourly concentrations
- Stack emissions will change ratio of roadside enhancement between 2 station
- Monitoring site downwind of outlet  
~10% of the time

# In-Tunnel Air Quality

M4 East (Eastbound)



M4 East (Westbound)





# Date and agenda for the next meeting/s

## Date and agenda for next meeting

### Agenda:

- Ambient air quality monitoring must be undertaken for 12 months prior and two years after opening the Rozelle Interchange project (end 2023)
- Condition of Approval E24 requires that ambient air quality monitoring be undertaken at the following locations:
  - Two ground level receptors near the Iron Cove Link ventilation facility; and
  - Two ground level receptors near the Rozelle ventilation facility
- Condition of Approval E25 requires that these locations must be agreed to by the AQCCC
- Next one to two meetings will be focused on presenting the selected locations for consultation with and agreement of the AQCCC.

### Suggested dates for the next meetings:

- Tuesday 16 November 2021 (Meeting 2)
- Either Tuesday 23 November 2021 or Tuesday 14 December 2021 (Meeting 3).

