



ARDEN AND PARKVILLE COMMUNITY REFERENCE GROUP

MEETING 01

01 February 2019



Construction partner:



AGENDA

1. Introductions and welcome
2. Parkville construction update
3. Arden construction update
4. Tunnelling update
5. Environmental management update (including Property Condition Survey process)
6. Traffic and transport update
7. Community/stakeholder update
8. General feedback for future discussion
9. Meeting close – next meeting

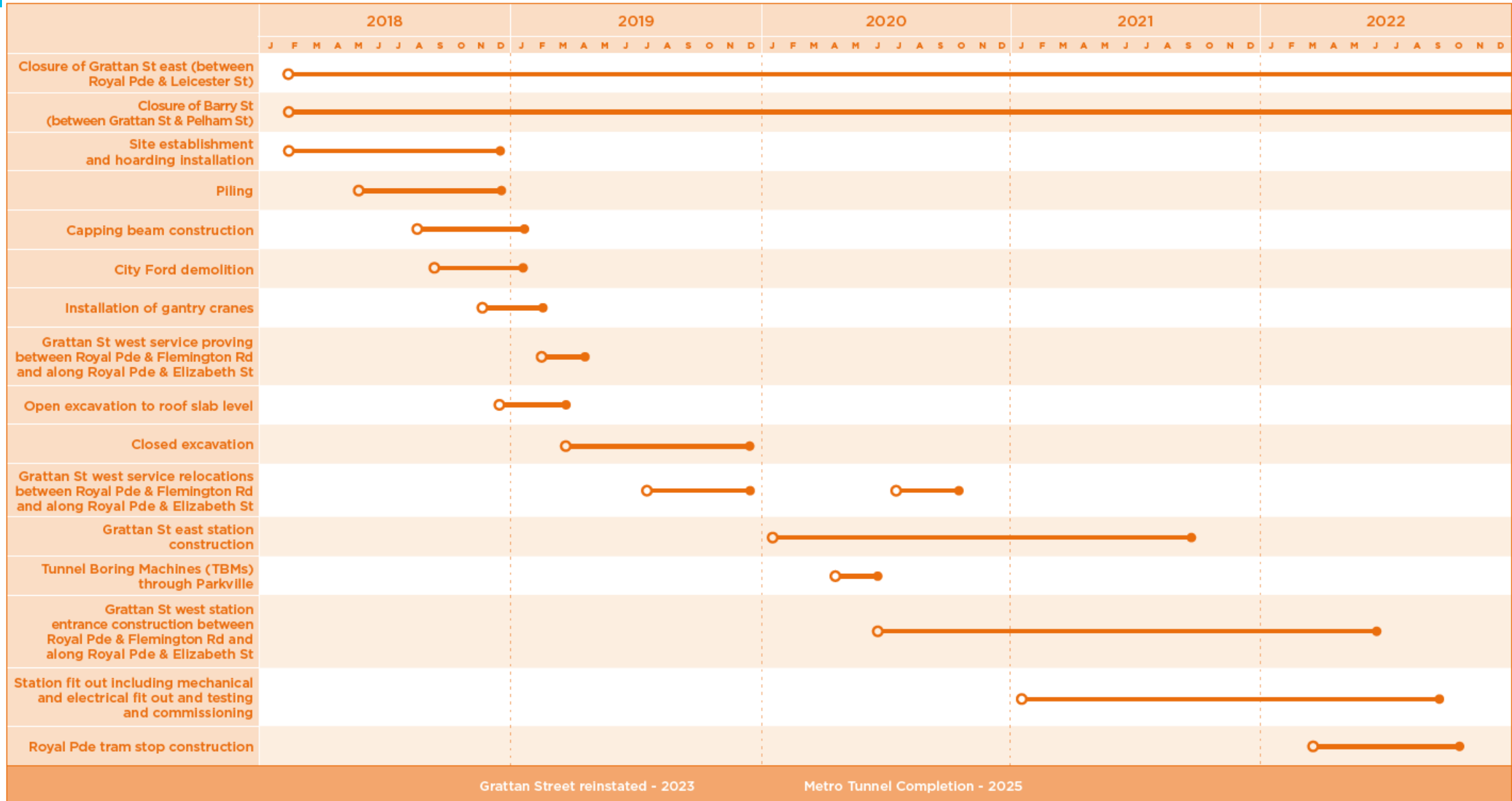
CONSTRUCTION UPDATE - PARKVILLE



PARKVILLE



CONSTRUCTION PROGRAM PARKVILLE



All dates current at the time of publication, however are subject to change.

WHAT'S HAPPENING AT GRATTAN ST EAST

- Piling completed for the Station box
- Excavation commenced between Barry & Berkeley streets
 - Excavation second shift until 10pm – timing to be confirmed
 - No truck movements taking material from site past 6pm
 - Delivery of structural beams – early February to April between 12 midnight to 6am. Total 34 deliveries over 8 nights
 - Deck scheduled for completion March 2019
- City Ford demolition completed with site preparation underway to install workforce facilities; prepare the site for truck stabling and laydown area



WHAT'S HAPPENING AT GRATTAN ST WEST

Late February to early April

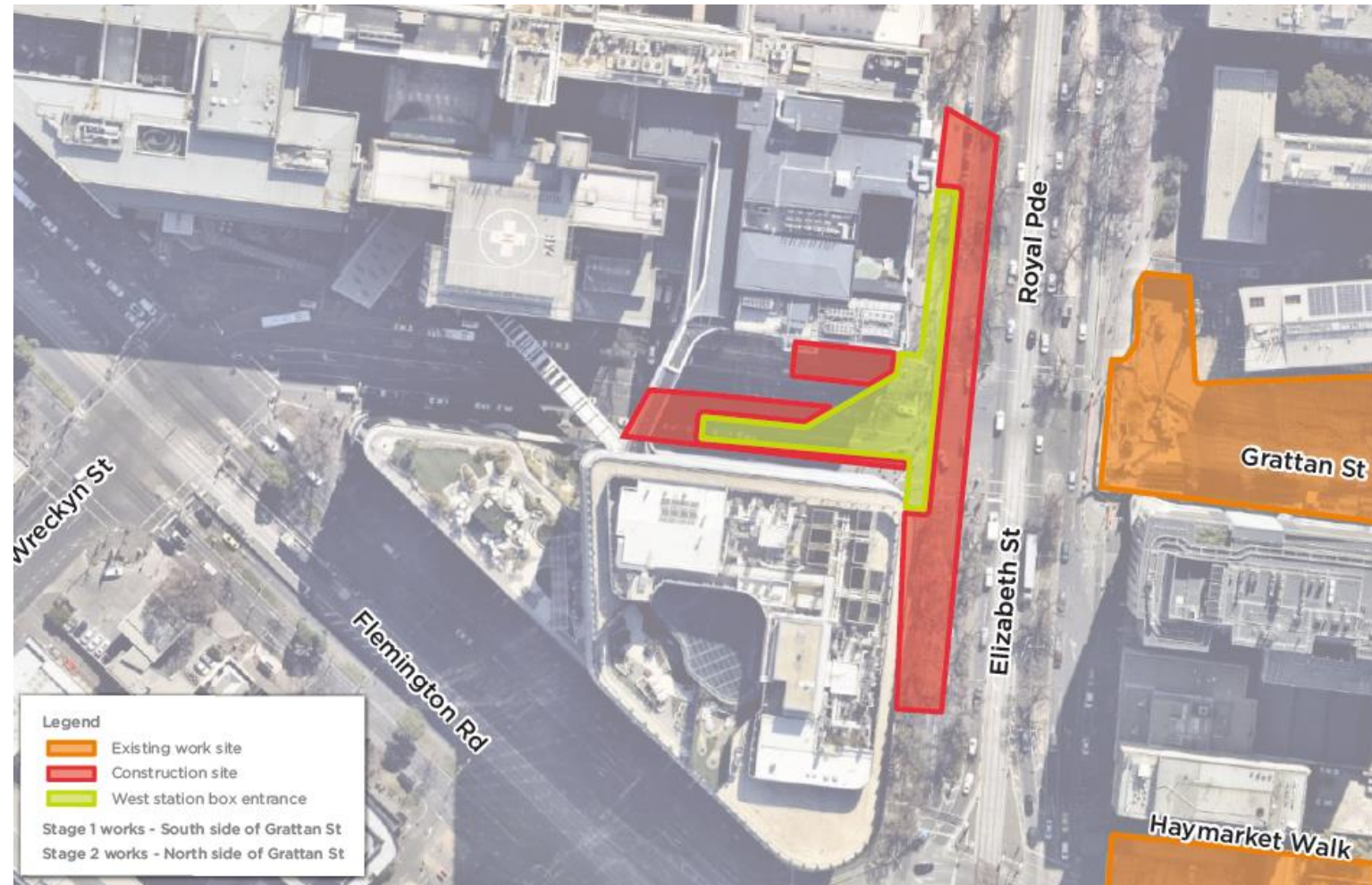
- Service locating using a hand held wand and spray paint to identify services
- Service proving involves identifying services located - saw cutting; NDD truck; backfill and reinstatement

July 2019 – December 2019

- Service Relocations

Mid 2020 – 2022

- Station entrance construction

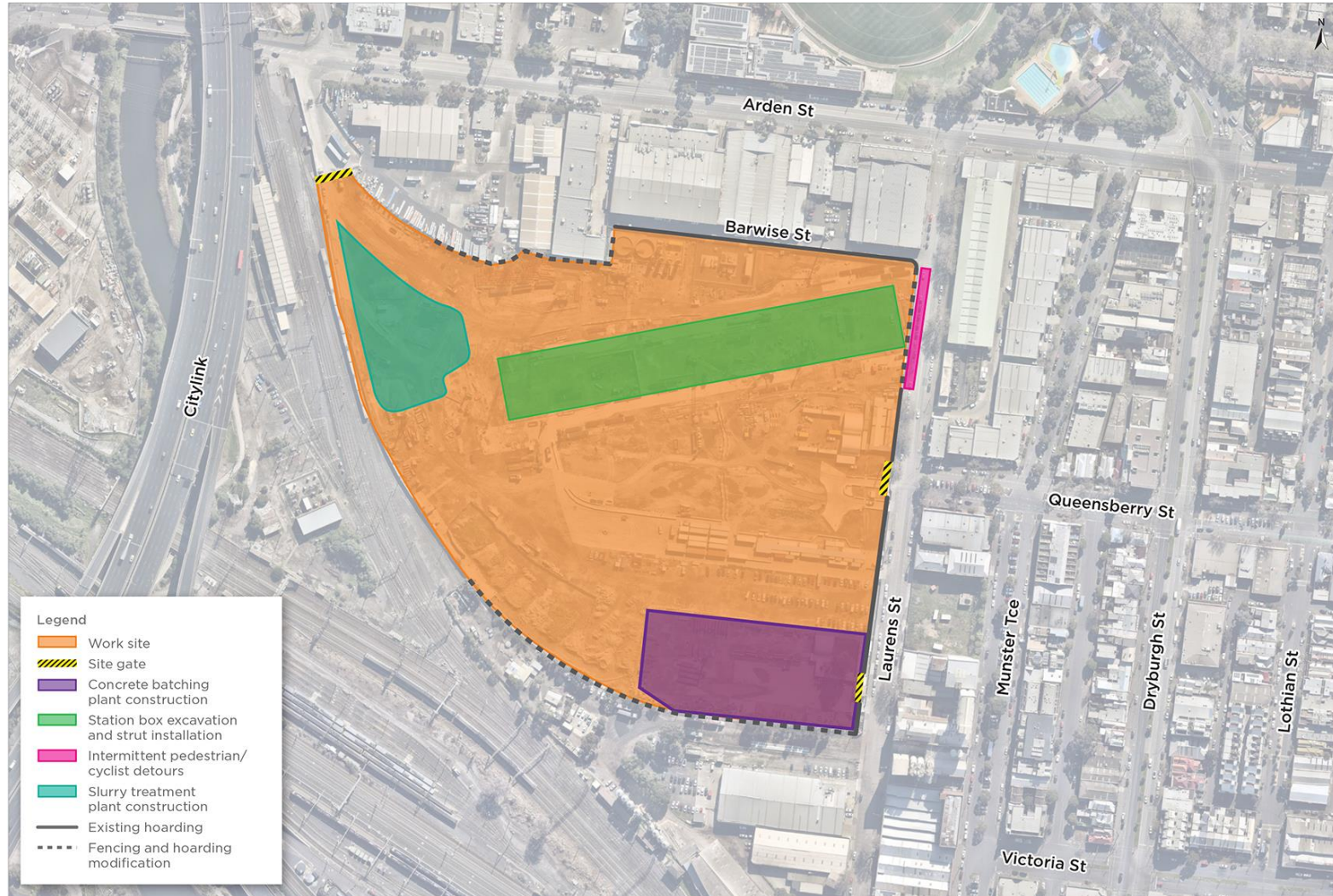


Map indicative only – subject to change

CONSTRUCTION UPDATE - ARDEN



ARDEN



CONSTRUCTION PROGRAM ARDEN

| Activity | Feb | Mar | Apr | May | Jun | Jul |
|-------------------------------------|-----|-----|-----|-----|-----|-----|
| Site set up | | | | | | |
| Concrete batch plant construction | | | | | | |
| Slurry treatment plant construction | | | | | | |
| Excavation of station box | | | | | | |
| Base slab construction | | | | | | |
| Hoarding/gate modification | | | | | | |
| Concrete internal haulage roads | | | | | | |
| Tunneling | | | | | | |

**All dates are current at the time of publication, however are subject to change.*

WHAT'S HAPPENING AT ARDEN

- Ongoing site establishment activities
- Delivery of slurry treatment plant and tunnel boring machine (TBM) parts to site
- Slurry treatment plant and concrete batching plant construction and TBM assembly
- Station box excavation and installation of station box frame (steel struts)
- Concreting of internal haulage roads and installation of rumble grids
- Surveying and sampling and testing of groundwater and soil
- Modifications to wooden hoarding and gates on Laurens and Arden streets
- Short-term lane closures on Laurens St for service investigations and utility connections
- Road cleaning on Arden and Laurens streets to minimise the spread of dirt on local roads
- Pile foundation removal works.

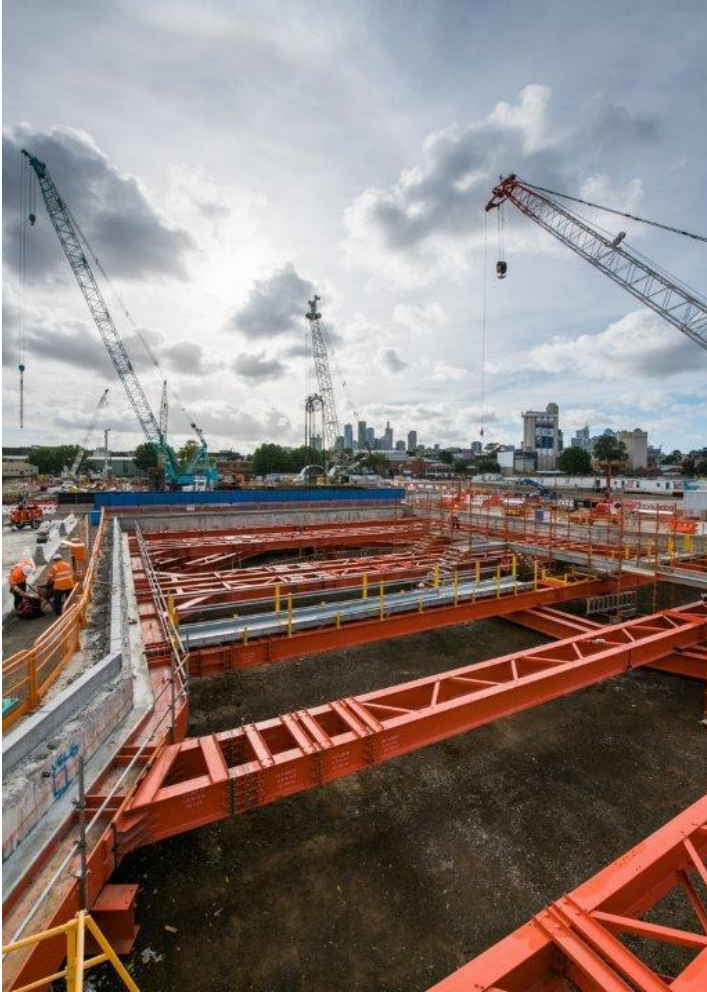
WHAT'S HAPPENING AT ARDEN

Out of hours works

- 6pm – 10pm, Monday to Friday
 - Station box excavation and steel strut installation
 - Base slab construction
- 10pm – 7am, Monday to Friday
 - Station box excavation and steel strut installation
 - Over-size equipment deliveries to and from site and use of a crawler crane to unload deliveries
 - Road cleaning on Arden Street
 - Base Slab construction
 - Concrete pouring activities

After 6pm, all construction vehicles will enter and exit via Arden Street wherever possible

WHAT'S HAPPENING AT ARDEN



WHAT'S HAPPENING AT ARDEN



TUNNELLING



TUNNELLING TIMELINE

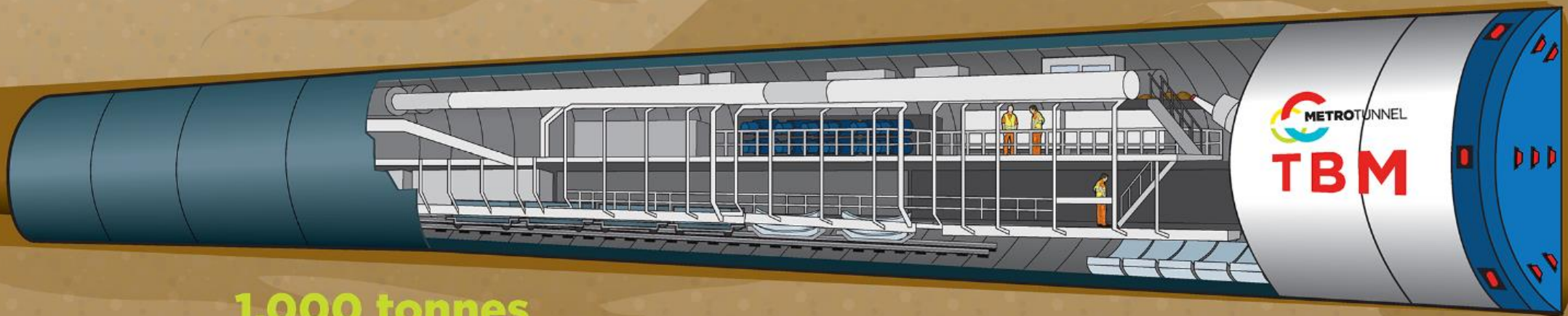
| Timing | Route |
|--|-------------------------------------|
| January 2019 – mid 2019 | TBMs arrive Arden and assembled |
| 2 nd quarter – 3 rd quarter 2019 | TBM 1&2 – Arden to Western Portal |
| 3 rd quarter – 4 th quarter 2019 | TBM 1&2 - transported back to Arden |
| 4 th quarter 2019 – mid 2020 | TBM1&2 – Arden to Parkville |

Timing subject to change

TUNNELLING – TUNNEL BORING MACHINES (TBM)

Length of 3 E-Class trams

100 metres



1,000 tonnes

Weight of 16 E-Class trams



TUNNELLING

- Tunnel Boring Machines are otherwise known as TBMs
- Metro Tunnel TBMs are 7.2 metres in diameter, more than 100 metres long and weigh up to 1,000 tonnes. The heaviest component will weigh up to 100 tonnes
- Equipped with a state of the art navigation system to ensure accurate tunnel alignments
- The twin tunnels will comprise of 55,000 individual concrete segments, which will make up the 9000 individual lining sections required for the Metro Tunnel.
- On average, TBMs will move around 10 metres every 24 hours
- A crew of up to 10 people, including a TBM operator, will work on the TBM at any one time
- TBMs are equipped with: a 15-person capacity lunch room; bathrooms; operator cabin and office

TUNNELLING (CONT.)

- Property condition surveys will be offered to property owners in advance of the arrival of the TBMs at eligible locations
- A comprehensive schedule of tunneling specific communication and engagement activities will be rolled out across the project. Activities will be staged according to the location and timing of TBM activity.

ENVIRONMENT UPDATE



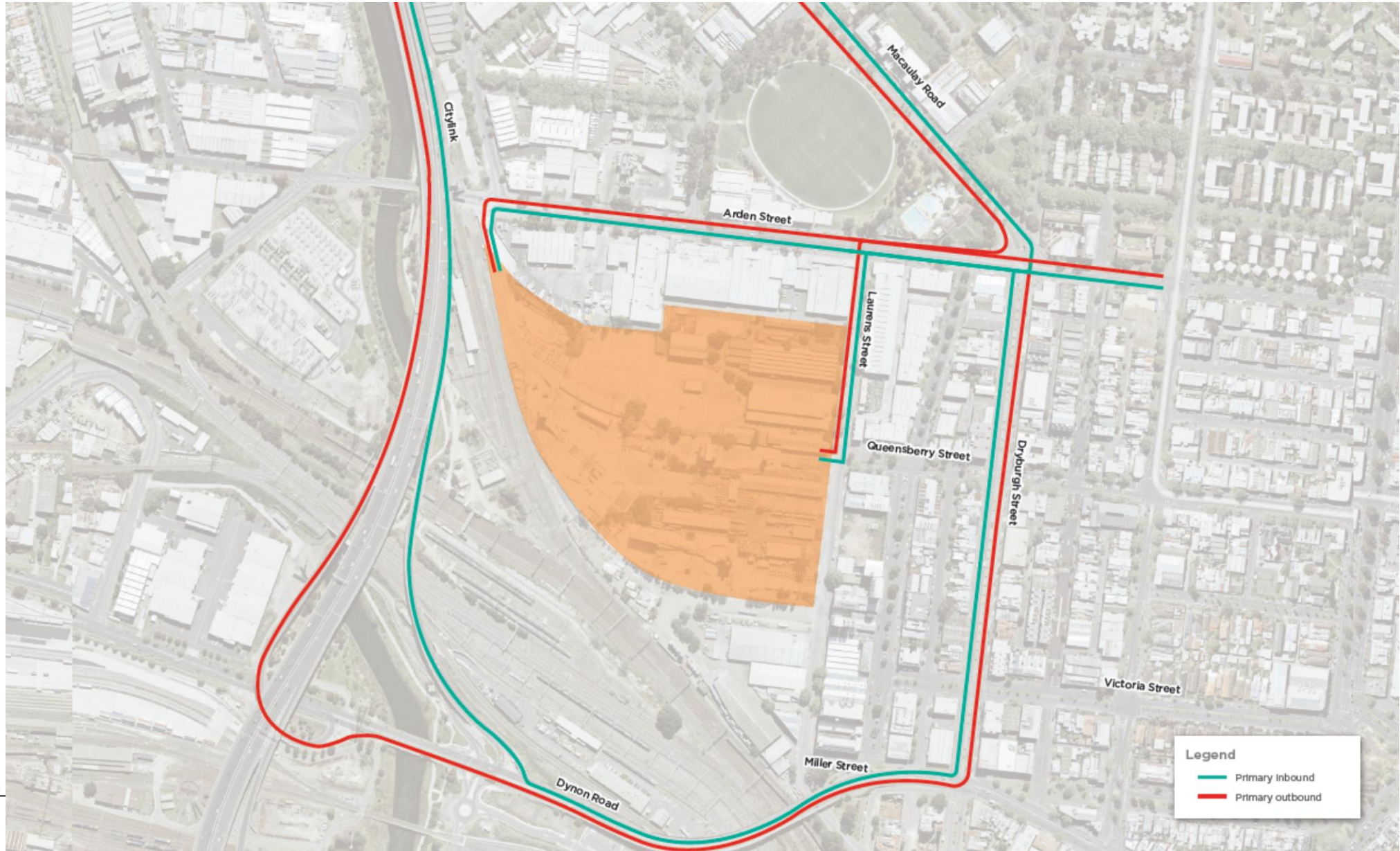
ENVIRONMENT – CONSTRUCTION NOISE & VIBRATION

- Tunnel Boring Machine (TBM) ground borne noise and vibration assessment consultation Q2 2019
- Results will:
 - inform scope for property condition surveys
 - if the model shows exceedance, discussions will be held with potentially affected residents

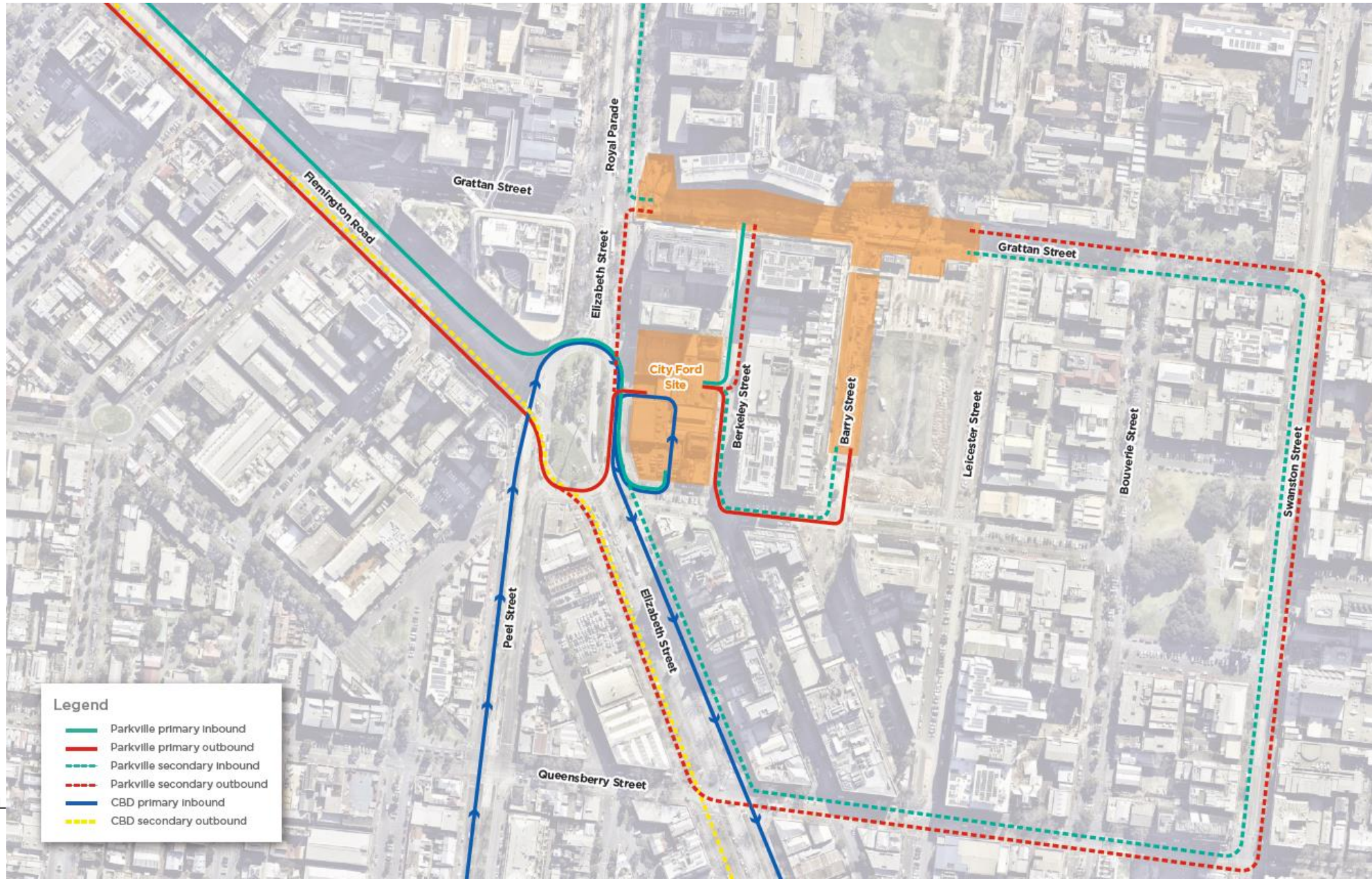
TRAFFIC AND TRANSPORT UPDATE



HAULAGE ROUTE ARDEN AND TUNNELLING MATERIAL



HAULAGE ROUTE – PARKVILLE & STATE LIBRARY STATION



Legend

- Parkville primary inbound
- Parkville primary outbound
- - - Parkville secondary inbound
- - - Parkville secondary outbound
- CBD primary inbound
- - - CBD secondary outbound

GRATTAN STREET WEST TRAFFIC MANAGEMENT

Localised changes to traffic from late February to December 2019

Service location and proving works

- Late February to April 2019
- Northbound service lane closure along Elizabeth Street from Haymarket Roundabout to north of Royal Melbourne Hospital
- Localised diversions on Grattan Street between Royal Parade and Flemington Road
- Works will be staged to minimise impacts
- Motorists are advised to plan trips ahead of time

Service Relocations

- Plans still under development
- Further update to be provided at March CRG

TRUCK SAFETY INITIATIVES

To minimise the impact of construction traffic on local roads, trucks will use routes that link to major roads and freeways, and away from the local road network, as quickly as possible.

To avoid trucks idling in local streets of the CBD and Parkville, two truck marshalling zones have been established – one on Batman Avenue and one on the corner of Elizabeth and Pelham streets in Parkville (the former City Ford site).

Truck routes are developed in consultation with stakeholders such as local councils and Vic Roads, and may change depending on road closures and unforeseen events.

GPS technology is also being used to track in real time the movements of trucks travelling to and from Metro Tunnel construction sites. This enables truck routes to be monitored to ensure vehicles are using the approved routes.

TRUCK SAFETY INITIATIVES

Safety features being installed on heavy vehicles, over 4.5 tonne that will be delivering concrete and removing excavated material from site include:

- Fitting protection guards (Side Under Run Protection) on the side of heavy vehicles, over 4.5 tonne. This is proven to reduce the impact of crashes between vulnerable road users and heavy vehicles. These guards help prevent vulnerable road users from sliding under heavy vehicles
- Installation of additional mirrors and cameras to eliminate blind spots on heavy vehicles
- Fitting prominent signage to heavy vehicles warning vulnerable road users of the presence of driver blind spots
- Fitting signage to the rear of vehicles to warn vulnerable road users about getting too close to the vehicle.

The Project's current fleet of heavy vehicles, over 4.5 tonne, have been fitted with the above safety devices and features.

STAKEHOLDER & COMMUNITY ENGAGEMENT



ARDEN

Notifications and communications

- January construction update
- Arden Street tree removal
- TBM arrival and assembly
- February construction update

Door knocks, meetings and briefings

- City of Melbourne fortnightly progress meetings
- Proactive health check door knock (late September 2018)
- Proactive health check door knock (late November 2018)
- Proactive health check door knock (scheduled for mid-February 2019)

Top community issues

- Dust generated from construction works
- Mud and dirt on local roads
- Increased trucks on local roads

PARKVILLE

Notifications and communications

- December 2018/January 2019 construction update
- January 2019 update
- February/March construction update under development

Meetings and briefings

- Weekly meetings with University of Melbourne
- Fortnightly meetings with Peter MacCallum Cancer Centre and Melbourne Health
- Fortnightly meetings with affected businesses
- Six-weekly Parkville Community Reference Group meetings
- Quarterly Parkville Communications Working Group meetings
- Quarterly Parkville Creative Program Working Group

Top community issues

- Dust generated from construction works
- Noise
- Vibration impacts to sensitive equipment
- Traffic management and pedestrian and cyclists safety

QUESTIONS?



NEXT MEETING

- Friday 15 March 2019





Western Portal

South Kensington

North Melbourne

Parkville

West Melbourne

Melbourne Central

State Library

Parliament

Flagstaff

Town Hall

Southern Cross

Flinders Street

Richmond

Anzac

South Yarra

Eastern Portal

The existing 'North Melbourne' station will be renamed West Melbourne.

Sunbury Line

Cranbourne / Pakenham Line