

NEL Strategic Bike Connection

Progress to Date:
What is known and what is not

Peter Carter June 2018
Vers. 1.0

BORONDARA
Bicycle Users Group

Introduction:

North East Link Authority is proposing to implement major cycling infrastructure as part of North East Link project.

A key element is a Strategic Bicycle Connection from the Western Ring Road path to the regional route of the Koonung Trail in Bulleen and an upgrade of the MYT/Koonung route. The function of Strategic Connections is to complete bike networks that will increase the numbers of people that cycle for transport - 'to work, to school, to public transport and around their neighbourhood' (as distinct from recreational cycling).

It means removing barriers (eg adverse gradients, perceived or real safety issues), developing Low Stress Routes and avoiding detours, and obviously providing connections to important destinations, like workplaces, schools and public transport stops. The key target group is the 'interested but concerned cyclist' - around 60% of the population. These are principles that underpin the Victorian Cycling Strategy 2018-28

This presentation focuses on the Strategic Bicycle Connection - upgrading the Main Yarra Trail and Koonung Trail from Clifton Hill to Ringwood, and developing a major Strategic Route from the Eastern Freeway in Bulleen to the Western Ring Road (M80).

To date a limited amount of detailed information on these Strategic Connections has been publicly released - mostly line diagrams and schematic graphics

Business Case

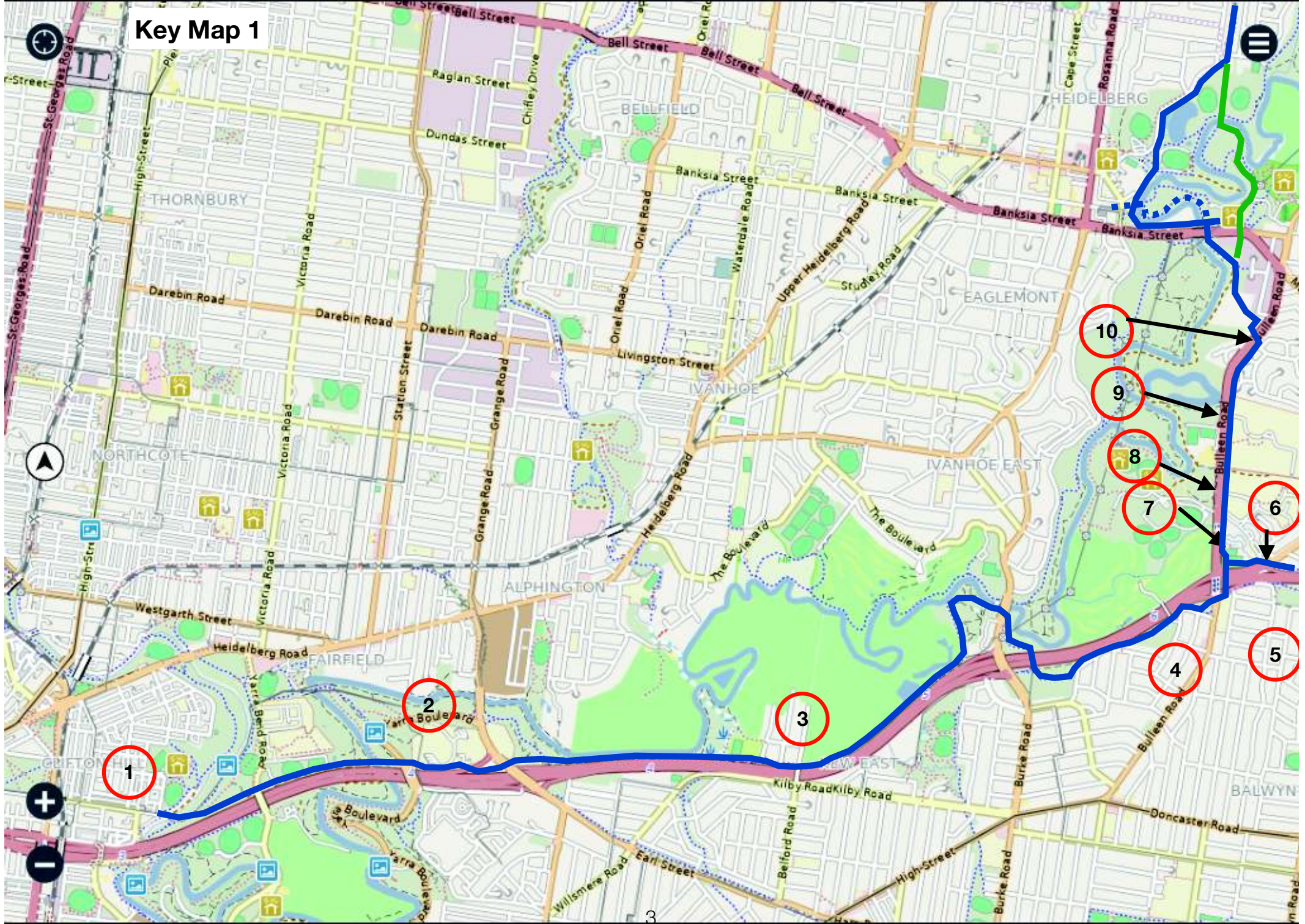
The NELA has released its Business Case Report for the North East Link. It identifies those bike infrastructure that will be implemented as part of the Project - and also included as Complementary Projects Refer Fig 6-11

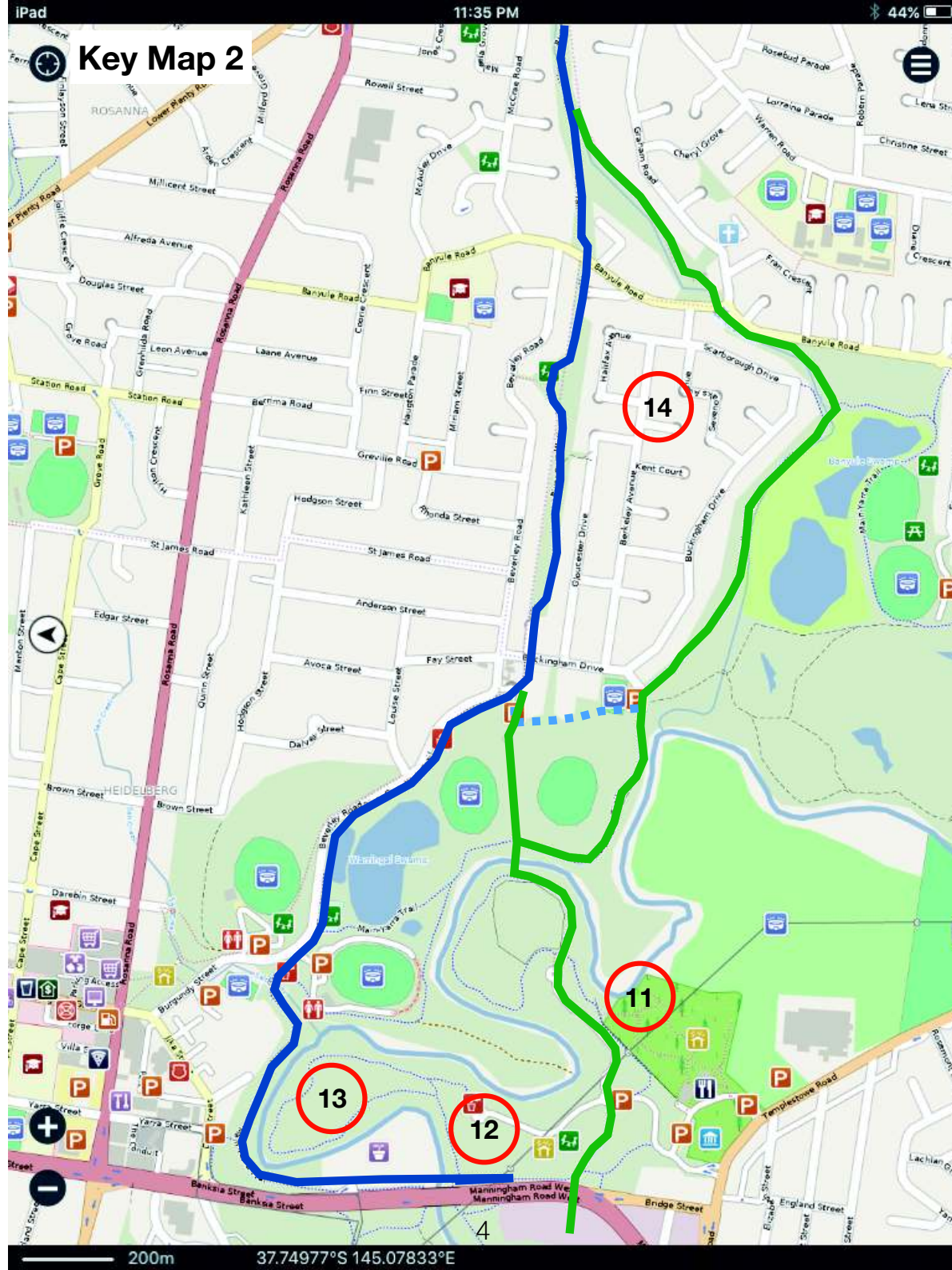
https://northeastlink.vic.gov.au/_data/assets/.../NEL-Business-Case-Chapters-6-10.pdf

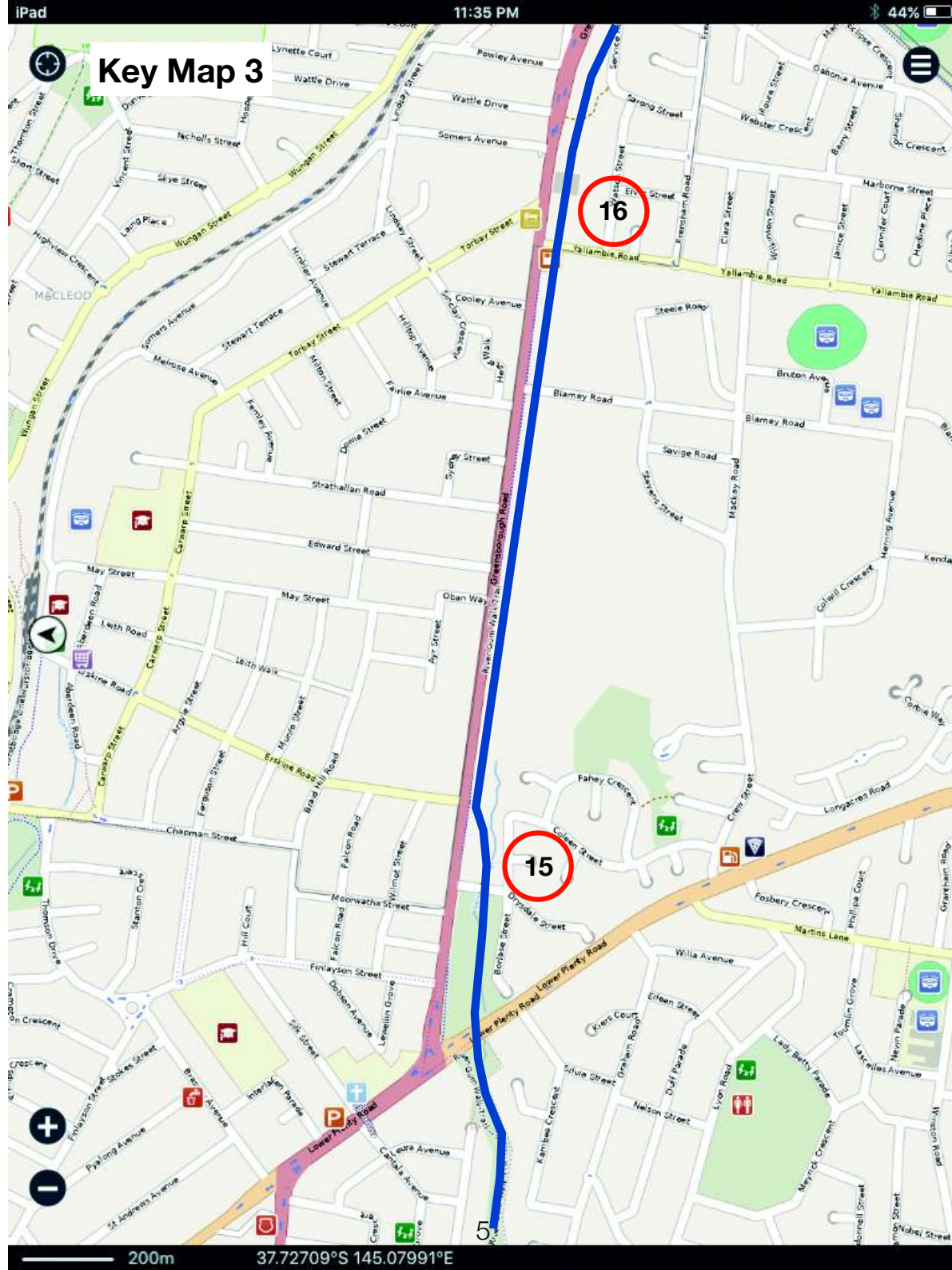
The Business Case makes reference to other bike infrastructure in Section 6.7 'Other Complementary' projects. These Projects are considered outside the Project Scope and do not form part of the Concept Design. These projects would be need to be assessed as a separate Business Case.

Importantly a number of key elements of the Strategic Connections that I consider as fundamental, are apparently not part of the Business Case or listed as 'Other Complementary' Projects. (eg removing the barrier of Belford Rd hill)

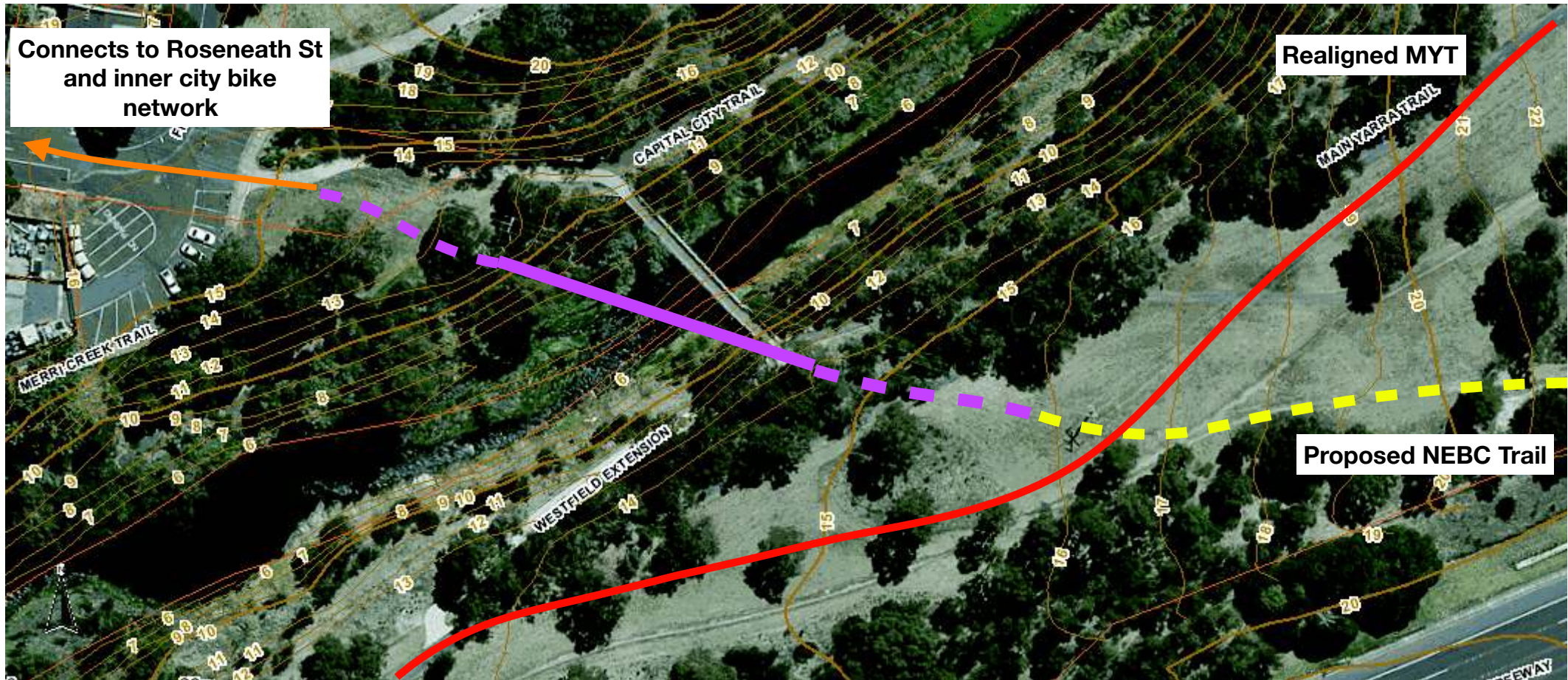
Key Map 1







1 Merri Creek Crossing into Roseneath Street, Clifton Hill



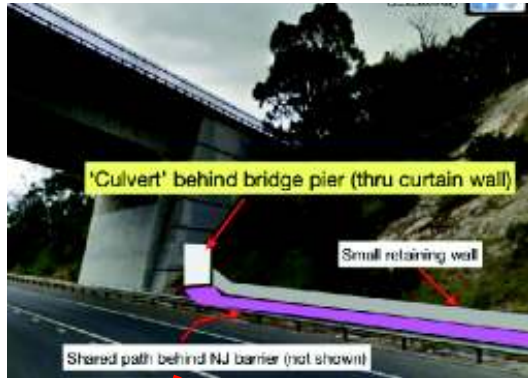
New 4m wide higher level bridge required to connect to inner city bike network via Roseneath St and Wellington St as required by Transport Victoria (cost of new bridge (excluding embankments) approximately \$1.5 million)

Bridge may be constructed with approach embankments as shown dashed (depending on waterway requirements and other factors)

Comment:

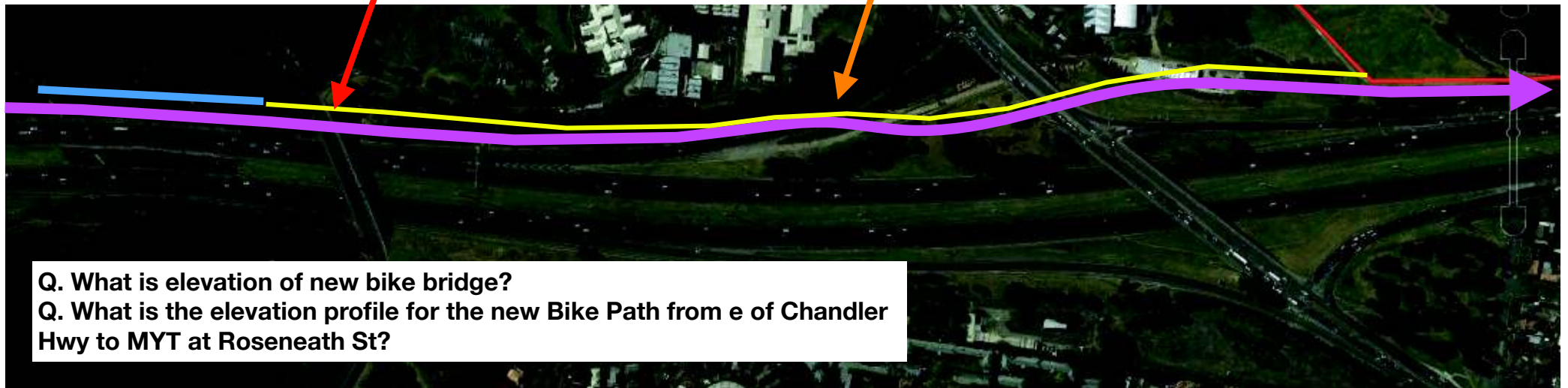
NELA is yet to endorse to building new 4m bridge for this key connection

2 NEBC Direct bike route



- Proposed NELA - NEBC
- Bus Expressway East Bound

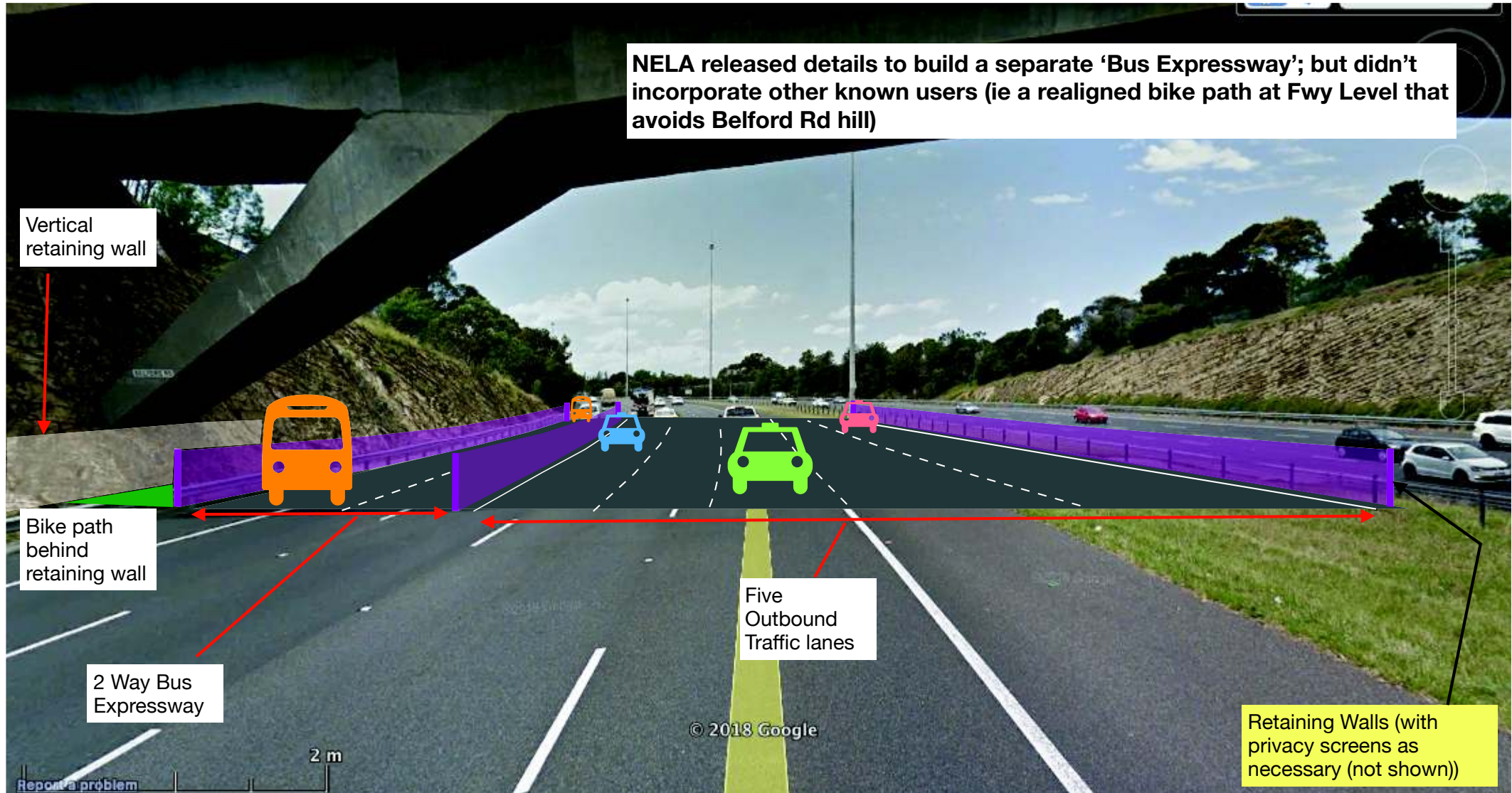
Bus Expressway and NELA - NEBC underpass or overpass (??) the off ramp



Comment:

NELA has proposed to build NEBC; but the 'devil is in the detail' particularly grades to bridge across Yarra R and grades over/under Chandler Hwy exit ramp

3 (a) Belford Road - remove the 'hill'



Comment:

A realigned bike path CAN be built at Freeway level under Belford Road bridge

Q. Why has NELA NOT proposed a wholistic solution that includes this proposal for a bike path?

This would remove a known major barrier to cycling - existing grades are above 10%

3 (b) Main Yarra Trail adjacent to Kew Golf Links



Comment:

The existing path is SUB-STANDARD in width (approximately 2.5 between fixed barriers) and is substantially cracked. The desired Austroads guidelines require a 3m path plus 1 m offset to fixed barriers. The path is totally within the freeway reserve.

Requirement:

Reconstruct path with reinforced concrete (to avoid future tree root damage) to 3m path width plus 1m offset each side

4 Bulleen Road/NEL interchange - see also next page



What is Known.

- a) Koonung Trail will underpass Bulleen Road on South side
- b) a new bike bridge will be constructed on the east side of Bulleen Rd. This will go under on and off-ramps.
- c) Bulleen Rd will be regraded at higher elevation on north side of freeway
- d) the existing tennis centre will become a 'park and ride'
- e) the decking of the existing cantilevered bridge needs replacing with an 'Eviromesh' surface or similar

Comment:

There is a LOT of detail of this interchange which is unknown to CTDG members. Yet this interchanges has been designed to a high level of design (minimum functional design level) because of the many elements and issues that must be addressed.

Question:

What is the grade-line for the Strategic Bike Connection underpassing the Bulleen Rd entry/off ramps and the new bike bridge across the Eastern Freeway?

What is the impact of the interchange on Freeway Golf Links?

Does the overpass bridge to Freeway Golf Links have to be reconstructed as part of interchange works?

What is the impact on the current cantilever bike bridge at Leonis Av/Colomba St? (due to re-alignment of on-ramp; refer next page)

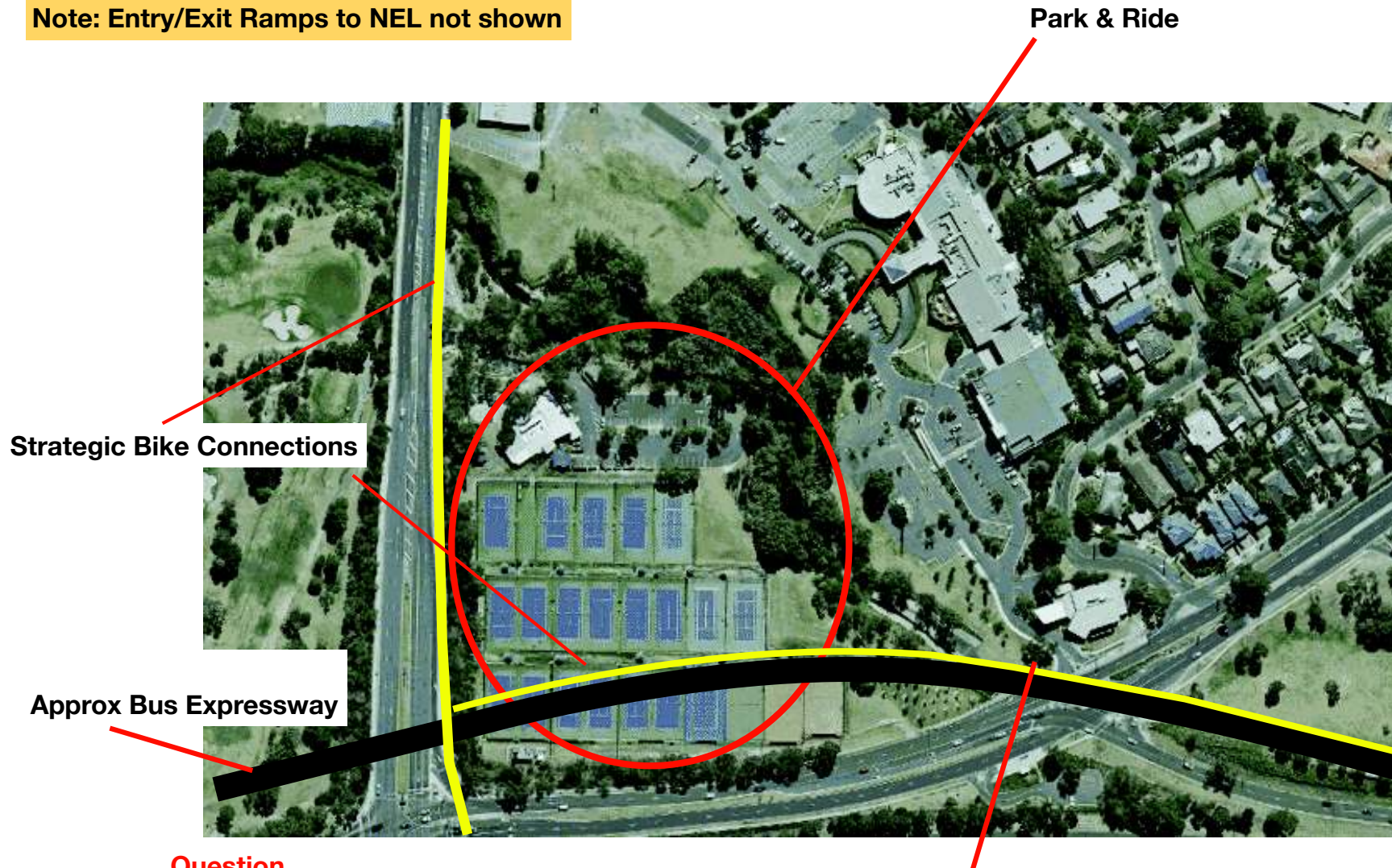
It is critical that CTDG members are shown the proposed functional design for this interchange to appreciate the interplay of all issues and the constraints for bike infrastructure in this area.

Bulleen Road/NEL interchange



5 Bike Path to Ringwood crossing Thompson Road

Note: Entry/Exit Ramps to NEL not shown



Question

Does this Strategic Bike Path (to Box Hill MAC & Ringwood MAC) overpass Thompson Rd as part of the Bus Expressway?

Key Issue:

If Traffic Signals are provided at this intersection it is probable that cyclists and pedestrians will get less than 20% of Traffic Signal Cycle time, given the complexity of operations. This is a very poor Level of Service and represents a major delay to cycling travel time

6 Bulleen Rd Bike Path: Crossing access to Park and Ride (ex Tennis Centre)

The Unknown:

Where is the entrance to the proposed Park and Ride (given that Bulleen Road will be reconstructed with a higher elevation from the Eastern Fwy overpass to existing levels of Bulleen Road (location unknown))

Will this intersection have Traffic Signals for a Park & Ride Facility

Requirement:

Bulleen Bike path have priority over entry/exit (eg raised threshold road hump)



7 Bulleen Rd Bike Path: Crossing access road to Manningham Hotel

Unknown

Will traffic signals be provided at this intersection

Requirement

If no Traffic Signals, then a Threshold road hump treatment across driveway with priority to Strategic Bike Path be provided



How does NELA propose to widen footpath on northern side to 4m wide? (existing width 1.3 m)

8 Bulleen Rd Bike Path: Crossing entrance to Marcellin College

Issues:

NELA propose to signalise this entrance to Marcellin College. The cost of these traffic signals would be around \$500,000 (not including roadworks)

Question:

How will NELA provide a high priority for cyclists at this intersection, given that any traffic signals will increase delays to cyclists?



Note: Footpath narrows to less than 1.5m. Maintain full width of footpath thru entrance

9 Bulleen Rd Bike Path: Crossing entrance to Trinity College Sports Fields

Issues:

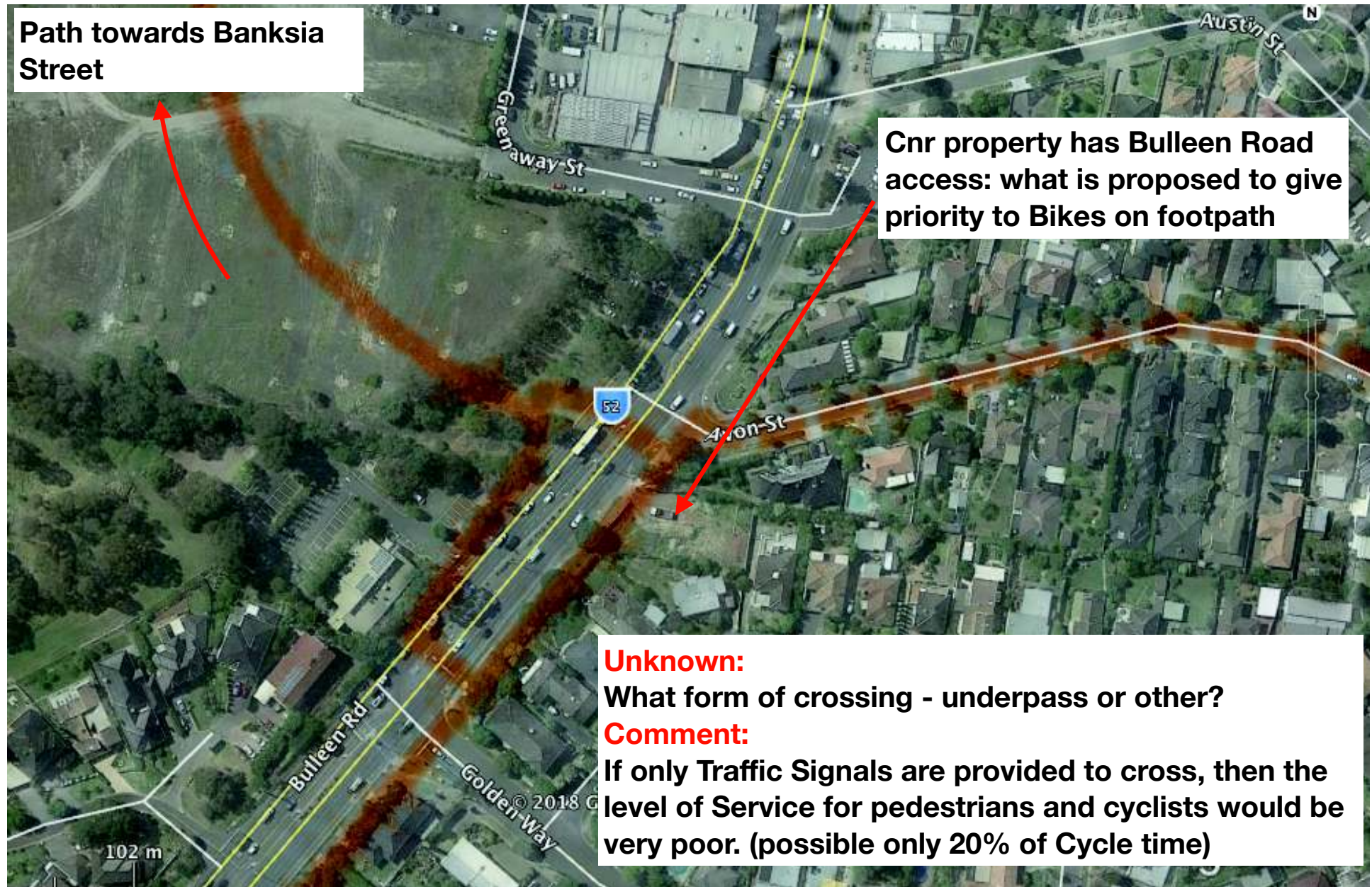
NELA propose to signalise this entrance to Trinity Sports Fields. The cost of these traffic signals would be around \$500,000 (not including roadworks)

Question:

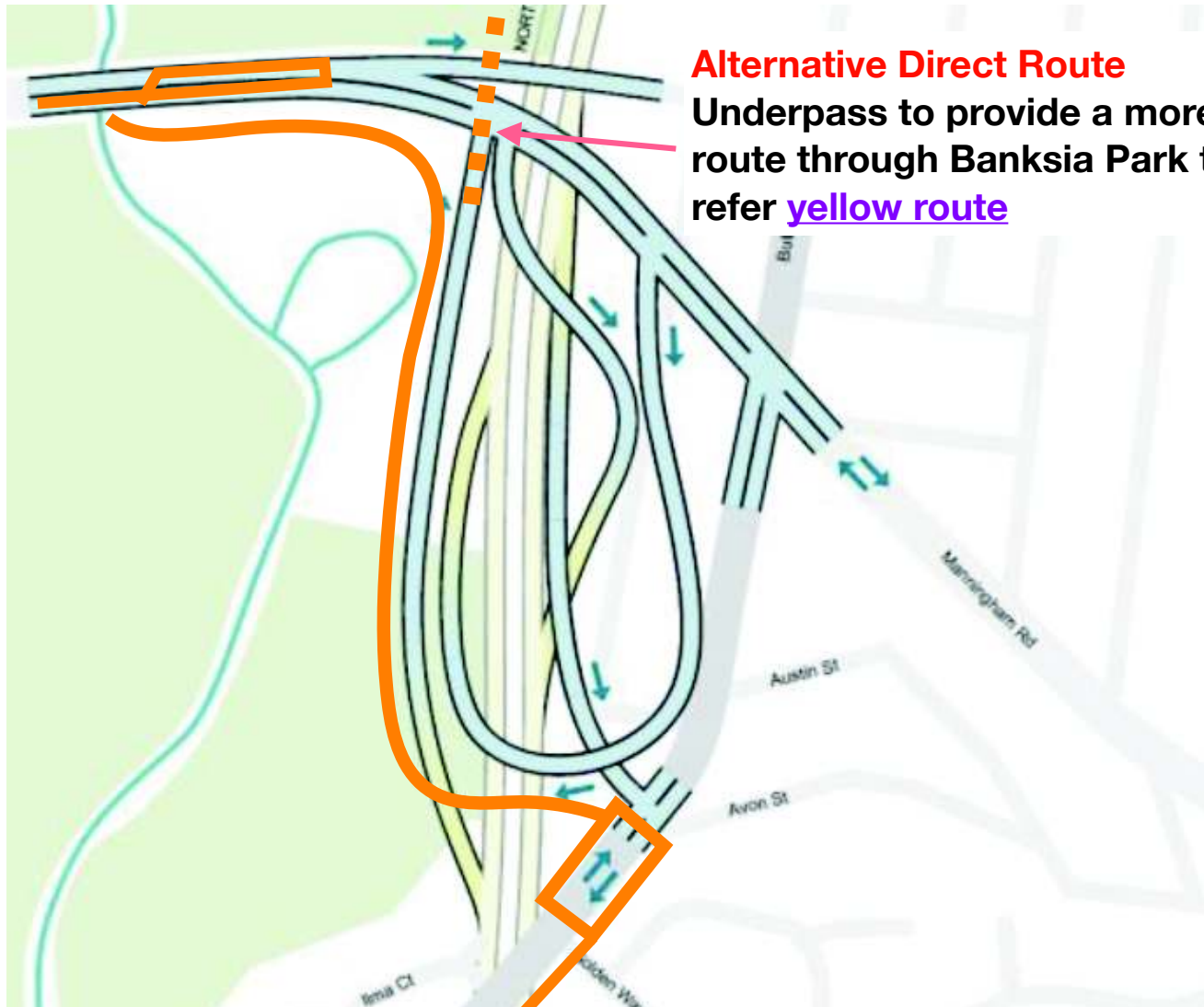
How will NELA provide a high priority for cyclists at this intersection, given that any traffic signals will increase delays to cyclists?



10 (a) Bulleen Rd Bike Path: Crossing from east side of Bulleen Road to west side



10 (b) Bulleen Rd Bike Path: Crossing from east side of Bulleen Road to west side



Alternative Direct Route

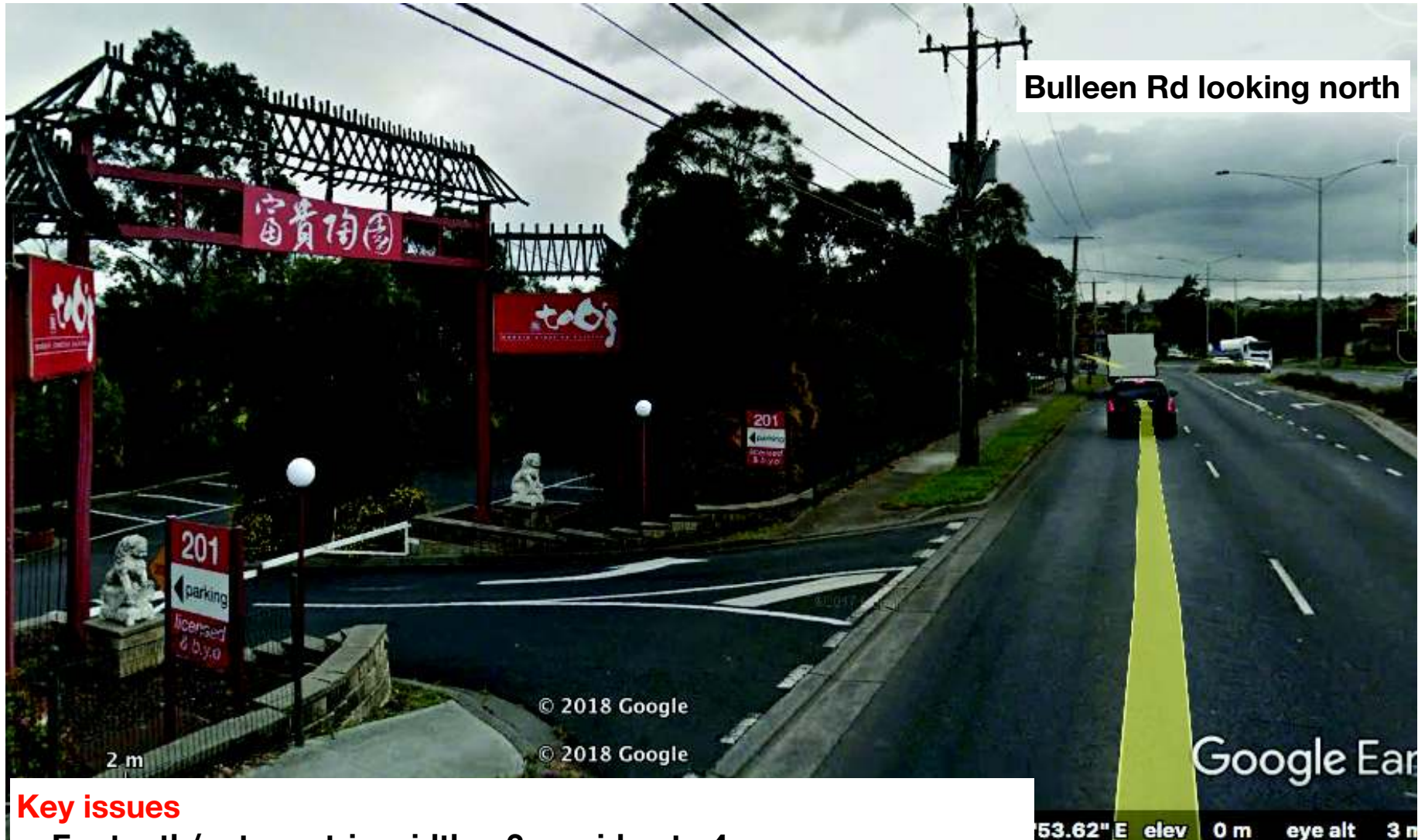
Underpass to provide a more Direct and Safer route through Banksia Park to Rivergum Walk refer [yellow route](#)

Key issue

Pedestrians and Cyclists will get an **EXTREMELY** poor level of service from traffic signals (due to high turning volumes on ramp to/from NEL)

NELA should provide underpass or overpass of Bulleen Road to travel to/from east and west side of Bulleen Rd

10 (c) Bulleen Rd Bike Path: Crossing from east side of Bulleen Road to west side (continued)



Key issues

- Footpath/nature strip width < 3m; widen to 4m
- Power needs to be installed underground
- Threshold road hump treatment across driveway with priority to Strategic Bike Path (it is HIGHLY probable that this property will be developed to a higher level of development)

11 NEL: Alternative Routes to Rivergum Walk

NEL Path via existing MYT:

Starts from Manningham Rd (from east side of Banksia Bridge). Requires 130m switchback to access new bridge (Option 1) across Yarra R on north side of 'historic' pipe bridge.

Path then connects to MYT on west side of Yarra R to pass 'The Greenery' entrance and continue on existing paths around to Rivergum Walk

Distance is 2.06 km

NEL Direct Path from Manningham Rd to Rivergum Walk

Starts at Manningham Rd (from proposed underpass) through Banksia Park on local roads and paths to cross Yarra R on new bridge, then direct to Rivergum Walk

Minimal impact on Park.

Distance is 1.24 km

Cost new bridge approx. \$1m

Option 2 NELA new bridge over Yarra (cost > \$1.4m) with proposed connection to Yarra Street and MYT

Option 1 NELA new bridge over Yarra R to MYT Cost > \$4m

Comment:

The Direct Route (Yellow) is much shorter than NELA's route (red) The Direct route would save 800m distance, similar to that distance saved with the NEBC (nr Chandler Hwy)

12 Yarra River - new Bridge crossing at Banksia Street (Option 1)



Comment:

Assumes new bridge can be located immediately upstream of 'historic' pipe bridge (approx 180m long, incl approach ramp), and can be realigned without impacting on 'The Greenery' property. Furthermore it assumes that this new bridge would not constrain realignment of MYT path (on west side) from underside of Banksia Bridge

12 Yarra River - new Bridge crossing at Banksia Street (Option 1)

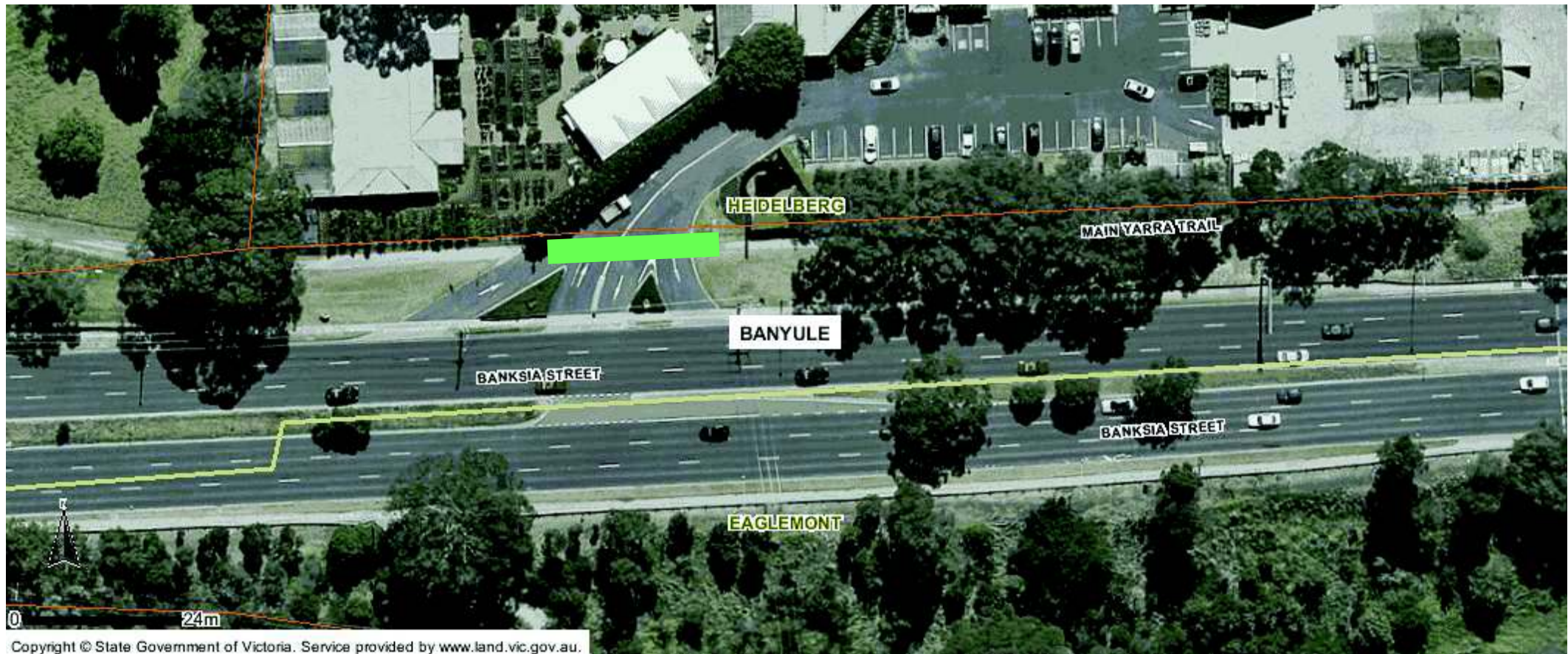


Comment:

Option 1: NELA propose to build new bike bridge over Yarra River immediately upstream of 'historic' pipe bridge (ie right side of pipe bridge in above photo). This bridge will require significant switchback to reach height. Cost of bridge in excess of \$4 m

New bridge will have a significant impact on mature trees; similar to NELA's Option 2 bridge for connection into Yarra Street.

13 MYT - crossing 'The Greenery' driveway at Banksia Street



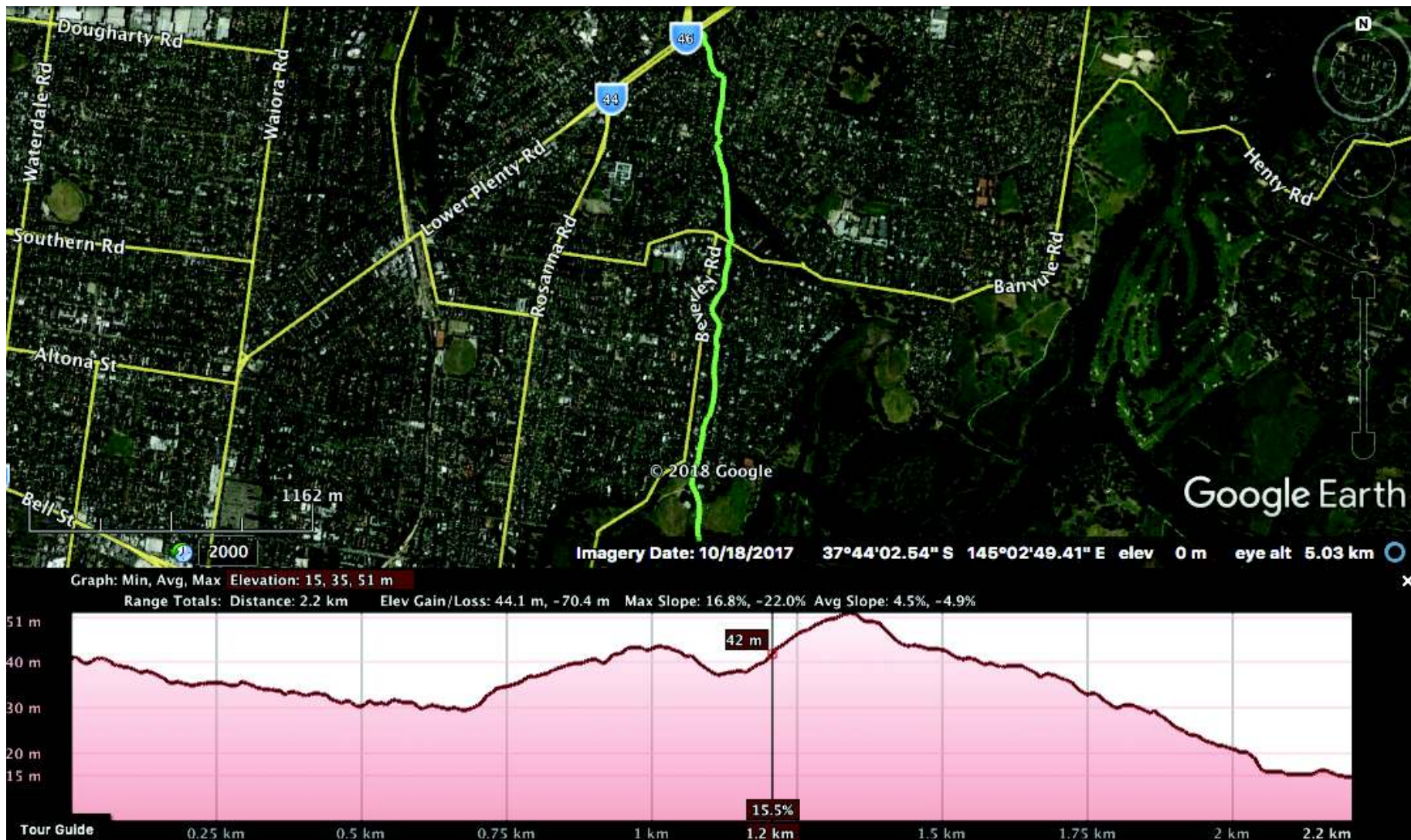
Issues:

High speed 'slip lane' entrance to The Greenery' is a significant safety risk to pedestrians and cyclists

Possible Treatment:

Modify entrance to provide a less acute entrance angle and provide threshold treatment with priority to cyclists and pedestrians

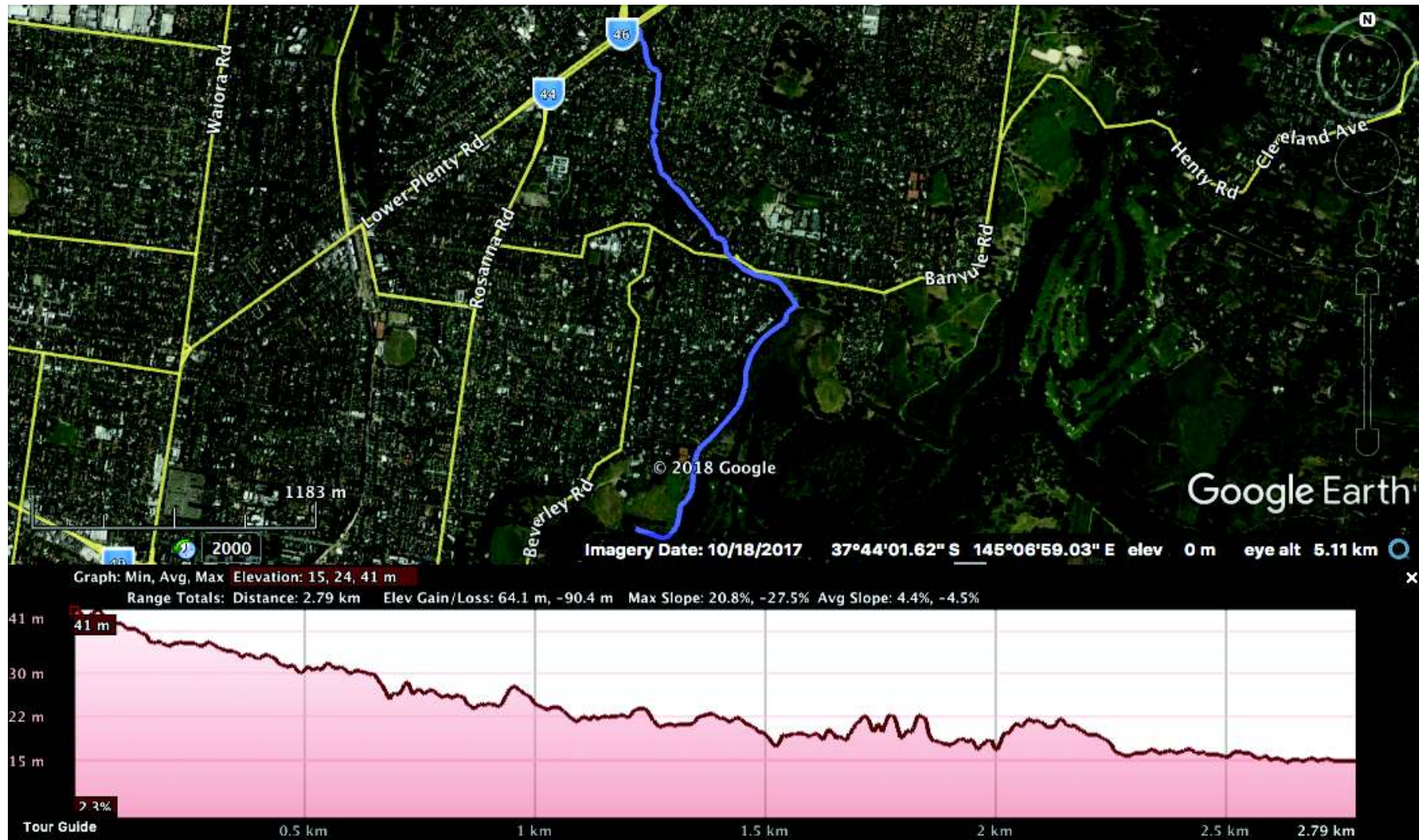
14 (a) NEL Path - MYT to Lwr Plenty Rd via Rivergum Walk: Alternative 1



Issues:

Alternative 1 has significant grades (to 10%) that represent a barrier to cycling for the largest cohort of cyclists - the 'interested but concerned'. Route length is shorter: 2.20km

14 (b) NEL Path - MYT to Lwr Plenty Rd via Rivergum Walk and Banyule Ck Reserve: Alternative 2



Issues:

Alternative 2 is a longer route (2.78 km) but with flatter grades that would not be a barrier for the the 'interested but concerned' cyclist.

15 NEL Path - Lwr Plenty Rd Interchange



Lower Plenty Road interchange - northern end



The 'knowns':

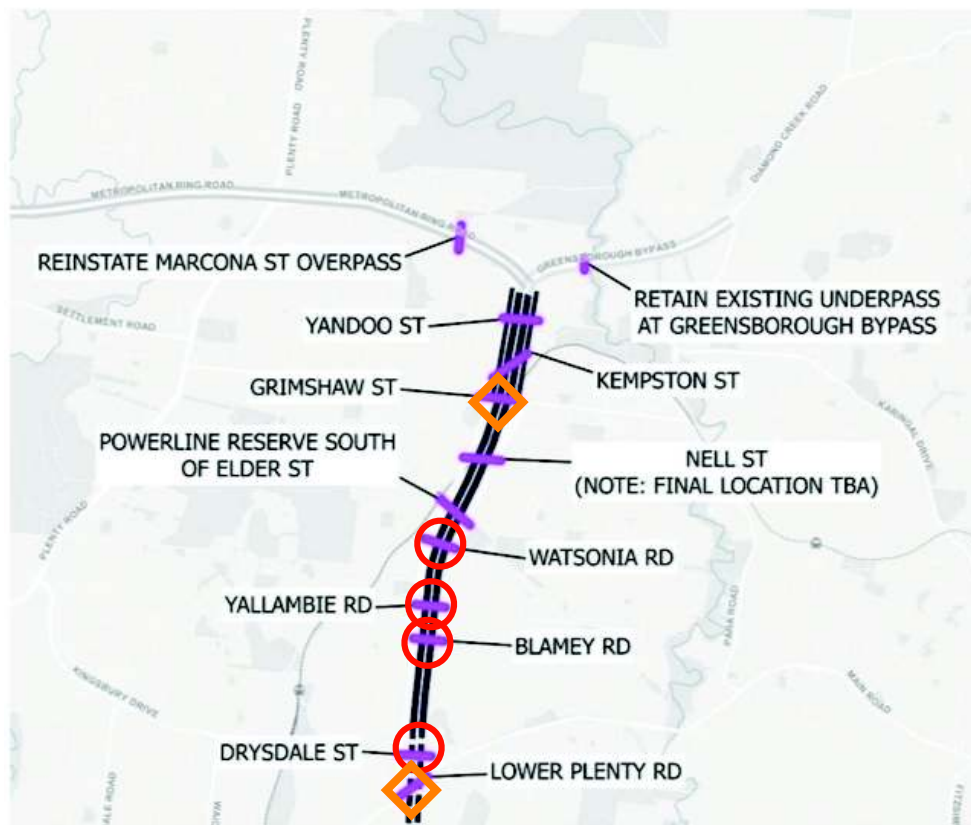
NELA proposes an underpass of Lower Plenty Road for the Strategic Cycle Path

Question:

Is NELA proposing to provide priority to cyclists on a raised hump crossing on Drysdale Street (circled) ?

16 NEL Path - Lwr Plenty Rd Interchange to Grimshaw St

Figure 6-13 Walking and cycling crossings of North East Link



Underpass



Road intersection with traffic signals

In addition, NELA proposes to construct a number of ‘green bridges’ over the NEL where it is in open cut.

It is not clear where these are located and how they will impact/improve on cyclists and pedestrian movements in this corridor.

Both Yallambie Rd and Blamey Dr are intersections likely to present significant delays to cyclists, if they have to cross at traffic lights (the latter will incur significantly higher traffic with the potential of the Signal Directorate land being sold in the 10 - 20 time frame).

Summary

There has been significant publicity from NELA about how its project would deliver for bikes.
What will NELA deliver on a Strategic Connection? (based on the limited detail provided)

Having regard to the limited detail currently available in plans and documents, the following observations are made:

Clifton Hill to Ringwood Corridor

This could be the bench mark route for cycling infrastructure - with grade separation all the way, direct - except for **two glaring omissions**:

- a) it doesn't CONNECT; providing a new bridge across Merri Creek into Roseneath St would connect this Strategic Corridor to the inner city bike network
- b) The major barrier to cycling - particularly for the 'interested but concerned' cyclist, is Belford Road hill with grades over 10%. The re-alignment of the MYT to freeway level CAN be achieved and would remove the barrier, allowing cyclists to maintain a better travel time. It should be implemented as PART of the NEL project. The NEL project is the ONLY opportunity for this to occur.

Bulleen to M80 Corridor

This Corridor falls well short of being a Strategic Connection:

- a) the NELA route, which incorporates a new bridge across the Yarra River (either Option 1 or Option 2) adds an obvious **detour** to the route of over 800 metres. Refer Page 20. Freeways don't have such detours and neither should Strategic Bike Connections.

The new East West orientated bridge over the Yarra R is desirable to provide community connections between Heidelberg and Bulleen/Templestowe. However, cyclists may well consider that NELA is attempting to 'kill two birds with one stone' and avoid building a new bridge (at an approximate cost of \$1m) on a **more direct route** through Banksia Park and connection to Rivergum Walk

- b) The route appears to have around 10 or more Traffic Signals for cyclists to navigate. Each set of Traffic Signals will increase travel delays for cyclists, which may mean that for some signals they may only 20% of Traffic Signal Cycle
 - Thompson Road
 - entrance to Park and Ride nr Eastern Freeway
 - Manningham Hotel entrance
 - Marcellin College
 - Trinity College
 - Golden Way
 - Bulleen Road - bike path crossing E to W (in vicinity of NEL exit/entry ramp intersection with Bulleen Rod
 - Drysdale St?
 - Blamey Rd
 - Yallmabie Rd
 - between Watsonia Rd and Grimshaw St ??

Summary (continued)

c) Steep Grades on Rivergum Walk south of Banyule Road refer pages 24 &25

Cyclists will expect to be briefed and review detailed plans at the June 28 meeting, and a get better understanding of the route.

Donald Rumsfeld achieved some level of fame for his quote on ‘known knowns... unknown unknowns’

Hopefully the June 28 meeting will move us up the chain of unknowns to reveal that a quality Strategic Connection can be achieved.