Lincoln Road Corridor Improvements Project

July 2018

Auckland Transport
An Auckland Council Organisation

What's the problem we're fixing?

- Lincoln Road carries 45,000 – 48,000 vehicles per day (in both directions throughout the day) and is heavily congested.

- the road itself has the capacity to handle this many vehicles and more

- inefficient intersections, traffic making turns across four lanes and poor off-take of traffic at the motorway - make Lincoln Rd under-perform and cause the congestion.

What’s the problem we’re fixing? - 2

Inefficient intersections

Generally the causes are:

- Insufficient lanes

- poor traffic light phasing

Insufficient lanes means that turning traffic queues in the same lane as through traffic this can be compounded if any turn pockets that do exist are too short

Poor light phasing leads to turning traffic or through traffic holding each other up, waiting for their signal.

This project will re-design the intersections and traffic light phasing

What’s the problem we’re fixing? - 3

Motorway off-take

The stretch from Triangle/Central Park to the NW on ramp is still Lincoln, the SH16 interchange belongs to NZTA.

This doesn’t perform well resulting in traffic trying to access the motorway backing up and holding up flow back along Lincoln.

The stretch from Triangle/Central Park to the NW on ramp is poorly designed with confusion over which lanes traffic should use in order to go west or east

East bound traffic queueing in single file when there are two lanes

The motorway itself not functioning well at times

All these plus inefficiency of the Central Park Triangle all cause back pressure

What’s the problem we’re fixing? – 4

The median

Traffic turning across the flush median

- causes hold-ups when turning traffic obstructs through traffic

- is dangerous because misjudged turns cause crashes contributing to Lincoln Road’s poor safety record.

Turning across four lanes is unsafe – turning across six lanes will be unacceptable

However a dedicated traffic light phase at major intersections will facilitate U turns.

The raised median will:
- help stream traffic at intersections
- provide space for planting that is required to be part of the project

Project Objectives

The objectives of the project are to:

1 To address current congestion by removing pinch points at intersections that interrupt flow

2 To “future proof” the road by adding a transit lane and walking and cycling paths on both sides.

- To improve public transport reliability within the project area.

- To improve safety for all road users, including by providing cycling infrastructure.

- To integrate Auckland Transport’s Lincoln Road improvements with the NZTA

Project Objectives - 2

What does integrating Auckland Transport's Lincoln Road improvements with the NZTA, mean?

Lincoln Road is a component in a city-wide network of major roads most of them operating inefficiently

All of these roads – including motorways – have to:
* be upgraded to maximum efficiency and
* work together seamlessly

to make the roading network work better and traffic flow quicker.

AT and NZTA are working throughout Auckland to make this happen:
* adopting common road building standards
* working together to provide side-by-side solutions eg Lincoln Road and North western motor way improvements at the same time

What does Future–proofing mean?

The main cause of congestion is the huge number of single occupant commuter vehicles at peak times.

The road network must be improved to accommodate traffic that ***must*** be on the road BUT building roads isn't a lasting way to tackle congestion. With growth, traffic will build up again and congestion will repeat

We can only sustainably tackle congestion by providing better alternatives that reduce the number of vehicles on the road overall and per head of population, by providing more attractive alternatives to the one occupant vehicle.

Ways include:

* frequent, fast moving, convenient, comfortable, inexpensive Public Transport
* fast moving multi occupant vehicles (two or more occupants)
* safe and attractive walking and cycling options

Are cycle facilities worth it?

Yes absolutely.

Cycle facilities are a national priority

NZTA are paying half the cost of the upgrade and providing cycle ways is a condition of providing this funding

People haven't been cycling because safe cycling routes didn't exist before – but wherever we built them they are immediately used

Cycling is the second fastest growing mode of transport

Even cycling to school will make a huge difference
Think of the way the roads empty in holidays and the school run isn't happening.

Cycling costs the project almost nothing. We need a 4 metre berm anyway and so the cost of the path is the cost of materials and NZTA is paying half

Project overview

- Widen the road to provide an additional bus/Transit lane on each side.

- Purchase 18 properties outright and land from a further 76
- Relocate and upgrade boundaries and utility services.
- Upgrade existing intersections.

- Raised and planted solid median.

- Upgrade traffic signals

- Install major stormwater systems including a treatment station

- Install an off road cycleway on both sides of the road

- Integrate with the NZ Transport Agency's Lincoln motorway interchange upgrade

Project overview - 2

New traffic modelling

Up to the minute traffic volume and behaviour data has been obtained by CCTV and wifi devices tracking, from Te Atatu Road to Swanson.

This data will enable us to:
- model different construction methodologies & sequences (choose least impacting)
- re model the Transit Lane (configuration and operating hours)
- re model the actual travel times and calculate benefits

The original plans were drawn up from traffic data prior to:
- the SH16 Causeway upgrade
- the improvements to Te Atatu Road
- the Waterview Tunnels & WRR
- upgraded SH 16 Lincoln – Westgate
- improved PT services

Project overview – 3

New subsurface data collection

- Investigations to trace the exact location of services
- to locate obstacles
- 3D Model to guide the:
  - re-location of services
  - retaining walls
  - street light foundations
  - location of above surface structure (eg power transformers)

Contamination survey

Soil strength testing

Pavement (road structure) strength testing

Project Overview – 3

New storm-water collection and treatment

- new collection systems will be placed under road on both sides
- from Te Pai to Motorway
- drain to lowest point outside No 312 Lincoln Rd
- purchase and demolish No 312 Lincoln Rd to make way for treatment station
- purchase all properties between Nos 298 and 312 Lincoln Rd
- a new road to treatment station between Daytona Reserve and these properties.

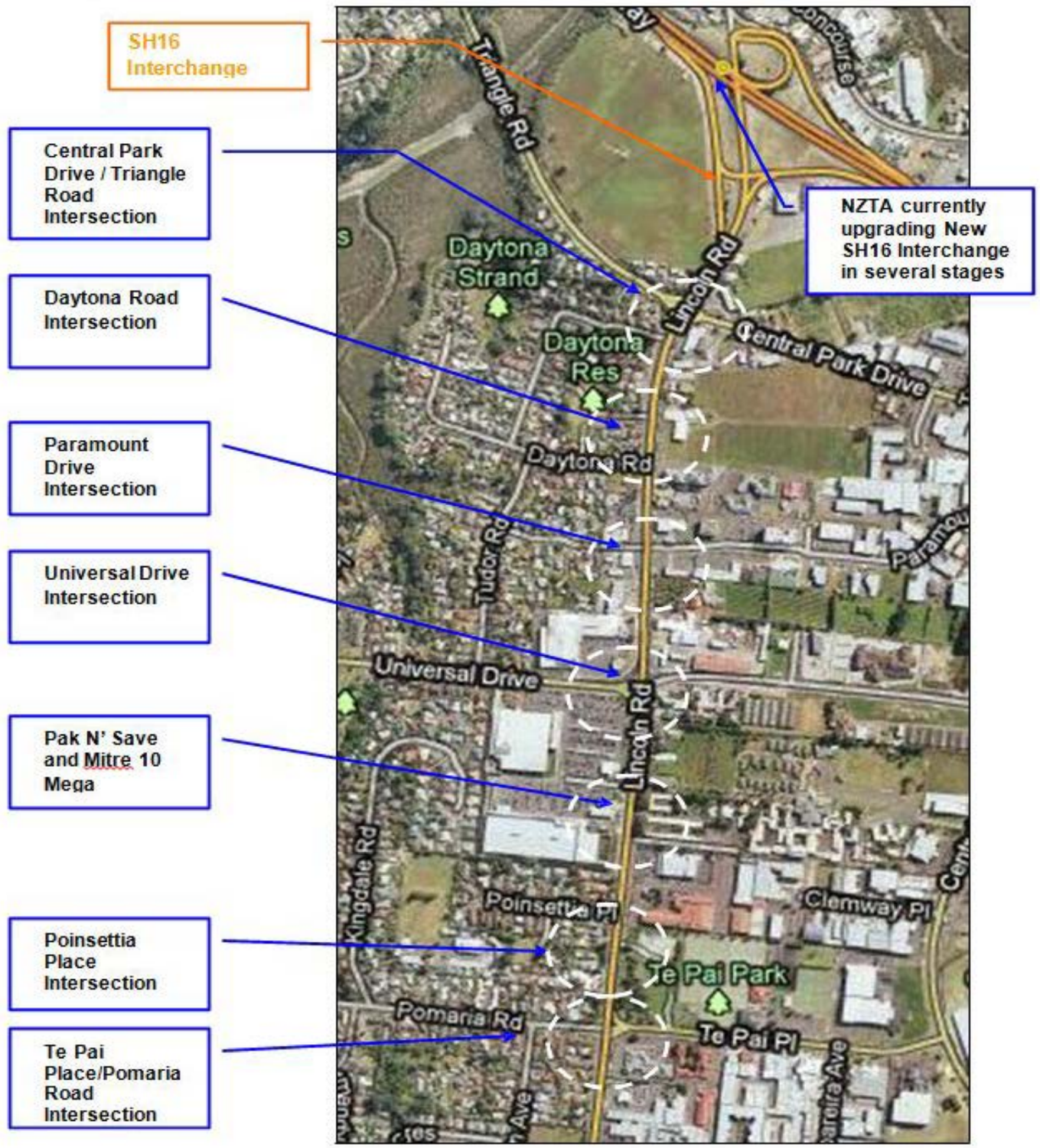
This station will treat all storm water from Lincoln Rd

Treatment to much higher level than present

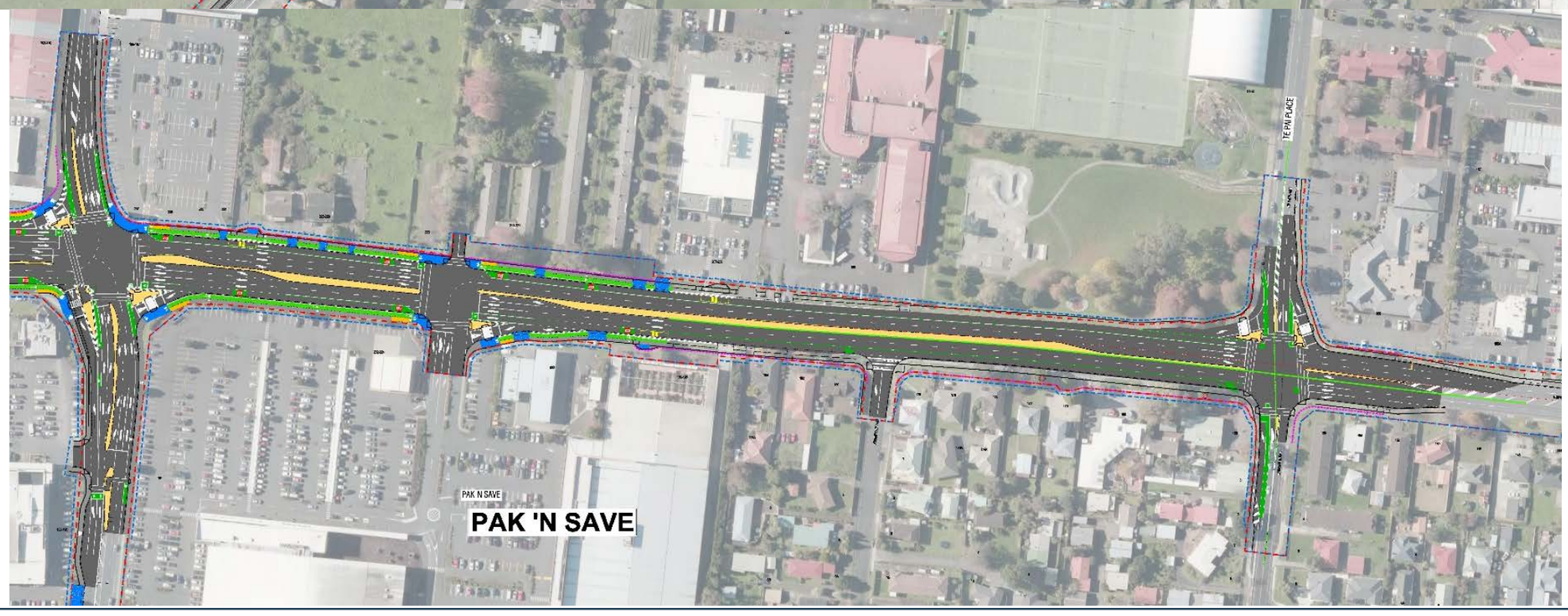
- **Discharge to Daytona Strand not Henderson Creek**

Project Extent

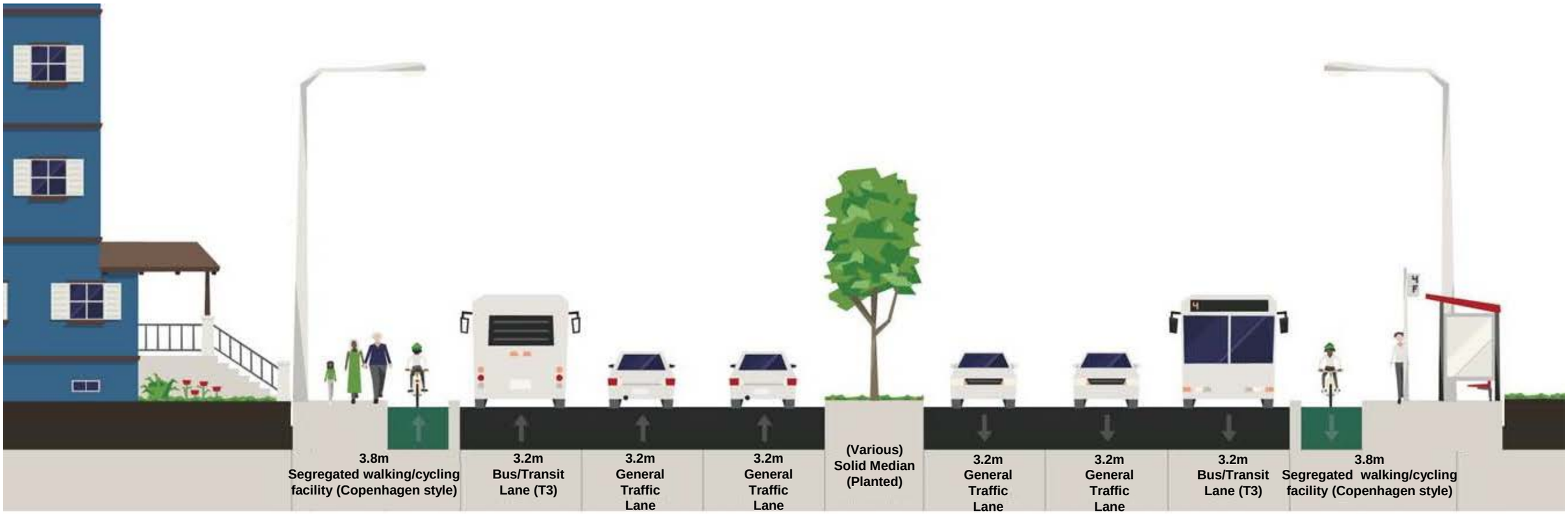
1.6 kms Te Pai to the motorway



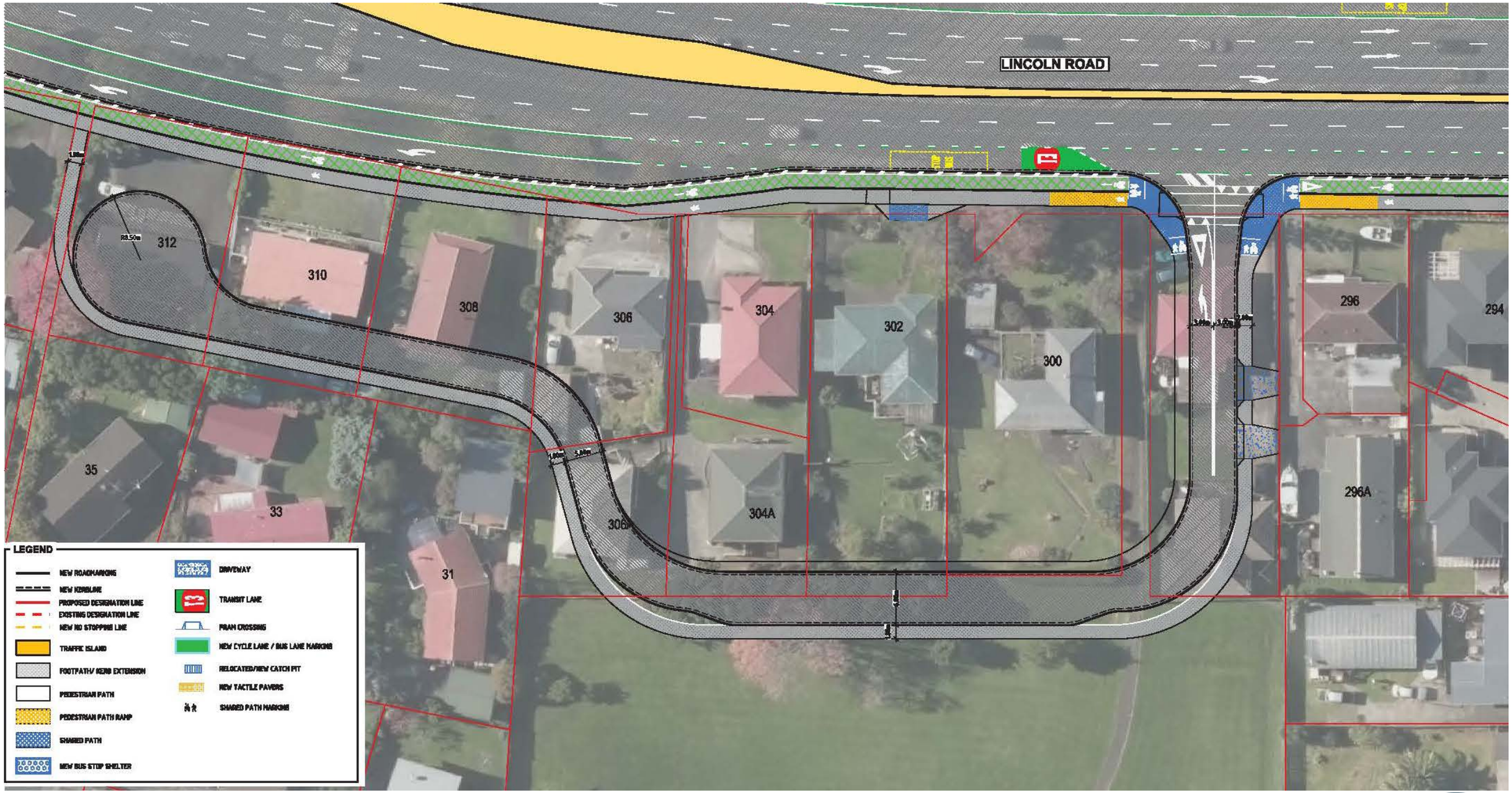
Upgrade Details



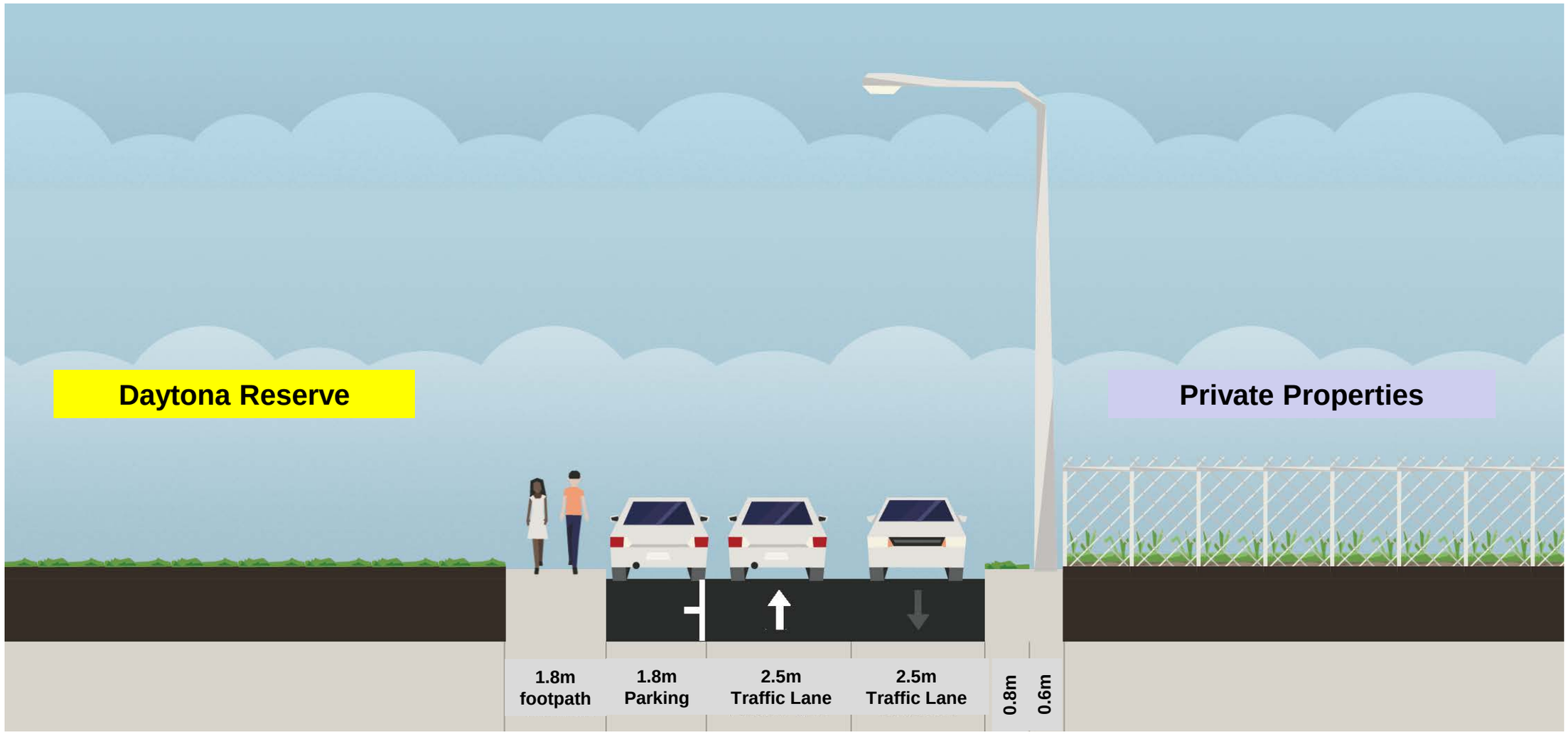
Typical Mid-Block Cross Section



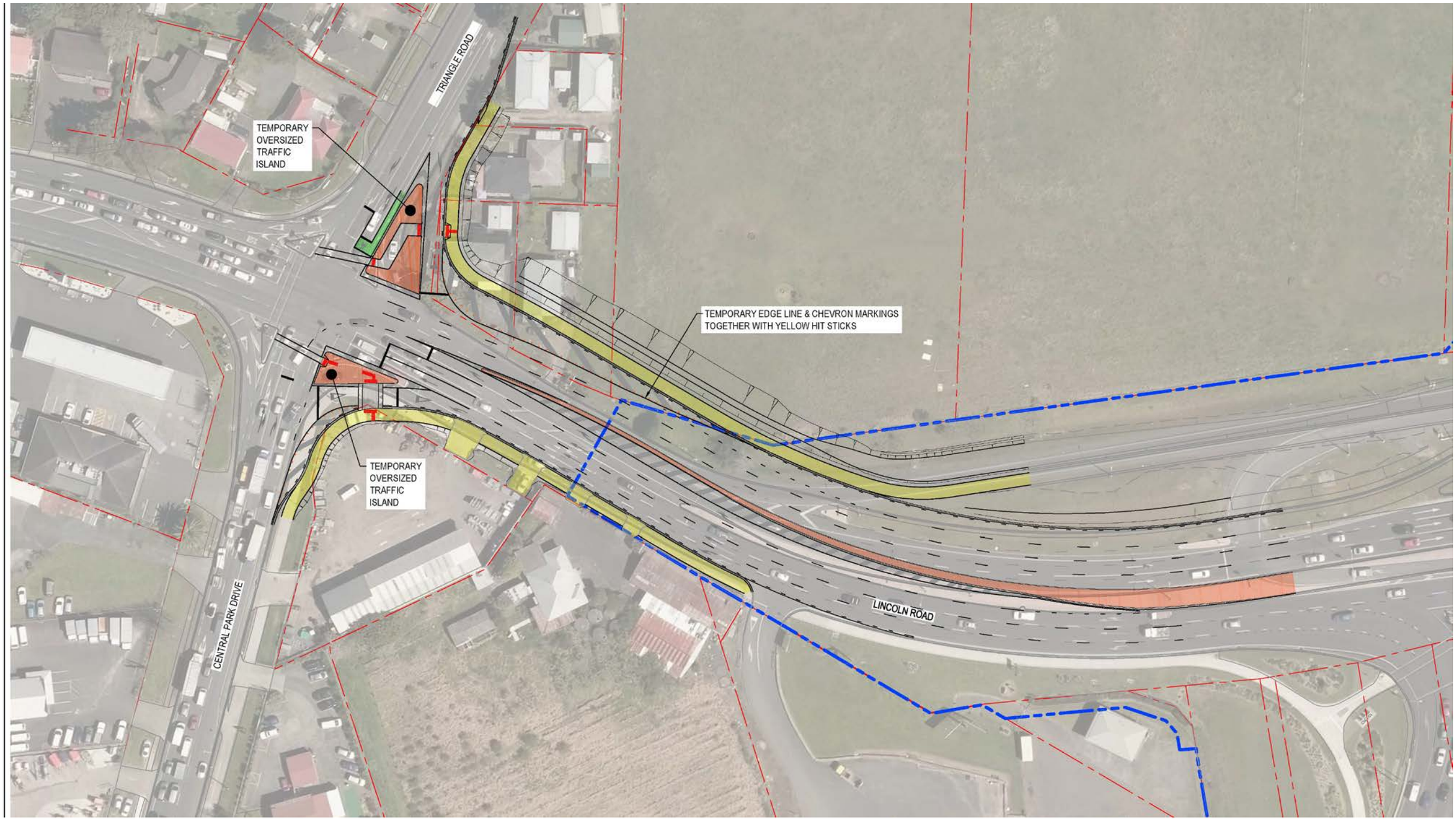
Daytona Reserve Access Way



Daytona Reserve
Proposed Access Way Cross Section



Tie-In with SH16 Interchange



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Project Benefits -1

Better traffic flow achieved by:

1 improvements to the road layout

2 extra capacity

3 improved storm water collection and treatment

4 improved pedestrian and cycling facilities

Improved intersections Te Pai Place and Triangle/Central Park

plus

improved motorway interchange
improved motorway

Project benefits – 2

Increased capacity.

The Transit Lanes represent 50% increase in capacity.

The two Transit lanes reward multi-occupant vehicles
- buses
- commuting vehicles with more than one occupant

At the completion of the project these are expected to be about 17% of current users

Transit lane users will move faster than one occupant vehicles – an incentive to leave the car at home or take passengers

17% reduction in vehicles will improve the flow of the two general lanes.

Out of T Lane operating hours, 50% extra capacity available to all users

Project Benefits -2

Traffic during peaks

Traffic in all lanes will flow better

and have better travel times

the greatest improvements will be experienced in the Transit Lane

Bus travel will offer reliably fast and frequent and affordable travel – stress free and no parking costs “at the other end”.

Cyclists

will have a safer, separated off-road cycleways both sides, connecting to NW cycleway

Pedestrians

will have new footpaths both sides

Project Benefits – 2.1

AT is reconsidering the function of the Transit Lane

Currently the plan calls for a T3 Lane but this is based on traffic volume and flow data available before:

- improvements to the causeway
- improvements to Te Atatu Road
- Waterview Tunnels opening
- increase in Public Transport services and usage.

New traffic volume and behaviour data will enable us to model a range of options including:

- bus only
- T3 with buses or T3 with buses and commercial vehicles
- T2 with buses or T2 with buses and commercial vehicles
- the operating hours

Project Benefits – 5

All infrastructure will be new and future proofed

A common services trench will place all service in one place with cables running through conduits (pipes).

Cables for services will have capacity for current and immediate future demand

Future proofed -conduit size allow new cables to be drawn through without digging

New storm water system will reduce overland flows and risks of flooding

Environmental benefits from extra levels of water treatment

Project Milestones

- December 2013 to February 2014 - First round of consultation

- October 2015 - Preliminary design.

- February 2016 to May 2016 - Project update with affected property owners and affected/interested parties.

- June 2016 to February 2018 - Notice of Requirement (NoR) and Designation processes.

- July 2017 to December 2020 – Land Acquisition

- January 2018 – December 2020 - Detailed design and Acquisition Support.

- Februery 2018 – GHD appointed to undertake detailed design

- Communications ramps up through relationship with CPHBA & elected members

Project Milestones 2

- July 2018 to Jan/Feb

  subsurface investigations
  soil strength testing
  pavement strength testing

- Complete property acquisitions in Triangle Rd and Central Park Drive
- Clearing way for NZTA upgrade of tie in section on SH interchange

- November receive and analyse technical reports

- December 2018/January 2019 targeted consultation on aspects revealed by technical reports

- May 2019 apply for Consents

- From late 2019 commence planning for construction phase
  writing tender
  seeking and evaluating tenders
  negotiating methodologies

Thank You.....

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