

# The Inveresk Intersection Project

## Roundabouts v Traffic Signals

Nigel Coates

Engineering Officer, Traffic

City of Launceston

# 1 Introduction

- When to choose roundabouts

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- Facts & fiction

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- Why now signals?

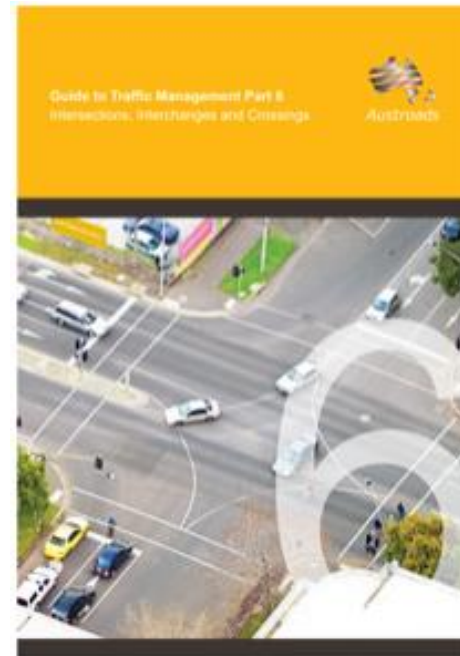
# 1 Introduction

- When to choose roundabouts
- When to choose traffic signals
- Facts & fiction
- The Inveresk roundabout
- Why now signals?
- The 2019/20 traffic signal project

# 2 Intersection Control Selection

Austrroads Guide to Traffic Management Part 6:  
Intersections, Interchanges & Crossings

April 2019





# 2 Intersection Control Selection

When to choose roundabouts

## 2 Intersection Control Selection

When to choose roundabouts:

- Where traffic flow on all legs is similar

## 2 Intersection Control Selection

When to choose roundabouts:

- Where traffic flow on all legs is similar
- Where there is a high right turn flow

## 2 Intersection Control Selection

When to choose roundabouts:

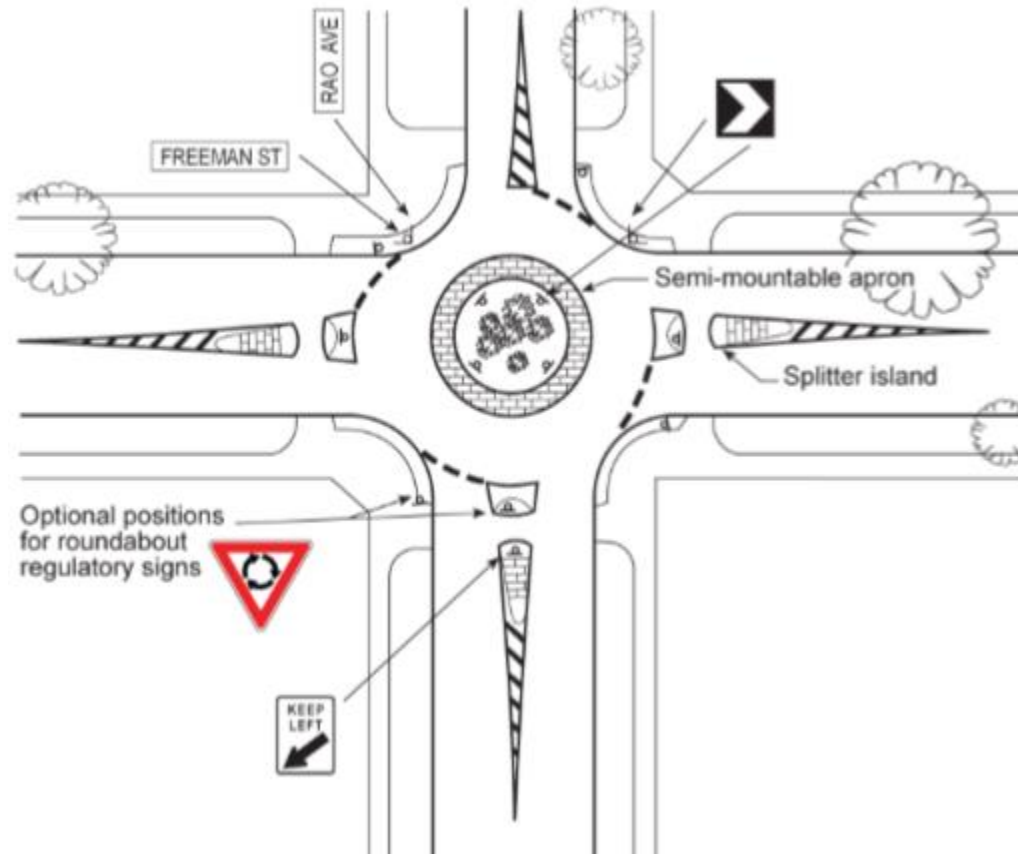
- Where traffic flow on all legs is similar
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- Where traffic speeds are high

## 2 Intersection Control Selection

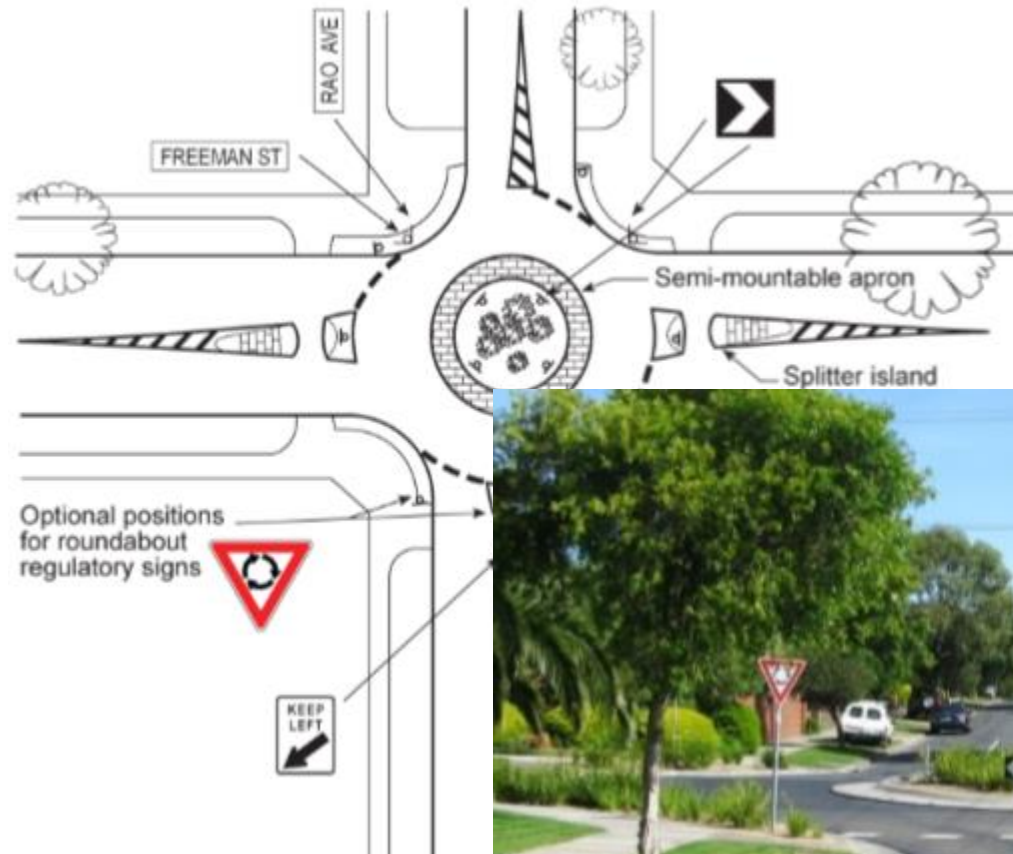
When to choose roundabouts:

- Where traffic flow on all legs is similar
- Where there is a high right turn flow
- Where traffic speeds are high
- Where there are only short periods of congestion

# Roundabouts



# Roundabouts





# Roundabouts





# Roundabouts



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# Roundabouts



# Roundabouts

## **109. What is a roundabout**

A "roundabout" is an intersection –

(a) with either –

- (i) one or more marked lanes, all of which are for the use of vehicles travelling in the same direction around a central traffic island; or
- (ii) room for one or more lines of traffic travelling in the same direction around a central traffic island; and



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(b) with or without a *roundabout sign* at each entrance.



# Roundabouts

## **114. Giving way when entering or driving in a roundabout**

- (1) A driver entering a roundabout must give way to –
  - (a) any vehicle in the roundabout; and

*Note 2:* For this rule, *give way* means the driver must slow down and, if necessary, stop to avoid a collision

## 2 Intersection Control Selection

When to choose traffic signals:

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When to choose traffic signals:

- To better manage opposing flows

## 2 Intersection Control Selection

When to choose traffic signals:

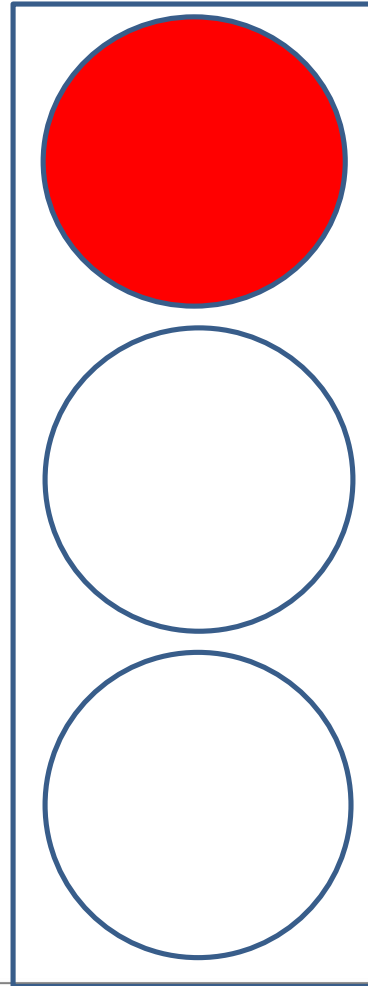
- To better manage opposing flows
- To better manage competing needs

## 2 Intersection Control Selection

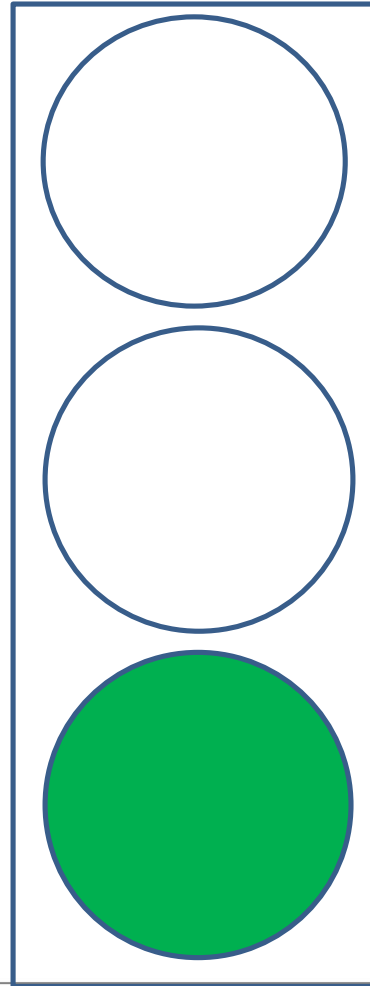
When to choose traffic signals:

- To better manage opposing flows
- To better manage competing needs
- To better manage a network

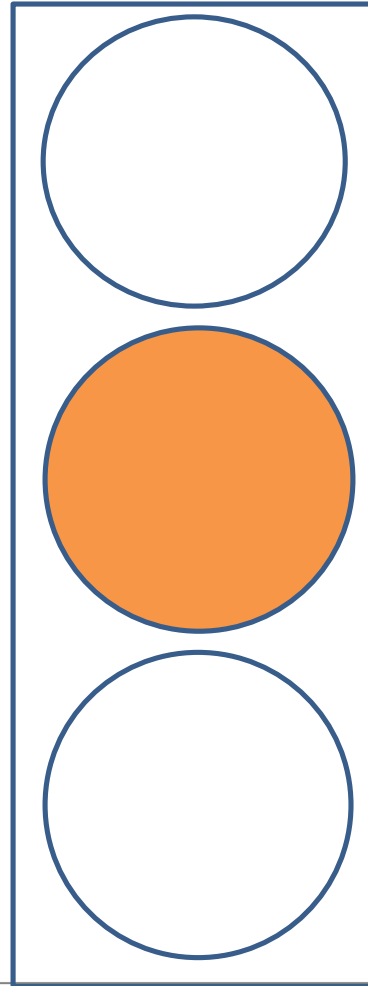
# Traffic Signals



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# 2 Intersection Control Selection

Safe System



# 2 Intersection Control Selection

## Safe System



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## Safe System

- Focusses on fatal & serious crashes

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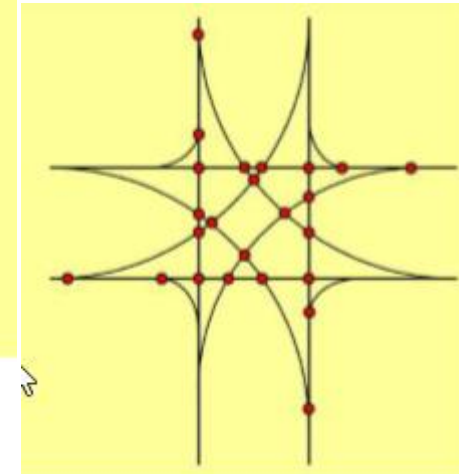
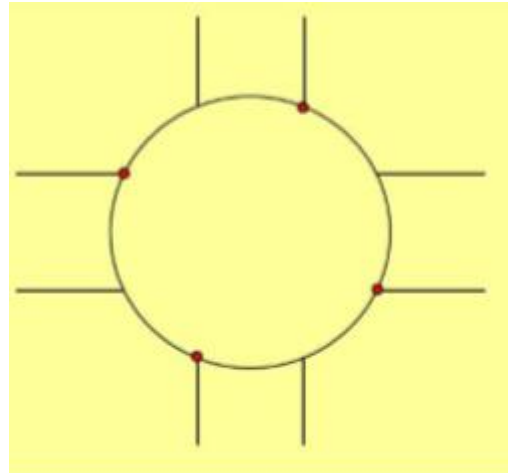
## Safe System

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- Traffic signals can result in more serious crashes due to:

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## Safe System

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- Traffic signals can result in more serious crashes due to:
  - More conflict points
  - Higher impact angles
  - Higher speeds

# 3 Perceptions

- Roundabouts are safer than traffic signals
- Traffic flows better at roundabouts

# 4 The Inveresk Roundabout



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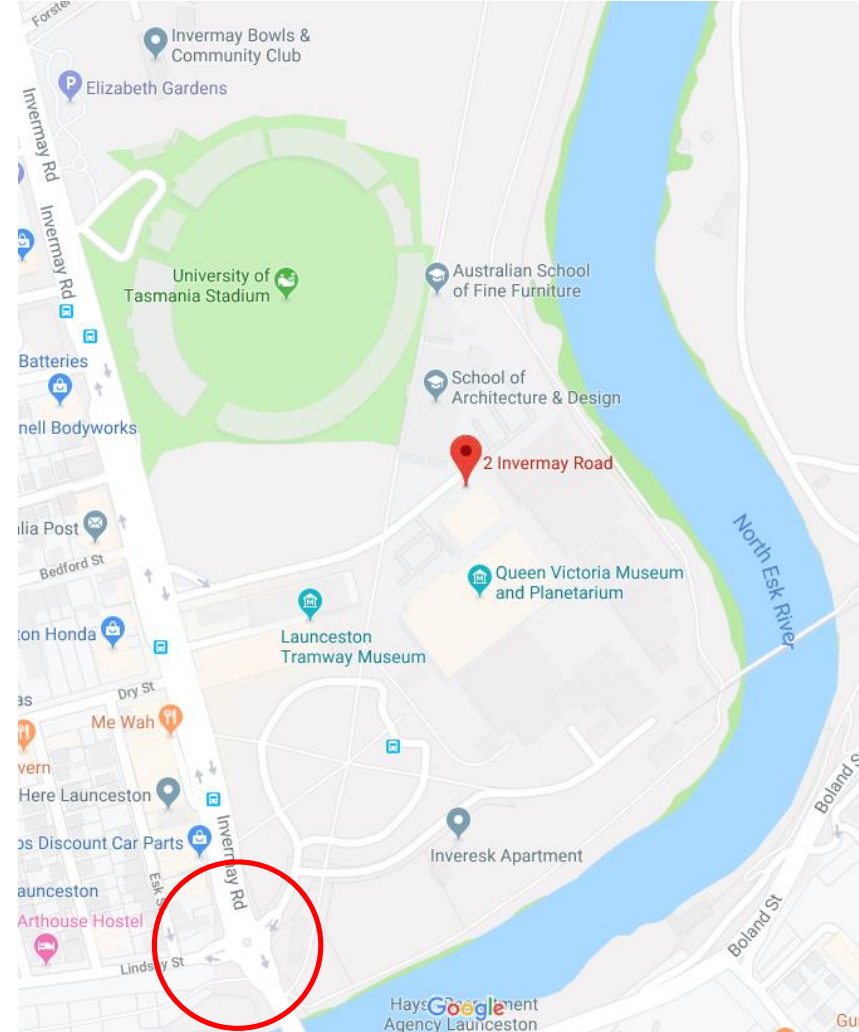


# 4 The Inveresk Roundabout



# Inveresk

- UTas Stadium
- QVMAG
- School of Architecture
- School of Arts
- Tramsheds



# 4 The Inveresk Roundabout

- 2009 assessment

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  - Upgrade of road immediately north



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- 2009 assessment
  - Upgrade of road immediately north
  - Included replacement with traffic signals

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Traffic Signals

Roundabout

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- 2009 assessment

|                   | Traffic Signals | Roundabout |
|-------------------|-----------------|------------|
| Pedestrian access | +               |            |
| Traffic safety    | =               | =          |

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| Environmental     | =               | =          |

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| Amenity           |                 | +          |

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| Politics          |                 | +          |

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| Network benefits  | +               |            |
| Economics         |                 | +          |
| Environmental     | =               | =          |
| Amenity           |                 | +          |
| Politics          |                 | +          |
| Aesthetics        |                 | +          |

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The Launceston City Deal maximises the city's potential to shape a strong economic future.



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The Hon Malcolm Turnbull MP  
Prime Minister  
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20 April 2017



Handwritten signature of Will Hodgman in black ink.

The Hon Will Hodgman MP  
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Handwritten signature of Alderman Albert van Zetten in black ink.

His Worship the Mayor  
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City Deal vision:  
By 2022,  
Launceston will  
be one  
of Australia's  
most liveable  
and innovative  
regional cities.

# 5 Why change now?

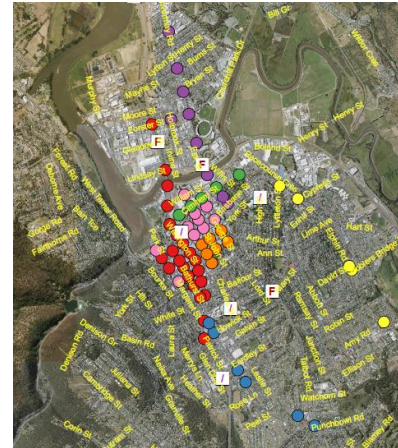
- The Launceston City Deal
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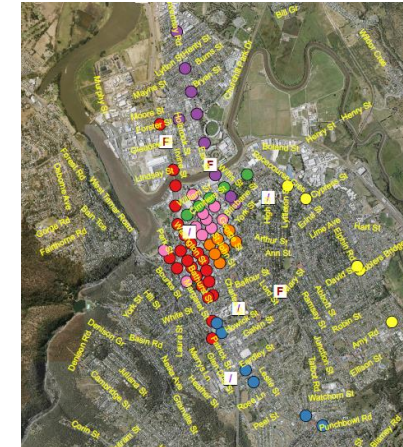
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  - Traffic Signals & Intelligent Transport

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- The Launceston City Deal
- Greater Launceston Transformation Project
  - Traffic Signals & Intelligent Transport
    - Upgrade 53 traffic signal sites through the renewal of traffic controller hardware, signal & communications infrastructure



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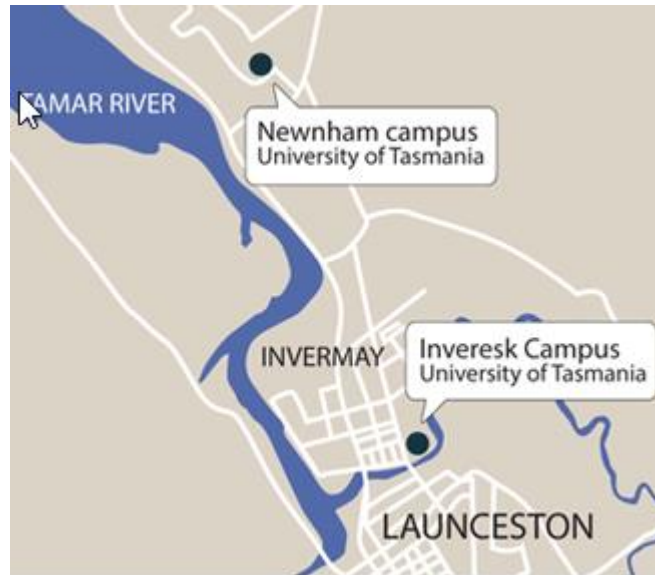
- The Launceston City Deal
- Greater Launceston Transformation Project
- The relocation of UTas



# University of Tasmania Northern Campus

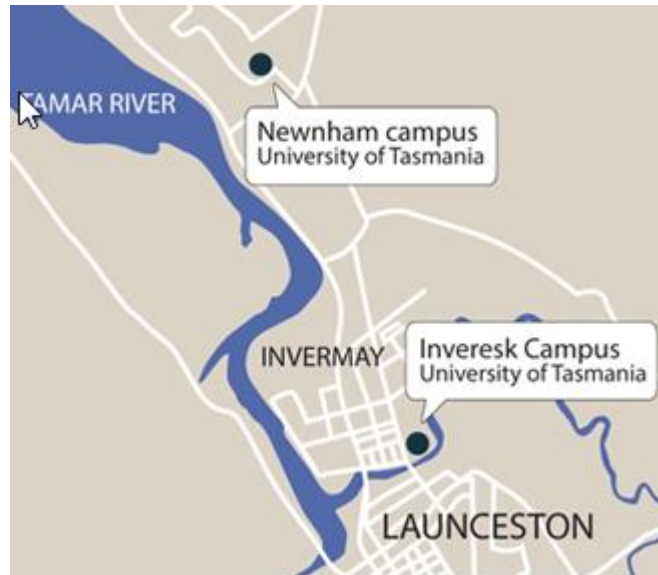
# University of Tasmania Northern Campus

Existing



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Proposed





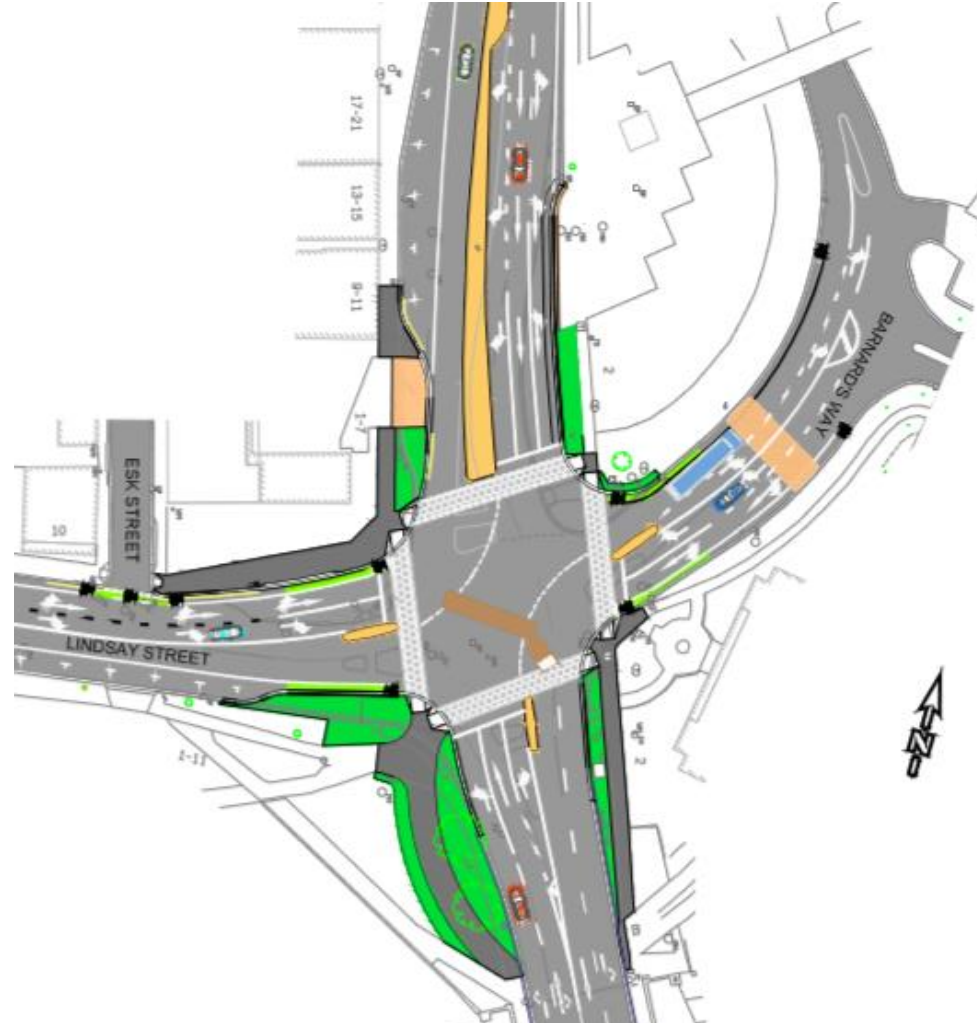
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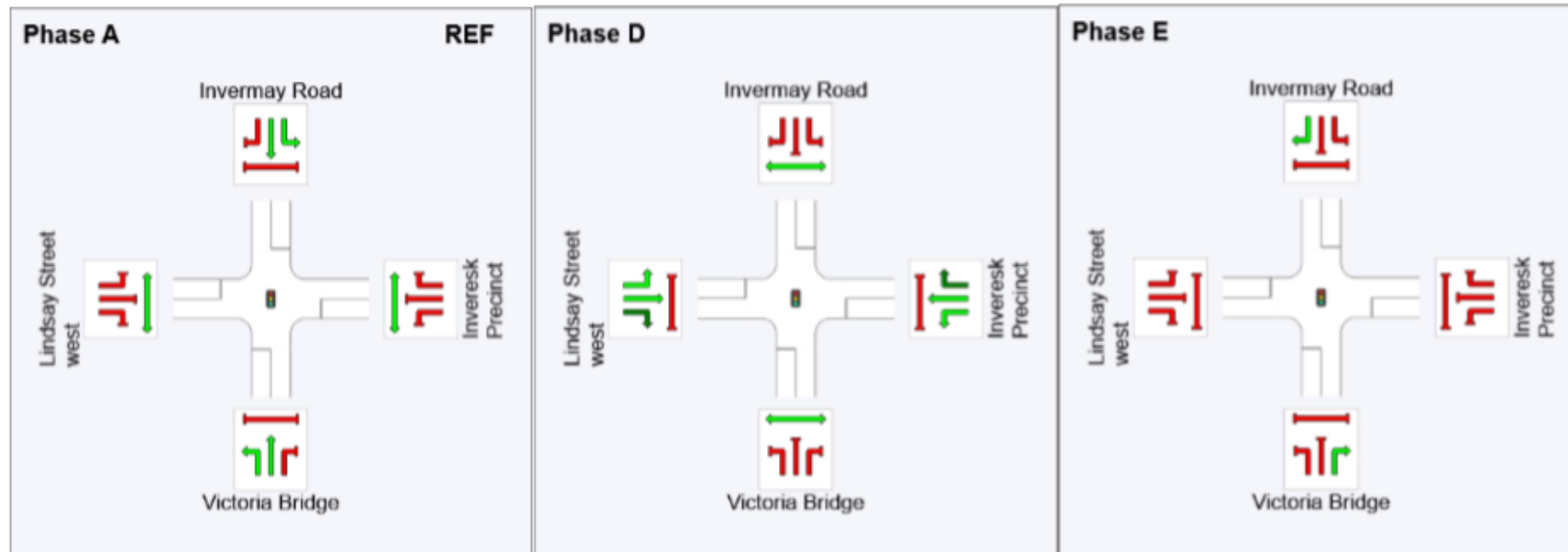
# 6 2019/20 Traffic Signals Project

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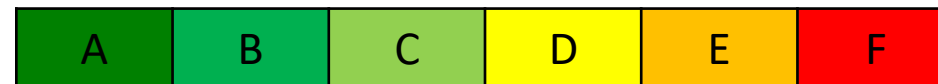
- Modelling



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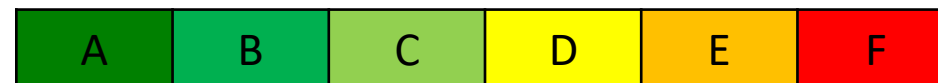
| Southbound Direction |                 | 2017                          |     | 2033                          |     |
|----------------------|-----------------|-------------------------------|-----|-------------------------------|-----|
|                      |                 | Percentage of free flow speed | LoS | Percentage of free flow speed | LoS |
| AM                   | Roundabout      |                               |     |                               |     |
|                      | Traffic Signals |                               |     |                               |     |
| PM                   | Roundabout      |                               |     |                               |     |
|                      | Traffic Signals |                               |     |                               |     |



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- Modelling

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| AM                   | Roundabout      | 30%                           | F   |                               |     |
|                      | Traffic Signals |                               |     |                               |     |
| PM                   | Roundabout      | 46%                           | D   |                               |     |
|                      | Traffic Signals |                               |     |                               |     |



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| AM                   | Roundabout      | 30%                           | F   |                               |     |
|                      | Traffic Signals | 24%                           | F   |                               |     |
| PM                   | Roundabout      | 46%                           | D   |                               |     |
|                      | Traffic Signals | 43%                           | D   |                               |     |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| A | B | C | D | E | F |
|---|---|---|---|---|---|

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| AM                   | Roundabout      | 30%                           | F   | 17%                           | F   |
|                      | Traffic Signals | 24%                           | F   |                               |     |
| PM                   | Roundabout      | 46%                           | D   | 10%                           | F   |
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| PM                   | Roundabout      | 46%                           | D   | 10%                           | F   |
|                      | Traffic Signals | 43%                           | D   | 23%                           | F   |

|   |   |   |   |   |   |
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|---|---|---|---|---|---|

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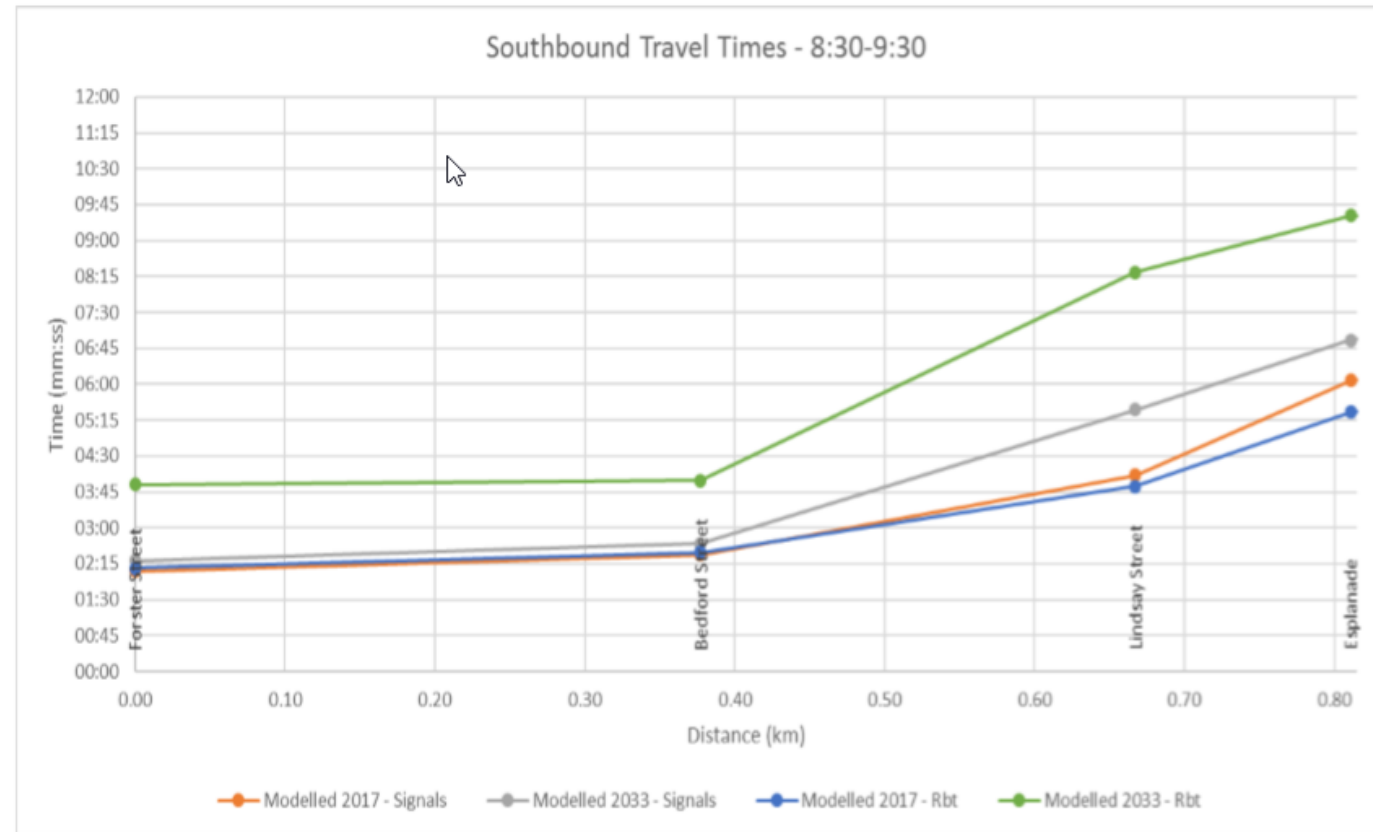
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|                      | Traffic Signals                                | 24%                           | F   | 21%                           | F   |
| PM                   | Roundabout                                     | 46%                           | D   | 10%                           | F   |
|                      | Traffic Signals                                | 43%                           | D   | 23%                           | F   |
|                      | Traffic signals (with southbound coordination) | NA                            | NA  | 32%                           | E   |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| A | B | C | D | E | F |
|---|---|---|---|---|---|



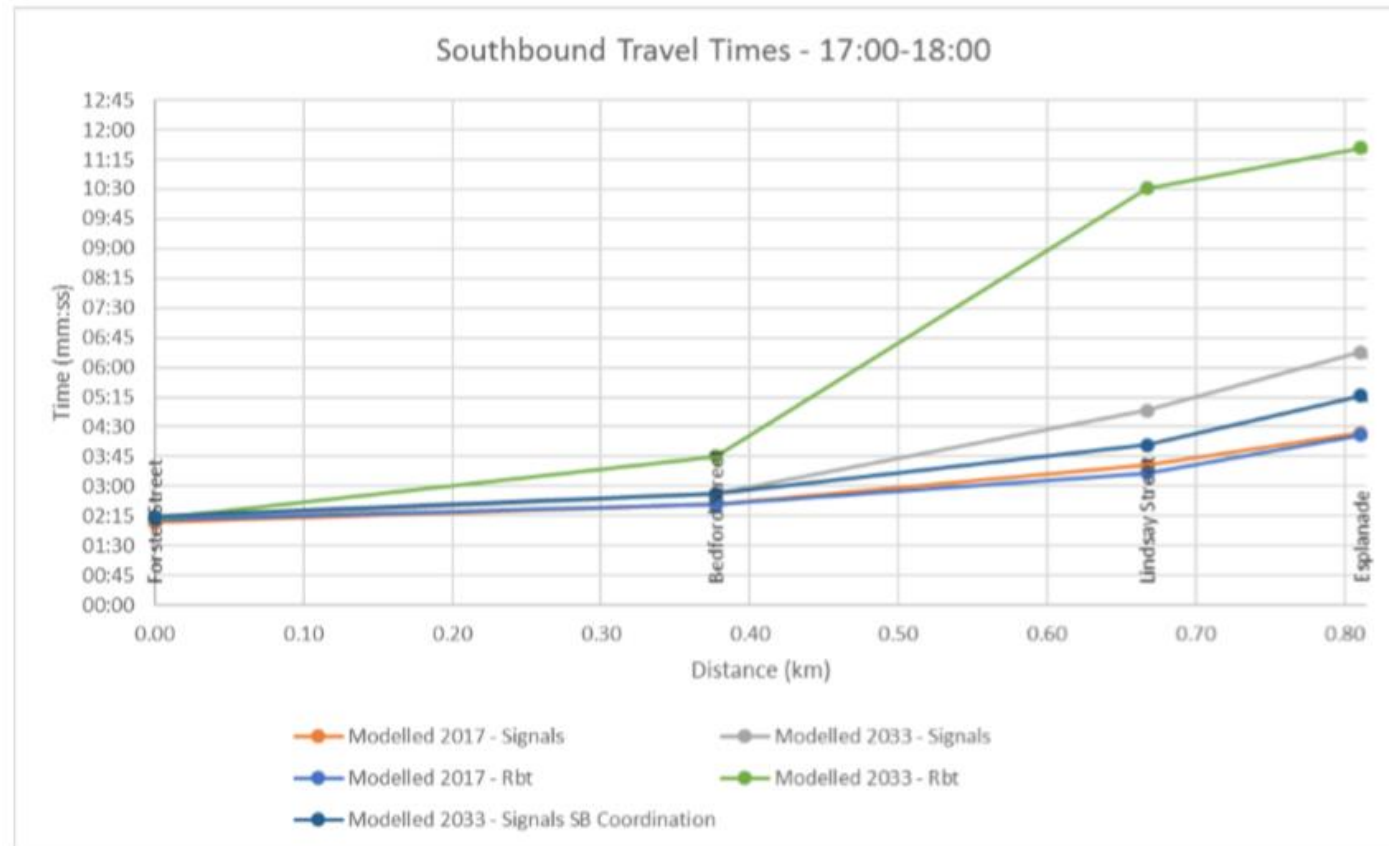
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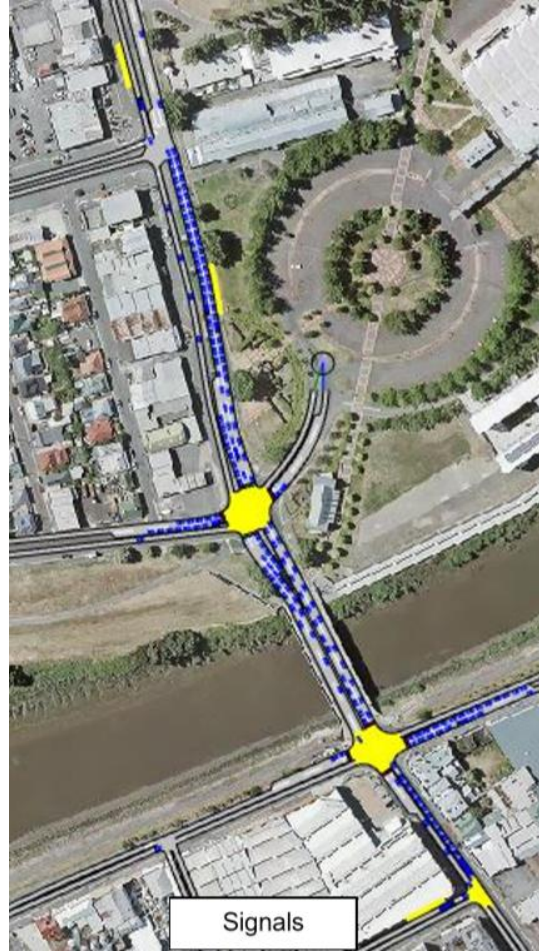
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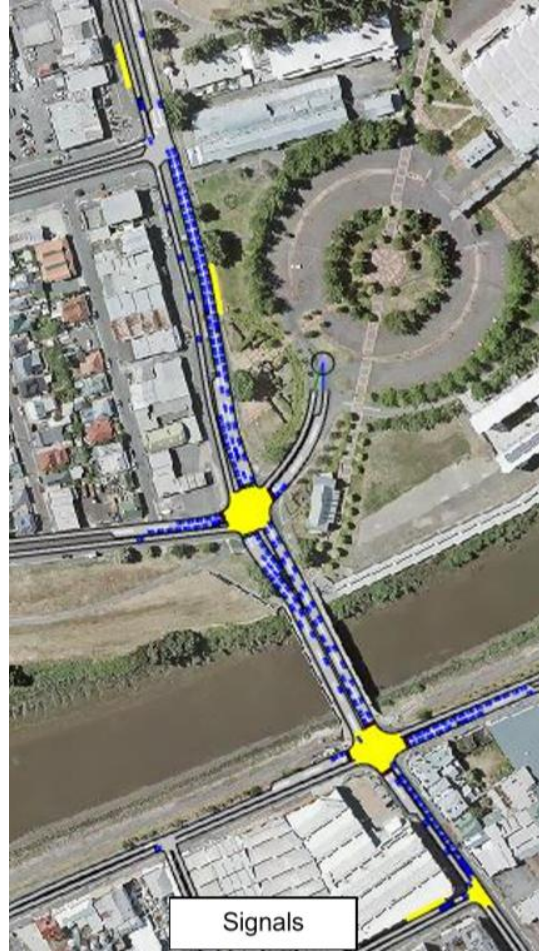


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# 6 2019/20 Traffic Signals Project

- Better long term management of traffic

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- Ongoing importance of Inveresk

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- Ongoing importance of Inveresk
- Events



# 6 2019/20 Traffic Signals Project

- Better long term management of traffic
- Ongoing importance of Inveresk
- Events
- Relocation of UTas
  - Accessible and inclusive
  - Gateway to the City
  - Walkable and cyclable

Thank you for listening

Nigel Coates

Engineering Officer, Traffic

City of Launceston

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