

# Addressing the implication of implementing a future-proof roading solution at the Redoubt/Murphys Road intersection

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Representing the voice of Flatbush

# The 'sporadic' Mill Road Project

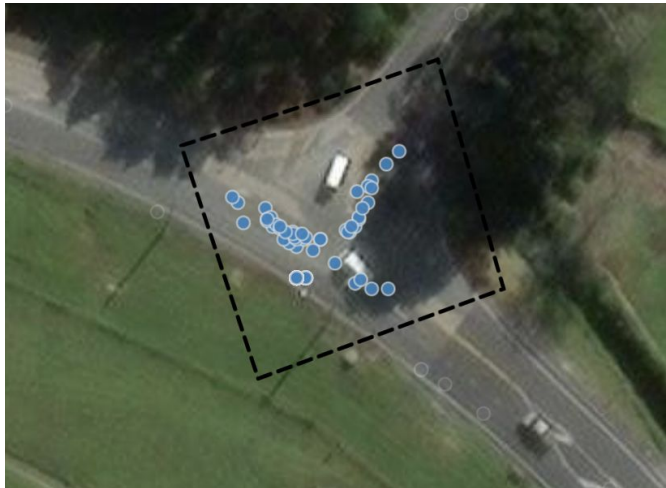
- The intersection currently comes under the Mill Road Project which inhibits any roading improvements that would otherwise take place. This project has been long delayed with the previous government suspending it on the grounds of climate intensivity.
- Construction of the Murphys Road Primary school began after the project was drafted up and new residential housing blocks were created (larger influx of cars than what was previously expected).
- Road usership has exceeded capacity due to lack of public transport and unsuitable roading infrastructure, the intersection is becoming increasingly dangerous(80 crashes from 2013 - 2023, 60 in the latter half) and there is an underlying economic impact too.

# Economic Analysis of Implementing a Roundabout or Traffic Light System at the Murphys Road and Redoubt Road Intersection

A Mathematical Model for Congestion Relief in Flatbush, Auckland

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## Break-even Point Calculation

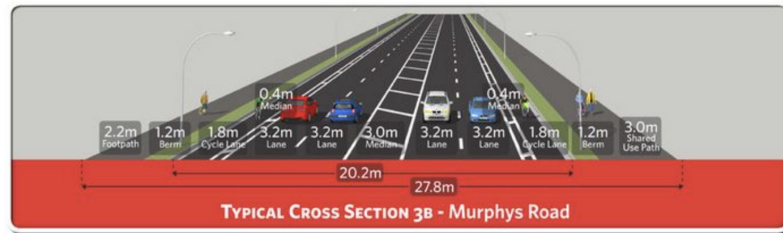
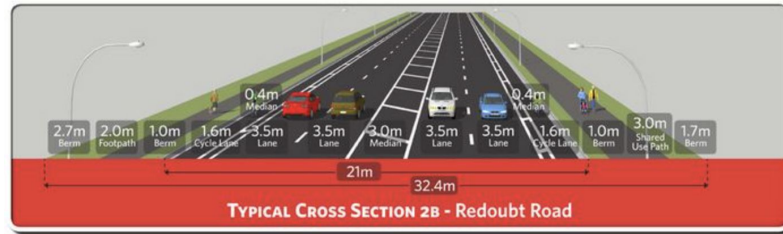
The break-even point is the time when the savings from reduced congestion equal the construction cost. Solving iteratively:

- Roundabout: Break-even at  $t_{BE} \approx 2.5$  years.
- Traffic Lights: Break-even at  $t_{BE} \approx 2.0$  years.

## Output at 10 Years

1. Roundabout:
  - Output(10)  $\approx 120$  million NZD.
2. Traffic Lights:
  - Output(10)  $\approx 115$  million NZD.

This represents the long-term economic benefit of the intervention over 10 years.

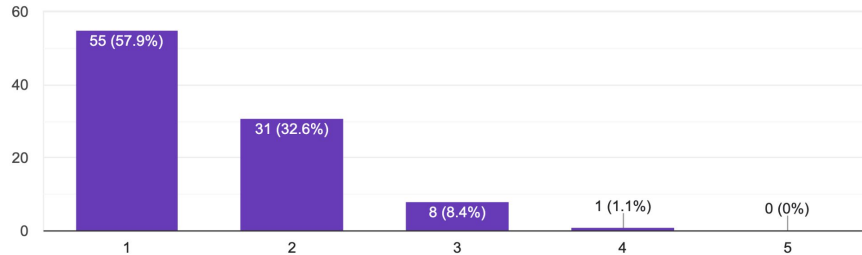


# Our Solutions and Approach

- Stepped into the local community to gather the input of the public and how they feel alongside what they would do.
- Took multiple surveys but decided that they were not a and fair representation - refined our approach to be more unbiased and welcome opposing viewpoints.

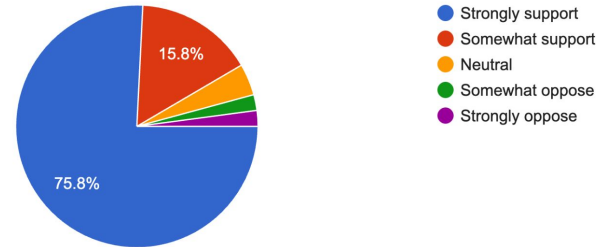
How would you rate your overall experience using this intersection?

95 responses



How do you feel about replacing the current intersection with a roundabout?

95 responses



If you oppose the creation of a roundabout, what potential actions would you propose?

37 responses

Traffic lights

Traffic lights

Traffic lights will do as well.

None

Na

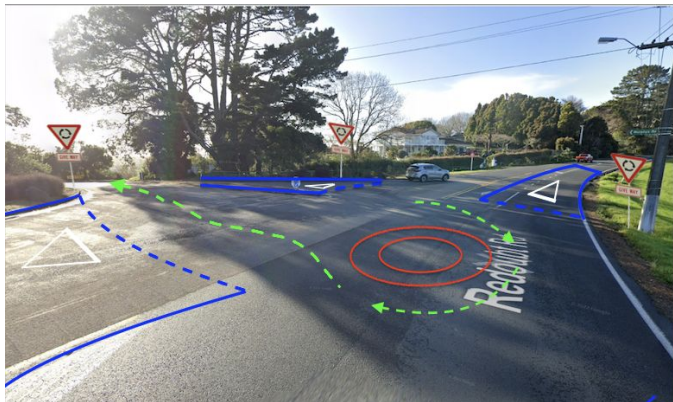
Possibly traffic lights, but it is a small intersection so that could also cause congestion at some points

Traffic light is another option

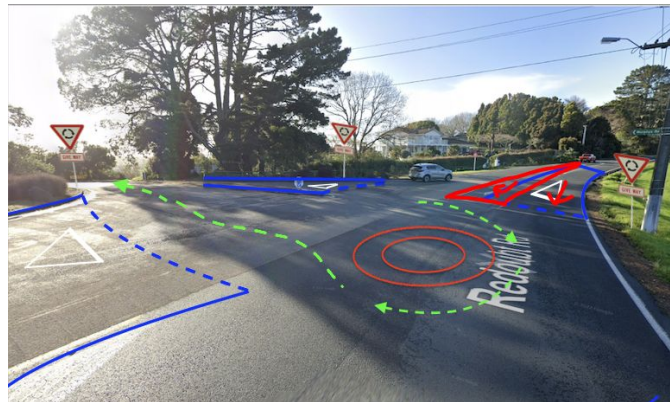
Traffic signals would be a better option.

Maybe having traffic lights instead

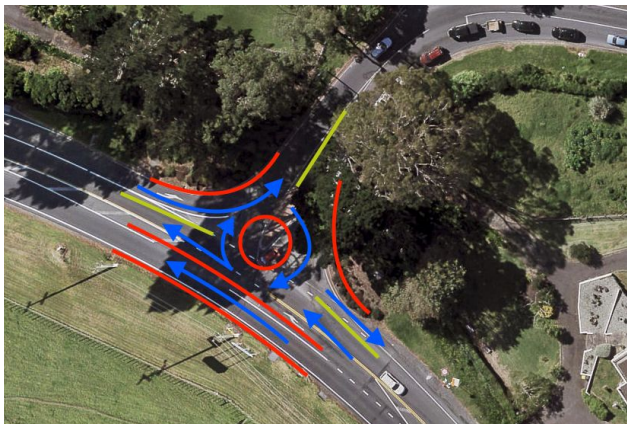
# Our Solutions and Approach



Basic Roundabout



Basic Roundabout - Additional Lane



Basic Roundabout - Bypass Lane



Traffic Lights



Basic Roundabout + Traffic Light



## 6.5 Murphy's Road Alignment Options

AECOM met with Auckland Transport to specifically discuss the Murphy's Road alignment and presented the identified options Northern 1 to Northern 4 during a design meeting on 12 July 2012. In addition to these four options Northern 5 was identified at the meeting and added to the alignment options. The options are displayed in Figure 14 and are described as follows:

**Northern 1** – As per the previous Option D alternative (Preferred option in the previously undertaken investigation)

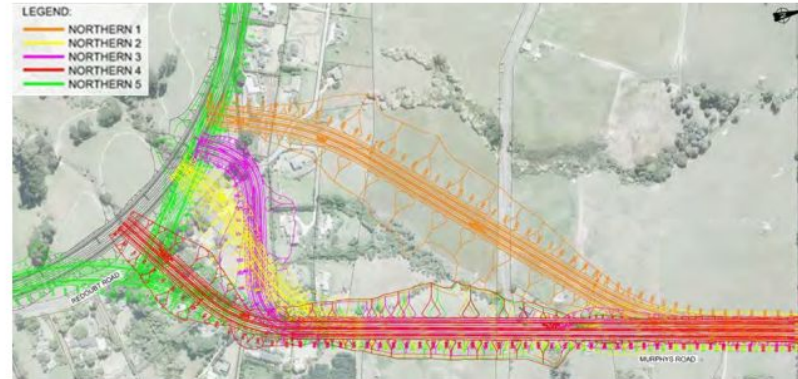
**Northern 2** – Primarily following the existing alignment but with an increased horizontal design speed of 60km/h

**Northern 3** – Alignment following the existing centreline (50km/h) but with an increased vertical design speed and reduced grade

**Northern 4** – Geometrically superior alignment following the existing road corridor and cutting through the ridge to a new intersection with Redoubt Road.

**Northern 5** – Priority change at the Murphy's/Redoubt Road intersection to cater for specific traffic movements.

Figure 14: Murphy's Road Alignment Options



# Stakeholder Engagement

- Worked through an iterative process of collecting support because the Mill Road Project has bearing over the entire area, meaning the only ones able to do something is NZTA.

Started with the input of the Public

Presented a deputation to the Howick Local Board

Approached Rima Nakhle(the local MP of our area)

Met with Dr Urie Bezuidenhout(Original Designer of Mill Road and Transport Academic)

Met with Luke Christensen(Transport Advisor to the Mayor)

Met with Brent Piggott(Senior Engineer at AT)

**Present deputation to AT Board** ← we are here

**Meet with Duncan Humphrey, project director of the Mill Road Project**



# Objectives and Intent

- The centralisation of the Mill Road Project helps to establish clear goals and fix evident problems but ignores additional nuances that the local community is able to observe and take into account.
- Projection for the growth of our area has not been accurate, certain parts of suburban development failing may have a negative layover-effect on the project and this project is long overdue. At this stage, there is no guarantee it will even happen.

Our request: Grant us your support as Auckland's primary Transport Service, allowing us to contribute our unique contextual knowledge to assist NZTA. If what we have said is not enough, we would be more than happy to discuss this further as all that has been said is only just the tip of the iceberg.