

# Bus Priority Action Plan

December 2019

# DRAFT

  
greater WELLINGTON  
REGIONAL COUNCIL  
Te Pane Matua Taiao

Absolutely Positively  
**Wellington** City Council  
Me Heke Ki Pōneke



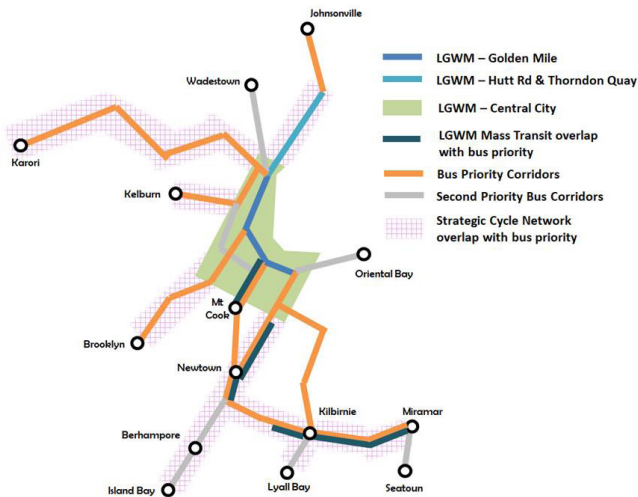
# Bus Priority Action Plan

The Bus Priority Action Plan is a collaborative investigation by Wellington City Council and Greater Wellington Regional Council working with Waka Kotahi NZ Transport Agency. It identifies the key routes, issues and opportunities to improve the reliability of buses on Wellington's busiest routes. Engagement on the action plan and delivery will occur as part of Let's Get Wellington Moving.

## How did we select the corridors?

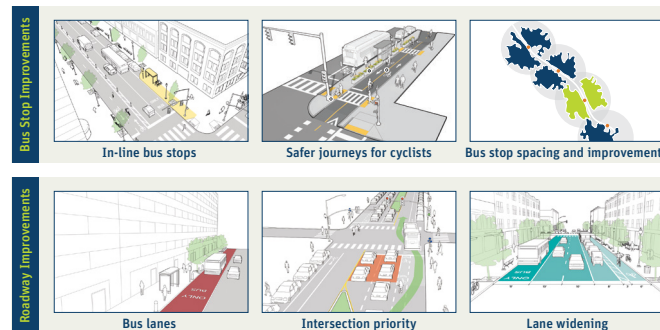
We prioritised corridors by considering those that have:

- high daily passenger volumes
- slow bus travel speeds
- highly variable bus travel times.



## What does bus priority look like?

Depending on the issues, there are a range of options to give buses more priority.



## What's the timing?

- Engagement on City Streets – early 2020
- Confirm programme – mid-2020
- Early works delivery – from early 2020
- 7–10 years to deliver

## What are the costs and benefits?

Benefits on offer



Improvements to journey times and reliability



Reduced operating costs



Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

Costs would have a range of \$24–290 million depending on the scale of interventions



# More bus priority means more reliable and quicker bus trips

The Bus Priority Action Plan is a collaborative investigation by Wellington City Council and Greater Wellington Regional Council working with Waka Kotahi NZ Transport Agency. It identifies the key routes, issues and opportunities to improve the reliability of buses on Wellington’s busiest corridors. Engagement on the action plan and delivery will occur as part of Let’s Get Wellington Moving’s City Streets programme.

Wellington is growing. In the next 30 years, 50,000 to 80,000 more people will call the city their home. To maintain an attractive, accessible and sustainable harbour city we need a reliable public transport system that moves more people with fewer vehicles. To help achieve that, we need to make it more attractive to travel by bus than by car.

Improved bus priority on the key routes to and through the city has been identified by several business cases and as a key part of Let’s Get Wellington Moving (LGWM). This is because Wellington’s buses are – and will continue to be – a vital part of the public transport system. Bus passenger numbers are increasing, and people want to trust that their buses will get them to their destination on time, consistently.

More reliable bus journeys will contribute to reducing emissions and encouraging people to use public transport as well as walking and cycling. The reliability of our buses depends on a range of factors, including suitable timetabling, having enough buses and drivers, and giving buses priority on the roads so they can travel without delays. The councils are working together to tackle all of these aspects. This includes a review of the bus network (bus routes and timetables) following city-wide community engagement in mid-2019.

This action plan outlines what we can do to give buses more priority on key routes into and through the city that carry the most passengers and are the slowest and least reliable – especially at peak travel times. We have looked at the issues on our roads that are contributing to bus delays, and the opportunities to make buses more reliable by improving our roads – for example, by introducing more bus lanes and letting buses go first at traffic lights – and by improving bus stops. In undertaking this investigation, we have also identified key issues on these routes for other modes of transport, including cycling and walking.

The analysis in this action plan will support engagement with the community as part of the LGWM City Streets programme to seek feedback on:

- the priority network for buses and for cycling
- the key issues and opportunities on each corridor
- the wider opportunities for cycling, walking, safety and making more attractive places in central Wellington.

Subject to feedback received, more detailed investigation and public consultation will follow when detailed designs and costs are developed. This will build on the analysis that has informed the development of this action plan.

While this planning work continues, we are already making changes so buses can travel more smoothly. These include improving the layout of bus stops and trimming trees, so buses can pull in and out more easily and it's safer for passengers to get on and off. This action plan also identifies other early improvements that can be made.

# Let's Get Wellington Moving


The Bus Priority Action Plan will be delivered as part of LGWM. This shared programme will create a safer, more people-focused central city, a mass rapid transit route from the central city to the southern and eastern suburbs, and improvements to the state highway corridor.

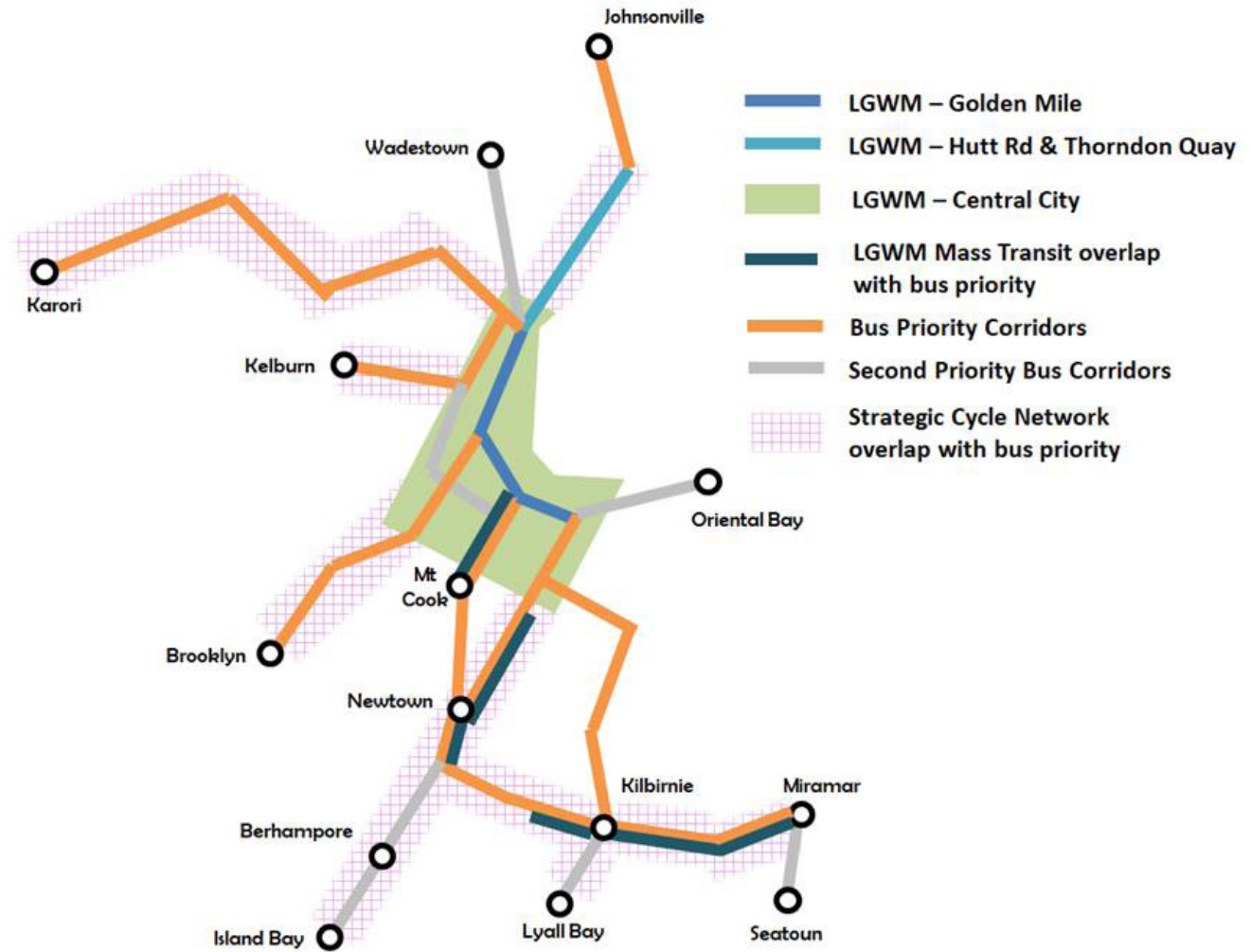
The action plan focuses mainly on bus priority because of the need to support improvements to the bus system. As the map shows, there is a significant overlap between the bus priority corridors, the strategic cycling network and the mass rapid transit route. More work is needed to integrate cycling, walking, safety and attractive shared streets into these corridors where possible.

Where bus priority corridors overlap with LGWM's longer-term planning, bus priority improvements will either be integrated into those plans or delivered as shorter-term improvements in the meantime.



## Objectives and outcomes

Liveability	Economic growth and productivity	Safety	Resilience	
<p><b>What are our objectives?</b></p> <p><b>More bus priority means more reliable and quicker bus trips</b></p> <p><b>Supporting a transport system that...</b></p> 				
Enhances the liveability of the central city	Provides more efficient and reliable access for all users	Reduces reliance on private vehicle travel	Improves safety for all users	Is adaptable to disruptions and future uncertainty





# LGWM early delivery: Golden Mile, Thorndon Quay and Hutt Road projects

Two of the LGWM early delivery projects will complement the Bus Priority Action Plan - the Golden Mile and the Thorndon Quay and Hutt Road corridor.

The Golden Mile – which includes Lambton Quay, part of Willis Street, Manners Street and Courtenay Place – has the highest concentration of jobs in the country, is the busiest part of the bus network and has the highest pedestrian volumes in the city. It is also our prime shopping and entertainment destination.

Under LGWM, the Golden Mile is planned to become part of a dual public transport spine – the other route running along the waterfront and accommodating mass rapid transit.

Given the complexity of the Golden Mile, the multiple modes of movement involved, its commercially sensitive environment and the desire to take up place-making opportunities, a separate project from the action plan is needed. Over 37,000 people travel by bus along the busiest sections of the Golden Mile on a typical weekday. All of the eight bus priority corridors in the action plan feed into this central bus spine.

The Golden Mile project starts with a business case. This will set out a long-term vision for the corridor and outline a staged investment strategy. It will also identify quick wins and trials to enable testing of proposed changes and feedback from stakeholders and the community. Initial engagement with the community on the Golden Mile started in November.

The Thorndon Quay and Hutt Road corridor is another complex corridor for which a business case is being prepared. Thorndon Quay and Hutt Road form one of the city’s primary multi-modal transport corridors with key public transport links to Wellington’s northern suburbs, Porirua and the Hutt Valley. In addition to providing access to the central city, businesses and CentrePort, it also has the potential to cater for future economic development and urban growth. Te Ara Tupua, the future Ngauranga to Petone walkway and cycleway and the largest single walking and cycling project in the region, will increase demand for cycling along the corridor.

The project aims to transform the Thorndon Quay and Hutt Road corridor so it is:

- ready to provide for enhanced public transport and cycling connectivity fit for a 2036 future
- adaptable to future land use change, development, other programmes such as the multi user ferry terminal, and caters for adequate transport provision and choices.

Stakeholders and community engagement on options for Thorndon Quay and Hutt Road will take place by mid-2020.

Both projects will be closely coordinated with planning and delivery of the wider bus priority network.

# How the action plan links to other projects

This action plan also fits with a range of other work to plan for future population and land use growth, improving our transport system, creating attractive shared streets and making it easier and safer for people to get around the city.

## Bus network review

Bus priority is a vital element of any well designed and successful network, and existing bus corridors will remain pivotal to the success of Wellington's bus network now and in the future.

The Wellington City phase of the bus network review of the July 2018 changes is drawing to a close. A package of network change recommendations with an accompanying action plan, is being completed. A package of network change recommendations with an accompanying action plan is being completed. The action plan has been developed with a number of dependencies and constraints. Some of the recommended improvements will be delivered as resourcing allows, and the remaining recommendations will require further investigation.

Feedback and findings from the bus network review clearly identify bus reliability, 'bus bunching' and travel time as having a significant impact on bus passenger journeys. These will not be resolved by network changes alone, which focus on routes and timetabling.

The changes we can make through the Bus Priority Action Plan will help to restore trust in bus transport reliability, particularly amongst bus commuters. The action plan will also inform the bus network changes, including improvements to bus reliability and travel times.

All elements of the LGWM City Streets programme – bus priority, walking, cycling and road safety – will be integrated with bus and network changes in the short term, and as Wellington future-proofs public transport for ongoing growth.

## Planning for growth

Planning for Growth is a project about the people of Wellington and bringing the things we love and value about our city into the conversation about how we plan for the city's future growth. Planning for Growth builds on the goals from Our City Tomorrow and includes a review of the Wellington Urban Growth Plan as well as the District Plan, both of which impact and shape Wellington's urban environment.

Between 8 April and 17 May 2019 we asked people to have their say on the pros and cons of four scenarios. People have given a clear indication that they think intensification of the city centre and suburban centres offers the best balance overall. The feedback we received will help us create a 'spatial plan' which shows the future shape of our city, that will then feed into the District Plan Review.

A spatial plan is essentially a 'blueprint' for our city that sets out a plan of action for where and how we should grow and develop. A spatial plan includes maps and supporting text to show the strategy for the city's growth, providing a level of certainty to the community about future change. The spatial plan will enable an integrated approach to the way we plan and shape our city by considering a range of topics relating to the city's growth including land use, transport, three waters infrastructure, natural hazards, heritage, and natural environment values. The spatial plan will ultimately provide the direction we need for the District Plan Review and will help the City Council prioritise investment for things like transport, new community facilities and infrastructure upgrades.

## Parking policy

To pave the way for our future transport system, we need to start creating space along some key transport corridors and review how we allocate road space for parking to support this change. In light of this, Wellington City Council is reviewing its parking policy and will consult the public on its proposals in the early part of 2020.

## Cycling programme

Work is also underway to develop a city-wide cycle network. This work will be integrated with the outcomes of the action plan to make sure there are good outcomes for people who use public transport, walk, or cycle.



**If your bus route could be better, we'd like to hear from you.**

Twelve months ago we made big changes to the Metlink bus network. After listening, learning and making changes, we'd like to hear what ideas you have for improvements to the routes and services important to you. To find out what's happening in your area and to have your say visit [metlink.org.nz/busreview](https://metlink.org.nz/busreview)

metlink on our way

metlink.org.nz | 0800 01 1111 | #metlinknz | @metlinknz



# Wellington's bus network at a glance

Buses play a critical role in Wellington's transport network.



**70,000**

bus journeys are taken every day



**28%**

of bus trips are for education



**97%**

of Wellington City's population (186,000 people) lives within easy walking distance of a bus stop (400 metres)



**46**

public bus routes across Wellington City

**+ 95**

dedicated school routes



**37%**

of people travelling to the central city in the morning peak take a bus



**34%**

increase in bus trips into the central city since 1999

# Bus network challenges

While there are 70,000 bus journeys taken each day, we know that many passengers are dissatisfied and there are issues with reliability and travel times. Making buses more reliable will make bus travel a more attractive option than driving a car, so more people will take the bus. This in turn will reduce congestion and carbon emissions.

32%

of people say that public transport is **inconvenient**



44%

of people say that public transport is **unreliable**



**3 minutes**

Average lateness of buses in the morning peak



**7 minutes**

Day-to-day variation in travel times in the morning peak on main corridors

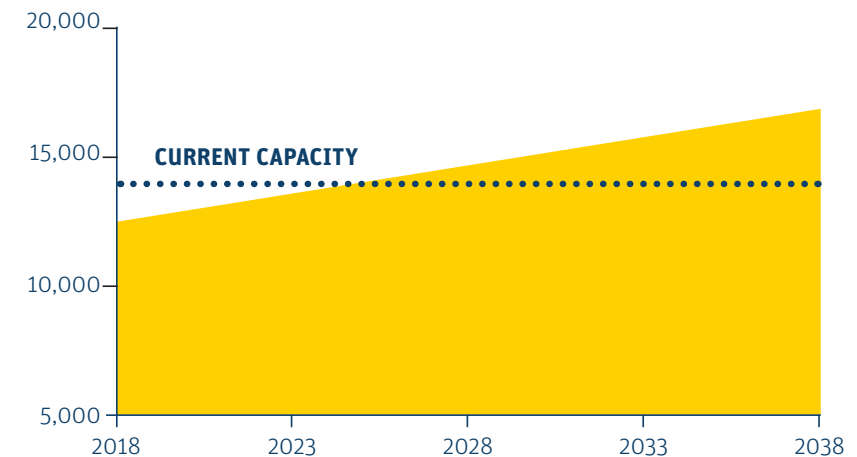
## Bus trips

typically take **twice as long** as a car trip for the same journey



## Passenger volumes

in the morning peak will exceed capacity by 2028





# What success looks like

The benefits of the bus priority programme are currently being estimated as part of the business case process. This is an indicative calculation of the potential scale of the opportunity that will be updated as further option evaluation is undertaken.



Bus travel times are

**3% faster**

with minimal improvements

**27% faster**

with the worst problems fixed

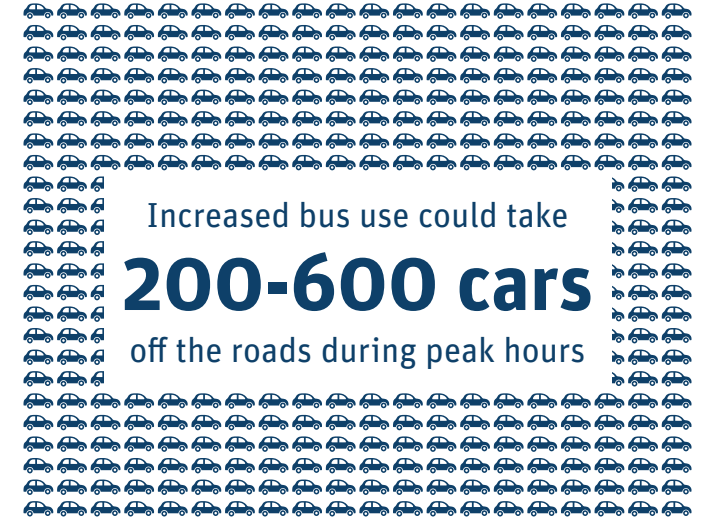
**33% faster**

with everything fixed

Bus travel times for a typical trip



Note: These figures are indicative and based on a high-level assessment of potential scale of benefits



Increased bus use could take  
**200-600 cars**  
off the roads during peak hours



More people using buses prevents  
**1 to 3 death and serious injury crashes**  
over a decade

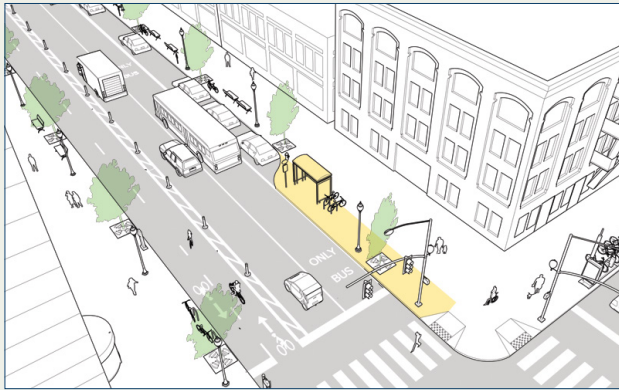


and reduces CO<sub>2</sub> emissions by  
**4000 to 12,000 tonnes**  
over a decade

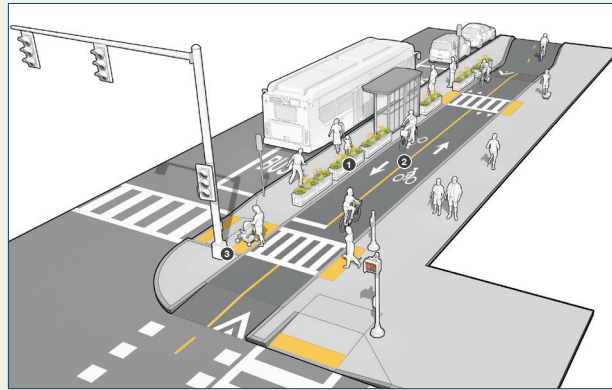
# Bus priority toolkit

We will use a range of measures to improve bus journey times and the reliability of bus journeys. Bus stop improvements allow people to get on and off the bus more easily and reduce the amount of time the bus spends at bus stops. Roadway improvements reduce conflicts between buses and other road users and give buses increased priority.

## Bus stop improvements



In-line bus stops



Safer journeys for cyclists

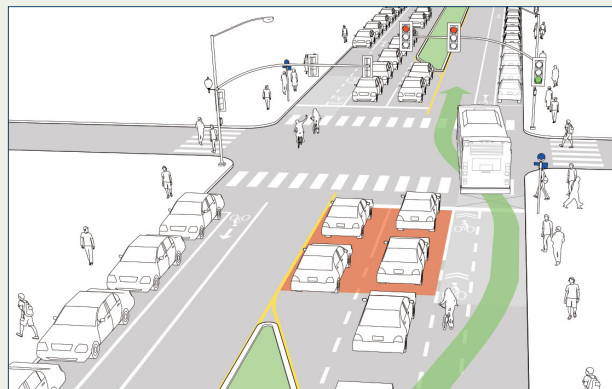


Bus stop spacing and improvements

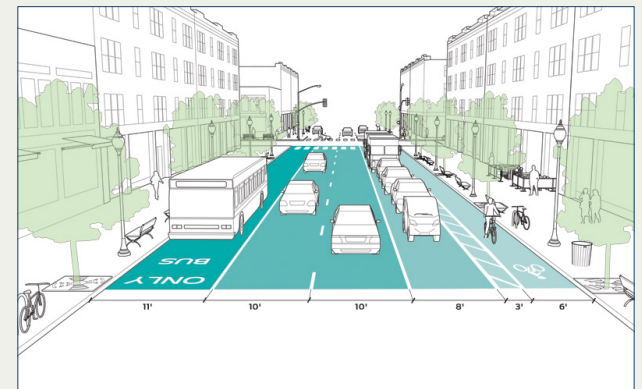
## Roadway improvements



Bus lanes



Intersection priority



Lane widening

# How we chose the priority bus corridors

We prioritised corridors by considering those that have:

- high daily passenger volumes
- slow bus travel times
- highly unreliable bus travel times.



## Corridor selection process

Analyse passenger and travel time data

Prioritise routes with low travel time reliability and slow travel times, ordered by passenger volumes

Prioritise routes with either a travel time or reliability problem, ordered by passenger volumes

Produce list of priority corridors for analysis

# Eight priority bus corridors

Eight corridors were chosen because they have very high numbers of passengers and also have problems with travel times and reliability.

They are:

- Newtown to city
- Karori to city
- Seatoun to city
- Mt Cook to city
- Kilbirnie to Newtown
- Johnsonville to Ngauranga
- Kelburn to city
- Brooklyn to city



# How we identified issues

We used bus and traffic data to estimate the degree to which buses are being delayed relative to optimal travel times.

We identified the sources of delay, as well as where and when delays occur.

Generally, the causes of delay fit into the following categories.

Category	Source of delay	Description
Bus stops	Bus stop spacing	Some bus stops are so close that they have overlapping walking catchments. This means the bus stops more frequently without significant benefits to passengers.
	Re-entry	Buses are delayed when waiting to re-enter the traffic lane from a bus stop.
	Long dwell time	At some bus stops, buses have to stop for longer than is ideal to allow passengers to get on and off.
Traffic lights	Traffic and pedestrian lights	Buses are delayed during the red phase at traffic lights and signalised pedestrian crossings.
	Queues	Buses are delayed in queues at traffic lights.
On-road	General traffic	Buses are delayed by mid-block traffic congestion and on-street parking (cars not parked well, car doors opening, people manoeuvring into parking spaces).
	Road layout	Narrow traffic lanes limit the speeds at which buses can travel.

# Taking a multi-modal approach

Road safety and provisions for cycling are key considerations when we make improvements for buses. These factors have been taken into account in determining the order in which we improve the bus priority corridors.

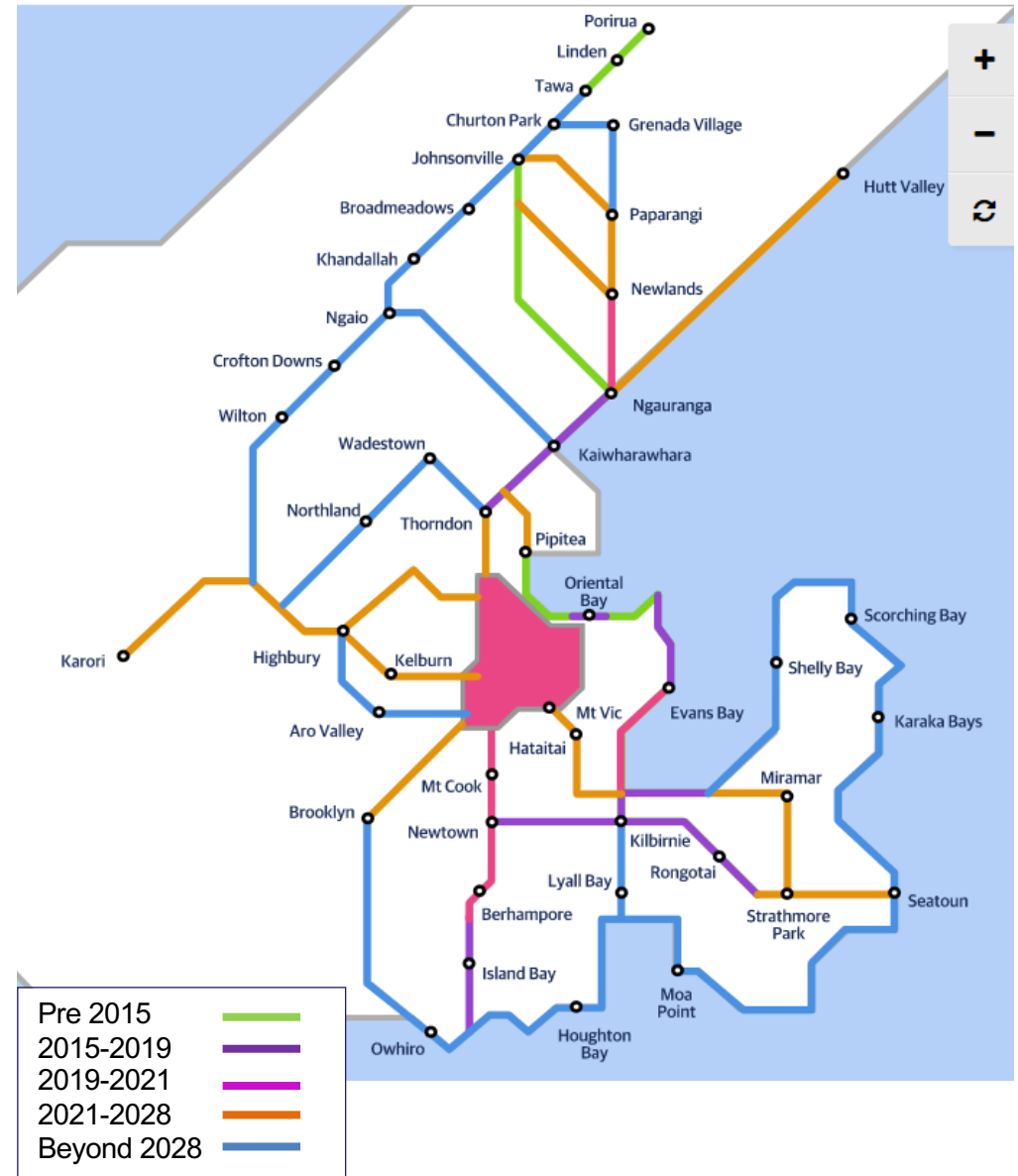
Analysis of the bus priority corridors shows:

- poor provision for people on bikes on all corridors
- average safety performance on all routes.

The cycleways programme map shows where there is an aspiration for a high level of service, and when cycleway improvements may be delivered.

Corridor	Bicycle level of service	Personal risk average score
Newtown to city	Poor	Medium
Johnsonville to Ngauranga	Poor	Low
Kelburn to city	Poor	Medium
Mt Cook to city	Poor	Medium
Karori to city	Poor	Medium
Seatoun to city	Poor	Medium
Kilbirnie to Newtown	Poor	Medium
Brooklyn to city	Poor	Medium

More detailed investigations of each corridor and any actions will need to take a multi-modal approach.



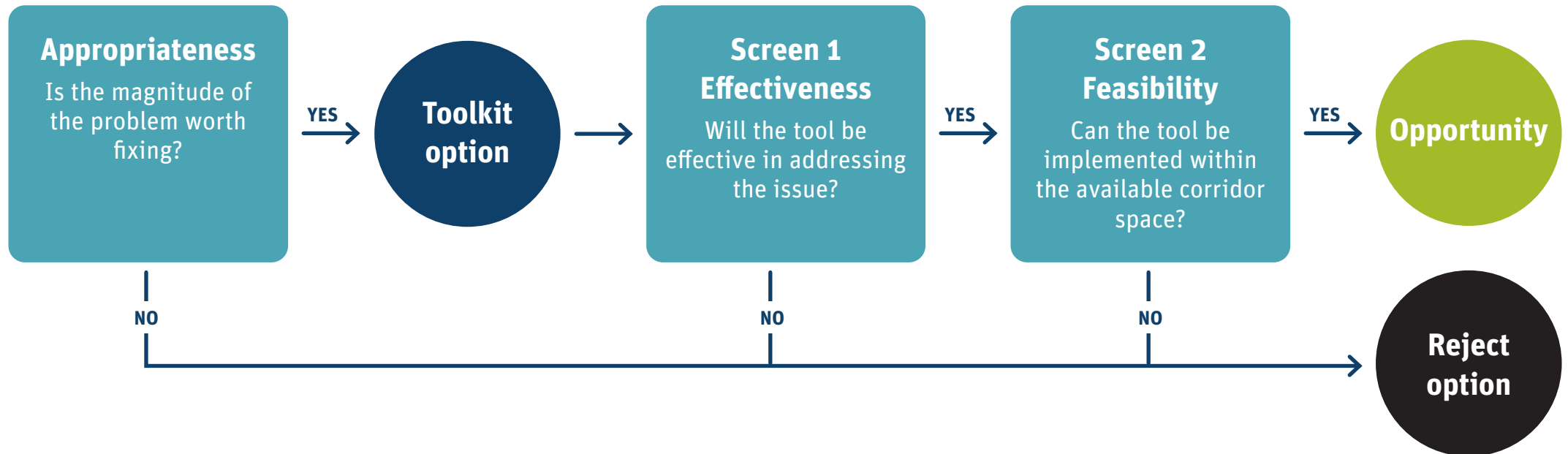
# How we identified opportunities

For each issue identified on the corridors, we have identified opportunities to address the issue.

We assessed the suitability of each toolkit option against each issue.

We used a three-stage screening process.

The results are a list of opportunities to reduce bus journey times and improve reliability.



# Programme options

There are three levels of possible intervention for each corridor.

This is the high level summary across all eight corridors.

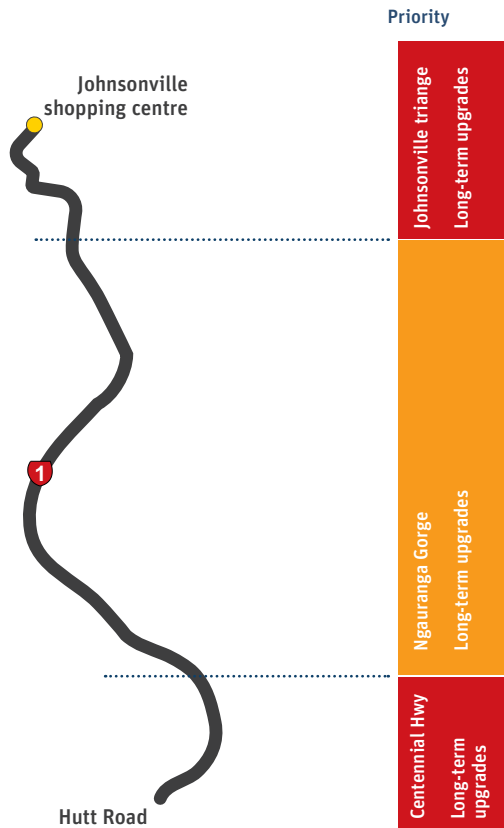
Option	Level of intervention	Benefits	Costs	Benefit cost ratio
<b>Minimal intervention</b>	<ul style="list-style-type: none"> <li>• Extending hours of existing bus lanes and clearways</li> <li>• Some bus priority at worst-performing intersections</li> <li>• Minimal changes to bus stop layout and spacing</li> </ul>	<p>Typical journeys are  <b>1-2 minutes faster</b>                      in the morning peak</p>	<p><b>\$24-43</b>                      million</p>	<p><b>0.4</b>                      (0.2 to 0.9)</p>
<b>Fix the worst problems</b>	<ul style="list-style-type: none"> <li>• Bus lanes in areas with significant congestion</li> <li>• Intersection priority measures at worst-performing sites</li> <li>• Some changes to bus stop layout and spacing</li> </ul>	<p>Typical journeys are  <b>3-9 minutes faster</b>                      in the morning peak</p>	<p><b>\$90-143</b>                      million</p>	<p><b>1.5</b>                      (0.7 to 3.1)</p>
<b>Fix everything</b>	<ul style="list-style-type: none"> <li>• Bus lanes along most of corridor length</li> <li>• Substantial intersection priority measures at many sites</li> <li>• Substantial changes to bus stop layout and spacing</li> </ul>	<p>Typical journeys are  <b>4-10 minutes faster</b>                      in the morning peak</p>	<p><b>\$182-290</b>                      million</p>	<p><b>1.0</b>                      (0.4 to 2.1)</p>



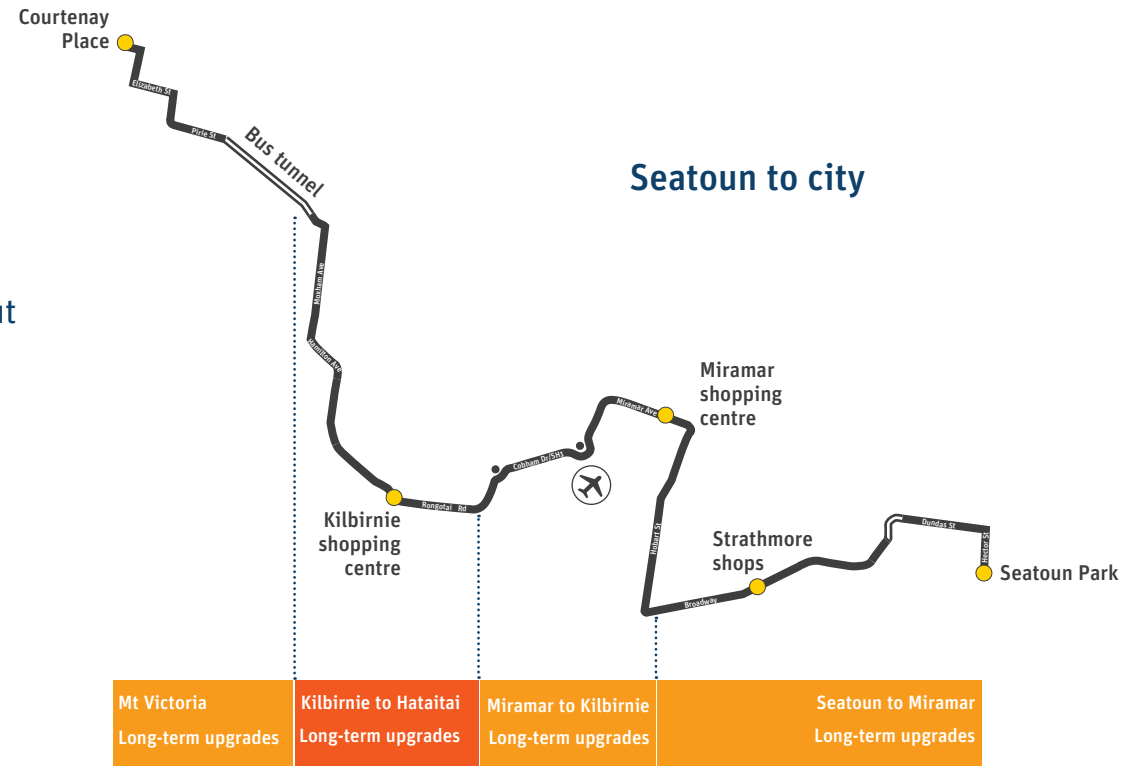
# Corridor segments

For delivery planning, three of the eight corridors have been divided into segments which reflect the characteristics of the corridor. The remaining five corridors will be treated as one single segment.

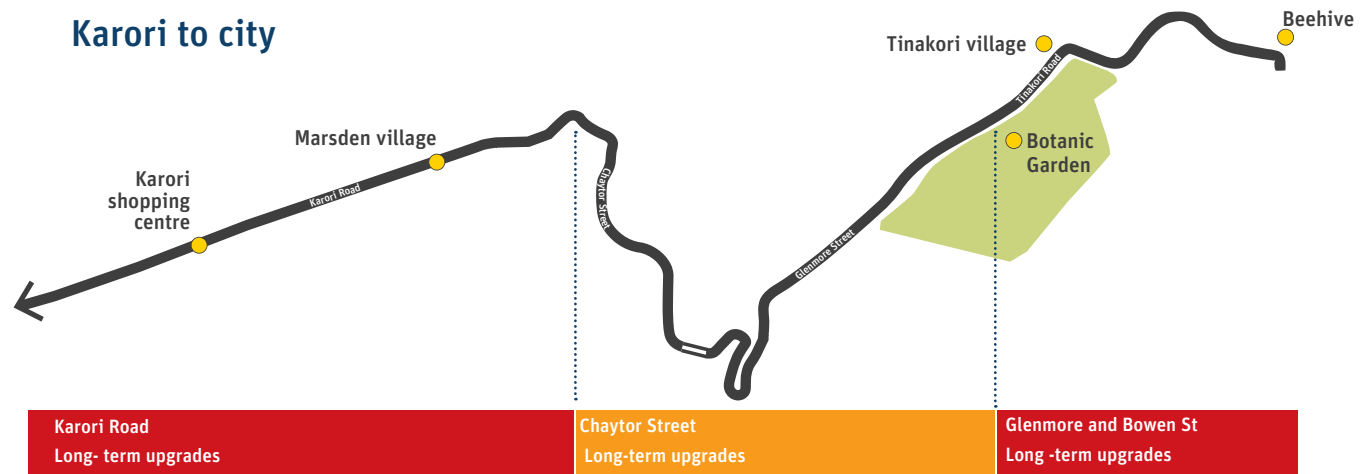
Each of the segments has been prioritised for delivery, as set out on the following page.



Johnsonville to Ngauranga



Karori to city



# Programme priorities

The priority for the next 2-3 years will be early delivery works. For longer-term delivery planning, the eight bus priority corridors have been divided into 15 segments which reflect the corridor characteristics. Each segment has been prioritised for delivery of improvements taking account of:

- the number of people using buses
- the scale of the problems in terms of delays and reliability
- the effectiveness of improvements
- road safety problems
- level of service for people on bikes
- complexity and integration with other projects such as the proposed mass rapid transit route.

Planning priority	Longer term upgrades
A	Johnsonville triangle
	Karori Road
	Glenmore & Bowen Streets
	Centennial Highway
	Newtown to city
B	Brooklyn to city
	Kilbirnie to Newtown
	Mt Cook to city
	Chaytor Street
	Kilbirnie to Hataitai
C	Kelburn to city
	Miramar to Kilbirnie
	Mt Victoria
	Seatoun to Miramar
	Ngauranga Gorge

# How bus priority will be delivered

## Community and stakeholder feedback

The analysis in this Action Plan will support engaging with the community as part of the LGWM City Streets package to seek feedback on:

- the priority network for buses and for cycling
- the key issues and opportunities on each route
- the wider opportunities for cycling, walking, safety and attractive places.

Subject to feedback received, more detailed investigation and public consultation will follow when detailed designs and costs are developed for each segment. This will cover the key routes and, where required, specific changes such as to bus stops or parking.

## Delivery

Some of the actions will be delivered as early improvements or business as usual activities by Wellington City Council and Greater Wellington Regional Council. These actions will tend to be lower cost and less complex projects that can help get buses moving more reliably, sooner. It is expected that many of these will be delivered in 2020 and 2021.

This will build on work already underway so buses can travel more smoothly. This includes improving the layout of bus stops and trimming trees, so buses can pull in and out more easily and it's safer for passengers to get on and off.

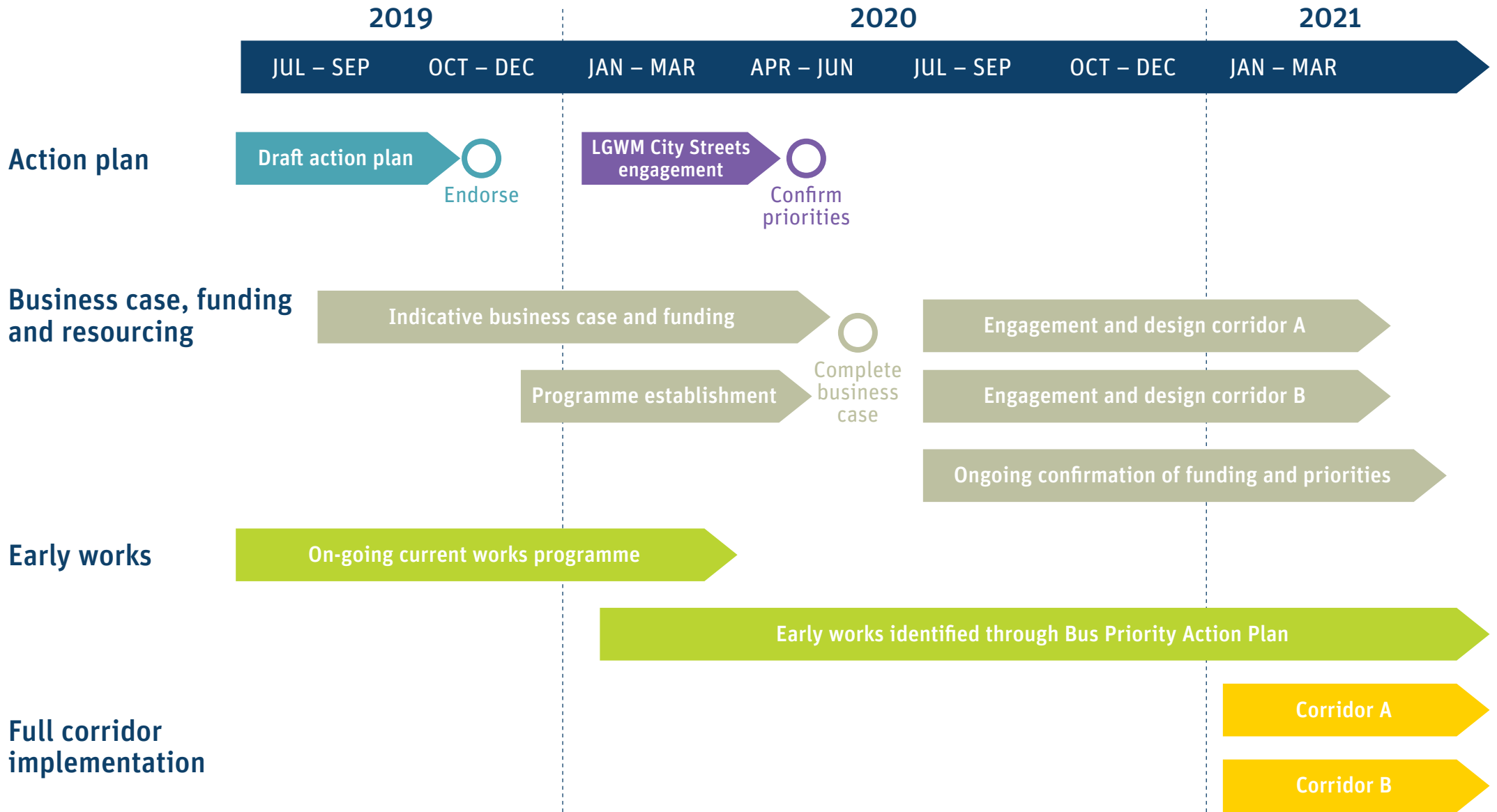
The opportunities and changes identified by the action plan will be primarily delivered through the City Streets package of LGWM. This programme will also be informed by further analysis of and feedback on cycling, walking, safety and place-making opportunities and issues. Delivery of bus priority works will commence next year and is expected to take around 7–10 years to complete.

## Costs and funding

The programme will be funded by Wellington City Council, Greater Wellington Regional Council and Waka Kotahi NZ Transport Agency through Let's Get Wellington Moving. In addition, this funding will be aligned with ongoing maintenance and operations investment, and LGWM's other projects and packages of work such as local street improvements including walking and cycling, other improvements to public transport, travel demand management, and state highway improvements.

Following engagement on the LGWM City Streets package, a more detailed programme will be developed that confirms anticipated costs, funding and expenditure over time. This will require more detailed business case analysis for any significant investment in any route or project.

# Delivery timeline



# Karori to city

**Karori to city is a 6km-long transport corridor that connects the western suburbs to the central city.**

There are five public bus services operating on this corridor and eleven school services. There are several significant destinations for the city along this route, including Parliament, the Botanic Garden, Karori shopping centre, Marsden village and Zealandia.

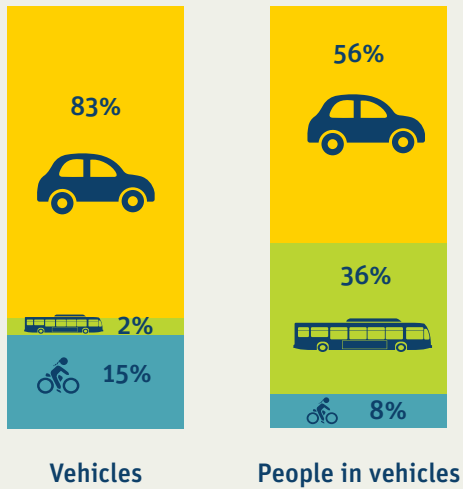
Bus services are also used by a significant number of school students, many of whom travel across the city to schools in the east.

The land uses along the corridor are mainly residential with some shopping areas, open space and education precincts.

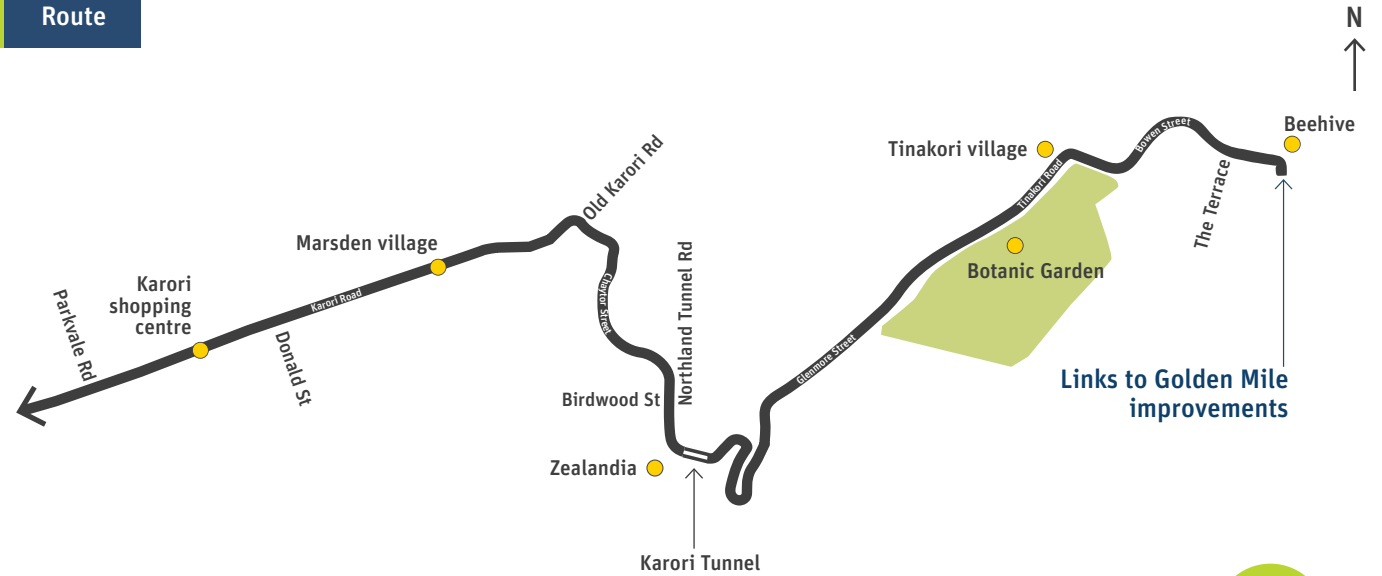
The Karori shopping centre public space improvement is due to be completed in 2020. This work takes place outside of the road corridor.

Currently there are no provisions for people on bikes on this corridor.

**Corridor traffic by mode of transport (inbound 8am-9am)**



## Route



5700 DAILY PASSENGERS



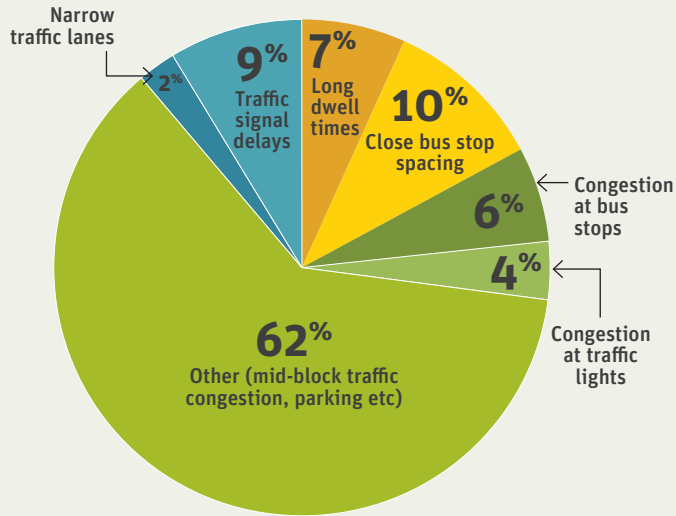
80% PASSENGERS ALREADY ON BOARD BY MARSDEN VILLAGE



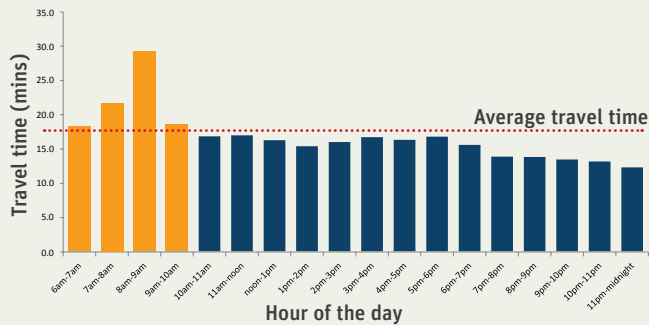
6km route – 17min AVERAGE JOURNEY TIME

# Karori issues (inbound)

This corridor has inbound issues related to mid-block traffic congestion, congestion at traffic lights and traffic signal delays.

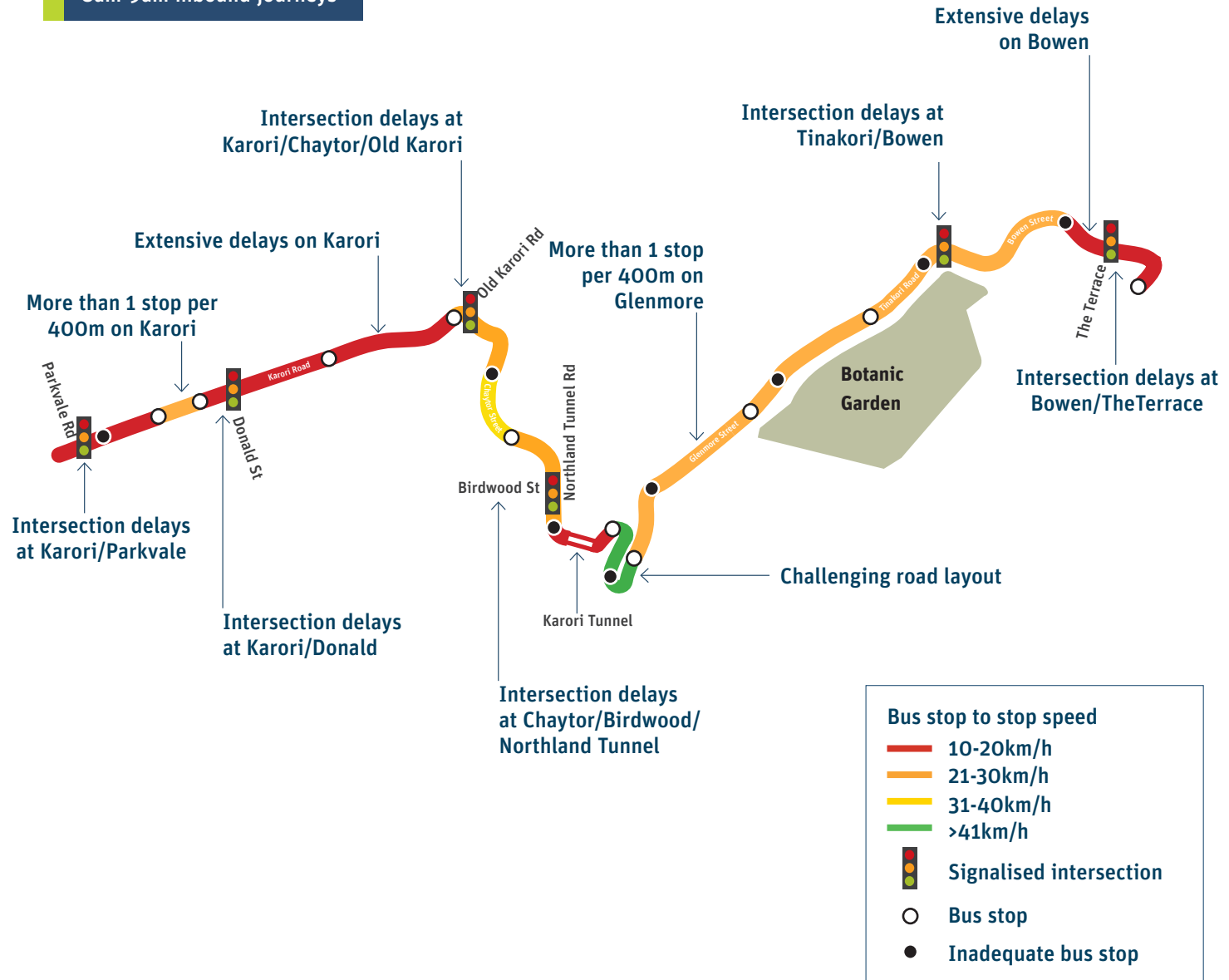


Sources of delay



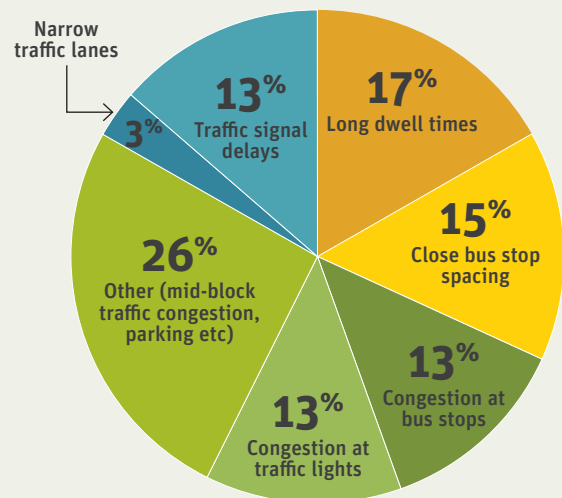
Inbound journey times

## 8am-9am inbound journeys

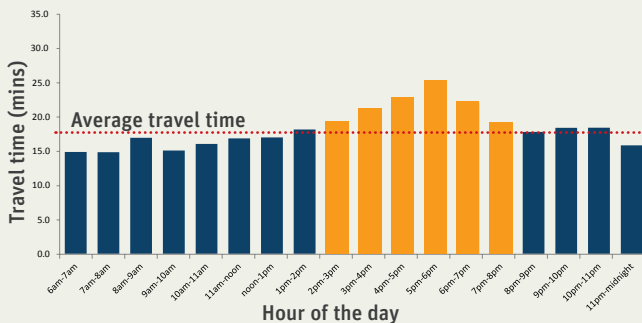


# Karori issues (outbound)

This corridor has outbound issues related to bus stop spacing, mid-block congestion, traffic signal delays and congestion at traffic lights.

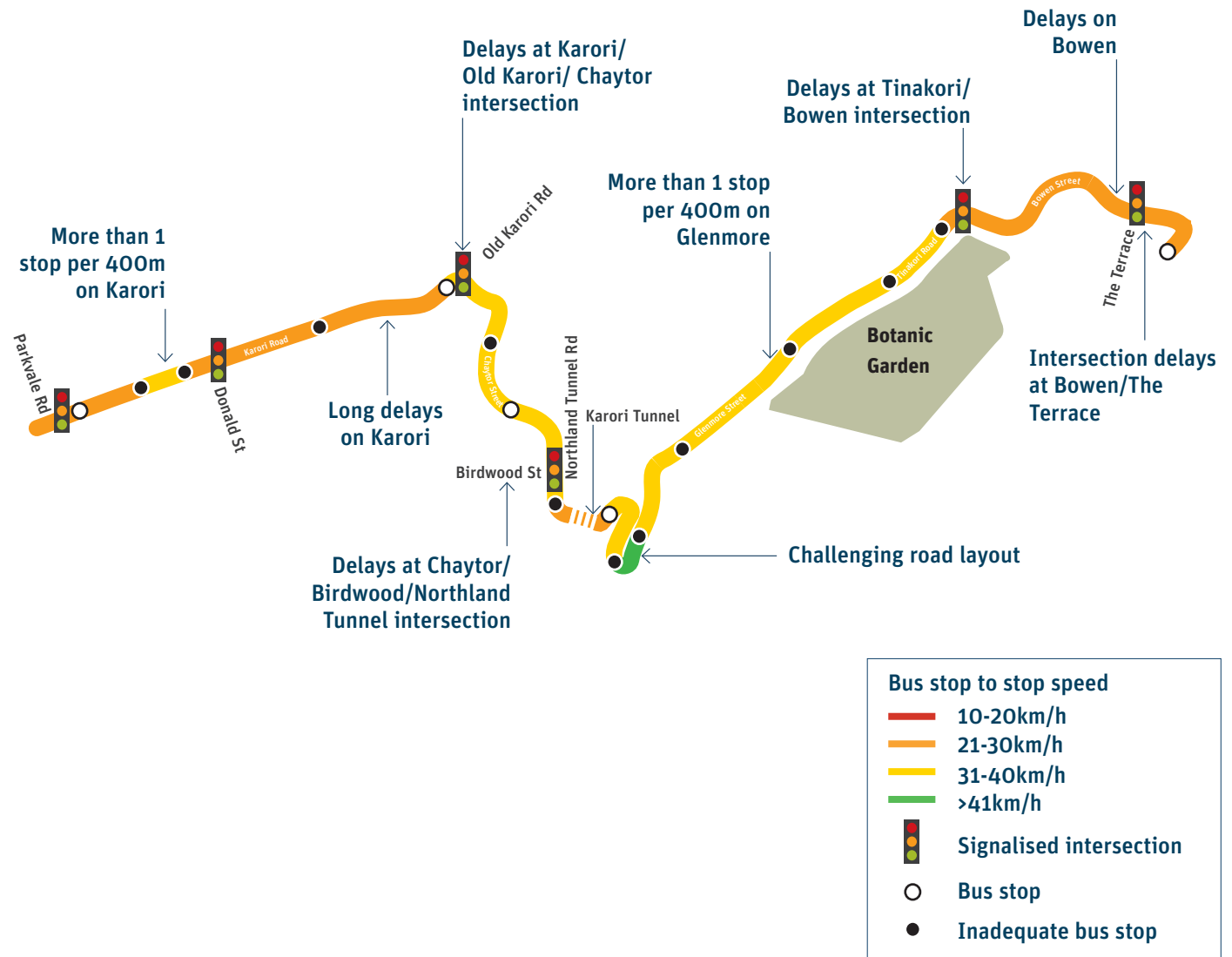


Sources of delay



Outbound journey times

## 5pm-6pm outbound journeys



**Bus stop to stop speed**

- 10-20km/h
- 21-30km/h
- 31-40km/h
- >41km/h

**Signalised intersection**

**Bus stop**

**Inadequate bus stop**

# Karori opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to traffic signals, bus stop design and spacing; as well as introducing bus lanes to address mid-block traffic congestion.

As we develop proposals for this corridor, we will look to establish safe speeds through Karori shopping centre and Marsden village as well as defining appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

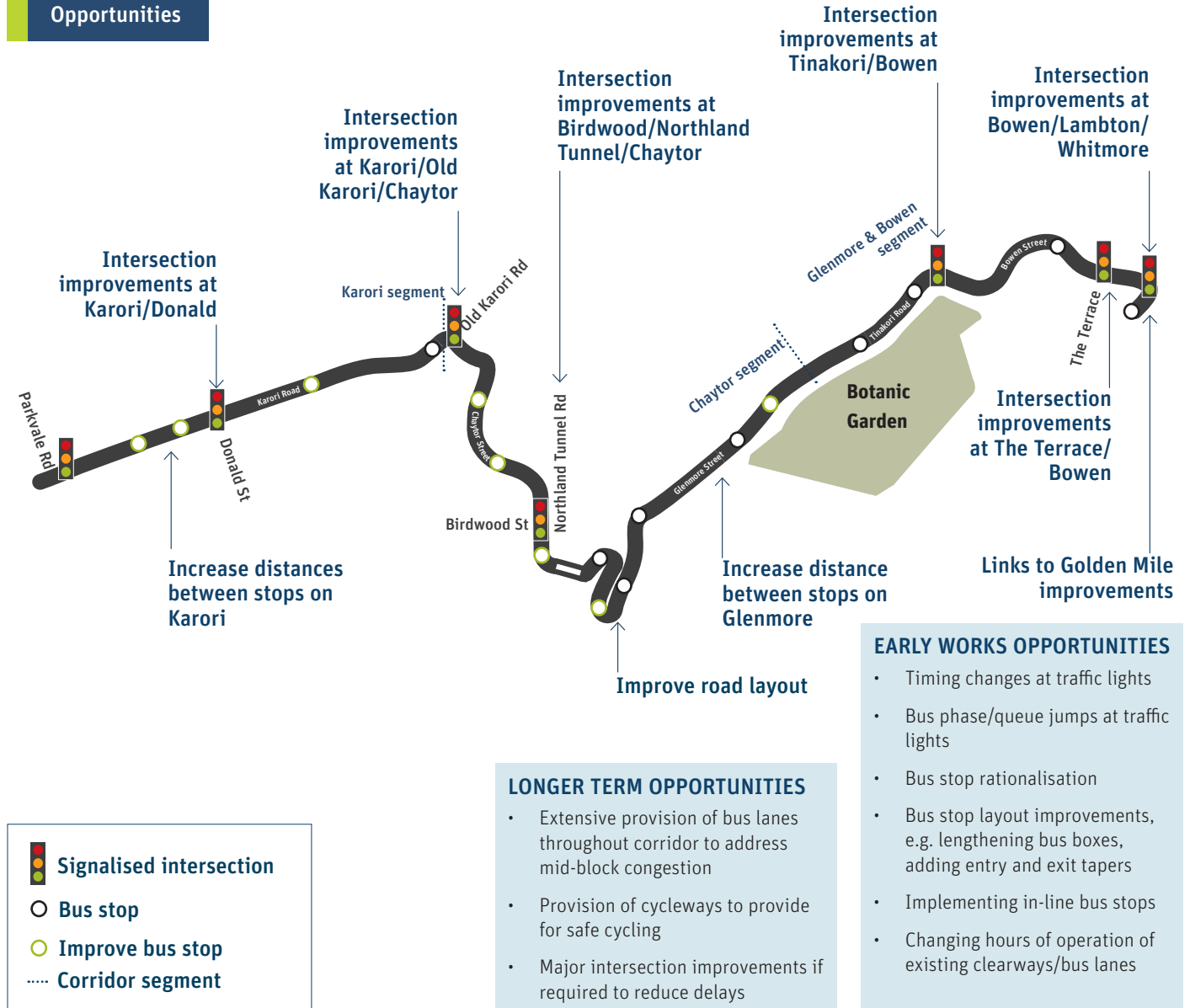


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities





# Newtown to city

Newtown to city is a 2km-long transport corridor that connects the southern suburbs of Wellington to the central city.

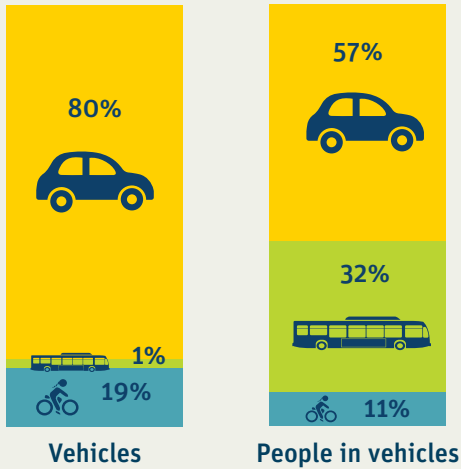
The Newtown corridor connects Newtown, Mt Cook and Mt Victoria to the central city. There are eight public bus services operating on this corridor and five school services.

There are several significant destinations along this route including Courtenay Place, Pukeahu National War Memorial, Basin Reserve, Wellington College, Wellington East Girls' College, Newtown shopping centre and the Wellington Regional Hospital.

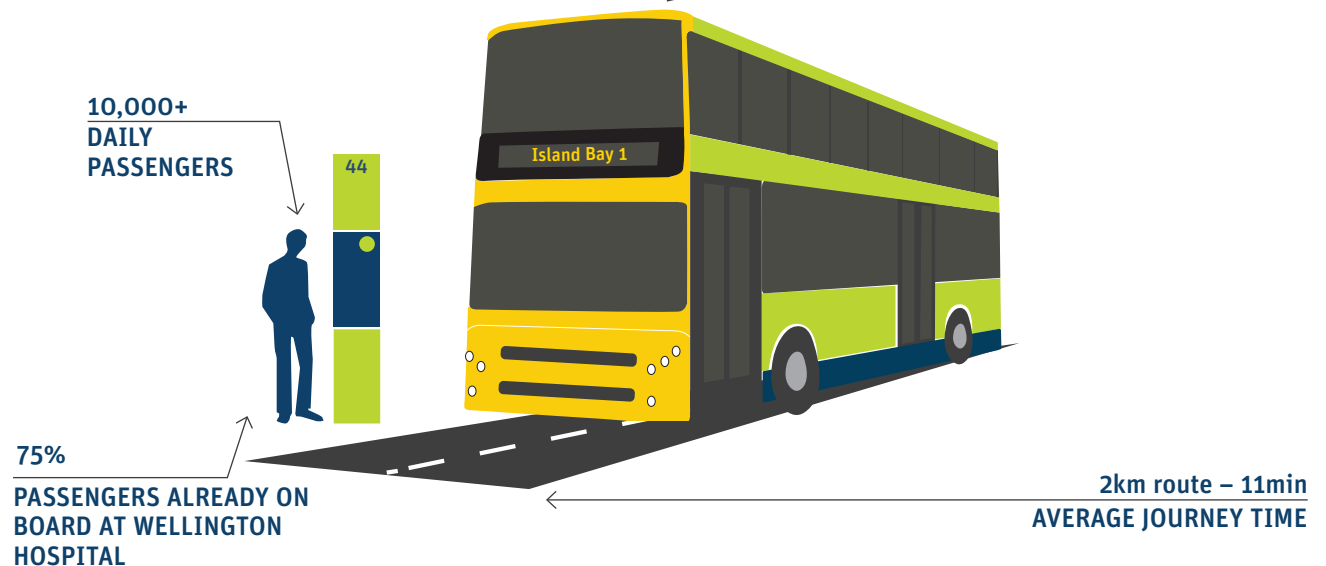
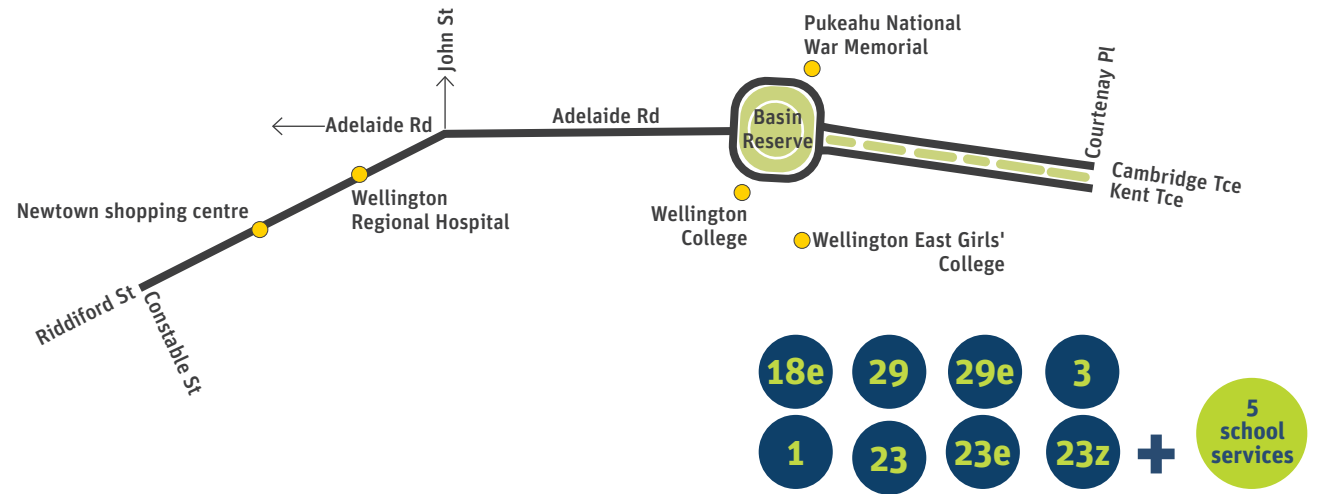
The land uses along the corridor are mainly central city or suburban shopping zones with one institutional precinct (Wellington Regional Hospital). The corridor also passes through the Newtown shopping heritage area.

Currently there are no provisions for people on bikes but cycleway investment is planned for the future as part of Let's Get Wellington Moving.

Corridor traffic by mode of transport (inbound 8am-9pm)

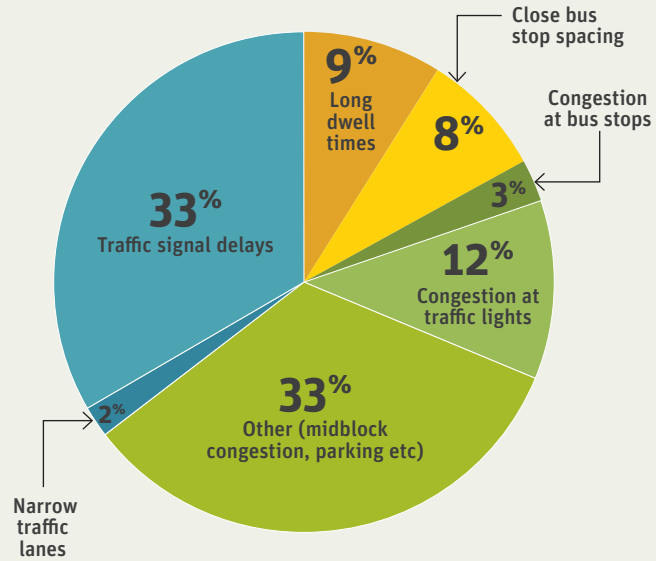


## Route

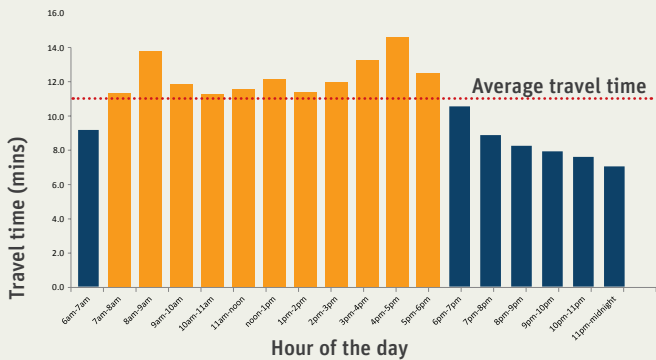


# Newtown issues (inbound)

This corridor has issues inbound related to traffic signal delays, mid-block traffic congestion, bus stop spacing and congestion at traffic lights.

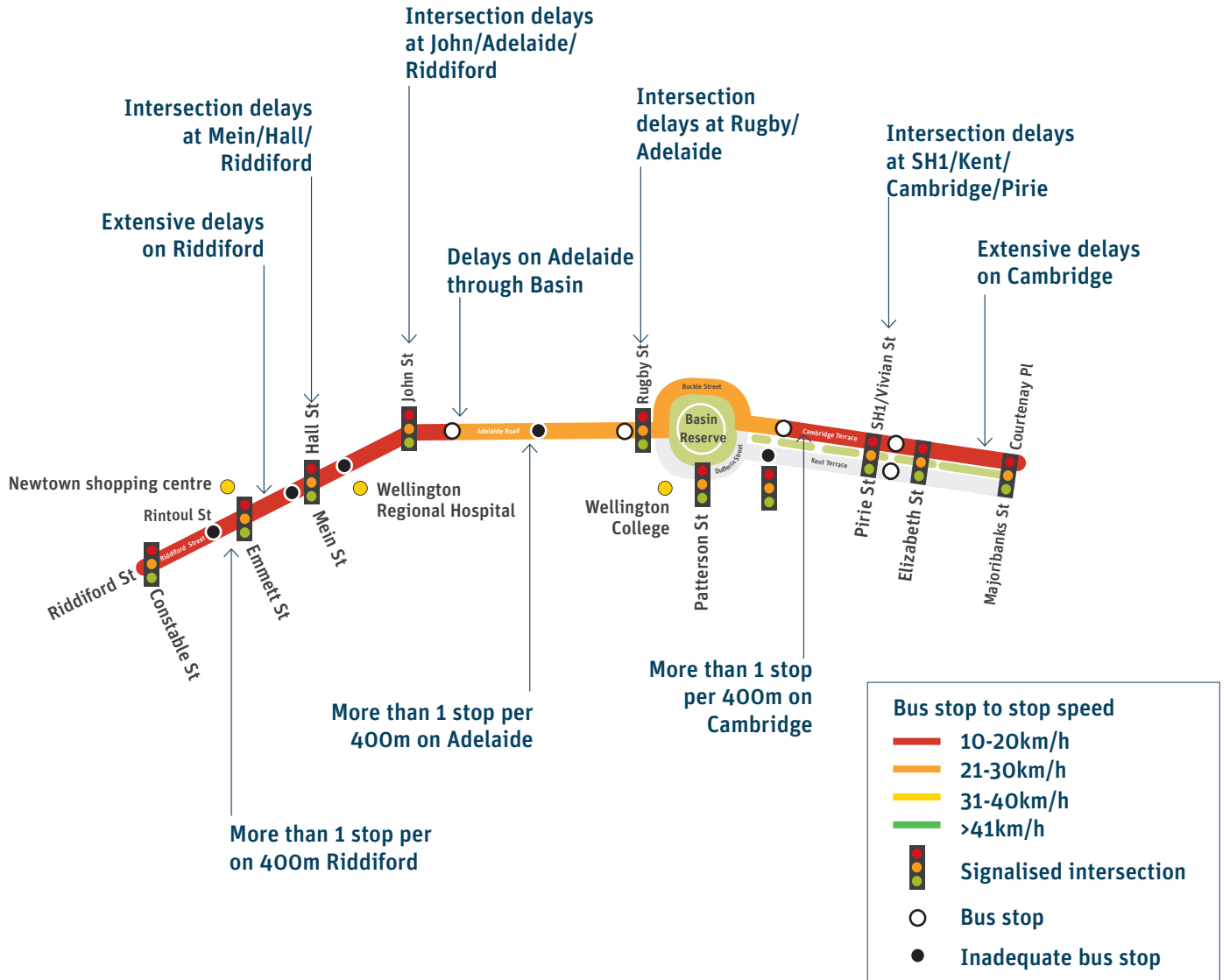


Sources of delay



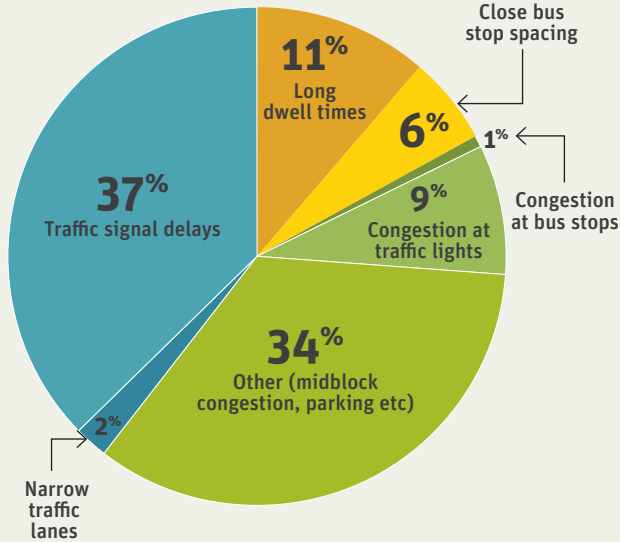
Inbound journey times

## 8am-9am inbound journeys

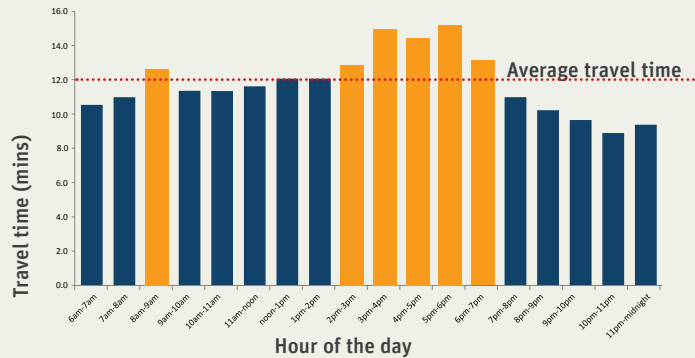


# Newtown issues (outbound)

This corridor has outbound issues related to traffic signal delays, mid-block traffic congestion, bus stop spacing and congestion at traffic lights.

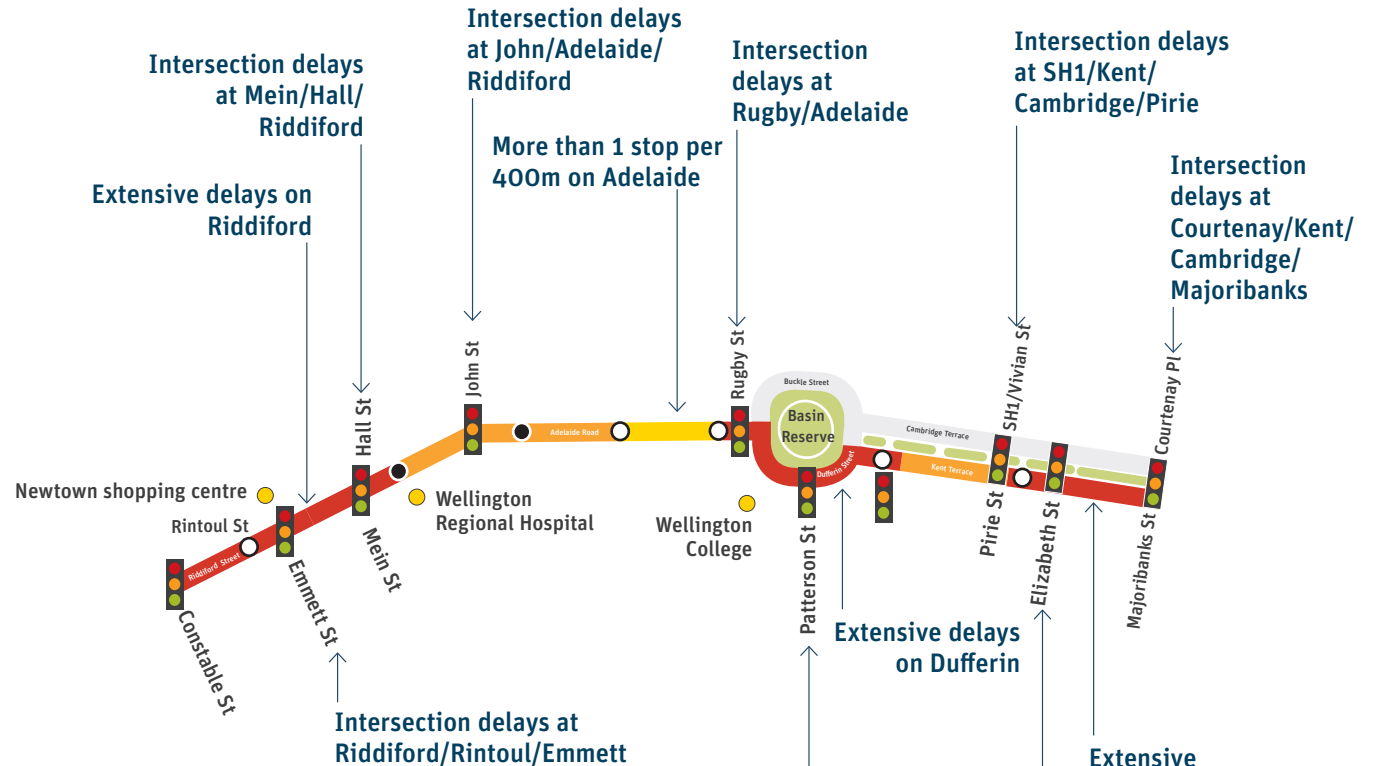


Sources of delay



Outbound journey times

## 5pm-6pm outbound journeys



**Bus stop to stop speed**

- 10-20km/h
- 21-30km/h
- 31-40km/h
- >41km/h

**Signalised intersection**  
● ● ● ●

**Bus stop**  
○ ○ ○ ○

**Inadequate bus stop**  
● ● ● ●

# Newtown opportunities

There are opportunities on this corridor to prioritise bus journeys by improving intersections, increasing distances between bus stops to at least 400m, making improvements to bus stop layout and by introducing bus lanes to address the delays caused by mid-block traffic congestion.

As we develop proposals for this corridor, we will look to define appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

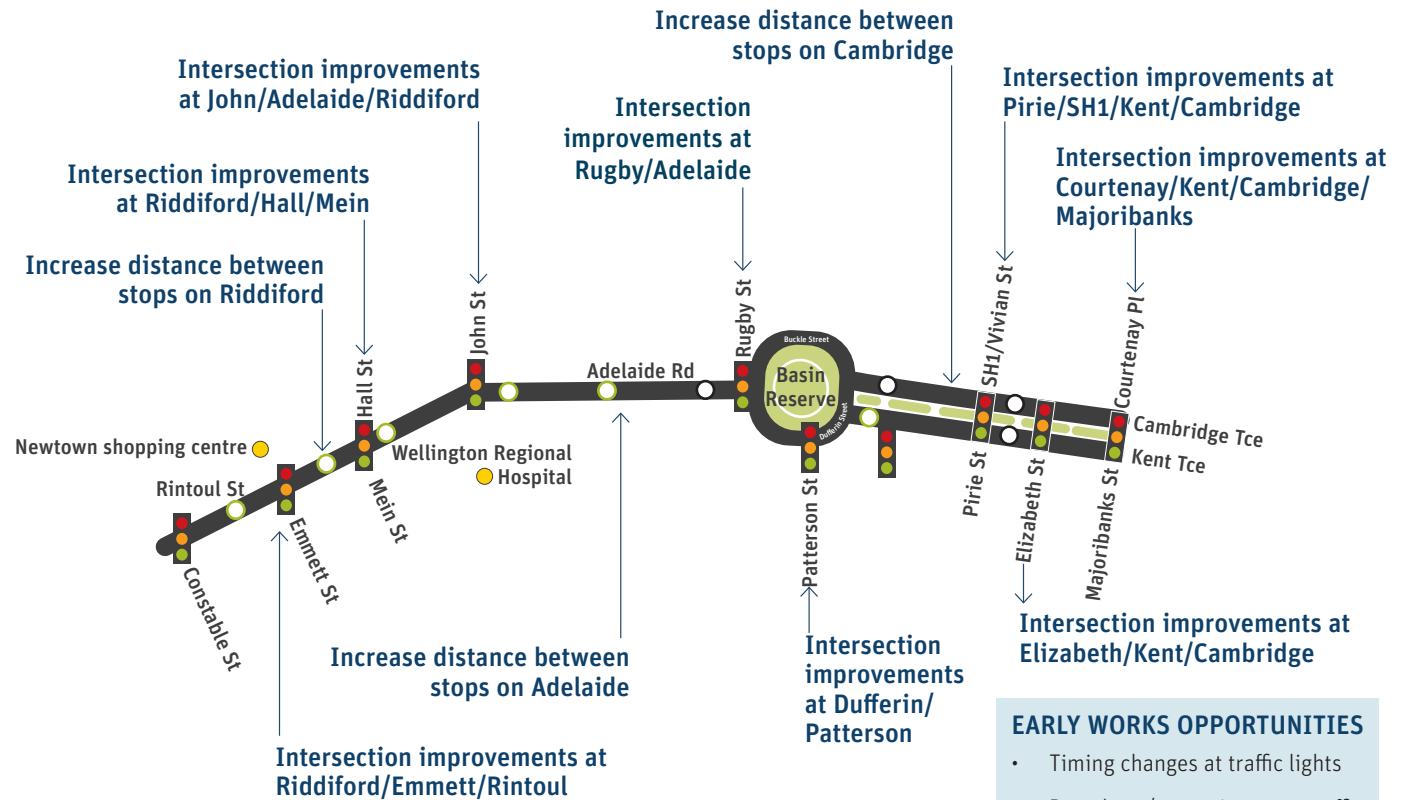


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



- Signalised intersection
- Bus stop
- Improve bus stop

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays

### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop rationalisation
- Bus stop layout improvements, e.g. lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops
- Changing hours of operation of existing clearways/bus lanes

# Seatoun to city

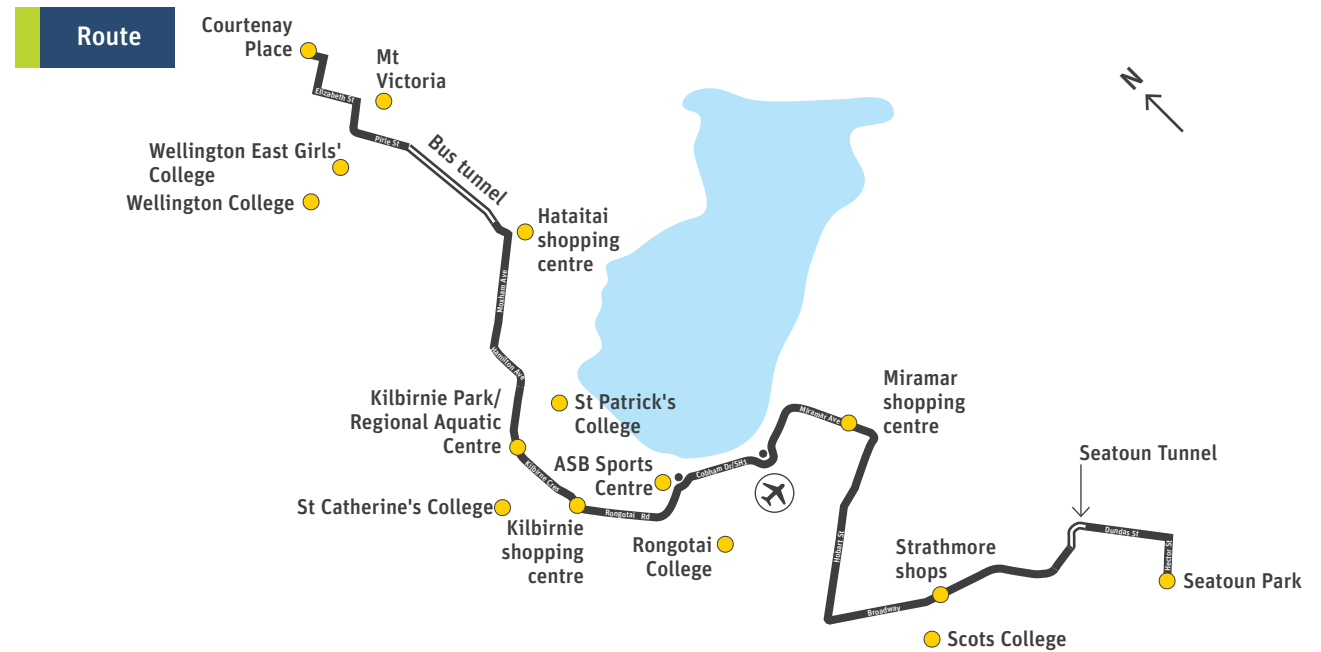
Seatoun to city is a 9km-long transport corridor that connects the eastern suburbs to the central city.

The Seatoun corridor connects Seatoun, Miramar, Kilbirnie, Hataitai and Mt Victoria to the central city. There are seven public bus services operating on this corridor and ten school services.

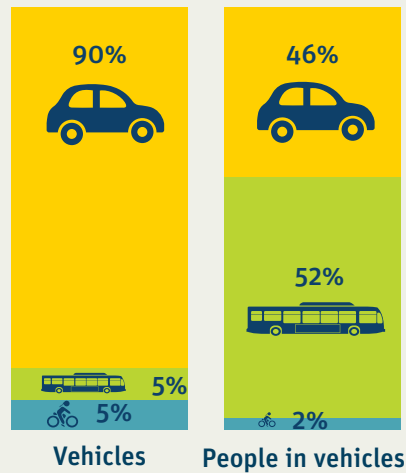
There are several significant destinations along this route including Miramar shopping centre, Wellington Airport, ASB Sports Centre, Kilbirnie shopping centre, St Patrick's College, Rongotai College, Scots College, St Catherine's College, the Wellington Regional Aquatic Centre, Hataitai shopping centre, Mt Victoria and Courtenay Place.

The land uses along the corridor are mainly residential, as well as central city, three suburban shopping centres, industry, business, open space, medium density residential and Wellington Airport.

There are some provisions for cyclists through Kilbirnie and to Newtown. An off-road bike path is soon to be completed on Cobham Drive in early 2020.



Corridor traffic by mode of transport (inbound 8am-9am)



5400  
DAILY  
PASSENGERS



44

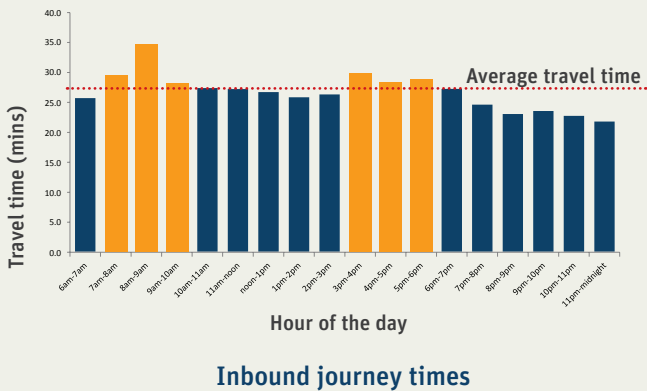
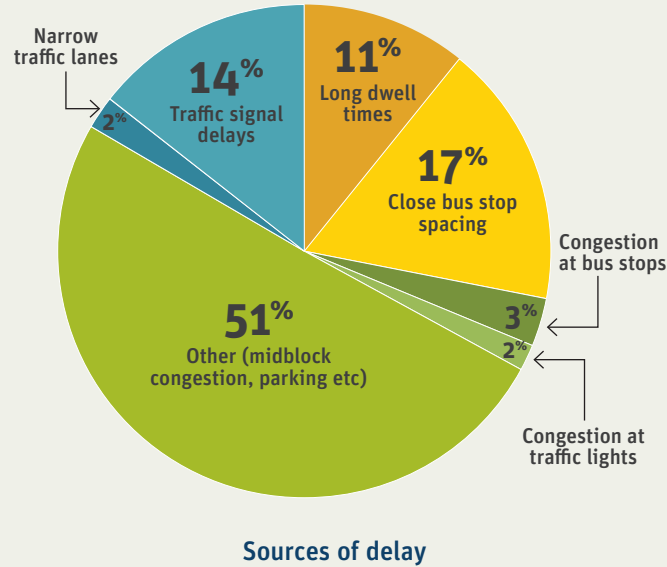
**BUSIEST STOP**  
HATAITAI SHOPPING CENTRE



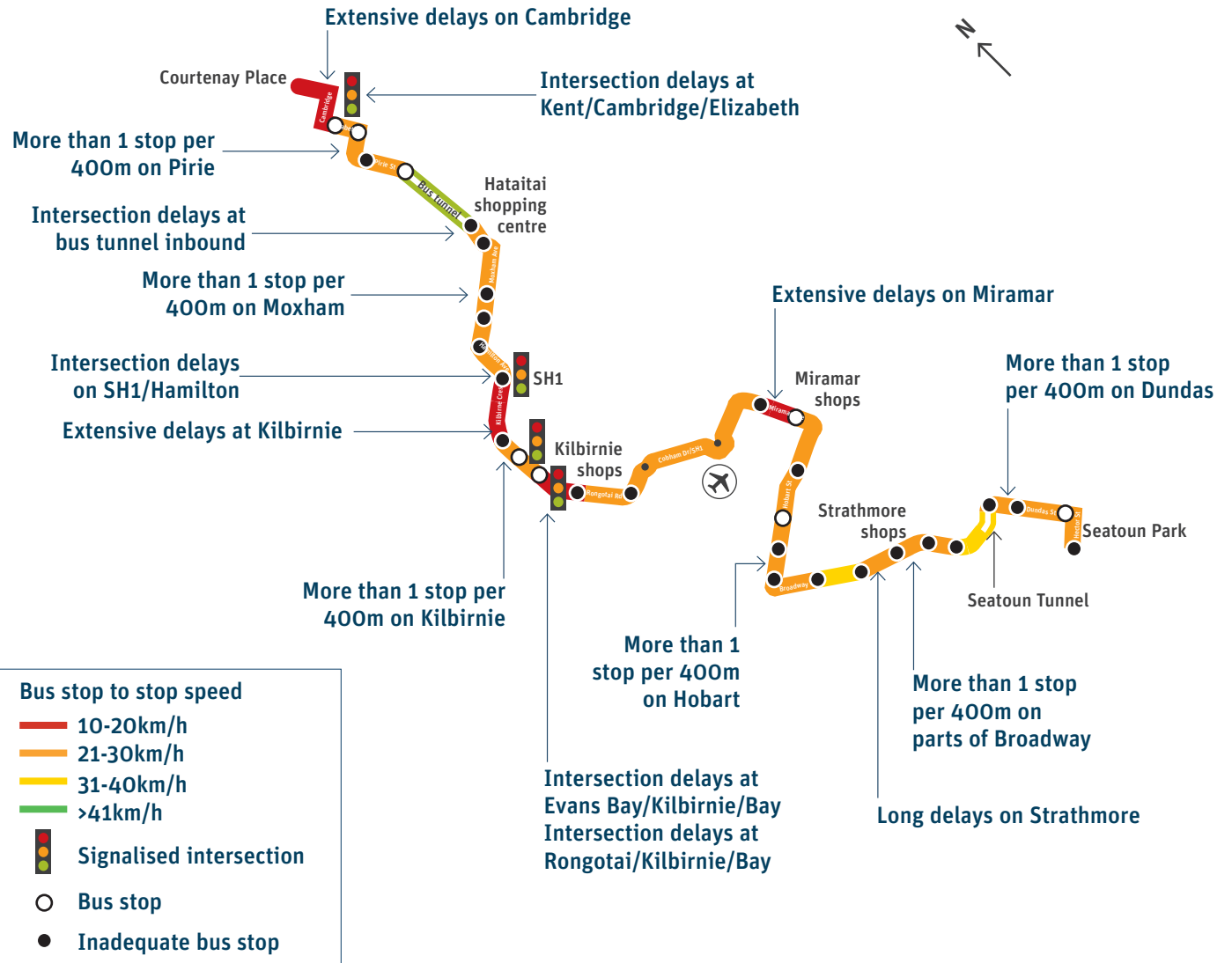
9km route – 27mins  
AVERAGE JOURNEY TIME

# Seatoun issues (inbound)

This corridor has inbound issues related to mid-block traffic congestion, bus stop spacing and traffic signal delays.

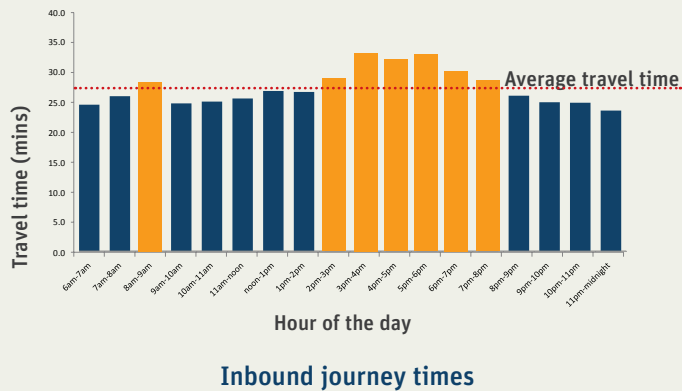
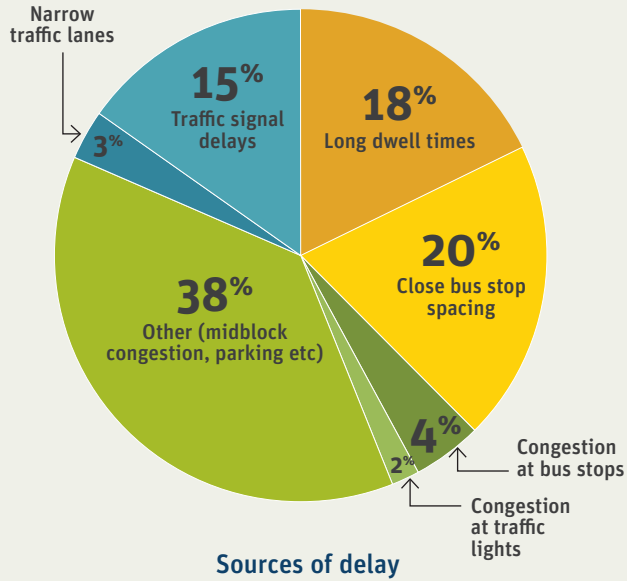


## 8am-9am inbound journeys

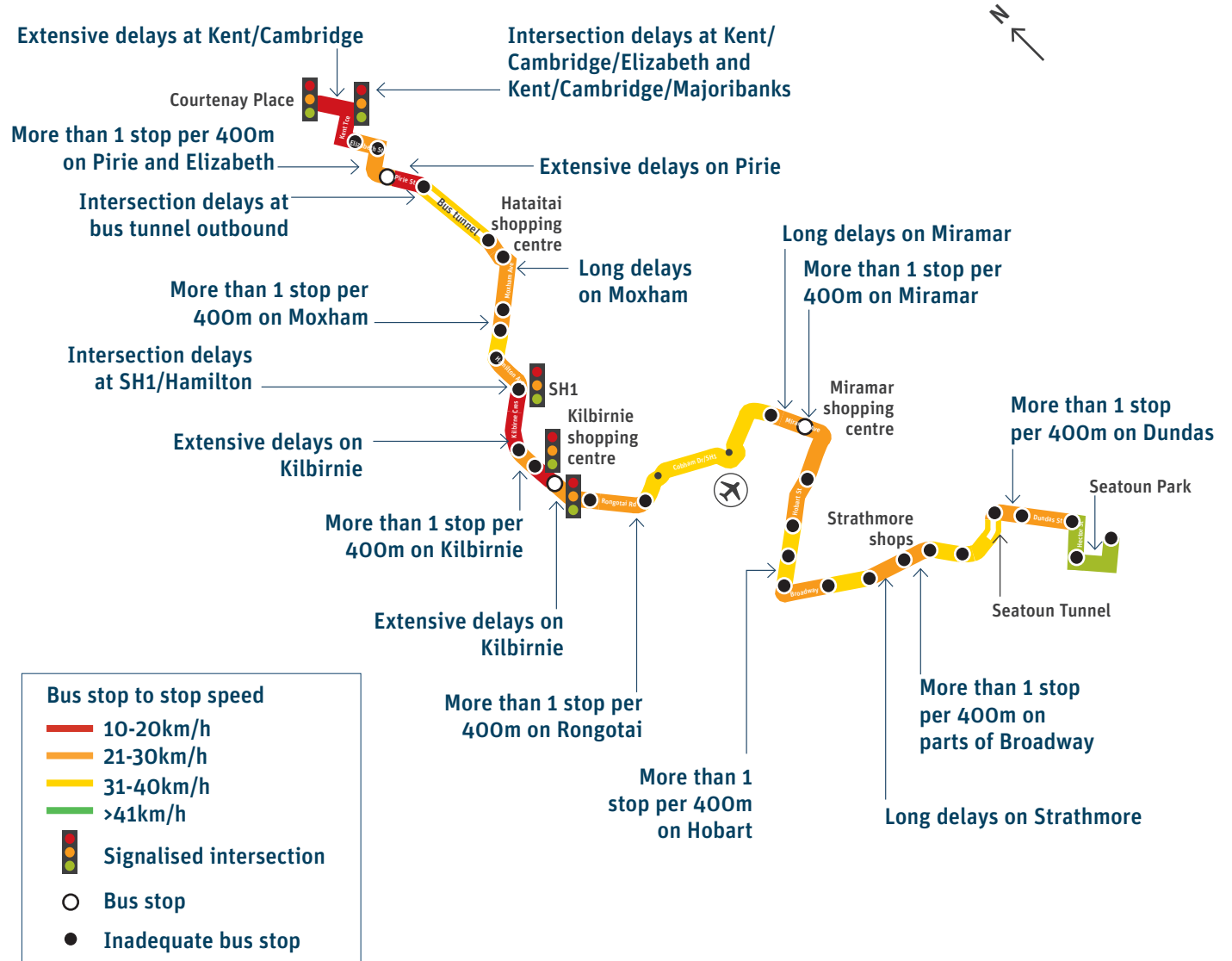


# Seatoun issues (outbound)

This corridor has outbound issues related to mid-block traffic congestion, bus stop spacing and long dwell times at bus stops.



## 5pm-6pm outbound journeys



# Seatoun opportunities

There are opportunities on this corridor to prioritise bus journeys by introducing bus lanes to address the delays caused by mid-block traffic congestion, increase distances between bus stops, improve intersections and bus stop layout.

As we develop proposals for this corridor, we will look to establish appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

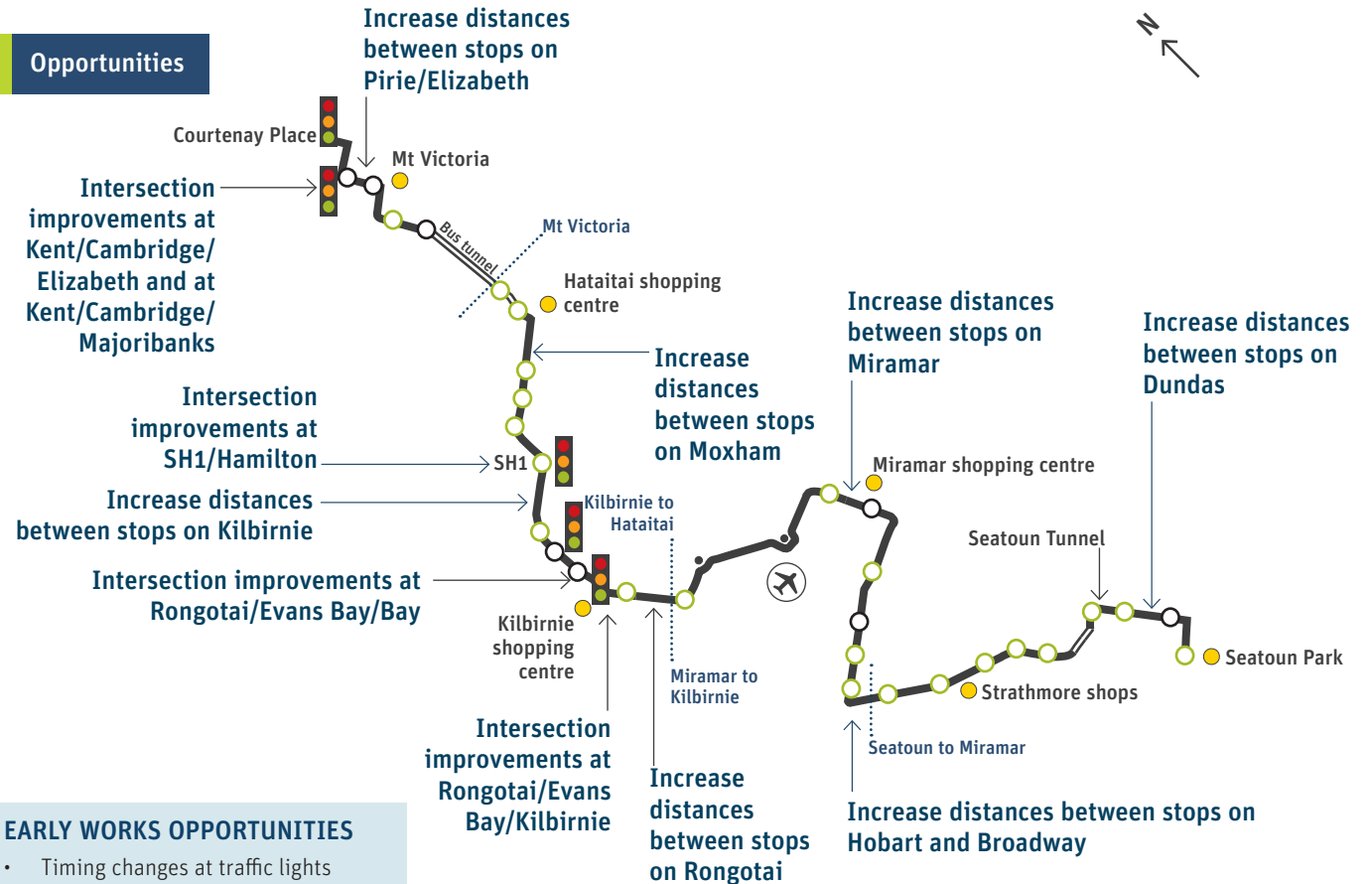


Health Benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop rationalisation
- Bus stop layout improvements, e.g. lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops
- Changing hours of operation of existing clearways/bus lanes

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays

- Signalised intersection
- Bus stop
- Improve bus stop
- Corridor segment



# Mt Cook to city

**Mt Cook to city is a 2km-long transport corridor that connects Mt Cook to the central city.**

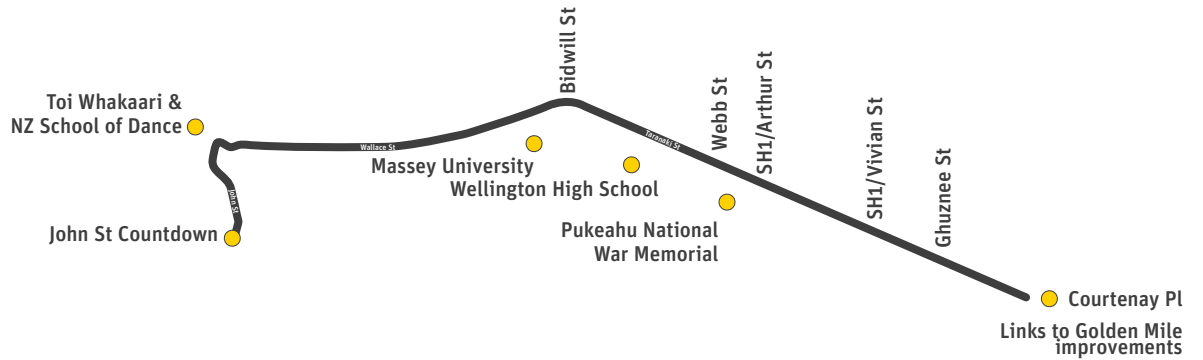
The Mt Cook corridor connects Newtown, Mt Cook and Te Aro with the central city. There are three public bus services operating on this corridor and three school services.

There are several significant destinations along this route including Toi Whakaari, NZ School of Dance, Massey University, Wellington High School, Pukeahu National War Memorial and Courtenay Place.

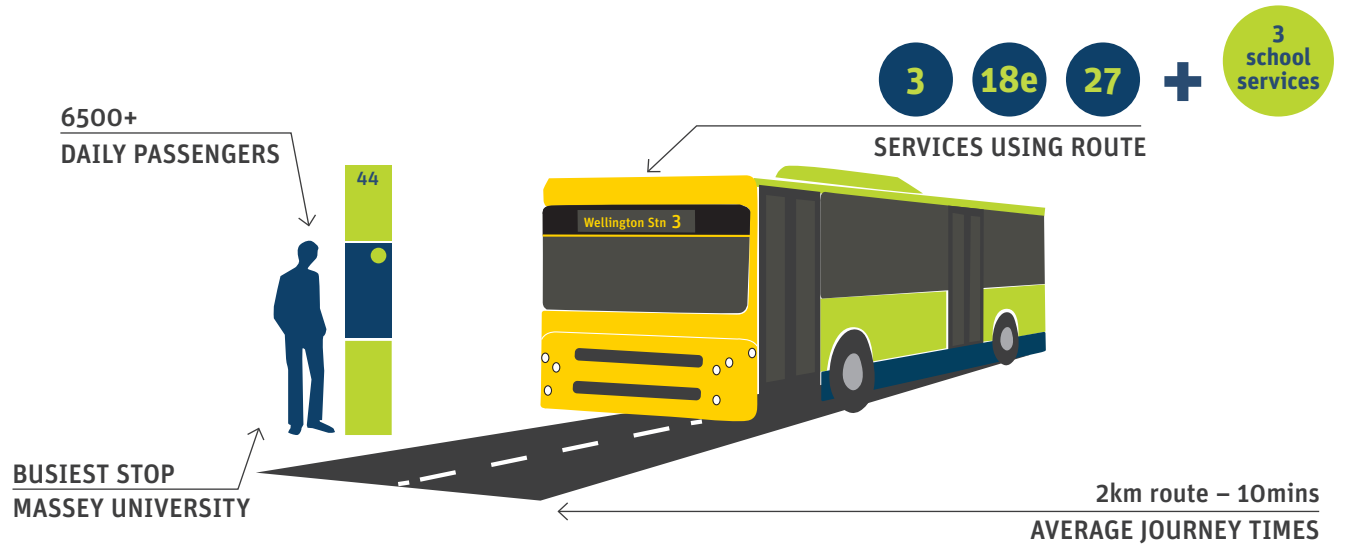
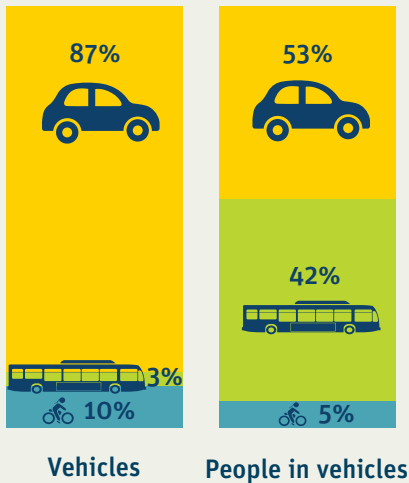
The land uses along the corridor are mainly residential and central city. It also passes through an educational precinct, which is the Massey University campus; as well as Toi Whakaari/NZ School of Dance campus, which is zoned Open Space B.

Currently, there are no provisions for people on bikes on this corridor.

## Route

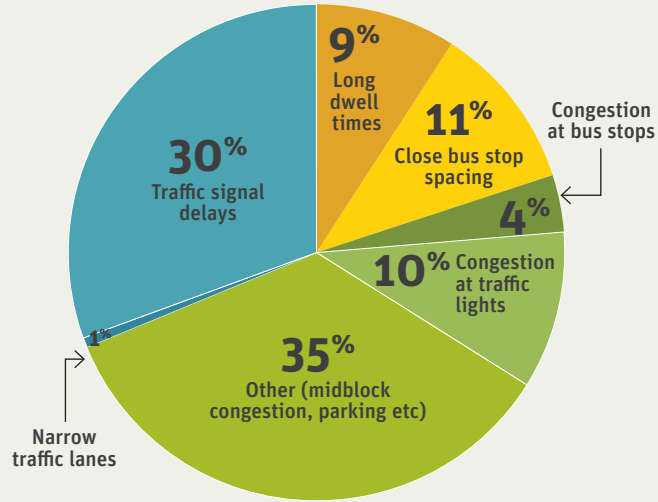


**Corridor traffic by mode of transport (inbound 8am-9am)**

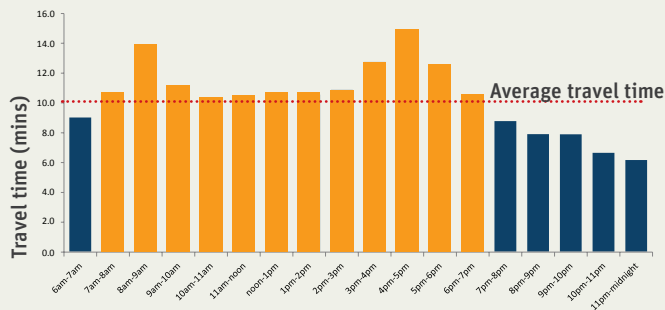


# Mt Cook issues (inbound)

This corridor has inbound issues related to mid-block traffic congestion, traffic signal delays, bus stop spacing and congestion at traffic lights.

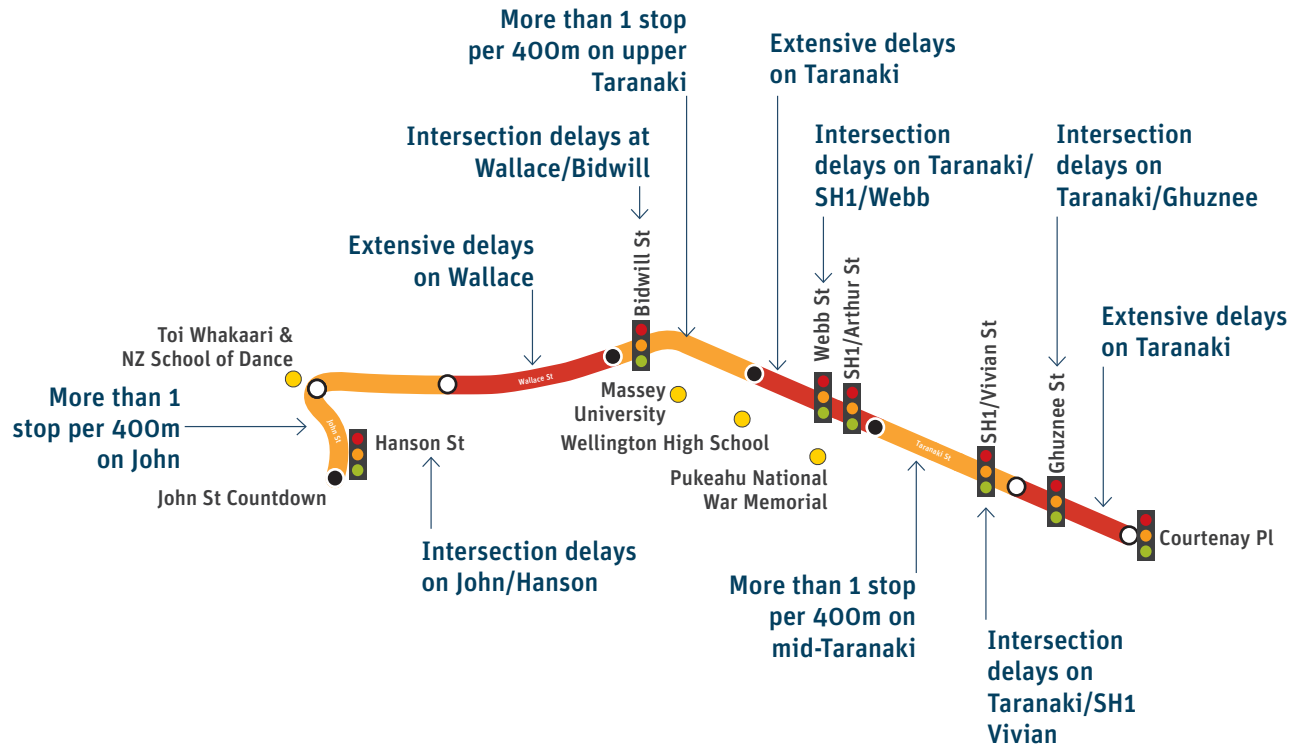


Sources of delay



Inbound journey times

## 8am-9am inbound journeys

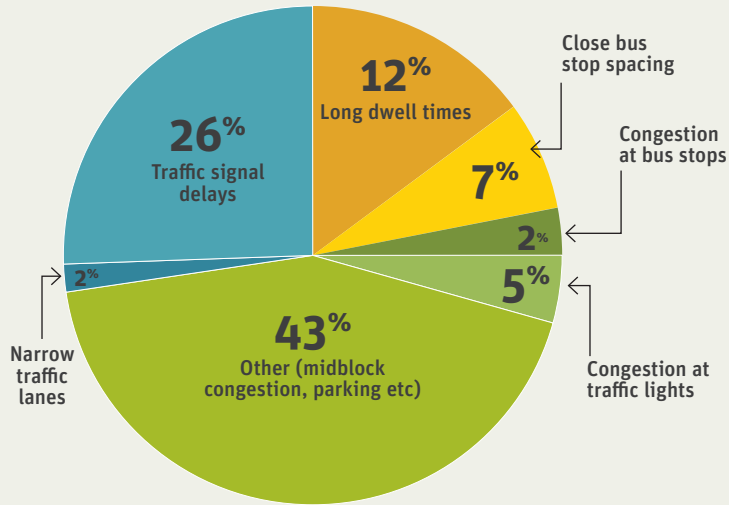


### Bus stop to stop speed

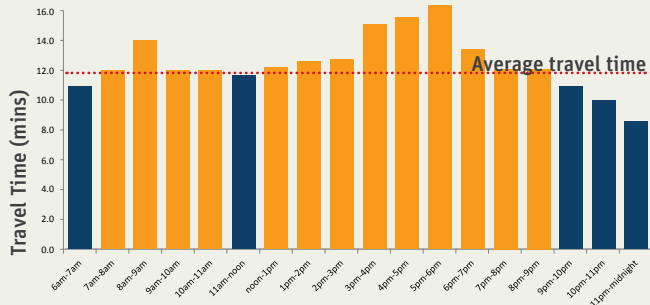
- 10-20km/h
- 21-30km/h
- 31-40km/h
- >41km/h
- Signalised intersection
- Bus stop
- Inadequate bus stop

# Mt Cook issues (outbound)

This corridor has outbound issues related to mid-block traffic congestion, traffic signal delays and long dwell times at bus stops.

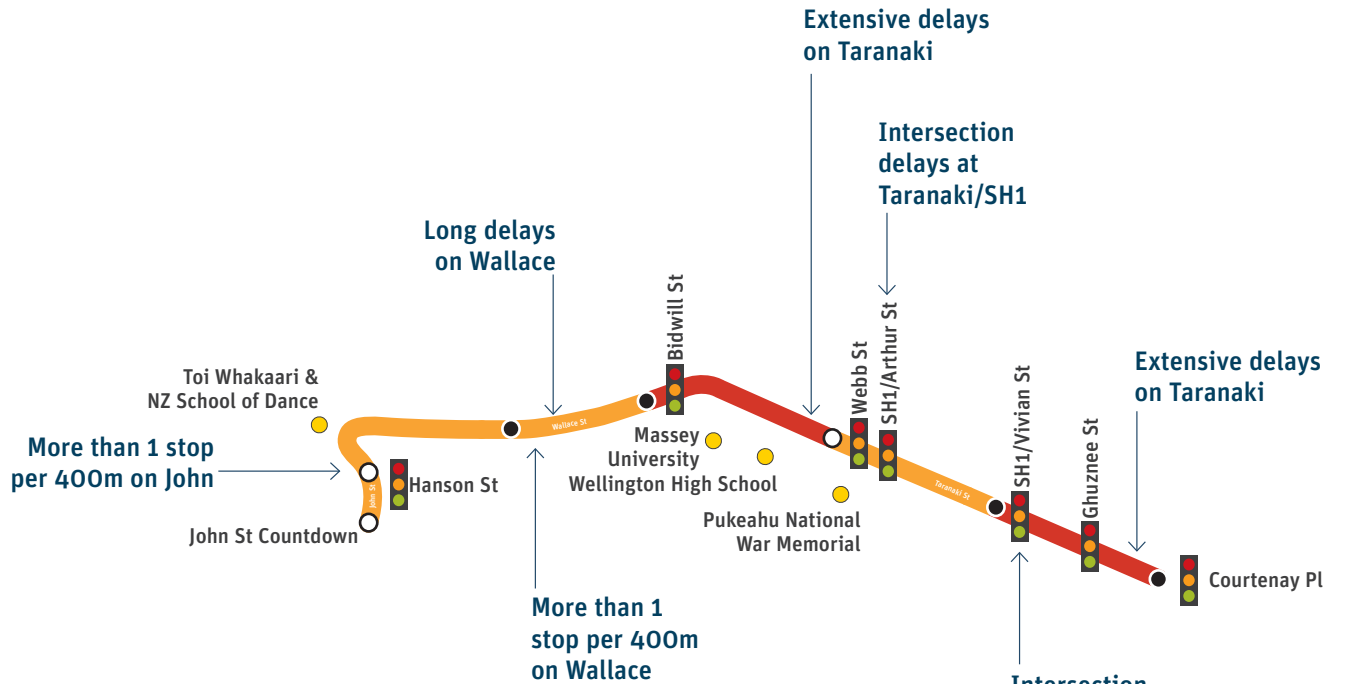


Sources of delay



Outbound journey times

## 5pm-6pm outbound journeys



**Bus stop to stop speed**

- 10-20km/h
- 21-30km/h
- 31-40km/h
- >41km/h

**Signalised intersection**

- Bus stop
- Inadequate bus stop

# Mt Cook opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to intersections, bus stop design and spacing; as well as introducing bus lanes to address the delays caused by mid-block traffic congestion.

As we develop proposals for this corridor, we will look to establish appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

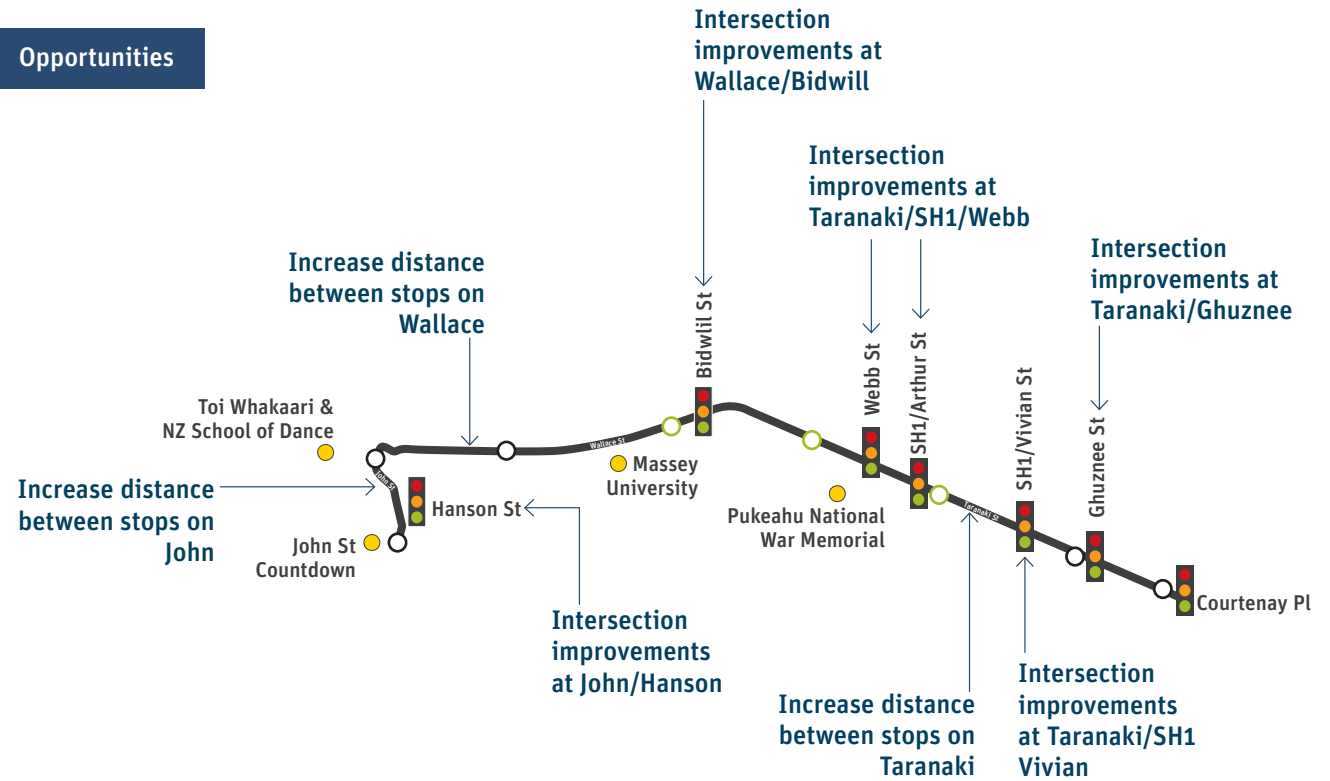


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop rationalisation
- Bus stop layout improvements, e.g. lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops
- Changing hours of operation of existing clearways/bus lanes

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays

- Signalised intersection
- Bus stop
- Improve bus stop

# Kilbirnie to Newtown

Kilbirnie to Newtown is a 2km-long transport corridor that connects Kilbirnie to Newtown.

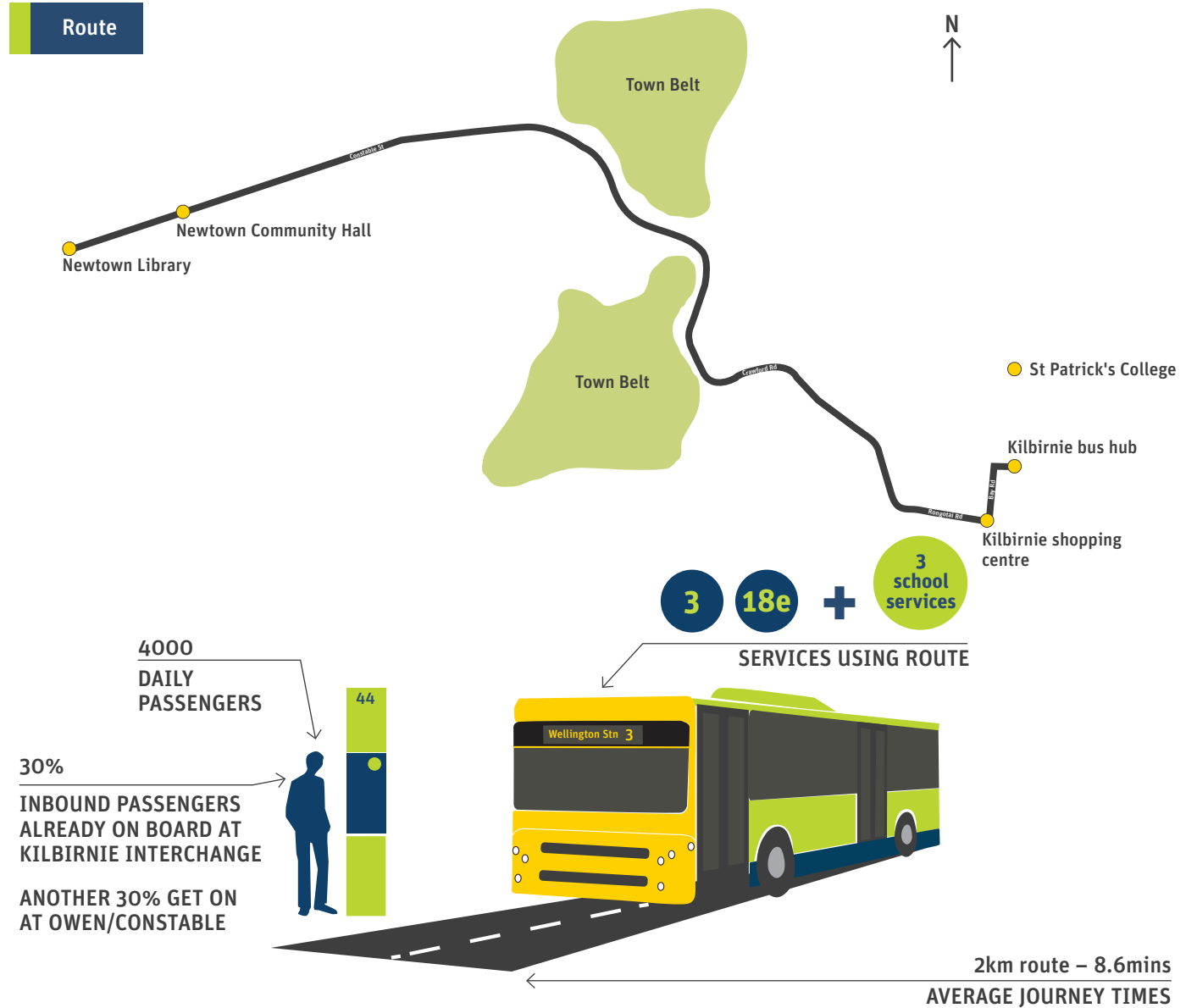
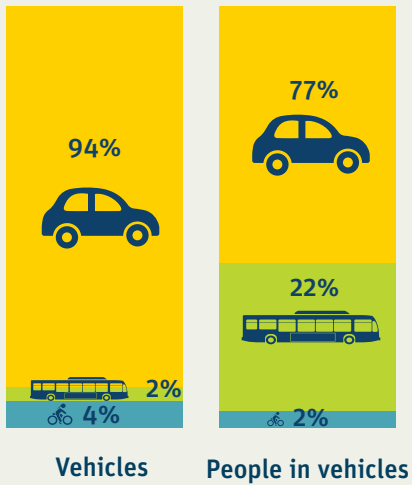
There are two public bus services operating on this corridor and three school services.

There are several significant destinations along this route including Kilbirnie shopping centre, Newtown Library, Newtown Community Hall and several recreation clubs including the Wellington and Kilbirnie tennis clubs.

The land uses along the corridor are mainly residential, open space and suburban shopping.

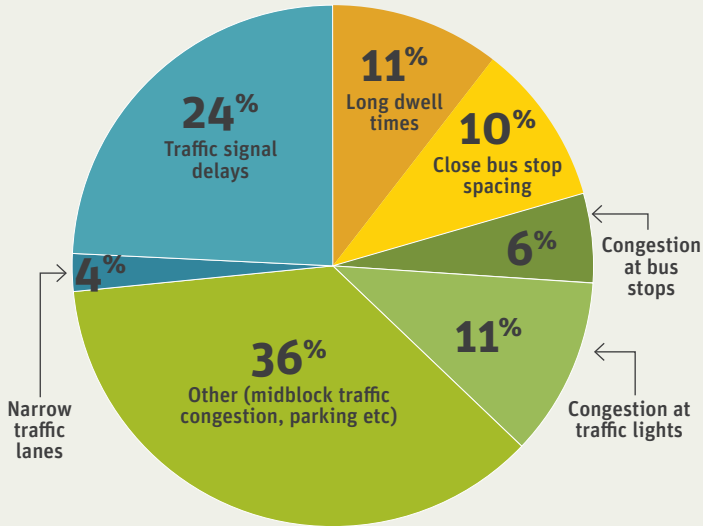
There are uphill provisions for cyclists on Crawford Road and the top sections of Constable Street.

Corridor traffic by mode of transport (inbound 8am-9am)

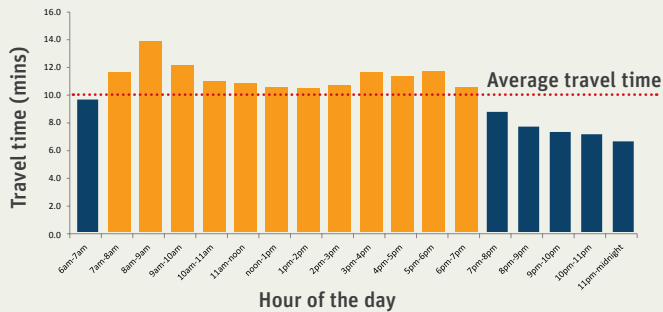


# Kilbirnie issues (inbound)

This corridor has inbound issues related to mid-block traffic congestion, traffic signal delays, long dwell times at bus stops and close bus stop spacing.

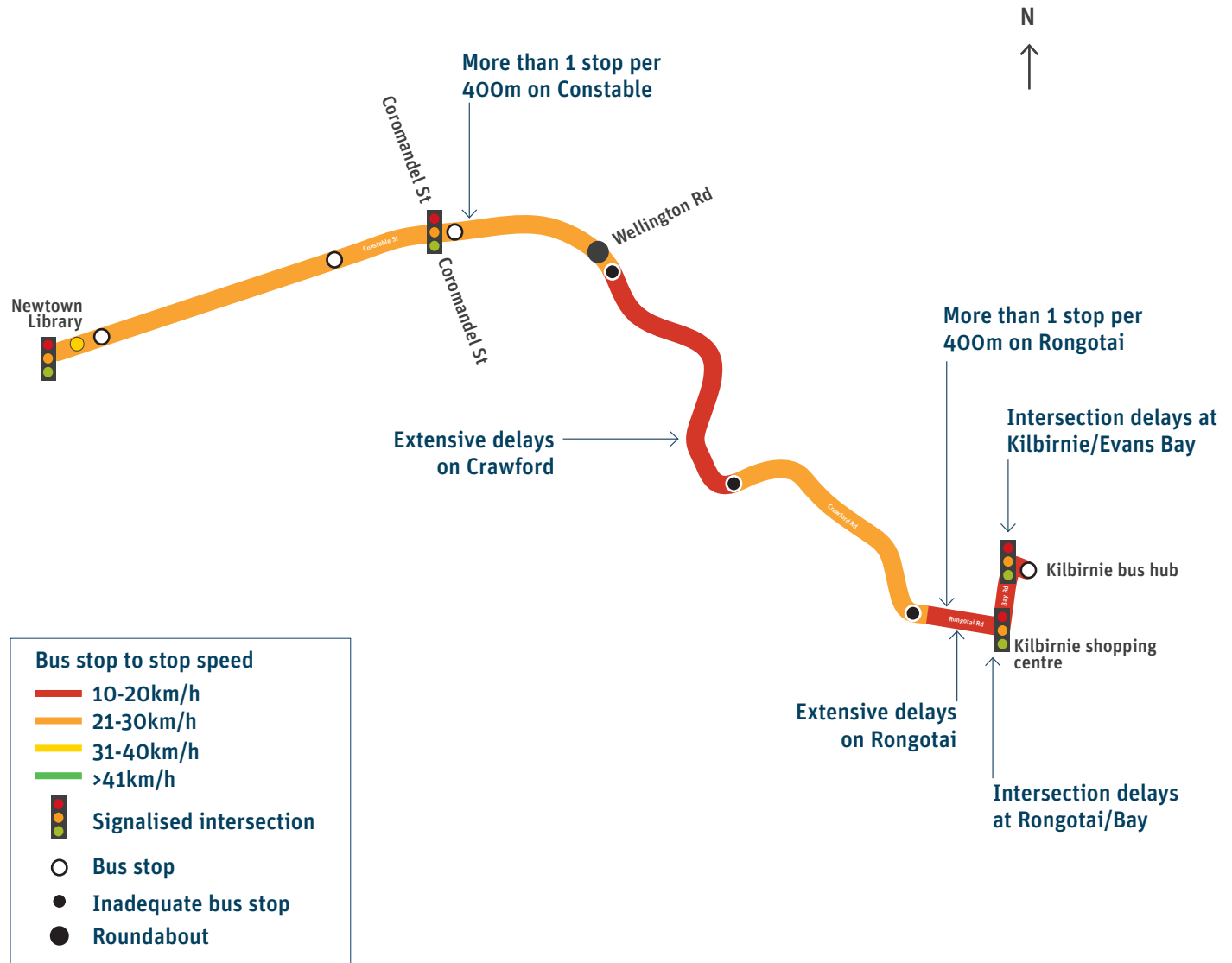


Sources of delay



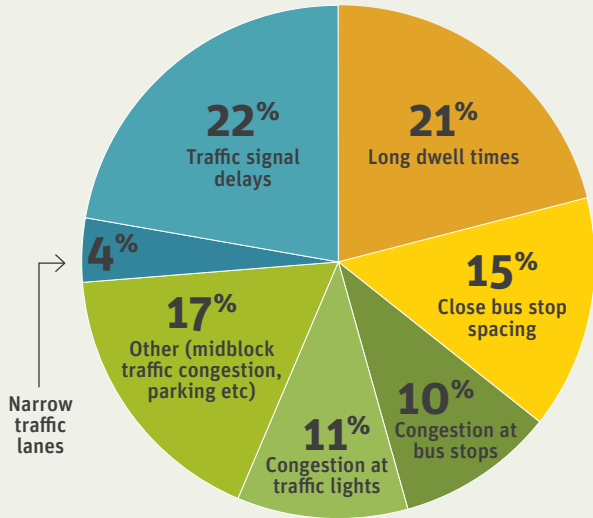
Inbound journey times

## 8am-9am inbound journeys

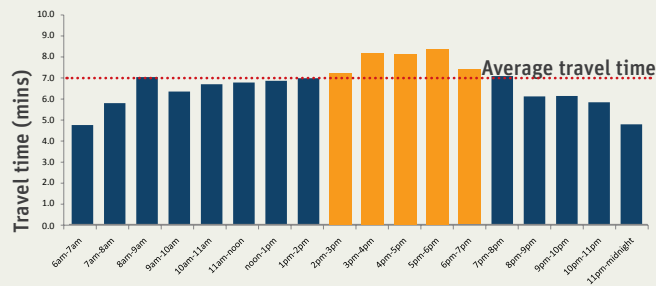


# Kilbirnie issues (outbound)

This corridor has outbound issues related to traffic signal delays, long dwell times at bus stops and mid-block traffic congestion.



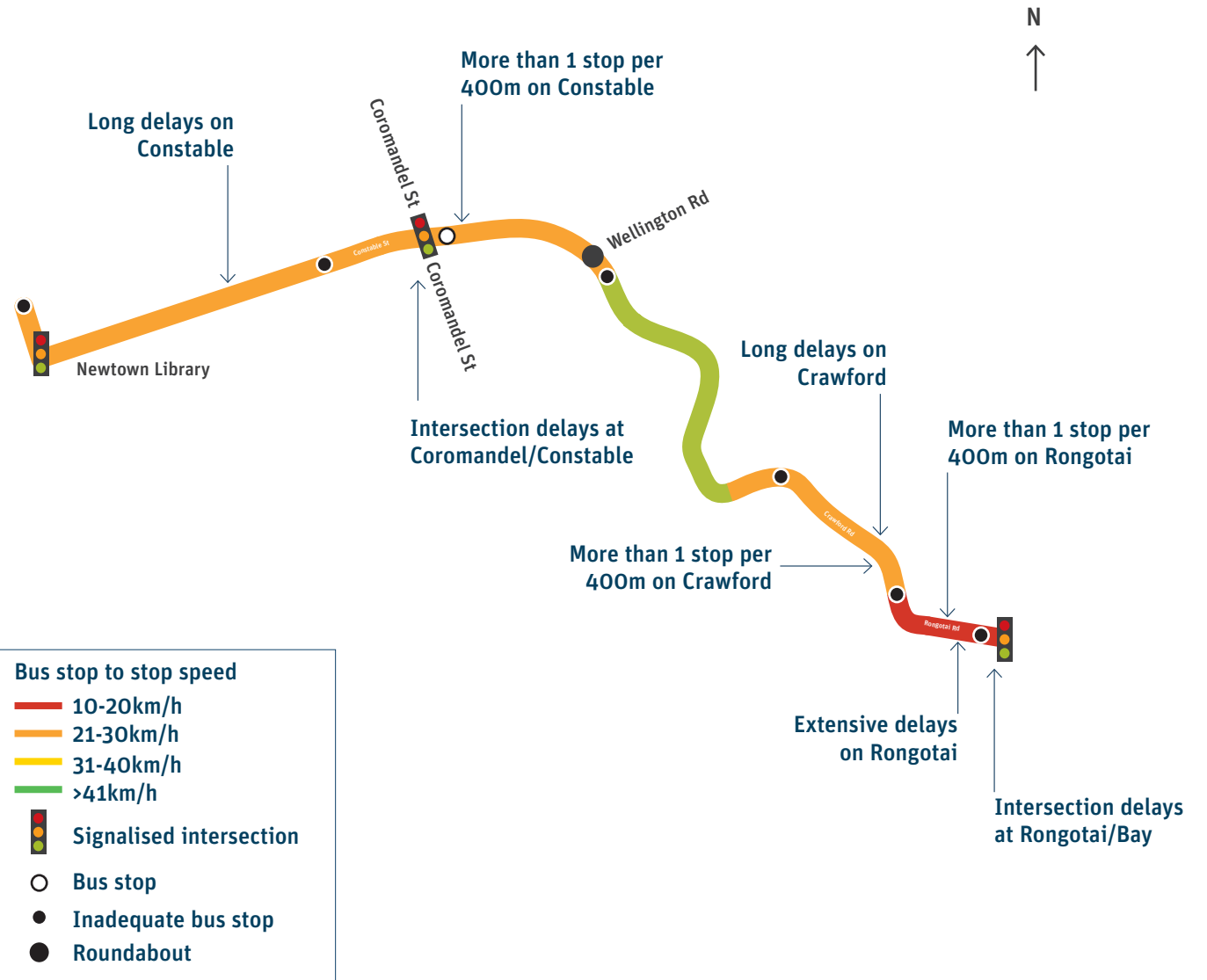
Sources of delay



Hour of the day

Outbound journey times

## 5pm-6pm outbound Journeys



# Kilbirnie opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to intersections, bus stop design and spacing, as well as introducing bus lanes to address the delays caused by mid-block traffic congestion.

As we develop proposals for this corridor, we will look to establish appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

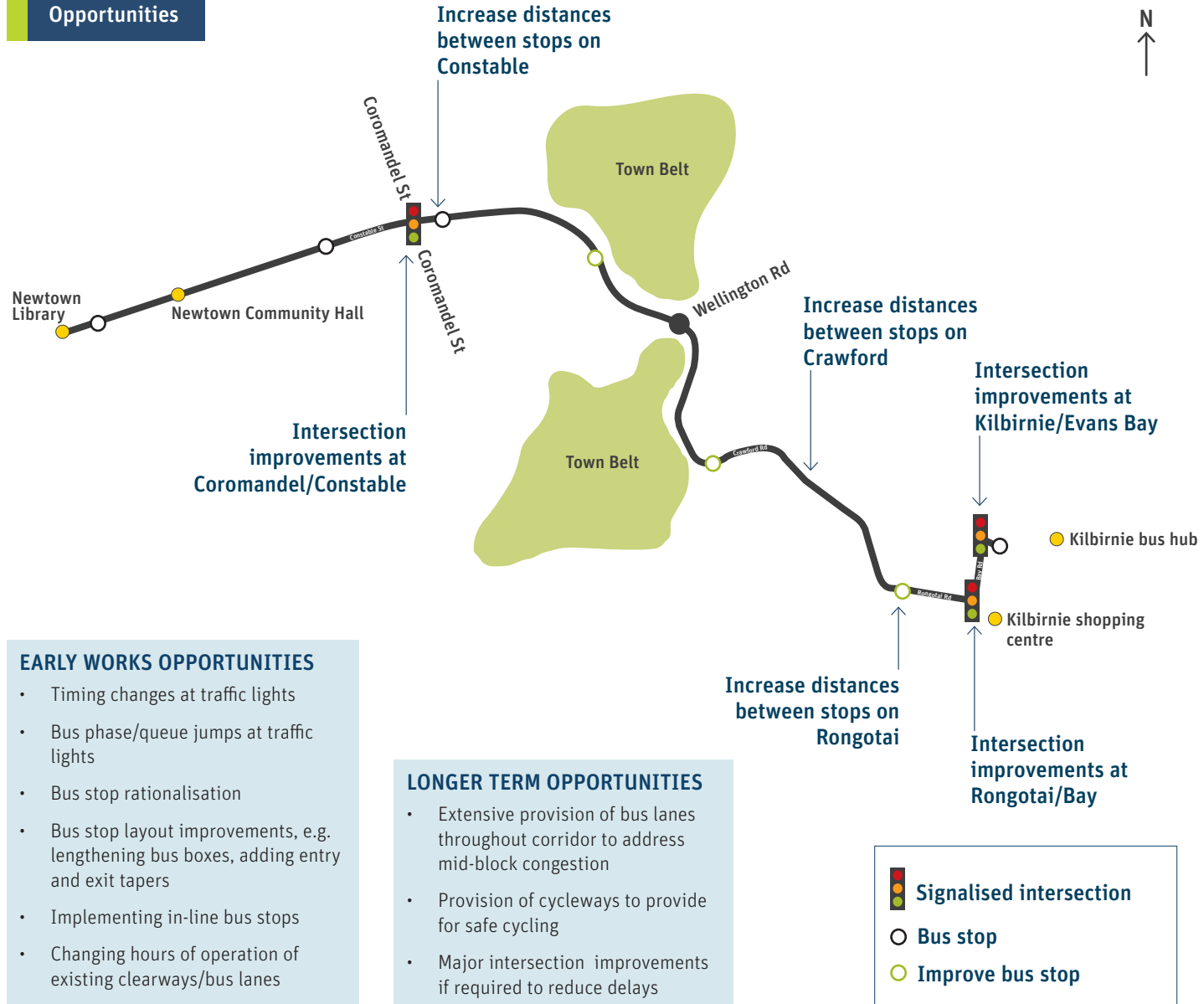


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities





# Kelburn to city

**Kelburn to city is a 2km-long transport corridor that connects Kelburn to the central city.**

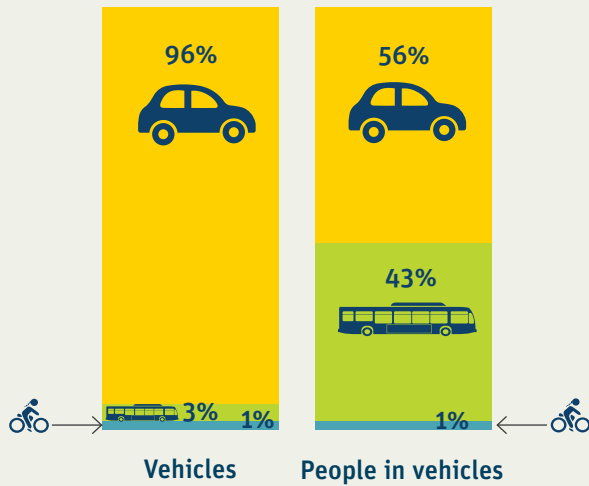
There are eight public bus services operating on this corridor and nine school services.

There are several significant destinations along this route including Victoria University of Wellington, Kelburn village and Kelburn Park.

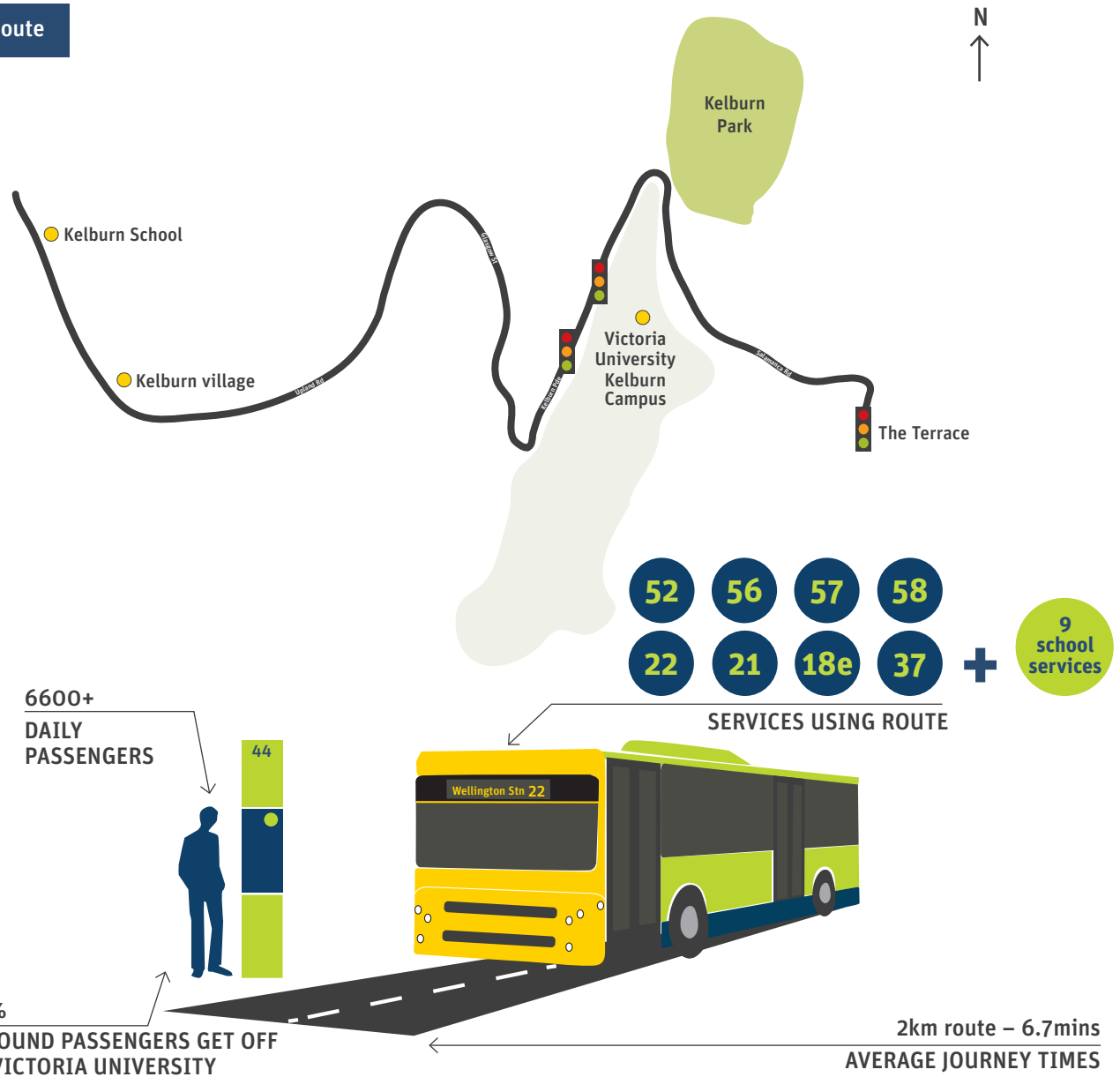
The land uses along the corridor are mainly residential and institutional, with some open space and suburban shopping. The corridor passes through Victoria University campus.

There are currently no provisions for people on bikes on this route.

**Corridor traffic by mode of transport (inbound 8am-9am)**

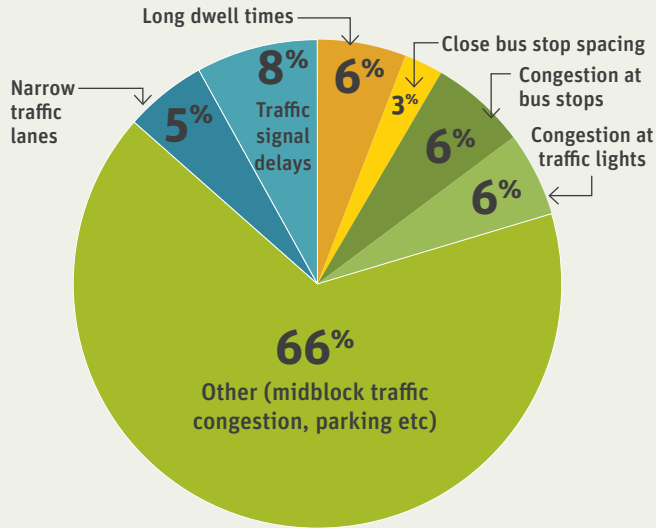


## Route

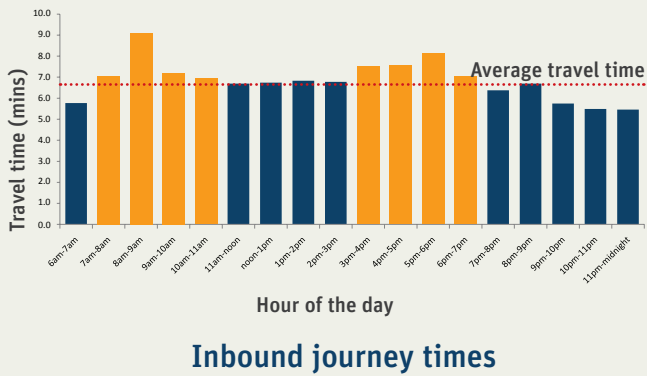


# Kelburn issues (inbound)

This corridor has inbound issues related to mid-block traffic congestion and traffic signal delays.



## Sources of delay

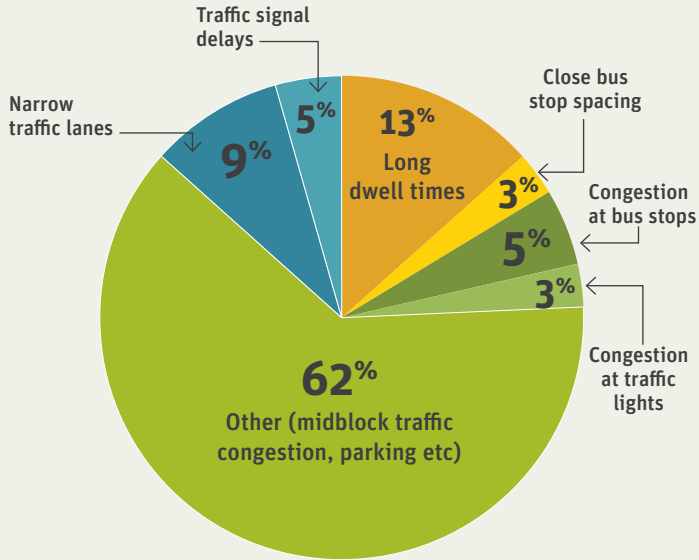


## 8am-9am inbound journeys

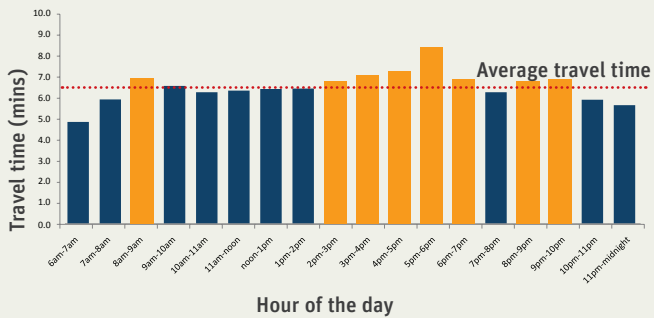


# Kelburn issues (outbound)

This corridor has outbound issues related to mid-block traffic congestion, long dwell times and narrow traffic lanes.



Sources of delay



Outbound journey times

## 5pm-6pm outbound journeys



# Kelburn opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to intersections, bus stop design and spacing; as well as introducing bus lanes to address the delays caused by mid-block traffic congestion.

As we develop proposals for this corridor, we will look to establish appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

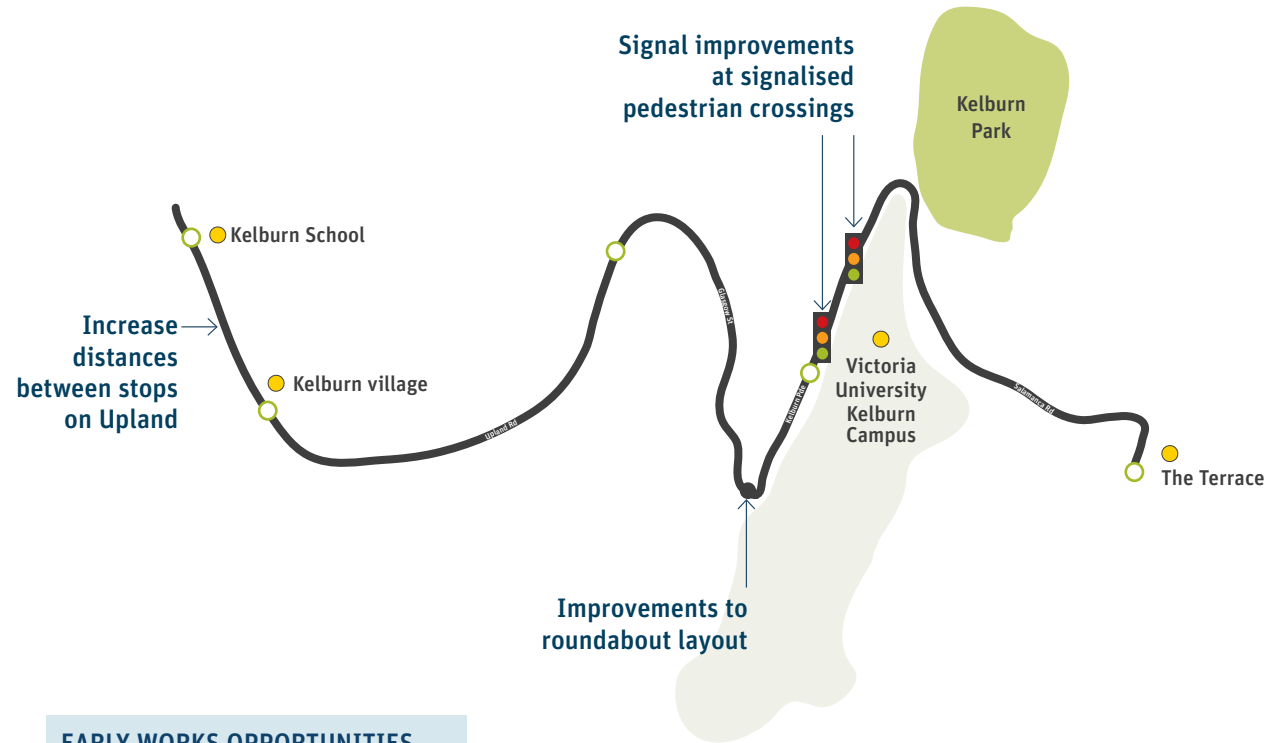


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop rationalisation
- Bus stop layout improvements, e.g. lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops
- Minor roundabout improvements

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays
- Major roundabout improvements

- Signalised intersection
- Bus stop
- Improve bus stop

# Brooklyn to city

Brooklyn to city is a 3km-long transport corridor that connects Brooklyn to the central city.

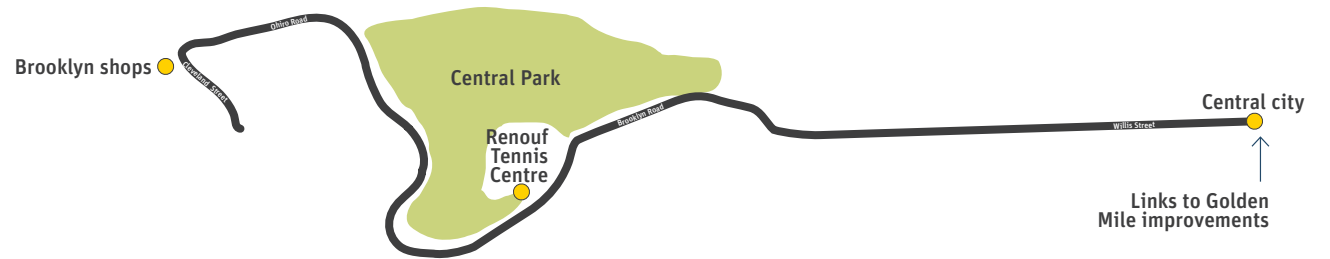
There are three public bus services operating on this corridor and one school service.

There are several significant destinations along this route including Brooklyn shops, Renouf Tennis Centre and Central Park.

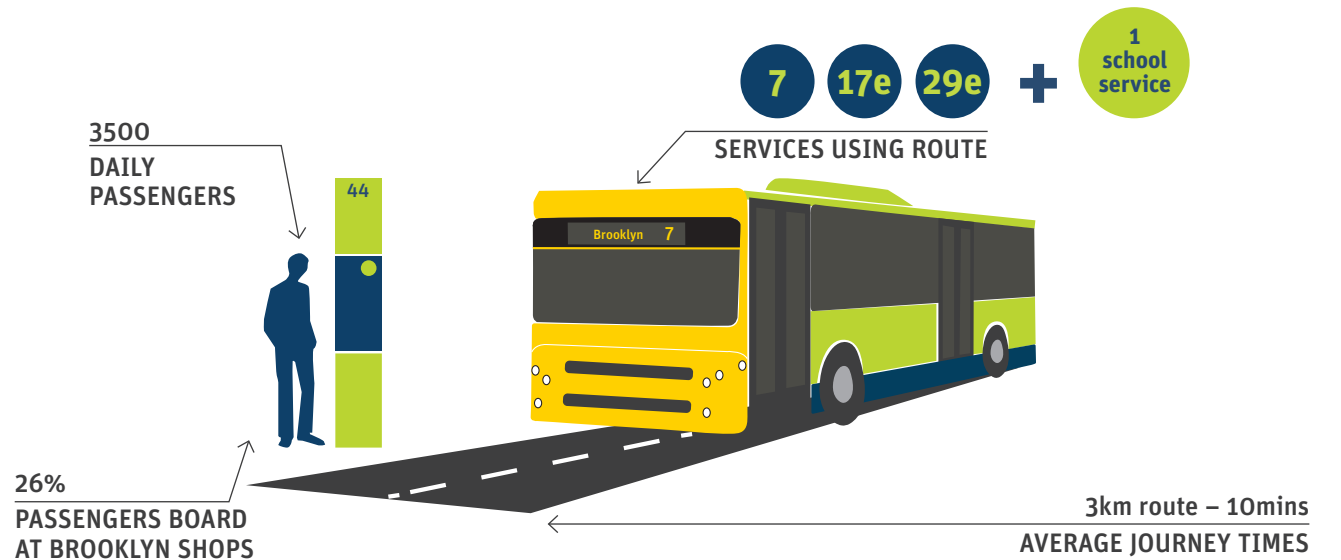
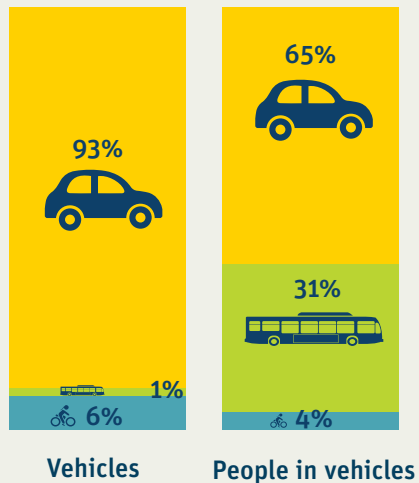
The land uses along the corridor are a mixture of central city, open space, residential, and suburban shopping.

There are currently no provisions for people on bikes on this corridor.

## Route

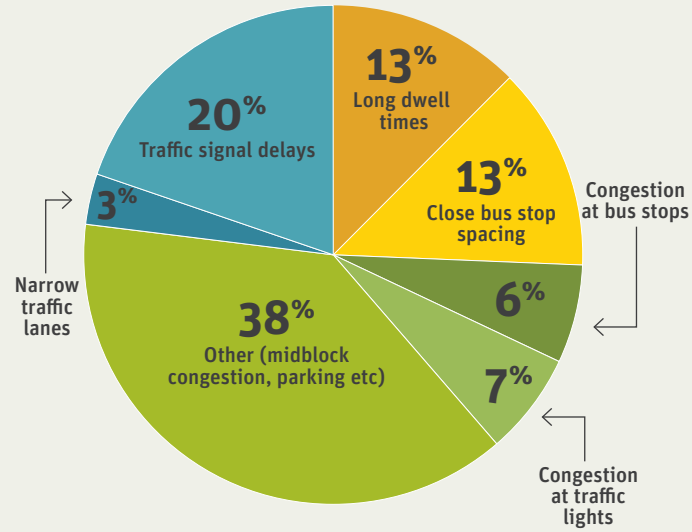


Corridor traffic by mode of transport (inbound 8am-9am)

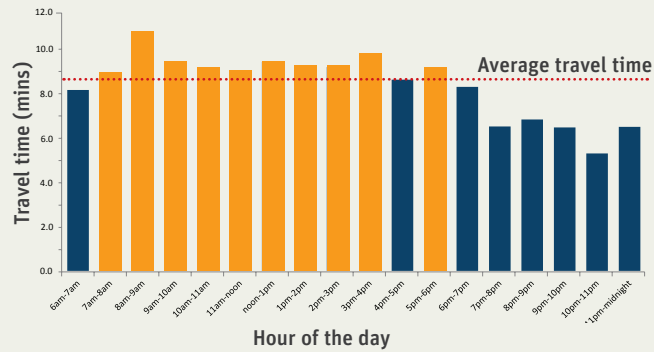


# Brooklyn issues (inbound)

This corridor has inbound issues related to mid-block congestion, traffic signal delays, long dwell times at bus stops and bus stop spacing.

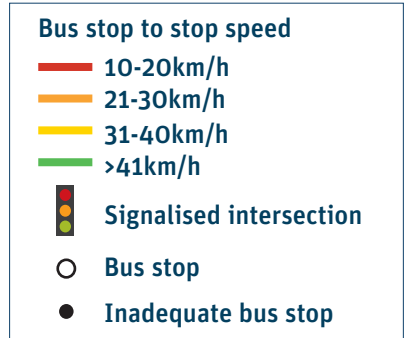
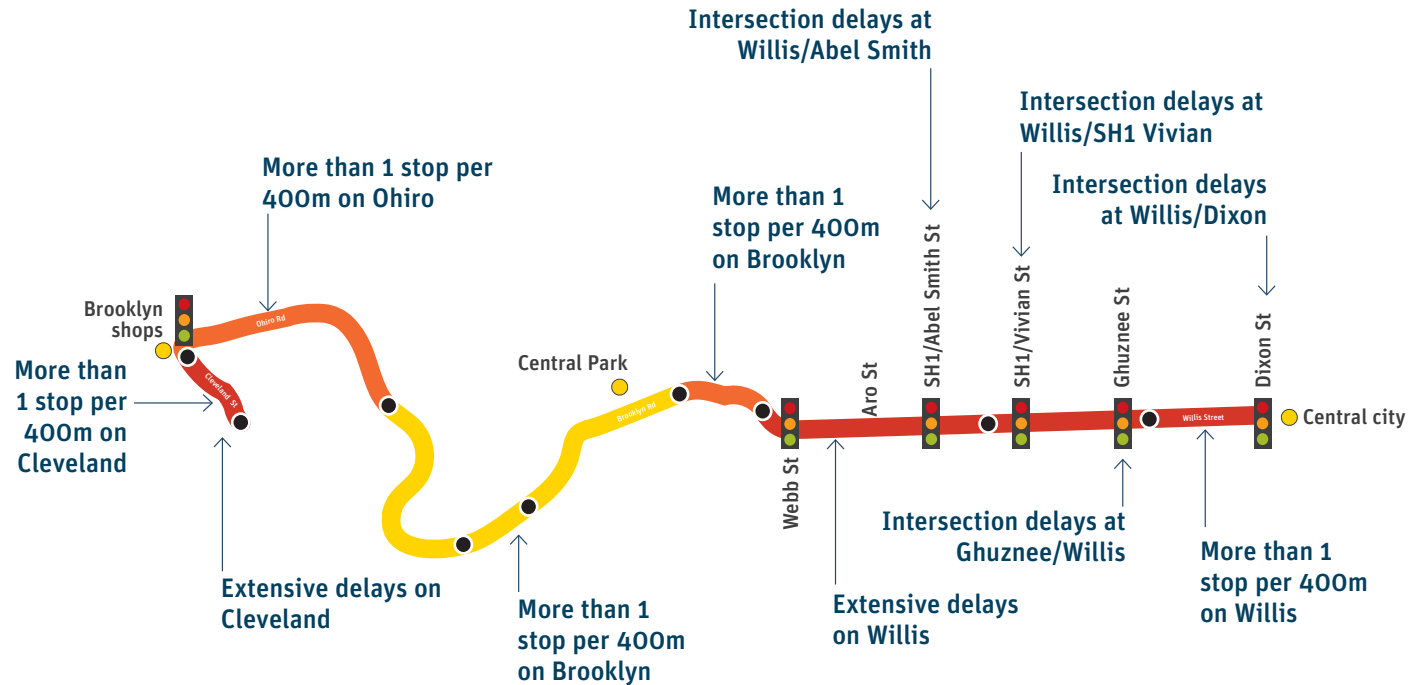


Sources of delay



Inbound journey times

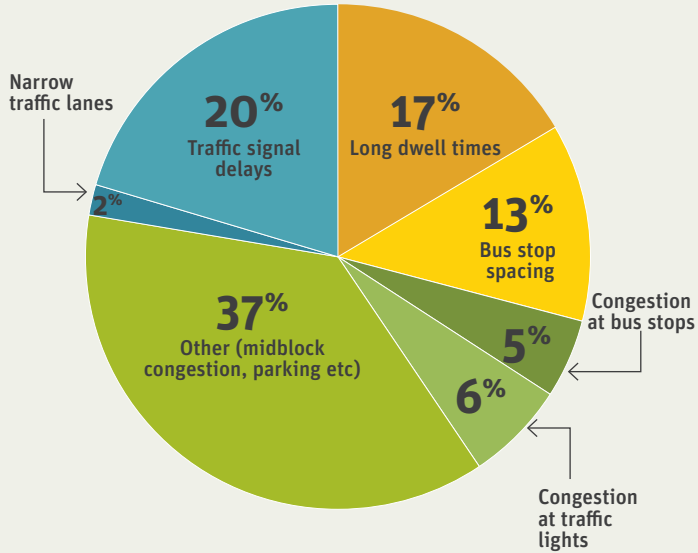
## 8am-9am inbound journeys



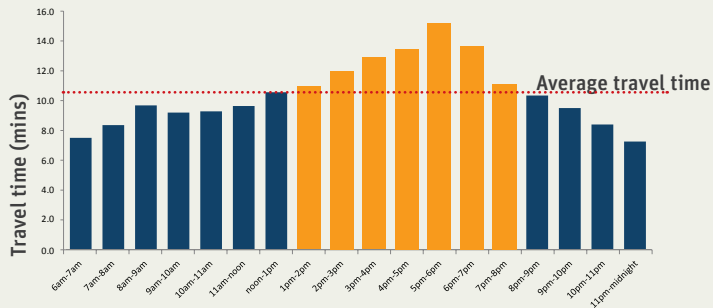
# DRAFT

# Brooklyn issues (outbound)

This corridor has outbound issues related to mid-block congestion, traffic signal delays and long dwell times.

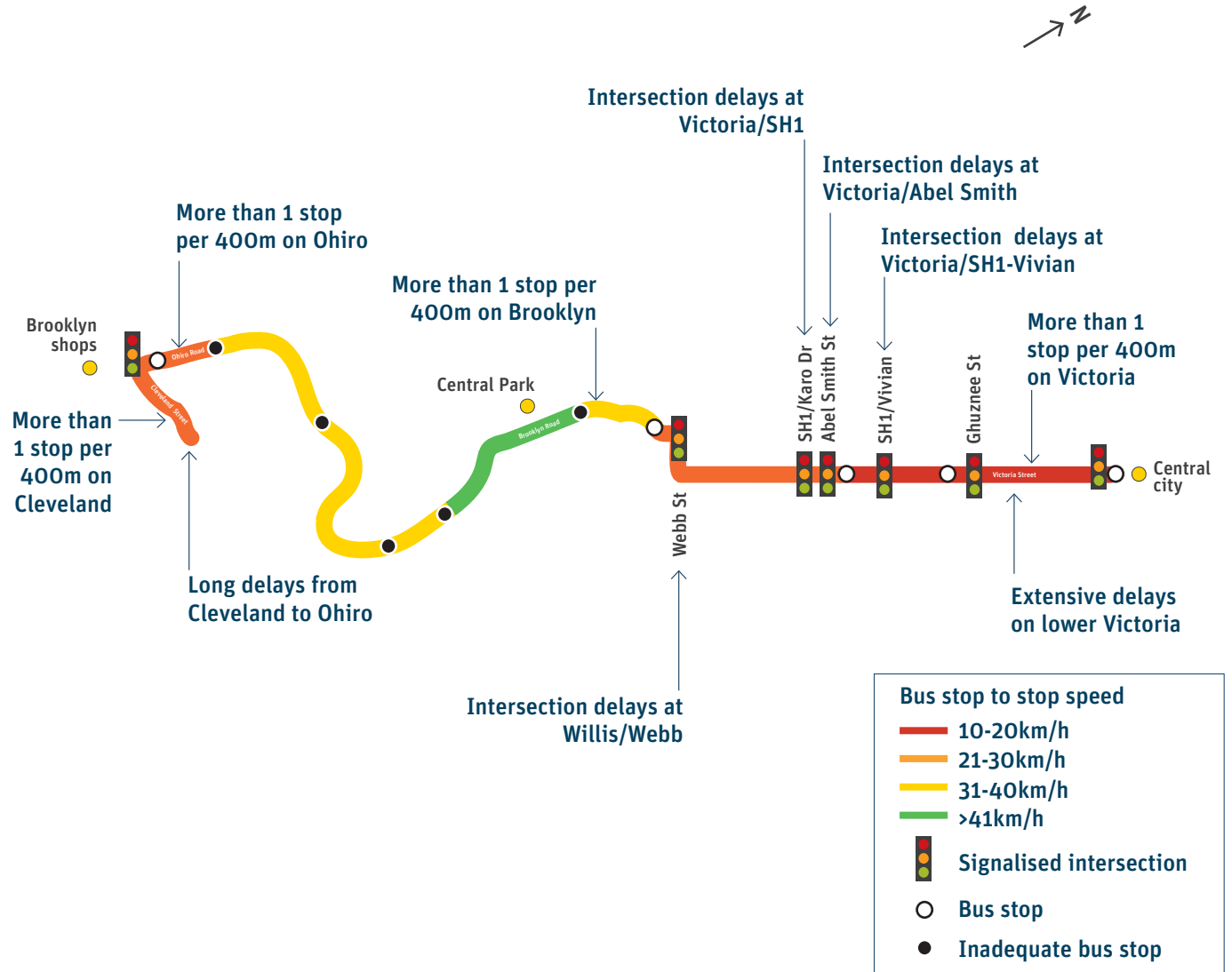


Sources of delay



Inbound journey times

## 5pm-6pm outbound journeys



# Brooklyn opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to signalised intersections, bus stop design and spacing; as well as introducing bus lanes to address the delays caused by mid-block traffic congestion.

As we develop proposals for this corridor, we will look to establish appropriate provisions for people on bikes.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

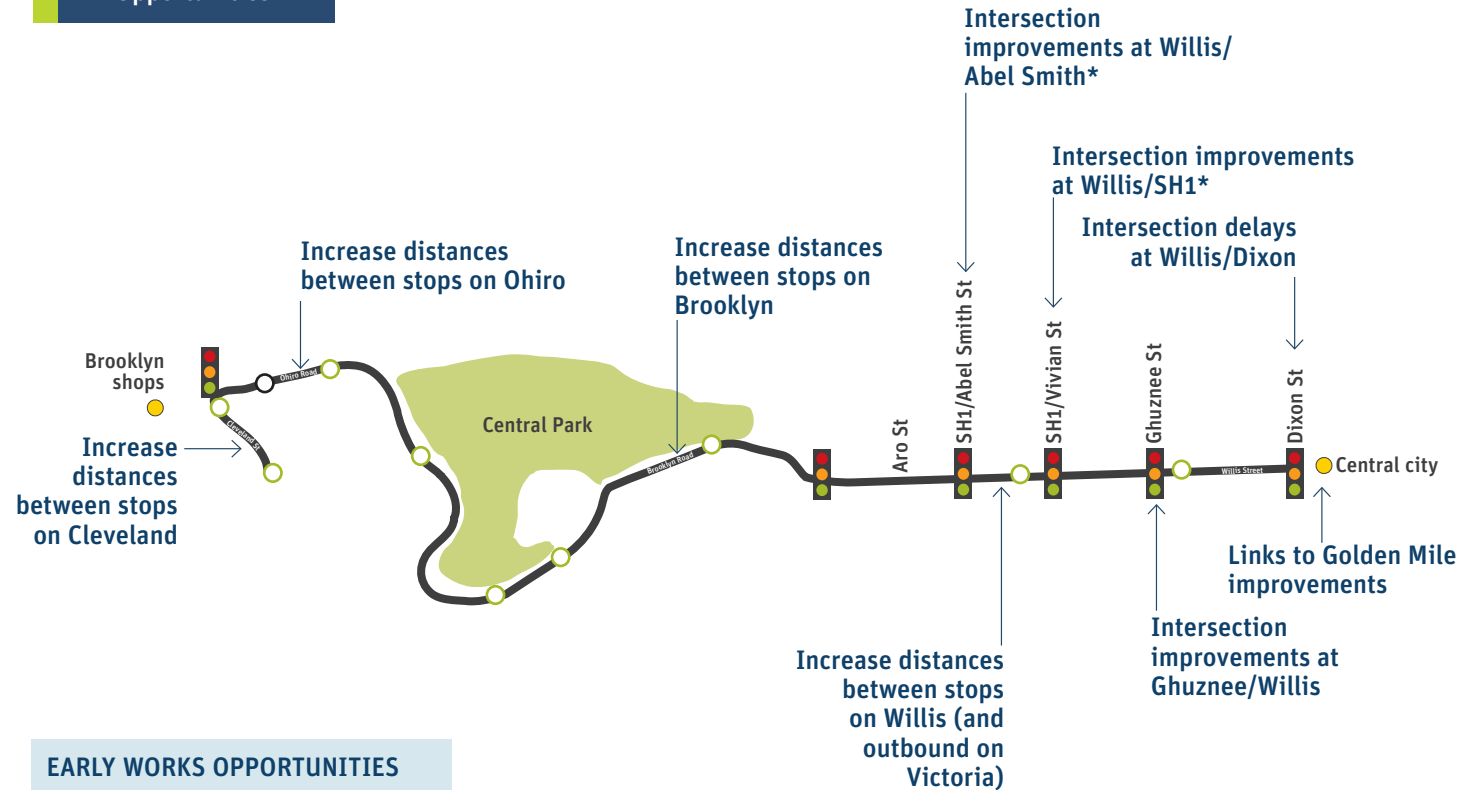


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop rationalisation
- Bus stop layout improvements, such as lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops
- Changing hours of operation of existing clearways/bus lanes

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays

Signalised intersection

Bus stop

Improve bus stop

\*Intersection delays also present for outbound journeys at Victoria/Abel Smith and Victoria/SH1



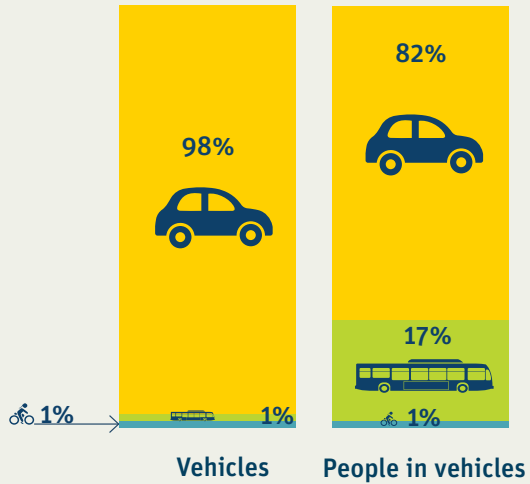
# Johnsonville to Ngauranga

Johnsonville to Ngauranga is a 3.6km-long transport corridor that connects Johnsonville to the central city via Hutt Road.

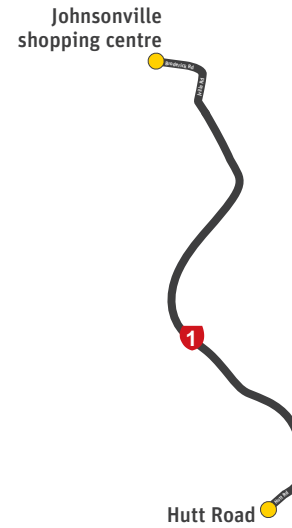
There are three public bus services operating on this corridor.

This corridor operates on SH1 and the land uses are mainly business, residential, suburban shopping centres and open space.

Corridor traffic by mode of transport (inbound 8am-9am)



## Route



SERVICES USING ROUTE

4700  
DAILY  
PASSENGERS



BUSIEST STOP  
JOHNSONVILLE HUB

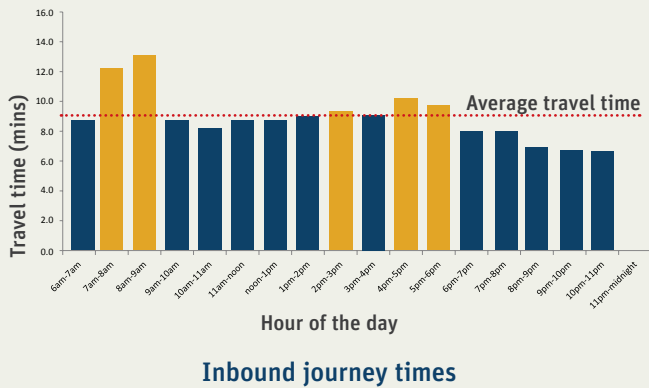
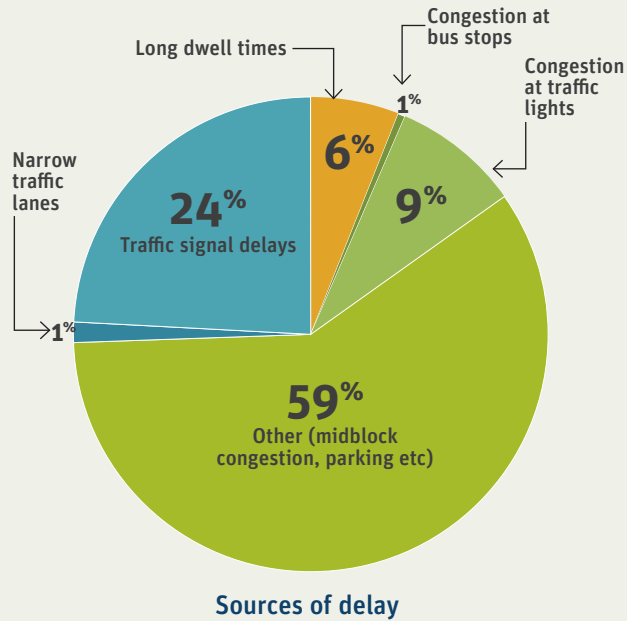


3.6km route – 9mins  
AVERAGE JOURNEY TIME

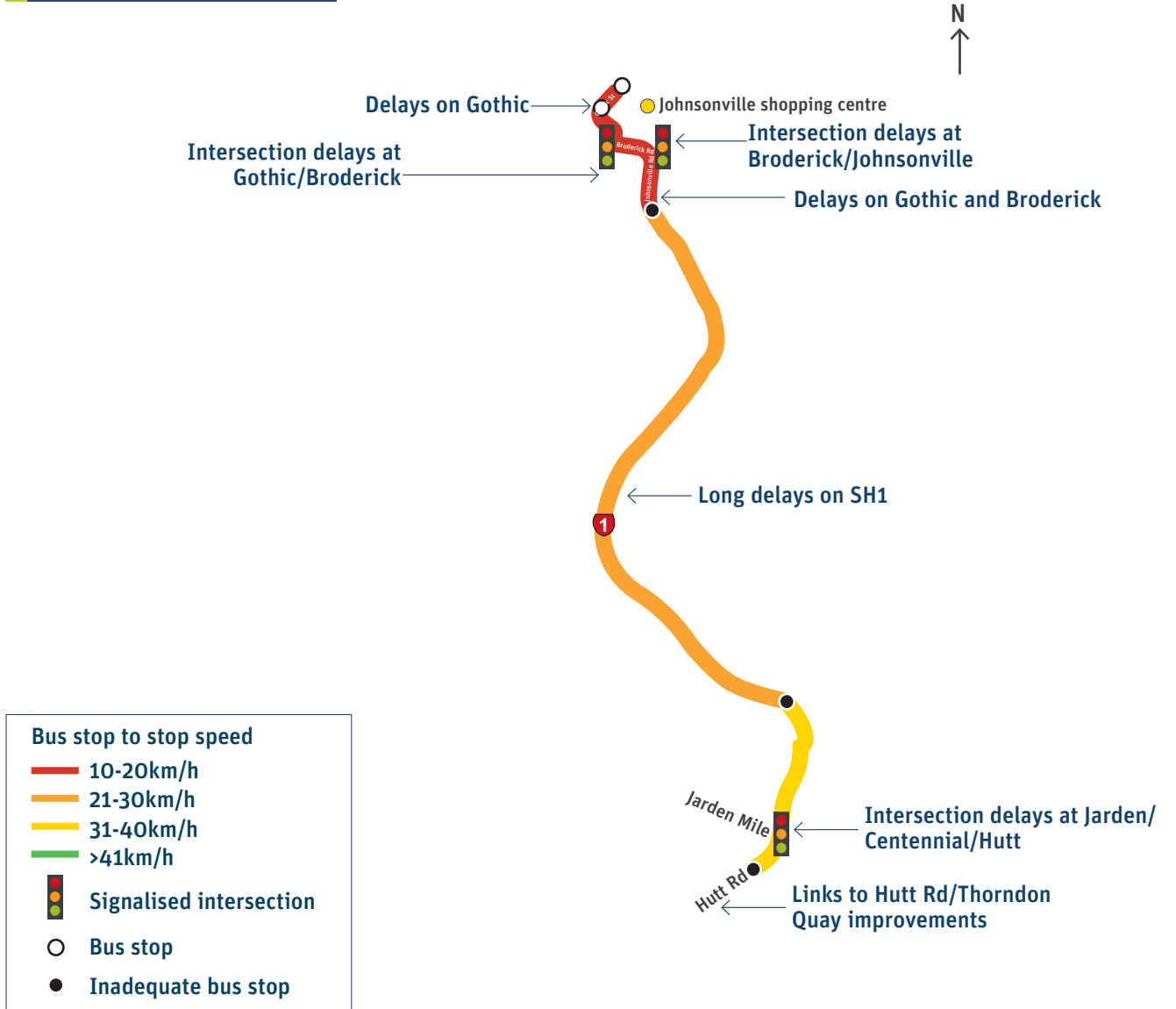


# Johnsonville issues (inbound)

This corridor has inbound issues related to mid-block congestion, traffic signal delays and congestion at traffic lights.

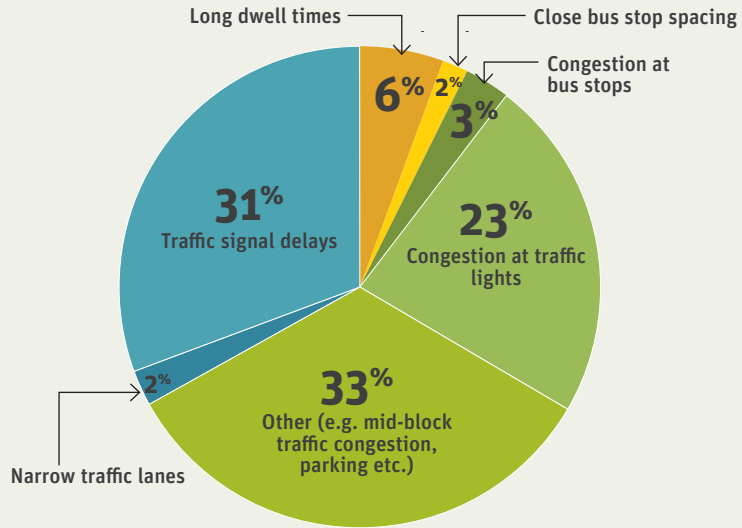


## 8am-9am inbound journeys

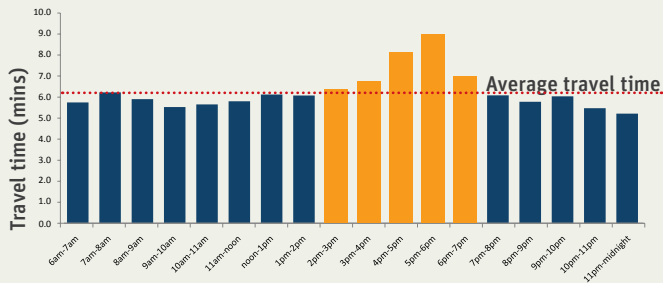


# Johnsonville issues (outbound)

This corridor has outbound issues related to general traffic congestion, traffic signal delays and congestion at traffic lights.

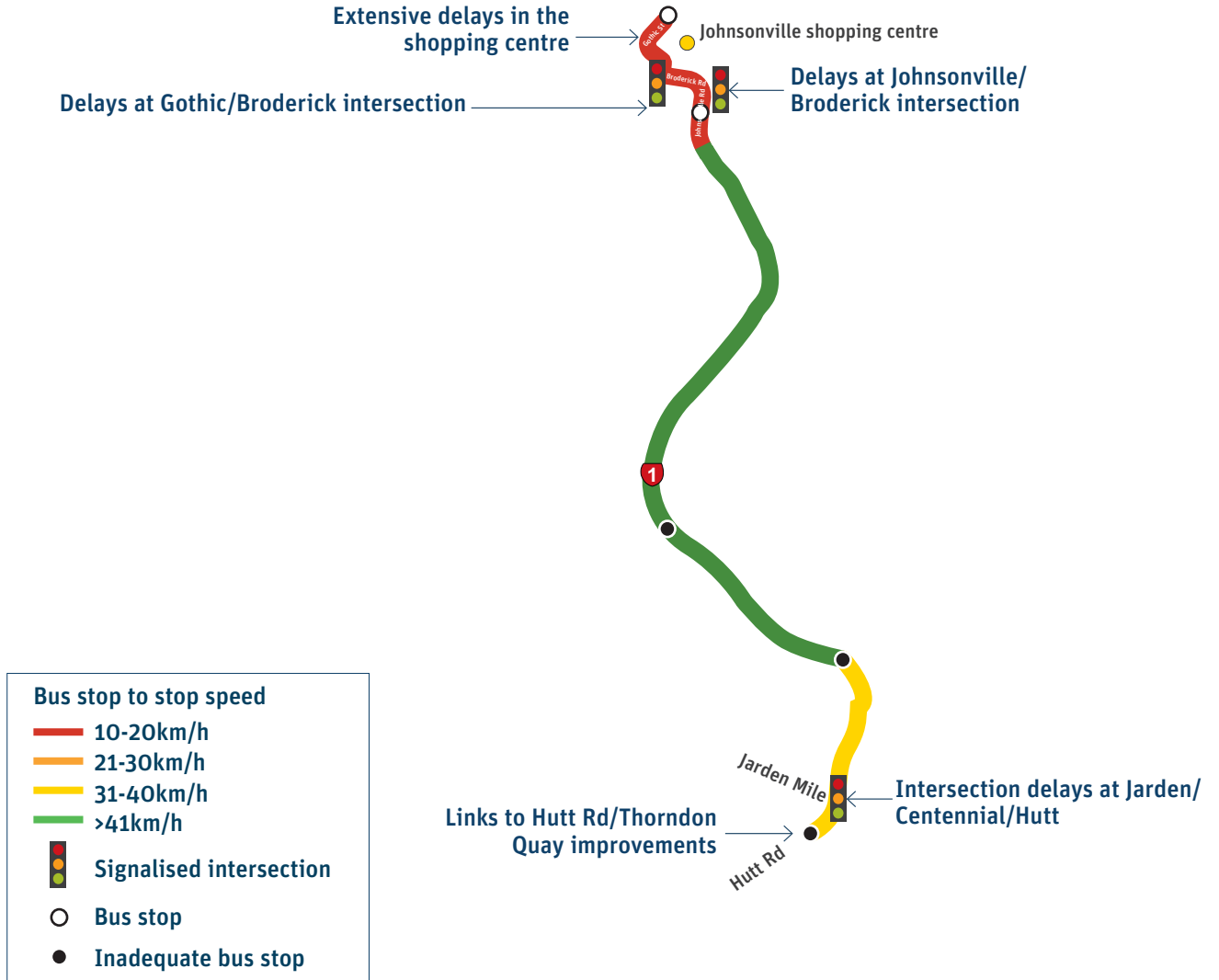


Sources of delay



Inbound journey times

## 5pm-6pm outbound journeys



# Johnsonville opportunities

There are opportunities on this corridor to prioritise bus journeys by making improvements to intersections, bus stop layout, as well as introducing bus lanes to address the delays caused by mid-block traffic congestion.

## Benefits on offer



Improvements to journey times and reliability



Reduced congestion

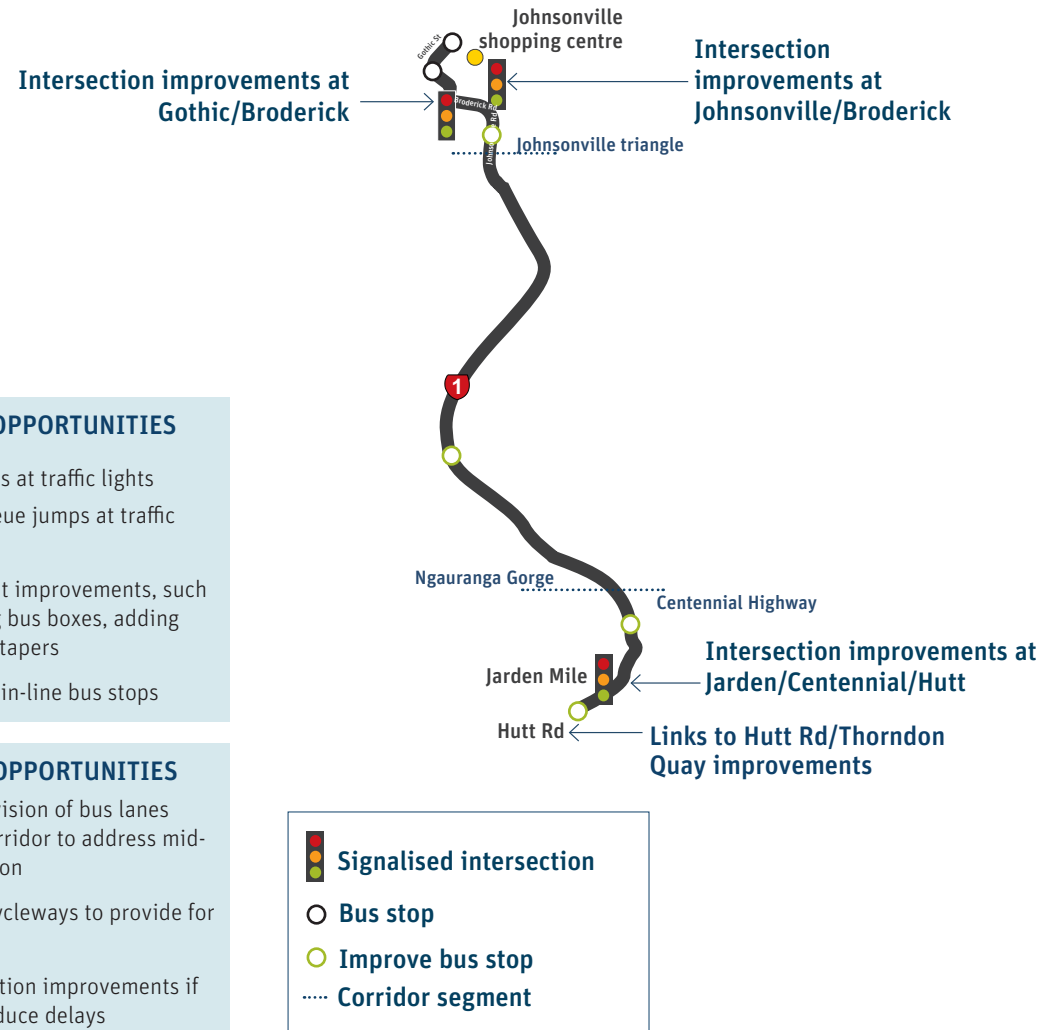


Health benefits



Opportunities to accommodate cycling infrastructure and streetscape improvements

## Opportunities



### EARLY WORKS OPPORTUNITIES

- Timing changes at traffic lights
- Bus phase/queue jumps at traffic lights
- Bus stop layout improvements, such as lengthening bus boxes, adding entry and exit tapers
- Implementing in-line bus stops

### LONGER TERM OPPORTUNITIES

- Extensive provision of bus lanes throughout corridor to address mid-block congestion
- Provision of cycleways to provide for safe cycling
- Major intersection improvements if required to reduce delays

# Corridor summary

INBOUND	Newtown to city	Karori to city	Seatoun to city	Mt Cook to city	Kelburn to city	Kilbirnie to Newtown	Brooklyn to city	Ngauranga to J'ville
Daily passengers	5500	2700	2600	3500	2500	2000	1500	3700
Average speed (km/h)	13.1	22.6	19.3	12.5	19.7	14.0	15.3	24.5
Average travel time (mins)	11	17	27	10	7	9	10	9
Minimum travel time (mins)	7	12	22	6	5	5	7	7
Maximum travel time (mins)	15	30	35	15	9	11	14	13
Length (km)	2	6	9	2	2	2	3	4
Number of stops	8	21	30	8	5	7	10	4
Slowest weekday hour	4-5pm	8-9am	8-9am	4-5pm	8-9am	8-9am	8-9am	8-9am

OUTBOUND	Newtown to city	Karori to city	Seatoun to city	Mt Cook to city	Kelburn to city	Kilbirnie to Newtown	Brooklyn to city	Ngauranga to J'ville
Daily passengers	5300	3000	2800	3100	4200	2100	2000	4000
Average speed (km/h)	12.2	21.5	19.6	13.0	20.3	16.8	14.7	34.8
Average travel time (mins)	12	17	27	10	7	7	11	6
Minimum travel time (mins)	9	14	23	6	5	5	7	5
Maximum travel time (mins)	15	24	33	13	8	9	15	9
Length (km)	2	6	9	2	2	2	3	4
Number of stops	7	20	30	7	5	7	10	5
Slowest weekday hour	5-6pm	5-6pm	3-4pm / 5-6pm	5-6pm	5-6pm	5-6pm	5-6pm	5-6pm

Statistics are based on May 2019 data

DRAFT

