DRAFT Te Pūtahi Ladies Mile Masterplan Transport Strategy

April 2021

Executive Summary

Background - The Te Pūtahi Ladies Mile (subsequently referred to as LM) Masterplan Transport Strategy has been prepared as an integral part of the development of the LM masterplan and also takes into account the adjacent communities of Shotover Country (SC) and Lake Hayes Estate (LHE).

Transport Strategies and Policies Influencing the Masterplan – The LM Transport Strategy has been guided by a number of documents including GPS, Keeping Cities Moving, Draft Supporting Evidence for Consultation Climate Commission, W2G Mode Shift Plan, Draft Otago Southland RLTP and the Spatial Plan "Grow Well Whaiora".

All of these set out the direction for transport in Queenstown, stress the importance of mode shift and the need for mixed use, high density developments to support this. The Transport Strategy has been developed in line with the 3 guiding principles of:

- Shaping Urban Form.
- Making shared and active modes more attractive.
- Influencing demand and transport choices.

By taking a multimodal approach (including an improved walking and cycling network and a frequent public transport system) and integrated land use this will allow Queenstown to 'Grow well – Whaiora'.

Existing Transport Conditions - Challenges and Opportunities include:

- All essential community facilities on west side of Shotover bridge.
- AM peak period queues westbound from Shotover Bridge.
- But anecdotally, generally little queueing in school holidays. MoE data indicates circa 870 students reside east of Shotover Bridge and attend schools to west. Circa 19% of traffic on bridge westbound in AM peak is pupil drop off only and 34% of traffic northbound on Stalker Rd and Howards Drive.
- High car ownership rates (circa 96% of households own at least 1 car) and high dependency on car - 78% of journeys to work are driving car alone. Opportunity to provide community facilities to the east of Shotover Bridge, improved active/public transport and change of mindsets. This is currently demonstrated by 30% of students who currently walk and bike to Shotover School from SC/LHE and proves walk/cycle mode spits can be achieved.
- Low density housing does not provide the scale of demand to support public transport. Opportunity to provide high density at LM and bus service improvements at SC/LHE.

- Tradies only represent 17% of LHE/SC residents (and similar to rest of NZ) – Managers, professionals, clerical/admin make up a larger combined %.
- No bus priorities, so bus passengers experience same congestion. Existing low numbers of bus passengers. Opportunity to improve bus priorities, services etc.
- Network gaps/poor provision for pedestrians and cyclists. Opportunity to improve these through the active modes business case.
- 2018 census data indicates most trips from SC and LHE are to Frankton and Queenstown (circa 5km and 12km). Short distance trips are an opportunity for active mode trips (especially ebike).
- 25% of population <15 years, 3% of population > 65 therefore, population is of an age profile to support increased use of active modes.
- Little demand management measures in place. Opportunity W2G Draft TDM.
- Little travel behaviour change initiatives in place. Opportunity W2G Draft TDM.

Transport Strategy Vision

The overall vision for the Ladies Mile Transport Strategy is:

Create an accessible, healthy, safe and sustainable Ladies Mile community by reducing reliance on car use, by providing a well-connected street network to the local community facilities and investment in active and public transport modes so that walking, cycling and bus use are everyone's first travel choice.

Applicability of mode shift targets to Ladies Mile

The LM Transport strategy is a partnership arrangement between the LM masterplan/developers and W2G - the achievement of the mode shift target will require both the LM MP developers and W2G partners to implement their respective actions as detailed in the Transport Strategy interventions. Achievement of the target will therefore depend on delivery of the modal shift actions from the W2G partners as well as the LM developers.

Proposed Transport Strategy interventions

These are listed in **Appendix A.** These interventions will achieve the delivery of the following principles:

Shaping Urban Form - The LM MP will:

- Enable, support and encourage housing and local community facilities growth in an area with new and improved travel options.
- Provide community facilities, community hub, sports hub, primary school, high school, a local centre and a town centre located close to high quality public transport and encourage shorter trips between home and work/education/leisure.
- Masterplan supports the use of public transport, walking and cycling.
- Masterplan provides for safe and attractive streets for walking and cycling.
- Shared and active modes are overall made more attractive.

Making shared and active modes more attractive - The LM MP working in partnership with W2G will achieve this by a number of means:

- Expand, improve and optimise active and public transport facilities.
- Provide infrastructure to make active and public transport more efficient and attractive.
- Provide necessary active and public transport infrastructure from day one of occupation.

Influencing travel demand and transport choices - The LM MP includes a number of incentives and disincentives ('push' and 'pull' factors) to either discourage use of private vehicles (by making them less attractive relative to other options) or making people more aware of their options and incentivising them to try something new including:

- Make it safe, easy and intuitive for people to change the way they travel.
- Use travel behaviour change initiatives to assist and support residents to use active and public transport.
- Restricts car parking and promotes cycle parking within the masterplan.

Transport Modelling has been carried out using QLDC/NZTA Tracks strategic model and spreadsheet PT model - key findings include:

- AM peak westbound traffic flows across the bridge - small increase in flows for both Options 1 (1800 units) and 2 (2400 units) (2%/4% respectively) compared to the base (1100 units). All 3 scenarios are marginally above the bridge capacity.
- PM peak eastbound traffic flows across the bridge - small increase in flows for both Options 1 and 2 (4%/6% respectively) compared to the base. Base flow is at bridge capacity and Options 1 and 2 are marginally above this.
- This is based on a predicted LM PT mode share of 22% in the AM peak and 31% in the PM peak.
- Outside of the model a simplified spreadsheet queue length assessment has been carried out. This indicates that, compared to the base scenario, option 2 will increase the queue length on all approaches to Shotover Bridge by 1km AM peak westbound and by 1.6km in the PM peak eastbound.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share not being achieved, the spreadsheet model assumed a 25% and 50% reduction in the PT mode share. The assessment indicated with a 50% lower PT share that full queues in the AM peak would be 5.5 km for the base scenario and slightly higher at 7km for option 2.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share being exceeded, the spreadsheet model assumed a 25% and 50% increase in the PT mode share. The assessment indicated with a 50% higher PT share that full queues in the AM peak for option 2 would be the same as the base case with no increase in PT mode share ie no worsening in conditions.

Modelling limitations

As detailed in the Transport Strategy there are a number of inconsistencies in the modelling results. Furthermore, there are a number of limitations of the model to assess correctly for example the impact of a high-density mixed-use land use development, the impact of active modes and the impact of TDM measures.

For this reason, the modelling results have been adjusted to more accurately reflect the likely transport conditions and mode shift at LM (and also in the adjacent communities of LHE/SC and areas further east).

Transport Strategy Predicted Mode Shift targets

As detailed in the Transport Strategy there are a number of inconsistencies in the modelling results. Furthermore, there are a number of limitations of the model to assess correctly for example the impact of a high-density mixed-use land use development, the impact of active modes and the impact of TDM measures.

For this reason, the modelling results have been adjusted to correctly reflect the likely transport conditions and mode shift at LM (and also in the adjacent communities of LHE/SC and areas further east).

The predicted overall peak period mode split targets for LM external trips are:

Mode	%
Bus	43%
Car Share/Car Pool	9%
ebike	5%
Walk	0%
PnR	0%
Total non-car drive alone	57%
Car drive alone	43%
Total	100%

For SC/LHE the AM out and PM in modal split targets are:

Mode	AM out mode split	PM In mode split
Bus	31%	36%
Car Share/Car Pool	9%	8%
Ebike	5%	5%
Removal of High School car trips (replaced as walk/cycle trips)	16%	0%
PnR	0%	0%
Total Non-car drive alone trips	66%	50%
Car drive alone trips	34%	50%
Total	100%	100%

Transport Strategy Impact

Based on the predicted Transport Strategy Mode shifts for the Ladies Mile Masterplan, the following reductions in the transport model predicted flows (post PT modelling) for Option 2 are indicated:

- AM peak westbound = reduction in 950 car trips (of these 19%/180 are removal of LHE/SC car trips to High Schools).
- PM peak eastbound = reduction in 322 car trips.

Compared to the results indicated in the strategic model (post PT modelling) these reductions in car trips across the bridge are considered to provide significant relief to the transport network.

The manual queue length modelling indicates that with a 50% increase in PT trips, then queues for option 2 would be no worse than the base. The predicted peak period overall Transport Strategy bus mode share is greater than the queue length modelling 50% increase. Therefore, with the predicted Transport Strategy modal shifts then queues on the network will be no worse with the Ladies Mile masterplan than with the base situation.

It is concluded that the impact of the proposed LM Masterplan Transport Strategy with 2,400 units will achieve a mode shift target of up to 50% of external trips by bus, ebike and car share/car pool, providing significant relief to the transport network.

Monitoring and Evaluation Plan

A draft M&E plan has been developed for the Transport strategy to monitor its effectiveness in meeting the mode shift targets.

Proposed Transport Interventions Action Plan

The Draft LM masterplan provisions document includes (within sections 7.5.20, 8.5.41 and 9.5.36) details of dependencies of the development sub areas on the transport infrastructure indicated in the Structure Plan.

Based on the proposed transport interventions identified in the Draft Transport Strategy, the table below presents the Draft Transport Strategy Action Plan which highlights the sequencing of the proposed transport interventions for each of the development sub areas A to I plus the Community Hub/Sports Hub/temporary park and ride development area and the residential land accessed off Howards Drive.

The Action Plan and proposed sequencing of interventions is based on each of the development sub area public transport accessibility defined as a 400m to 500m walk distance from these sub areas to the proposed bus stops on SH6.

Delivery of each transport intervention is based on:

- W2G proposed implementation dates (where known) or,
- First occupation of a development sub area or,
- Dependency on delivery of another transport intervention or,
- Ongoing as the Masterplan is delivered.

As such, the delivery of the transport interventions is not based on a trigger for an assumed quantity of development, but rather based on what transport intervention is needed to support the delivery of development in a particular sub area in order to achieve the required mode shift.

The Action Plan indicates the transport intervention, its time frame/dependency, along with who is responsible for implementing the intervention.

Any delivery years indicated in the Action Plan are taken from the Queenstown Lakes Spatial Plan "Grow Well Whaiora" (March 2021).

The LM Masterplan assumes the following for each of the sub areas (see Appendix A):

- A = 298 residential units.
- B = 265 residential units, Primary School, Local Centre.
- C = 735 residential units.
- D = 130 residential units, Town Centre.
- E = 367 residential units, High School.
- F = 353 residential units.
- G = 42 residential units.
- H1 and H2 = 98 residential units.
- I = 30 residential units.
- J1 = 26 residential units.

In addition, transport interventions are also indicated for:

- Community Hub, Sports Hub/temporary park and ride

Transport interventions common to all sub areas

Intervention	Timeframe/ Dependency	Responsibility
SH6 and Street Layouts		
All street layouts (including footpaths and cycleways) to be provided as per LM cross section drawings.	Ongoing	Developers
SH6 cross section to be provided as per LM cross section drawing.	Ongoing	Developers/W2G
Bus Lanes		
Bus lane to be provided northbound on Stalker Road between Jones Avenue and SH6.	Timescale TBC by W2G	W2G
Review scope to provide a westbound bus lane from Shotover Delta Road westbound merge (from Quail Rise) to Hardware Lane within the existing shoulder and shortening of the length of Shotover Delta Road westbound merge.	Timescale TBC by W2G	W2G
Bus Level of Service Improvements		
W2G proposed service 5 clockwise loop changes.	Timescale TBC by W2G	W2G
High quality bus stops to be provided on Howards Drive/Jones Ave south of SH6 as part of the W2G proposed service 5 clockwise loop changes.	Timescale TBC by W2G	W2G
W2G public transport service frequency improvements 2024 and 2027 – specifically in relation to LM masterplan provide Service 5 clockwise loop at 10-minute intervals and Service 2 at 10-minute intervals.	2024 and 2027	W2G
Post 2027 roll out of W2G Bus Max network - double decker buses/articulated buses	Post 2027	W2G
Provide an anticlockwise loop service 5 (in via Stalker Road and out via Howards Drive) at a frequency of every 10 minutes.	Timescale TBC by W2G	Developers/W2G
Active Mode Improvements		
As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 adjacent to SH6 from McDowell Drive to the existing route on Hicks Drive and onwards to the Old Shotover Bridge.	To consider by 2024	W2G and to integrate with LM Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 on west side of Howards Drive from SH6 to the existing shared path at Jones Road.	To consider by 2024	W2G and to integrate with LM Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking	To consider by 2024	W2G and to integrate with LM

and cycling route D4 on east side of Stalker Road from SH6 to the existing shared path at Banbury Terrace.		Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking and cycling route C7 Howards Drive at Jones Avenue to Hicks Road and onwards to the Old Shotover Bridge.	2021	W2G
As part of the W2G Active Modes improvement – provision of shared walking and cycling route A8 Lake Hayes estate to Frankton south with 2 bridges of Kawarau River.	2021	W2G

Signal options

Investigate the HIF ITA suggestion for a 'gate' at the Shotover Bridge.	Timescale TBC by W2G	W2G
Investigate the HIF ITA suggestion of signalisation at the SH6 intersections with Stalker Road and Howards Drive.	Timescale TBC by W2G	W2G

Car Share/Car Pool

Working with W2G, it is recommended that an app-based Car Pool scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.	Ongoing	Developers/W2G
For the Stalker Road north bound and SH6 eastbound and westbound bus lanes, review these to allow use also as T3 transit lanes.	Timescale TBC by W2G	W2G

Travel Behaviour Change

W2G Travel behaviour change initiatives include • Real time passenger information system mobile platform enhancement. • Orbus marketing and promotion campaign. • Travel Demand Management Single Stage Business Case Lite. • Way to Go Marketing and Promotion Campaign. • Queenstown travel management association establishment and initiatives. • Workplace travel plan programme. • School travel plan programme. • Physical and digital wayfinding programme.	• 2021 • 2021 • 2022 • 2022 • 2022 • 2023 • 2022 • 2021	W2G
Support use of ebikes through bike parking standards, EV charging facilities (at the town centre, local centre, sports hub, community hub and schools), cycle training (for adults and children).	Ongoing	Developers/W2G
Set up a dockless ebike public bike share within LM and SC/LHE as part of a wider Queenstown/Frankton wide scheme.	Ongoing	Developers/W2G

Set up a Mobility as a service (MaaS) within LM, SC and LHE as part of a wider Queenstown/Frankton wide scheme.	Ongoing	Developers/W2G
Expand ride share schemes in the Queenstown area to cover LM/SC/LHE.	Ongoing	Developers/W2G
Set up a LM Mobility Coop.	Ongoing	Developers/W2G
Develop LM Community Travel Plan covering Residential, school and workplace, Community Hub and Sports Hub.	Ongoing	Developers/W2G
Legible walking and cycling wayfinding throughout LM masterplan.	Ongoing	Developers/W2G
Provision of EV charging stations at car parking facilities within the town centre, local centre, sports hub, community hub and schools.	Ongoing	Developers/W2G

Demand Management

Implement minimum bike parking standards for residents and visitors and provide end of trip facilities for biking (eg showers/changing facilities at workplaces).	Ongoing	Developers
Implement maximum car parking standards for residential, offices and retail.	Ongoing	Developers

Sub areas A, B, H and I

Intervention	Timeframe/ Dependency	Responsibility
New roundabout on Lower Shotover Road at Spence Road.	No residential units in sub areas A and B to be occupied prior to completion of roundabout.	Developers/W2G
Speed limit to be reduced to 50kph on Lower Shotover Road from the proposed LM/Spence Road roundabout and SH6.	Once Lower Shotover Road roundabout is completed.	Developers/W2G
Provide raised pedestrian/cycle crossing on Lower Shotover Road between the proposed site access/Spence Road roundabout and Stalker Road. Provide a shared path on south side of Lower Shotover Road from this crossing point and Spence Road.	Once Lower Shotover Road roundabout is completed.	Developers/W2G
Improvements to Stalker Road roundabout to provide at grade signalised pedestrian/cycle crossings across SH6 west side and Stalker Road.	No residential units in sub areas A, B, H or I to be occupied prior to completion of at grade crossings.	Developers/W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided to the west of the Stalkers Road roundabout along with safe and direct active mode connections to the bus stops from sub areas A, B, H and I (in accordance with the street cross sections and the active travel link for site H1).	No residential units in sub areas A, B, H or I to be occupied prior to completion of the bus stops and associated active mode connections.	Developers/W2G

New priority intersection on Stalker Road, north of Maxs Way (as per the previously consented access).	No residential units in sub area H to be occupied prior to completion of intersection.	Developers/W2G
New priority intersection at the point of the existing private vehicle access on Stalker Road and closure of the existing private access on SH6.	No residential units in sub area I to be occupied prior to completion of intersection.	Developers/W2G

Sub areas C and D

Intervention	Timeframe/ Dependency	Responsibility
SH6 speed limit to be reduced to 80kph from existing 100kph (east of Stalker Road) eastbound towards Arrow Junction.	By 2024	W2G
Underpass SH6/Howards Drive.	By 2024	W2G
SH6 Westbound Bus Lane from Howards Drive to Shotover Bridge.	By 2024	W2G
SH6/Howards Drive Roundabout.	By 2024 No residential units in sub areas C and D, or any Town Centre uses in sub area D, to be occupied prior to completion of roundabout.	W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided to the west of the Howards Drive roundabout along with safe and direct active mode connections to the bus stops from sub areas C and D (in accordance with the street cross sections).	No residential units in sub areas C and D, or any Town Centre uses in sub area D, to be occupied prior to completion of the bus stops and associated active mode connections.	Developers/W2G
Improvements to Howards Drive roundabout to provide at grade signalised pedestrian/cycle crossings across SH6 west side, Howards Drive and the LM access.	No residential units in sub areas C and D, or any Town Centre uses in sub area D, to be occupied prior to completion of the bus stops and associated active mode connections	Developers/W2G
Provide mid-block at grade controlled pedestrian/cycle crossing circa 300m west of Howards Drive roundabout.	Timescale to be determined once pedestrian desire line created.	Developers/W2G
Eastbound bus lane on SH6 between east of Stalker Road and west of the Howards Drive roundabout.	Timescale to be determined following review of eastbound bus journey times and reliability.	Developers/W2G

Review scope to utilise the existing SH6 shoulder as a bus lane eastbound from Shotover Bridge to west of Stalker Road.	Timescale TBC by W2G	W2G

Sub areas E, F and G

Intervention	Timeframe/ Dependency	Responsibility
New eastern roundabout to the east of the existing 516 Ladies Mile existing access. Provide at grade signalised pedestrian/cycle crossings across SH6 west side and LM access.	No residential units in sub areas E, F and G to be occupied prior to completion of roundabout.	Developers/W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided circa 200m west of the Eastern roundabout along with safe and direct active mode connections to the bus stops from sub areas E, F and G (in accordance with the street cross sections).	No residential units in sub areas E, F and G to be occupied prior to opening of bus stops.	Developers/W2G
Provide mid-block at grade controlled pedestrian/cycle crossing across SH6 provided circa 200m west of the Eastern roundabout.	No residential units in sub areas E, F and G to be occupied prior to completion of mid-block crossing.	Developers/W2G
New link from proposed eastern roundabout to Sylvan Street with shared pedestrian/cycleway on the west side.	No residential units in sub areas E, F and G to be occupied prior to completion of Sylvan Street Link.	Developers/W2G
Speed limit to be reduced to 50kph on SH6 between the proposed eastern roundabout and west of Stalker Road.	Once eastern roundabout completed.	Developers/W2G
Extend westbound bus lane from Howards Drive to west of eastern roundabout.	Once eastern roundabout completed.	Developers/W2G
Eastbound bus lane on SH6 between west of the Howards Drive roundabout and west of the eastern roundabout.	Once eastern roundabout completed.	Developers/W2G
Re-route clockwise and anticlockwise Bus Service 5 from Howards Drive to Sylvan Street Link.	No residential units in sub areas E, F and G to be occupied prior to the rerouting of clockwise and anti-clockwise service 5 onto Sylvan Street Link.	Developers/W2G

Sub area J1

Intervention	Timeframe/ Dependency	Responsibility
Howards Drive priority intersection south of QCC intersection.	No residential units in sub area J1 to be occupied prior to	Developers/W2G

	completion of intersection.	

Community Hub/Sports Hub/temporary park and ride specific transport interventions

Intervention	**Timeframe/ Dependency**	**Responsibility**
Howards Drive priority intersection (to be provided opposite the existing QCC priority intersection)	Prior to Community Hub, Sports Hub or temporary park and ride opening.	Developers/W2G
Community Hub/Sports Hub car park to be available for shared use as a temporary (timescales subject to monitoring and evaluation of use) weekday park and ride facility.	Following completion of Community Hub/Sports Hub car park.	Developers/W2G

1.0 Introduction

This report presents the draft Transport Strategy for the proposed Te Pūtahi Ladies Mile (subsequently referred to as LM) Masterplan (shown in **Appendix A).** The Transport Strategy has been prepared as an integral part of the development of the Ladies Mile masterplan and also takes into account the adjacent communities of Shotover Country (SC) and Lake Hayes Estate (LHE). The Transport Strategy be used in the preparation of an Integrated Transport Assessment (ITA).

The following sections provide details of:

- Section 2 - Key transport policy/strategy documents
- Section 3 - Existing transport conditions
- Section 4 - Ladies Mile Master Plan Transport Strategy Background
- Section 5 - Ladies Mile Masterplan Transport Strategy Interventions
- Section 6 - Transport Strategy Impacts
- Section 7 - Monitoring and Evaluation

The following are Appendices to the Transport Strategy:

Appendices

A = Masterplan (separately attached).

B = Census data

C = O/D census mapping (separately attached).

D = Street cross sections (separately attached).

E = Draft Bus Strategy (separately attached).

F = Transport Modelling Technical Note and Appendices (previously circulated to W2G)

G = Meeting Notes 9/2/21

H = NZ and international research

2.0 Key Transport Policy/Strategy documents

A summary of key documents informing this Transport Strategy and their relevance to the Ladies Mile Masterplan, include:

2.1 National

Government Policy Statement (GPS) on Land Transport 2018 - focused on four key priorities: safety, access, environment, and value for money. The four categories have been developed to reduce Deaths and Serious Injuries (DSI's), deliver the best infrastructure for the right cost, provide increased access for people and reduce adverse effects on the climate. To reduce deaths and serious injuries, governing bodies will need to have a greater focus on safety improvements on high-risk state highways, such as SH6 in Queenstown, as well as local roads. The second priority of the GPS is access, with increased investment in footpaths and cycleways to encourage uptake of active travel modes. The Ladies Mile development focuses on facilities for active travel modes. The strategic vision looks at an increased focus in urban centres and development in thriving regions, such as Queenstown. There is a direction to support national freight and tourism connections, as well as integrating transport and land use planning, which increases access to employment, education and recreation.

The policy statement also seeks to protect the environment in relation to land transport, with mode shift to help aid in lowering emissions to facilitate the wider commitments of the Government such as achieving the Paris Agreement 2030 GHG emissions target. It notes the importance of creating liveable cities through enhanced public spaces and improved accessibility. The Ladies Mile development achieves this through provision for bus and active travel modes. The final priority is around investing in value for money projects which consider the full range of costs and benefits over the whole life of the investment.

Keeping Cities Moving - Increasing the wellbeing of New Zealand's cities by growing the share of travel by public transport, walking and cycling NZTA Sept 2019

"Increasing the share of travel by public transport, walking and cycling in New Zealand's cities (what is known as 'mode shift') has a critical role to play in improving the wellbeing of New Zealanders by shaping a more accessible, safe and sustainable transport system. It's not possible to accommodate more and more private vehicles within limited street space. They are a relatively inefficient means of moving people. And adding road capacity without providing alternative travel options tends to encourage more vehicle travel, often negating any initial congestion relief over time. The 'space efficiency' of public transport and active modes means that we can help people move around more easily without reducing their quality of life.

Providing alternative transport options that are convenient, reliable and cost-effective will support people to make changes to the way they travel. Private vehicles won't disappear anytime soon but providing a better-balanced transport system with options that reduce the need to drive or own a car *is increasingly important to ensure population and economic growth doesn't translate into more congestion, more emissions and ultimately less successful and liveable cities.*

Through the 2018-27 Government Policy Statement on Land Transport (the GPS), the Government has set out its aspiration to provide genuine travel choices as a key way to improving access to social and economic opportunities. Mode shift from private vehicles to shared and active modes is an important indicator of progress towards important wellbeing outcomes – creating more accessible and inclusive cities that are prosperous, safe, healthy and sustainable.

Increasing the proportion of journeys taken by shared and active modes requires tackling the causes of New Zealand's current car dependency:

- *Cities that are structured in a way that prioritises travel by car*
- *A lack of good shared and active travel choices due to historic under-investment*
- *Incentives that encourage people to continue to travel by car*

A very wide variety of interventions can influence mode shift. As we do not directly have responsibility for all these levers, partnership, integrated planning and decision-making, and co-investment with others will be key to success.

*The approach outlined in this document will also frame action plans for place-based changes in the six high-growth urban areas with the highest potential to achieve mode shift: Auckland, Hamilton, Tauranga, Wellington, Christchurch and **Queenstown**."*

As shown in the NZTA Figure below, the Ladies Mile Masterplan has been guided by the following "*How"* principles:

- Target the cause of car dependency – land use patterns, under investment in transport alternatives, and policies that encourage car use.
- Concentrate on high growth urban areas – Queenstown is one of these areas where the changes are most urgent and where the greatest benefits will be achieved.
- Understand the journeys people make in order to design effective access and mobility interventions.
- Focus on the most effective modes to ensure they are targeted to the types of trips and locations to which they are best suited.
- Ensure a consistent pace of change – quick wins should be pursued along with medium to long terms infrastructure provision

Also as shown in the NZTA figure below, the Ladies Mile Masterplan has been guided by the following 3 key areas:

- Shaping Urban Form – encouraging good quality, compact, mixed use urban development will result in densities that can support frequent public transport, shorter trips between home and work/education/leisure and safe, healthy and attractive urban environments to encourage more walking and cycling.

- Making Shared and active modes more attractive – improving the quality of public transport and facilities for walking and cycling will enable people to use them. This can involve optimising the existing systems (eg through reallocating space), investment in new infrastructure and services and providing better connections between modes.
- Influencing travel demand and transport choices – changing behaviour may also require a mix of incentives and disincentives (or push and pull factors) to either discourage use of private vehicles (by making them less attractive than other option) or making people better aware of their options and incentivising them to try something new. This may include parking policies, road pricing, travel planning and education.

SUMMARY OF NZ TRANSPORT AGENCY PLAN

VISION: Increasing the wellbeing of New Zealand's cities by growing the share of travel by public transport, walking and cycling

THE CHALLENGE - To deliver positive transport outcomes by reducing dependency on private vehicles in New Zealand's main urban centres

Despite recent growth in public transport and walking and cycling in many cities, total private vehicle kilometres are also increasing, meaning shared and active modes do not yet account for a significant proportion of total journeys, and New Zealand remains a very car dependent country overall

91% of total distance travelled is by drivers or passengers in a car or van[A]

83% of total trip legs are made by a driver or passenger in a car or van[A]

92% of households have access to a car (56% have two or more)[B]

55% increase in New Zealand's vehicle fleet between 2000 and 2017[C]

WHY

Mode shift can be a powerful cross-cutting approach to create more vibrant and liveable cities, by achieving a broad range of outcomes that will improve quality of life

Current problems	Desired outcome	Mode shift objectives
Limited travel choice that requires people to spend a significant part of their income on private vehicle use, and poor connections to social, health and economic opportunities	Enhanced access	• Affordable travel choices that are convenient, comfortable, and provide a genuine alternative to the financial burden of owning and operating a car • Integrated, multi-modal networks are designed to connect people to where they want to go, especially those who cannot or do not want to drive
Growing congestion that leads to longer and less reliable travel times, and urban areas that need to dedicate large amounts of land and resources to moving and storing vehicles	Greater economic prosperity	• Increasing business productivity due to travel time savings and the creation of cities where people want to live, work, visit and invest • More efficient land use, which supports growth by unlocking urban development along key transit corridors and creating spaces for people not cars
Growing vehicle emissions which contribute to the global challenge of climate change, and negative ecological impacts from construction and operation of roading infrastructure	Reduced environment impact	• Reduced greenhouse gas emissions by reducing the number of trips made by the light vehicle fleet, especially for longer journeys • Fewer harmful effects on water, biodiversity and resource consumption from expansion of roads
Increasing numbers of transport-related deaths and serious injuries, with a higher risk for 'vulnerable users' using active modes	A safer transport system	• Fewer traffic accidents from a reduction in the volume of traffic, and migration to public transport which is a very safe mode • Improved safety for cyclists and pedestrians through high quality facilities and the 'safety in numbers' effect
More sedentary lifestyles that contribute to increasing levels of obesity and chronic diseases, and transport related air pollution and noise that can harm public health	Improved public health	• Increasing levels of physical activity as walking and cycling become regular parts of daily travel • Less harm from pollution and noise by lowering traffic volumes in business and residential areas

HOW

PRINCIPLES TO ACCELERATE PROGRESS – In an environment where funding is limited, we need to optimise our planning, regulation and investment decisions to maximise the level of mode shift that can be achieved:

Target the causes of car dependency – For an effective, long-term shift, we need to take an integrated, multi-pronged approach that directly targets the historic reasons behind car dependency: land-use patterns, under-investment in transport alternatives, and policies that encourage car use

Concentrate on high growth urban areas – Our initial focus is on six large and/or fast-growing cities, as these are the places where change is most urgent and where the greatest benefits will be achieved - Auckland, Hamilton, Tauranga, Wellington, Christchurch, Queenstown

Understand the journeys people make – In order to use mode shift as a means to improve access and mobility, understanding the nature of journeys is crucial to designing effective interventions, including their length, purpose and location

Focus on the most effective modes – Recognising all modes have a role to play, the relative strengths and weaknesses of walking, cycling, public transport and new technologies should be considered to ensure they are targeted to the types of trips and locations to which they are best suited

Ensure a consistent pace of change – Permanent infrastructure takes time and significant resources so 'quick wins' should actively be pursued, while ensuring medium and long-term priorities are understood and can be brought forward should additional resources be secured

AN EXPANDED ROLE FOR THE TRANSPORT AGENCY – Moving away from a largely 'reactive' role in mode shift, we are well-placed to play a much stronger role in accelerating change given our national scale and breadth of operation:

Refocusing investment and delivery priorities – Ensuring broader optioneering and assessment of wider benefits and costs during investment decision making

Partnering more closely with others – Ongoing and genuine collaboration to align national and regional priorities, and support joint investment and land-use decisions

Leading the public conversation – Communicating the need for change, the benefits of reducing car dependency, and the role different initiatives can play

Building capability and becoming a centre of excellence – Growing sector capability to plan and deliver complex urban mobility programmes, fostering innovation, and using data, research and analytics to build the evidence base

WHAT

AREAS OF TRANSPORT AGENCY INFLUENCE – Recognising the legislative and planning environment in which we operate, we will take an integrated approach across three key areas to address the causes of dependency, working with others [in areas where have less influence]:

Shaping urban form – Encouraging good quality, compact, mixed-use urban development will result in densities that can support rapid/frequent transit (and vice versa), shorter trips between home and work/education/leisure, and safe, healthy and attractive urban environments to encourage more walking and cycling

Making shared and active modes more attractive – Improving the quality and performance of public transport, and facilities for walking and cycling will enable more people to use them. This can involve both optimising the existing system (eg through reallocating road space), investment in new infrastructure and services, and providing better connections between modes.

Influencing travel demand and transport choices – Changing behaviour may also require a mix of incentives and disincentives (or 'push' and 'pull' factors) to either discourage use of private vehicles (by making them less attractive than other options) or making people better aware of their options and incentivising them to try something new. This may include parking policies, road pricing, travel planning and education.

ACTION FOCUS – Spatial and place-based planning; policy and regulatory settings; network design, management and optimisation; investment in infrastructure and services; economic tools; and education, engagement and awareness are the levers we will use to:

- Work with our partners to shape spatial, transport, land use and district plans that will maximise mode shift and ensure urban growth and transport investment are aligned
- Complete the Good Practice Guide to set out best practice guidance for healthy street design and efficient transit-oriented developments
- Evolve the One Network Road Classification to a One Network Framework to reflect wider transport outcomes, and ensure all modes and placemaking are considered in street design
- Develop a package of regulatory changes that will facilitate mode shift (and cuts across all three areas) including vehicle standards, road management, speed limits and traffic control

- Ensure our investment policies and processes support mode shift and that assessment and prioritisation includes measures of broader environmental and social benefits
- Develop guidance relating to network optimisation and traffic management to make better use of existing resources and improve levels of service for shared and active modes
- Partner to design and deliver nationally significant multi-modal networks, incorporating public transport, rapid transit and major walking and cycling connections
- Provide tools and guidance to support the implementation of speed management programmes and a wider range of safety interventions for urban streets

- Research, co-design and trial new programmes and methods to increase awareness of travel choices and manage travel demand, including how to best align these with new investment
- Investigate how pricing components of the transport system could influence travel behaviour, including congestion charging, parking, and public transport fares and ticketing
- Promote activities that will reduce car dependency to and from schools and major destinations, including travel planning, cycle training and other emerging tools
- Encourage wider community participation to change perceptions about use of streets, and assist local authorities to build support for reallocation of road space to people

Underpinned by the development of a more detailed capability and funding plan and a robust evaluation framework

•

Keeping Cities Moving recognised the following:

Understand the journeys people make

In order to use mode shift as a means to improve access and mobility, understanding the nature of the journeys people make is crucial to designing effective interventions. Key characteristics of different trip types that are relevant to mode choice include:

- Trip length – long trips by car, especially within major urban areas, generate the most congestion and emissions. Achieving mode shift for these trips will therefore generally deliver the greatest benefits.
- Trip purpose – trips to work and education are made very regularly, often individually, to higher density locations and at times of day when the transport network is under the most pressure. These trips may be easier ones to 'shift' to alternatives and achieving a greater share of journeys to school by active modes can deliver important life-long benefits. Trips for multiple purposes are often linked together, affecting the relative attractiveness of different modes (eg public transport may not efficiently serve one destination, which could put someone off using it for any of their travel).
- Trip location – journeys starting and/or ending in higher density locations are more likely to have the scale of demand that supports providing high-quality travel options. High traffic volumes in these locations also generate significant adverse effects on congestion, public health and emissions.

Overall, there needs to be a strong focus on targeting journeys to work and education, especially where those trips are longer and/or are located in higher density parts of our main urban areas.

Focus on the most effective modes

All transport modes have their strengths and weaknesses, and a role to play in an integrated multi-modal system:

- Public transport can be an efficient way of moving large numbers of people but providing a high-quality service can be expensive. This means it can be difficult to provide an attractive service in lower-density areas or for journeys that are less common.
- Cycling is a healthy way to travel medium-length distances. However, bikes mix poorly with pedestrians and vehicles, which means that specific infrastructure is needed to make cycling a high-quality option. Slower average speeds than motorised modes, exposure to the weather and required fitness levels limit cycling's attractiveness for longer journeys, although e-bikes help overcome some of these challenges.
- Walking is also a healthy and congestion-free way of travelling shorter distances. It is free and does not require any specialist equipment or services. However, walking is much slower than other transport modes – making it less attractive for longer journeys. Poorly designed streets and urban areas can also make walking unattractive and unsafe.
- 'New' technologies such as on-demand services, e-scooters and car sharing are redefining interaction between traditional transport modes and operating models and have great potential

to play a role in reducing car dependency. However, this topic will require careful navigation to ensure wider benefits are not undermined (eg by cannibalising active modes or taking up more road space).

Overall, an integrated approach is required that focuses each mode on playing a greater role in serving the types of trips they are well suited to. Each of these can also support the other, for example through making it easier and safer to walk or cycle to public transport. Because of their significant wider benefits, active modes should be the focus for achieving mode shift for shorter journeys.

Draft Supporting Evidence for Consultation Climate Commission (1 February 2021) - Chapter 4b: Reducing emissions - opportunities and challenges across sectors Transport, buildings and urban form

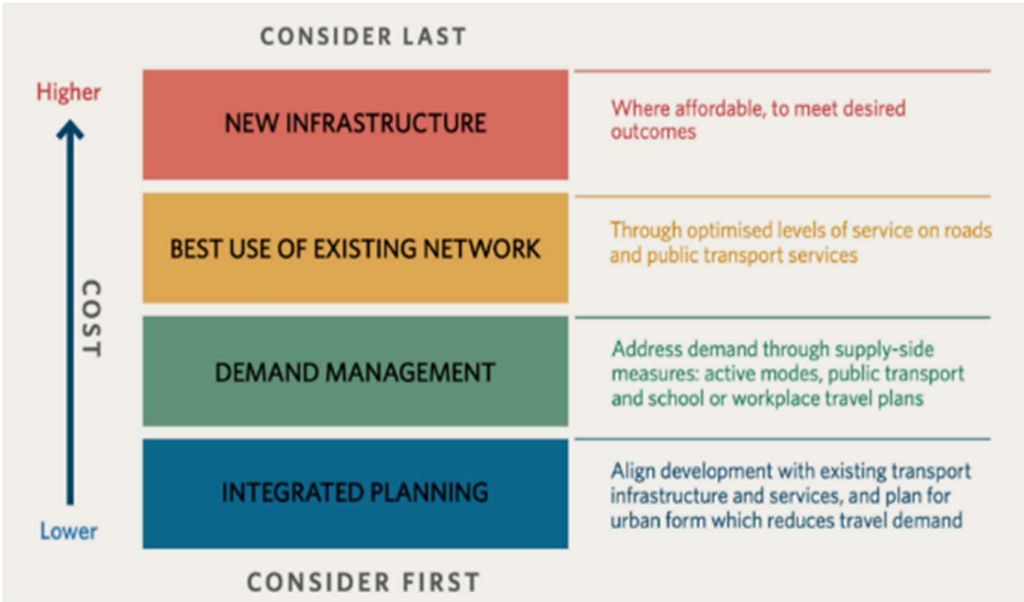
Throughout the LM Transport Strategy various references are made to this evidence report.

2.2 Regional

W2G Mode Shift Plan– Better Ways to Go (August 2020)

In section 4.21 - Integrating mode shift benefits into planning – the mode shift plan states that mode shift fits within a demand management approach towards achieving sustainable and affordable transport outcomes that has replaced the traditional "predict and provide" approach to transport planning. Known as the "intervention hierarchy", this approach recognises the four key approaches to meeting transport capacity needs, starting with consideration of low cost, non-infrastructure solutions such as land use planning and demand management that reduces the need to travel by car, followed by optimisation of existing capacity and only finally the consideration of the highest cost, most complex and slowest option to provide new roading infrastructure. Mode shift in general, and this plan in particular, focusses on the integrated planning and demand management boxes in the NZTA figure below, as well as public transport service optimisation shown in the yellow box. These correspond with the approaches to shaping urban form (integrated planning), making shared and active modes more attractive and influencing people's travel choices (demand management). Optimised levels of service on the road network are only identified in this plan where it supports or enables an active or shared mode improvement.

Intervention hierarchy for meeting transport demand



The Queenstown Business case indicated that "*to achieve this level of mode shift requires all four pillars of the Intervention Hierarchy to work seamlessly together. Put simply, one pillar (for example, New Infrastructure) cannot do it on its own and if any one pillar fails, then that puts the whole programme at risk. While this is undoubtedly a daunting challenge, Queenstown's sister city of Aspen, Colorado has over time achieved a similar level of mode shift. Aspen has many features in common with Queenstown: It has very expensive real estate and significant housing affordability challenges, resulting in many workers needing to commute long distances to jobs in Aspen. As a year-round resort destination, it has the same "insatiable desirability" that literally drives its transport issues. Growth in air services has in both cases been a key driver of visitor and population growth. And it has even similarly constrained access as Queenstown with one route in and out of the town centre. It addressed its issues through: Integrated Planning: The City of Aspen became a major workforce housing provider in its own right with a significant proportion of residents living in city-owned housing. The planned workforce housing development on the old Wakatipu High School site in Gorge Road is a good Queenstown analogy. Travel Demand Management: All development applications in Aspen that generate significant trips are required to implement both extensive travel demand management measures and significant improvements to non-car modes of transport to mitigate their impact on the transport network. Best Use of Existing Network is achieved through making the local public transit system free, extending its coverage and service span and integrating ski transport with the conventional public transport system. New Infrastructure took the form of VelociRFTA, touted as the first Rural BRT system, designed to provide a fast, frequent and attractive alternative to driving for the significant proportion of workers who lived outside of the core of Aspen. This was achieved through frequent service; high-quality, high-capacity buses; upgraded stops and stations and bus priority measures. The net result of the combination of the above measures is that Aspen, one of the most affluent communities* *in the entire United States, achieves a 67.8% non-car driver mode share for commuting, which is higher than the 60% mode shift target called for in this business case process.*

Draft Otago Southland Regional Land Transport Plans 2021-2031 (March 2021)

The Draft Plan identifies that QLDC's investment is focused on mode shift to provide safe and better travel options, developing a multi-modal network that addresses current capacity issues and supports a low carbon transport system. Investment in public transport and active travel are key step change projects and elements of this will be delivered through an improvement programme as well as Low-Cost Low Risk. Building a 'Road to Zero' programme supports the safe system approach.
Post-COVID-19 growth projections indicate that growth over the next 30-year period is fairly aligned with pre-COVID-19 expectations, however the profile of that growth has changed. Instead of the rapid growth in the short term, the growth will be more evenly spread and escalate as QLDC move through the next 30 years. QLDC will continue to monitor the growth projections closely, but still needs to move programmes forward to address historic and emerging network pressures.

A key tool for QLDC has been stronger alignment with land use planning. The National Policy Statement for Urban Development has resulted in QLDC creating a Spatial Plan 'Grow Well' or 'Whaiora'. The plan sets out the principles and outcomes that will guide sustainable growth across the district.

Of relevance to Ladies Mile Masterplan the RLTP indicates the following committed investments:

Otago State Highways

- Wakatipu Walking/Cycling Network Improvements (Implementation) - Walking and cycling facilities adjacent to SH6 including improvements to connections for residential areas of Shotover Country/Lake Hayes Estate, Jacks Point/Hanley Downs and the Wakatipu trails. Upgrading of the existing Frankton track connecting Frankton to Queenstown as a safe alternative to SH6A on road cycling. 2020/21 $10,670,04.

QLDC

HIF Ladies Mile (construction) - Housing Infrastructure Fund. The proposed Ladies Mile residential development is located east of Frankton along both sides of Ladies Mile (SH6) between the Shotover River and Lake Hayes Access improvement from State Highway. 2020/2021, $6,144,118

2.3 Local

Queenstown Transport Taskforce Report (February 2017) highlighted the need to develop an integrated district wide long-term transport strategy that provides for transport within and between Frankton, the Queenstown CBD, and the Wakatipu Basin's major residential areas, as well as catering to commuters from the wider Central Otago Region, e.g. Wanaka, Cromwell, Alexandra, Glenorchy, and Kingston. The plan to include but not limited to:

- A Master Plan for the Wakatipu basin area identifying key public transport, walking and cycling corridors within and connecting to the Frankton Flats area
- Identification, protection and development of key public transport corridors and transport hubs needed now and into the future.
- A fundamental transformation from the use of private/rental cars and campervans to public transport and innovative forms of transport, e.g. automated shared vehicles, e-bikes, water taxis, gondolas, monorail, etc.
- Provision of safe and efficient commuter cycling and walking corridors between key destinations and major residential areas, linking with the trails network in the Wakatipu basin.

Queenstown District Lakes Operative District Plan (OPD) (June 2018 updates). The Operative District Plan recognises the need for a sustainable, safe transport system that provides maximum choice between modes. The unique nature of transport demands and constraints in Queenstown mean that land use and access need to be controlled efficiently. Objectives 6 and 7 within the District Plan refer to recognising and meeting the needs of people who travel by active modes and public transport.

Housing Infrastructure Fund Integrated Transport Assessment (June 2018)

In support of a Housing Infrastructure Fund (HIF) Business Case Bid, an Integrated Transport Assessment (ITA) was carried out on behalf of QLDC which assessed the impact of the proposed QLDC indicative masterplan and identified a package of transport measures to mitigate the impact of this scale of development. The Detailed Business Case was QLDC's formal request to obtain a $19.2 million HIF loan (with repayments being made from development contributions) and $6.5 million at 51% via the Local Road Funding Assistance Rate (FAR) as a separate $6.5m HIF funded loan directly to the National Land Transport Fund (NLTF), not QLDC. A FAR (Funding Assistance Rate) of 51% was assumed due to the significant access improvements for the Lake Hayes Estate and Shotover Country communities and the safety improvements for all traffic through the Howards Drive intersection.

The transport works identified included:

- Access via a roundabout controlled intersection at SH6/Howards Drive ($7.65m).
- One pair of bus stops and bus shelters on SH6 (location to be confirmed) ($2.37m).
- SH6 pedestrian/cycleway underpass near bus stops ($2.23m).
- Footpaths along SH6 to the underpass and bus stops.
- Access in later stage of development from Lower Shotover Road and SH6/McDowell Drive.
- Internal bus stops (developer to provide).
- Increased bus frequency and direct routes.
- Park and ride hub for 'Cromwell' traffic.
- SH6 bus priority.
- Reduce SH6 speed limit to 80km/h.

QLDC have confirmed that the bus routing for LM masterplan would be expected to follow SH6 with high spec bus stops

Queenstown Lakes Spatial Plan "Grow Well Whaiora" (March 2021) is a collaborative planning process currently underway between local communities, Kai Tahu, Queenstown Lakes District Council and Government agencies. Its purpose is to plan for future growth in an integrated way by identifying locations for future urban development that best balance community aspirations with future demand and infrastructure provision, including transport.

The draft Queenstown Lakes Spatial Plan (March 2021) states that a multimodal approach includes a much-improved walking and cycling network and a frequent public transport system which provides efficient and reliable access for residents while improving pedestrian safety and significantly reducing emissions - allowing Queenstown to 'Grow well – Whaiora'.

Ladies Mile is identified as a Priority Development Area as a new transit-oriented neighbourhood offering new housing choices. Requires working in partnership to deliver a public transport solution that will unlock the potential of this site.

Outcome 2: indicates that public transport, walking and cycling are everyone's first travel choice - rapid growth, car dependence and dispersed, low density settlements mean the current transport network does not provide sufficient choice, reliability or meet future needs. A new approach is required that focuses on moving people, not cars. This will require creating a resilient, sustainable and safe transport network where public transport, walking and cycling are everyone's first transport choice.

In terms of priority actions relevant to LM MP are:

1. **Shaping Urban Form**
    - Masterplan for Ladies Mile by 2021.

2. **Making shared and active modes more attractive**

Active Modes

By 2021

- A8 – Lake Hayes Estate to Frankton
- B2 – Fernhill to Queenstown
- B3 – Frankton track improvements
- Q2 - Arthurs Point to Tuckers Beach
- C5 - Arthurs Point to Queenstown improvements
- C7 – Lake Hayes Estate to Shotover River

By 2024

- A8 – Lake Hayes Estate to Frankton
- B2 – Fernhill to Queenstown
- B3 – Frankton track improvements
- Q2 - Arthurs Point to Tuckers Beach
- C5 - Arthurs Point to Queenstown improvements
- C7 – Lake Hayes Estate to Shotover River

Consider by 2024.

- C1 – Rees Street
- C2 – Brecon Street
- C3 – Park Street
- C4 – Upper and Lower Beach Street (subject to development timing)
- C6 – Arthurs Point to Tucker Beach
- D1 – Kelvin Heights to Frankton
- D2 – Tucker Beach to Frankton
- D3 – Arrowtown to Lake Hayes track
- D4 – Lake Hayes North to Shotover Street
- E1 – Arrowtown to Arthurs Point
- F1 – Jacks Point to Kelvin Heights by 2024

Public transport infrastructure and services

By 2024

- SH6 Bus Priority and Facilities (Ladies Mile) (part $90m NZUP package)
- SH6 Bus Priority and Facilities (Kawarau Road to Shotover River) ($90m NZUP package)
- Park 'n' Ride sites detailed design and construction (subject to SSBC).
- Public transport service frequency improvements 2024 and 2027

3. Influencing demand and transport choices

Travel behaviour change initiatives

Real time passenger information system mobile platform enhancement	From 2021
Orbus marketing and promotion campaign	From 2021
Travel Demand Management Single Stage Business Case Lite	By 2022
Way to Go Marketing and Promotion Campaign	From 2022

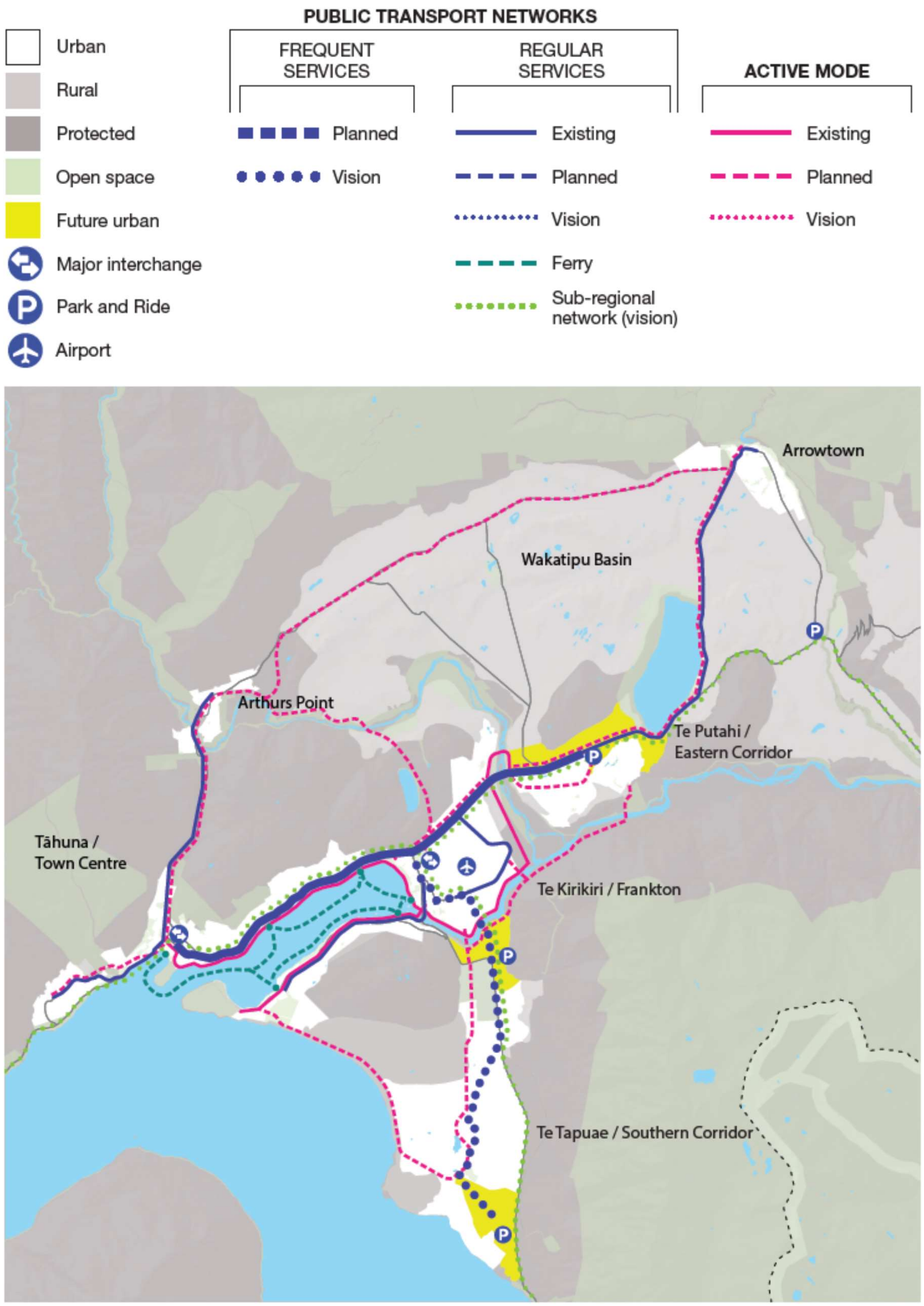
Queenstown travel management association establishment and initiatives	By 2022
Workplace travel plan programme	From 2023
School travel plan programme	From 2022
Physical and digital wayfinding programme	From 2021

The spatial Plan under STRATEGY 5 (Ensure land use is concentrated, mixed and integrated with transport) notes that more people can travel by public transport, walking and cycling if land use activities are concentrated, more mixed and better integrated with a multi-modal transport network. Activities that generate a high number of trips need to be located where they can be easily accessed by existing and planned public transport, walking and cycling infrastructure and services. The geographical constraints of the Wakatipu Basin mean the urban area of Queenstown is located in and around two corridors. This provides an opportunity to link many destinations, employment and residential areas with public transport and active travel networks. The Spatial Plan seeks to concentrate high density, mixed-use development along these corridors that will support high-frequency public transport services.

Outcome 4: Well-designed neighbourhoods that provide for everyday needs. Much of the recent growth has been in housing developments that lack local shops, services and adequate parks and community facilities. Ensuring a greater mix of uses in neighbourhoods will mean more everyday needs can be met locally, get people out of cars, and help to improve the health and wellbeing of communities now and into the future

Regarding bus routing, Map 14 (below) of the draft Queenstown Lakes Spatial Plan (March 2021) summarises the Wakatipu bus and active travel networks. The Draft Spatial Plan states that SH6 is the preferred high-capacity public transport route to serve Ladies Mile.

MAP 14: WAKATIPU – PUBLIC TRANSPORT AND ACTIVE TRAVEL NETWORKS



Queenstown Business Case November 2020 - The Queenstown Business Case covers the Wakatipu Basin. It incorporates the Queenstown Town Centre, the Frankton to Queenstown corridor, Frankton and the Frankton to Ladies Mile Corridor. Investment cases have been developed for each geographic area. The mechanism to deliver on the investment objectives will need to include a wide range of initiatives focussed on shifting the current reliance on the private vehicle, by providing users with a range of travel choices. It is therefore important that investment is distributed to infrastructure and non-infrastructure as identified through the 'three pillars of investment'

- Targeted infrastructure investment – Urban realm improvements to the town centre facilitated by the CIP investment and the interventions identified in the active travel SSBC, improvements to SH6 and SH6A facilitated by NZ Upgrade Programme investment.
- Public Transport services – A high quality system built on Bus Rapid Transit (BRT) principles providing increased public transport services and improved public transport facilities (fleet and infrastructure), leveraging off the public transport priority provided through the NZUP investment.
- Travel Behaviour Change mechanisms – A suite of interventions that encourage the uptake of more sustainable transport modes through more proactive parking management and other Travel Demand Management tools. This will be achieved through both pull and push factors. For example, PT fare incentives can be used to encourage uptake (the success of the Orbus $2 flat fare is evidence of this).

Relevant to Ladies Mile, the QBC identified the following investment

- Infrastructure Committed - SH6 Ladies Mile Corridor Improvements (NZUP Programme funded) - Westbound PT lane along SH6 - Ladies Mile. Bus priority onto the Shotover Bridge is being considered. Howards Drive roundabout access and safety improvements.
- Infrastructure recommended (unfunded) - Improved first and last mile connectivity to the bus stops and hubs across the network improves access to the PT services.
- Public Transport Services (unfunded) - Enhanced public transport fleet, stop and depot facilities to deliver higher capacity and higher frequency BRT style services. The fleet will be upgraded incrementally with a view to delivering highly efficient and environmentally friendly bi-articulated "trackless tram" style vehicles as demand increases. A network of enhanced BRT station stops will be provided with enhanced first mile/last mile connectivity. Further upgrades to bus services to provide connector services to key residential and development areas, as required through the delivery of the spatial plan.
- Travel Behavioural Change (unfunded) Travel Demand Management to encourage people to use more sustainable and higher capacity forms of transport. Improved parking management in both Queenstown Town Centre and Frankton to reduce circulating traffic volumes. Improved use of technology for transport network operations management and customer information (wayfinding and variable message signage).

Wakatipu Active Travel Network Single Stage Business Case (August 2019). Sets out strategic active mode links to be integrated with other planned transport improvements and studies. The proposed active travel mode proposals are shown in the figure below:

Park and Ride Draft Business Cases - an interim option for a 200-space park and ride within Ladies Mile is currently under consideration, along with a 600-space park and ride further east at Alec Robins Road.

SH6 LM and Stalker Road Bus Priority Lanes Single Stage Business Case (November 2019) – This SSBC concluded that implementing either a northbound Stalker Road or westbound State Highway 6 Ladies Mile bus lane would improve travel times for public transport services out of Shotover Country in the short term. However, as traffic volumes increase, bus lane facilities on both the Stalker Road and State Highway sections are required to protect the reliability of public transport services, given the fixed capacity of the downstream constraint at Shotover Bridge.

Arthurs Point Crossing Single Stage Business Case (December 2020). This proposal provides resilience to the wider Queenstown/eastern corridor transport network which, via Malaghans Road, provides an alternative to all traffic to/from the east of using SH6 Ladies Mile and Shotover Bridge.

NZTA Ladies Mile Position Statement (received 8/10/20)

This included that:

- *"The overall alternative mode share across the network will need to be in the order of 40% by 2028 to maintain a functional transport network (where alternative means alternative to single* *occupancy private vehicle trips and includes public transport, walking and cycling trip, ride sharing and working from home).*

- *Ideally all these provisions will be in place for the first phase of development so that travel choices can be formed when people move in. We should also advocate for targeted travel behaviour change for the first residents (eg info, free introductory bus cards etc …).*
- *The Mode shift plan takes a three-pronged approach shifting mode. Through shaping urban form, improving active and shared modes and influencing people's travel choices. Initiatives to reshape existing urban form and locate new urban development will be outlined through the Queenstown Lakes District Spatial Plan. The greatest contribution to mode shift will come from a significant investment in public transport infrastructure and services in the Wakatipu Basin and subsequent increases in the PT LOS. Influencing travel choices, also known as travel demand management, will include the promotion of active and shared mode options and parking management (supply and pricing) at key centres. Implementation of the plan will require ongoing support from the public, business and commercial sectors.*
- *What is needed going forward is for the Ladies Mile master planning process to incorporate further corridor investigation and modelling of potential land use scenarios and to clearly demonstrate (through modelling results and staging) an integrated approach to land use and transport planning for the areas and in a way that maximises the people moving capacity of the corridor, results in a significant mode shift and shows how the SH6 corridor can function effectively efficiently and safety into the future and clearly outlines the investment in infrastructure and services required to achieve this and how these might be funded.*
- *Appropriate mechanisms need to be determined to give effect to the Board's requirements below:"*

(between Lake Hayes and Shotover bridge). This MOU will apply to the development of housing described by this Detailed Business Case, up to a maximum of 1,100 homes, which is the robust limitation imposed by QLDC's 'Policy Clause'. It is expected that the MOU will formalise the following ten steps, expanded to include levels at which each intervention should be designed, constructed and implemented.

	Sequence	Action / Intervention	Trigger	Control Mechanism	Funding
1	Prior to first lots	Construct access Roundabout at Howards Drive	DA for Development	DA	HIF
2	Prior to first lots	Construct Bus Stops and Underpass on SH	DA for Development	DA	HIF
3	Prior to first lots	Improve PT Level of Service - Target 20%	DA for Development	MOU	ORC
4	By end of 450th lot	Construct Park & Ride East of Ladies Mile	Design @150. Construct @300.	MOU	NZTA
5	Park & Ride	Complete Improve PT Level of Service - Target 25%	Park & Ride Complete	MOU	ORC
6	By end of 750th lot	Construct Bus Priority Lane (Park & Ride to Shotover Bridge)	Design @450. Construct @600.	MOU	QLDC / NZTA
7	Priority Lane	Complete Improve PT Level of Service - Target 27%	Priority Lane Complete	MOU	ORC
8	By end of 900th lot	Implement Diversion Improvements	Design @750. Construct @825.	MOU	QLDC / NZTA
9	By end of 1,100th lot	Improve PT Level of Service - Target 29%	900 Lots	MOU	ORC
10	Prior to 1,101st lot	Future PT Infrastructure / Modal Shift	900 Lots	MOU	QLDC / NZTA / ORC

"Some of this work has been superseded or progressed by other programs. That is:

- *Steps 1 and 2 are being delivered by NZUP*
- *Step 6 (bus priority lane) is being delivered by NZUP*
- *Step 4 is being progressed via a Council led business case*

The other steps in the table are still required sequentially to keep the Shotover Bridge operating at or near capacity during peak times.

An updated Table reflecting the new funding arrangements and potential new Control Mechanisms is as follows:"

NZTA Board HIF Approval						
	Sequence	Action / Intervention	Trigger	Control Mechanism	Funding	New Funding
1	Prior to first lots	Construct access Roundabout at Howards Drive	DA for Development	DA	HIF	NZUP
2	Prior to first lots	Construct Bus Stops and Underpass on SH	DA for Development	DA	HIF	NZUP
3	Prior to first lots	Improve PT Level of Service – Target 20% reduction in private vehicle trips	DA for Development	DP staging	ORC	ORC
4	By end of 450th lot	Construct Park & Ride East of Ladies Mile	Design @150. Construct @300	DP staging	NZTA	NZTA
5	Park & Ride	Complete Improve PT Level of Service – Target 25%	Park & Ride Complete	DP staging	ORC	ORC
6	By end of 750th lot	Construct Bus Priority Lane (Park & Ride to Shotover Bridge)	Design @450. Construct @600	DP staging	QLDC / NZTA	NZUP
7	Priority lane	Complete Improve PT Level of Service – Target 27%	Priority lane complete	DP staging	ORC	ORC
8	By end of 900th lot	Implement Diversion Improvements	Design @750. Construct @825	DP staging	QLDC / NZTA	QLDC / NZTA
9	By end of 1,100th lot	Improve PT Level of Service – Target 29 %	900 Lots	DP staging	ORC	ORC

10	Prior to 1,101st lot	Future PT Infrastructure / Modal Shift	900 Lots	DP staging	QLDC / NZTA / ORC	QLDC / NZTA / ORC
	Over 1100 lots	Future PT Infrastructure / Modal Shift	?	MOUDP staging		

2.4 Summary of Strategy Documents

All of the above key national, regional and local transport strategy documents set out the direction for transport in Queenstown and stress the importance of mode shift and the need for mixed use, high density developments to support this.

All these plans clearly spell out the importance of reducing Queenstown's reliance on private vehicles if the following outcomes are to be achieved:

- Easily connecting people, goods and services to where they need to go.
- Providing high quality and affordable travel choices for people of all ages and abilities.
- Seeking to eliminate harm to people and the environment.
- Supporting and shaping Queenstown's growth.
- Creating a prosperous, vibrant and inclusive Queenstown.

There are few cost-effective options to add significant roading capacity within Queenstown and research indicates that adding road capacity tends to simply induce more vehicle travel, largely negating congestion relief benefits over time.

However, Queenstown continues to grow rapidly and this combination of rapid population growth and few opportunities to effectively add road capacity makes it critical to increase the share of travel by public transport, walking and cycling. If population growth simply translates into increased vehicle travel, then the result will be more congestion, poorer access to opportunities, higher emissions, a less healthy and safe population, and overall a poorer quality Queenstown for residents, businesses and visitors.

3.0 Existing Transport Conditions

3.1 Introduction

Keeping Cities Moving indicates that in order to design effective access and mobility interventions you need to understand the journeys that people make. In order to use mode shift as a means to improve access and mobility, understanding the nature of the journeys people make is crucial to designing effective interventions. Key characteristics of different trip types that are relevant to mode choice include:

- Trip length – long trips by car, especially within major urban areas, generate the most congestion and emissions. Achieving mode shift for these trips will therefore generally deliver the greatest benefits.
- Trip purpose – trips to work and education are made very regularly, often individually, to higher density locations and at times of day when the transport network is under the most pressure. These trips may be easier ones to 'shift' to alternatives and achieving a greater share of journeys to school by active modes can deliver important life-long benefits. Trips for multiple purposes are often linked together, affecting the relative attractiveness of different modes (eg public transport may not efficiently serve one destination, which could put someone off using it for any of their travel).
- Trip location – journeys starting and/or ending in higher density locations are more likely to have the scale of demand that supports providing high-quality travel options. High traffic volumes in these locations also generate significant adverse effects on congestion, public health and emissions.

Overall, there needs to be a strong focus on targeting journeys to work and education, especially where those trips are longer and/or are located in higher density parts of our main urban areas.

The following sections describe the existing transport conditions and patterns of movement at SC and LHE from a number of data sources

3.2 NZTA Resource 1 – Facts and Figures, indicates the following:

- 90% of people travelling to work in cars are single occupants.
- New Zealand vehicle ownership rate is 0.75 vehicles per person (4th highest in world).
- 92% of households have access to a motor vehicle.
- One third of vehicle trips were less than two kilometres, and two thirds were less than six kilometres.

3.3 Census statistics for SC and LHE combined (noting that SC and LHE results are very similar except for travel to education – see below) indicate the following (note separate data for SC and LHE are supplied in **Appendix B**):

Population

- Total Population = 4326 (= 11% of QLDC population).
- Median age = 31.
- 25% of population <15 years (much higher than QLDC and NZ average).
- 3% of population > 65 (much lower than QLDC and NZ average).

Therefore, population is of an age profile to support increased use of active modes.

The Queenstown Business Case notes that relative to other areas, Queenstown has a highly active population, with mountain biking, hiking and skiing a key driver for many choosing to live in the area. Therefore, there should be a high take up of use of active modes.

Dwellings

- Total = 1440.
- Average people per household = 3 (much higher than QLDC and NZ average probably due to higher proportion of children).

Occupation %

- Managers = 22.7%.
- Professionals = 17.2%.
- Technicians and trade workers = 17.6% - this is much lower than the residents have indicated.
- Community and personal service workers = 10.5%.
- Clerical and administrative workers = 10.8%.
- Sales workers = 10.6%.
- Machinery operators and drivers = 4.4%.
- Labourers = 6.5%.

These are all similar to QLDC and NZ statistics - therefore there is not a substantial number of tradies at SC/LHE.

Travel To Work %

- Work at home = 11.1%.
- Drive a private car, truck, or van = 61.8%.
- Drive a company car, truck, or van = 16.1%.
  - Total driving alone in cars = 77.9%.
- Passenger in a car, truck, van, or company bus = 3.9%.
  - Total driving/passenger in cars = 81.8%.
- Public bus = 3.3%.
- Bicycle = 1.9%.
- Walk or jog =1.3.

Driving mode share is much higher than QLDC and NZ.

Walking mode share is much lower than QLDC.

Travel to Education SC (LHE).

- Study at home = 9.9% (5.1%) – both similar to QLDC/NZ.
- Drive a car, truck, or van = 8.1% (7.9%) both similar to QLDC and NZ.
- Passenger in a car, truck, or van = 26.1% (42.1%) SC lower than QLDC and NZ, LHE higher than QLDC and NZ.
- Bicycle = 13.7% (12.1%).
- Walk or jog = 26.1 % (2.3 %) SC much higher than QLDC & NZ LHE much lower than QLDC & NZ.
- School bus = 13 % (27.1 %).
- Public bus = 3.1% (2.3%).

Drive % is either staff movements or high school pupils driving to school.

Greater % are passengers from LHE but still high at SC.

Cycle for both SC and LHE is hhigher than QLDC and much higher than NZ.

Walk % very low LHE – reflecting longer distance to walk to Shotover Primary School (circa 800m to 2km distance).

School bus use higher at LHE than SC.

3.4 ORC database (Lake Hayes Updates Feb 2021 - Remix), as supplied by QLDC, which uses 2018 Census data indicated the following for the 400m catchment of the entire service 5 route ie LHE to Queenstown

- Total Pop = 7,988
- 2,395 households
- 5.6% > 64
- 80.4% 15-64
- 13.5% <15

- 5,466 workers (workplace)
- 6005 workers (resident)
- 6.1% bus to work
- 3.1% bike to work.

- 1,333 students
- 3.5% bus to school

- 10.8% bus to school

- 3.8% car free households
- 24.3% 1 car households
- 71.9% 2 or more car households

3.5 Census Origin/Destination (O/D) of trips

- All trips/all modes LHE and SC – Primarily Frankton and Queenstown town centre.
- Cycle trips LHE – all outbound main destination is to SC, and secondly to Queenstown (circa 12km).
- Cycle trips SC – main destination is to Frankton (circa 3.7km) and secondly Queenstown (circa 10.4km). Cycle trips internally and also inbound from LHE.
- School bus trips LHE Primarily to QT primary school, smaller amount to Frankton ie Wakatipu High school (noting new site opened Jan 2018 and census carried out 6/3/18). Small amount to St Josephs.
- School bus trips SC - all to QT primary school.
- Bus trips from LHE all to QT. Bus trips from SC primarily to QT (note Census was carried out before Service 5 changes and the direct bus to QT).

These are shown graphically in **Appendix C.**

3.6 Traffic Count Data

Figures 14 and 15 of the QLDC HIF ITA, indicated the following total traffic at the SH6 intersections with Stalker Road, Howards Drive and McDowell Drive, based on a traffic count survey carried out on 24/1/18:

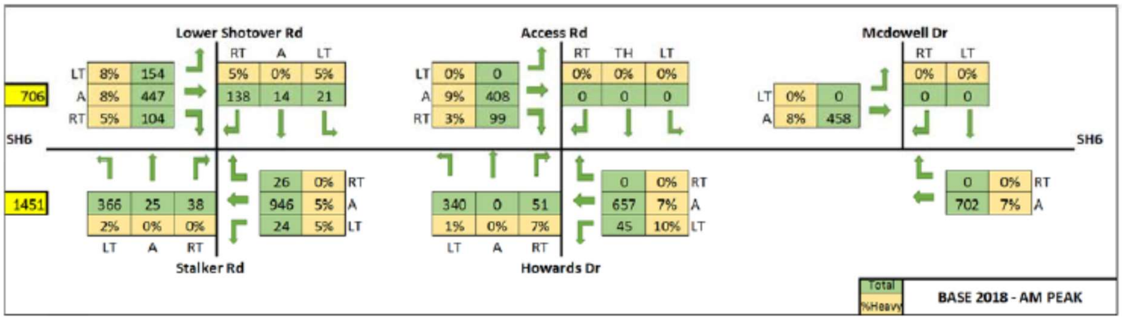


Figure 14 AM Ladies Mile Turning Count Summary (24th Jan 2018)

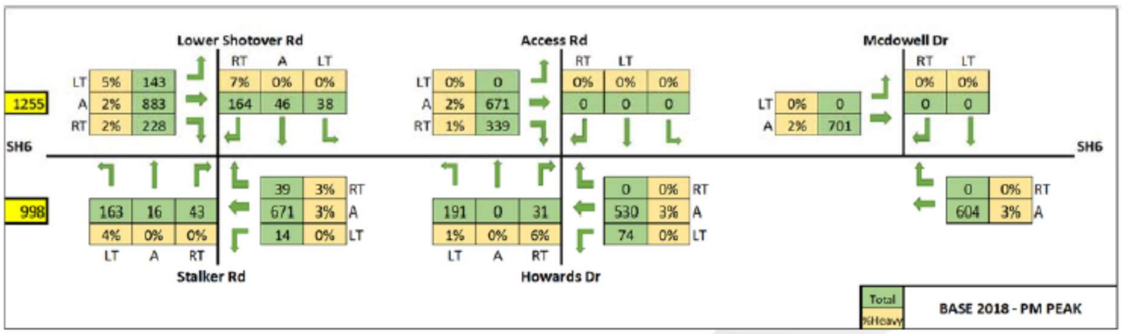


Figure 15 PM Ladies Mile Turning Count Summary (24th Jan 2018)

2018 counted flows on Shotover Bridge are summarised below:

AM peak

Westbound (towards Frankton)	Eastbound (from Frankton)	2 way
1451	706	2157

PM peak

Westbound (towards Frankton)	Eastbound (from Frankton)	2 way
998	1255	2253

NZTA have indicated the capacity of the bridge is 1700 vehicles/hour.

Stalker Road and Howards Drive 2018 counted flows are:

AM Peak (0730-0830)

	Northbound (outbound)	Southbound (inbound)	2 way
Stalker Road	428	142	570
Howards Drive	391	144	535
Total SC/LHE	819	286	1105

PM Peak (time period not defined in HIF ITA)

	Northbound (outbound)	Southbound (inbound)	2 way
Stalker Road	222	288	510
Howards Drive	222	413	635
Total SC/LHE	444	701	1145

3.7 Total 2018-person trip movements calculation for SC and LHE

These are therefore the total driving trip movements from SC/LHE, which the Census Journey To Work (JTW) data indicates = 77.9% of total trips. Based on this, the total 2018 Peak period trips person trips have been calculated and summarised below:

AM Peak				
	Census %	**Inbound**	**Outbound**	**2 way**
Car drive	77.9%	819	286	1105
Car passenger	3.9%	41	14	55
Work at home	11.1%	117	41	157
Bus	3.3%	35	12	47
Bike	1.9%	20	7	27
Walk	1.3%	14	5	18
Total		1045	365	1410

PM Peak				
	Census %	Inbound	Outbound	2 way
Car drive	77.9%	444	701	1145
Car passenger	3.9%	22	35	57
Work at home	11.1%	63	100	163
Bus	3.3%	19	30	49
Bike	1.9%	11	17	28
Walk	1.3%	7	12	19
Total		567	894	1461

Using the JTW census data is considered to be a reasonable representation of the total person trips from LHE and SC since:

- Work trips are the predominant trip purpose in both peak periods (travel to study is only in the AM peak).
- Work at home and study at home % are similar.
- Bus JTW and Journey To Education (JTE) % are similar.
- The relatively high bike and walk % for school trips are related to local trips to Shotover Primary School and hence can be treated as internal trips in the AM peak.

3.8 Vehicle trip generation per household estimation

Comparing the 2018 traffic counts with the number of occupied households from the 2018 census data (1221 occupied) indicates the following car trips per household trip generation for SC and LHE:

AM Peak

- Northbound = 0.67 trips per household.
- Southbound = 0.23 trips per household.
- 2 way = 0.9 trips per household.

PM Peak

- Northbound = 0.36 trips per household.
- Southbound = 0.57 trips per household.
- 2 way = 0.93 trips per household.

3.9 SC/LHE existing trips to schools west of the Shotover Bridge

The 2018 Census data (see Appendix B) indicates that in March 2018 circa 460 students living in SC and LHE attended schools west of the Shotover. Furthermore, Ministry of Education data indicates that in 2020 circa 870 students (600 High Schools/270 Primary Schools) reside east of the Shotover River and attend schools to the west.

Using the 2018 JTE census mode splits to these school roll numbers for pupils living east of the bridge and travelling west to schools, would indicate that there are approximately:

- 158 car trips to Primary Schools (with pupils as passengers).
- 316 car trips to High Schools (with pupils as passengers).
- 60 car trips to High Schools (with pupils as drivers).

What is not known is the linked nature of these trips eg parents dropping off children on the way to work. However, based on a recent survey of commuters driving to work in Wellington CBD and dropping off children on the way to work this figure was found to be 15% (source Candor3 Wellington Commuter Parking Levy Report, March 2021).

Therefore, as a worst case, assuming 30% of the car trips with children as passengers are a linked trip then there are:

- 111 car trips to Primary Schools.
- 281 car trips to High Schools.

SC/LHE represents 88% of the primary school trips and 64% of the high school trips (with the remainder from residents east of LHE) giving SC/LHE school trips in the AM peak across the Shotover Bridge of:

- 98 car trips to Primary Schools
- 180 car trips to High Schools
- 278 Total.

Without the need to drop children off to school then this will also make using the bus easier as a mode of transport for parents who then need to go to work.

With a counted 2018 westbound AM peak flow of 1451 vehicles, then school trips can be seen to currently represent 19% of these trips (high school 12% and primary school 7%). Without these school trips then the westbound flow would be 1173 and the bridge would be working well within capacity. This confirms the anecdotal findings that the AM peak queues on SH6, Stalker Road and Howards Drive only occur during school term time. Furthermore, these school car trips represent 34% of the combined Howards Drive and Stalker Road AM peak northbound flows (22% high school, 12% primary school).

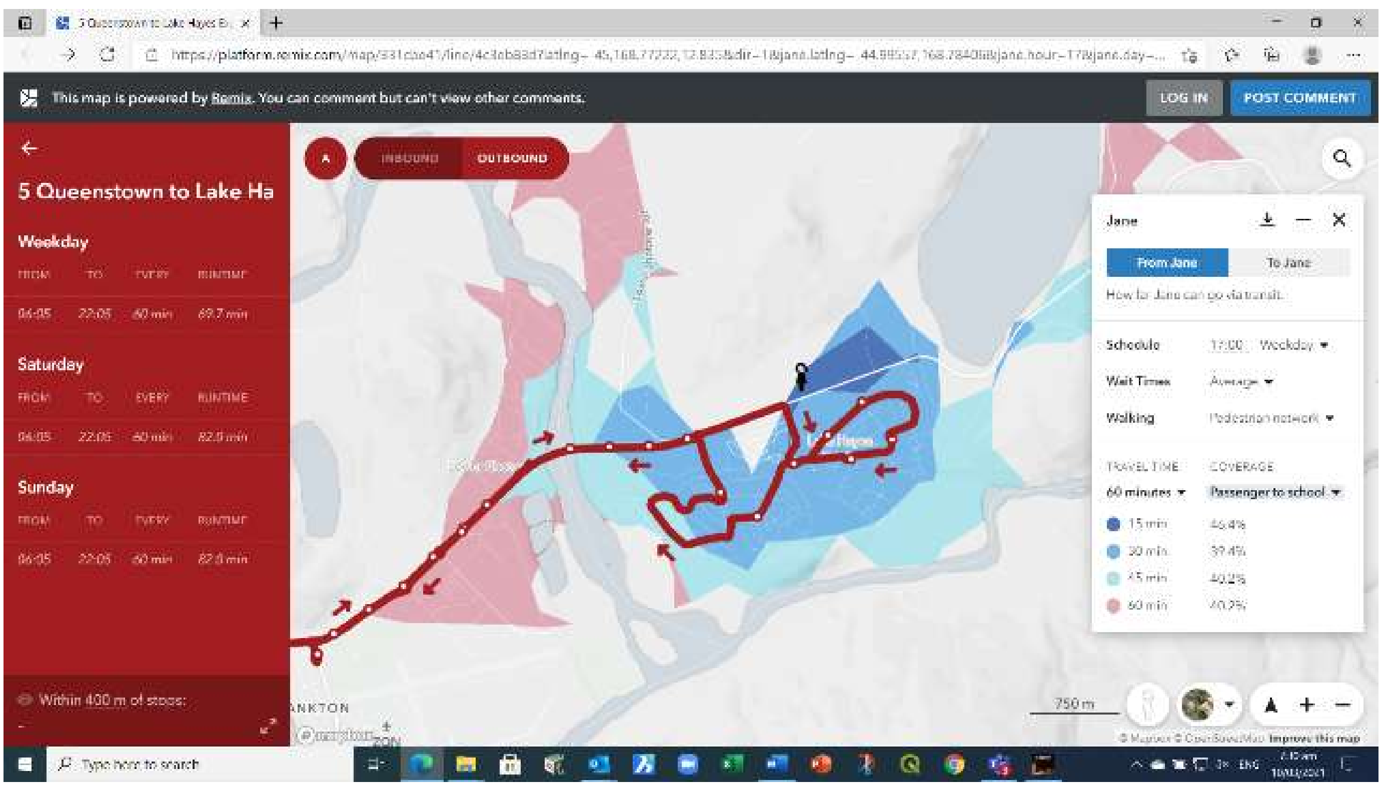
Therefore, with the proposed high school provision in Ladies Mile, at least 180 car trips will be removed from the bridge for high school trips from LHE/SC. Given, the short walk/cycle distance from SC/LHE to LM and the improved bus connections between LM and LHE and SC, then there is significant scope for these car trips to be removed entirely and replaced as active/public transport trips. The remaining

100 high school trips from east of LHE (Arrowtown) could be replaced by the improved Service 2 public bus and high-quality school bus provision to the new High School.

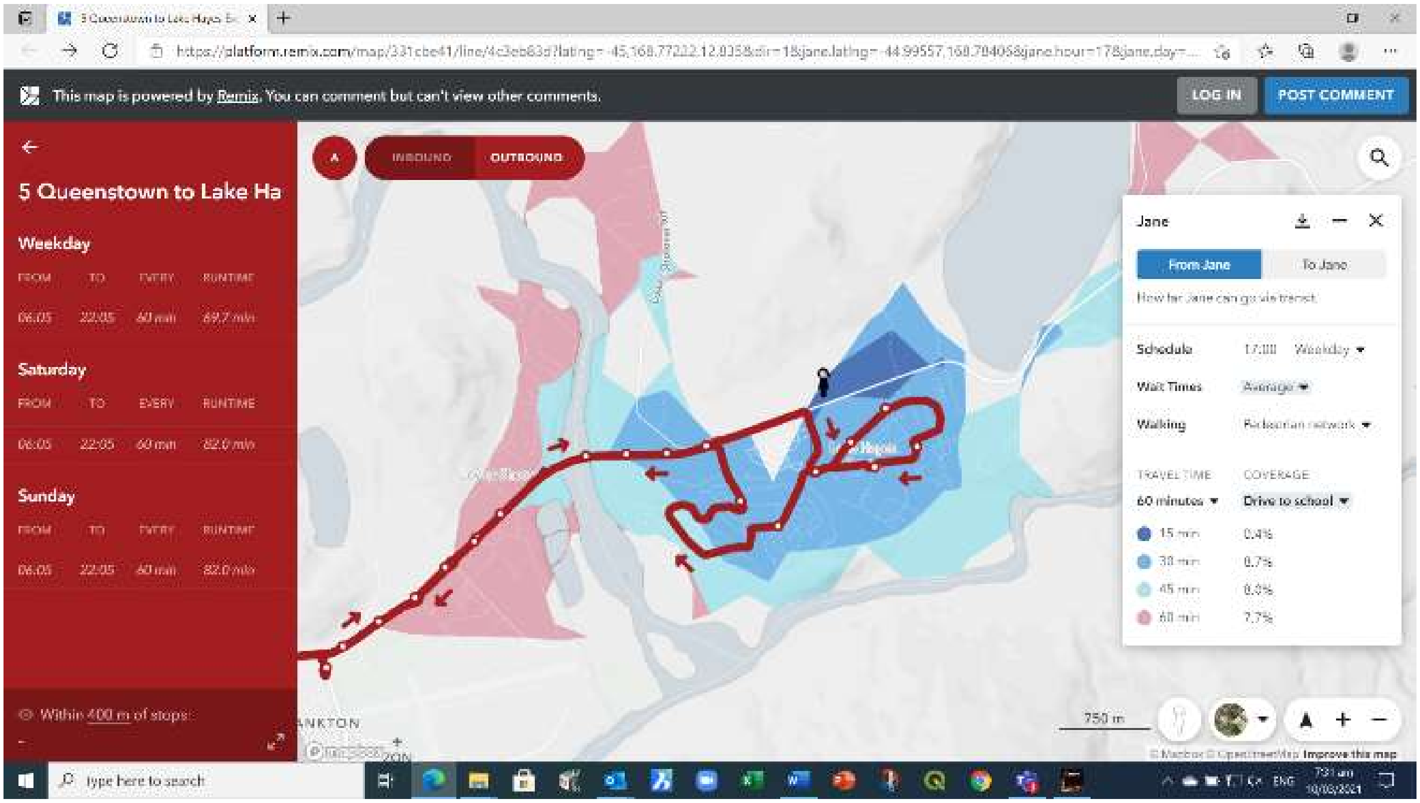
It is recommended that MoE look into the scope of a change in distribution of the primary school car trips (since these will be unaffected by the Ladies Mile Masterplan proposals) eg through catchment area controls.

Therefore, it is expected that the high school provision will remove 281 existing high school trips in the AM peak (and the reverse removal of car trips in the PM peak shoulder, ie 3pm to 4pm). As detailed in **Section 6** below, the Transport Strategy is not reliant on the removal of these trips (in the event that a High School is not developed at LM).

Using ORC census database ([Lake Hayes Updates Feb 2021 - Remix)](Lake Hayes Updates Feb 2021 - Remix) the diagram below shows the SC and LHE pupils within a 15 minute and 30 minute walk time of the proposed High School who are currently driven as a passenger to school. This shows that within a 15-minute walk time of the proposed high school, 46.4% of children are currently driven as a passenger to school and within a 30-minute walk time, 39.4% are driven as a passenger to school.



Similarly the figure below shows that, within a 30-minute walk of the proposed high school, 9.1% of student currently drive to school.



3.10 Sports Hub usage data

LHE and SC residents currently use sports facilities west of the Shotover bridge at the Queenstown Events Centre (QEC) – specifically with the provision of the Sports Hub then car trips using the Shotover Bridge will reduce and instead be replaced with shorter distance active travel trips to the LM Sports Hub. QEC is also used by a number of sport s club including:

- Queenstown AFC (circa 320 members) – QLDC user surveys indicate that 20% come from east of Shotover bridge where QEC is used for training for 10 hours week Monday to Friday (4pm-9pm).
- Wakatipu Rugby Club AFC (circa 320 members - 20 teams) – QLDC user surveys indicate that 26% of seniors and 52% of juniors come from east of Shotover bridge where QEC is used for training for 10 hours week Monday to Friday.

3.11 Traffic Queues and Journey Times

Observed and anecdotal evidence indicates that the queues in the AM peak westbound backing back from Shotover Bridge are worse than the PM peak eastbound queues backing back from Shotover Bridge.

Based on an AM survey carried out on 13/11/20 (with road works in place on the Shotover Bridge) the following was observed:

- The worst conditions were observed between 0800-0900
- Slow moving queues on SH6 starting to form from 0730.
- Maximum queue length on SH6 was back from the bridge to the 516 access (2.9km to bridge).
- Queues are not a static queue but a slow moving queue (20kph).
- On SH6 from the maximum back of queue to Grant Road takes 11 mins (4 mins in free flow conditions)
- On Stalker Road maximum queue was back to the Primary school entrance and takes 12 mins to reach the SH6 roundabout.
- On Howards Drive maximum queue was back to Jones Ave and takes 5 mins to SH6 to reach the SH6 roundabout.

Anecdotal evidence is that the queues and journey time increases are sometimes longer than the above observations – the Queenstown Business case indicates queues can extend up to 2km from Stalker Road which is 0.5km longer than that observed.

There is consensus of opinion that the queues are due to the capacity of the Shotover Bridge - however the site observations indicate that the uphill 1 lane exit from the bridge towards Hardware Lane causes traffic to move slower and does cause some blocking back to the bridge. The scope for widening of SH6 between the on slip from Quail Rise and Hardware Lane to provide either an all-vehicle capacity or Bus/T3 transit capacity is strongly encouraged to improve the capacity of the Shotover Bridge.

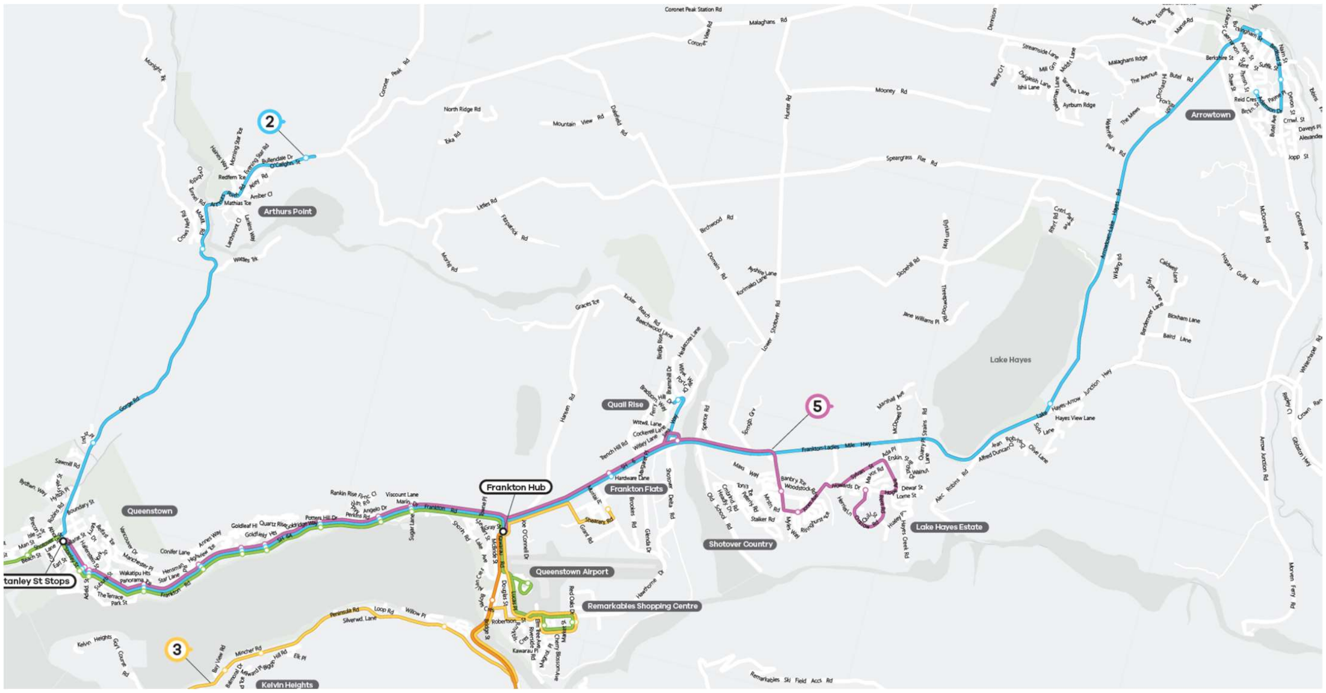
Given the absence of any bus lanes, then bus passengers experience the same delays as car drivers which impacts on bus reliability as well.

Site observations and anecdotal evidence confirms that there is generally little queueing during school holidays and, as such, school car traffic crossing the bridge in the AM peak period is obviously an issue causing the congestion. This is confirmed by the analysis of the school trip car numbers above which make up 19% of AM peak westbound trips across the Shotover Bridge.

3.12 Bus Services

The existing bus network is shown in the figure below:

Existing bus services



Service 5 operates Queenstown to Lake Hayes:

- Weekdays - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 7:05pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05pm to 10:05pm.
- Weekends - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 7:05pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05pm to 10:05pm.

Service 5 operates Lake Hayes to Queenstown:

- Weekdays - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 6:40pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05 to 10:05pm.
- Weekends - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 6:40pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05 to 10:05pm.

Service 2 operates Arthurs Point to Arrowtown:

- Weekdays - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.
- Weekends - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.

Service 2 operates Arrowtown to Arthurs Point:

- Weekdays - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.

- Weekends - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.

The cost for using these services is $2 with a Bee Card for any origin and destination. The Bee Card started in Queenstown on 15/9/20 (noting fares were free from April 2020 to this point).

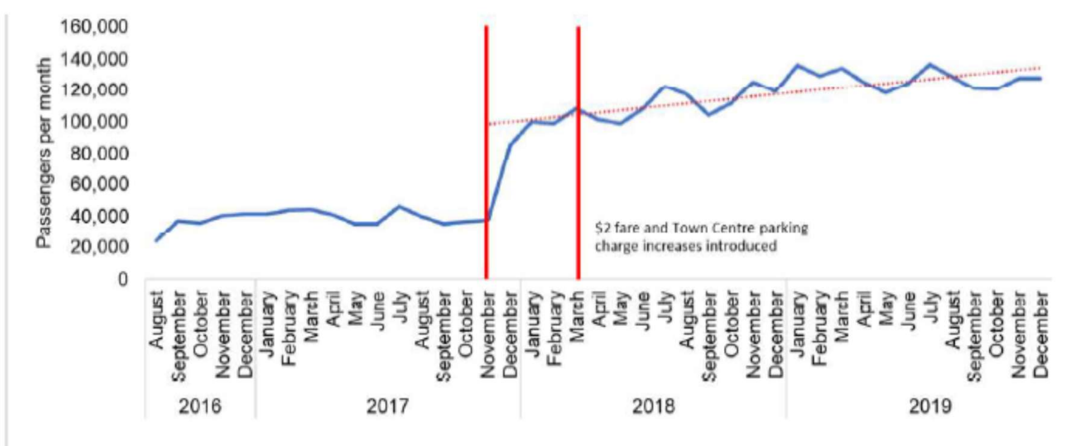
There are currently no bus stops or bus priorities on SH6 adjacent to the Ladies Mile masterplan area.

Bus patronage data provided by ORC indicates:

- Service 5 Queenstown to Lake Hayes number of boarders during October = 5605 and during November = 6567.
- Service 5 Lake Hayes to Queenstown number of boarders during October = 5010 and during November = 4353.
- Service 2 Arthurs Point to Arrowtown number of boarders during October = 6001 and during November = 5610.
- Service 2 Arrowtown to Arthurs Point number of boarders during October = 6347 and during November = 6010.

All buses currently have free Wi-Fi, bike racks (max 2 bikes per bus), and real time information is provided via the Choice app and the Orbus Link on the Council's website.

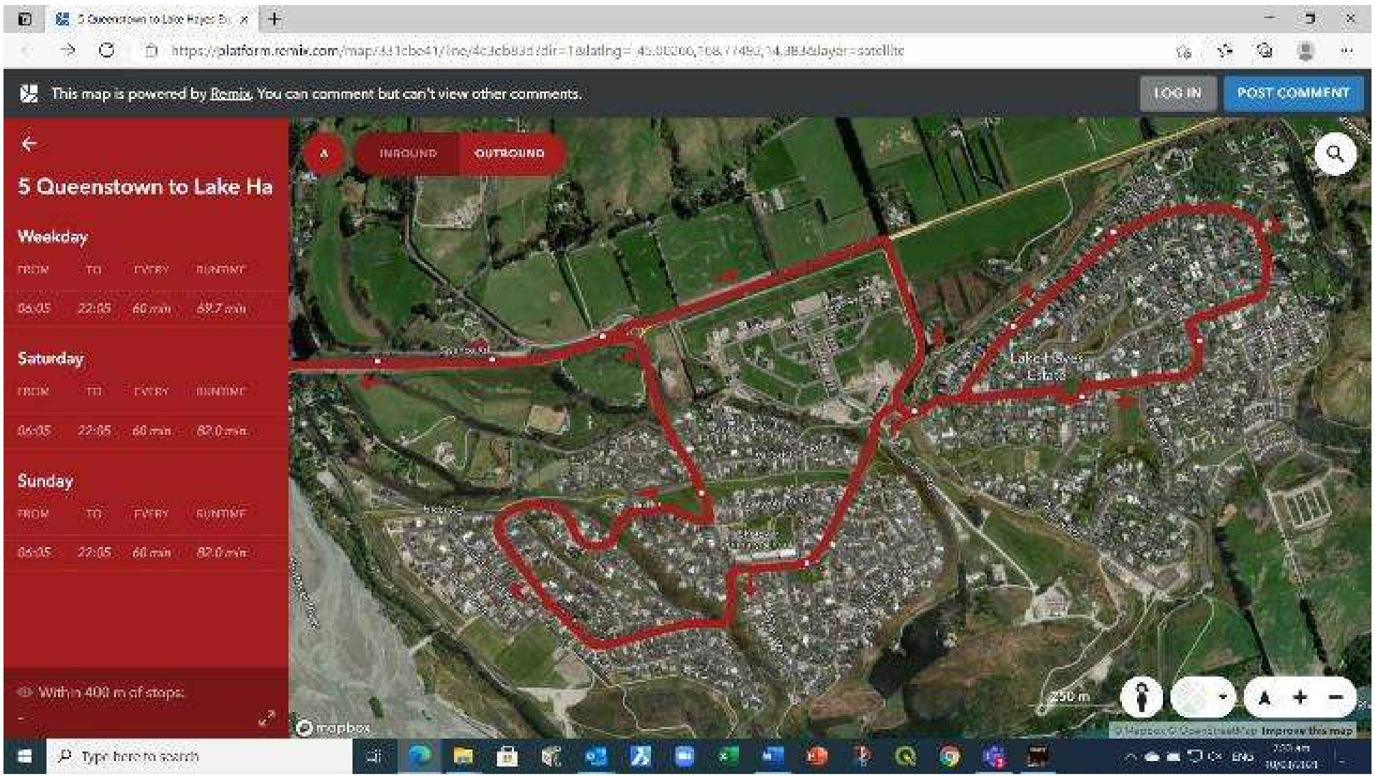
The Park and ride and Queenstown business cases both highlighted that with the introduction of the flat $2 bus fare in November 2017, along with parking changes in the Queenstown Town Centre between November and March 2018, resulted in a 192% increase in patronage year on year to June, as shown in the figure below, highlighting the potential for step-change mode shift in Queenstown – as indicated in the summary section of this Chapter 3, this is a key opportunity.



The business cases also noted that further uptake in public transport is constrained by the layout of recently built and growing subdivisions, travel time reliability issues and the location of bus stops. The subdivisions, specifically Jacks Point and Lake Hayes Estate, are spread out and are not designed with a central public transport route in mind, which results in the bus stop being too far from people's houses to make it desirable to switch from private car use. As detailed in Chapter 5 of this Transport Strategy, this is a key opportunity for first/last mile bus improvements.

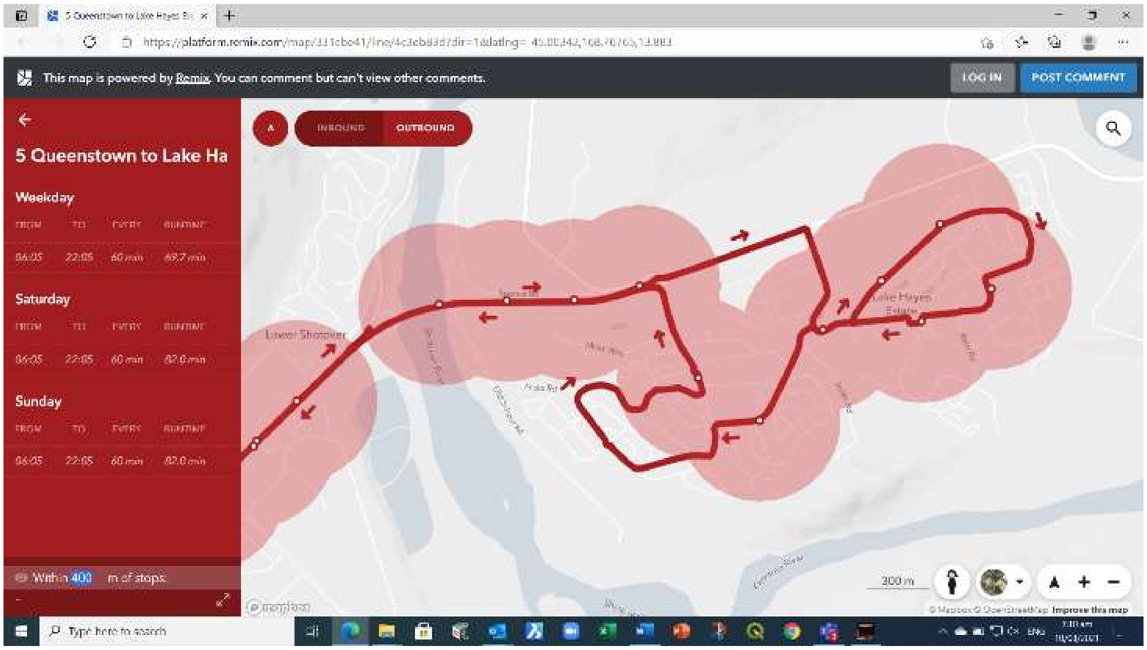
3.13 Proposed ORC changes to Service 5

Based on information provided by ORC (via QLDC) we understand that a change to Service 5 is proposed as a 1-way loop service inbound via Howards Drive and outbound via Stalker Road – see figure below.



An extension into SC via Tonis Terrace is also proposed with additional bus stops (including on SH6 west of Stalker Road. The figure below (from ORC [Lake Hayes Updates Feb 2021 - Remix] shows the proposed route and demonstrates that the mmajority of SC and LHE residents will be within a 400m walk distance of the bus route (note ORC mapping incorrectly does not show the catchment area for Tonis Terrace area).

Proposed change to service 5 and 400m walk catchments.



3.14 Future Bus service provision

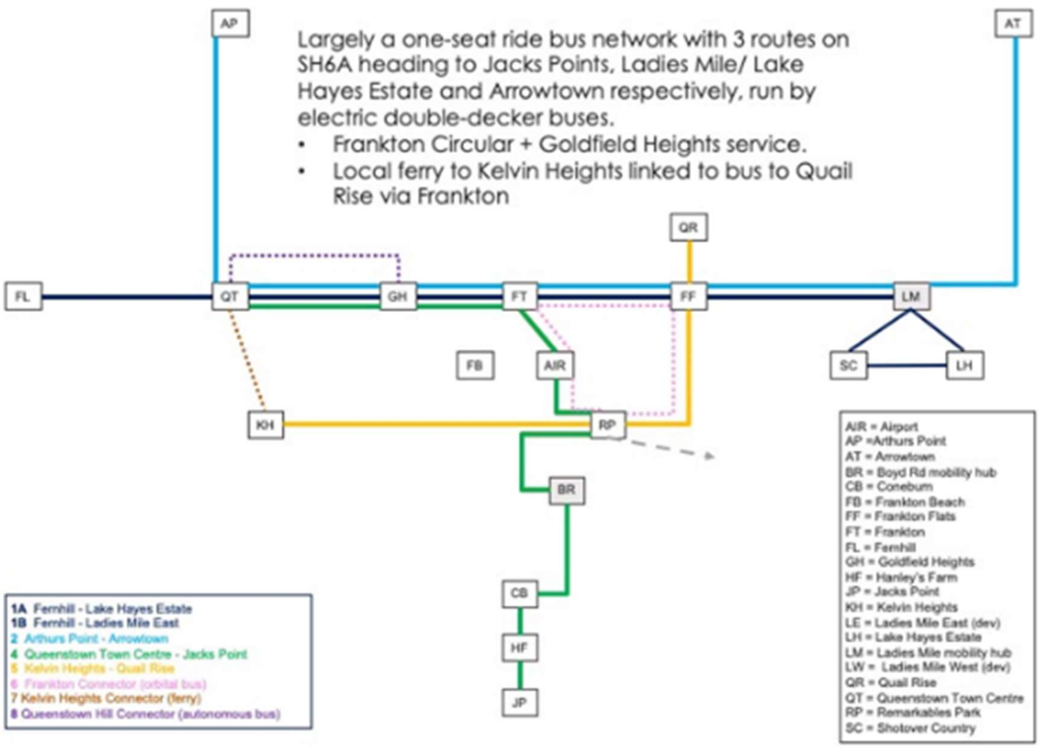
The W2G Mode Shift Plan indicates the following:

An increase in public transport capacity is envisaged from 2024 when the currently planned public transport infrastructure enhancements are complete. These will provide for faster more reliable services via new bus lanes on SH6 and 6A, as well as better passenger waiting facilities thanks to a new town centre bus hub, a new Frankton bus hub and improved airport facilities. With these facilities in place, it becomes the ideal time to introduce improved frequency and routing of services so that the overall offering is a compelling one. A detailed business case will need to develop the detail of these future services as well as take account of the degree of demand that exists at that time post-Covid. Current thinking is that the current peak period seated capacity of 360 seats per hour will need to increase to 873 seats per hour. This will correlate with a significant improvement in frequencies on key routes to and from Queenstown and Frankton, as well as a small increase in the total number of buses needed to achieve this.

And as part of this, park and ride could also be needed at key locations to provide a public transport option for commuters living in areas where it is not feasible to provide a direct bus service. Park and ride is currently under investigation, with initial findings suggesting sites on Ladies Mile and south of the Kawarau River bridge offer the greatest potential to provide a convenient and attractive alternative for car drivers from the eastern and southern parts of the Wakatipu Basin and beyond, where the provision of a direct high frequency bus service is unlikely to be cost-effective in the short to medium term.

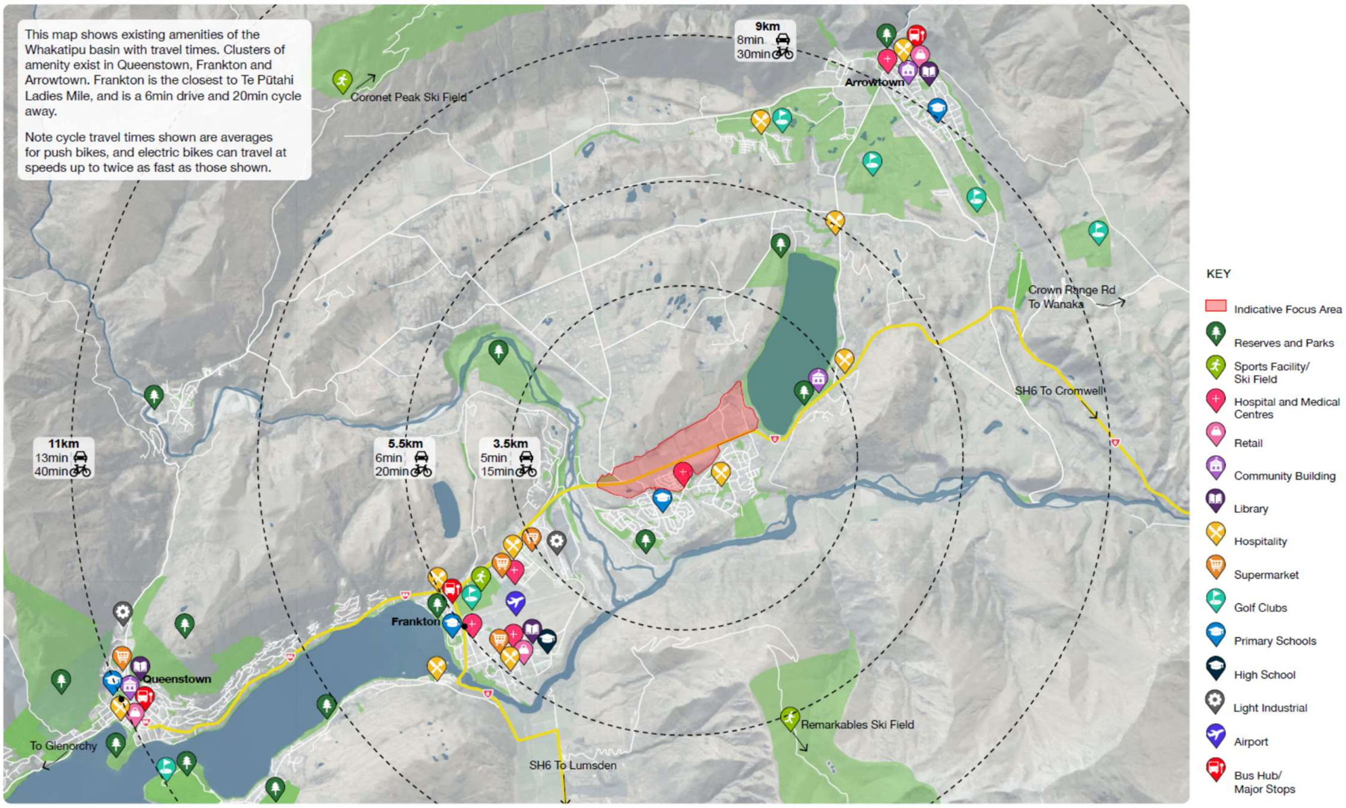
A second and more significant jump in public transport service provision is envisaged to coincide with new contracts starting in 2027. This will be characterised by further frequency enhancements, further routing changes and depending upon demand, the introduction higher capacity vehicles to accommodate demand on core routes. This step change would see capacity increase to as much as 1,400 seats per hour using 35 vehicles.

Further changes are anticipated in 2030 (up to 1,670 seats per hour) and towards the end of that decade (up to 2,500 seats per hour) as passenger demand approaches the capacity of the system and additional services are required to the point where vehicles delay each other and drive the need for even higher capacity vehicles such as bi-articulated buses or even offline solutions such as a gondola. The potential ultimate public transport service network for the Wakatipu Basin is shown in figure 5 below.



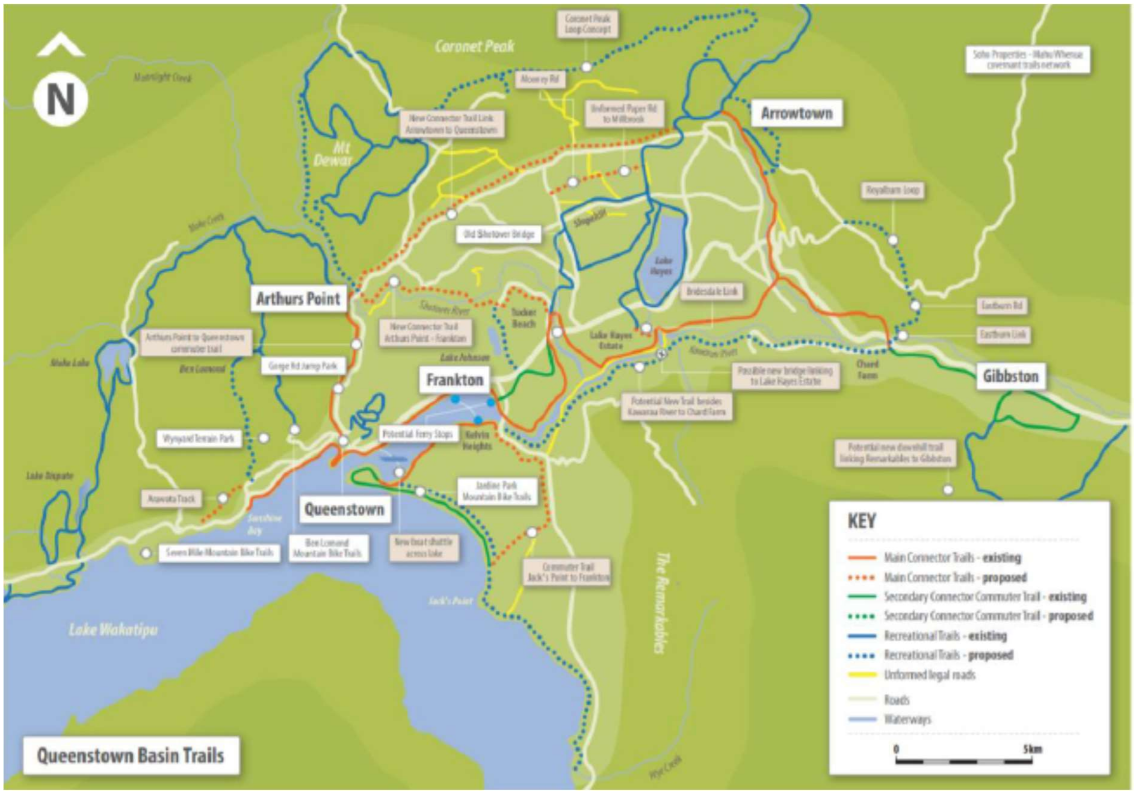
3.15 Access to existing amenities

The diagram below shows travel times by bike (note this is based on a conventional bike speed and not an ebike speed) and car from Ladies Mile. There are a clusters of amenities at Frankton, Queenstown and Arrowtown.



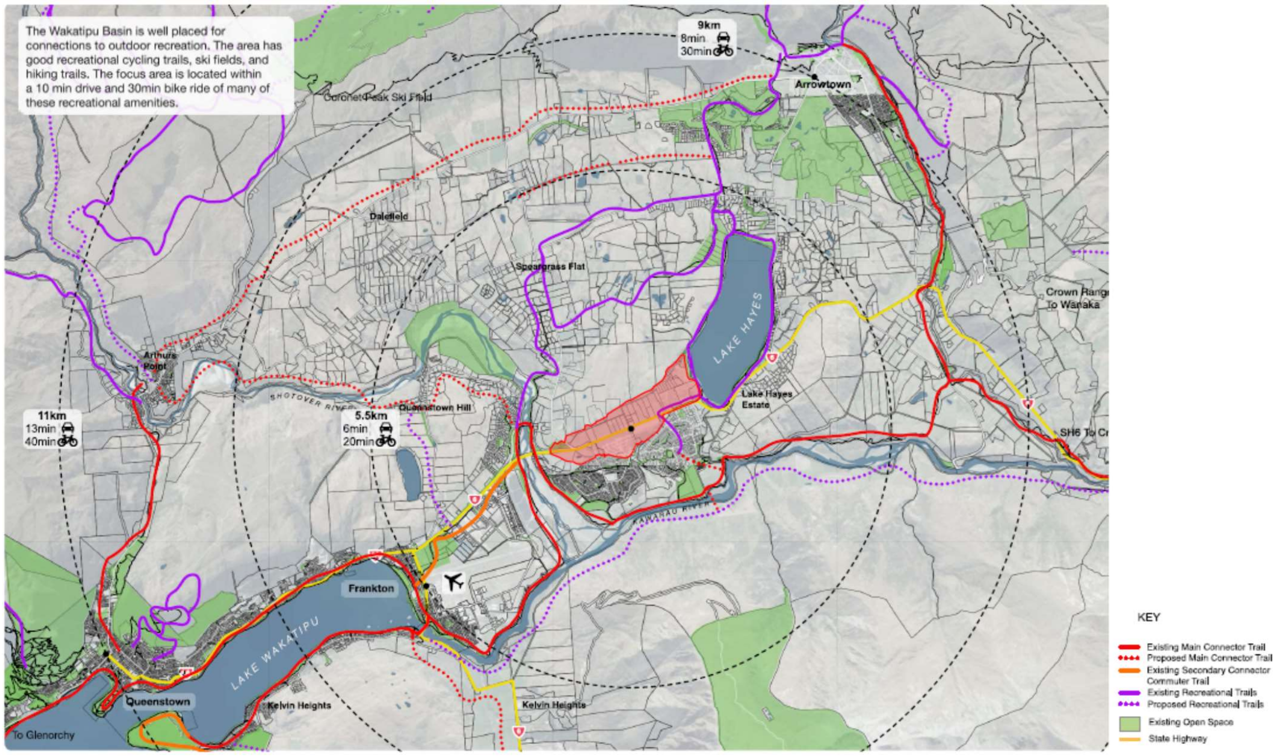
3.16 Existing trails and recreation routes

The Queenstown Trails Trust has identified the potential to provide for commuter cyclists, proposing new bridges to link Frankton with Lake Hayes Estate as shown on the plan below:



This figure highlights the proposed Primary and secondary active travel routes to connect Lake Hayes and Shotover country to the west and east. Primary is defined as key connections into Queenstown and Frankton and secondary is defined as routes with anticipated lower demand due to population. The preferred option for the Lake Hayes North to Shotover bridge (D4) involves a 4m wide sealed shared path along the existing (gravel) trail from Howards Drive eastwards and then a separated cycle lane alongside SH6 before turning back into a shared path and crossing over the old Shotover bridge side SH6.

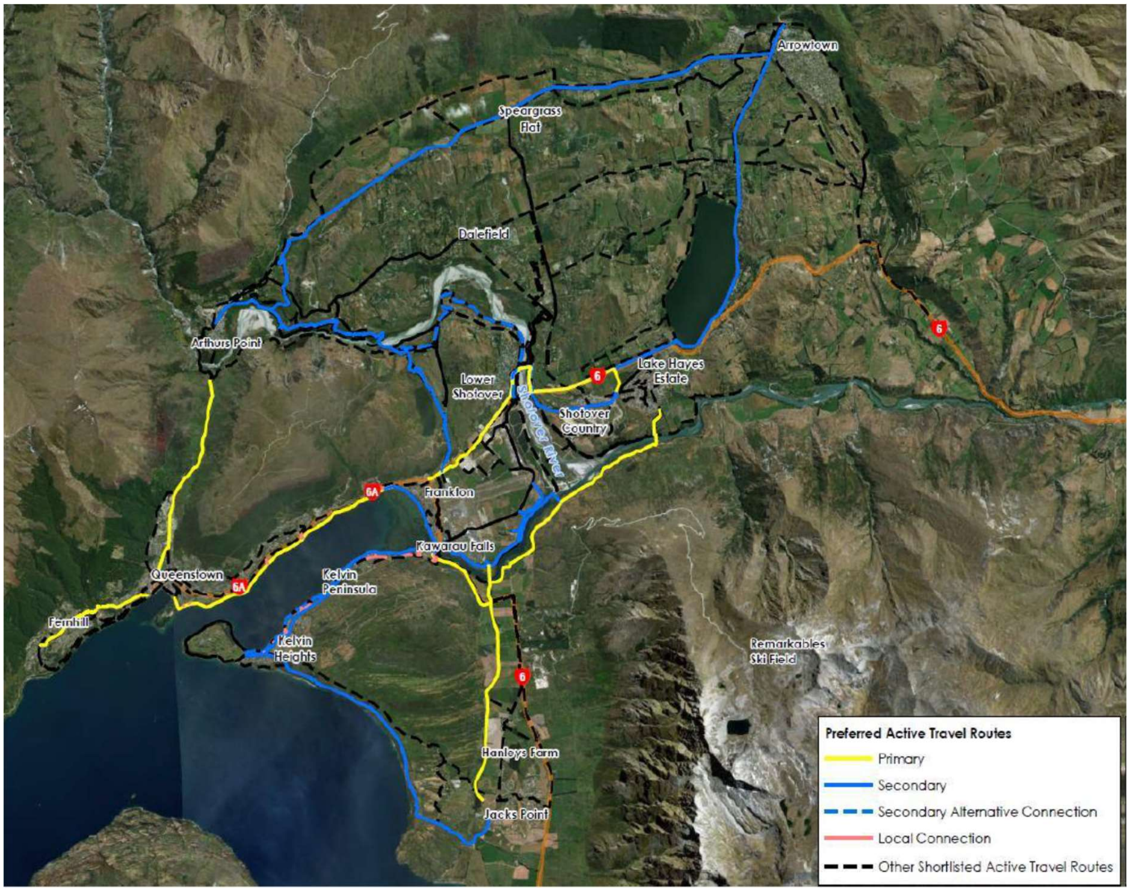
Active mode routes within a 30-minute push bike journey time are shown in the diagram below:



3.17 Proposed active transport improvements

The W2G Mode Shift Plan notes that stage 1 of an active travel network across the Wakatipu Basin has already been endorsed by the Way to Go partners through the Wakatipu Active Travel Network business case. A phased approach to delivery of the network is already underway, with initial routes currently in detailed design and due for construction from 2021. Subsequent tranches are anticipated to follow in the 2021-24 investment period – these are shown in the Figure below. The delivery of this network has been integrated with the ongoing work of the Queenstown Trails Trust.

Preferred Wakatipu Basin Active Travel Network



3.18 Summary of Existing Transport Conditions - Challenges and Opportunities include:

- All essential community facilities on west side of Shotover bridge.
- AM peak period queues westbound from Shotover Bridge.
- But anecdotally, generally little queueing in school holidays. Circa 870 students reside east of Shotover Bridge and attend schools to west. Circa 19% of traffic on bridge westbound in AM peak is pupil drop off only and 34% of traffic northbound on Stalker Rd and Howards Drive.
- High car ownership rates (circa 96% of households own at least 1 car) and high dependency on car - 78% of journeys to work are driving car alone. Opportunity to provide community facilities to the east of Shotover Bridge, improved active/public transport and change of mindsets. This is currently demonstrated by 30% of students who currently walk and bike to Shotover School from SC/LHE and proves walk/cycle mode spits can be achieved.
- Low density housing does not provide the scale of demand to support public transport. Opportunity to provide high density at LM and bus service improvements at SC/LHE.
- Tradies only represent 17% of LHE/SC residents (and similar to rest of NZ) – Managers, professionals, clerical/admin make up a larger combined %.

- No bus priorities, so bus passengers experience same congestion. Existing low numbers of bus passengers. Opportunity to improve bus priorities, services etc.
- Network gaps/poor provision for pedestrians and cyclists. Opportunity to improve these through the active modes business case.
- 2018 census data indicates most trips from SC and LHE are to Frankton and Queenstown (circa 5km and 12km). Short distance trips are an opportunity for active mode trips (especially ebike).
- 25% of population <15 years, 3% of population > 65 therefore, population is of an age profile to support increased use of active modes.
- Little demand management measures in place. Opportunity W2G Draft TDM.
- Little travel behaviour change initiatives in place. Opportunity W2G Draft TDM.

4.0 Ladies Mile Master Plan Transport Strategy Background

4.1 Ladies Mile Masterplan Vison and Objectives

Transport is integral within the Ladies Mile Vison and design principles and objectives as shown below:

Vision Aspirations & Objectives

Vision

"The Masterplan will seek to set out a plan for the Ladies Mile area with the community at the centre of all thinking. The aim is to see Ladies Mile developed in a way that improves community outcomes. By integrating transport, community infrastructure, placemaking and design QLDC hopes to make Ladies Mile the most liveable area in Queenstown."

from Ladies Mile Establishment Report

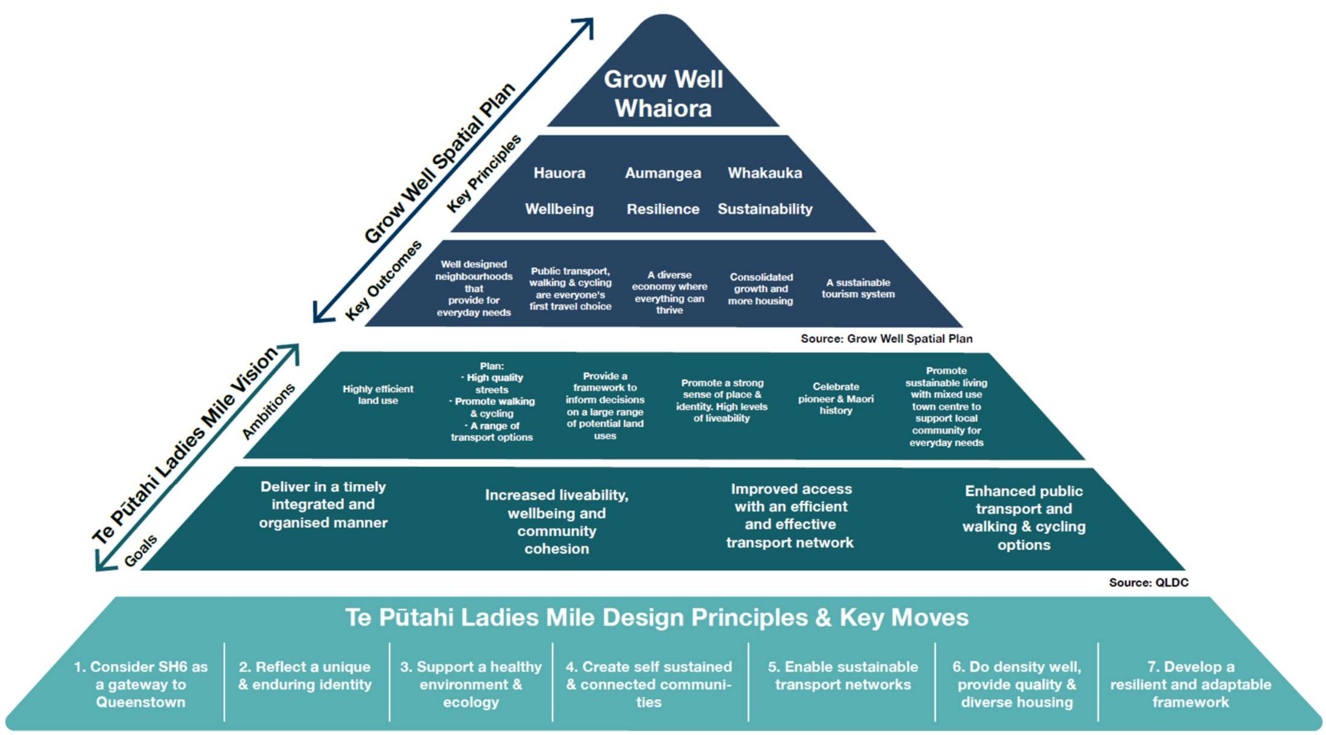
The Masterplan sets out a direction for the future of Te Pūtahi Ladies Mile. QLDC has clear aspirations and outcomes for the project that the Masterplan seeks to achieve. These are outlined here:

QLDC Aspirations:

1. Make the most of the opportunity to deliver highly efficient land use. This will include medium to high density urban development.
2. Plan how to achieve a high degree of connectivity within the development through a high quality street network, planning to make active travel the preferred modes, high quality experience connections to Lake Hayes Estate and Shotover Country, and convenient connections to Frankton via a range of modes.
3. Provide a framework through the masterplan process to inform decisions on a large range of potential land uses at Ladies Mile including housing, a mixed use local service centre, recreation and sports grounds, primary and secondary schools. Park and Ride and rapid transit services.
4. Promote a strong sense of 'place' and 'identity', taking inspiration from the landscape. This should also include high levels of liveability through quality urban design that enhances how different networks link people together.
5. Celebrate the areas pioneer and Maori history in public spaces and with distinctive built form.
6. Promote ways to improving the sustainability of living, reduced trip generation, better outcomes for water quality and ecological systems, use of green technology, prioritizing walking cycling and public transport.

Masterplan Objectives

- Increased liveability, wellbeing and community cohesion for existing and future residents.
- Improved access to and from Ladies Mile with a transport network that can deliver its functions efficiently and effectively.
- Support enhanced public transport and active travel provision and utilisation through integrated land use solutions and connected neighbourhoods/communities
- Has a strong community focus including a town centre and community hub that serves the existing and future residents
- Reduce the demand for car based travel across the Shotover river through integrated land use and sustainable transport solutions
- A series of legible and distinctive neighbourhoods that have a strong sense of place including connections to the wider landscape.
- Integrate open space and low impact urban design into the masterplan framework
- A high quality gateway experience is achieved along SH6
- Quality high/medium density residential housing to support public transport, local commercial centres and community facilities



4.2 Design Principles and Moves

Transport is also integral to the Masterplan design principles and key moves as shown below:

Design Principles:

Consider SH6 as a gateway to Queenstown

Reflect a unique and enduring identity

Support a healthy environment and ecology

Key Moves

- SH-6 is valued and considered in its role in the arrival experience into Queenstown.

- Maintain key views to Lake Hayes, Slope Hill, the Remarkables and surrounding mountains.
- Celebrate built, landscape and cultural heritage.

- Establish a strong holistic landscape framework.
- Water is managed in a way that gives effect to Te Mana o te Wai.
- Maintain ecological value of the Lake Hayes wetland edge and improve connections between the lake and river.
- Support kaitiakitanga of the environment and connections to nature.

Create self sustained and connected communities

Ensure sustainable transport networks

Do density well, provide quality and diverse housing

Develop a resilient and adaptable framework

- Establish a community and commercial heart for both existing and new neighbourhoods.
- Provide places for community interaction and shared amenity.

- Promote a step change by prioritising public transport and active mode share.
- Ensure quality pedestrian and cycle networks within Te Pūtahi and connections to trails beyond.
- Design attractive streets for people that play an active role in urban life.

- Offer a choice of lifestyles through a range of quality housing typologies, sizes and affordability.
- Establish medium/high density living to support public transport, commercial activity, community facilities and enabling efficient land use.

- Set out a legible & clear structure to future proof the land and avoid sporadic and ad hoc development.
- Identify an appropriate development response that is sympathetic to the local context.
- The Structure Plan acts as a mechanism to manage development while supporting holistic and integrated future growth.

The masterplan for Ladies Mile is shown in **Appendix A** and provides a high density, mixed use, transit orientated development where walking, cycling and using the bus are the first choice/go-to modes of transport. The masterplan also provides walk, cycle and bus connections for the adjacent residents at

Shotover Country and Lake Hayes Estate to access the Town centre, Local Centre, schools, Community Hub, Sports Hub and community facilities to be provided within Ladies Mile.

4.3 LM Masterplan Transport Strategy Vision

The overall vision for the Ladies Mile Transport Strategy is:

Create an accessible, healthy, safe and sustainable Ladies Mile community by reducing reliance on car use, by providing a well-connected street network to the local community facilities and investment in active and public transport modes so that walking, cycling and bus use are everyone's first travel choice.

4.4 Focus Areas

This Vison will be delivered through the 3 NZTA Keeping Cities Moving focus areas of:

Shaping Urban Form

The LM MP:

- Enables, supports and encourages housing and local community facilities growth in an area with new and improved travel options.
- Community facilities and town centre located close to high quality public transport and encourage shorter trips between home and work/education/leisure.
- Masterplan supports the use of public transport, walking and cycling.
- Masterplan provides for safe and attractive streets for walking and cycling.
- Shared and active modes are made more attractive.

Making shared and active modes more attractive

The LM MP:

- Expands, improves and optimises active and public transport facilities.
- Provides infrastructure to make active and public transport more efficient and attractive.
- Provides necessary active and public transport infrastructure from day one of occupation.

Influencing travel demand and transport choices

The LM MP includes a number of incentives and disincentives ('push' and 'pull' factors) to either discourage use of private vehicles (by making them less attractive relative to other options) or making people more aware of their options and incentivising them to try something new including:

- Makes it safe, easy and intuitive for people to change the way they travel.
- Uses travel behaviour change initiatives to assist and support residents to use active and public transport.
- Restricts car parking and promotes cycle parking provided within the masterplan.

4.5 Previously set Modal Shift Targets

The Transport Strategy has also been developed in the context of the need of the Queenstown wide modal shift targets.

Appendix C10 of the Queenstown Business Case (February 2020) notes:

According to the public transport modelling being undertaken to support the business cases, a significant alternative mode share is required for peak periods (PM, in particular) by 2028 (40%) and 2048 (60%) for the transport network to continue to provide adequate levels of service to Queenstown residents and visitors. Future public transport demand modelling suggests that even with a 30% mode share for public transport, demand for driving on the transport network will continue to exceed capacity by 2028, and to an even greater extent in 2048. The model suggests that a combined 40% mode share for public transport, active and other efficient and sustainable modes will be needed by 2028, and 60% by 2048, for the transport network to function.

The target is worded differently though in both:

- W2G Mode Shift Plan Aug 2020 – Better Ways to Go which states that *transport modelling shows that 40% of all trips along Frankton Road (SH6A) by 2028 and 60% by 2048 need to be by active and shared modes for the town centre network to remain functional and reliable access maintained and*
- QLDC Draft Spatial Plan which states *Transport modelling suggests 40% of all trips between Frankton and the Queenstown Town Centre at peak times will need to be on alternative modes to private vehicles by 2028 and 60% by 2048 if the high levels of congestion and major delays are to be avoided*. Furthermore the Spatial Plan refers to these *as shift 40% of future predicted peak hour trips from single occupancy car trips to other transport modes by 2028 and 60% by 2048. Other transport modes include public transport, walking, cycling and ride sharing*

The issue is whether the 40% and 60% mode shift targets are specifically on SH6A between Frankton and Queenstown or whether they are indeed Queenstown wide and therefore applicable to Ladies Mile. The Spatial Plan makes clear these are targets relating to single occupancy car trips with other transport modes including (but not exclusively) bus, walk, bike and ride share.

Targets that have been specifically related to Ladies Mile include:

- QLDC HIF bid ITA - based on the QLDC/NZTA strategic model and public transport model, the ITA identified the following mode shift required for Ladies Mile to reduce demand on the Shotover bridge.

Table 2 Traffic Demand Analysis Results for Proposed HIF Programmes

HIF Programme	Number of dwellings (year complete)	Forecast traffic above capacity at development completion	Mode Shift Required to Reduce Demand at Shotover Bridge to 1,600v/h		
			Ladies Mile	Shotover Country/Lake Hayes	SH6 Park and Ride
1	450 (2023)	285	15%	25%	0%
2	750 (2025)	508	15%	25%	20%
3	**1,100 (2028)**	**770**	**40%**	**40%**	**20%**
4	2,185 (2037)	1,570	50%	50%	40%

The targets are based on a capacity of 1600 veh/per hour. NZTA subsequent modelling indicates that the capacity is actually 1,700 veh per hour and therefore a simple pro rata of the above data is given below:

Units	Above capacity	Adjusted above capacity	Difference adjusted capacity	Diff No. units	Ratio
450	285	185			
750	508	408	223	300	0.743333
1100	770	670	262	350	0.748571
2185	1570	1470	800	1085	0.737327
2400		1629	159	215	0.737327

This indicates that 2400 units (as proposed by the Masterplan) would only be marginally greater above capacity than the 2185 units and hence the 50% mode shift at Ladies Mile should still apply.

QLDC and NZTA have confirmed that the 450 and 750 units thresholds (and also the 900 units in the NZTA Position Statement) were not tested in the strategic modelling and were high level concept assumptions assessed in a simplistic manual spreadsheet.

- NZTA Position Statement (received 8/10/20) indicated that *"The overall alternative mode share across the network will need to be in the order of 40% by 2028 to maintain a functional transport network (where alternative means alternative to single occupancy private vehicle trips and includes public transport, walking and cycling trip, ride sharing and working from home).* The Position statement also set targets (note awaiting clarification from QLDC/NZTA of how these targets were derived) including
    - Park and ride complete Improve PT Level of Service – Target 25%.
    - Priority lane - Complete Improve PT Level of Service – Target 27%.
    - By end of 1,100th lot Improve PT Level of Service – Target 29%.

It should be noted that none of the above documents reference the impact that the mixed-use nature of the Ladies Master Plan will have on redistributing trips away from the Shotover Bridge – therefore it is proposed that the mode shift targets include an allowance of this.

Also to note, the Draft Supporting Evidence for Consultation Climate Commission (February 2021) indicates a target of 15% of all trips by bicycle by 2050.

In terms of the 1100 units assessed in the HIF ITA there are a number of significant differences compared to the 2400 units proposed as part of the LM masterplan including:

- Lower density for 1100 units (ranging between 11 and 34 units/Ha assumed in HIF bid) would not support high frequency bus services.
- Limited community facilities proposed.
- No linkages proposed with SC and LHE.
- No TDM proposed.

4.6 Applicability of Mode shift targets to Ladies Mile

Based on the differing Queenstown wide modal shift target wording stated in the various QLDC/NZTA strategies and documents, the mode shift target for the Ladies Mile Masterplan is:

- Achieve a mode shift target of up to 50% of external LM masterplan trips by non-car modes of transport (eg bus, ebike, car share/car pool).

The LM Transport strategy is a partnership arrangement between the LM masterplan/developers and W2G - the achievement of the mode shift targets will require both the LM MP developers and W2G partners to implement their respective actions as detailed in the Transport Strategy interventions. Achievement of these targets will therefore depend on delivery of the modal shift actions from the W2G partners as well as the LM developers.

4.7 LM Masterplan Summary

In summary, the Masterplan consists of:

- 2400 residential units (predominantly high density at 70 units/Ha and medium density at 40 units/Ha).
- Town Centre.
- Local Centre.
- Primary School.
- Secondary School.
- Sports Hub.
- Community Hub.
- Open space/recreation facilities.

As demonstrated in **Appendix A** the Ladies Mile masterplan provides a high quality, mixed use urban development resulting in densities that will support frequent public transport, shorter trips between home and work/education/leisure (not only for Ladies Mile but also SC and LHE) and provides a safe, healthy and attractive urban environment to encourage more walking and cycling. As such the masterplan meets the Keeping Cities Moving criteria of Shaping Urban Form.

This approach is supported by the February 2021 Draft Supporting Evidence for Consultation Climate Commission which indicated that higher density is not the only aspect of urban planning that influences emissions. Density needs to be coupled with quality infrastructure for walking, cycling, and public transport, as well as street designs that make walking and cycling safe and pleasant. The Commission also notes that evidence from both the New Zealand Census and Household Travel Survey demonstrates that residents of higher density areas have lower car ownership rates, have shorter commutes (in research examining Wellington), and are less likely to commute via car. New Zealand Household Travel Survey data also shows that residents of denser areas have lower overall vehicle kilometres, and thus lower carbon dioxide emissions. A report by the Public Health Advisory Committee of the Ministry of Health pointed out that: *"If designed appropriately, urban form and transport can increase physical activity, improve air quality, reduce road traffic injuries, increase social cohesion, and achieve maximum health benefits from services and facilities. Urban form can also help create a sense of place. This is important for the health and wellbeing of all populations living in urban areas, especially Maori".*

As detailed in **Section 5** below and **Appendix A** the Ladies Mile transport strategy interventions in partnership with W2G, focus on improving bus services (through infrastructure and level of service improvements). The Masterplan also provides facilities for walking and cycling that enable people to use them and also to support the bus services providing better connections between modes (first and last mile logistics). As such the masterplan meets the Keeping Cities Moving criteria of making shared and active modes more attractive.

As detailed in **Section 5** below and **Appendix A** the Ladies Mile transport strategy interventions in partnership with W2G, focuses on influencing travel demand and transport choices. This includes 'pull' factors such as on-site maximum parking standards to discourage car ownership (and hence car use) and a mix of 'push' incentives to make people better aware of their travel options and incentivising them to try something new. As such, the masterplan meets the Keeping Cities Moving criteria of influencing travel demand and transport choices.

5.0 Ladies Mile Masterplan Transport Strategy Interventions

5.1 Ladies Mile Street Cross Sections

The street cross sections included in **Appendix D**, demonstrate how a safe, healthy and attractive urban environment will be created to promote walking and cycling within the Ladies Mile internal streets by:

- Providing generous width footways.
- Footway connections to proposed bus stops.
- Pedestrian crossing facilities at key intersections.
- Raised footpath crossings to side streets.
- Where vehicle crossings are provided, these will be at a minimum distance of 8m to provide a safe and attractive environment for pedestrians.
- Segregated 2-way cycleways.
- Walk and cycle connections to existing and proposed recreational routes.
- Slow speed environment ranging from 20kph to 40kph enforced by vertical and horizontal traffic calming (eg by tree and planter build outs).
- Additional; speed reductions at school safety zones.
- Seating provided every 60m to 100m.
- Lighting of footpaths and cycleways.
- Collector roads future proofed for buses, should this be required in the future.

The street cross sections included in **Appendix D**, demonstrate how a safe, healthy and attractive urban environment will be created to promote walking, cycling and bus use on SH6 by:

- Segregated underpass crossing of SH6 for pedestrians and cyclists at Howards Drive (as part of NZUP proposal) providing a safe walking and cycling connection between LM, LHE and SC communities to the town centre, high school, community hub, sports hub and community facilities.
- Reduction in speed limit to 50kph between the SH6 roundabouts with Stalker Road and the proposed eastern roundabout.
- Signalised crossings of SH6 at its roundabouts with Stalker Road, Howards Drive and the new eastern roundabout to provide safe walking and cycling connections to the proposed bus stops and the proposed active travel improvements on Stalker Road and Howards Drive.
- Segregated cycleway on north side of SH6.
- As detailed in the bus strategy (**Section 5.4** below), pedestrian and bike signal-controlled crossings are proposed at Stalker Road, Howards Drive and the proposed eastern roundabouts – see Figure below:

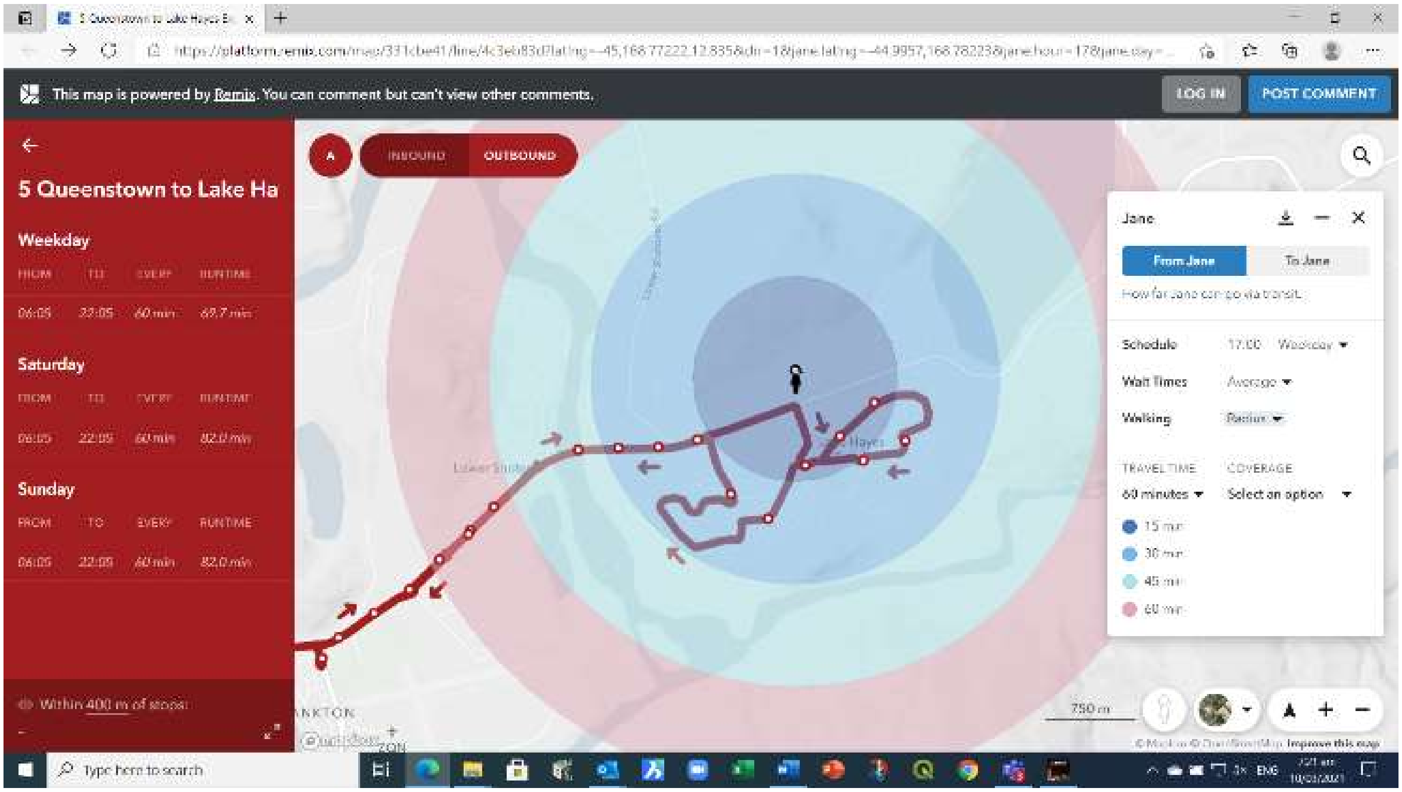
SH6 proposed bus stops and crossing points

5.2 Pedestrian and cycle connectivity.

Pedestrian and cycle links will be provided throughout the site linking residential areas to the town centre, schools, local centre, open space and the street designs will allow for interaction and safe play spaces.

As shown in the ORC census data analysis (Lake Hayes Updates Feb 2021 - Remix) diagram below, virtually all of Ladies Mile is within a 15 minute walk time of the town centre with only the area adjacent to Lower Shotover Road being circa 20 minute walk time.

Town centre catchment areas



In terms of walking and cycling travel times from LHE and SC to the town centre, the table below summarises these for an assumed point in LHE and SC and also the furthest point in LHE and SC.

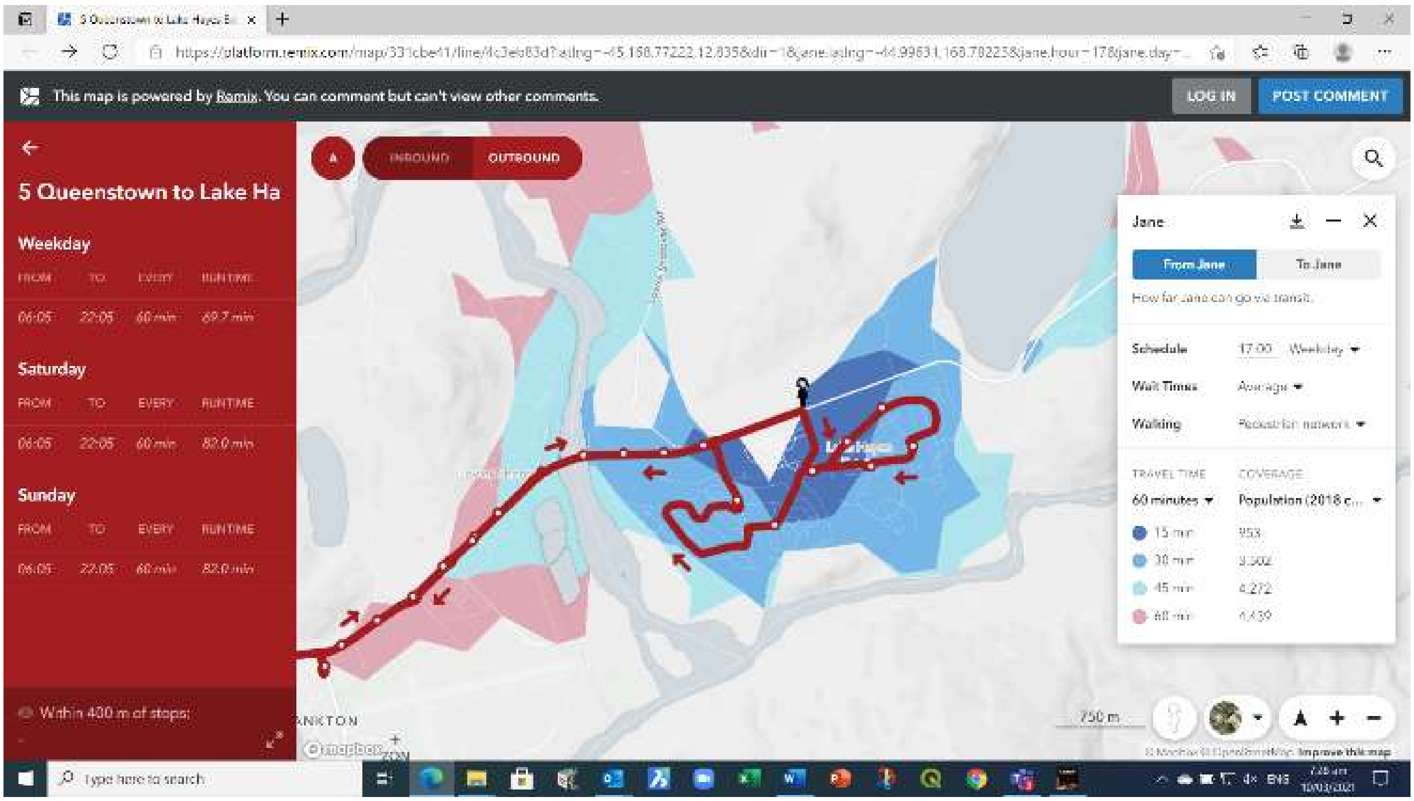
Walking and cycling travel times from LHE and SC to the town centre

	Distance (km)	Walk time (5kph)	Conventional Bike time (20kph)	Ebike time (30 kph)
LHE assumed location Nerrin Square	1.25	15	3 mins 45 secs	2 mins 30 secs
LHE furthest point (Hayes Creek Road)	2.3	27 mins 36 secs	6 mins 54 secs	4 mins 36 secs
SC assumed location Shotover school	1.5	18 mins	4 mins 30 secs	3 mins
SC furthest point (at Hicks Road)	2.4	28 mins 48 sec	7 mins 12 sec	4 mins 48 secs

Many parts of SC and LHE are within a 20-minute walk time of the town centre and all of SC and LHE are within a 5-minute ebike ride.

This is also shown graphically below using the ORC census data analysis (Lake Hayes Updates Feb 2021 - Remix) This diagram indicates that there is a population of 953 within a 15 minute walk of the town centre and 3,502 within a 30 minute walk (note small discrepancy in ORC database for small part of QCC).

LHE and SC population within 15 and 30 minute walk time of town centre



In terms of distances from LM (Town Centre assumed) then typically LM is:

- 3.3 km to SH6/Hawthorne Drive (Pak n Save roundabout).
- 3.8 km to SH6/Grant Road - Queenstown Central (retail, medical centre, pharmacy and other services, Wakatipu High School and various commercial developments) and Five Mile Shopping Centre (containing retail, a bank, pharmacy and other services).
- 10.9 km to Queenstown CBD.

Pedestrian and cycle access to the above destinations is slightly longer via Lower Shotover Road/Spence Road to the Queenstown Trail (Twin Rivers Ride) at Lower Shotover Bridge. From here a segregated route is provided via the Queenstown Trail Connector Trails and the Lake Wakatipu Ride to the Five Mile Shopping Centre, Queenstown Airport, Queenstown Hospital, Queenstown Central, Wakatipu High School, Frankton commercial developments and Queenstown CBD.

From the LM town centre, cycle travel times to these destinations (these are locations considered too far to walk) is indicated below:

Cycle travel times from LM to Frankton and Queenstown

Location	Walk/cycle distance	Conventional bike journey time (20kph)	Ebike journey time (30kph)
SH6/Hawthorne Drive (Pak n Save roundabout)	4.0 km	12 mins	8 mins
SH6/Grant Road - Queenstown Central and Five Mile Shopping Centre.	4.5 km	13 mins and 30 secs	9 mins and 6 secs
Queenstown CBD	11.6 km	34 mins and 48 secs	23 mins and 12 secs

Conventional cycle speed of 20 kph is taken from What's the average cycling speed of a bike commuter? – Bike Commuter Hero. Average ebike speed of 30 km/h assumed for a maximum electric motor of 300W permitted in New Zealand noting that maximum speed cut outs are typically 37km/h-40km/h).

The ebike journey times are greater than the free flow car journey time of circa 12 minutes to Queenstown CBD. However, in the peak periods the congestion would bring the peak period ebike and car journey times much closer together. Furthermore, ebikes allow the rider to reach their end destination without the need for changing/shower facilities and are considerably easier/cheaper to park. Ebikes also have a wider appeal for potential users as it is not necessary to be a 'lycra clad' athlete to undertake these types of journeys.

In terms of distances from LHE (Nerrin Square assumed) to Frankton/Queenstown, then typically LHE is:

- 1.25 km from SH6 via Howards Drive (and hence the LM Town centre and High School).
- 4.5 km to SH6/Hawthorne Drive (Pak n Save roundabout)
- 5.0 km to SH6/Grant Road - Queenstown Central (retail, medical centre, pharmacy and other services, Wakatipu High School and various commercial developments) and Five Mile Shopping Centre (containing retail, a bank, pharmacy and other services).
- 12.1 km to Queenstown CBD.

In terms of distances from SC (Stalker Rd/Jones Ave assumed) then typically SC is:

- 0.7 km from SH6 via Stalker Drive.
- 3.2 km to SH6/Hawthorne Drive (Pak n Save roundabout)
- 3.7 km to SH6/Grant Road - Queenstown Central and Five Mile Shopping Centre.
- 10.8 km to Queenstown CBD

These are similar distances to those for LM to the town centre and are considered to be trips which could be made by ebike.

5.3 Ladies Mile Proposed Bus Strategy

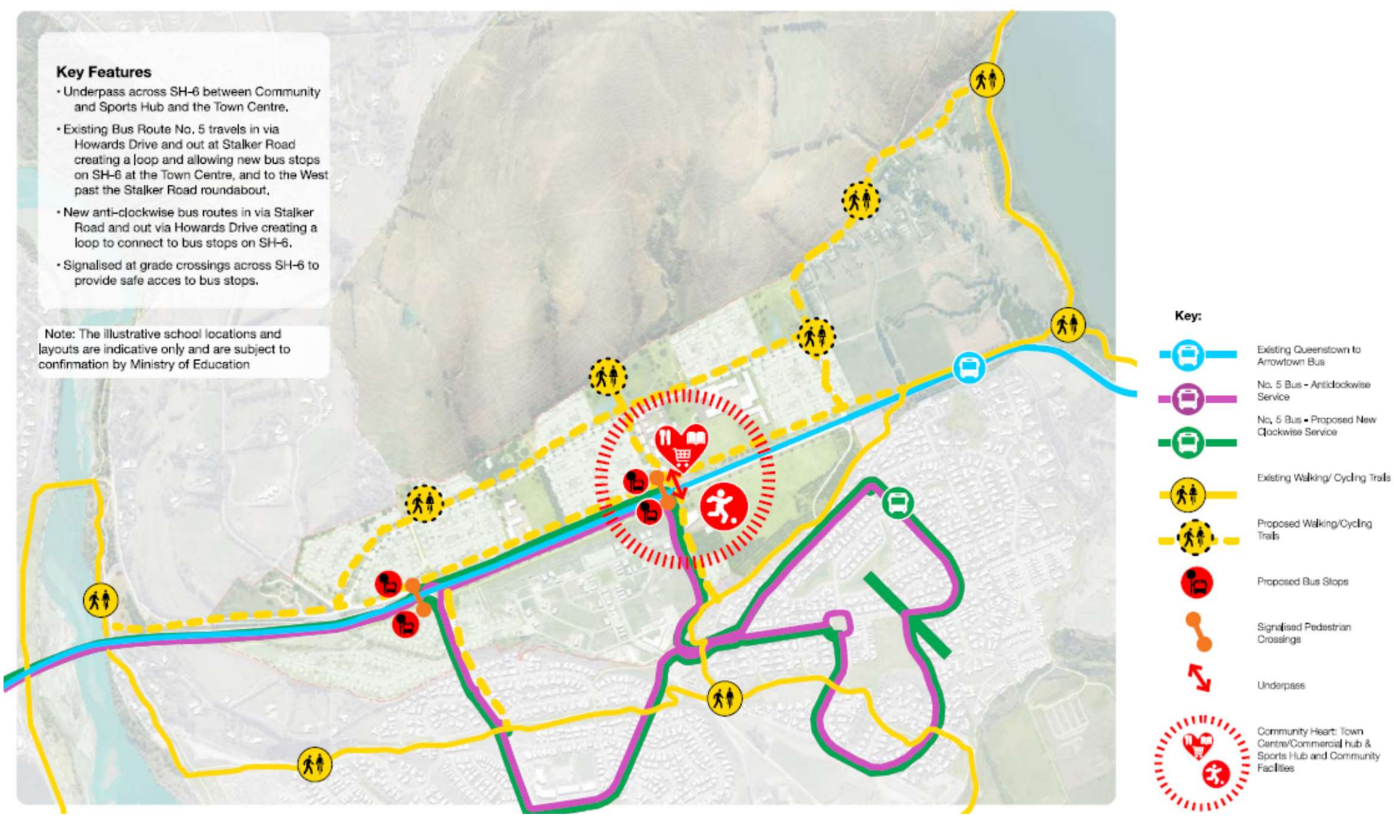
Introduction

The draft bus strategy (see **Appendix E**) assessed a number of bus routing options. In accordance with the Draft Spatial Plan and the HIF ITA bus routing proposals, the masterplan proposal is to provide buses focused on the SH6 corridor through rerouting and increased frequency of Service 5 (including ultimately provision of a new link from SH6 to Sylvan Street) and increasing the frequency of Service 2. Along with new high quality bus stops on SH6 and new bus priorities on SH6, this will ensure that a viable transport choice to using the car is available for residents of Ladies Mile, Shotover County (SC) and Lake Hayes Estate (LHE).

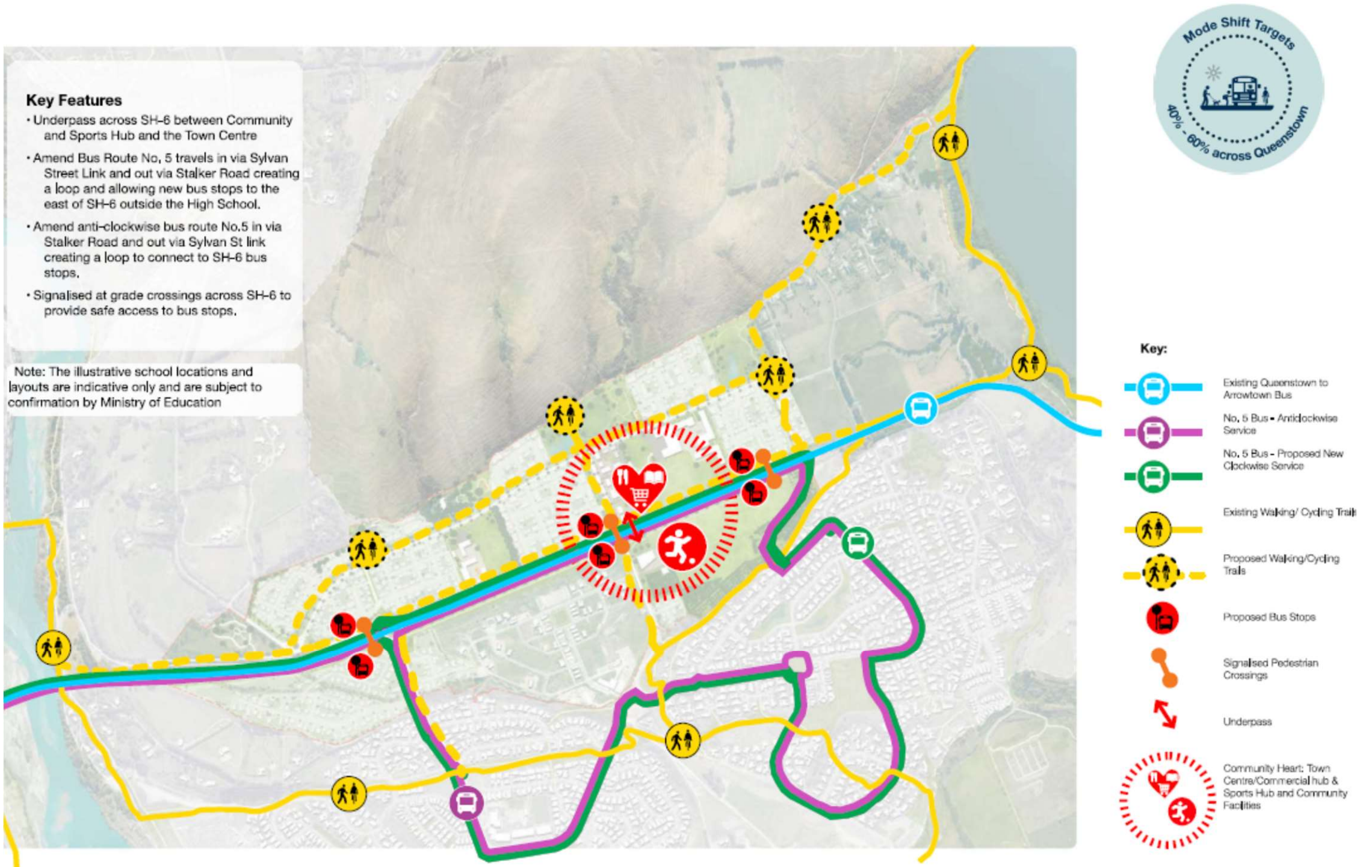
Routing

The proposed Ladies Mile Masterplan bus route is shown in the Figures below.

Bus routing – interim via Howards Drive



Bus routing – ultimate via Sylvan Street Link



In accordance with the QLDC Spatial Plan note of 18/9/20, this route focuses high quality bus service provision on SH6 through:

- Provides an additional Service 5 anti-clockwise loop from Stalker Road (through SC and LHE) and then onto SH6 initially via Howards Drive (shown in pink the Figure) and ultimately, as the fully developed bus route, via a new Sylvan Street link, westbound to Stalker Road (shown in pink in the figure. Note the interim route via Howards Drive is a very similar route to the loop route proposed by ORC for service 5 (see **section 3.13** above). As per this ORC suggestion, the route can also be extended to Tonis Terrace in SC.
- Extending the proposed clockwise ORC loop routing of service 5 from Stalker Road eastbound SH6 initially entering via Howards Drive (shown in green in the figures) and ultimately, as the fully developed bus route, (to the new Sylvan Street link shown in green in the figures) and then through SC and LHE onto SH6 via Stalker Road. As per this ORC suggestion, the route can also be extended to Tonis Terrace in SC.
- Improving the frequency of Service 2, the existing Arrowtown/Arthurs Point bus service (shown in blue on the figures).

- Based on the public transport modelling work carried out (see **section 6** below) service frequencies on these 3 routes will need to be every 10 minutes ie walk up and go.

As well as being a bus route, the proposed Sylvan Street link enhances connectivity between LM masterplan and LHE as well as providing resilience for the wider transport network.

The draft Queenstown Lakes Spatial Plan (March 2021) indicates that the backbone of the new system is a Frequent Public Transport Network, initially between the Queenstown Town Centre and Frankton, and eventually extending east to Ladies Mile, and south to Jacks Point / Homestead Bay, via the Airport and Remarkables Park. Services on the frequent network will run at least every 10 minutes during the day, offering 'turn-up and go' convenience so users will no longer need to look at a timetable. The frequent network will initially use buses with bus lanes and priority over cars at key intersections, along with a new bus hub on SH6 making it faster than a car during busy times. The system is designed to be scalable and can be upgraded as demand increases to higher capacity buses and modes, such as a trackless tram.

Bus Stops

NZTA have indicated the following regarding bus stops for Ladies Mile:

- *"Inbound (east to west) stops should have seats and shelters and timetables or real time info. Outbound stops will generally only serve as drop offs and only need a bus stop sign and pole.*
- *To promote PT use, walking distance to the nearest inbound bus stop should be as short as possible for as many people as possible. The rule of thumb is no more than 400-500m walk or 5 minutes, but ideally less (especially for winter trip making) to achieve the high level of PT mode share which is required for Ladies Mile and more likely achievable via an internal primary or collector road.*
- *This 500m walking catchment can be maximised by striking a balance between bus stop location, the provision of walkways / cut throughs in gaps between houses, as well as maximising adjacent housing density.*
- *This is a bit of an art and should be done iteratively alongside the setting out of the road network and housing arrangement.*
- *Whilst bus stops should be located to maximise walking catchment, they should not be so frequent as to slow down the route unreasonably (though this is less of concern as it is close to the beginning of the route). We would suggest no more frequent than every 500-600 metres.*
- *If present, bus stops should be provided outside the secondary school (possibly combined with on-street school bus / coach parking), any shops or rest home/retirement village and village hub".*

As shown on the figures above, high quality bus stops are provided on SH6 at:

- Stalker Road - with signal controlled pedestrian crossing facilities on the west and south side of the roundabout.

- Howards Drive - with signal controlled pedestrian crossing facilities on the west, north and south sides of the roundabout and underpass to the east.
- SH6/LM eastern access/Sylvan Street Link roundabout - with pedestrian crossing facilities provided on the west and north sides of the roundabout.

The distances between these stops complies with the above NZTA guidance of 500m-600m.

In accordance with NZTA guidance, the bus stops will have seats, shelters and timetables/real time information.

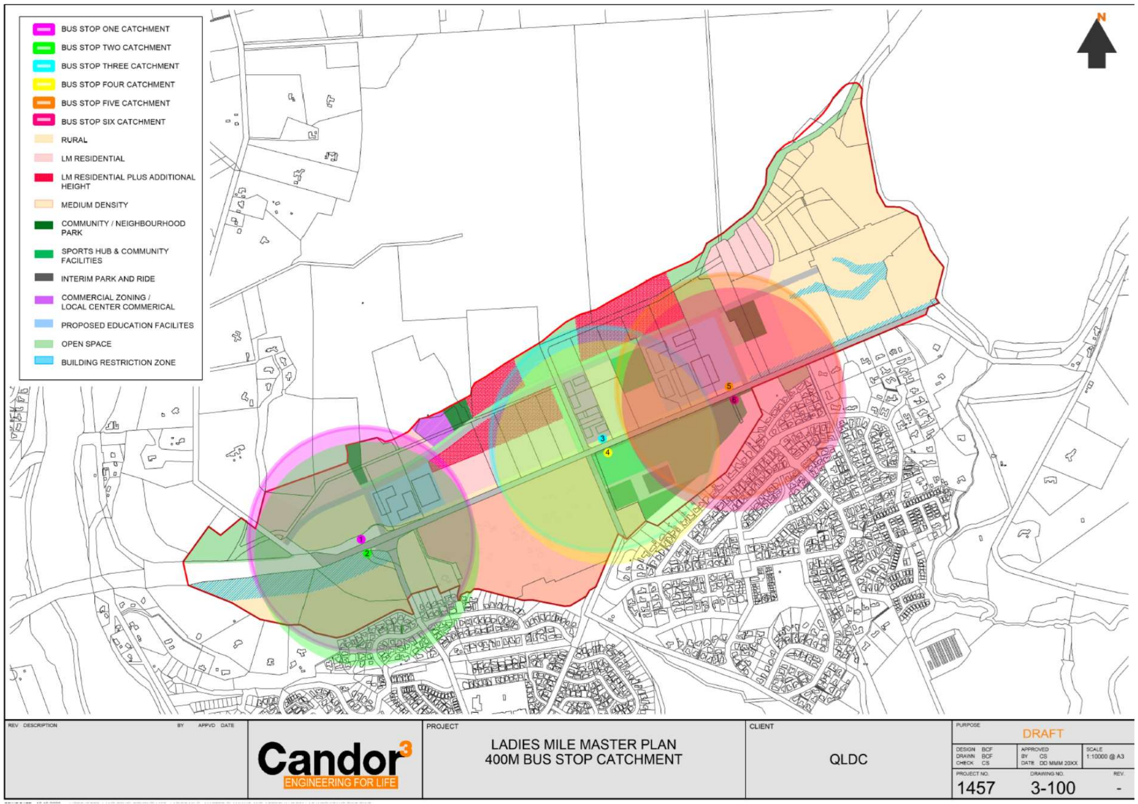
Bus stop catchment areas

As detailed in the Draft Bus strategy in **Appendix E** (which was based on an earlier draft of the Masterplan) the walking catchments (shown in the figures below), demonstrate that all of Ladies Mile is within the NZTA accepted reasonable walking distance of 400m to 500m (5 minute) to a bus stop (noting the eastern area of Ladies Mile as shown in the Draft masterplan is now not included for development at this stage). The W2G Mode Shift Plan uses 500m as a catchment area as part of its Mode Shift performance measures. As can be seen from these catchment area plans, some parts of the existing SC and LHE will also be within a 400m to 500m walking distance to these bus stops including:

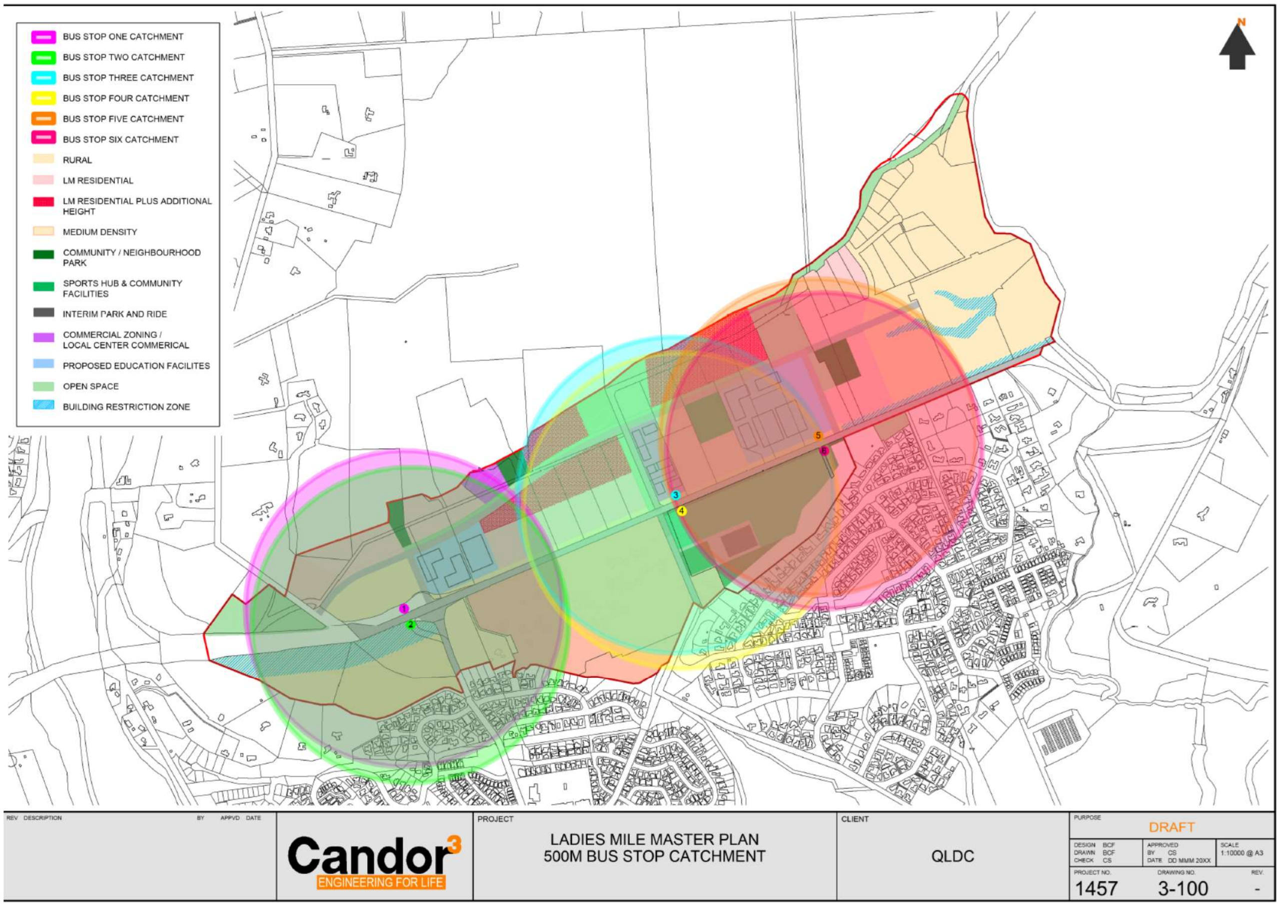
- Most of the Queenstown Country Club.
- North East part of LHE eg Sylvan Street, Hope Ave.
- Northern part of SC eg Maxs Way, Banbury Terrace.

It is noted in **section 3** that in the review of Service 5 ORC are considering bus stops on SH6 west of Stalker Road in the position as indicated in the LM masterplan.

400m walking catchments from proposed SH6 bus stops.



500m walking catchments from proposed SH6 bus stops.



SH6 Bus priority

As part of the masterplan, bus lanes would be provided eastbound and westbound on SH6 to tie into the NZUP proposals and the wider Queenstown Transport Business Case proposals - proposed cross sections are shown in **Appendix D.**

Future proofing of Ladies Mile internal Collector Road for bus use.

For the preferred route, the Ladies Mile east/west internal collector road will be designed to accommodate bus use should, in the future, buses use this road.

Advantages of the masterplan preferred route include:

- Provides connectivity for SC and LHE residents to access Ladies Mile Town Centre/Local Centre, Schools, Community Hub, Sports Hub and other key community facilities.
- Ladies Mile residents are within an easy 400m to 500m walk distance to SH6 bus stops. Although for some residents this maybe slightly longer than having a bus route on the internal Collector Road, as stated by NZTA Public Transport specialist at the Transport Stakeholders workshop on

2/12/20, "*bus users prefer to walk further for a higher quality of service*", which the masterplan [proposed routing provides.

- Concentrates bus services on SH6 which, for Ladies Mile residents, improves simplicity and legibility of bus services ie residents can just turn up and go at a bus stop. This will make this far less confusing for Ladies Mile residents.
- Concentrates bus services on SH6 which provides a high frequency and high quality of services.
- Improves frequency of bus services to/from LHE and SC.
- Sylvan Street link gives direct pedestrian access to LHE residents to Service 2.
- Provides high quality services for QLDC park and ride proposal for the proposed temporary park and ride site at Ladies Mile.
- Easily implemented during phasing of Ladies Mile, since it utilises existing infrastructure and is not reliant on completion of phases of the Collector Road. Prior to completion of the Sylvan Street link and development to the eastern area of Ladies Mile, Howards Drive can be used as the interim connection to/from SH6.
- Of all options considered, this is the most commercially viable in the longer run, since it utilises the routing of 2 existing services and the additional service introduced will maximise revenues since it serves not only Ladies Mile residents but also SC, LHE and the park and ride (should it be provided).
- Compliant with the bus routing identified in the Draft QLDC Spatial Plan.

5.4 Parking

As detailed in the Ladies Mile Structure Plan Area – draft provisions, the following maximum car parking rates will be adopted:

- Residential
  - Studio and 1 bedroom = 0.5 space
  - 2 bedrooms = 1 space
  - 3 bedrooms = 1.5 space
  - 4 or more bedrooms = 2 spaces
- Offices =1 space per $50m^2$ GFA
- Retail = 1 spaces per $50m^2$ GFA

For all other activities (eg schools, Community Hub, Sports Hub) there would be no maximum, with the end user/occupier providing justification of the number of spaces.

In terms of on street car parking spaces provision this will be on average 0.27 spaces per unit (which is below the QLDC COP minimum requirement of 1 space per unit).

The following minimum requirements for cycle parking and end of trip facilities (eg lockers and showers) will be provided:

Table 29.6				
	Activity	**Customer/Visitor Short-Term Bicycle Parking**	**Private Long-Term Bicycle Parking. This is for the use of staff, students, and residents**	**End of trip facilities**
29.10.13	Residential activity within the Te Pūtahi Ladies Mile Structure Plan area	1 per 20 residential units	1 per residential unit	Nil

Minimum requirements for cycle parking, lockers and showers

Table 29.6				
	Activity	**Customer/Visitor Short-Term Bicycle Parking**	**Private Long-Term Bicycle Parking. This is for the use of staff, students, and residents.**	**End of trip facilities**
29.10.1	Office	2 bicycle spaces (i.e. 1 stand) for the first 500m^2 GFA and 1 space for every 750m^2 GFA, thereafter.	For offices at least 150m^2 in area, 1 space per 150m^2 GFA	Where 1 long-term bicycle parking space is required: no end of trip facilities required. Where 2-10 long-term bicycle parking spaces required: 1 locker per every space required. Where 11-100 long-term bicycle parking spaces required: 1 locker for every space required and 1 shower per every 10 spaces required. Where >100 long-term bicycle parking spaces required: 10 showers for the first 100 spaces required plus two showers for each additional 50 spaces required
29.10.2	Industrial and Service Activities	Nil	For such activities of at least 500m^2 in area, 1 space per 500 m^2 GFA	
29.10.3	Hospital	1 bicycle space per 25 beds	1 per 10 beds	
29.10.4	Other Health Care Facility	For facilities of at least 100m^2 in area, 1 per 100m^2 GFA	For facilities of at least 200m^2 in area, 1 space per 200m^2 GFA	
29.10.5	Restaurants, Cafes, Taverns and Bars	2 bicycle spaces (i.e. 1 stand) for the first 125m^2 PFA and 1 space for every 150m^2 GFA, thereafter	For such activities facilities of at least 500m^2 in area, 1 space per 500m^2 GFA	
29.10.6	Day care facility	2 bicycle spaces per centre	For facilities with at least 10 workers, 1 bicycle space per 10 on-site workers	
29.10.7	Educational Facility – primary and secondary	1 visitor space per 50 students (capacity)	For Students, 1 per 5 pupils Year 5 and above (capacity)for primary and secondary schools. For staff, 1bicycle space per 10 on-site workers.	For students 1 locker per every space required. For staff, Where 11-100 long-term bicycle parking spaces required: 1 locker for every space required and 1 shower per every 10 spaces required. Where >100 long-term bicycle parking spaces required: 10 showers for the first100 spaces required plus two showers for each additional 50 spaces required.

29.10.8	Educational Facility - tertiary	1 visitor space per 50 students (capacity)	1 student/staff space per 5 FTE students (capacity)	Where 1 long-term bicycle parking space is required: no end of trip facilities required. Where 2-20 long-term bicycle parking spaces are required: 1 locker per every space required. Where >20 long-term bicycle parking spaces are required: 1 locker for every
	Activity	**Customer/Visitor Short-Term Bicycle Parking**	**Private Long-Term Bicycle Parking. This is for the use of staff, students, and residents.**	**End of trip facilities**
				space required and 1 shower per every 10 spaces required. Footnote (1).
29.10.9	Retail < $300m^2$	Nil	Nil	Nil
29.10.10	Retail ≥ $300m^2$	For retail at least $300m^2$ in area, 1 space per $300m^2$ GFA	For retail of at least $200m^2$ in area, 1 space per $200m^2$ GFA	Nil
29.10.11	Recreational Activity	1 space per court/bowling alley lane Gymnasium of at least $200m^2$ in area: 1 space per $200m^2$ of GFA 3 spaces per field for field sports 3 spaces per netball court 1 space per tennis court 1 space per 15m2 of GFA for Club for clubhouse component	Nil	Nil
29.10.12	Places of assembly, community activities, and places of entertainment	For such activities of at least $500m^2$ in area, 2 bicycle spaces per $500m^2$ located directly outside the main entrance or ticket office	For such activities of at least $500m^2$ in area, 1 space per 500 m^2 GFA	Nil

Other provisions include:

- Cycle parking will be secure and accessible from the street.
- Cycle parking for residential activity can be located in a communal area.
- e-bike charging facilities will be provided at LM town centre, LM local centre, Community Hub, Sports Hub and schools.

5.5 Transport Strategy Interventions

In addition to the street layout proposals, active and public transport modes and demand management measures which shape the urban form proposed as part of the LM masterplan (and shown throughout the supporting masterplan documents), these will connect to the wider transport network with the following interventions to be provided by both the LM developers and the W2G partners including:

5.6 Vehicular Access

As shown on the Masterplan (**Appendix A**), vehicular access to Ladies Mile will be via (timescales from Queenstown Lakes Spatial Plan "Grow Well Whaiora" March 2021):

- As part of the NZUP works (2024) a roundabout and underpass to be provided at Howards Drive. The road link to the north will provide access to LM and the underpass will provide grade separated direct link from LHE /QCC/Sports Hub/Community Hub to the town centre, Local centre, High school open space, SH6 active modes links.
- New roundabout proposed on Lower Shotover Road at Spence Road – this will provide a vehicular access to LM. It is proposed that the section of Lower Shotover Road between this new roundabout and the SH6/Stalker Road roundabout speed limit is reduced to 50kph and a raised pedestrian/cycle crossing is provided to provide a safe crossing point from Ladies Mile to the bus stops on SH6, to Stalker Road (via a new controlled crossing point on SH6 west of Stalker Road) and via a new footway/cycleway adjacent to Lower Shotover Road to Spence Road and the existing trails network to the old Shotover Bridge.
- New eastern roundabout to the east of the existing 516 Ladies Mile private access which will provide access north into Ladies Mile and south to the Sylvan Street link.
- Laurel Hills priority intersection on Stalker Road, north of Maxs Way (as per the previously consented access).
- Land to east of Stalkers Road, priority intersection at the point of the existing private vehicle access on Howards Drive and closure of the existing private access on SH6.
- Sub area J1 - priority intersection south of the QCC access.

5.7 SH6 Speed Limit changes – include:

- As part of NZTA speed limit review, the SH6 speed limit adjacent to LM, to initially be reduced to 80kph (2024).

- Speed limit to be reduced to 50kph on SH6 between the proposed eastern roundabout and Stalker Road.
- Speed limit to be reduced to 50kph on Lower Shotover Road from the proposed LM/Spence Road roundabout and SH6.

5.8 Bus infrastructure – includes:

- As part of the NZUP works (2024) a westbound bus lane to be provided west of Howards Drive roundabout to Shotover Bridge.
- Extend westbound bus lane from Howards Drive to west of eastern roundabout.
- Eastbound bus lane on SH6 proposed between east of Stalker Road and west of the eastern roundabout.
- As detailed in the Bus Strategy, a new link will be provided from SH6 to Sylvan Street, which will enable the proposed service 5 clockwise and anticlockwise buses to use this link to efficiently service the eastern part of Ladies Mile masterplan (and LHE).
- As detailed in the W2G SSBC, bus lane to be provided northbound on Stalker Road between Jones Avenue and SH6.
- Review scope to utilise the existing shoulder as a bus lane eastbound from Shotover Bridge to Stalker Road.
- Review scope to provide a westbound bus lane from Shotover Delta Road westbound merge (from Quail rise) to Hardware Lane within the existing shoulder and shortening of the length of Shotover Delta Road westbound merge.

5.9 Bus stops include:

- As detailed in the Bus Strategy, high quality bus stops are to be provided to the west of the Howards Drive roundabout.
- As detailed in the Bus Strategy, high quality bus stops are to be provided on SH6 to the west of the Stalker Road roundabout.
- As detailed in the Bus Strategy, high quality bus stops are to be provided to the west of the proposed eastern roundabout.

5.10 Bus service improvements includes (timescales from Queenstown Lakes Spatial Plan "Grow Well Whaiora" March 2021):

- W2G public transport service frequency improvements 2024 and 2027.
- Post 2027 roll out of W2G Bus Max network including double decker buses/articulated buses on the Sunshine Bay to Lake Hayes Estate and Arrowtown to Queenstown proposed Bus Max Routes.
- As detailed in the bus strategy, enhance the frequency of the existing service 5 (noting ORC proposal to provide this as a clockwise loop service (in via Howards Drive and out via Stalker Road) to every 10 minutes.

- As detailed in the bus strategy, enhance the frequency of the existing service 2 to every 10 minutes.
- As detailed in the bus strategy, provide an anticlockwise loop service 5 (in via Stalker Road and out via Howards Drive) at a frequency of every 10 minutes.
- Once the Sylvan Street link is completed, reroute the clockwise and anticlockwise service 5 via this link instead of Howards Drive.

5.11 Temporary Park and Ride (PnR)

- W2G 200 space PnR proposal adjacent to Howards Drive – at the LM site we recommend that this is provided as a low cost temporary solution as a shared car park with the Sports Hub/Community Hub to avoid any abortive costs of a permanent solution. This will allow the impact of the PnR to be monitored prior to the larger site proposed at Alec Robins Road.

5.12 Active Modes improvements include (timescales from Queenstown Lakes Spatial Plan "Grow Well Whaiora" March 2021):

- As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 (to consider by 2024) adjacent to SH6 from McDowell Drive to the existing route on Hicks Drive and onwards to the Old Shotover Bridge.
- As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 (to consider by 2024) on west side of Howards Drive from SH6 to the existing shared path at Jones Road.
- As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 (to consider by 2024) on east side of Stalker Road from SH6 to the existing shared path at Banbury Terrace.
- As part of the W2G Active Modes improvement – provision of shared walking and cycling route C7 (2021) Howards Drive at Jones Avenue to Hicks Road and onwards to the Old Shotover Bridge.
- As part of the W2G Active Modes improvement – provision of shared walking and cycling route A8 (2021) Lake Hayes estate to Frankton south with 2 bridges of Kawarau River.

- Walk and cycle links to the active travel network west to old Shotover bridge and east towards Lake Hayes (with a potential active trail link to Slope Hill/Lake Hayes).
- Improvements to Howards Drive roundabout to be made to provide (subject to speed limit review) at grade signalised pedestrian crossings across SH6 west side, Howards Drive and the LM access. This will provide safe and direct access for LM and SC/LHE residents to the bus stops and SC/LHE residents access to the town centre (in addition to the underpass). This will also provide a safe crossing point for pedestrians and cyclists on the SH6 shared path.
- At the proposed eastern roundabout, provide at grade signalised pedestrian crossings across SH6 west side and the LM access. This will provide safe and direct access for SC/LHE residents

access to the High School and a safe crossing point for pedestrians and cyclists on the SH6 shared path.

- Provide mid-block at grade controlled crossing across SH6 circa 200m west of the eastern roundabout to provide a safe crossing point for LM residents to the proposed bus stops.
- Provide mid-block at grade controlled crossing across SH6 in between Stalker Road and Howards Drive to provide a safe crossing point for QCC residents to/from LM.
- As detailed in the bus strategy, a new link will be provided from SH6 to Sylvan Street, this will have a shared pedestrian/cycleway on the west side.
- Improvements to Stalker Road roundabout to be made, to provide (subject to speed limit review) at grade signalised pedestrian crossings across SH6 west side and Stalker Road. This will provide safe and direct access for LM and SC residents to the bus stops and will also provide a safe crossing point for pedestrians and cyclists on the SH6 shared path.
- Provide raised pedestrian/cycle crossing on Lower Shotover Road between the proposed site access/Spence Road roundabout and Stalker Road. This will provide a safe crossing point for LM and SC residents to/from the bus stops on SH6 and (via a shared path link from this crossing point and Spence Road) a safe crossing for LM residents to the existing active modes link via Old Shotover Bridge.

5.13 Traffic Signals Gating

The HIF ITA indicated that improvements to route capacity can be made without providing additional road space. Signals could tie in with the HOV lanes option to give priority to buses or high occupancy vehicles. Priority could be provided at intersections along the corridor and at a 'gate' at the Shotover Bridge. The HIF ITA also noted that traffic signals also offer a method of metering the amount of traffic reaching the bottleneck or providing priority without the need for comparatively expensive capital works. Signalisation of intersections through Ladies Mile (on SH6) would provide control over traffic flows, spreading congestion across the corridor rather than it reaching unstable levels at a single bottleneck. Working with W2G it is recommended that:

- The HIF ITA suggestion for a 'gate' at the Shotover Bridge is investigated.
- The HIF ITA suggestion of signalisation of intersections through Ladies Mile (on SH6) is investigated at the SH6 intersections with Stalker Road and Howards Drive to complement the LM masterplan proposals to create a 50kph speed controlled/pedestrian friendly SH6 at LM.

5.14 Transport Demand Management/Travel Behaviour Change initiatives

5.14.1 W2G Travel behaviour change initiatives include (timescales from Queenstown Lakes Spatial Plan "Grow Well Whaiora" March 2021):

- Real time passenger information system mobile platform enhancement - from 2021.
- Orbus marketing and promotion campaign - from 2021.
- Travel Demand Management Single Stage Business Case Lite - by 2022.

- Way to Go Marketing and Promotion Campaign - from 2022.
- Queenstown travel management association establishment and initiatives - by 2022.
- Workplace travel plan programme - from 2023.
- School travel plan programme - from 2022.
- Physical and digital wayfinding programme - from 2021.

5.14.2 Micro mobility and ebikes

The Draft Supporting Evidence for Consultation Climate Commission (February 2021) indicates that cycling, micro-mobility, walking and car sharing could have a big role in smaller cities and towns, where distances are usually short. Additionally, there are increasing examples of mobility as a service in smaller towns, as opposed to conventional public transport. First and last kilometre transport solutions are also increasingly emerging, making it easier to access public transport. The 'first and last-kilometre' is a term that describes the beginning and end of an individual's public transport journey. Usually, after traveling on public transport, we need to walk, or take a second type of travel to reach our final destination. This gap from public transit to destination is seen as counterintuitive to establishing a truly connected city.

E-bikes (powered bicycles) E-bikes are traditional bicycles that have the addition of an electric motor to assist with propulsion. The motors are typically mid-mounted (at the pedals) or hub-mounted and are referred to as mid-drive or hub drive respectively. Currently, Waka Kotahi regulates these bikes to a maximum power output of 300 W. E-bikes typically have batteries ranging from 180 Wh to 1 kWh, providing a range from 15 to 100 km. Cargo e-bikes are able to carry people or goods in addition to the rider.

2018 research carried out by University of Auckland (UoA) noted that e-bikes are particularly effective at reducing barriers to mode shift from car to active transport, because they both a) Reduce exertion-based barriers to bicycle use (hills, distance, wind, fitness, disability, high body weight) whilst also b) increasing the possibilities for more 'car-like' use of a bicycle (longer trips, more trip chaining, carrying heavier, larger loads). E-bikes have also been shown to increase the sustainability of urban transport systems. Intelligent Energy Europe estimate that each e-bike on the road results in an average 900km less car kilometres per year; with a corresponding reduction of 108kg of CO_2 per year. Key findings from the UoA research of both existing ebike users and trials of car drivers who had never used ebikes in Auckland included:

- E-bikes are expanding Auckland's 'active transport radius' - Where we traditionally expect the average pedestrian to be willing to walk up to 3km, and those on conventional bikes to commute up to 5km, a large number of participants in this study were regularly and comfortably commuting 15km each way to work on their e-bikes. E-bikes are making this expansion possible by a) making it less tiring to cover longer distances, and b) increasing cycling speed so longer distances now fall within expected commuting time-budgets.

- E-bikes are making 'trip-chaining' easier for active transport users -E-bikes are enabling people to make more 'car-like' trips using a form of active transport. E-bikes are making it easier for people to make trips with multiple stops and multiple purposes: so-called 'trip-chaining'. Because pedal-assist makes trips quicker and less tiring, and it also makes it possible for you to carry more stuff, including shopping and children, participants found they could 'fit in' more diverse trips on their bike without needing to use their car as much.
- E-bikes are increasing commuting efficiency and reducing commuting stress - cyclists are consistently shown to be the most satisfied commuters. One of the key reasons for this is the higher levels of commuting 'control' and arrival time reliability experienced by cyclists, especially in congested conditions. The accounts of e-cyclists within the UoA research suggest that e-bikes are further enhancing this level of commuting control amongst Auckland's cyclists: smoothing out the effects of things like tiredness, or environmental conditions like hills and wind, on commute reliability. The e-cyclists within this research, report a number of key benefits associated with these improvements in commute quality and efficiency, including greater punctuality, improved mood at work, and reduced commuting stress.
- E-bikes are making active transport more realistic for women - This research suggests that supporting e-biking is likely to be a particularly effective strategy for lifting rates of cycling amongst women. E-bike counts on the Auckland north-western cycleway showed that while women represented 27% of cyclists, they made up 41% of e-cyclists. Accounts of female e-cyclists within the UoA research suggest that by providing improved arrival time reliability, greater capacity for trip-chaining, and the ability to carry children and their stuff, e-bikes are making active transport more realistic for women, who are more likely to be juggling work and care responsibilities.

Complementary ebike TDM measures recommended by the UoA study included:

- Create a new 'E-bikes at work' website to enable employers to access high quality information about how to a) establish a workplace e-bike fleet and b) assist employees to purchase an e-bike for their commute. The UoA research highlighted the fact that employers currently have to invest a significant amount of time (and therefore money) in order to figure out how to meet taxation and health and safety regulations surrounding these type of schemes. These challenges mean that workplaces currently developing these schemes generally have strong cycling or e-cycling 'champions' who are willing to take on this significant time commitment. However, the majority of workplaces do not currently have such a champion and are likely to experience this significant investment in compliance research as an undue burden. Sharing stories, research, protocols and success stories from e-bike friendly workplaces would significantly reduce this compliance research burden and likely increase workplace investment in e-bikes.

- Provide more secure bike parking, with e-bike charging facilities. This will reduce levels of anxiety about bike theft and range anxiety - both of which are limiting the generation of new e-bike trips amongst existing e-bike users.

Bike Hubs – these are community facilities who fix and restore bikes and is a complementary support service to encouraging greater bike use. In NZ, 2 bike hubs in New Lynn and Henderson in Auckland have recently won a NZTA National Transport Award. These 2 bike hubs received almost 9000 visitors in 2020 and fixed nearly 3000 bikes.

5.14.3 Dockless micro mobility Dockless refers to shared vehicles (e-bikes and e-scooters) that are unlocked generally via a smartphone application and can be left at the user's destination; that is, they do not have to be returned to a docking station. There are generally limits within a city as to where the vehicles can be left. Shared dockless micro mobility vehicles include e-scooters and e-bikes that are hired via a smartphone app. The service is typically regulated by the local authority's appropriate bylaws if available, although new unregulated commercial models are appearing. Auckland Council publishes a code of practice for shared escooters and e-bikes along with licence assessment criteria. In New Zealand, shared dockless e-scooters have been adopted through a combination of trials and permits in Auckland, Hamilton, New Plymouth, Hutt Valley, Wellington, Christchurch and Dunedin.
By 2020 there were seven shared-use micro mobility companies operating in New Zealand that offer pay-per-ride services: Lime, Flamingo, Beam, Wave, Jump, Blip and Neuron.

Shared dockless e-bikes were proposed in New Zealand, starting with Jump launching in Auckland in February 2020. Key features of this scheme are:

- 655 bikes initially.
- Mercury is signed up as the energy partner.
- Offered via standard Uber app therefore no need to download new app and sign up. Find and unlock bikes through the rent tab. Uber have experience overseas of avoiding 'hunt and gather' so that they are 'grab and go'.
- Scan QR code on bike and cable lock springs open.
- Comes with helmet.
- 38 cents/minute plus $1 flag fall therefore $12 for 30 mins riding and $25 1 hour.
- Can reserve a bike.
- Can put a bike on hold to go into a shop etc.
- Bikes are well maintained.

On 16/12/20 the Beam Apollo fleet of e-bikes was launched in Auckland growing to a full fleet of 400. The bikes are strategically placed at approved parking locations across Auckland to maximise the city's existing bike infrastructure. Key features of this scheme are:

- Beam offers free personal accident insurance for all riders – the first and only operator to do so.

- The Beam app allows riders to access the bike, unlock a helmet which is attached to each bike, view maps and appropriate parking locations at their destination.
- Beam's e-bikes and helmets are coated with a non-toxic, long-lasting anti-microbial treatment to protect against spread of bacteria and are regularly sanitised with hospital-grade disinfectant.
- Bike batteries last for 100 kilometres and data from each bike tells Beam's maintenance team when batteries need to be replaced.
- The Apollo's design aims to minimise vandalism through concealed wires and cables.
- The Apollo features a sturdy frame to withstand heavy use and all-weather conditions, large high-grip wheels to absorb shocks and avoid sliding in wet weather and an anti-tipping stand to keep the bikes upright.
- Beam is the only micro mobility operator in New Zealand to be independently certified climate neutral.

Lime launched an e-bike public bike sharing scheme in Christchurch on 27/11/20 with up to 200 ebikes. The bikes have a range of 30 to 60 kilometres and people can hire them using the Lime or Uber apps. Prior to this there was a bike share pilot (Spark Bikes) which run for 2 years in Christchurch from August 2015 to August 2017. Feedback on the pilot was positive and 80% of trips were less than 30 minutes being used as providing a first/last mile link to Public Transport.

5.14.4 Integration with public transport (first/last mile). One of the main deterrents to the uptake of public transport is how people get from the start of their trip to the public transport pickup point and/or from the public transport drop-off point to their final destination. This is known as the 'first/last mile' deterrent. Reducing this deterrent – by providing a quicker trip to/from public transport or by increasing the distance that people are willing to travel to/from public transport when compared to walking – would likely increase public transport patronage.

It may be possible to increase the use of micro mobility with public transport through the integration of accessing and paying for shared micro mobility within the same system used for public transport - Mobility-as-a-Service (MaaS) apps.

In 2018 the Sacramento Regional Transit District (SacRT) adopted a micro mobility strategy to address the first/last mile problem. The agency partnered with Jump to offer on demand access to and from light rail stations via e-bikes. SacRT worked with Jump to install charging bays inside seven light rail stations, which allowed commuters to park an e-bike within the station, where it could charge while docked. On the return trip, the commuter could unlock a charged e-bike at the station and ride it to their final destination.

First/last mile micro mobility can increase the catchment for public transport, as users who previously considered over 500m walk to or from a bus stop being too far, can now use an e-bike to make this first/last mile of their trip. There is great potential for micro mobility to be used with public transport, as it increases the catchment at both ends of the trip or may enable riders to avoid parts of a route that do not have safe infrastructure.

Working with W2G, it is recommended that a dockless ebike public bike sharing scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.

It is recommended that within the LM masterplan, along with the proposed minimum bike parking standards that ebike charging points are provided at bike parking facilities within the town centre, local centre, community hub, sports hub, community facilities and schools.

5.15.5 Mobility as a service (MaaS) MaaS is the concept of offering a 'frictionless' transport solution that requires a single point of planning and payment for journeys spanning multiple modes – and, potentially, multiple providers, public and/or private. This would generally be offered in the form of a web-based platform or app, allowing users to view end-to end trip solutions and select their preference based on cost, time or convenience. The key barriers reduced by MaaS are a lack of information on various modes (including non-traditional) and a lack of integrated payment. MaaS may increase the uptake of micro mobility as it allows trip-chaining. The most potential for MaaS to grow mode shift is where public transport and shared micro mobility are combined.

Working with W2G, it is recommended that a MaaS scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.

5.14.6 Car share

In Wellington there are almost 11,000 members of car share (ie car hire paid by the hour and booked via an app) with the schemes run by Mevo and Cityhop Wellington there are circa 100 cars, some of which are hybrid or electric, and Wellington City Council provides around 30 car parks for these vehicles with more planned. A 2020 survey of Wellington car share members suggests that every car share vehicle replaces up to 11 private vehicles.

Working with W2G, it is recommended that a Car Share scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.

Car share parking and associated EV charging points will be provided at key locations within the LM masterplan.

5.14.7 Car pooling and High Occupancy Vehicle Lanes/Transit Lanes

Carpooling is where a driver takes other passengers with them organised through an app or website. Auckland Transport have implemented several projects to promote carpooling such as the Smart Carpooling Travel app. The Draft Supporting Evidence for Consultation Climate Commission (February 2021) noted that one Māori community on the East Cape has implemented shared mobility. Long established ways of sharing are underpinned by cultural principles such as manaakitanga (having a deep ethic of care for people that might be impacted), Mana Tauutuutu (community belonging and cohesion) and whanaungatanga (a relationship through shared experiences and working together which provides people with a sense of belonging). Shared mobility allows for social, cultural and economic benefits to the collective as well as environmental benefits.

Working with W2G, it is recommended that an app-based Car Pool scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.

The HIF ITA indicated that providing transit lanes or bus lanes on SH6 up to the Shotover Bridge would encourage a shift towards higher occupancy vehicles (HOV), thereby reducing traffic volumes. The solution would capitalise on existing congestion by creating a more attractive alternative to private vehicles. Extra lanes, or the conversion of existing traffic lanes for the use by high occupancy vehicles, could be provided in both directions on SH6, addressing both morning peak westbound and evening peak eastbound congestion. This solution avoids causing congestion downstream, which is likely to occur with general traffic capacity improvements. High occupancy lanes are comparatively cheaper to other potential capacity improvements.
For the Stalker Road north bound and SH6 eastbound and westbound bus lanes review these to allow use also as T3 transit lanes.

5.14.8 Ridesharing

Various companies such as Uber, Ola and Zoomy, provide different sharing mobility services in Auckland, Wellington, Christchurch and Dunedin. Auckland Transport have examined ridesharing trials such as an electric rideshare service in Devonport. Uber are about to launch Uber Commute in Auckland which enables sharing of rides with other local commuters

Working with W2G, it is recommended that ride share schemes are expanded in the Queenstown area to cover LM/SC/LHE.

5.14.9 Working from home

The Draft Supporting Evidence for Consultation Climate Commission (February 2021) indicated that whether it is possible for someone to avoid travel to and from work would depend on their occupation, access to a digital connection and suitability of their home environment. The Commission estimated that about 10% more people would be able and willing to work from home.

It is recommended that the climate Commission findings that 10% more people would be able and willing to work from home is bult into W2G future modelling assumptions.

5.14.10 Electric vehicles

Wellington’s use of electric vehicle (EV) chargers has tripled in the last six months (August 2020 to February 2021) and Wellington City Council has supported the installation of 6 fast and 28 slow EV charging stations.

EV charging points will be provided in the LM masterplan car parking facilities within the Town centre, local centre, community hub, sports hub, community facilities and schools.

5.14.11 Queenstown Travel Demand Management (TDM)

Appendix C10 of the Queenstown Business Case is the Queenstown Travel Demand Management Scoping (February 2020). The purpose of the TDM programme is to support a mode shift away from car driving to more sustainable and space-efficient transport such as walking, cycling, shared modes and public transport for visitors, tourists, residents, employees and commuters.

The recommended TDM programme for Queenstown has four key areas of focus:

- Policy – Implementing policy changes takes time and requires public support, the list that this document recommends sets the agenda for the changes that are needed to achieve mode shift at scale. New policy or changes will be needed to support car share; to require travel plans for large employers, key trip generators and new developments; to introduce charges for parking in areas that are presently free or cheap (where sustainable and more efficient transport choices are available); park and ride study and initiatives that encourage a visitor mode shift like travel plans for popular destinations and a self-drive permit system. Road pricing may also be considered in the long term.
- Travel planning and behaviour change initiatives – This section lists items that are usually led by local government in New Zealand. Its focus is on programmes that benefit residents and the recommended measures include enhancing the school travel plan programme; providing cycle and scooter training for adults and children; supporting the development of residential travel plans and encouraging travel behaviour change efforts through an award scheme and gamification.
- Wayfinding improvements – With so many visitors each year, Queenstown needs to make it easy for people to find their way around. People use both physical signs and digital platforms to navigate. Physical wayfinding needs should be comprehensively identified by way of an audit and there is a need for a systematic, easy to use Wayfinding Game Plan. Digital and physical systems should map 'smooth walking/wheeling routes' that are accessible to wheelchair users or the best route for someone wheeling a pram or luggage.
- Transport Management Association – A TMA will be pivotal to the success of a TDM programme in Queenstown; it was a common feature of the international resort-based towns that were

studied. Interviews with businesses, residents' associations and other key stakeholders indicated a strong appetite to get involved in solving Queenstown's transport problems and for a TMA to lead and coordinate effort.

5.14.12 LM TDM proposals

W2G Travel behaviour change initiatives include (timescales from Queenstown Lakes Spatial Plan "Grow Well Whaiora" March 2021):

- Real time passenger information system mobile platform enhancement - from 2021.
- Orbus marketing and promotion campaign - from 2021.
- Travel Demand Management Single Stage Business Case Lite - by 2022.
- Way to Go Marketing and Promotion Campaign - from 2022.
- Queenstown travel management association establishment and initiatives - by 2022.
- Workplace travel plan programme - from 2023.
- School travel plan programme - from 2022.
- Physical and digital wayfinding programme - from 2021.

In addition to these measures, other TBC measures proposed as part of the Transport Strategy that can delivered with the QLDC TDM include:

- Support use of ebikes through parking standards, EV charging facilities (at the town centre, community hub, local centre, sports hub and schools), cycle training (for adults and children).
- Set up a dockless ebike public bike share within LM and SC/LHE as part of a wider Queenstown/Frankton wide scheme.
- Set up an EV car share app-based system within LM and SC/LHE as part of a wider Queenstown/Frankton wide scheme.
- Set up a Mobility as a service (MaaS) within LM, SC and LHE as part of a wider Queenstown/Frankton wide scheme.
- Set up a car-pooling app-based system within LM and SC/LHE as part of a wider Queenstown/Frankton wide scheme.
- Set up a LM Mobility Coop.
- Develop LM community, residential, school and workplace Travel Plans

Supporting TDM measures proposed as part of the LM masterplan include:

- Safe and direct walking and cycling infrastructure.
- Bus stops (within 500m walking catchments) and bus priorities on SH6.
- Provide minimum bike parking standards for residents and visitors.
- Provision of end of trip facilities for biking (eg showers/changing facilities at workplaces). Provide e-bike charging facilities at town centre, local centre, community hub, sports hub and schools.
- Legible wayfinding throughout.

- Provision of parking for car share.
- Provision of EV charging stations.

5.14.13 Demand Management

As detailed in the Ladies Mile Structure Plan Area – Draft provisions, the following maximum car parking rates will be adopted:

- Residential
  - Studio and 1 bedroom = 0.5 space per dwelling.
  - 2 bedrooms = 1 space per dwelling.
  - 3 bedrooms = 1.5 spaces per dwelling.
  - 4 plus bedrooms = 2 spaces per dwelling.
- Offices =1 space per 50m^2 GFA.
- Retail = 1 spaces per 50m^2 GFA.

For all other activities (eg education, sports hub, community hub) there would be no maximum, with the end user/occupier providing justification of the number of spaces.

5.15 Proposed Transport Interventions Action Plan

The Draft LM masterplan provisions document includes (within sections 7.5.20, 8.5.41 and 9.5.36) details of dependencies of the development sub areas on the transport infrastructure indicated in the Structure Plan.

Based on the proposed transport interventions identified in the Draft Transport Strategy, the table below presents the Draft Transport Strategy Action Plan which highlights the sequencing of the proposed transport interventions for each of the development sub areas A to I plus the Community Hub/Sports Hub/temporary park and ride development area and the residential land accessed off Howards Drive.

The Action Plan and proposed sequencing of interventions is based on each of the development sub area public transport accessibility defined as a 400m to 500m walk distance from these sub areas to the proposed bus stops on SH6.

Delivery of each transport intervention is based on:

- W2G proposed implementation dates (where known) or,
- First occupation of a development sub area or,
- Dependency on delivery of another transport intervention or,
- Ongoing as the Masterplan is delivered.

As such, the delivery of the transport interventions is not based on a trigger for an assumed quantity of development, but rather based on what transport intervention is needed to support the delivery of development in a particular sub area in order to achieve the required mode shift.

The Action Plan indicates the transport intervention, its time frame/dependency, along with who is responsible for implementing the intervention.

Any delivery years indicated in the Action Plan are taken from the Queenstown Lakes Spatial Plan "Grow Well Whaiora" (March 2021).

The LM Masterplan assumes the following for each of the sub areas (see **Appendix A**):

- A = 298 residential units.
- B = 265 residential units, Primary School, Local Centre.
- C = 735 residential units.
- D = 130 residential units, Town Centre.
- E = 367 residential units, High School.
- F = 353 residential units.
- G = 42 residential units.
- H1 and H2 = 98 residential units.
- I = 30 residential units.
- J1 = 26 residential units.

In addition, transport interventions are also indicated for:

- Community Hub, Sports Hub/temporary park and ride

Transport interventions common to all sub areas

Intervention	Timeframe/ Dependency	Responsibility
SH6 and Street Layouts		
All street layouts (including footpaths and cycleways) to be provided as per LM cross section drawings.	Ongoing	Developers
SH6 cross section to be provided as per LM cross section drawing.	Ongoing	Developers/W2G
Bus Lanes		
Bus lane to be provided northbound on Stalker Road between Jones Avenue and SH6.	Timescale TBC by W2G	W2G
Review scope to provide a westbound bus lane from Shotover Delta Road westbound merge (from Quail Rise) to Hardware Lane within the existing shoulder and shortening of the length of Shotover Delta Road westbound merge.	Timescale TBC by W2G	W2G
Bus Level of Service Improvements		
W2G proposed service 5 clockwise loop changes.	Timescale TBC by W2G	W2G
High quality bus stops to be provided on Howards Drive/Jones Ave south of SH6 as part of the W2G proposed service 5 clockwise loop changes.	Timescale TBC by W2G	W2G
W2G public transport service frequency improvements 2024 and 2027 – specifically	2024 and 2027	W2G

in relation to LM masterplan provide Service 5 clockwise loop at 10-minute intervals and Service 2 at 10-minute intervals.		
Post 2027 roll out of W2G Bus Max network - double decker buses/articulated buses	Post 2027	W2G
Provide an anticlockwise loop service 5 (in via Stalker Road and out via Howards Drive) at a frequency of every 10 minutes.	Timescale TBC by W2G	Developers/W2G

Active Mode Improvements

As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 adjacent to SH6 from McDowell Drive to the existing route on Hicks Drive and onwards to the Old Shotover Bridge.	To consider by 2024	W2G and to integrate with LM Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 on west side of Howards Drive from SH6 to the existing shared path at Jones Road.	To consider by 2024	W2G and to integrate with LM Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking and cycling route D4 on east side of Stalker Road from SH6 to the existing shared path at Banbury Terrace.	To consider by 2024	W2G and to integrate with LM Masterplan proposals
As part of the W2G Active Modes improvement – provision of shared walking and cycling route C7 Howards Drive at Jones Avenue to Hicks Road and onwards to the Old Shotover Bridge.	2021	W2G
As part of the W2G Active Modes improvement – provision of shared walking and cycling route A8 Lake Hayes estate to Frankton south with 2 bridges of Kawarau River.	2021	W2G

Signal options

Investigate the HIF ITA suggestion for a 'gate' at the Shotover Bridge.	Timescale TBC by W2G	W2G
Investigate the HIF ITA suggestion of signalisation at the SH6 intersections with Stalker Road and Howards Drive.	Timescale TBC by W2G	W2G

Car Share/Car Pool

Working with W2G, it is recommended that an app-based Car Pool scheme is developed for the LM/SC/LHE area as part of a wider Frankton/Queenstown scheme.	Ongoing	Developers/W2G
For the Stalker Road north bound and SH6 eastbound and westbound bus lanes, review these to allow use also as T3 transit lanes.	Timescale TBC by W2G	W2G

Travel Behaviour Change

W2G Travel behaviour change initiatives include		W2G

• Real time passenger information system mobile platform enhancement. • Orbus marketing and promotion campaign. • Travel Demand Management Single Stage Business Case Lite. • Way to Go Marketing and Promotion Campaign. • Queenstown travel management association establishment and initiatives. • Workplace travel plan programme. • School travel plan programme. • Physical and digital wayfinding programme.	• 2021 • 2021 • 2022 • 2022 • 2022 • 2023 • 2022 • 2021	
Support use of ebikes through bike parking standards, EV charging facilities (at the town centre, local centre, sports hub, community hub and schools), cycle training (for adults and children).	Ongoing	Developers/W2G
Set up a dockless ebike public bike share within LM and SC/LHE as part of a wider Queenstown/Frankton wide scheme.	Ongoing	Developers/W2G
Set up a Mobility as a service (MaaS) within LM, SC and LHE as part of a wider Queenstown/Frankton wide scheme.	Ongoing	Developers/W2G
Expand ride share schemes in the Queenstown area to cover LM/SC/LHE.	Ongoing	Developers/W2G
Set up a LM Mobility Coop.	Ongoing	Developers/W2G
Develop LM Community Travel Plan covering Residential, school and workplace, Community Hub and Sports Hub.	Ongoing	Developers/W2G
Legible walking and cycling wayfinding throughout LM masterplan.	Ongoing	Developers/W2G
Provision of EV charging stations at car parking facilities within the town centre, local centre, sports hub, community hub and schools.	Ongoing	Developers/W2G

Demand Management

Implement minimum bike parking standards for residents and visitors and provide end of trip facilities for biking (eg showers/changing facilities at workplaces).	Ongoing	Developers
Implement maximum car parking standards for residential, offices and retail.	Ongoing	Developers

Sub areas A, B, H and I

Intervention	Timeframe/ Dependency	Responsibility
New roundabout on Lower Shotover Road at Spence Road.	No residential units in sub areas A and B to be occupied prior to completion of roundabout.	Developers/W2G

Speed limit to be reduced to 50kph on Lower Shotover Road from the proposed LM/Spence Road roundabout and SH6.	Once Lower Shotover Road roundabout is completed.	Developers/W2G
Provide raised pedestrian/cycle crossing on Lower Shotover Road between the proposed site access/Spence Road roundabout and Stalker Road. Provide a shared path on south side of Lower Shotover Road from this crossing point and Spence Road.	Once Lower Shotover Road roundabout is completed.	Developers/W2G
Improvements to Stalker Road roundabout to provide at grade signalised pedestrian/cycle crossings across SH6 west side and Stalker Road.	No residential units in sub areas A, B, H or I to be occupied prior to completion of at grade crossings.	Developers/W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided to the west of the Stalkers Road roundabout along with safe and direct active mode connections to the bus stops from sub areas A, B, H and I (in accordance with the street cross sections and the active travel link for site H1).	No residential units in sub areas A, B, H or I to be occupied prior to completion of the bus stops and associated active mode connections.	Developers/W2G
New priority intersection on Stalker Road, north of Maxs Way (as per the previously consented access).	No residential units in sub area H to be occupied prior to completion of intersection.	Developers/W2G
New priority intersection at the point of the existing private vehicle access on Stalker Road and closure of the existing private access on SH6.	No residential units in sub area I to be occupied prior to completion of intersection.	Developers/W2G

Sub areas C and D

Intervention	Timeframe/ Dependency	Responsibility
SH6 speed limit to be reduced to 80kph from existing 100kph (east of Stalker Road) eastbound towards Arrow Junction.	By 2024	W2G
Underpass SH6/Howards Drive.	By 2024	W2G
SH6 Westbound Bus Lane from Howards Drive to Shotover Bridge.	By 2024	W2G
SH6/Howards Drive Roundabout.	By 2024 No residential units in sub areas C and D, or any Town Centre uses in sub area D, to be occupied prior to completion of roundabout.	W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided to the west of the Howards Drive roundabout along with safe and	No residential units in sub areas C and D, or any Town Centre uses in sub area D, to	Developers/W2G

direct active mode connections to the bus stops from sub areas C and D (in accordance with the street cross sections).	be occupied prior to completion of the bus stops and associated active mode connections.	
Improvements to Howards Drive roundabout to provide at grade signalised pedestrian/cycle crossings across SH6 west side, Howards Drive and the LM access.	No residential units in sub areas C and D, or any Town Centre uses in sub area D, to be occupied prior to completion of the bus stops and associated active mode connections	Developers/W2G
Provide mid-block at grade controlled pedestrian/cycle crossing circa 300m west of Howards Drive roundabout.	Timescale to be determined once pedestrian desire line created.	Developers/W2G
Eastbound bus lane on SH6 between east of Stalker Road and west of the Howards Drive roundabout.	Timescale to be determined following review of eastbound bus journey times and reliability.	Developers/W2G
Review scope to utilise the existing SH6 shoulder as a bus lane eastbound from Shotover Bridge to west of Stalker Road.	Timescale TBC by W2G	W2G

Sub areas E, F and G

Intervention	Timeframe/ Dependency	Responsibility
New eastern roundabout to the east of the existing 516 Ladies Mile existing access. Provide at grade signalised pedestrian/cycle crossings across SH6 west side and LM access.	No residential units in sub areas E, F and G to be occupied prior to completion of roundabout.	Developers/W2G
High quality bus stops (ie to include seats, shelters and real time information displays) to be provided circa 200m west of the Eastern roundabout along with safe and direct active mode connections to the bus stops from sub areas E, F and G (in accordance with the street cross sections).	No residential units in sub areas E, F and G to be occupied prior to opening of bus stops.	Developers/W2G
Provide mid-block at grade controlled pedestrian/cycle crossing across SH6 provided circa 200m west of the Eastern roundabout.	No residential units in sub areas E, F and G to be occupied prior to completion of mid-block crossing.	Developers/W2G
New link from proposed eastern roundabout to Sylvan Street with shared pedestrian/cycleway on the west side.	No residential units in sub areas E, F and G to be occupied prior to completion of Sylvan Street Link.	Developers/W2G
Speed limit to be reduced to 50kph on SH6 between the proposed eastern roundabout and west of Stalker Road.	Once eastern roundabout completed.	Developers/W2G

Extend westbound bus lane from Howards Drive to west of eastern roundabout.	Once eastern roundabout completed.	Developers/W2G
Eastbound bus lane on SH6 between west of the Howards Drive roundabout and west of the eastern roundabout.	Once eastern roundabout completed.	Developers/W2G
Re-route clockwise and anticlockwise Bus Service 5 from Howards Drive to Sylvan Street Link.	No residential units in sub areas E, F and G to be occupied prior to the rerouting of clockwise and anti-clockwise service 5 onto Sylvan Street Link.	Developers/W2G

Sub area J1

Intervention	**Timeframe/ Dependency**	**Responsibility**
Howards Drive priority intersection south of QCC intersection.	No residential units in sub area J1 to be occupied prior to completion of intersection.	Developers/W2G

Community Hub/Sports Hub/temporary park and ride specific transport interventions

Intervention	**Timeframe/ Dependency**	**Responsibility**
Howards Drive priority intersection (to be provided opposite the existing QCC priority intersection)	Prior to Community Hub, Sports Hub or temporary park and ride opening.	Developers/W2G
Community Hub/Sports Hub car park to be available for shared use as a temporary (timescales subject to monitoring and evaluation of use) weekday park and ride facility.	Following completion of Community Hub/Sports Hub car park.	Developers/W2G

5.16 Summary

The above Transport Strategy interventions will achieve the delivery of the following principles:

Shaping Urban Form - The LM MP will:

- Enable, support and encourage housing and local community facilities growth in an area with new and improved travel options.
- Provide community facilities, community hub, sports hub, primary school, high school, a local centre and a town centre located close to high quality public transport and encourage shorter trips between home and work/education/leisure.
- Masterplan supports the use of public transport, walking and cycling.
- Masterplan provides for safe and attractive streets for walking and cycling.

- Shared and active modes are overall made more attractive.

Making shared and active modes more attractive - The LM MP working in partnership with W2G will achieve this by a number of means:

- Expand, improve and optimise active and public transport facilities.
- Provide infrastructure to make active and public transport more efficient and attractive.
- Provide necessary active and public transport infrastructure from day one of occupation.

Influencing travel demand and transport choices - The LM MP includes a number of incentives and disincentives ('push' and 'pull' factors) to either discourage use of private vehicles (by making them less attractive relative to other options) or making people more aware of their options and incentivising them to try something new including:

- Make it safe, easy and intuitive for people to change the way they travel.
- Use travel behaviour change initiatives to assist and support residents to use active and public transport.
- Restricts car parking and promotes cycle parking within the masterplan.

6.0 Transport Strategy Impacts

6.1 Introduction

This section presents a summary of the transport modelling work carried out and a discussion on the results from this work. Limitations of the transport modelling work are outlined. Given the limitations of the transport modelling an assessment of the most likely transport impacts and modal shift targets is presented.

6.2 Transport Modelling

6.2.1 Transport modelling work carried out and assumptions

Appendix F contains full details of the results, assumptions and responses to queries raised on the transport modelling work carried out by Abley and WSP using the QLDC/NZTA strategic Tracks model and spreadsheet based public transport model. The scope of the modelling work was agreed with W2G. Notes from the modelling meeting held on 9/2/21 are attached in **Appendix G.**

Summary of assumptions

- 2048 model was used.
- The 2048 Base model (as used in all W2G business cases) includes 1100 units at LM. The base model was updated to reflect corrected numbers of both SC/LHE residential units and Queenstown Country Club employment numbers.
- Option 1 =1800 units on LM MP.
- Option 2 = 2400 Units on LM MP.
- Based on the 2018 census data at SC/LHE, Abley applied a 92% occupancy rate at LM (ie circa 8% are 'holiday homes').
- Options 1 and 2 include 587 jobs which consist of 280 at the schools (based on existing neighbouring schools pupil/staff ratios) and 307 at the town centre and local centre (based on numbers from an independent commercial report).
- 225 (option 1) and 303 (option 2) work from home as predicted by Abley based on SC 2018 census data. No account was taken of studying from home (which in the 2018 census was 10% at SC). It is recommended that the climate Commission findings that 10% more people would be able and willing to work from home is bult into W2G future modelling assumptions.
- 2.1 people /dwelling for high density and 2.7 for medium density (by way of comparison Hobsonville Point has 2.78 persons per household) assumed.
- 0.75 cars per person assumed ie (ie 1.6 to 2 cars per dwelling – the tracks model assumes 1.84 vehicles/household).
- 200 Park and Ride spaces at Ladies Mile.
- 600 Park and Ride Spaces at Alec Robins Road.

- Bus Frequency - 10 min on each of existing Services 2 and 5.
- Same density of housing applied throughout the MP area.
- Town centre GFA = 6,500m2 including 1,500m2 GFA of supermarket, 1,500m2 of F&B and convenience retail and the remainder community facilities (eg health, child care, boutique hotel, business services etc).
- Capacity of schools – 900 pupils for primary school (including early learning centre) and 1800 for high school.
- The vehicle and PT infrastructure as proposed in the masterplan was included in the model.
- PT model is not capacity constrained.
- SH6A has a capacity of 1450-1500 vehicles/hour/lane with the W2G proposed PT improvements in place.

6.2.2 Summary of the key findings and discussion of the results - Tracks Model before PT modelling

- AM peak trips from LM are distributed 46% westbound over Shotover bridge. PM peak trips from LM are distributed 50% eastbound over Shotover bridge.
- It is noted the post PT modelling has the same distribution.
- AM peak westbound - small increase in flows for both Options 1 and 2 (+25/+78 option1/2 respectively) compared to the base flows ie 1% to 4% higher flows with LM. However, all 3 scenarios are above the calculated capacity of 1700 vehicles/hour/lane.
- PM peak eastbound small increase in flows for both Options 1 and 2 (+67/+116 option1/2 respectively) compared to the base flows ie 3% to 6% higher flows with LM. However, all 3 scenarios are above the calculated capacity of 1700 vehicles/lane.
- PM peak westbound - only marginally above the bridge capacity with Options 1 and 2.
- No issues in AM peak eastbound and IP both directions.

The outputs in the Appendix of the Abley Technical Note entitled *summary of travel demand for cordon around LM (prior to mode shift)*, indicate for Option 2 an overall increase of 73 trips in the AM peak and 34 trips in the PM peak with the provision of the local centre and schools on the network – this does not seem correct and counter intuitive, since:

- MoE have stated that the Primary School catchment is LM - therefore these should be 100% internal LM trips.
- MoE have stated that the High School catchment area is east of Shotover bridge - therefore there will not be any increase in Shotover Bridge AM eastbound and PM westbound trips and, based on MoE data, there should be a reduction in Shotover bridge AM eastbound and PM westbound trips with a High School provided at LM.
- The local centre catchment area is LM and SC/LHE only since it is providing local community facilities and therefore there should not be any increase in Shotover Bridge AM eastbound and PM westbound trips.

6.2.3 Summary of the key findings and discussion of the results - PT Model

- AM peak westbound Shotover Bridge 290 bus passengers and 289 PnR Option 1 and 347/326 bus/PnR respectively for Option 2. The model indicates that with more than a doubling in the number of households, bus use in the AM peak westbound only increases by 65 passengers compared to the base.
- PM peak eastbound Shotover Bridge 710 bus passengers and 306 PnR and 889/356 bus/PnR respectively for Option 2. The model indicates that with more than a doubling in the number of households, bus use in the PM peak eastbound only increases by 275 passengers compared to the base. Given the higher density, mixed use nature of the option 1 and 2 masterplan compared to the base scenario of 1100 units (which is low density and no community facilities) then this appears to be illogical.
- Whilst predicted park and ride flows are similar for AM peak westbound and PM peak eastbound, the model indicates that bus use in the PM peak is 2 to 3 times greater in all 3 scenarios.
- The model indicates an overall PT mode share of 22.2% in the AM peak and 30.5% in the PM peak (and only 12% westbound on the Shotover bridge AM peak and 33% in the PM peak eastbound). This is a reflection of the model predicting that bus use in the AM peak from Ladies Mile is lower than the PM peak to Ladies Mile. This does not seem to be logical and the reason given in the Technical Note that PM peak congestion levels are higher than the AM peak is not borne out by existing conditions. Furthermore, the model in predicting bus trips is driven by congestion in the network and not other factors such as the high density of housing, TDM etc. Furthermore, the other reason given in the Technical Note that, in the AM peak, with the school at LM reducing the need for these trips to cross the bridge, then this infers that these trips are replaced by other car trips. It does not seem logical that LM residents would drive to Frankton and Queenstown in the AM peak and use the bus back in the PM peak.
- Given that the model predicts that the network is severely limited, which limits the amount of growth in vehicular traffic, it should be noted that the model does have extensive public transport priority to Frankton and Queenstown which, combined with a walk up and go frequency of bus service, then it is surprising that not more trips from LM to Frankton and Queenstown are actually predicted.
- The model predicted that option 1 increases the PT modal share.
- PT model is indicating that option 2 requires an additional 6 buses an hour.
- The modelling states that although the bridge is operating significantly beyond its practical capacity, the addition of the LM masterplan option 2 related trips deteriorates the operation by only 6 to 7% points.
- The PT model indicates that for all options in the AM peak westbound, 11% of all trips from LM will be by bus, with 84% by car. For trips to Queenstown Town Centre (QTC) though 42%

will by bus and 41% by car and for trips to Frankton Flats, 3% will be bus and 96% by car – this is also a similar picture for trips to/from LHE/SC.

- The PT model indicates that for all options in the PM peak eastbound, 30% of all trips to LM will be by bus with 67% by car. For trips from QTC, 85% will by bus and 7% by car and for trips from Frankton Flats 19% will be bus and 79% by car – this is a similar picture for trips to/from LHE/SC (12% of all trips by bus). The % by bus to Frankton Flats could be increased by the Technical Note recommendation that *Potentially, an increase in patronage to this area could be obtained through an enhancement of the PT service, combined with other incentives to decrease private car attractiveness. This is likely to be considered in any future PT services DBC. As such this should be a consideration for W2G*.
- The Technical Note does indicate a shortfall with the PT model in that there is no connection between the AM and PM periods and therefore mode shares can vary between modes. For the reasons given previously, it is considered that that the PM peak bus mode split is the more realistic predicted mode share from the PT model than the AM peak, and that this should be used going forwards as the base point for the Transport Strategy.
- The mode shares indicate the PnR mode share is 4% for LM and 4% for SC/LHE AM peak westbound and 1% for LM and 2% for LHE/SC PM peak eastbound. It is not considered that any LM residents or SC/LHE residents would actually use PnR (for various reasons including the high frequency of proposed bus services and the fact that residents would have to double back on themselves to drive to the park and ride and then bus to Frankton and Queenstown) and hence we propose a 0% mode share for PnR in the Transport Strategy.
- Overall, the model indicates that for option 2, 133 trips leave LM in the eastbound direction by bus but 433 return westbound to LM in the PM peak by bus. The model indicates that the car trips AM peak eastbound/PM peak westbound are balanced at 987/966. The AM peak bus out trips therefore look very low and illogical.

6.2.4 Summary of the key findings and discussion of the results - Tracks Model after PT modelling

Shotover Bridge:

- AM peak westbound - small increase in flows for both Options 1 and 2 (33/69 ie 2%/4%. increase). All 3 scenarios are marginally above the calculated capacity of 1700 vehicles/lane.
- PM peak eastbound - small increase in flows for both Options 1 and 2 compared to the base flows (76/98 ie 4%/6% increase). Base flow is at the calculated capacity of 1700 vehicles/lane and Options 1 and 2 are marginally above this.
- No issues in AM peak eastbound, PM peak westbound and IP both directions

For the rest of the Queenstown network there are only marginal changes with Options 1 and 2 compared to the base.

Select Link Analysis indicates most trips from LM going to the Frankton area (and hence why small changes elsewhere on the network eg Mulligans Road and Gorge Road since this would be too circuitous).

6.2.5 Further comments on the Transport Modelling - Distribution of trips

The model indicates that in the AM peak for option 2, the LM % of trips to/from Frankton is 27%/15% and in the PM peak is 29%/32% in 2048. As a comparison, 2018 census data indicates the following distributions:

- SC JTW to Frankton = 33%, from Frankton = 0%
- SC JTE to Frankton = 15% from Frankton = 0%
- LHE JTW to Frankton = 31%, from Frankton = 6%
- SC JTE to Frankton = 25% from Frankton = 0%

This would indicate some discrepancies in the assumed distribution of trips in the model for trips from Frankton to LM.

6.2.6 Further comments on the Transport Modelling - Trip generation for LM

The model predicts the following 2048 LM trip generation (prior to any internalisation of trips).

	AM In	**AM out**	**AM 2 way**	**PM in**	**PM out**	**PM 2 way**
Base	185	584	769	621	327	948
Option 1	780	1061	1841	1182	850	2032
Option 2	897	1392	2289	1538	1042	2580

This would result in the following trip generation rates per household

	AM In	**AM out**	**AM 2 way**	**PM in**	**PM out**	**PM 2 way**
Base	0.17	0.53	0.70	0.56	0.30	0.86
Option 1	0.43	0.59	1.02	0.66	0.47	1.13
Option 2	0.37	0.58	0.95	0.64	0.43	1.08

It is unclear why the option 1 and 2 rates are significantly higher than the base scenario (which does not have medium or high density or the mix of uses proposed). The trip generation rates used by Abley for Options 1 and 2 are extremely high and are not considered to reflect the high density, mixed use, active and public transport focussed LM masterplan. By way of comparison these rates are higher than those observed currently at LHE and SC (as detailed in **section 3**above) of:

AM Peak

- Northbound = 0.67 trips per household
- Southbound = 0.23 trips per household
- 2 way = 0.9 trips per household

PM Peak

- Northbound = 0.36 trips per household
- Southbound = 0.57 trips per household
- 2 way = 0.93 trips per household

The above calculated SC/LHE trip rates include vehicle trips associated with Shotover primary school.

These rates are also significantly higher than the rates provided in the Abley Ladies Mile Housing Density Research Note (6/4/19) (attached to the NZTA Position Statement) which indicates:

- Low density = 0.85 trips/household 2 way for weekday Peak.
- Medium density = 0.4 to 0.65 trips/household 2 way for weekday Peak.
- High density = 0.24 to 0.29 trips/household 2 way for weekday Peak.

By way of comparison, applying the above trip rates stated by Abley, would indicate between 576 and 1560 peak period trips for option 2. This is 25% to 68% of the model predicted AM peak trips and 22% to 60% of the model predicted PM peak trips for Option 2.

Therefore, the modelling work carried out by Abley would appear correct in terms of trip generation for the low-density base scenario but, for the high and medium density proposed in options 1 and 2, the trip generation appears to have been overestimated by a factor of between 1.7 and 4.7.

Overall, it is considered that the model is overestimating the trip generation for the LM options.

Following queries raised on the trip generation methodologies within the model, it is understood that the model generates home-based work, home based business, home based education and other aggregated together, non-home based and commercial vehicle trips separately. This breakdown is not calibrated from local data but instead comes from dated Auckland surveys and this is a known limitation of the data due to a lack of local data. Furthermore, it is understood the model uses standard trip generation and distribution equations across the study area. As such it may not necessarily pick up the subtleties of local areas. Furthermore, the model does not generate vehicle driver demand for many short trips within LM which could be walked or cycled.

6.2.7 Further comments on the Transport Modelling - Trip generation for LHE/SC

The model predicts the following 2048 LHE/SC trip generation (prior to any internalisation).

	AM In	**AM out**	**AM 2 way**	**PM in**	**PM out**	**PM 2 way**
Base	705	1338	2043	1371	834	2205
Option 1	698	1337	2035	1371	835	2207
Option 2	708	1339	2047	1375	842	2217

Based on QLDC demand projections (July 2020) https://www.qldc.govt.nz/media/jg3bkh5a/qldc-demand-projections-summary_july2020.pdf, at 2051 QLDC indicates that there will be 930 houses in SC and 710 in LHE ie total of 1640 dwellings.

This would give the following trip generation rates per household

	AM In	AM out	AM 2 way	PM in	PM out	PM 2 way
Base	0.43	0.82	1.25	0.84	0.51	1.34
Option 1	0.43	0.82	1.24	0.84	0.51	1.35
Option 2	0.43	0.82	1.25	0.84	0.51	1.35

These rates are again in excess of those stated by Abley for low density trip rates and also are in excess of the observed rates from LHE/SC (as detailed in **section 3** above).

Overall, it is considered that the model is overestimating the trip generation for LHE and SC in the base and the LM option testing.

6.2.8 Further comments on Transport Modelling - Internal trips

The Tracks model predicts the following trips from LM that will be internal to LM ie residents who go to school, work, shop or use leisure facilities

Table Error! Use the Home tab to apply ATC Heading 1 to the text that you want to appear here.**.1** 2048 Morning Peak Hour Internal Trips Pre-Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	302	151	151	272	136	136	265	133	133
	15%	21%	11%	13%	19%	10%	13%	19%	10%
LM MP	35	18	18	221	110	110	308	154	154
	5%	9%	3%	12%	14%	10%	13%	17%	11%

Table Error! Use the Home tab to apply ATC Heading 1 to the text that you want to appear here.**.2** 2048 Evening Peak Hour Internal Trip Pre-Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	244	122	122	226	113	113	220	110	110
	11%	9%	15%	10%	8%	14%	10%	8%	13%
LM MP	37	19	19	190	95	95	275	138	138
	4%	3%	6%	9%	8%	11%	11%	9%	13%

The predicted 9% of the trips being internal for Option 1 and 11% for option 2 appears to be very low given that:

- The % are on the whole are lower for LM as they are for LHE and SC which do not have the mix of uses that creates internal trips.
- The primary school at 900 pupils is intended to be for Ladies Mile only.
- The High School will have 1800 pupils and as stated by MoE the catchment area will be LM, SC, LHE and areas east.
- Total jobs created in LM is 587 and these are intended to be for LM, SC and LHE residents.

Based on this, the model prediction that there will be 308 and 275 (AM/PM) two-way internal trips for option 2 and 221/190 (AM/PM) for option 1 appears to be a significant underestimate.

6.2.9 Limitations of the Tracks and PT modelling

In addition to the above comments and concerns raised about the Tracks and PT modelling work carried out, it should be noted that the Tracks model is a strategic highway model and the PT model is a separate spreadsheet model – as such these models are unable to assess:

- Impact of active modes.
- Impact of TDM.
- The Abley Technical Note states that the model has certain flaws in being able to assess education trips correctly - trips associated with education are a key feature of the LM masterplan.

6.2.10 Manual Queue length assessment

The Technical Note reports on a simplified manual spreadsheet queue length assessment. A spreadsheet model was used as opposed to available microsimulation models because it is understood that microsimulation modelling undertaken as part of the W2G business case work has shown that the model is largely at capacity by 2028 and stable models are not available in 2048, with hundreds of unreleased trips in the peak hour in the base scenario.

The simplified manual spreadsheet assessment indicates that, compared to the base scenario, option 2 will result in the following queue lengths in the AM peak:

- SH6 east - Base = 0.5km, Option 2 = 1.0 km.
- Howards Drive- Base = 0.3km, Option 2 = 0.4km.
- Stalker Road - Base = 0.3km, Option 2 = 0.4km.
- Lower Shotover Road - Base = 0.2km, Option 2 = 0.2km.
- Ladies Mile - Base = 0.6km, Option 2 = 1.1km.
- Full Queue - Base = 3.0 km, Option 2 = 4.0 km.

For the PM peak the simplified manual queue length assessment indicates that, compared to the base scenario, option 2 will result in the following queue lengths:

- SH6 Frankton Road - Base = 0.2km Option 2 = 0.7km
- Kawarau Road - Base = 0.3km Option 2 = 0.8km
- Grant Road - Base = 0.5km Option 2 = 0.8km
- Hawthorne Drive - Base = 0.5km Option 2 = 0.9km
- Full Queue – Base = 2.8km, option 2 = 4.4km

6.2.11 Manual Queue length sensitivity tests

The Technical provides details of a sensitivity test that NZTA requested on what would be the impact of the modelled predicted PT mode share not being achieved. WSP used a 25% and 50% reduction in the PT mode share and their assessment indicated that the full queues in the AM peak would be 5.5 km for the base scenario with a 50% lower PT share and 7km for option 2.

The Technical Note summarises an assessment of a sensitivity test assessment of a 25% and 50% increase in PT mode share (ie more akin to what the LM Transport Strategy demonstrates in **Section 6.3** below). The Abley report states that the total queue lengths in the AM and PM peaks for option 2 with a 50% increase in mode share would be the same as the base case with no increase in PT mode share ie no worsening in conditions ie:

- AM peak Full Queue - Base = 3.0 km, Option 2 (50% higher PT mode share) = 3.0 km.
- PM peak Full Queue - Base = 2.8 km, Option 2 (50% higher PT mode share) = 2.8 km.

6.2.12 Comments on the queue modelling

Comparison of the 2048 AM peak base queue lengths to existing (2020) observed queue lengths (indicated in **Section 3**) is given below:

Existing and predicted queue lengths AM peak

	Existing observed queue length (Km)	**2048 Base predicted queue length (Km)**
SH6 westbound	2.9	0.5
Stalker Road	0.52	0.3
Howards Drive	0.52	0.3

As demonstrated above, the simplified queue length model predicted 2048 queue lengths do not validate with 2020 observed queues and therefore the queue model used is not considered to be a reliable indicator of queue lengths.

In setting out the work to be carried out on this simplified queue length assessment, the school and employment related trips at LM was noted as an additional complexity to this model. Also the model includes (an unspecified) refinement to the capacity of the bridge depending on the frequency of the bus services in each scenario.

Given the numerous concerns regarding the reliability of the model outcomes and the simplistic nature of the queue length assessments it is not considered that these are a reliable estimates of queue lengths.

6.2.13 Transport Modelling Summary

The Transport Modelling Technical Note indicates:

- AM peak westbound traffic flows across the bridge - small increase in flows for both Options 1 (1800 units) and 2 (2400 units) (2%/4% respectively) compared to the base (1100 units). All 3 scenarios are marginally above the bridge capacity.
- PM peak eastbound traffic flows across the bridge - small increase in flows for both Options 1 and 2 (4%/6% respectively compared to the base. Base flow is at bridge capacity and Options 1 and 2 are marginally above this.
- This is based on a predicted LM PT mode share of 22% in the AM peak and 31% in the PM peak.
- Outside of the model a simplified spreadsheet queue length assessment has been carried out. This indicates that, compared to the base scenario, option 2 will increase the queue length by 0.5km on SH6 AM peak westbound and by 0.5km on SH6 PM peak eastbound.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share not being achieved, the spreadsheet model assumed a 25% and 50% reduction in the PT mode share. The assessment indicated with a 50% lower PT share that full queues in the AM peak would be 5.5 km for the base scenario and slightly higher at 7km for option 2.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share being exceeded, the spreadsheet model assumed a 25% and 50% increase in the PT mode share. The assessment indicated with a 50% higher PT share that full queues in the AM peak for option 2 would be the same as the base case with no increase in PT mode share ie no worsening in conditions.

There are a number of inconsistencies in the modelling results. Furthermore, there are a number of limitations of the model to assess correctly, for example the impact of a high-density mixed-use land use development, the impact of active modes and the impact of TDM measures.

For this reason, as detailed in **section 6.3** below, the modelling results have been adjusted to more accurately reflect the likely transport conditions and mode shift at LM (and also in the adjacent communities of LHE/SC and areas further east).

6.3 Transport Strategy Predicted Mode Shift targets

6.3.1 NZ and international Best Practice Research

The Transport Strategy interventions contain a large number of initiatives that the strategic transport model cannot assess. Therefore, to accurately assess the impact of mode shift for Ladies Mile an extensive review of New Zealand and international best practice on reducing single occupant car use has been carried out to assess more accurately the impact of the LM Transport Strategy and to set mode shift targets. The findings from this research are summarised below (further details provided in **Appendix H**).

Transit Orientated Developments (TOD)

- Hobsonville Point Auckland - 66% of residents indicated that they used their private vehicle as a main mode of travel over a typical week and 30% used sustainable travel modes.
- USA research - TODs can reduce car use by more than 15% and for TODs with no rail, observed mode shares were: Active mode = 20.6%, Bus = 13%, Car = 64.9 %, Other 1.5%
- NZTA research indicates TOD developments have 37 to 50% lower vehicle KM travelled.

Note these locations did not have micromobility options or wider TDM in place at the time of the surveys.

Density

- USA research indicates that at 40/Ha there is a 20% reduction in vehicle trips compared to 20/Ha and at 60/Ha there is a 33% reduction compared to 20/Ha.
- At least 40 to 60 dwellings/Ha are needed to support a viable PT network.

Active Mode improvements and modal shift

- NZTA Model Communities project - New Plymouth and Hastings 44% decrease in cars at schools, 12% decrease in cars at workplaces. 30% increase in active travel compared to control sites.
- USA research indicates that provision of walk/cycle facilities can lead to a 9% reduction in vehicle trips.
- NZTA research indicates car mode share reduction from 55% to 35% and a 9% bike mode share.

Micro mobility and ebikes

- A survey by Waka Kotahi (2018) of staff at Tauranga City Council who own e-bikes showed:
  - 92% of participants use their e-bikes to commute to work
  - 58% of respondents reported riding to work four to five days a week, with an additional 24% riding two to three days a week
  - 72% were using the e-bike to commute instead of the car
- Trial of e-scooters and e-bikes in Santa Monica, California, 2.7 million trips were taken between October 2018 and September 2019. Of those, 49% replaced trips that would have otherwise been made by car.

- Global survey of Lime users, 30% had replaced a car trip with a bike or e-scooter trip.
- NZTA RR674 indicates that for end-to-end use, ebike mode share would be circa 5% of all trips.

First/Last mile

- 2019 study in New Zealand reported that:
  - 28% of respondents had completed a journey using a combination of e-scooter and public transport.
  - 20% of e-scooter users had travelled to or from a public transport station.
- NZTA RR674 indicates that PT patronage will increase by 9% as a result of first/last mile micro mobility use.

Public Bike sharing

- USA research indicates that 27% to 40% of respondents reported using public transport in conjunction with bike sharing to make trips previously completed by car.

Transit Lanes

- NZTA research indicates that the share of T2 and T3 traffic has increased by 4% to 30% with provision of Transit lanes. Wellington 11 car trips.

Travel Behaviour Change

NZTA research indicates average reduction in car modal share of 7%.

Travel Plans

- Various locations in New Zealand where car use reductions of between 3% to 18% with workplace travel plans.
- Waka Kotahi Monetised Costs and Benefits Manual (MCBM) indicates the following car trip diversion rates:
  - Workplace Travel Plans = 12.9%
  - School travel Plans = 9%
  - Community Travel Plan = 3%
  - Marketing, education and outreach = 1%
- Australia – car use reductions of between 10% to 30% with workplace travel plans.
- UK - 15% reduction in car driver trips with workplace travel plans.

TDM and Public transport

- HIF Bid ITA indicated that evidence from Europe and Australia indicates that the maximum mode shift achievable by coupling improvements to conventional public transport services with programmes of Travel Demand Management is around 15%.

6.3.2 Analysis for Ladies Mile Masterplan

The proposed densities of 70 units/Ha (high) and 40/Ha (Medium) are sufficient to support a viable public transport network compared to a low density of 20/units Ha (which the 1100 units proposed in the HIF would have been based on).

Based on modal splits from NZ and USA Transit Orientated developments, the following modal splits can be expected:

- Active modes/Bus = 35%
- Car = 65%

With the mixed use, high density, active mode and bus improvements proposed as part of the Ladies Mile masterplan it is considered that these modal splits are achievable.

The above modal splits do not take into account other transport interventions for example:

- Ebike end to end use - NZTA research indicates that ebike mode share = 5% of all trips and up to 72% of ebike users use ebike to commute as opposed to a car.
- Ebike micromobility and first/last mile use NZTA research indicates that PT patronage will increase by 9% as a result of first/last mile micro mobility use.
- Provide bus/transit lanes - NZTA research indicates that T2/T3 car sharing increases by 4% to 30%.
- Travel Demand Management measures -NZ research regarding travel plans indicates reductions of up to 18% in single occupancy car use. The QLDC HIF ITA indicates that the maximum mode shift achievable by coupling improvements to conventional public transport services with programmes of Travel Demand Management is around 15%.

6.3.3 Transport Strategy Predicted Mode Shifts – Ladies Mile

Through a number of steps the modelling results have been adjusted to correctly reflect the likely transport conditions and mode shift at LM (and also in the adjacent communities of LHE/SC and areas further east). Starting point is:

Step A - Model predicted flows on Shotover bridge 2048:

Before PT modelling:

- AM peak westbound flow on bridge = 1896 (base) 1974 (option 2).
- PM peak eastbound flow on bridge =2024 (base) 2140 (option 2).

Post PT modelling

- AM peak westbound flow on bridge = 1745 (base) 1812 (option 2).
- PM peak eastbound flow on bridge =1695 (base) 1794 (option 2).

Step B - LM external trip generation at 2048 assuming the highest medium density rate as specified by Abley as worst case ie 0.65 (note this is a similar trip generation rate as existing SC/LHE) and assume all out in the AM peak and all in in the PM peak – this results in the following trips.

- AM peak out = 1560 trips
- PM peak In = 1560 trips

Note

1. As worst case this trip generation will be considered as all external trips – the trip generation rates are for all trips ie internal and external.
2. Worst case medium density trip rate as specified by Abley has been used - much lower trip generation with high density trip rate (noting high density proposed in the masterplan represents circa 70% of total dwellings).
3. Primary school, high school, town centre and local centre trips will be internal trips for LM residents and therefore separate trip generation for these uses is not calculated to avoid double counting.
4. Community Hub/Sports Hub not assumed to generate AM or PM peak period trips and, in any event, will be internal trips for LM/SC/LHE.
5. High school trips will be from LM and east of Shotover bridge and therefore will result in a reduction of AM peak trips westbound on the Shotover bridge.
6. The trip rate is applied to 2400 units with 1100 of these are already accounted for in the base – therefore any comparisons with base will include as a worst-case double counting of the LM masterplan trips.

Step C - LM Transport Strategy predicted modal splits

LM Transport Strategy predicted modal splits - using transport model and NZ/international experience =:

LM Transport Strategy Action	Proportion	No. of trips	Mode split %
Model predicted PT mode split model = base number of bus users	**0.3**	468	
Increased density vehicle trip reduction eg > bus use, internalisation of trips, etc	**0.2**	94	
Public bike sharing/Micromobility by ebike first/ last mile increase in bus use	**0.09**	42	
TDM - increased bus share	**0.15**	70	
Revised bus total		674	43%
PnR	**0**	0	0%
Ebike (end to end) mode share	**0.05**	78	5%

Car share/car pool - eg apps, rideshare programmes, transit lanes	**0.09**	140	9%

Step D - Based on the above, the predicted overall Mode splits for LM external trips =

Mode	**%**	**Number of trips**
Bus	43%	674
Car Share/Car Pool	9%	140
ebike	5%	78
Walk	0%	0
PnR	0%	0
Total non-car drive alone	57%	892
Car drive alone	43%	668
Total	100%	1560

Note:

1. PT mode share based on model predicted PM peak (imbalances in model between AM and PM peak mode splits to Frankton/Queenstown is illogical – PM peak predicted PT share is very close to Hobsonville point surveys and USA TOD research and therefore is considered to be a more accurate base point).
2. Increased density vehicle trip reduction of 20% from NZ and international experience relating to greater vehicle trip reduction with higher housing density, greater amount of internalisation of trips with greater mix of uses etc. 20% applied to base numbers of bus users.
3. Public bike sharing/Micromobility by ebike first/ last mile increase in bus use from NZ and international experience. 9% applied to base numbers of bus users.
4. TDM increased bus share from NZ and international experience. 15% applied to base numbers of bus users.
5. PnR assumed to = 0 for trips from LM.
6. Ebike (end to end) mode share from NZ and international experience. 5% applied to trip generation of 1560.
7. Car share/car pool modal share (eg from carpooling apps, rideshare programmes, transit lanes, car share apps) from NZ and international experience. 9% applied to trip generation of 1560. Note existing sharing of car % at SC/LHE = 4%.
8. For external LM trips walk as mode of transport assumed to = 0% due to distances involved (but noting that walk is part of overall bus trips).

Step E - Impact of predicted mode shift on critical Shotover Bridge westbound AM peak and eastbound PM peak flows

AM peak westbound

- Model predicts in AM peak 46% of trips are distributed to the west (pre-PT modelling).

- Model has 12% westbound AM peak trips by bus.
- Transport strategy prediction of 57% of trips to be non-car drive alone trips results in estimated reduction in westbound AM peak LM car alone trips of 702.

PM peak eastbound

- Model predicts in PM peak 50% of trips are distributed to the west (pre-PT modelling).
- Model has 33% eastbound PM peak trips by bus.
- Transport strategy prediction of 57% of trips to be non-car drive alone trips results in estimated reduction in eastbound PM peak LM car alone trips of 374.

6.3.4 Transport Strategy Predicted Mode Shifts - LHE/SC

Step F – Existing trip rates SC/LHE

SC/LHE external trip generation/ household (2018)	Trip rate
AM peak out	0.67
PM peak In	0.57

Step G – Future trip generation SC/LHE

SC/LHE trip generation (2048 ie 1640 houses)	Trips
AM peak out	1098.8
PM peak In	934.8

Step H - Car trips currently to HS that would transfer from bridge (AM peak westbound only) = 180.

Step I SC/LHE predicted modal splits arising from LM Transport Strategy

SC/LHE predicted modal splits - using transport model and NZ/international experience:

Mode	proportion	AM out trips	PM in trips	AM out mode split	PM In mode split
Model predicted PT mode split	**0.29**	319	271		
Public bike sharing/Micromobility by ebike first/ last mile increase in bus use	**0.09**	29	24		
TDM - increased bus share	**0.15**	48	41		
Revised bus total		395	336	31%	36%
PnR	**0**	0	0	0%	0%
Ebike (end to end) mode share	**0.05**	55	47	5%	5%

Car share - eg apps, rideshare programs, transit lanes	**0.09**	99	84	9%	8%
Removal of High School car trips (replaced as walk/cycle trips)		180	0	16%	0%
Total Non-car drive alone trips		729	467	66%	50%
Car drive alone trips		370	468	34%	50%
Total		1099	935	100%	100%

Therefore, the predicted peak period mode shares across Shotover Bridge associated with the Ladies Mile masterplan Option 2 are:

- 50% bus, ebike, car share/car pool.
- 50% car drive alone.
- Additional removal of 16% of AM peak westbound trips associated with removal of High School car trips.

Step J - Impact of predicted mode shift on critical Shotover Bridge westbound AM peak and eastbound PM peak flows

AM peak westbound

- Model predicts in AM peak 46% of trips are distributed to the west (pre-PT modelling).
- Model has 12% westbound AM peak trips by bus.
- Transport Strategy prediction of 61% of trips to be non-car drive alone trips results in estimated reduction in westbound AM peak SC/LHE car alone trips of 248.

PM peak eastbound

- Model predicts in PM peak 35% of trips are distributed to the west (pre-PT modelling).
- Model has 33% eastbound PM peak trips by bus.
- Transport strategy prediction of 57% of trips to be non-car drive alone trips results in estimated reduction in eastbound PM peak LHE/SC car alone trips of 52.

Step L – reduction in trips across the Shotover Bridge AM peak westbound and PM peak eastbound with LM Transport Strategy and impacts on SC/LHE.

From Step A - Model predicted flows (before PT modelling) on Shotover bridge 2048:

- AM peak westbound flow on bridge = 1896 (base) 1974 (option 2).
- PM peak eastbound flow on bridge =2024 (base) 2140 (option 2).

From Step E - Impact of predicted LM mode shift

- Estimated reduction in westbound AM peak LM car alone trips of 702.
- Estimated reduction in eastbound PM peak LM car alone trips of 374.

From Step J - Impact of predicted SC/LHE mode shift

AM peak westbound

- Estimated reduction in westbound AM peak SC/LHE car alone trips of 248.

PM peak eastbound

- Estimated reduction in eastbound PM peak LHE/SC car alone trips of 52.

6.4 LM Masterplan Transport Strategy Impact

6.4.1 Traffic Flows

Based on the predicted Transport Strategy mode shifts for the Ladies Mile Masterplan, the following reductions in the transport model predicted flows for Option 2 is indicated:

- AM peak westbound = reduction in 950 car trips.
- PM peak eastbound = reduction in 322 car trips.

As such, the transport impact of the Option 2 Ladies Mile Masterplan with 2,400 residential units will be significantly less than that indicated in the strategic modelling. This is considered to be acceptable given the reductions in car trips in the peak periods associated with:

- Reduction in existing SC/LHE (and wider eastern corridor) trips across the Shotover Bridge as a result of the masterplan, and
- The high (non-car modal shares predicted for the Ladies Mile residential trips.

It is considered that the above calculations are robust and a worst case since they do not take into account:

- High School reduction in AM peak westbound trips from destinations east of LM/SC/LHE eg Arrowtown.
- There will also be contributions to these mode shift targets from resultant changes in car trips from the communities further east as a result of the masterplan proposed mixed of uses and complementary transport interventions.
- Alec Robbins PnR site reduction in AM peak westbound and PM peak eastbound flows from destinations east of LM/SC/LHE.

6.4.2 Queue length assessment

The transport model predicted LM public transport mode shares across Shotover Bridge were 22.2% AM peak and 30.5% (noting the model assumes PT mode share is bus plus PnR). A 50% increase in these PT mode shares would equate to 33.3% AM peak and 46% PM peak

The Transport Strategy overall bus mode share is predicted to be 43% (plus a further 14% in car share/car pool and ebike use ie 57% non-car drive alone).

The manual queue length modelling indicates that with a 50% increase in PT trips, then queues for option 2 would be no worse than the base. The predicted AM peak Transport Strategy bus mode share is greater than the queue length modelling 50% increase. The predicted PM peak Transport Strategy bus mode share is only marginally below the queue length modelling 50% increase. It should be noted that this does not take into account any impact of PnR at the Alec Robins Road site and also of the proposed e bike and car share/carpooling initiatives that will remove more single occupant car trips.

Therefore, with the predicted Transport Strategy modal shifts then queues on the network will be no worse with the Ladies Mile masterplan than with the base situation.

6.4.3 Summary of LM Masterplan Transport Strategy Impact

Transport Modelling Results

- AM peak westbound traffic flows across the bridge - small increase in flows for both option 1 (1800 units) and option 2 (2400 units) (2%/4% respectively) compared to the base (1100 units). All 3 scenarios are marginally above the bridge capacity.
- PM peak eastbound traffic flows across the bridge - small increase in flows for both option 1 and Option 2 (4%/6% respectively) compared to the base. Base flow is at bridge capacity and Options 1 and 2 are marginally above this.
- This is based on a predicted LM PT mode share of 22% in the AM peak and 31% in the PM peak.
- Outside of the model a simplified spreadsheet queue length assessment has been carried out. This indicates that, compared to the base scenario, option 2 will increase the queue length on all approaches to Shotover Bridge by 1km AM peak westbound and by 1.6km in the PM peak eastbound.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share not being achieved, the spreadsheet model assumed a 25% and 50% reduction in the PT mode share. The assessment indicated with a 50% lower PT share that full queues in the AM peak would be 5.5 km for the base scenario and slightly higher at 7km for option 2.
- For a sensitivity test on what would be the impact of the modelled predicted PT mode share being exceeded, the spreadsheet model assumed a 25% and 50% increase in the PT mode share. The assessment indicated with a 50% higher PT share that full queues in the AM peak for option 2 would be the same as the base case with no increase in PT mode share ie no worsening in conditions.

Transport Strategy Predicted Mode Shifts

As detailed in the Transport Strategy there are a number of inconsistencies in the modelling results. Furthermore there are a number of limitations of the model to assess correctly for example the impact of a high-density mixed-use land use development, the impact of active modes and the impact of TDM measures.

For this reason, the modelling results have been adjusted to correctly reflect the likely transport conditions and mode shift at LM (and also in the adjacent communities of LHE/SC and areas further east).

The predicted overall peak period mode split for LM external trips is:

Mode	**%**
Bus	43%
Car Share/Car Pool	9%
ebike	5%
Walk	0%
PnR	0%
Total non-car drive alone	57%
Car drive alone	43%
Total	100%

For SC/LHE the AM out and PM in modal splits are:

Mode	**AM out mode split**	**PM In mode split**
Bus	31%	36%
Car Share/Car Pool	9%	8%
Ebike	5%	5%
Removal of High School car trips (replaced as walk/cycle trips)	16%	0%
PnR	0%	0%
Total Non-car drive alone trips	66%	50%
Car drive alone trips	34%	50%
Total	100%	100%

Transport Strategy Impact

Based on the predicted Transport Strategy Mode shifts for the Ladies Mile Masterplan, the following reductions in the transport model predicted flows (post PT modelling) for Option 2 are indicated:

- AM peak westbound = reduction in 950 car trips (of these 19%/180 are removal of LHE/SC car trips to High Schools).
- PM peak eastbound = reduction in 322 car trips.

Compared to the results indicated in the strategic model (post PT modelling) these reductions in car trips across the bridge are considered to provide significant relief to the transport network.

The manual queue length modelling indicates that with a 50% increase in PT trips, then queues for option 2 would be no worse than the base. The predicted peak period overall Transport Strategy bus mode share is greater than the queue length modelling 50% increase. Therefore, with the predicted Transport Strategy modal shifts then queues on the network will be no worse with the Ladies Mile masterplan than with the base situation.

It is concluded that the impact of the proposed LM Masterplan Transport Strategy with 2,400 units will achieve a mode shift target of up to 50% of external trips by bus, ebike and car share/car pool, providing significant relief to the transport network.

7. Monitoring and Evaluation

A Draft monitoring and evaluation plan is shown below to monitor achievement of the Transport Strategy Mode Shift targets.

Result	How?	Data sources include:
Total People	• Trips Taken • Mode used. • Distance Travelled • Time travelling	• Census • Travel Plans • Bespoke Surveys • Interviews
Access to Jobs	• Mode used. • Distance Travelled • Time travelling	• Census • Workplace Travel Plans • Bespoke Surveys
Access to education	• Mode used. • Distance Travelled • Time travelling	• Census • School Travel Plans • Bespoke Surveys • Interviews
Access to town centre	• Mode used. • Distance Travelled • Time travelling	• Travel Plans • Bespoke Surveys • Interviews • Bike and car parking surveys
Access to community hub/sports hub/other community facilities	• Mode used. • Distance Travelled • Time travelling	• Travel Plans • Bespoke Surveys • Interviews • Hub bookings database
Bus usage	• Total Numbers • O/D	• Farebox data
Bike usage	• Total Numbers • O/D	• Auto counters • Screenline counts. • Bike park usage surveys
Bike and pedestrian user satisfaction	• Satisfaction	• User survey
Pedestrian counts	• Total Numbers • O/D	• Screenline counts.
Car share usage	• Total Numbers	• Car share app database

Public Bike share usage	• O/D	• Bike share app database
Car pool usage	• Total Numbers using car pool app. • Total number using T3 lanes	• Car pool app database • T3 bespoke surveys
Changes in single occupant car use	• Total Numbers • Vehicle occupancy • Pre and post surveys compared to modelled data	• Bespoke surveys on numbers and occupancy.
Improved safety	• Accident data review	• CAS data • Site observations • Road Safety Audits
Greenhouse gas emissions AADT, mode share, number of trips diverted	• Carbon reductions based on reduction in Veh Km travelled	TBC
Work and study from home mode share		Census
Bus spatial coverage – households within 500m	• GIS mapping	Number of Households within 500m
Vehicle KMs travelled		Household Travel Survey
Time spent travelling		Household Travel Survey
Walk/cycle LoS		LoS audits

Appendix B

LHE and SC 2018 census data

Shotover Country

Resident Workers: 1,431

Workplace Arrivals

- 150 (86%) live and work in Shotover.
- 18 (10%) LHE
- 6 (4%) Arrowtown
- Total = 174

Mode

- Wfh = 61%
- Private Car = 24%
- Co Vehicle = 4%
- Passenger = 1%
- Walk = 7%
- Bus = 1%
- Cycle = 0%

Workplace Departures

- 357 (33%) Frankton
- 276 (25%) Queenstown Central
- 150 (14%) live and work in Shotover.
- 96 (9%) Warren Park
- 33 (3%) Arrowtown (east)
- 30 (3%) Wakatipu basin (east)
- 21 (2%) Outer Wakatipu (east)
- 18 (2%) LHE (east)
- 18 (2%) Frankton Arm
- 18 (2%) Queenstown east
- 18 (2%) Kelvin Heights
- 15 (1%) Sunshine Bay/Fernhill
- 15 (1%) Arthurs Point (east)
- 12 (1%) Quail Rise
- 12 (1%) Lake Hayes (east)
- 9 (1%) Jacks Point

- Total 948 (exc 150 live and work in Shotover = 1098)

Total east = 12% plus 14% live and work SC

Mode

- Private Car = 61%
- Co Vehicle = 16%
- Passenger = 5%
- Wfh = 9%
- Bus = 4%
- Cycle = 3%
- Walk = 2%

Resident Students: 483

Education Arrivals

- 234 (53%) live in SC.
- 156 (35%) LHE
- 27 (6%) Quail Rise
- 27 (6%) Wakatipu basin (east)
- Total = 444
- **Total east** = 6% plus 53% live and study SC

Mode

- Passenger = 39%
- Cycle = 26%
- Walk = 25%
- Other = 11%

Education Departures

- 234 (60%) live in SC.
- 90 (23%) Warren Park
- 57 (15%) Frankton
- 9 (2%) Queenstown Central
- Total = 156 (exc 234 live and study SC)

Mode

- Walk = 26%
- Passenger = 26%
- Cycle = 14%

- School bus = 13%
- Other/wfh = 10%
- Private car = 8% - staff???
- Bus = 3%

LHE

- In = 78 work + 0 study = 78
- Out = 819 work + 456 study = 1275
- Internal = 216 work + 42 study = 258

SC

- In = 24 work + 210 study = 234
- Out = 948 work + 156 study = 1104
- Internal = 150 work + 234 study = 384

Lake Hayes Estate

Resident Workers: 1,344

Workplace Arrivals

- 216 (73%) live and work in LHE.
- 18 (6%) Frankton
- 18 (6%) SC
- 15 (5%) Frankton Arm
- 12 (4%) Warren Park
- 33 (3%) Arrowtown (east)
- 6 (2%) Sunshine Bay/Fernhill
- Total = 78 + 216 live and work LHE
- **Total east** = 3% plus 73% live and work LHE

Mode

- Wfh = 52%
- Private Car = 27%
- Co vehicle = 14
- Passenger = 1%
- Walk = 4%
- Bus = 1%
- Cycle = 0%

Workplace Departures

- 321 (31%) Frankton

- 216 (21%) live and work in LHE.
- 213 (21%) Queenstown Central
- 96 (9%) Warren Park
- 39 (4%) Arrowtown (east)
- 27 (3%) Wakatipu basin (east)
- 18 (2%) SC (east)
- 18 (2%) Outer Wakatipu (east)
- 18 (2%) Frankton Arm
- 12 (1%) Queenstown east
- 12 (1%) Kelvin Heights
- 9 (1%) Sunshine Bay/Fernhill
- 9 (1%) Arthurs Point (east)
- 9 (1%) Quail Rise
- 9 (1%) Jacks Point
- 6 (1%) Lake Hayes (east)
- 6 (1%) Cromwell west (east)

- Total 819 (exc 216 live and work in LHE = 1035)

Total east = 42% plus 21% live and work LHE.

Mode

- Private Car = 62%
- Co vehicle = 17
- Passenger = 3%
- Wfh = 13%
- Bus = 2%
- Cycle = 1%
- Walk = 1%

Resident Students: 642

Education Departures

- 165 (33%) Warren Park
- 156 (31%) SC (east)
- 126 (25%) Frankton
- 42 (8%) live and study in LHE.
- 9 (2%) Queenstown East
- Total = 456 + 42 live and study in LHE

- **Total east** = 31% plus 8% live and study LHE

Mode

- Passenger = 42%
- School bus = 27%
- Cycle = 12%
- Private Car = 8%
- Wfh = 5%
- Walk = 2%
- Bus = 2%

Appendix G – Meeting Notes 9/2/21

Ladies Mile Transport Modelling Working Group – Microsoft Teams Meeting Record

9 February 2021 – 11.30am - DRAFT

Attendee:

Name	Organisation
Bruce Harland (BH)	Ladies Mile Consortium (Candor3)
Colin Shields (CS)	Ladies Mile Consortium (Candor3)
Simon Hardy	Ladies Mile Consortium (Studio Pacific)
Christine Edgley	Ladies Mile Consortium (Brown & Co)
Liz Simpson	QLDC – Programme Manager
Tony Pickard (TP)	QLDC - Transport
Tony Avery	QLDC – Ladies Mile Programme Sponsor
Tony Sizemore	NZTA
Tony MacColl	NZTA
Brian Waddell (BW)	NZTA
Dave Smith (DS)	Abley
Matthew Gatenby (MG)	WSP

Apologies:

Name	Organisation
Gary Maloney	ORC
Shaun Hubbard	W2G
Robert Woods	NZTA
Jeff Brown	Ladies Mile Consortium (Brown & Co)

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Modelling Stage 1 Scope of work
CS outlined the scope for stage 1 modelling work which was circulated on 14 December 2020 and formed the basis of the agreed modelling approach.
2048 models used.
The Base model (as used in all W2G business cases) includes 1100 units at LM. Base model has been updated to reflect correct SC/LHE residential units and Queenstown Country Club employment numbers.
Option 1 =1800 units on LM MP
Option 2 = 2400 Units on LM MP
Based on 2018 census data at SC/LHE Abley have applied a 92% occupancy rate (ie circa 8% are ‘holiday homes’).

Options 1 and 2 include 587 Jobs which consist of 280 at Schools (based on existing neighbouring schools pupil/staff ratios) and 290 at the Local centre (based on independent commercial report) – later clarified to answer question from BW.
225 work from home has been predicted by Abley based on SC 2018 census data.

Other assumptions used in the modelling include:

2.1 people /dwelling
0.75 cars per dwelling
200 Park and Ride spaces at Ladies Mile
600 Park and Ride Spaces at Alec Robins
Bus Frequency - 10 min on each of existing Services 2 and 5.
Same density of housing applied throughout the MP area.

Modelling Stage 1 Results
Based on a short presentation which included the outputs from the model already supplied to the attendees Dave and Matt gave a summary of the results which included:
Tracks Model before PT modelling – Shotover Bridge (DS):

AM peak westbound - small increase in flows for both Options 1 and 2 (+25/+78 option1/2 respectively) compared to the base flows. However, all 3 scenarios are above the calculated capacity of 1700 vehicles/hour/lane. As to be expected, without the schools and local centre the flows are predicted to be higher.
PM peak eastbound small increase in flows for both Options 1 and 2 (+67/+116 option1/2 respectively) compared to the base flows. However, all 3 scenarios are above the calculated capacity of 1700 vehicles/lane. As to be expected, without the schools and local centre the flows are predicted to be higher.
PM peak westbound - only marginally above the bridge capacity with Options 1 and 2.
No issues in AM peak eastbound and IP both directions

PT Model (MG) AM peak westbound Shotover Bridge 290 bus passengers and 289 PnR Option 1 and 347/326 bus/PnR respectively for Option 2.
PM peak eastbound Shotover Bridge 710 bus passengers and 306 PnR and 889/356 bus/PnR respectively for Option 2.

PT model is indicating that circa 12 buses are needed at 10-minute frequency which is indicating a higher capacity than the current sized buses.
PT model is not capacity constrained.
Tracks Model after PT modelling (DS)
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	Shotover Bridge: • AM peak westbound - small increase in flows for both Options 1 and 2. All 3 scenarios are marginally above the calculated capacity of 1700 vehicles/lane. • PM peak eastbound small increase in flows for both Options 1 and 2 compared to the base flows. Base flow is at the calculated capacity of 1700 vehicles/lane and Options 1 and 2 are marginally above this. • No issues in AM peak eastbound, PM peak westbound and IP both directions Rest of the Queenstown network only marginal changes with Options 1 and 2 compared to the base. Select Link Analysis indicates most trips from LM going to the Frankton area (and hence why small changes elsewhere on the network eg Mulligans Road and Gorge Road since this would be too circuitous). SH6A has a capacity of 1450-1500 vehicles/hour/lane with the W2G proposed PT improvements in place.
4	**Discussion of Results** – BW asked what provision had been made for active modes in the modelling. DS confirmed that no provision for active modes have been provided for as this is a strategic model. TP indicated that there are active travel improvements as part of Active Travel Business Case. BW – was asking what the existing mode share from the 2018 census? CS to include the above data in the ITA in terms of active travel mode shares. BW asked about the capacity of the network to accommodate unlimited PT demands. MG responded there are priority lanes proposed through to BP roundabout and parts of SH6A. Ultimately there are constraints on the number of buses that can be managed in Queenstown town centre. TP indicated that the Park n Ride approach included 200 spaces at Ladies Mile (516 site) and 600 spaces at Alec Robins Road. Most patronage is for Regional Trips, although the 516 site is primarily expected to be used by local SC/LHE/Ladies Mile Residents. Concern raised that PnR accounts for circa 1/3rd of PT patronage – what is the impact if PnR does not achieve this. BW drew attention to the original NZTA position paper which required mode share in early stages of LM development. MG to provide 2028 base PT model outputs for comparison. TP indicated Arthurs Point Business case which could happen in 10 years' time. The modelling does not show a significant amount of traffic diverting to this route (from Ladies Mile, SC, LHE) as the vast majority of users will be heading to Frankton in the future. DS confirmed that the 1700 vph lane capacity of the Shotover Bridge had not assumed a reduction in capacity as a result of the bus priority merging at the bridge.
5	**Next Steps**
	TP confirmed that there was a W2G management team meeting and also a Board Meeting later today (9 Feb) **Actions:**

	• TP to provide confirmation to LMC by 12/1/21 that there is agreement in principle to support the modelling outputs to be included in the ITA for the Masterplan and Plan Variation documents. Formal approval from W2G to follow on. • BH to set up Bus Strategy Meeting. • BW indicated that he was trying to get a replacement PT expert for Anthony Cross who has left NZTA.

Appendix H – New Zealand and international research

References - WIP

Transit Orientated Developments (TOD)

TOD is a strategy to mitigate the problems associated with high auto dependency. TOD's capture more trips internally and encourage more active and public transport trips by creating an urban form that is relatively high density, mixed in terms of different land uses, served by high quality public transport and with active transport friendly designs.

Hobsonville Point (HP) Auckland - HP is currently the largest planned urban development in New Zealand with over 4,000 homes and a population of 10,000 people. HP accommodates different income groups by offering a range of standalone houses, two- to three-storey terraces, up to six storey apartments, and duplexes. HP is located 25 km northwest of Auckland's CBD. The Upper Harbour Motorway (SH18) connects HP to the Auckland motorway network. HP is designed as a sustainable urban development model that aims to reduce *"car dependency through increased local accessibility to services, excellent public transport and enhanced provision for walking and cycling*". Public bus services run through HP to two main public transport stations: Constellation Drive bus station on the Northern Busway and Westgate town centre. Ferries sail to Auckland's CBD ferry terminal daily.

By way of comparison with SC and LHE, 2018 census comparison indicates:

- Hobsonville has a similar population to SC and LHE combined.
- Slightly lower numbers of population aged <15 and more >65 in Hobsonville.
- Slightly smaller household size in Hobsonville.
- Slightly lower number of tradies and higher number professional in Hobsonville.
- Drive to work by vehicle is lower and using public transport is higher in Hobsonville.

HP has been developed to mitigate residents' car ownership by limiting the number of parking spaces, promoting active modes, facilitating access to public transport in a reasonable catchment area and the diversity of housing typology accommodates different household income groups.

HP was designed as a sustainable neighbourhood that encourages sustainable travel modes including active modes and public transport. 80% of respondents to a recent survey were satisfied with access to public transport involving 10 min walking, and 70% were able to easily satisfy most of their daily needs within a 15-minute walk from their homes. 66% of respondents indicated that they used their private vehicle as a main mode of travel over a typical week and 30% used sustainable travel modes. The survey revealed that 91% of respondents were familiar with shared mobility services such as Uber, Ola, and Zoomy and 41% of respondents used the available app-based mobility services primarily as complementary to public transport.

USA TOD research - various USA research indicates that TODs can reduce car use by more than 15% and research on TOD's in USA in the 1990's identified the following mode shares observed across TOD's in USA of:

- Active mode = 24.6%
- Bus = 12.4%
- Rail = 21.8%
- Car = 43.2 %
- Other 2.4%

For TODs with no rail, observed mode shares were:

- Active mode = 20.6%
- Bus = 13%
- Car = 64.9 %
- Other 1.5%

Impact of density

USA research indicates for differing residential densities the following vehicle miles travelled are predicted to take place:

- 20/Ha = 7500
- 40/Ha = 6000 (ie 20% reduction compared to 20/Ha)
- 60/Ha = 5000 (ie circa 33% reduction compared to 20/Ha and 17% reduction compared to 40/Ha)

Available research on the link between a viable public transport network and density, indicates that at least 40 to 60 dwellings/Ha are needed to support a viable PT network.

Active Mode improvements and modal shift

NZTA Model Communities project - New Plymouth and Hastings

Model communities are urban environments where walking and cycling are offered to the community as the easiest transport choices. The intention is to deliver safer environments for novice users, with a range of community destinations within reasonable riding or walking distance from residential population centres. Climate, topography and demographic characteristics are also important factors.

In July 2010 New Plymouth and Hastings were named as New Zealand's first walking and cycling model communities. Through new infrastructure provision, education and encouragement programmes over two years, the initiatives observed a 44% decrease in cars at schools, 12% decrease in cars at workplaces. 30% increase in active travel compared to control sites. In the three years after the development of the new infrastructure, there was a reduction of 1.6 per cent in vehicle kilometres travelled and an associated one per cent drop in carbon emissions.

USA research indicates that provision of Walk/cycle facilities can lead to a 9% reduction in vehicle trips.

Micro mobility and ebikes

NZTA research report 674 Mode shift to micro mobility (February 2021) indicated:

- In a US e-bike owners survey, 28% of respondents cited a core reason for them making an e-bike purchase was to replace car trips.
- • In a trial of e-scooters and e-bikes in Santa Monica, California, 2.7 million trips were taken between October 2018 and September 2019. Of those, 49% replaced trips that would have otherwise been made by car.
- • Barclays (2019) also reported that from a global survey of Lime users, 30% had replaced a car trip with a bike or e-scooter trip.

A survey by Waka Kotahi (2018) of staff at Tauranga City Council who own e-bikes showed:

• 92% of participants use their e-bikes to commute to work

• 58% of respondents reported riding to work four to five days a week, with an additional 24% riding two to three days a week

• 72% were using the e-bike to commute instead of the car

Overseas e-bike studies have also reported an average e-bike trip radius of 10 km in Norway (2015) and 15 km in the Netherlands (2020).

2019 study in New Zealand reported that:

- 28% of respondents had completed a journey using a combination of e-scooter and public transport.
- 20% of e-scooter users had travelled to or from a public transport station.

NZTA research report 674 indicated the following likely effect on public transport and private vehicle use if some micro mobility is used in a first/last mile capacity. Results are shown separately for various contexts; these results represent the median of forecast ranges:

Scenario	Context	Effect
Central business district (CBD)/fringe (~5 km radius)	• High levels of public transport • High availability of micromobility	• 2% decrease in car trips • 6% increase in public transport patronage
CBD/fringe (~5 km radius)	• High levels of public transport • Low availability of micromobility	• 1.5% decrease in car trips • 3% increase in public transport patronage
Suburban	• High levels of public transport • High availability of micromobility	• 1% decrease in car trips • 9% increase in public transport patronage
Suburban	• High levels of public transport • Low availability of micromobility	• 0.5% decrease in car trips • 6% increase in public transport patronage
Suburban	• Low levels of public transport	• 0.5% decrease in car trips • 7% increase in public transport patronage

Overall, public transport patronage is expected to grow by up to 9% by 2030 as a result of first/last mile micro mobility use.

The table below gives ranges for the likely mode share for e-bikes and e-scooters for end-to-end trips, for various contexts.

Land-use	Modelled scenarios	Mode share range
Major city – CBD	• High uptake scenario for e-scooters • Medium uptake scenario for e-bikes	• E-scooter mode share: 1.6%–5.7% of all trips • E-bike mode share: 4.9%–5.1% of all trips
Major city – fringe (~5 km radius)	• Medium uptake scenario for e-scooters • High uptake scenario for e-bikes	• E-scooter mode share: 1.0%–3.4% of all trips • E-bike mode share: 7.7%–8.1% of all trips
Major city – suburban	• Medium uptake scenario for e-scooters • Medium uptake scenario for e-bikes	• E-scooter mode share: 1.0%–3.4% of all trips • E-bike mode share: 4.9%–5.1% of all trips
Regional city – CBD/fringe	• Medium uptake scenario for e-scooters • Medium uptake scenario for e-bikes	• E-scooter mode share: 1.0%–3.4% of all trips • E-bike mode share: 4.9%–5.1% of all trips
Regional city – suburban	• Low uptake scenario for e-scooters • Low uptake scenario for e-bikes	• E-scooter mode share: 0.3%–1.2% of all trips • E-bike mode share: 1.8%–2.0% of all trips

Table 3.3 Mode shift by mode

Mode to	Mode from	Mode shift range	Survey data
E-scooter/ E-bike (shared)	Cars	24%–61%	• 24% of e-scooter trips replaced a car trip (New Zealand) • 28% of e-scooter trips replaced private vehicle trip (New Zealand) • 30% of global Lime users had replaced a car trip • 49% of Santa Monica shared e-scooter/e-bike users would otherwise have travelled in a car • 61% of San Francisco Lime e-scooter riders would have used a car (including Uber/Lyft)

2013 public bike sharing research in USA was based on:

- Shared use of a cycle fleet by the public.
- Based on docking stations.
- Study carried out in Montreal, Toronto, the Twin Cities and Washington DC.

Results indicated that 27% to 40% of respondents reported using public transport in conjunction with bike sharing to make trips previously completed by car.

Getting more from our roads: an evaluation of special vehicle lanes on urban arterials October 2014 (NZTA RR 557) based on NZ and international research, NZTA indicated the following in respect of travel time savings and increase in shares of T2 and T3:

Table 2.3 Summary of behavioural response to special vehicle lanes on arterial roads

Scheme	Country	Travel time saving (mins)	Type of lane	Increase in share of			
				T2s	T3s	T2s + T3s	Buses
Onewa Rd	New Zealand	20	T3	NA	120%	NA	15%
Vancouver	Canada	3	T2+	23%	12%	22%	NA
Snohomish	US	1	T2+	25%-30%	Included in T2s	25%-30%	NA
Leeds	UK	9	T2+	+5%	Included in T2s	5%	20%
Trondheim	Norway	1.5	T2+	14%	Included in T2s	4%	NA

Provision of T3 Lanes in the proposed bus lanes therefore will support carpooling initiatives and have raised the share of T2 and T3 traffic by a significant proportion.

Travel Plans

NZTA Resource 1 – Facts and figures indicated the following regarding Do travel plans work?

- New Zealand The 2007/08 evaluation of ARTA's Auckland Regional Transport Authority workplace travel plan programme showed the programme is growing more rapidly and is resulting in fewer car trips to work than anticipated. *Five workplaces have completed and evaluated travel plans, and collectively have achieved a reduction of 355 car trips to work each morning peak.*
- Australia Employee surveys show that in most workplaces where a travel plan has been implemented, solo car commuting declined by an average of 10% in both Melbourne and Perth. Some employers have recorded reductions of 30% or more, usually after changes to employer-provided car parking and active promotional efforts. Reductions in this range are consistent with experience in the UK. An evaluation of workplace travel plans in Australia found the following outcomes: Between 2001 and 2003, car trips in a Brisbane CBD engineering firm fell from 34% to 16%, and public transport use increase from 57 to 74% of all trips. The four Western Australian employers all recorded declines of 6–15 percentage points in car trips for commuting, and some rises in walking, cycling and other green travel alternatives. In 2003,

19% of staff from The Alfred Hospital in Melbourne said they used the car less after the project, and 25% said they used public transport more.

- UK - Experience from existing travel plans shows that for a well-designed plan, a 15% reduction in car driver trips to site over about three years is a typical result. Studies from Smarter Choices – Changing the Way We Travel DfT July 2004: Table 3.1: Changes in commuter car use at British organisations with travel plans.

Study	Conclusion
Cairns et al (2002)	A selection of good practice travel plans reduced commuter car driving by an average of at least* 18%. Plans which included parking management measures achieved an average reduction of car driving of >24%, compared with >10% for those that did not.
Organisational Coaching and Shreffler (1996)	Successful travel plans in the US typically reduce vehicle trips by 19%. Successful travel plans in the Netherlands typically reduce vehicle mileage by 20%.
Shoup (1997)	Eight Californian employers offering cash for parking had reduced single occupancy driving by an average of 13% and vehicle miles by 12%.
TCRP (1994)	49 US employers with travel plans had achieved an average vehicle trip reduction of 15%. Averages for different types of plans were: 9% if offering commuting alternatives only (such as van pools) 16% if offering financial incentives only (such as bus fare subsidy) 25% if offering financial incentives and services
Ligtermoet (1998)	40 Dutch employers (plus an unspecified numbers of others from review work) provided information about different types of plans. This suggested average reductions in vehicle kilometres of: 6-10% for plans with 'basic' measures 15-23% for plans with 'luxury' measures
Touwen (1999)	Information from different types of Dutch travel plan suggested average reductions in single occupancy vehicle kilometres of: 8% for plans with 'basic' measures 20% for plans with 'luxury' measures

Table 6-1 below provides an indication of actual or potential benefits that have been reported by other schemes here and overseas.

Table 6-1: Mode shift/ potential benefit reported by other schemes here and overseas

Case study	Measure	Mode shift/ potential benefit
Sustainable Travel Towns programme, UK	Region/city-wide strategy, long term commitment	2% reduction in traffic levels, reduction of 7-10% in the number of car driver trips per resident, benefit cost ratio (BCR) of 4.5:1 (Travelwise 2011).
Hawke's Bay DHB, NZ	Workplace travel plan	18% mode shift from single occupancy cars to public transport, carpooling, cycling and walking in two years since the adoption of the travel plan in 2015 (HBDHB n.d.).
Toronto, Canada	Workplace travel plan	Employees who joined the program reduced their number of drive-alone trips by an average of 14% (BTG 2014)
Park City, USA	Parking supply management (in combination with other TDM measures)	Estimated to achieve 5-12% reduction in vehicle km travelled (FP 2016)
	Provision of tailored information (commuters, residents, visitors)	Estimated to achieve 4-5% mode shift (FP 2016)
	Ride share programmes	Estimated to achieve 1-15% reduction in vehicle km travelled (FP 2016)
Queenstown, NZ	Introduction of the $2 fare (2018)	4-5% mode shift from car to buses (WSP Opus 2019)
Sydney Travel Choices	Information and resource provision to help individuals, businesses and organisations prepare for and adapt to the changes to Sydney's transport network	12% decrease in number of vehicles entering CBD during morning peak and a 9% increase in PT usage into CBD during morning peak during 2017/18 (NSW Government 2018).
King County Metro	Region/city-wide strategy	Between 2004-2011, a 32% reduction in single occupancy vehicles and a saving of 1,500 tonnes of CO_2 (KC 2018)

Case study	Measure	Mode shift/ potential benefit
Model Communities project, New Plymouth and Hastings, NZ	Combination of TDM measures	With a combined investment of $7 million over two years from June 2010: • New Plymouth - 44% decrease in cars at school, 12 % decrease in cars at workplace (NZTA 2013) • Hastings – 20% increase in cyclists and 23% increase in public perception of cycling safety (NZTA 2013)
Teton Village, USA	Combination of TDM strategies	Traffic counts remaining at year 2000 levels despite an increase in resort visitors and nearly 50% of surveyed employees arrived via public transport in Winter 2016 (FHU 2018)
	Parking management (No on-street parking allowed and peak pricing for the busiest periods increased)	6% less parking occupancy but a 6% increase in carpooling and an increase in revenue that was used towards funding their shuttle (FHU 2018)

The NZTA Workplace travel plan guidelines (August 2011) indicated the following in terms of modal shift with Travel Plans

- Auckland airport 'Lift Auckland' travel plan 14% reduction in staff driving to work alone.
- Waitakere City Council reduced carparking at Waitakere Central. Car driving has been reduced from 89% to 71% (18% reduction).
- Fisher & Paykel, Dunedin Travel Plan for relocation of site increase in walking, cycling and bus use (from a total of 12% before to 51% afterwards) and reduction drop in car use (from 85% to 47%).
- Hutt City Council – subsidised public transport tickets as part of its travel plan. The uptake was slightly lower than estimated but surveys indicated a 5% increase in the use of public transport when travelling to work.

HIF Bid ITA indicated that evidence from Europe and Australia indicates that the maximum mode shift achievable by coupling improvements to conventional public transport services with programmes of Travel Demand Management is around 15%.

The Greater Wellington Regional Council (GWRC) has a well-established TBC programme. It is targeted in its approach, with a focus on encouraging workplace and school travel planning. GWRC in recent years has improved its rail network, bus network, enabled e-scooter sharing in Wellington City and Hutt City, encouraged workplace travel plans, seen employers move towards supporting more flexible working and home working, and travel promotion initiatives have encouraged cycling and scooting to school. In its Mode Shift Plan for Wellington, Waka Kotahi reports that the combined effect of these initiatives has been:

- An increase in rail patronage of 21 percent over the last decade due to improvements in infrastructure, service quality, frequency and reliability
- A steady increase in bus patronage: one percent p/a from 2003-2018, and a five percent increase in 2019. The bus network was redesigned in 2018 to better align with international best-practice and increase service frequencies. Other initiatives like integrated ticketing, bike racks on buses and bike parking have helped with the increase in patronage
- The number of cyclists entering the Wellington CBD each day increased from 700 to 1,600 between 2000 and 2017. Recent investments include progress on facilities such as the Kāpiti Expressway Cycleway, Wainuiomata Shared Path and the Oriental Bay cycleway

GWRC in 2014 provided a summary of the effectiveness of their TBC programmes - see graphic below:

Reductions in car drive alone include:

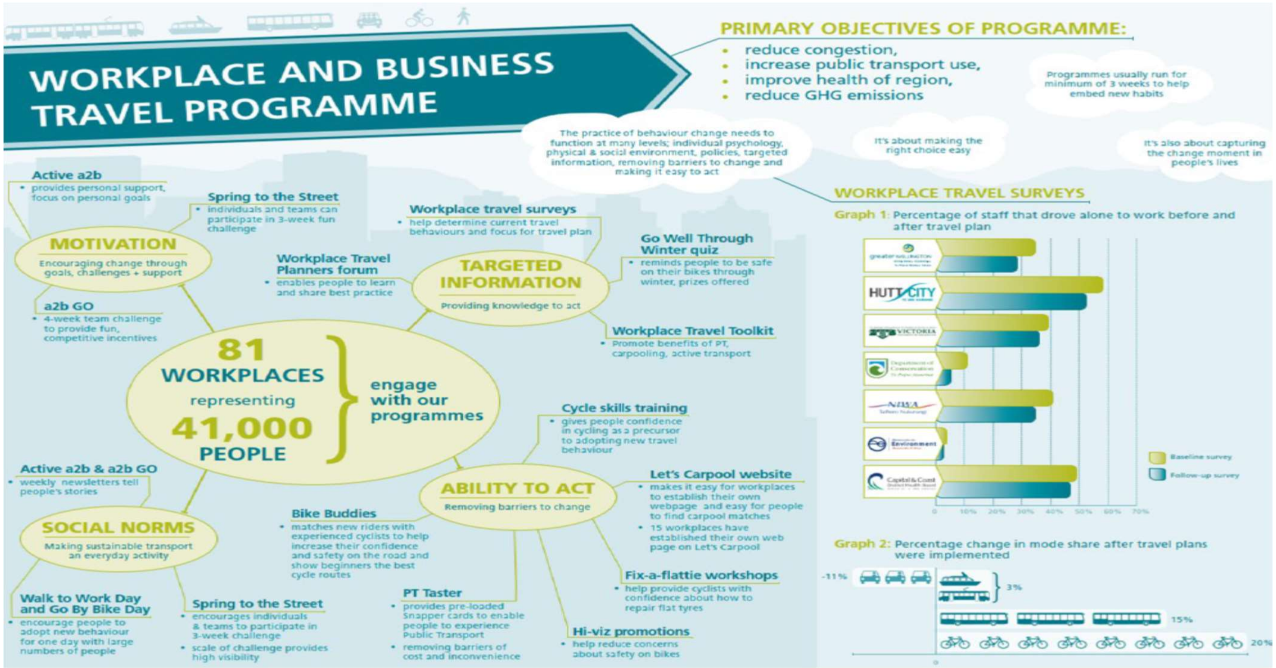
- NIWA (over 300 staff), = 8%
- DoC = 7%
- Hutt City Council = 6%
- GWRC (450 staff) = 5%
- Victoria University Wellington (2,300 full time equivalent staff and 21,000 FTE students) = 4%
- Capital and Coast District Health Board (5,800 staff) = 3%

The results indicate that every organisation that implemented a travel plan achieved a reduction in the percentage of staff that drove alone to work. The main mode shift was to cycle and buses.

Kapiti Coast District Council (KCDC) - as a result of the focus on carpooling and cycling with initiatives like priority carpool parks, connecting people who might carpool, cycle racks, pool bikes and cycle training, the KCDC observed a reduction of 9% in single occupancy car trips to work between 2013 and 2014. The number of people cycling more than doubled to 13%, and carpooling increased by 1% (GWRC, 2014).

The success of some of the GWRC's Travel Behaviour Change Programme was reported in the GWRC Travel Demand Management in the Wellington Region Report as:

- 25% increase in active trips to school to 40%.
- 49% increase in cycle commuting in Wellington from 2006 to 2013.
- 4% reduction in drive alone trips (approx. 9,000 employees) attributed to workplace travel plans
- A research report undertaken by Victoria University for the GWRC in 2012 found an increase in people carpooling from 13.5% (at time of registration) to 28.5% when the evaluation was undertaken.).



Hawke's Bay DHB – 18 percent reduction in the drive-alone rate in two years and ten percent reduction in car driver mode share by staff patients and visitors within two years

Sydney Travel Choices, Sydney, Australia (TNSW, 2020) - Since 2015, the TDM programme (implemented over a period of disruption to the public transport network) which relied on participation of 850 businesses, achieved a 13% decrease in the number of vehicles entering the CBD in the morning peak

The Waka Kotahi Monetised Costs and Benefits Manual (MCBM) indicates the following car trip diversion rates:

Travel Plan (Workplace) – Soft Measure with improved public transport links.	**12.9%**	This is the default high diversion rate profile from the MCBM. This rate is applied where there are public transport service improvements and other measures like a travel subsidy or parking management strategy.
Travel Plan (School)	**9%**	This is the default diversion rate profile for schools from the MBCM.

Community Travel Plan	**3%**	This is the default diversion rate profile for community travel plans from the MBCM.
Marketing, Education and Outreach	**1%**	The literature review of case studies highlights that marking, education and outreach could achieve diversion rates between 4 and 13%. The case studies that were reviewed did not, however, define the proportion of the target population reached. It is therefore not clear whether this diversion was from a small, self-selected sample or a larger, unselected community or sample. The diversion rates suggested in the MCBM are to be applied to resident population of a community. A potentially low, diversion rate of 1% was therefore adopted. This means that marketing, education and outreach will need to reach 10% of the target population to achieve similar diversion rates to those in the case study.

Wakatipu Basin Travel behaviour Change initiatives

The W2G Mode shift plan indicates that these will take the form of school and workplace travel planning assistance offered to schools and businesses. When implemented alongside the significant improvements to active and shared mode offerings, evidence suggests these behaviour change initiatives will in 70% of cases can achieve an additional 10% reduction in car use over and above that achieved through the infrastructure alone.

USA research indicated the following on the impact on trip generation:

- TDM (employment related) = up to 38% reduction (based on parking cash out programs, free transit passes, changes in working patterns eg wfh, compressed working days etc) cycle parking and changing facilities, carpooling (including guaranteed ride home and preferential parking spaces and a travel coordinator.
- TDM (residential related) = up to 7.75% reduction

NZTA - Evaluating the greenhouse gas emission reduction benefits from land transport mode shift programmes and projects – a research note (March 2021) - This NZTA research indicated the following in terms of changes in mode shift and vehicle KM travelled and their relevance to NZ:

Boulder USA – following implementation of PT improvements, cycle improvements and parking management the following change in mode shift between 1990 and 2018:

Category	All trips	Commute trips
Single-occupancy vehicle	−7.5%	−32.3%
Multiple-occupancy vehicle	−5.0%	N/A
Bicycle	+7.9%	+23.1%
Public transport	+3.4%	+8.3%

California Transit oriented developments (TOD):

- High quality Transit Areas had 25%–30% lower Vehicle Miles Travelled (VMT) than households with similar incomes living in areas with fewer public transport options.
- Households in TOD areas were found to have between 37% and 50% lower VMT rates compared to households with comparable income levels in non-TOD areas.

Following **cycle network improvements in Seville**:

- Mode share by bike increased from 0.5% in 2006 to 7% in 2013.
- Mode share by car was 55% in 2004 and 35% in 2012.

Travel behaviour change case studies indicated:

- Average reduction in car modal split share of 7%.

Abley - Ladies Mile Housing Density Research Note (6/4/19)

Based on a very limited research exercise, this note stated that there is sufficient evidence to demonstrate that a higher density development can be expected to align with lower vehicle ownership, less private car travel, more ridesharing (or carpooling) and higher rates of public transport uptake.

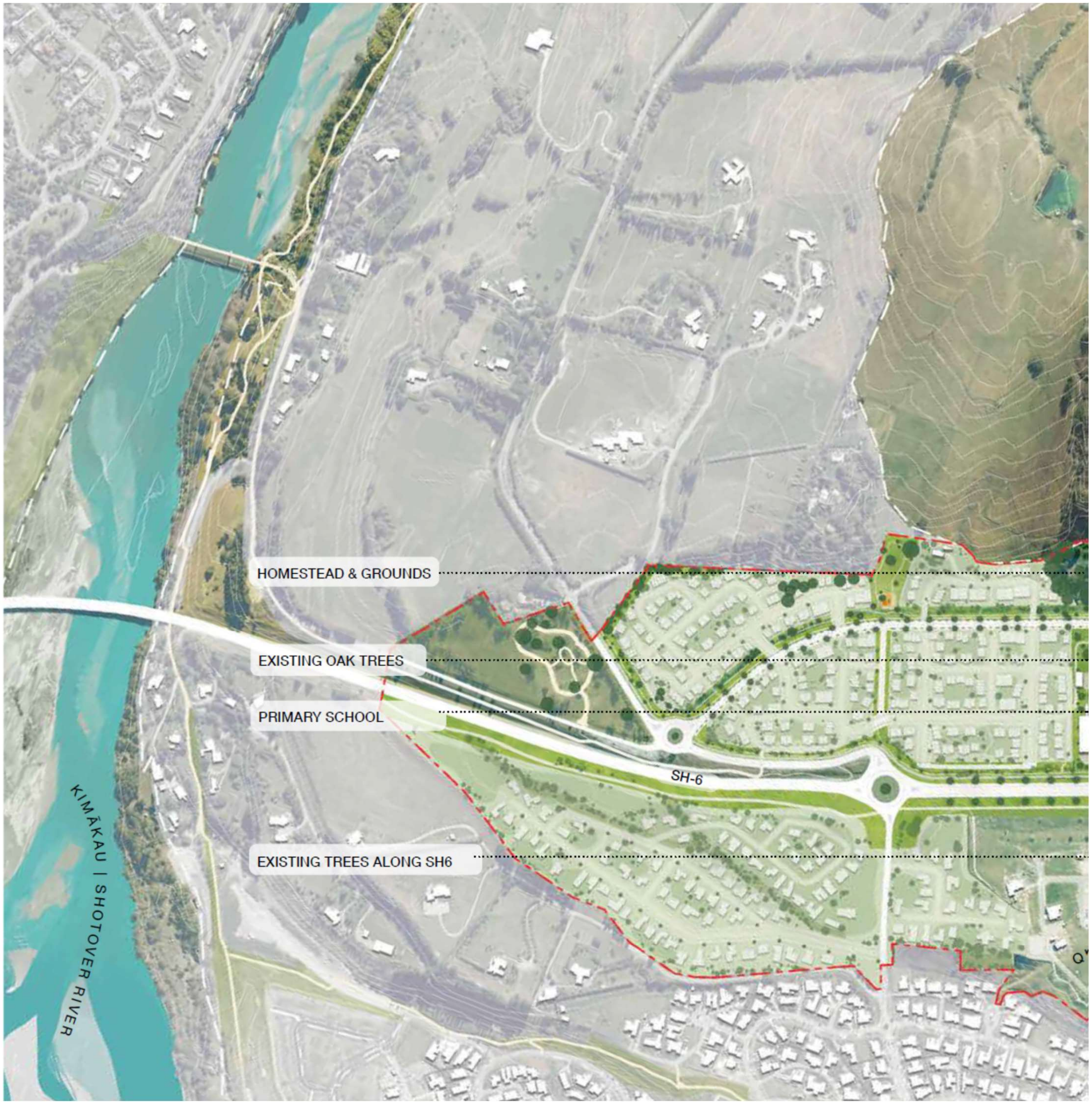
Appendix A

Masterplan

Illustrative Masterplan

The Illustrative Masterplan provides a possible future for Te Pūtahi Ladies Mile.

The Masterplan is indicative only, and provides a impression of what the site could look like in the future.

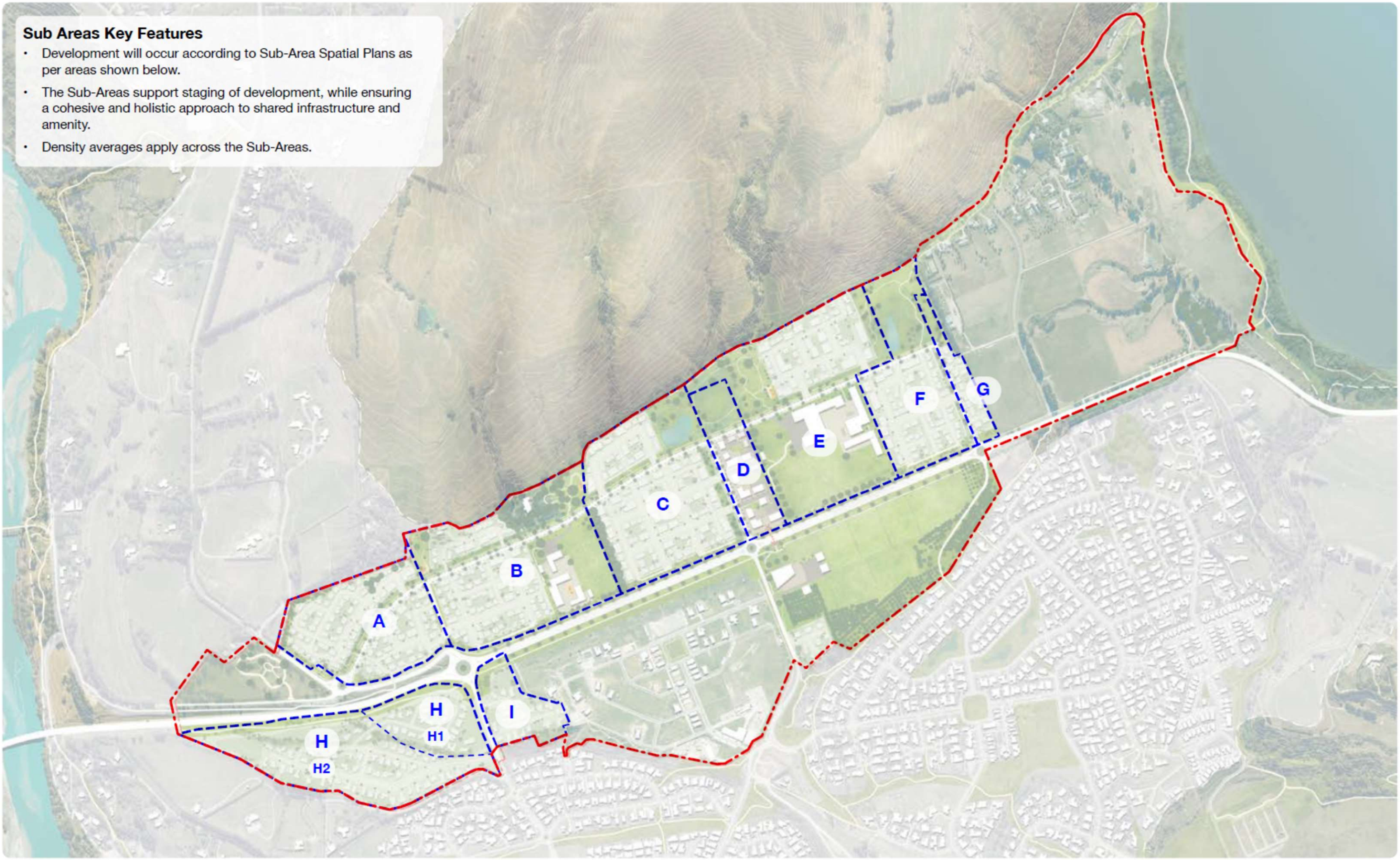


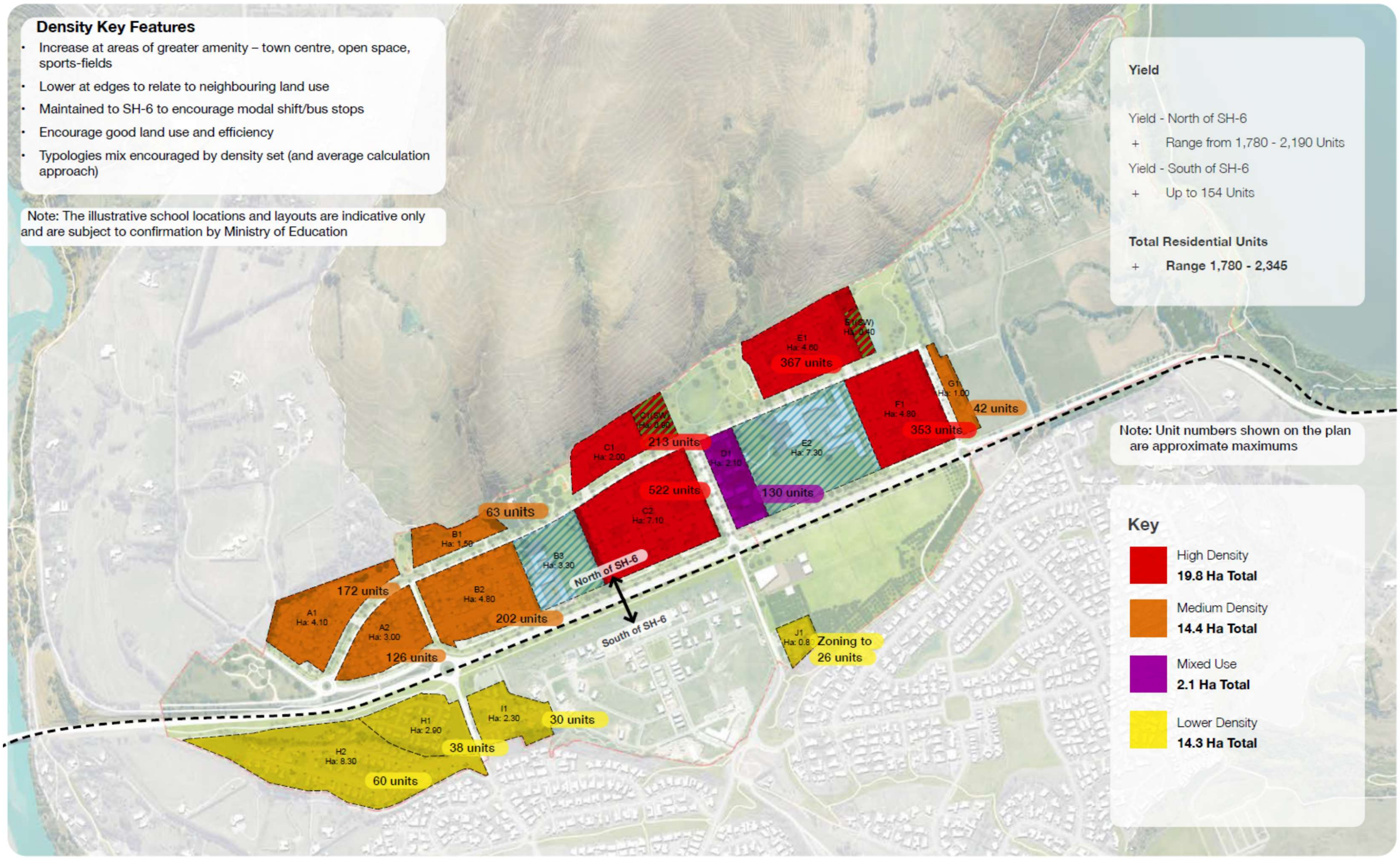
Note: The illustrative school locations and layouts are indicative only and are subject to confirmation by Ministry of Education


SLOPE HILL
WAIWHAKAATA | LAKE HAYES
STORMWATER OPEN SPACE
STORMWATER OPEN SPACE
COMMUNITY PARK
Collector Road
HIGH SCHOOL
SWALE NETWORK
TOWN CENTRE
SH-6
UNDERPASS
SYLVAN ST LINK
SPORTS HUB
QUEENSTOWN COUNTRY CLUB
COMMUNITY HUB

Sub Areas Key Features

- Development will occur according to Sub-Area Spatial Plans as per areas shown below.
- The Sub-Areas support staging of development, while ensuring a cohesive and holistic approach to shared infrastructure and amenity.
- Density averages apply across the Sub-Areas.



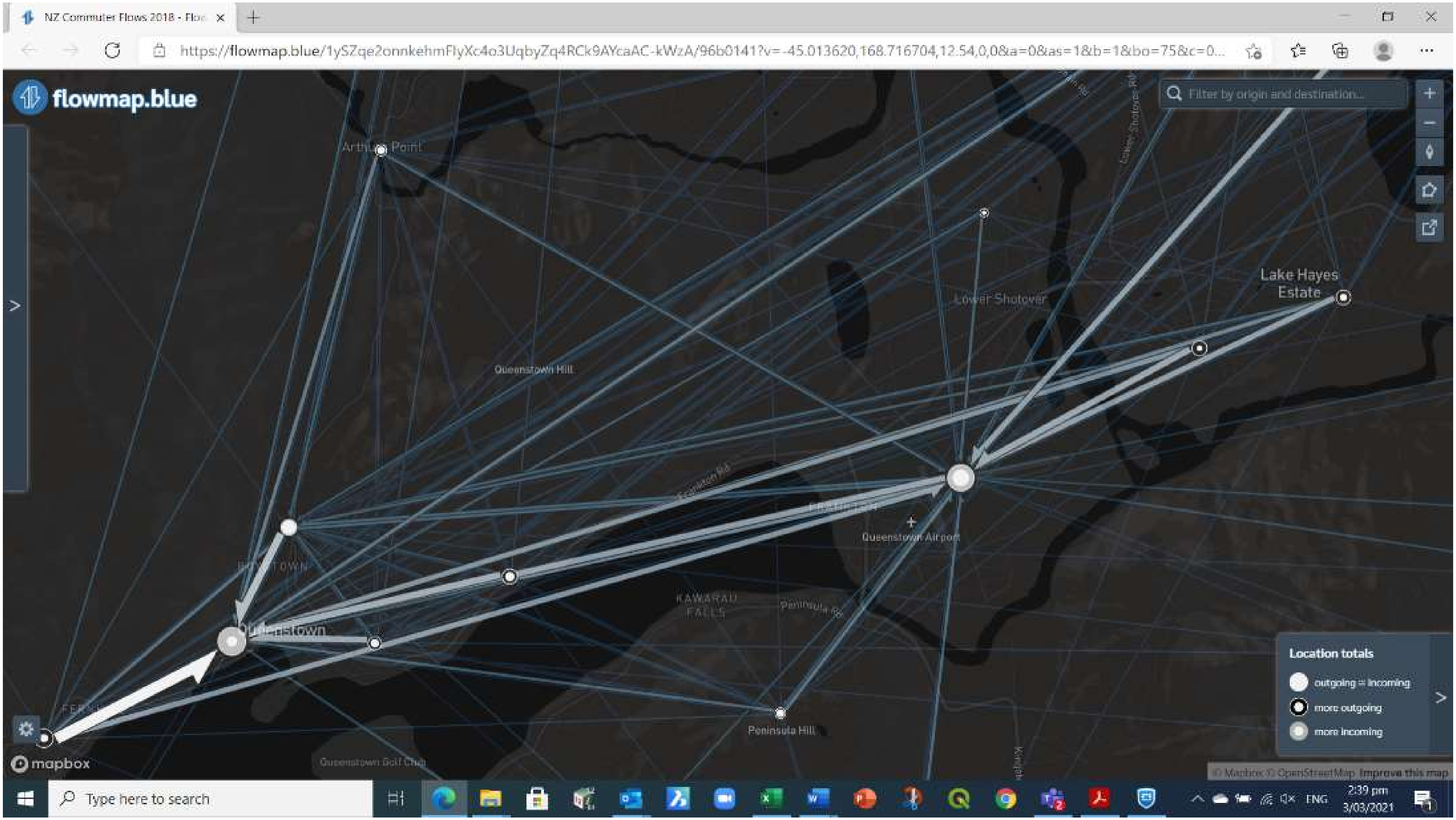

Density Key Features
Increase at areas of greater amenity – town centre, open space, sports-fields
Lower at edges to relate to neighbouring land use
Maintained to SH-6 to encourage modal shift/bus stops
Encourage good land use and efficiency
Typologies mix encouraged by density set (and average calculation approach)
Note: The illustrative school locations and layouts are indicative only and are subject to confirmation by Ministry of Education
Yield
Yield - North of SH-6
+ Range from 1,780 - 2,190 Units
Yield - South of SH-6
+ Up to 154 Units
Total Residential Units
+ Range 1,780 - 2,345
Note: Unit numbers shown on the plan are approximate maximums
Key
High Density
19.8 Ha Total
Medium Density
14.4 Ha Total
Mixed Use
2.1 Ha Total
Lower Density
14.3 Ha Total
E1
Ha: 4.80
367 units
F1
Ha: 4.80
353 units
G1
Ha: 1.00
42 units
E2
Ha: 7.30
D1
Ha: 2.10
130 units
C1
Ha: 2.00
213 units
C2
Ha: 7.10
522 units
B1
Ha: 1.50
63 units
B3
Ha: 3.30
B2
Ha: 4.80
202 units
A1
Ha: 4.10
172 units
A2
Ha: 3.00
126 units
North of SH-6
South of SH-6
J1
Ha: 0.8
Zoning to
26 units
H1
Ha: 2.90
38 units
H2
Ha: 8.30
60 units
I1
Ha: 2.30
30 units

Yield Table

#	Zone	Measured Area (m2)	Average Density (u/Ha)	Gross Developable Area (Ha)	Average Units	Min -5%	Max +5%
TE PŪTAHI LADIES MILE (NORTH of SH6)							
A1	Resi - Med	40,523.07	40	4.1	164	156	172
A2	Resi - Med	29,772.41	40	3.0	120	114	126
B1	Resi - Med	15,452.09	40	1.5	60	57	63
B2	Resi - Med	48,120.06	40	4.8	192	182	202
B3	Schools	33,101.46	40	3.3			
C1	Resi - High	20,022.18	70	2.0	140	133	147
C1(SW)	Resi - High	9,456.60	(70)	(0.9)	(63)	(60)	(66)
C2	Resi - High	70,759.82	70	7.1	497	472	522
D1	Hub - Commercial	20,813.04		2.1	+65	+0	+130
E1	Resi - High	46,301.61	70	4.6	322	306	338
E1(SW)	Resi - High	4,246.82	(70)	(0.4)	(28)	(27)	(29)
E2	Schools	72,675.92	70	7.3			
F1	Resi - High	47,789.58	70	4.8	336	319	353
G1	Resi - Med	9,647.76	40	1.0	40	38	42
				35 (1.3)	1,936 (91)	1,777 (87)	2,095 (95)
				36.3Ha *ex schools*	**2,027**	**1,864**	**2,190**
TE PŪTAHI LADIES MILE (SOUTH of SH6)							
H1	Resi - Low	30,409.43		2.9	38		38
H2	Resi - Low	82,783.40		8.3	60		60
I1	Resi - Low	23,343.63		2.3	30		30
J1	Resi - Low	7,937.25		0.8	17		26
				14.3	**145**		**154**
TE PŪTAHI LADIES MILE							
	AVERAGE YIELD			**50.6Ha** *ex schools*	**2,172**		
	YIELD RANGE					**1,777**	**2,344**

Appendix C

2018 Census Data O/D’s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flowmap.blue
Filter by origin and destination...
Arthur's Point
Lake Hayes Estate
Lower Shotover
Queenstown Hill
Frankton Rd
Queenstown Airport
Kawarau Falls
Peninsula Rd
Queenstown
Peninsula Hill
Queenstown Golf Club
Location totals
outgoing = incoming
more outgoing
more incoming
mapbox
© Mapbox © OpenStreetMap Improve this map
Type here to search
ENG
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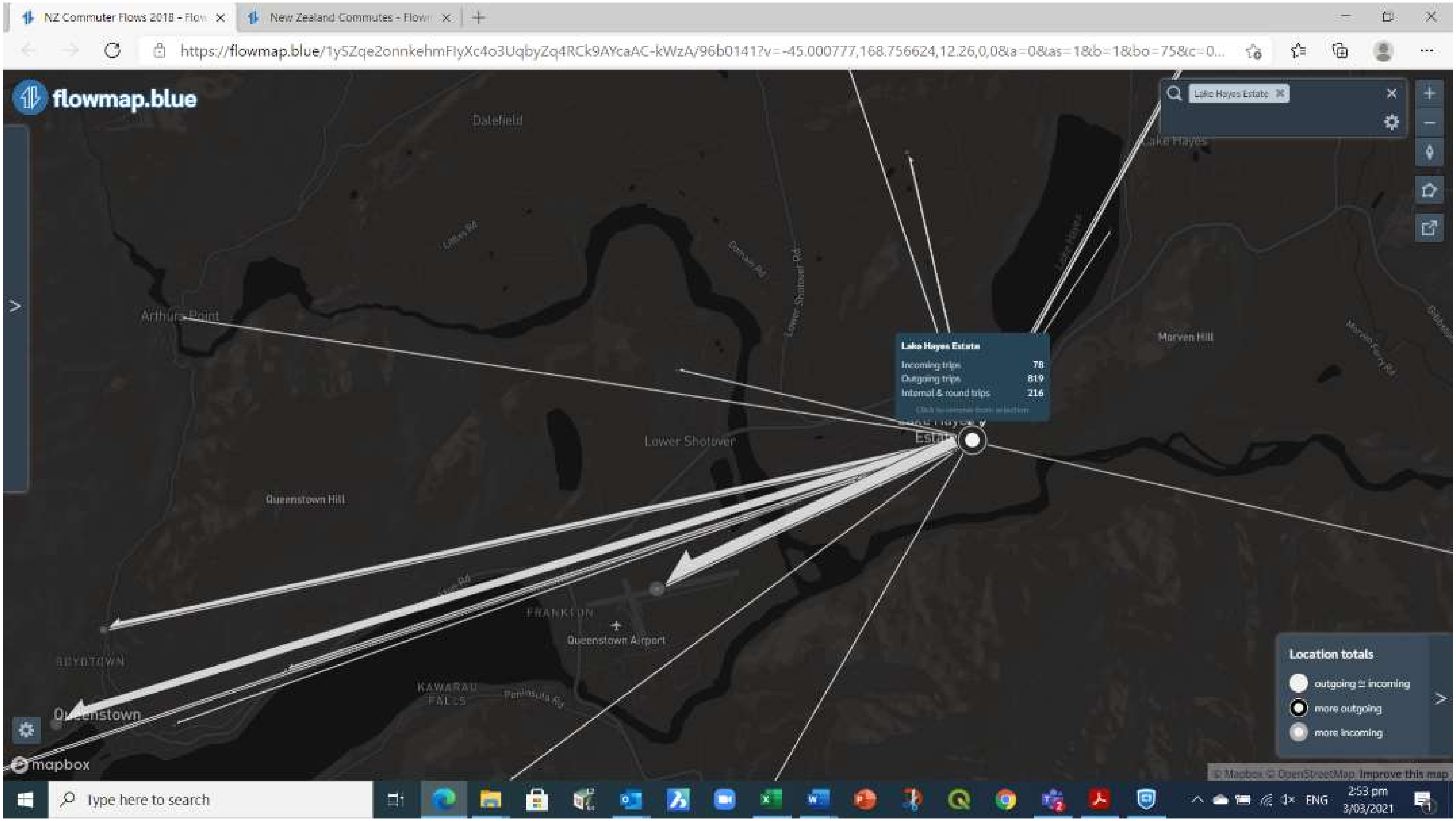
3/03/2021


NZ Commuter Flows 2018 - Flow
New Zealand Commutes - Flow
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flowmap.blue
Lake Hayes Estate
Dalefield
Lake Hayes
Arthurs Point
Lower Shotover
Morven Hill
Lake Hayes Estate
Incoming trips 78
Outgoing trips 819
Internal & round trips 216
Queenstown Hill
Frankton
Queenstown Airport
Boydtown
Kawarau Falls
Queenstown
Location totals
outgoing ≅ incoming
more outgoing
more incoming
mapbox
© Mapbox © OpenStreetMap Improve this map
Type here to search
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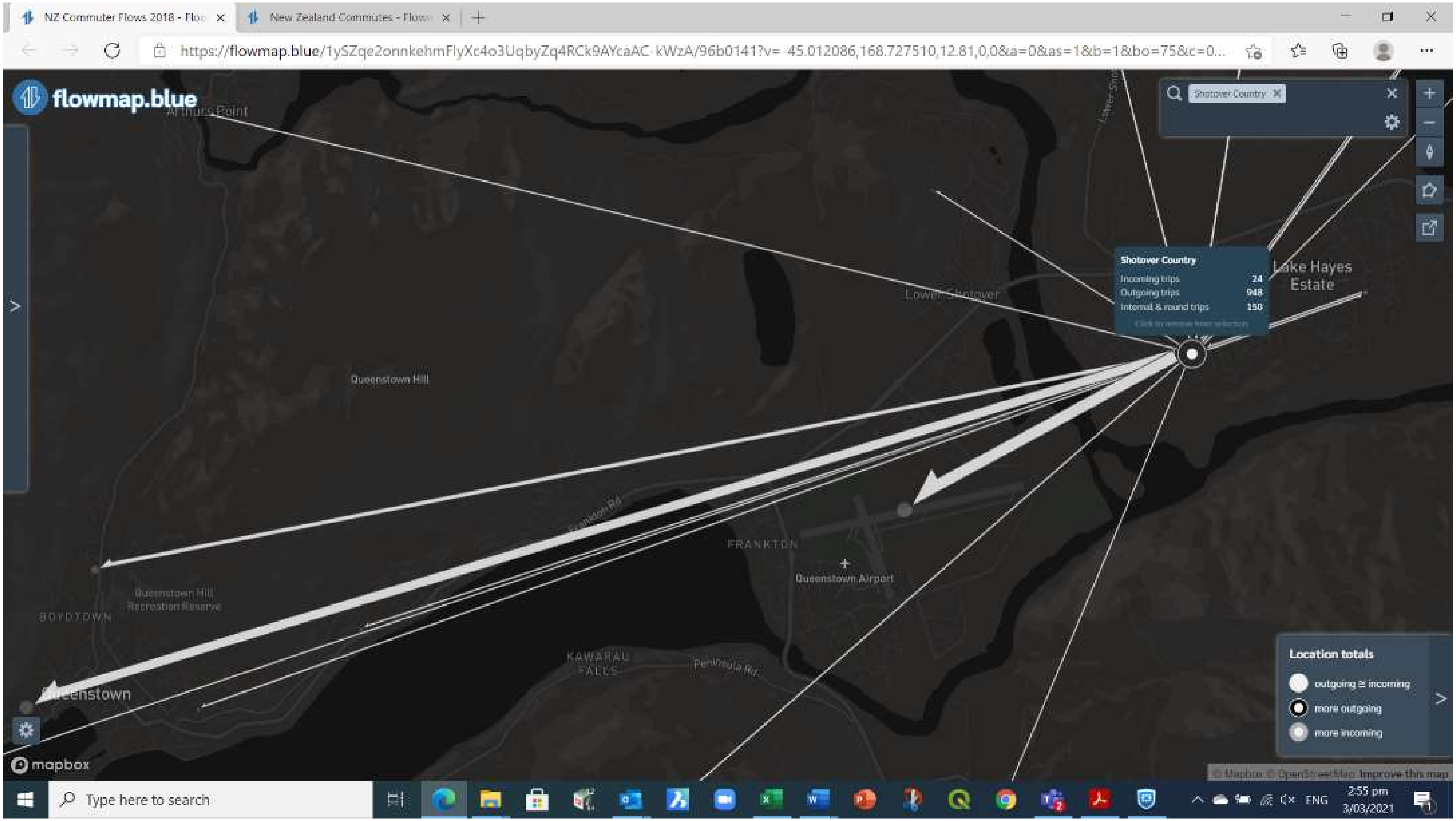
3/03/2021



NZ Commuter Flows 2018 - Flo
New Zealand Commutes - Flowm
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flowmap.blue
Shotover Country
Arthurs Point
Lower Shotover
Lake Hayes Estate
Shotover Country
Incoming trips 24
Outgoing trips 948
Internal & round trips 150
Queenstown Hill
Frankton Rd
FRANKTON
Queenstown Airport
Queenstown Hill Recreation Reserve
BOYDTOWN
KAWARAU FALLS
Peninsula Rd
Queenstown
Location totals
outgoing ≅ incoming
more outgoing
more incoming
mapbox
© Mapbox © OpenStreetMap Improve this map
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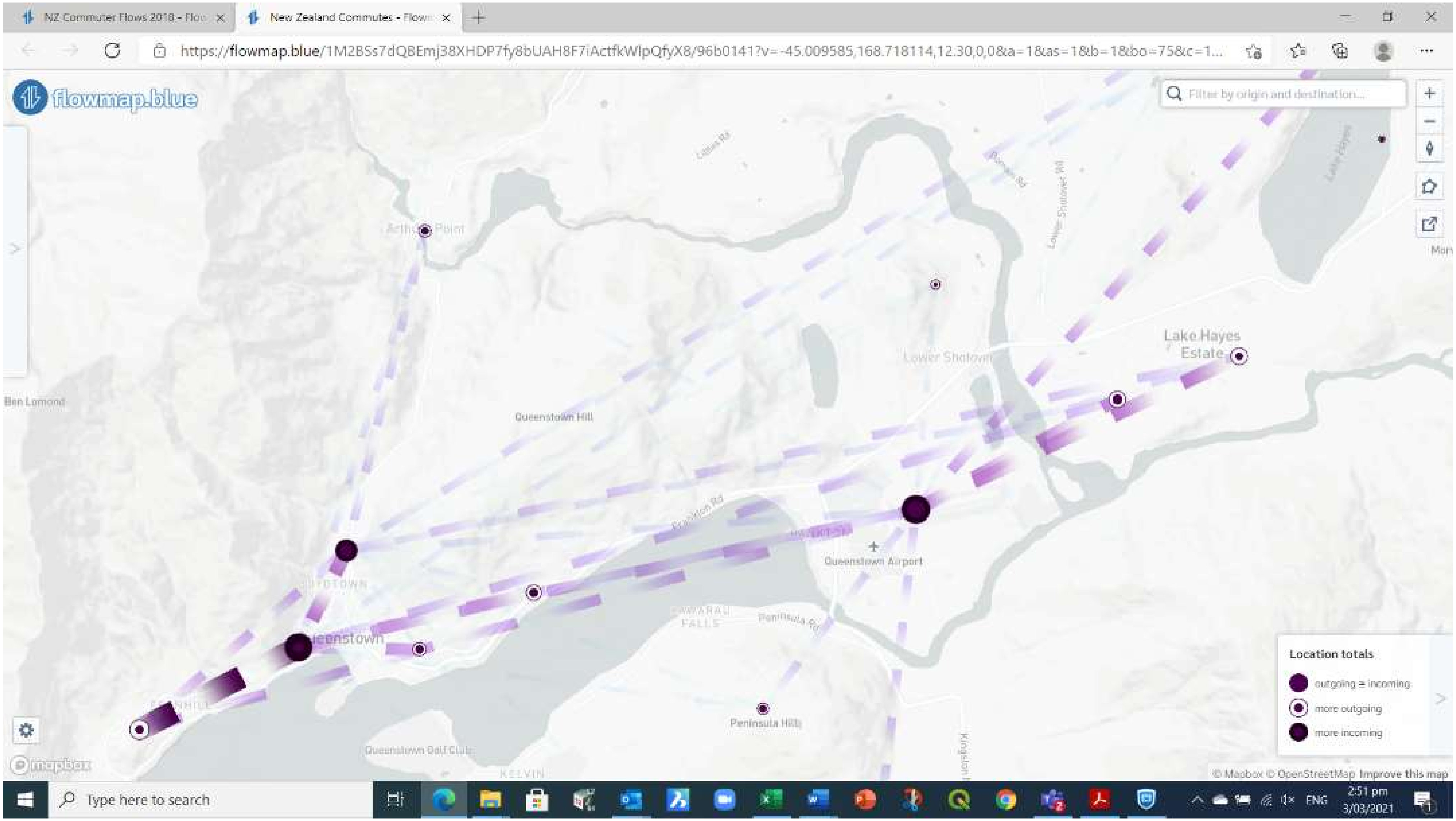
3/03/2021

From NZ Commuter Flows 2018 - Flowmap.blue

NZ Commuter Flows 2018

Census NZ 2018 Travel to Work data. (Travel to Education data at the bottom of dropdown list). Each location dot is the centre of an SA2 area unit. Data is truncated below 6 people, for privacy reasons. So any specific origin-destination (commute) which has less than 6 people using a particular mode, will not show. For example, if 5 people normally ride their bike from Te Atatu Peninsula to Wynyard-Viaduct, their trips are not displayed. If 6 people did, we would see a line representing them.

These are total flows



NZ Commuter Flows 2018 - Flo
New Zealand Commutes - Flowm
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flowmap.blue
Filter by origin and destination...
Arthur's Point
Ben Lomond
Queenstown Hill
Lower Shotover
Lake Hayes Estate
Frankton Rd
Queenstown Airport
Queenstown
Kawarau Falls
Peninsula Rd
Peninsula Hill
Queenstown Golf Club
Kelvin
Location totals
outgoing ≈ incoming
more outgoing
more incoming
© Mapbox © OpenStreetMap Improve this map
Type here to search
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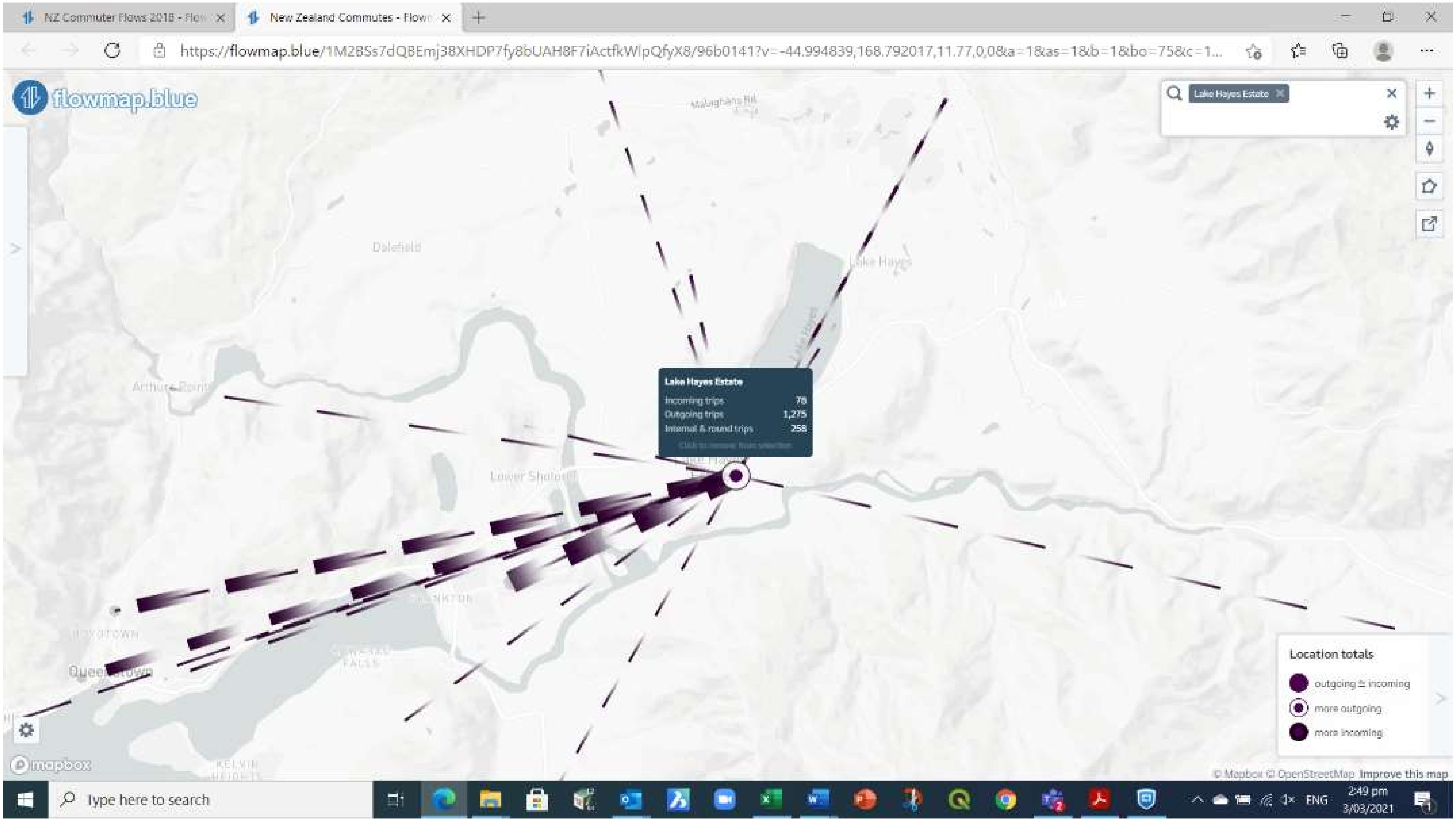
3/03/2021


NZ Commuter Flows 2018 - Flo
New Zealand Commutes - Flow
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flowmap.blue
Lake Hayes Estate
Dalefield
Lake Hayes
Arthurs Point
Lower Shotover
Queenstown
Lake Hayes Estate
Incoming trips 78
Outgoing trips 1,275
Internal & round trips 258
Location totals
outgoing & incoming
more outgoing
more incoming
mapbox
© Mapbox © OpenStreetMap Improve this map
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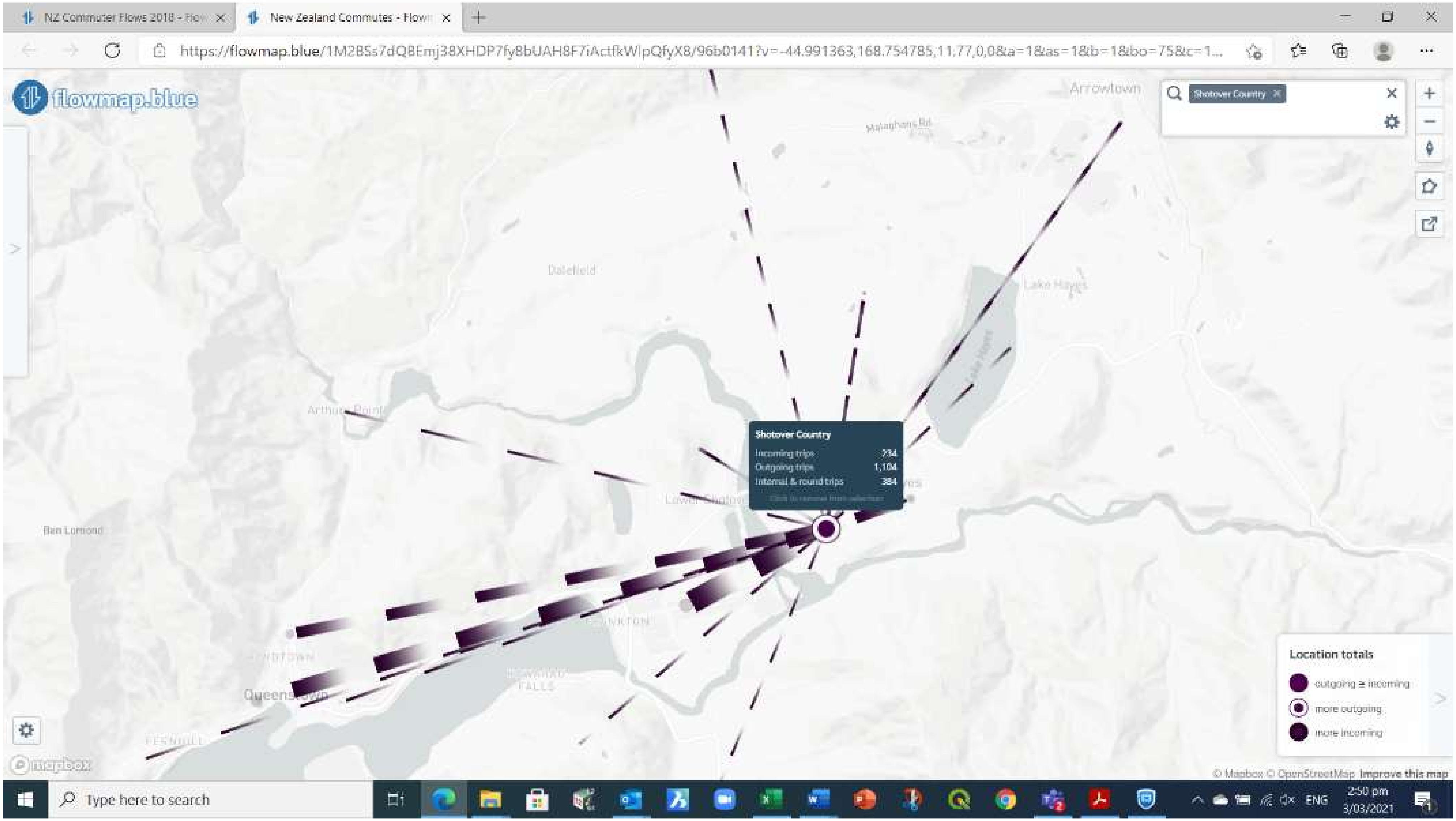
NZ Commuter Flows 2018 - Flow
New Zealand Commutes - Flowm
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flowmap.blue
Shotover Country
Arrowtown
Dalefield
Lake Hayes
Arthurs Point
Ben Lomond
Queenstown
Shotover Country
Incoming trips 734
Outgoing trips 1,104
Internal & round trips 384
Location totals
more outgoing
more incoming
© Mapbox © OpenStreetMap Improve this map
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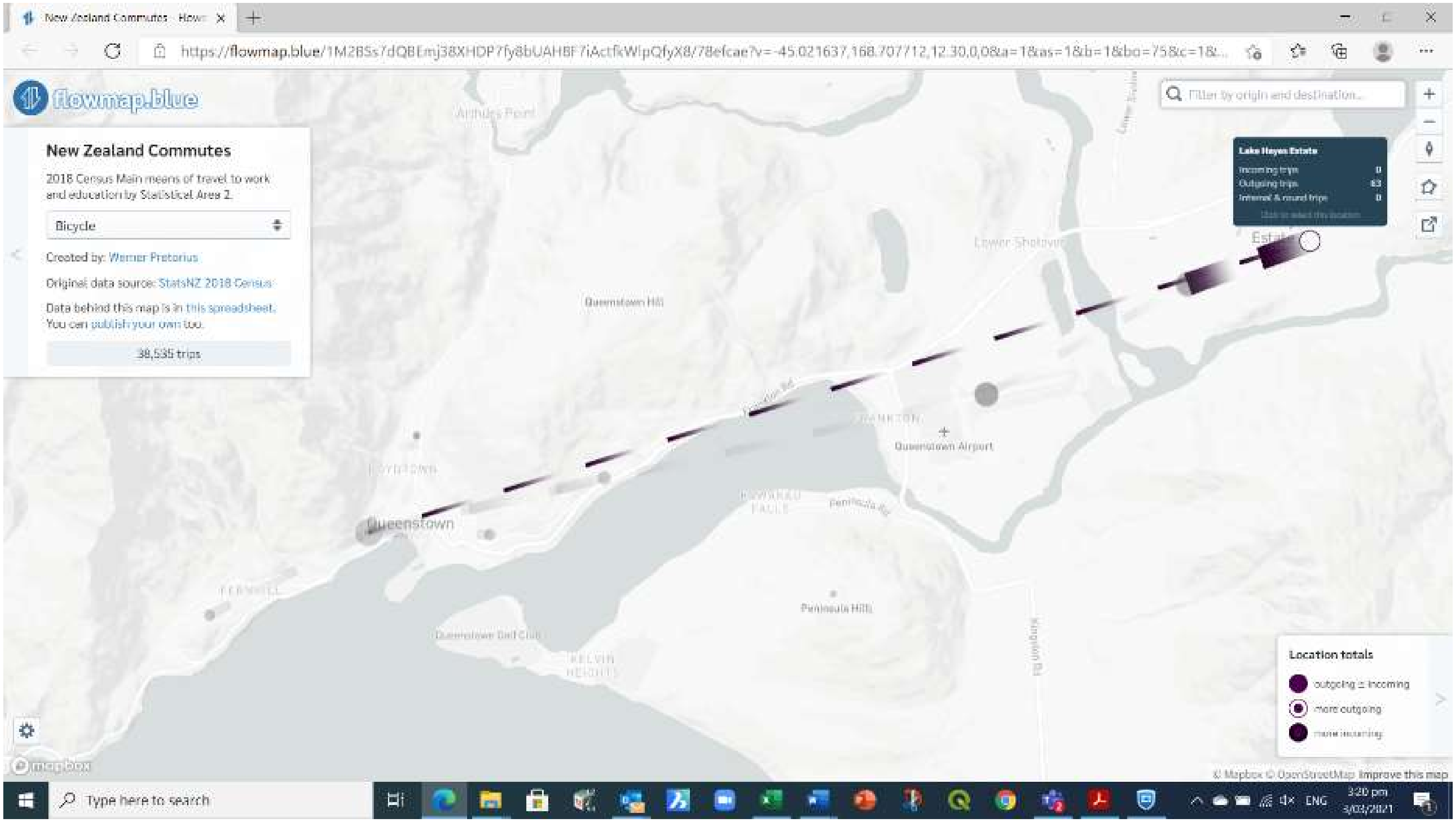
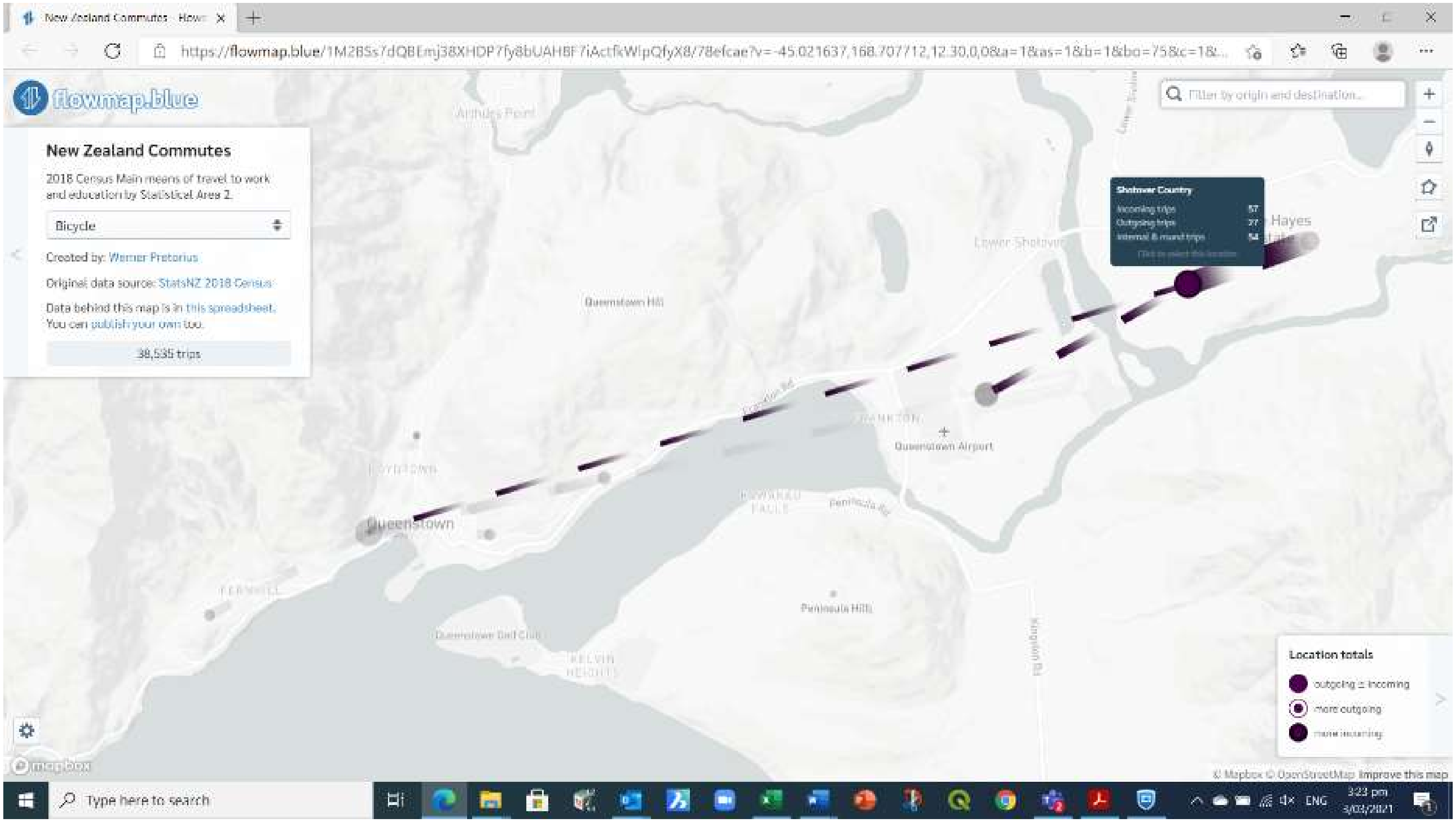
3/03/2021

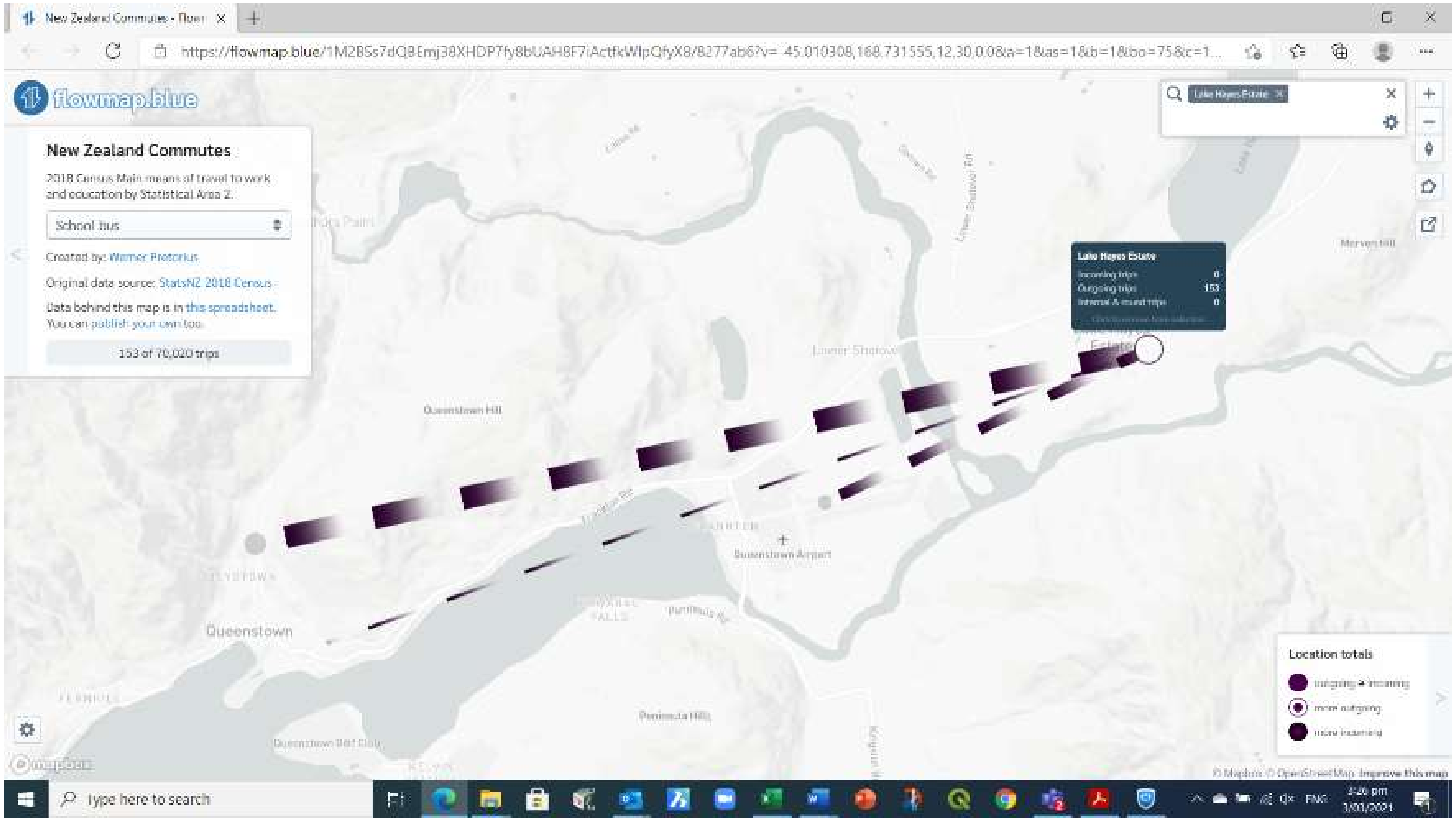


Cycle outbound trips LHE = 63 primarily SC, then Queenstown



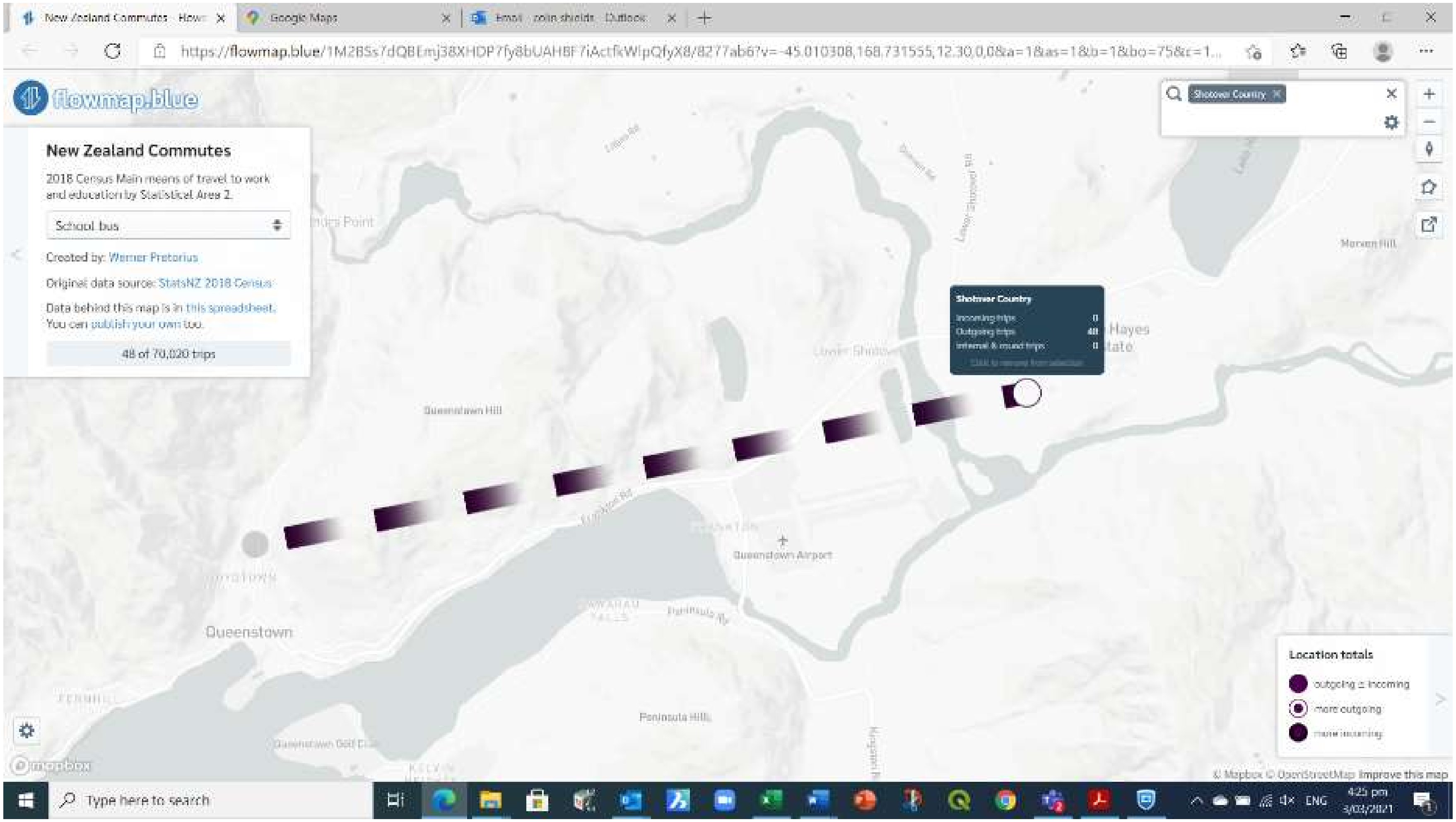
Cycle trips SC

57 in from LHE, outbound = 27 primarily Frankton then Queenstown, 54 internal trips



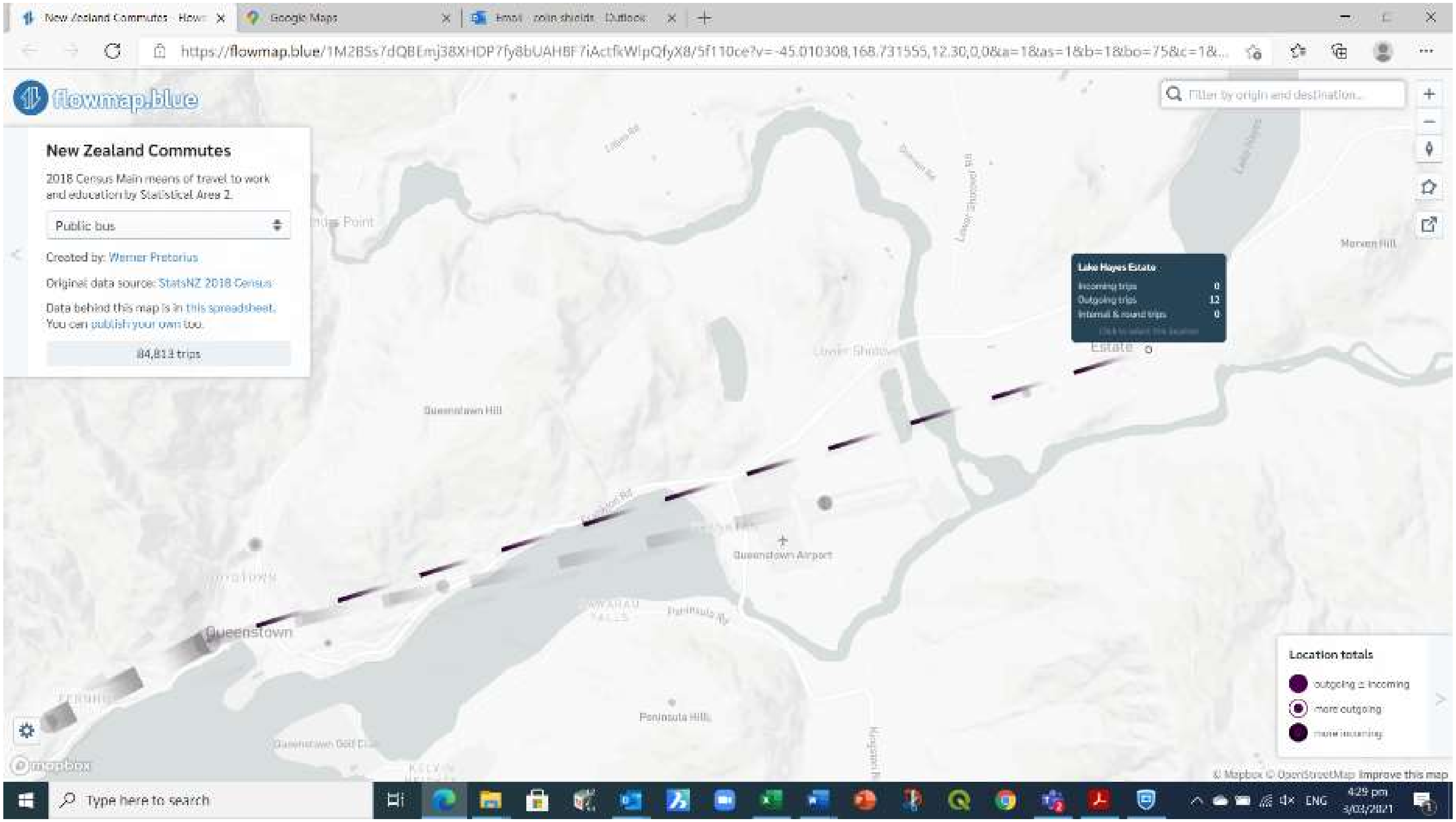
School bus trips LHE 153 school bus trips

- Primarily to SA2 Boydtown ie QT primary school.
- Smaller amount to Frankton ie Wakatipu High school (new site opened Jan 2018, census carried out 6/3/18).
- Small amount to QT ie St Josephs (110 students).

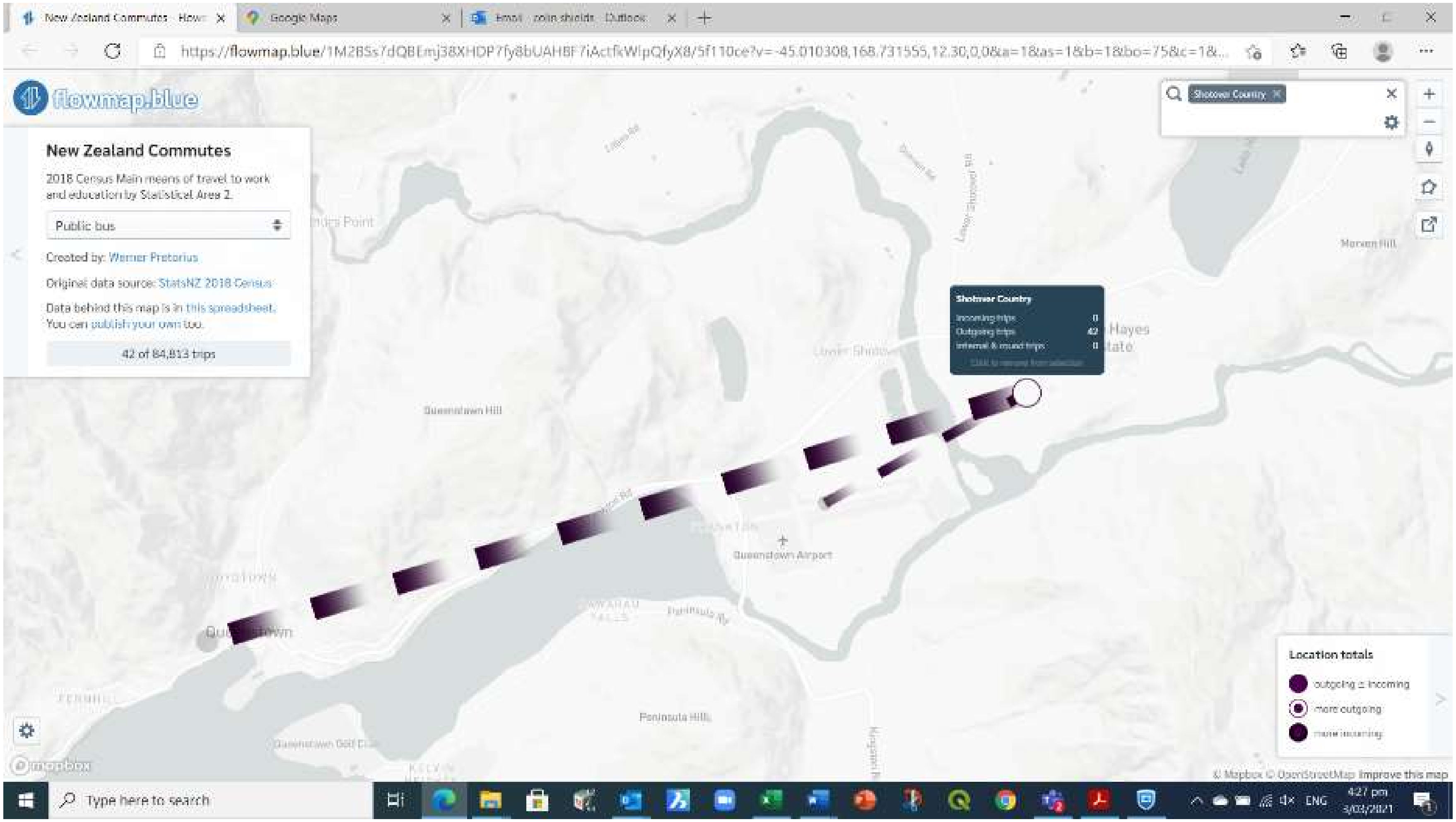


School bus trips SC

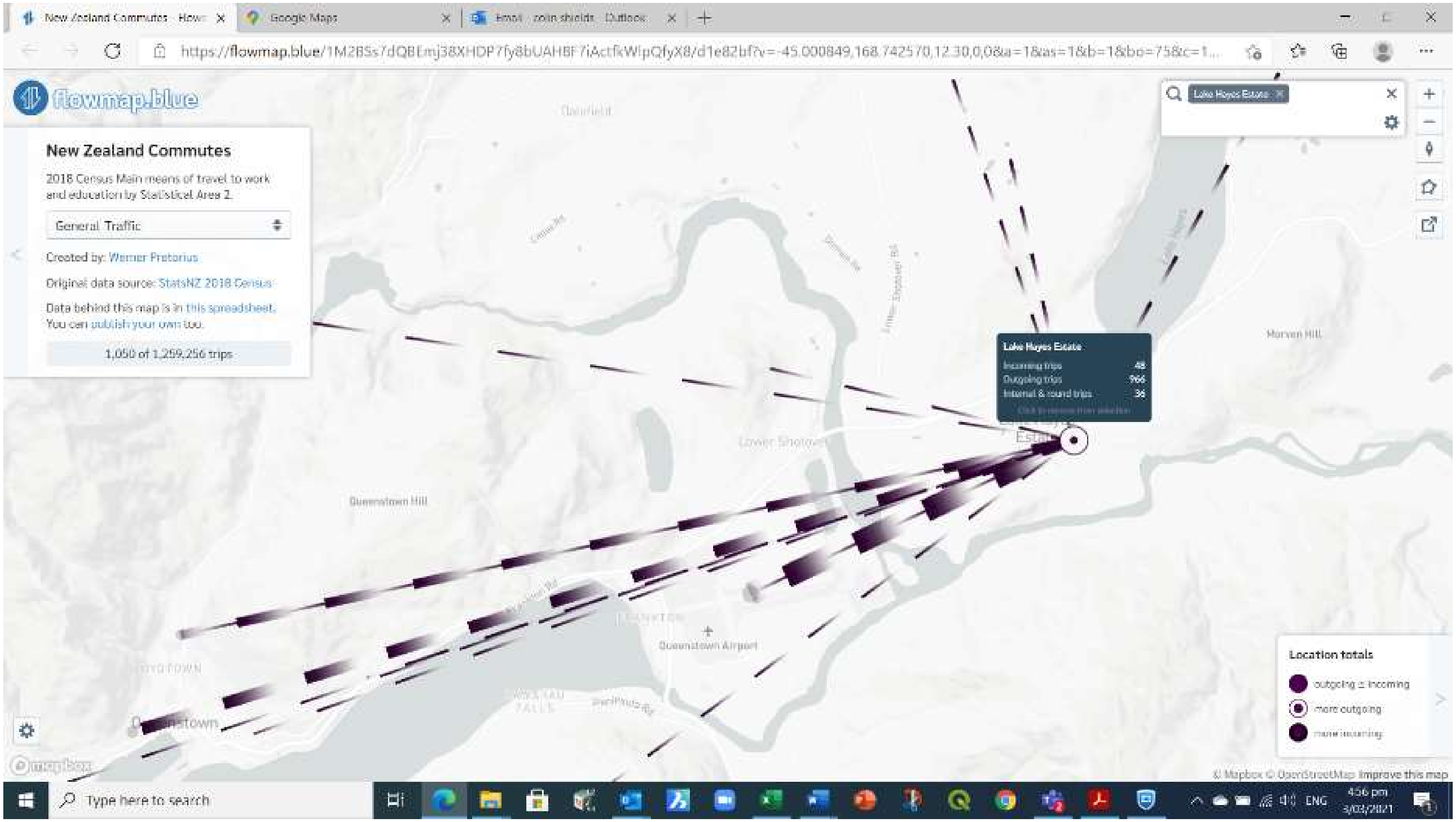
48 school bus trips all to Boydtown SA2 area of QT ie QT primary school (note St Joseph's is on border of Boydtown, QT and QTE)



Bus trips LHE – 12 all to QT (note before Service 5 changes and direct bus to QT)

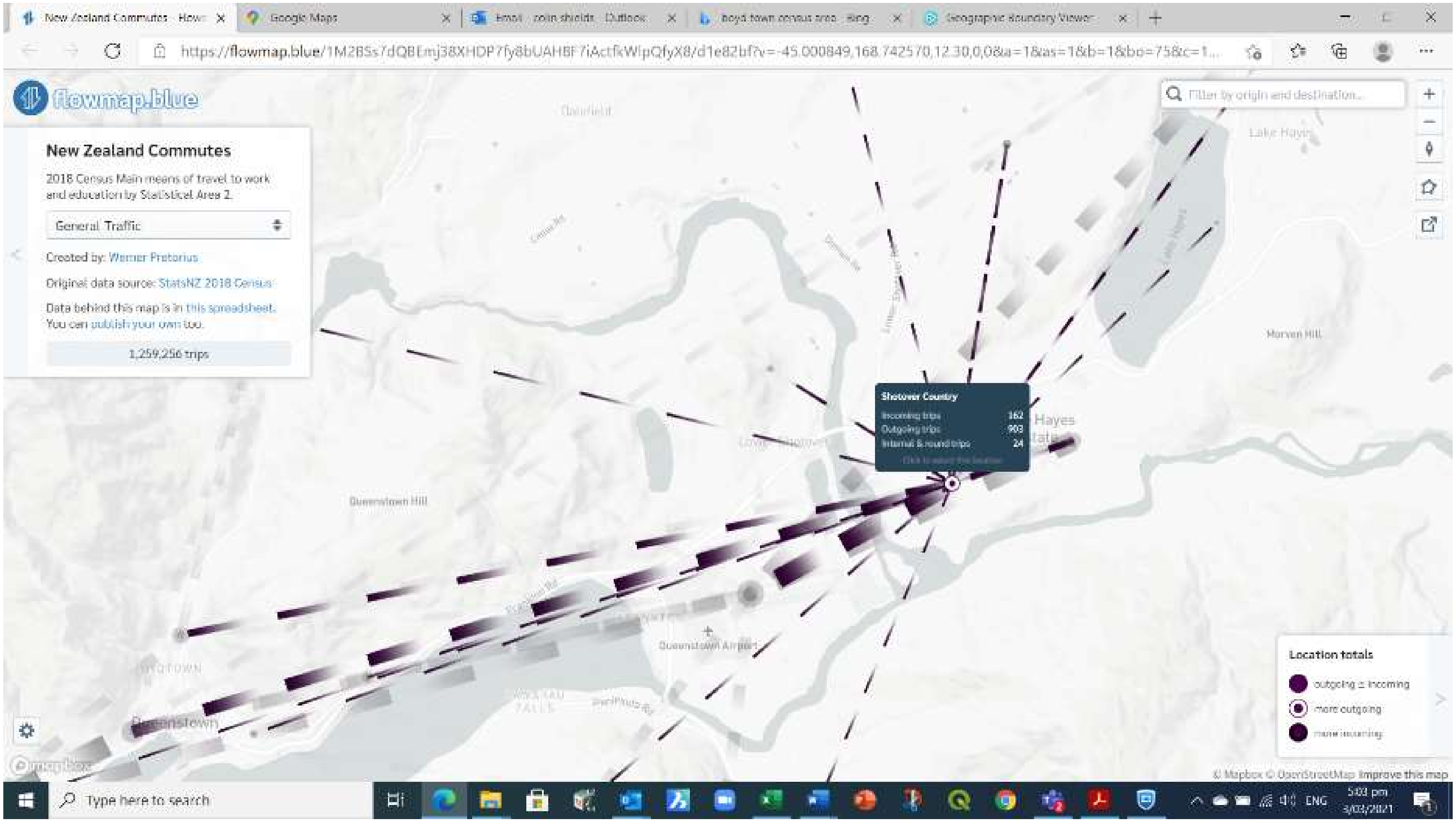


Bus trips SC - 48 primarily to QT (note before Service 5 changes and direct bus to QT)



General Traffic ie car LHE

48 incoming trips and 966 outgoing trips - predominantly Frankton and Queenstown. 36 internal trips



General Traffic ie car SC

162 incoming trips and 903 outgoing trips - predominantly Frankton and Queenstown. 24 internal trips

[New Zealand Commutes - Flowmap.blue]

New Zealand Commutes

2018 Census Main means of travel to work and education by Statistical Area 2.

Created by: Werner Pretorius
Original data source: StatsNZ 2018 Census
Data behind this map is in this spreadsheet. You can publish your own too.

Note this is T2W and T2E combined.

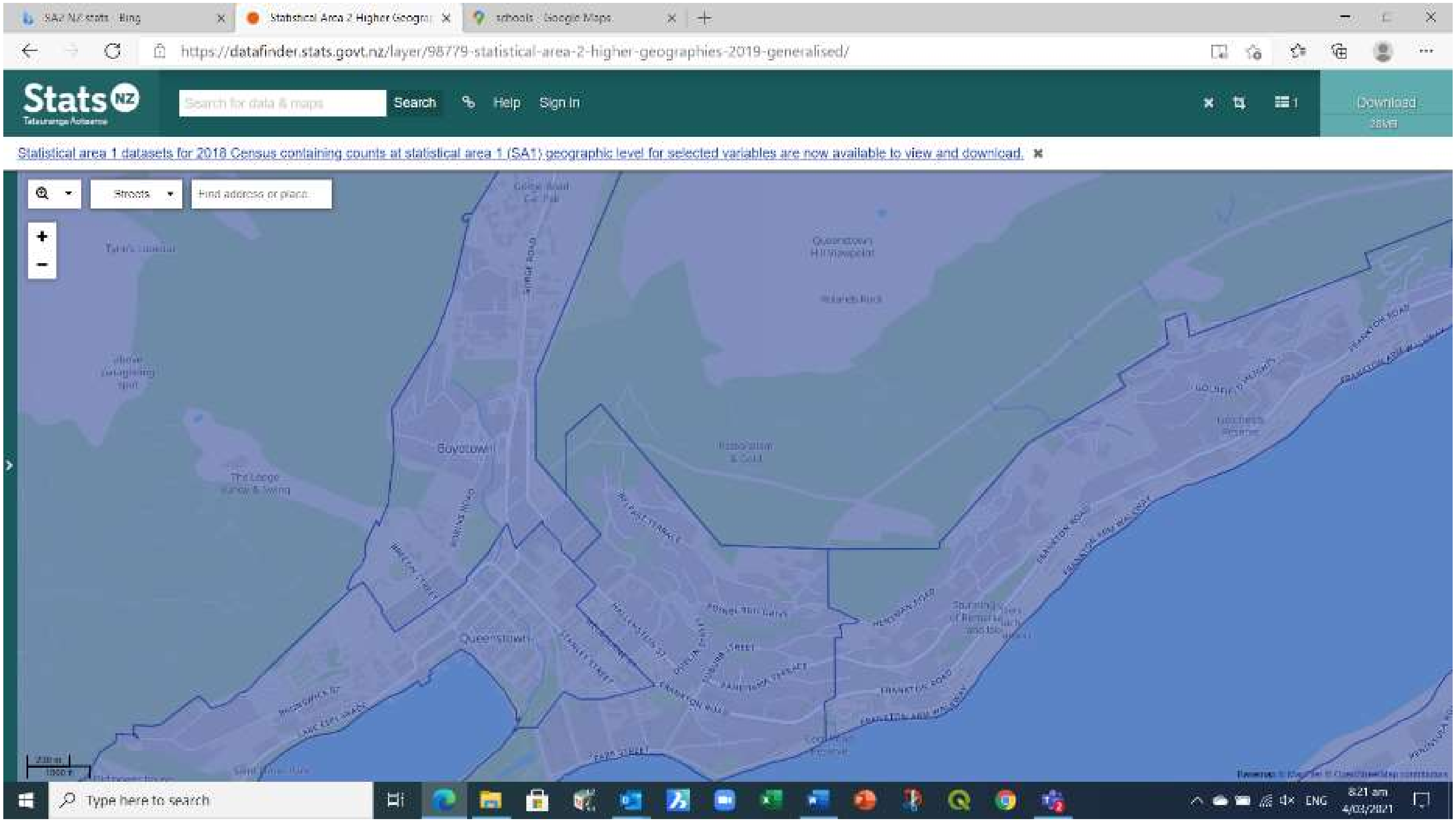
The numbers match the census info below ie:

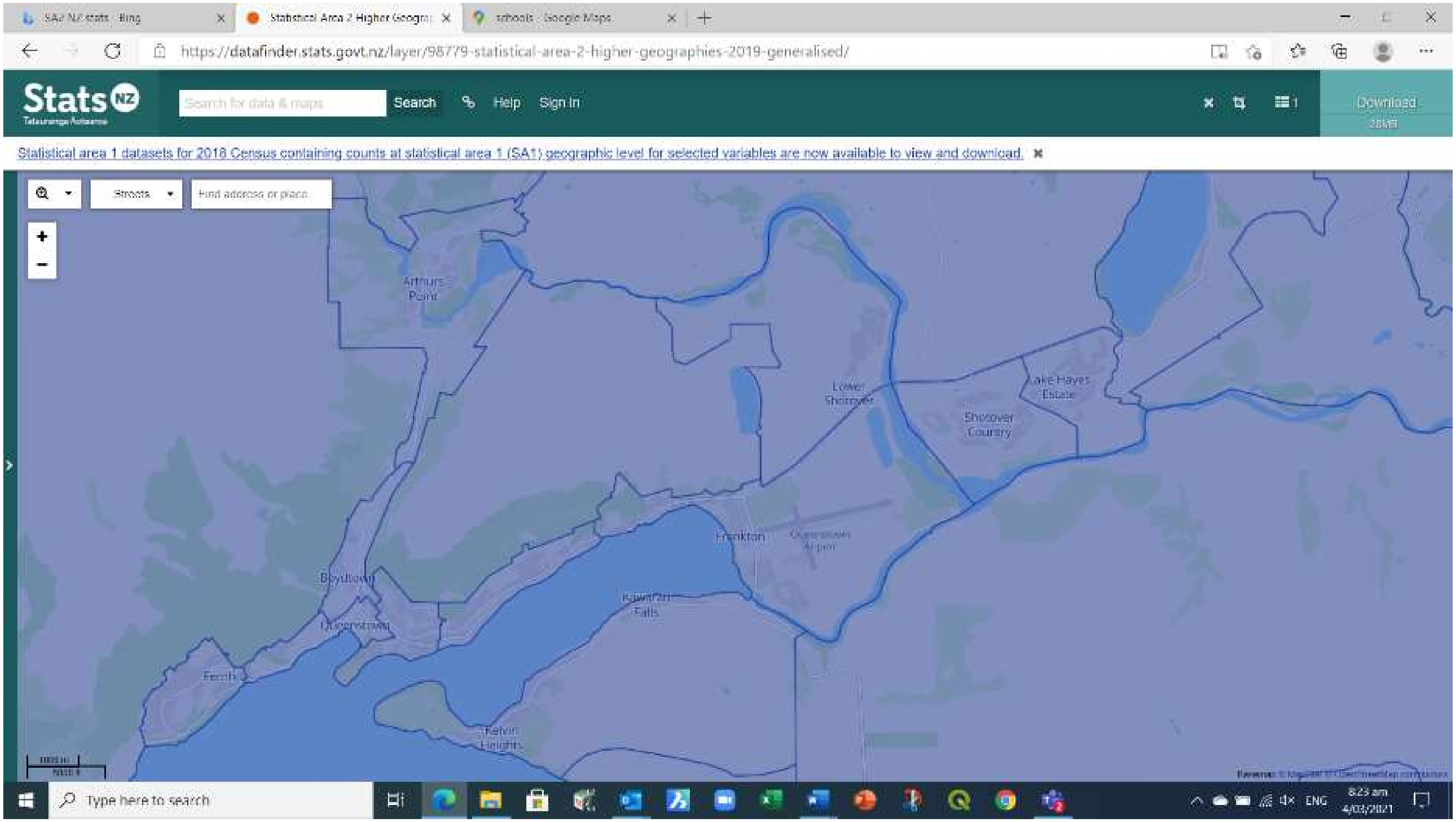
LHE

- In = 78 work + 0 study = 78
- Out = 819 work + 456 study = 1275
- Internal = 216 work + 42 study = 258

SC

- In = 24 work + 210 study = 234
- Out = 948 work + 156 study = 1104
- Internal = 150 work + 234 study = 384


schools - Google Maps
https://datafinder.stats.govt.nz/layer/98779-statistical-area-2-higher-geographies-2019-generalised/
Stats NZ
Search
Help
Sign In
Download
Statistical area 1 datasets for 2018 Census containing counts at statistical area 1 (SA1) geographic level for selected variables are now available to view and download.
Streets
Find address or place
Boydtown
Queenstown
Type here to search
ENG
8:21 am
4/03/2021


SA2 NZ stats - Bing
Statistical Area 2 Higher Geogra
schools - Google Maps
https://datafinder.stats.govt.nz/layer/98779-statistical-area-2-higher-geographies-2019-generalised/
Stats NZ
Search
Help
Sign In
Download
Statistical area 1 datasets for 2018 Census containing counts at statistical area 1 (SA1) geographic level for selected variables are now available to view and download.
Streets
Find address or place
Arthurs Point
Lower Shotover
Lake Hayes Estate
Shotover Country
Frankton
Queenstown Airport
Boydtown
Queenstown
Fernhill
Kawarau Falls
Kelvin Heights
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8:23 am
4/03/2021

From - [Shotover Country - Commuter - Waka]

Shotover Country

Resident Workers: 1,431

Workplace Arrivals

- 150 (86%) live and work in Shotover.
- 18 (10%) LHE
- 6 (4%) Arrowtown
- Total = 174

Mode

- Wfh = 61%
- Private Car = 24%
- Co Vehicle = 4%
- Passenger = 1%
- Walk = 7%
- Bus = 1%
- Cycle = 0%

Workplace Departures

- 357 (33%) Frankton
- 276 (25%) Queenstown Central
- 150 (14%) live and work in Shotover.
- 96 (9%) Warren Park
- 33 (3%) Arrowtown (east)
- 30 (3%) Wakatipu basin (east)
- 21 (2%) Outer Wakatipu (east)
- 18 (2%) LHE (east)
- 18 (2%) Frankton Arm
- 18 (2%) Queenstown east
- 18 (2%) Kelvin Heights
- 15 (1%) Sunshine Bay/Fernhill
- 15 (1%) Arthurs Point (east)
- 12 (1%) Quail Rise
- 12 (1%) Lake Hayes (east)
- 9 (1%) Jacks Point
- Total 948 (exc 150 live and work in Shotover = 1098)

Total east = 12% plus 14% live and work SC

Mode

- Private Car = 61%

- Co Vehicle = 16%
- Passenger = 5%
- Wfh = 9%
- Bus = 4%
- Cycle = 3%
- Walk = 2%

Resident Students: 483

Education Arrivals

- 234 (53%) live in SC.
- 156 (35%) LHE
- 27 (6%) Quail Rise
- 27 (6%) Wakatipu basin (east)
- Total = 444
- **Total east** = 6% plus 53% live and work SC

Mode

- Passenger = 39%
- Cycle = 26%
- Walk = 25%
- Other = 11%

Education Departures

- 234 (60%) live in SC.
- 90 (23%) Warren Park
- 57 (15%) Frankton
- 9 (2%) Queenstown Central
- Total = 156 (exc 234 live and study SC)

Mode

- Walk = 26%
- Passenger = 26%
- Cycle = 14%
- School bus = 13%
- Other/wfh = 10%
- Private car = 8% - staff???
- Bus = 3%

Lake Hayes

Resident Workers: 1,344

Workplace Arrivals

- 216 (73%) live and work in LHE.
- 18 (6%) Frankton
- 18 (6%) SC
- 15 (5%) Frankton Arm
- 12 (4%) Warren Park
- 33 (3%) Arrowtown (east)
- 6 (2%) Sunshine Bay/Fernhill
- Total = 78 + 216 live and work LHE
- **Total east** = 3% plus 73% live and work LHE

Mode

- Wfh = 52%
- Private Car = 27%
- Co vehicle = 14
- Passenger = 1%
- Walk = 4%
- Bus = 1%
- Cycle = 0%

Workplace Departures

- 321 (31%) Frankton
- 216 (21%) live and work in LHE.
- 213 (21%) Queenstown Central
- 96 (9%) Warren Park
- 39 (4%) Arrowtown (east)
- 27 (3%) Wakatipu basin (east)
- 18 (2%) SC (east)
- 18 (2%) Outer Wakatipu (east)
- 18 (2%) Frankton Arm
- 12 (1%) Queenstown east
- 12 (1%) Kelvin Heights
- 9 (1%) Sunshine Bay/Fernhill
- 9 (1%) Arthurs Point (east)
- 9 (1%) Quail Rise
- 9 (1%) Jacks Point
- 6 (1%) Lake Hayes (east)
- 6 (1%) Cromwell west (east)

- Total 819 (exc 216 live and work in Shotover = 1035)

Total east = 42% plus 21% live and work LHE.

Mode

- Private Car = 62%
- Co vehicle = 17
- Passenger = 3%
- Wfh = 13%
- Bus = 2%
- Cycle = 1%
- Walk = 1%

Resident Students: 642

Education Departures

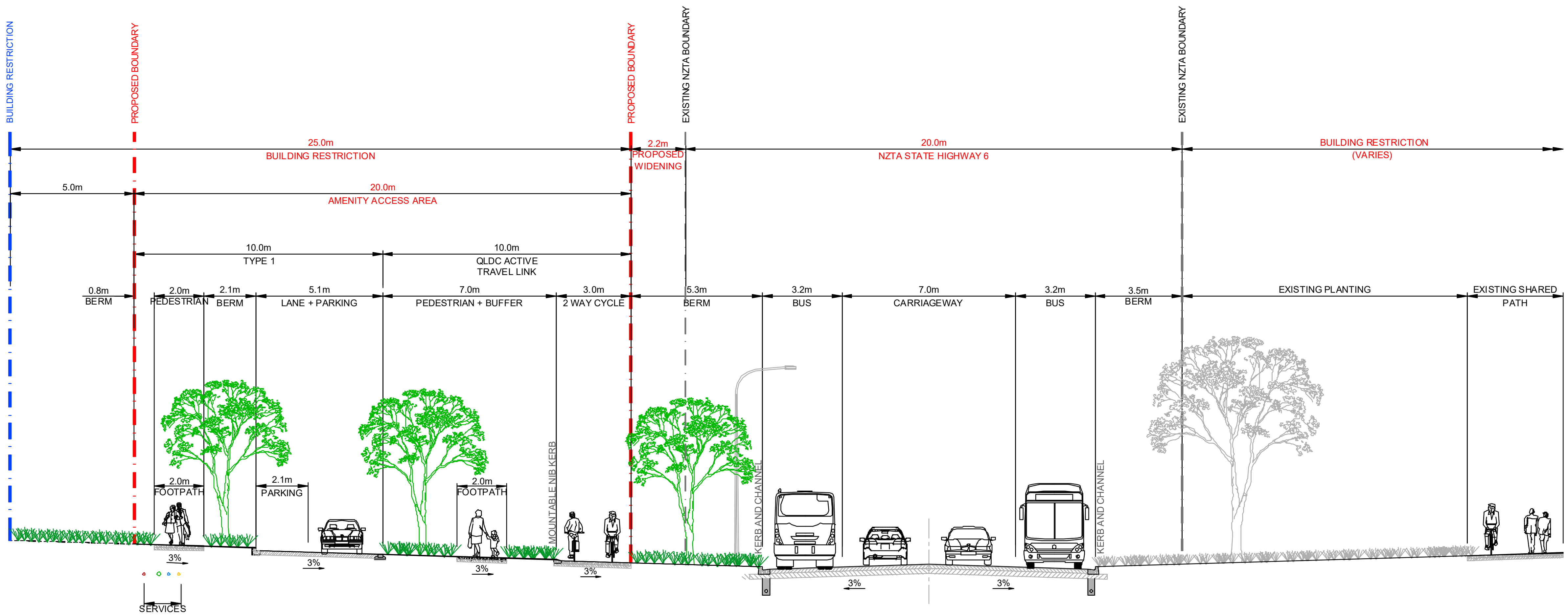
- 165 (33%) Warren Park
- 156 (31%) SC (east)
- 126 (25%) Frankton
- 42 (8%) live and study in LHE.
- 9 (2%) Queenstown East
- Total = 456 + 42 live and study in LHE
- **Total east** = 31% plus 8% live and study LHE

Mode

- Passenger = 42%
- School bus = 27%
- Cycle = 12%
- Private Car = 8%
- Wfh = 5%
- Walk = 2%
- Bus = 2%

Appendix D

Street Cross Sections



STATE HIGHWAY 6 TYPICAL ROAD SECTION TYPE 1

SCALE 1:200m @ A3

0 2.5 5 7.5 10

REV	DESCRIPTION	BY	APPVD	DATE
-	FOR DISCUSSION ONLY	AIC	AIC	22-03-21

Candor³
ENGINEERING FOR LIFE

PROJECT

LADIES MILE
TYPICAL ROAD SECTION
(SHEET 1 OF 3)

CLIENT

QUEENSTOWN LAKES
DISTRICT COUNCIL

PURPOSE
FOR DISCUSSION ONLY

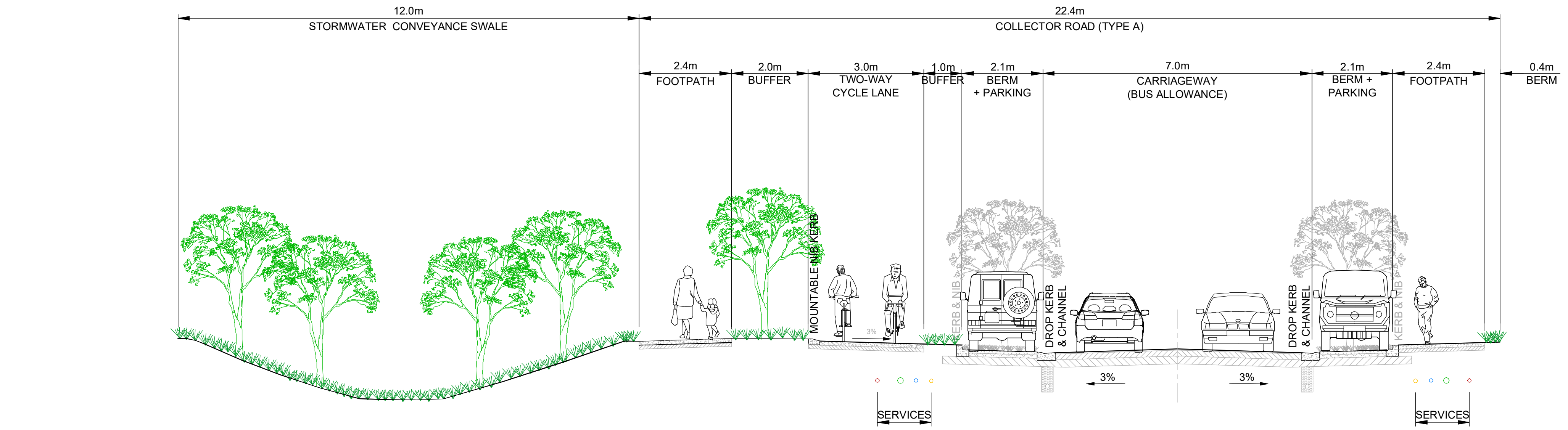
DESIGN
DRAWN AIC
CHECK BH

APPROVED
BY BH
DATE MAR 2021

SCALE
1:200 @ A3

PROJECT NO. 1457
DRAWING NO. 3-500
REV. -

PRINT DATE: 12.04.2021 J:\PROJECTS_LAND DEVELOPMENT\1457_ LADIES MILE - MASTER PLANNING AND APPROVALS\1 FEASIBILITY\1.2 FEASIBILITY\DRAWINGS\1457_3-500_RD-TYPICAL SECTIONS.DWG



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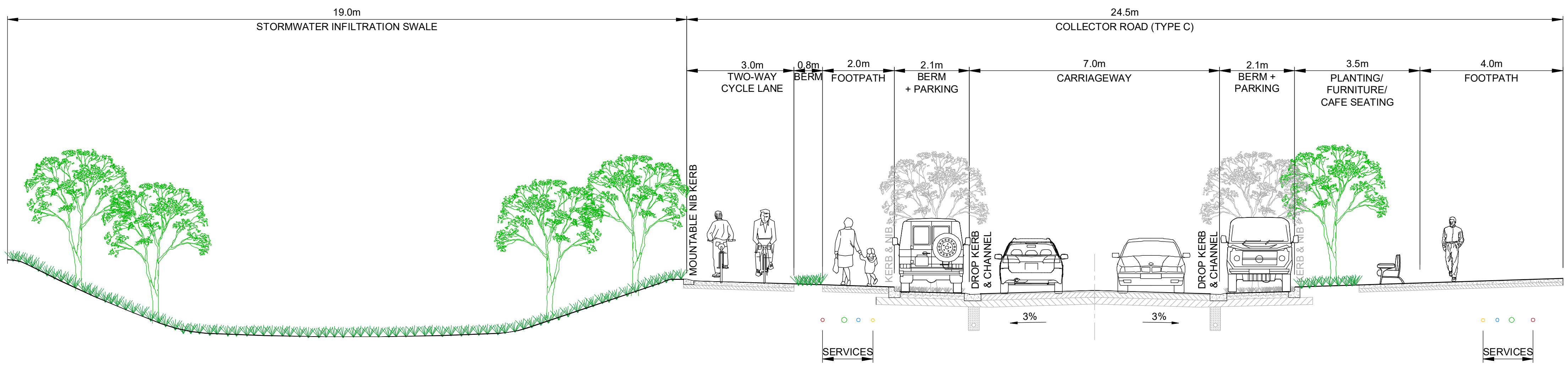
SCALE 1:150m @ A3



24.5m WIDE COLLECTOR ROAD TYPE C

SCALE 1:150m @ A3

0 1.875 3.75 5.625 7.5

REV	DESCRIPTION	BY	APPVD	DATE
-	FOR DISCUSSION ONLY	AIC	AIC	22-03-21

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LADIES MILE
TYPICAL ROAD SECTIONS
(SHEET 2 OF 3)

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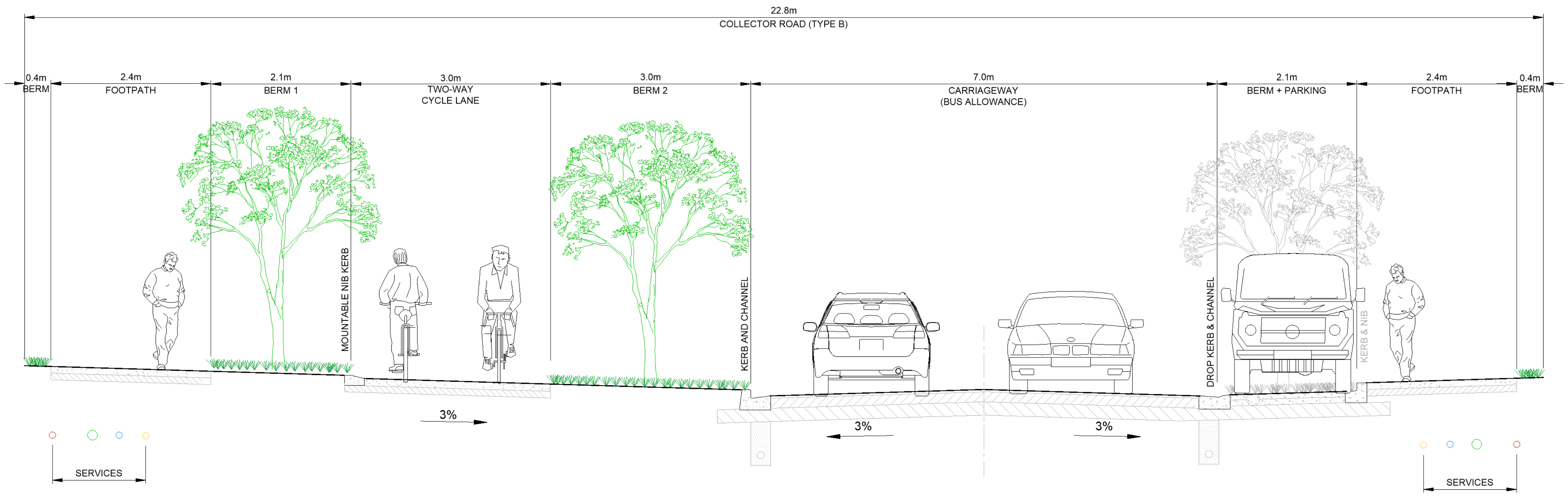
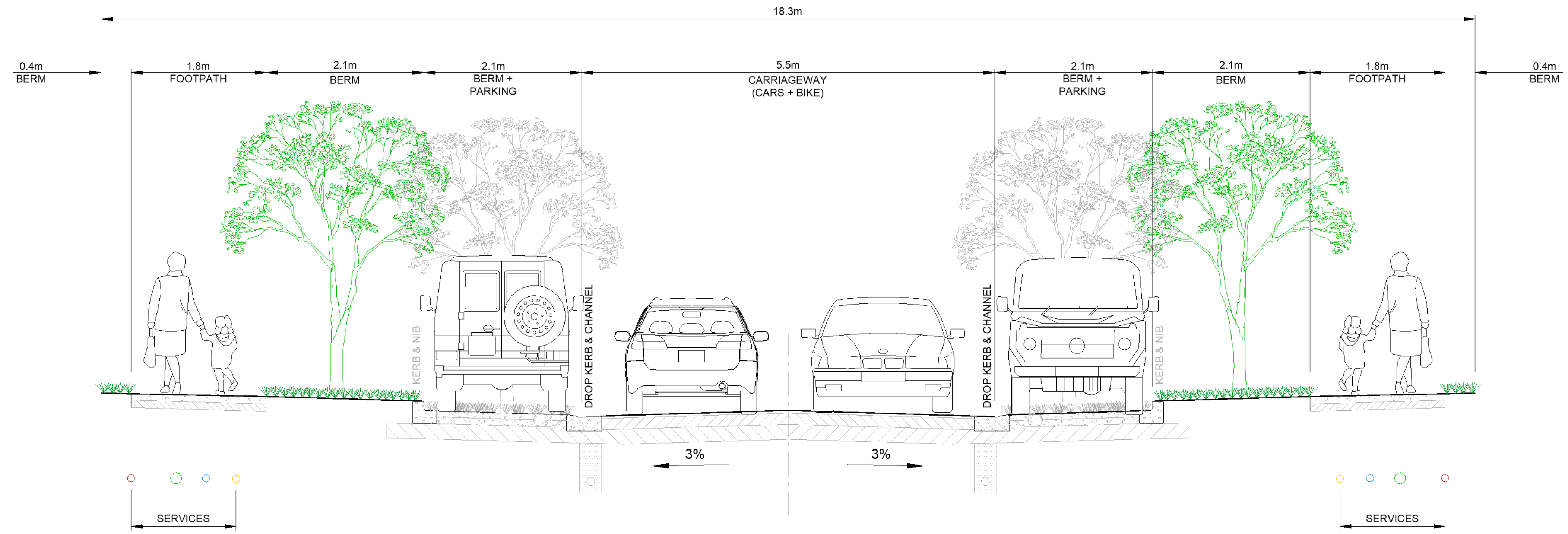


22.8m WIDE COLLECTOR ROAD TYPE B

SCALE 1:150m @ A3



18.3m WIDE LOCAL ROAD TYPE E

SCALE 1:150m @ A3

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REV	DESCRIPTION	BY	APPVD	DATE
-	FOR DISCUSSION ONLY	AIC	AIC	22-03-21

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TYPICAL ROAD SECTIONS
(SHEET 3 OF 3)

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Appendix E

Bus Strategy

Ladies Mile Masterplan – Draft Bus Strategy Report

V1 22/12/20

Author - C Shields

Checked By - B Harland

1. Purpose of this Bus Strategy Report

1.1 The purpose of this report is to provide an overview of Ladies Mile Masterplan bus strategy elements to outline the various options considered for the bus strategy to inform the emerging Ladies Mile Masterplan.

2. Background to Ladies Mile Masterplan

2.1 The emerging preferred masterplan for Ladies Mile, aims to provide a high density, mixed use, transit orientated development where walking, cycling and using the bus are the first choice/go-to modes of transport. The masterplan also provides walk, cycle and bus connections for the adjacent residents at Shotover Country and Lake Hayes Estate to access the Local Centre, schools and community facilities to be provided within Ladies Mile.

2.2 The emerging masterplan has assessed a number of bus routing options and the proposal is to provide buses focused on the SH6 corridor through rerouting and increased frequency of Service 5 (including provision of a new bus link from SH6 to Sylvan Street) and increasing the frequency of Service 2. Along with new high quality bus stops on SH6 and new bus priorities on SH6, this will ensure that a viable transport choice to using the car is available for residents of Ladies Mile, Shotover County (SC) and Lake Hayes Estate (LHE).

3. Waka Kotahi Position on Ladies Mile Masterplan

3.1 The NZTA Position Statement (received 8/10/20) included that:

- *"The overall alternative mode share across the network will need to be in the order of 40% by 2028 to maintain a functional transport network (where alternative means alternative to single occupancy private vehicle trips and includes public transport, walking and cycling trip, ride sharing and working from home).*
- *Ideally all these provisions will be in place for the first phase of development so that travel choices can be formed when people move in. We should also advocate for targeted travel behaviour change for the first residents (eg info, free introductory bus cards etc …).*

- *The Mode shift plan takes a three-pronged approach shifting mode. Through shaping urban form, improving active and shared modes and influencing people's travel choices. Initiatives to reshape existing urban form and locate new urban development will be outlined through the Queenstown Lakes District Spatial Plan. The greatest contribution to mode shift will come from a significant investment in public transport infrastructure and services in the Wakatipu Basin and subsequent increases in the PT LOS. Influencing travel choices, also known as travel demand management, will include the promotion of active and shared mode options and parking management (supply and pricing) at key centres. Implementation of the plan will require ongoing support from the public, business and commercial sectors.*
- *What is needed going forward is for the Ladies Mile master planning process to incorporate further corridor investigation and modelling of potential land use scenarios and to clearly demonstrate (through modelling results and staging) an integrated approach to land use and transport planning for the areas and in a way that maximises the people moving capacity of the corridor, results in a significant mode shift and shows how the SH6 corridor can function effectively efficiently and safety into the future and clearly outlines the investment in infrastructure and services required to achieve this and how these might be funded.*
- *Appropriate mechanisms need to be determined to give effect to the Board's requirements below:"*

(between Lake Hayes and Shotover bridge). This MOU will apply to the development of housing described by this Detailed Business Case, up to a maximum of 1,100 homes, which is the robust limitation imposed by QLDC's 'Policy Clause'. It is expected that the MOU will formalise the following ten steps, expanded to include levels at which each intervention should be designed, constructed and implemented.

	Sequence	Action / Intervention	Trigger	Control Mechanism	Funding
1	Prior to first lots	Construct access Roundabout at Howards Drive	DA for Development	DA	HIF
2	Prior to first lots	Construct Bus Stops and Underpass on SH	DA for Development	DA	HIF
3	Prior to first lots	Improve PT Level of Service - Target 20%	DA for Development	MOU	ORC
4	By end of 450th lot	Construct Park & Ride East of Ladies Mile	Design @150. Construct @300.	MOU	NZTA
5	Park & Ride	Complete Improve PT Level of Service - Target 25%	Park & Ride Complete	MOU	ORC
6	By end of 750th lot	Construct Bus Priority Lane (Park & Ride to Shotover Bridge)	Design @450. Construct @600.	MOU	QLDC / NZTA
7	Priority Lane	Complete Improve PT Level of Service - Target 27%	Priority Lane Complete	MOU	ORC
8	By end of 900th lot	Implement Diversion Improvements	Design @750. Construct @825.	MOU	QLDC / NZTA
9	By end of 1,100th lot	Improve PT Level of Service - Target 29%	900 Lots	MOU	ORC
10	Prior to 1,101st lot	Future PT Infrastructure / Modal Shift	900 Lots	MOU	QLDC / NZTA / ORC

"Some of this work has been superseded or progressed by other programs. That is:

- *Steps 1 and 2 are being delivered by NZUP*
- *Step 6 (bus priority lane) is being delivered by NZUP*
- *Step 4 is being progressed via a Council led business case*

The other steps in the table are still required sequentially to keep the Shotover Bridge operating at or near capacity during peak times.

An updated Table reflecting the new funding arrangements and potential new Control Mechanisms is as follows:"

NZTA Board HIF Approval						
	Sequence	Action / Intervention	Trigger	Control Mechanism	Funding	New Funding
1	Prior to first lots	Construct access Roundabout at Howards Drive	DA for Development	DA	HIF	NZUP

2	Prior to first lots	Construct Bus Stops and Underpass on SH	DA for Development	DA	HIF	NZUP
3	Prior to first lots	Improve PT Level of Service – Target 20% reduction in private vehicle trips	DA for Development	DP staging	ORC	ORC
4	By end of 450th lot	Construct Park & Ride East of Ladies Mile	Design @150. Construct @300	DP staging	NZTA	NZTA
5	Park & Ride	Complete Improve PT Level of Service – Target 25%	Park & Ride Complete	DP staging	ORC	ORC
6	By end of 750th lot	Construct Bus Priority Lane (Park & Ride to Shotover Bridge)	Design @450. Construct @600	DP staging	QLDC / NZTA	NZUP
7	Priority lane	Complete Improve PT Level of Service – Target 27%	Priority lane complete	DP staging	ORC	ORC
8	By end of 900th lot	Implement Diversion Improvements	Design @750. Construct @825	DP staging	QLDC / NZTA	QLDC / NZTA
9	By end of 1,100th lot	Improve PT Level of Service – Target 29 %	900 Lots	DP staging	ORC	ORC
10	Prior to 1,101st lot	Future PT Infrastructure / Modal Shift	900 Lots	DP staging	QLDC / NZTA / ORC	QLDC / NZTA / ORC
	Over 1100 lots	Future PT Infrastructure / Modal Shift	?	MOUDP staging		

4. QLDC Draft Spatial Plan

In relation to the integration of the Ladies Mile Masterplan with the Queenstown Lakes Spatial Plan, the emerging Spatial Plan indicates that SH6 is the preferred high-capacity public transport route to serve Ladies Mile.

- **Consolidated growth and more housing choice** - The Spatial Plan aims to consolidate future growth within and around the existing urban area of Queenstown, including Ladies Mile. As the proposed approach to growth management will limit long-term urban expansion (greenfield) opportunities, it is important to efficiently utilise land within the urban area through increased densities and which are transit orientated.

- **Key directions for the Ladies Mile Masterplan include:**
  - Increase density (high and medium density typologies) and a mix of activities within a walkable distance of the proposed Frequent Public Transport Network (which extends to Ladies Mile) and in and around new centres, such as local centre identified at Ladies Mile by the Spatial Plan.
  - Focus on delivering housing products that are currently undersupplied in the Queenstown market. This includes affordable long-term market rental housing, including build to rent, sub-market home ownership products, smaller dwellings accommodating single and couple households (70% of new households over the next 30 years are expected to be singles or couples), Sub $730,000 dwellings.

5. Existing bus services

5.1 The existing bus network is shown in **Figure 1**.

5.2 Service 5 operates Queenstown to Lake Hayes:

- Weekdays - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 7:05pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05pm to 10:05pm.
- Weekends - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 7:05pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05pm to 10:05pm.

5.3 Service 5 operates Lake Hayes to Queenstown:

- Weekdays - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 6:40pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05 to 10:05pm.
- Weekends - Every 30 minutes from 6:05am to 9:05am, and 3:05pm to 6:40pm. Every 60 minutes from 9:05am to 3:05pm, and 7:05 to 10:05pm.

5.4 Service 2 operates Arthurs Point to Arrowtown:

- Weekdays - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.
- Weekends - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.

5.5 Service 2 operates Arrowtown to Arthurs Point:

- Weekdays - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.
- Weekends - Every 30 minutes from 5:55am to 7:55am, and 3:55pm to 6:55pm. Every 60 minutes from 7:55am to 3:55pm, and 6:55pm to 9:55pm.

5.6 The cost for using these services is $2 with a Bee Card for any origin and destination. The Bee Card started in Queenstown on 15/9/20 (noting fares were free from April 2020 to this point).

5.7 There are currently no bus stops or bus priorities on SH6 adjacent to the Ladies Mile masterplan area.

5.8 Bus patronage data received from ORC indicates:

- Service 5 Queenstown to Lake Hayes number of boarders during October = 5605 and during November = 6567.
- Service 5 Lake Hayes to Queenstown number of boarders during October = 5010 and during November = 4353.
- Service 2 Arthurs Point to Arrowtown number of boarders during October = 6001 and during November = 5610.
- Service 2 Arrowtown to Arthurs Point number of boarders during October = 6347 and during November = 6010.

6. W2G bus related proposals

There are a number of W2G infrastructure proposals including:

- NZUP – this includes a new roundabout at SH6/Howards Drive, 1 underpass of SH6 and a westbound bus lane from Howards Drive to the start of the Shotover Bridge. NZTA have indicated these schemes will be open by 2024.
- Park and ride – W2G/QLDC are proposing to consult in January 2021 on a proposed park and ride at Ladies Mile (of circa 200 spaces) and, subject to monitoring of the use of this park and ride, a larger longer-term park and ride may be provided at Alec Robbins Road. Implementation timescales are not as yet known.
- Stalker Road Bus Lane SSBC – Bus lanes have been proposed on Stalker Road as part of this SSBC - implementation timescales are not as yet known. It has been questioned whether these should be bus lanes or joint bus lane/T2 or T3 – this will need to be reviewed as the Ladies Mile masterplan progresses. It should be noted that the Laurel Hills SHA application included a westbound bus route through the site from Stalker Road to SH6 - this will need to be reviewed as the Ladies Mile masterplan progresses.
- HIF Business Case – QLDC have indicated that there is funding available for a 2nd underpass on SH6. Details as yet to be confirmed.
- Active Modes Business Case - includes walking and cycling improvements on SH6 and on Howards Drive and Stalker Road.

7. Ladies Mile Masterplan proposed bus route

7.1 Preferred bus routing

The proposed Ladies Mile Masterplan bus route is shown on **Figure 2.** In accordance with the Draft QLDC Spatial Plan, this route focuses high quality bus service provision on SH6 through:

- Extending the existing Service 5 to create an anticlockwise loop from Stalker Road (through SC and LHE) onto SH6 via a new Sylvan Street link, westbound to Stalker Road (shown in pink on **Figure 2**).
- Providing a new clockwise service loop from Stalker Road eastbound to the new Sylvan Street link and then through SC and LHE onto SH6 (shown in green on **Figure 2**).
- Improving the frequency of Service 2, the existing Arrowtown/Arthurs Point bus service (shown in blue on **Figure 2**).

Although ORC did not attend the Transport Stakeholder workshop on 2/12/20, in our previous discussions with ORC, they confirmed that this proposed bus route option was the best solution, subject to future funding requirements.

7.2 Bus Stops

NZTA have indicated the following regarding bus stops (based on the bus route being provided on the internal Collector Road):

- *"Inbound (east to west) stops should have seats and shelters and timetables or real time info. Outbound stops will generally only serve as drop offs and only need a bus stop sign and pole.*
- *To promote PT use, walking distance to the nearest inbound bus stop should be as short as possible for as many people as possible. The rule of thumb is no more than 400-500m walk or 5 minutes, but ideally less (especially for winter trip making) to achieve the high level of PT mode share which is required for Ladies Mile and more likely achievable via an internal primary or collector road.*
- *This 500m walking catchment can be maximised by striking a balance between bus stop location, the provision of walkways / cut throughs in gaps between houses, as well as maximising adjacent housing density.*
- *This is a bit of an art and should be done iteratively alongside the setting out of the road network and housing arrangement.*
- *Whilst bus stops should be located to maximise walking catchment, they should not be so frequent as to slow down the route unreasonably (though this is less of concern as it is close to the beginning of the route). We would suggest no more frequent than every 500-600 metres.*

- *If present, bus stops should be provided outside the secondary school (possibly combined with on-street school bus / coach parking), any shops or rest home/retirement village and village hub".*

As part of the masterplan, high quality bus stops would be provided on SH6 at:

- Stalker Road (with improved pedestrian crossing facilities at the roundabout).
- Howards Drive (adjacent to the proposed NZUP underpass).
- Proposed Sylvan Street Link/SH6 roundabout with pedestrian crossing facilities provided at the roundabout.

The distances between these stops complies with the above NZTA guidance of 500m-600m.

In accordance with NZTA guidance the inbound (east to west) bus stops will have seats, shelters and timetables/real time information and the outbound bus stops will have a bus stop sign and pole.

7.3 Bus stop catchment areas

As shown in **Appendix A**, virtually all of Ladies Mile is within the NZTA accepted reasonable walking distance of 400m to 500m (5 minute) to a bus stop. The only area where walking distances will be longer than 400m to 500m is the proposed low-density housing at the eastern edge of Ladies Mile. As can bee seen from these catchment area plans some parts of the existing SC and LHE will be within a 400m to 500m walking distance to these bus stops including:

- Most of the Queenstown Country Club.
- North East part of LHE eg Sylvan Street, Hope Ave.
- Northern part of SC eg Maxs Way, Banbury Terrace.

7.4 SH6 Bus priority

As part of the masterplan, bus lanes would be provided eastbound and westbound on SH6 to tie into the NZUP proposals and the wider Queenstown Transport Business Case proposals - proposed cross sections (which comply with NZTA and QLDC design guidance) are shown in **Figure 3.**

The Proposed Sylvan Street is shown in **Figure 4.**

7.5 Future proofing of Ladies Mile internal Collector Road for bus use.

For the preferred route, the Ladies Mile east/west internal collector road will be designed to accommodate bus use should, in the future, buses use this road.

7.6 Phased implementation of the bus route using Howards Drive

Exact phasing details of Ladies Mile are at this stage unknown, but it can be expected that the eastern end of the development will be developed at a later stage and, as such, the proposed new roundabout on SH6 and the Sylvan Street link are unlikely to be provided in the early phases of Ladies Mile. Therefore, prior to the new roundabout and Sylvan Street link being provided, the Service 5 (clockwise and anti-clockwise) would use Howards Drive. This also offers the option in the longer term (if the Sylvan Street link is not provided) to keep the bus route on Howards Drive and access the eastern area of Ladies Mile either via the internal access road or using SH6 and the proposed new eastern roundabout as a u turn.

7.7 Advantages of the masterplan preferred route include:

- Provides connectivity for SC and LHE residents to access Ladies Mile Local Centre/commercial/retail, schools and other key community facilities.
- Ladies Mile residents are within an easy 400m to 500m walk distance to SH6 bus stops. Although for some residents this maybe slightly longer than having a bus route on the internal Collector Road as suggested by NZTA (see Section 8), as stated by NZTA at the Transport Stakeholders workshop on 2/12/20, "*bus users prefer to walk further for a higher quality of service*", which the masterplan preferred routing provides.
- Concentrates bus services on SH6 which, for Ladies Mile residents, improves simplicity and legibility of bus services ie residents can just turn up and go at a bus stop. This will make this far less confusing for Ladies Mile residents.
- Concentrates bus services on SH6 which provides a high frequency and high quality of services.
- Improves frequency of bus services to/from LHE and SC.
- Sylvan Street link gives direct pedestrian access to LHE residents to Service 2.
- Provides high quality services for QLDC park and ride proposal.
- Easily implemented during phasing of Ladies Mile, since it utilises existing infrastructure and is not reliant on completion of phases of the Collector Road. Prior to completion of the Sylvan Street link and development to the eastern area of Ladies Mile, Howards Drive can be used as the eastern connection to/from SH6.
- Of all options considered, this is the most commercially viable in the longer run, since it utilises the routing of 2 existing services and the additional service introduced will maximise revenues since it serves not only Ladies Mile residents but also SC, LHE and the park and ride.
- Compliant with the bus routing identified in the Draft QLDC Spatial Plan.

7.8 Alternative bus routes considered.

Alternatives to the preferred bus route are shown in **Figure 5** (note in all options, Service 2 remains on SH6). The reasons why they were not selected as the preferred option are summarised below:

Diagram 1 Route through the site (shown as dashed blue and orange lines with Service 2 as an option to potentially reroute through Ladies Mile) rejected because:

- Weakens high quality bus route on SH6.
- Removes simplicity and legibility for Ladies Mile residents if Service 2 is not diverted through Ladies Mile. If Service 2 is diverted, then this lengthens the journey time for existing users of Service 2.
- Lengthens journey times for existing users of Service 5.
- Lengthens journey time for park and ride users.
- Is dependent on phasing and completion of the internal Collector Road, therefore difficult to implement from day 1.
- If Service 2 remains on SH6, then there will be a duplication of bus stop infrastructure (and complementary pedestrian routes) on the Collector Road and SH6 and will still require safe and direct crossing facilities on SH6.
- Not compliant with the bus routing identified in the Draft QLDC Spatial Plan.

Diagram 2 Separate SC and LHE loop services (shown in orange for Ladies Mile/LHE service and pink for Ladies Mile/SC service) rejected because:

- Less direct access for Ladies Mile residents.
- Removes simplicity and legibility for Ladies Mile residents.
- Lengthens journey time for park and ride users.

Diagram 3 anticlockwise only Ladies Mile/SC/LHE loop service rejected because:

- Indirect access for Ladies Mile from the west (will rely on Service 2 to avoid long journey length).
- Indirect connection from Ladies Mile to SC and LHE.
- Removes simplicity and legibility for Ladies Mile residents.
- Lengthens journey time for park and ride users from the west.

Diagram 4 clockwise only Ladies Mile/SC/LHE loop service rejected because:

- Indirect access for Ladies Mile to the west (will rely on Service 2 to avoid long journey length).
- Indirect connection from SC and LHE to Ladies Mile.
- Removes simplicity and legibility for Ladies Mile residents.
- Lengthens journey time for park and ride users to the west.

Busway - at the transport stakeholder workshop on 2/12/20, NZTA suggested an option of a Busway running through Ladies Mile parallel to SH6. This has been rejected because:

- It is a duplication of infrastructure on SH6 and on the Ladies Mile Collector Road.

- The busway would require additional intersections very close (and would be less than 150m distance from) the Ladies Mile access roads with the SH6 roundabouts at Stalker Road, Howards Drive and the Sylvan Street Link.
- Removes simplicity and legibility for Ladies Mile residents if service 2 is not diverted onto the Busway – if service 2 is diverted then this lengthens the journey time for existing users of Service 2.
- Lengthens journey times for existing users of Service 5.
- Lengthens journey time for park and ride users.
- Is dependent on phasing and completion of the internal roads, therefore difficult to implement from day 1.
- If Service 2 remains on SH6 then there will be a duplication of bus stop infrastructure (and complementary pedestrian routes) on the Busway and SH6 and will still require safe and direct crossing facilities on SH6.
- Not compliant with the bus routing identified in the Draft QLDC Spatial Plan.

8.0 NZTA proposed bus route

8.1 Following the transport stakeholder workshop on 2/12/20, NZTA provided details of their preferred bus route. This is shown in **Figure 6**. NZTA indicated that "*we are of the view that this would provide the most customer-focussed service for people who live in this area. This would need to be staged, like other aspects of the masterplan and would likely require electric double decker's at 10-minute headways in 2048. People would also still need to walk out to SH6 for the Arrowtown service, so this would still require bus stops and crossing facilities*. *We do not think this northern Ladies Mile route and the current Route 5 (Shotover Country-Lake Hayes Estate) would necessarily be more expensive to operate than the loop route idea that was tabled on Wednesday. From an integration point of view, we suggest this proposed bus route better matches the higher densities with immediate accessibility to the PT network.*

8.2 NZTA also indicated the following:

- *"Subject to final household yields, this area is likely to be of a scale to warrant its own dedicated service to Frankton and Queenstown (in addition to the #5 service). The service would likely terminate in the development and layover until its next inbound run.*
- *This new service would require a dedicated layover/turnaround area and preferably a public toilet that drivers could make use of. A mains power supply nearby might also be good given buses may be electric in the not-too-distant future and could recharge here.*
- *On the basis of an additional service, this layover / turn around should be at the eastern end of the block, and preferably adjacent to a reserve to avoid any noise and visual sensitivity to*

residential development. Buses, while diesel, may idle on layover if it's a short one and this can annoy residents.

- *The layover would also provide a connection to the cycle trail for bus/bike transfers – an added convenience.*
- *The route should run on internal roads accessed to/from Stalker Road roundabout, running east / west, with as few turns as possible (not like Shotover Country and Lake Hayes Estate).*
- *It is possible in the short term that the development could be served by an existing service like the Arrowtown bus. In which case it would enter at the eastern most roundabout and exit at Stalker road, so we should ensure this access/egress is enabled from the start. We don't think this is a significant delay to the Arrowtown service relative to the length of this service.*
- *The materials/construction, width and geometric design of the road network should be mindful of bus movements and stops, especially at turns (as above - these should be kept to an absolute minimum) so as to accommodate swept paths. This should all be covered in the QLDC code of practice.*
- *These will be low volume roads we don't see bus stops needing indented laybys (which are expensive), except for the layover. Bus boarders (buses stop in traffic lane to pick up/drop off pax.) are perfectly suitable on these types of roads and will delay few other road users."*

8.3 ORC have subsequently indicated that they support this route option since they do not like loop services (since ORC consider these to increase journey times), whereas, with the NZTA cul de sac option, ORC consider that this offers a more accessible and direct service.

9. Ladies Mile Masterplan team comments on NZTA bus route option

There are a number of issues with the NZTA proposal, which are summarised below:

- The option is dependent on completion of the internal Collector Road and the proposed roundabout to the east on SH6, and therefore is difficult to implement from day 1.
- This option effectively provides for 3 totally unconnected bus routes operating independently of each other. This is counterproductive to the objectives of the Ladies Mile masterplan and also is considered unsustainable from a commercial viability point of view.
- This option provides no connectivity from the adjacent LHE and SC communities to the Local Centre/commercial/retail, schools and other community facilities at Ladies Mile which is counterproductive to the objectives of the Ladies Mile masterplan. At a subsequent Ladies Mile Masterplan Project Working Group Meeting, NZTA confirmed that additional bus services, in the form of shuttle buses, would need to operate between SC and LHE to Ladies Mile. This would be a significant additional cost and this is considered unsustainable from a commercial viability point of view.
- Ladies Mile residents (and SC/LHE residents) will not benefit from a legible high frequency bus service compared to the Masterplan preferred option routing buses on SH6.

- SC/LHE residents will not benefit from improved bus routing/frequency.
- Removes simplicity and legibility for Ladies Mile residents if Service 2 is not diverted through Ladies Mile.
- Bus catchment analysis for the NZTA option is shown in **Appendix B** – this shows that with the NZTA proposal, all Ladies Mile residents are within 400m of a bus stop (except a small section of the Laurel Hills area and a small area of the north eastern part of Ladies Mile. In terms of research and guidance on walk distances to bus stops it is interesting to note the UK publication (Planning for Public Transport in New Development (IHT, 1999, para 5.21)) where it advises that, "*New developments should be located so that public transport trips involving a walking distance of less than 400m from the nearest bus stop or 800m from the nearest railway station"*. In para 5.17 it also advises that "*These standards should be treated as guidance, to be achieved where possible by services that operate at regular frequencies and along direct routes. It is more important to provide services that are easy for passengers to understand and attractive to use than to achieve slavish adherence to some arbitrary criteria for walking distance"*. Therefore, it is considered that the higher frequency, higher quality and more legible/simpler to understand bus routing proposed with the Ladies Mile masterplan bus route more than compensates for what for most residents will be an imperceptible 2 to 2.5 minute more walking time. This point was also stated by NZTA who commented at the transport stakeholders workshop on 2/12/20 tha*t "bus users prefer to walk further for a higher quality of service"*, which the Ladies Mile masterplan proposed bus route provides, compared to the NZTA proposal.
- To support the above argument research carried out (How far do people walk? Gareth Wakenshaw, Dr Nick Bunn PTRC Transport Practitioners' Meeting London, July 2015 - WYG_how-far-do-people-walk.pdf) indicated that "*there has been little or no information about how far people walk to underpin the policy and guidance which has been used for many years'*. Based on this research of actual distances walked by UK residents, the following distances were recommended for planning purposes for walking to a bus stop:

	Mean distance m	**85th%tile distance m**
UK (Excluding London)	580	800
London	490	800

  It should be noted that the research included areas of the UK with comparable winter weather conditions to Queenstown (eg Scotland with a mean walk distance of 510m and an 85th% tile walk distance of 800m). As such, the proposed Ladies Mile masterplan bus route option is well within actual distances that people will walk to a bus stop.
- The bus stop spacing proposed by NZTA does not comply with the NZTA bus stop spacing guidance since the bus stops are typically located 400m apart, as opposed to the 500m-600m NZTA guidance.

- With Service 2 remaining on SH6, then there will be a duplication of bus stop infrastructure (and complementary pedestrian routes) on the Collector Road and SH6 and will still require safe and direct crossing facilities on SH6.
- Compared to the Ladies Mile masterplan preferred route, there will be less bus services available to park and ride users.
- Not compliant with the bus routing identified in the Draft QLDC Spatial Plan.

Conclusion - Based on the above issues, it is the view of the Ladies Mile masterplan team that the NZTA option is not the best option and that the Masterplan bus route option remains as the preferred option.

10. Transport Hub/Park and ride

10.1 With regard to the W2G park and ride proposal NZTA have indicated that "*while we appreciate that the Park and Ride has its own business case, it is important that the Masterplan provides clarity on this activity. We consider the proposed park'n'ride location will be very hard to service with current and future routes. It would add to circuitous routing, increase travel times and make them less attractive to prospective users. Being within the urban area, it would also likely steal passengers off existing services and create parking and local congestion and safety issues. A preferable location would be on SH6 at the easternmost extent of the Wakatipu PT network where we could most effectively intercept Wanaka and Cromwell traffic without disrupting the urban bus network, using an improved Arrowtown service. These are our initial thoughts regarding the park'n'ride but we need to see the results from the business case before providing definitive comments. We seek further clarity around the relative outcomes of the Ladies Mile masterplan and the Park'n'ride detailed business c*ase.

10.2 Based on current advice from QLDC, the Ladies Mile masterplan allows for a 200-space interim park and ride within the masterplan with QLDC indicating that a permanent site in the future may be created further east at Alec Robbins Road. This is subject to QLDC proposed consultation in January 2021 and finalisation of their business case.

11. Future proofing for trackless tram

11.1 The following has been confirmed by the Transport stakeholders for future proofing the Ladies Mile masterplan for a potential 'trackless tram':

- Need to accommodate electric double decker buses.
- Double decker or articulated buses would be required beyond 2027, and bi-articulated buses 2039 onwards.

12. Modelling results

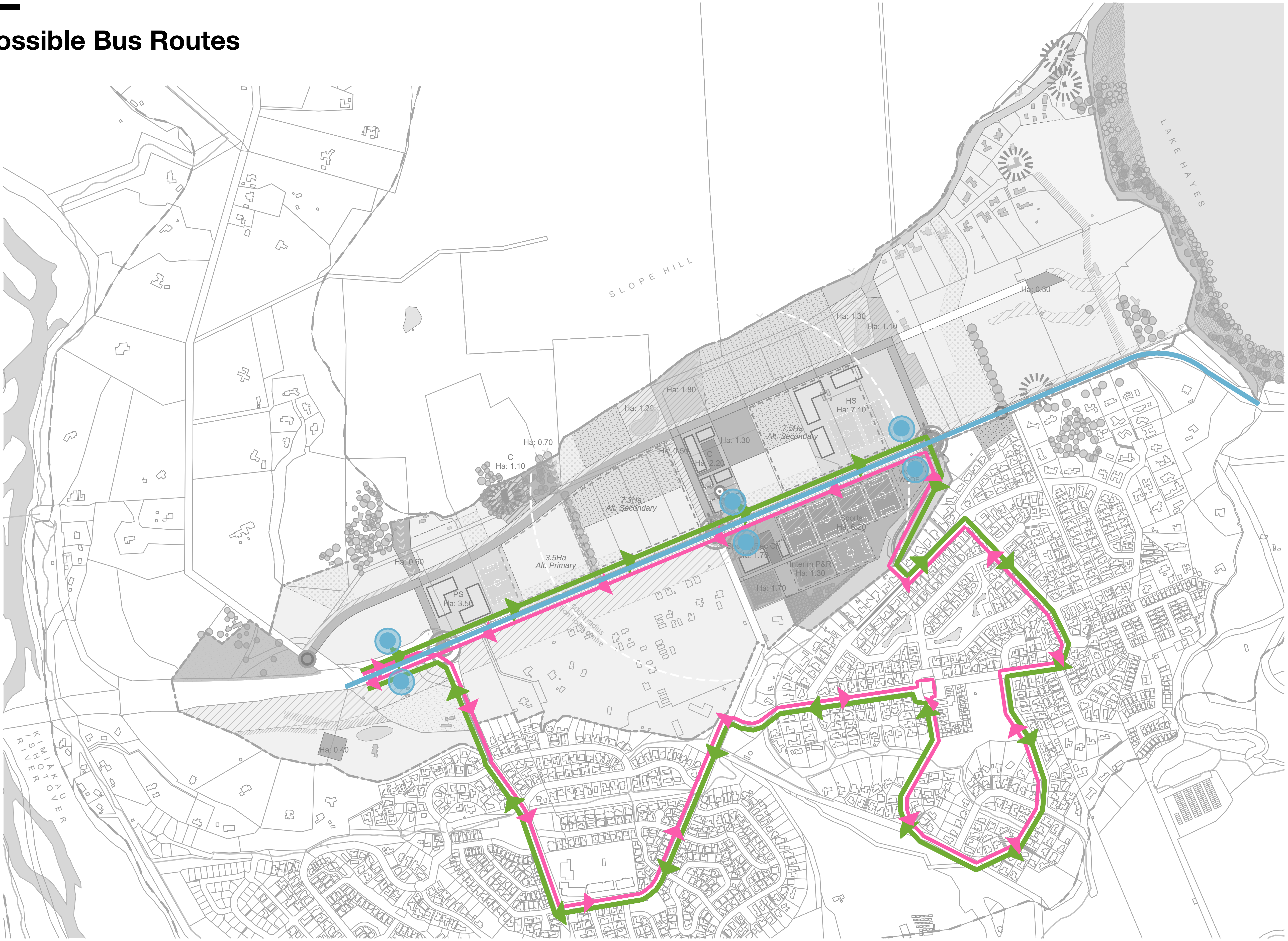
A modelling scope of work has been agreed with all the transport stakeholders, with the results expected end of January 2021. These results will be discussed with the Transport stakeholders.

Figure 1
Existing Bus
Routes

1
2
3
4
5
Fernhill
Sunshine Bay
Stanley St Stops
Queenstown
Arthurs Point
Frankton Hub
Quail Rise
Frankton Flats
Queenstown Airport
Remarkables Shopping Centre
Shotover Country
Lake Hayes Estate
Lake Hayes
Arrowtown
Kelvin Heights
Jacks Point
Lake Wakatipu
Coronet Peak Station Rd
Malaghans Rd
Alan Reids Rd
Bush Creek Rd
Macetown Rd
Mooney Rd
Speargrass Flat Rd
Hunter Rd
Dalefield Rd
Mountain View Rd
North Ridge Rd
Coronet Peak Rd
Littles Rd
Fitzpatrick Rd
Birchwood Rd
Domain Rd
Lower Shotover Rd
Slopehill Rd
Jane Williams Pl
Graces Tce
Tucker Beach Rd
Frankton-Ladies Mile Hwy
Lake Hayes-Arrow Junction Hwy
Arrowtown-Lake Hayes Rd
Hayes View Lane
Gorge Rd
Watties Trk
Bullendale Dr
Frankton Rd
Peninsula Rd
Kelvin Heights
Oregon Dr
Grove Lane
Cedar Dr
Poplar Dr
Loop Rd
Willow Pl
Silverwd. Lane
Kingston Rd
Woolshed Rd
Stickle Lane
Double Cone Rd
Jack Hanley Dr
Hackett Rd
Lodge Rd
Maori Jack Rd
Hidden Island Rd
Back Shed Rd
Fernhill Rd
Thompson St
Remarkables Ski Field Accs Rd
Shotover Delta Rd
Stalker Rd
Howards Dr
Hawthorne Dr
Red Oaks Dr

Figure 2
Masterplan
Proposed
Bus Routes

Possible Bus Routes



01 - Bus Option Diagram

Te Pūtahi: Ladies Mile LMC INTERNAL

SK.028

Issue Date: 30.11.2020

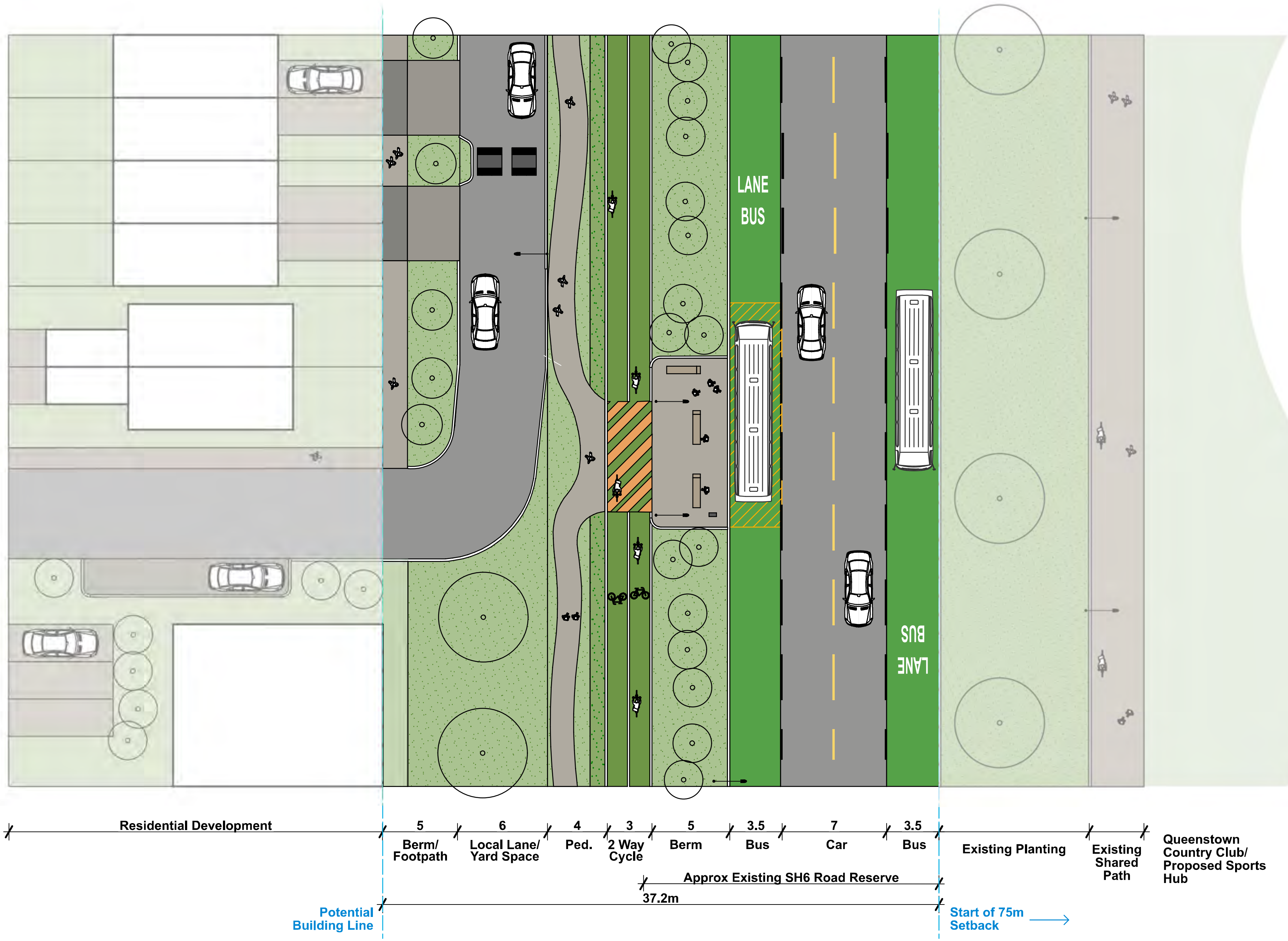
Figure 3
Masterplan Proposed Sylvan Street Link

Sylvan Street Potential Link Perspective

Sylvan Street Potential Link Plan

Figure 4
Masterplan Proposed Cross Sections

SH-6 Potential Part Plan



Main Collector Road Potential Part Plan

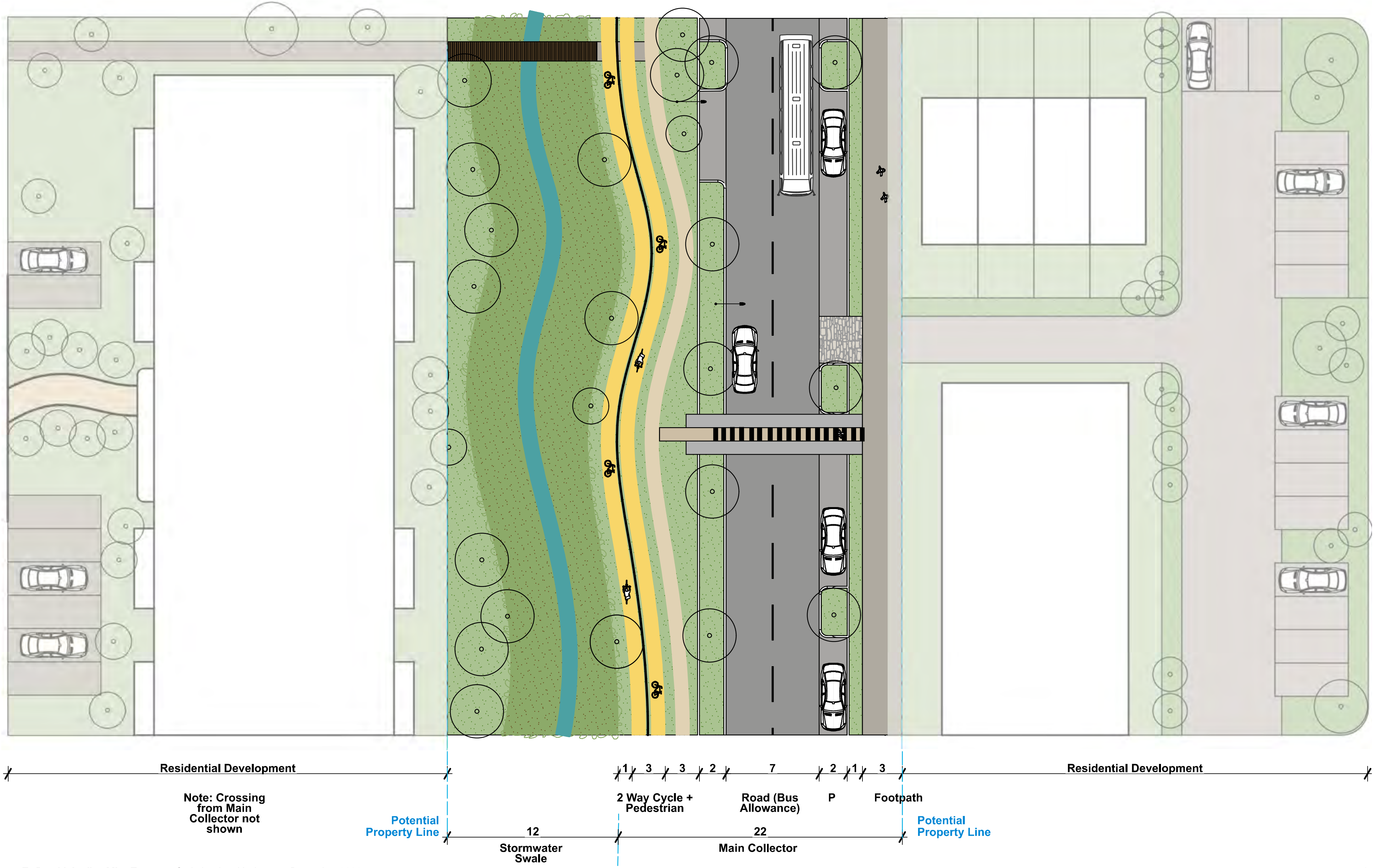
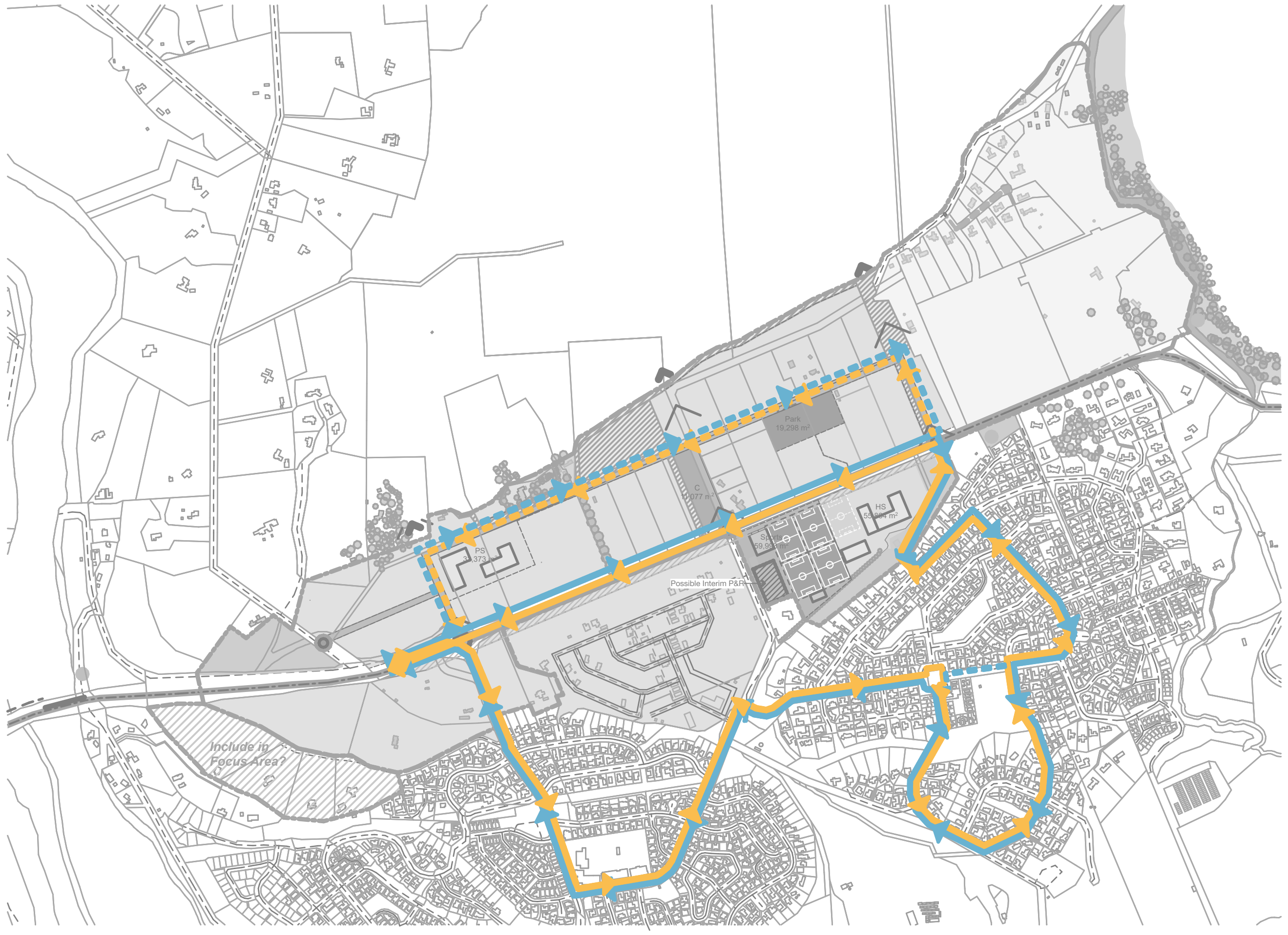
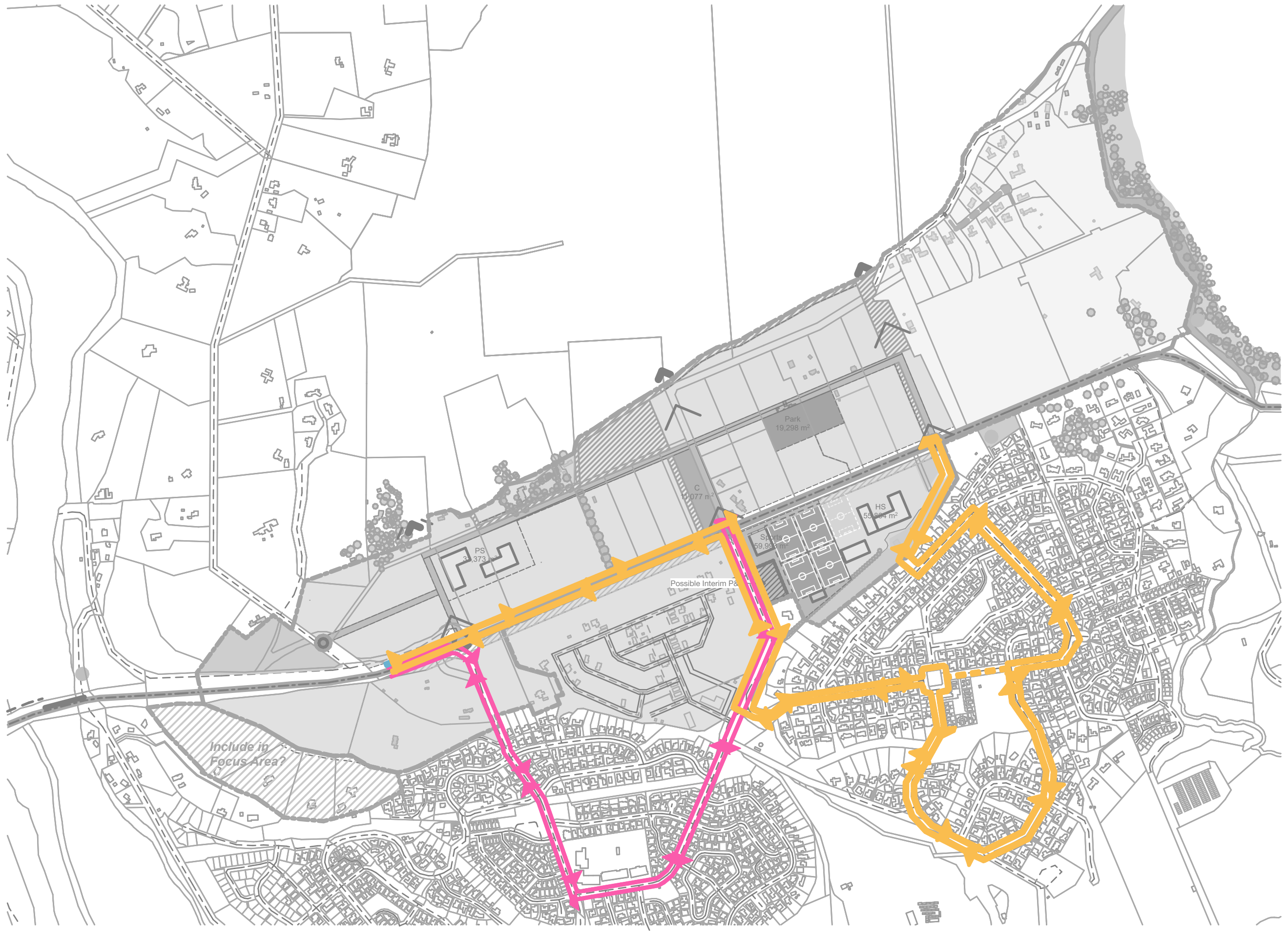


Figure 5
Masterplan Alternative Bus Routing Options

Bus Route Options

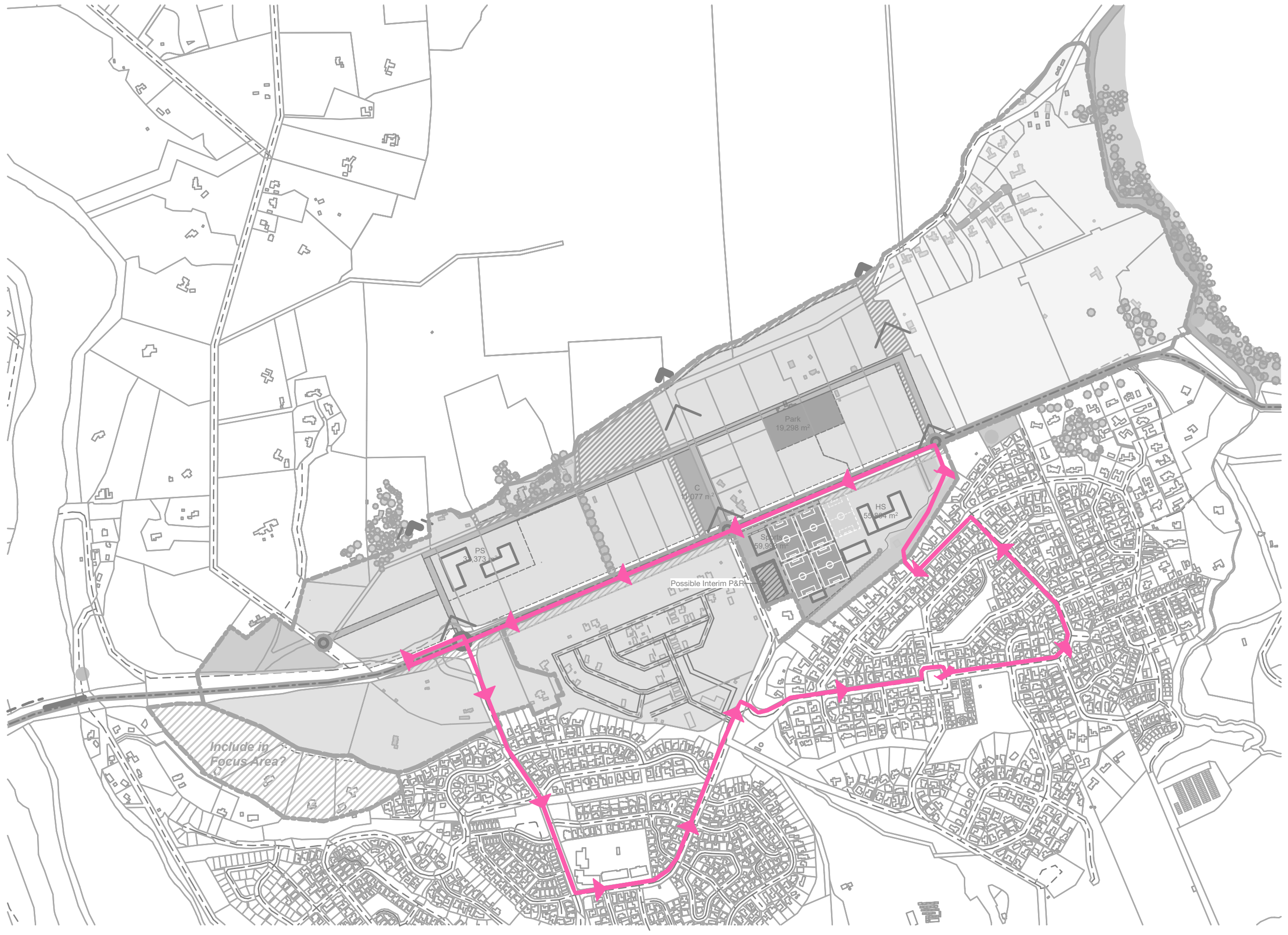


01 - Bus Option Diagram 1 (MP Option B)

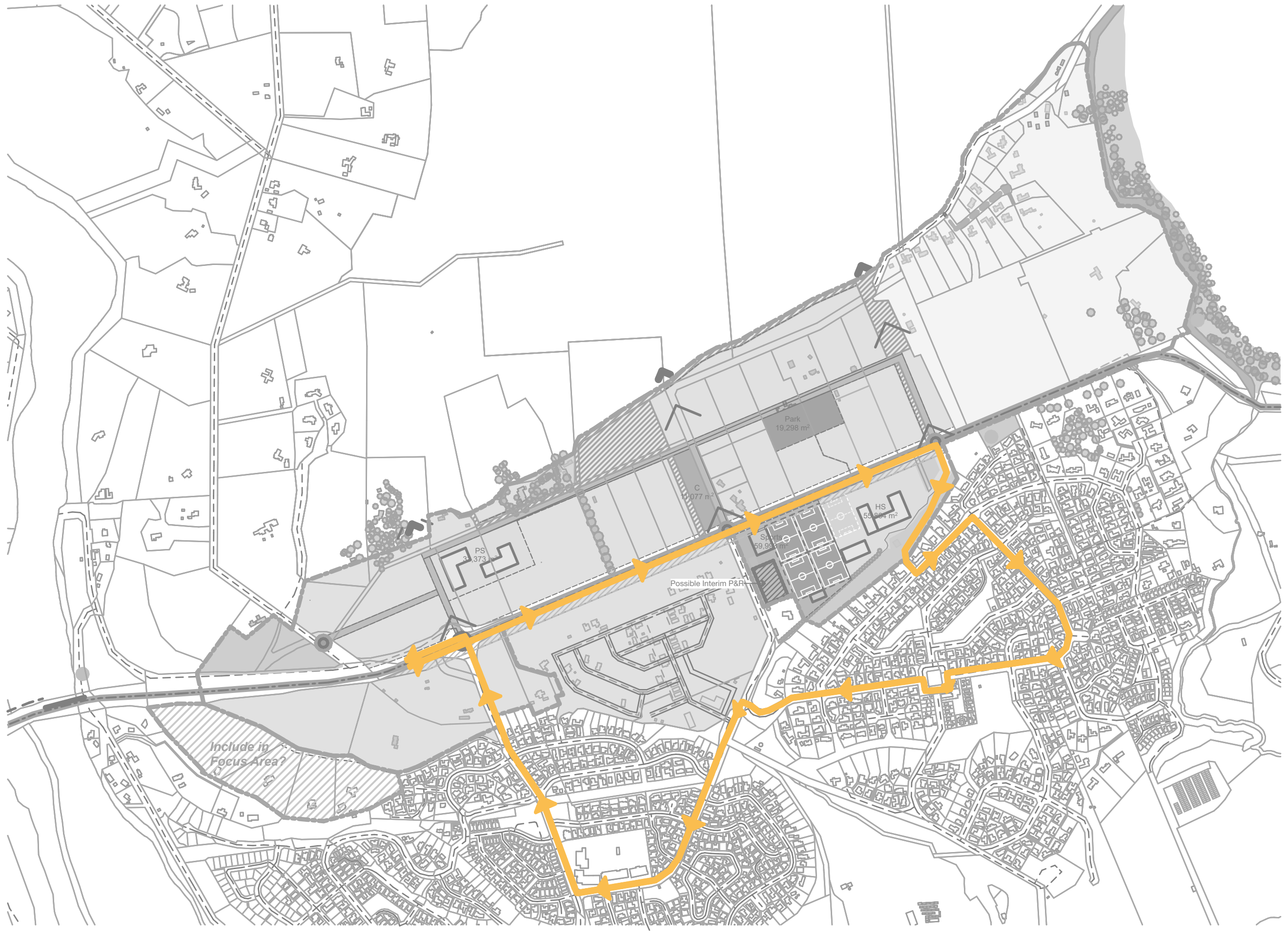


02 - Bus Option Diagram 2 (MP Option B)

Bus Route Options



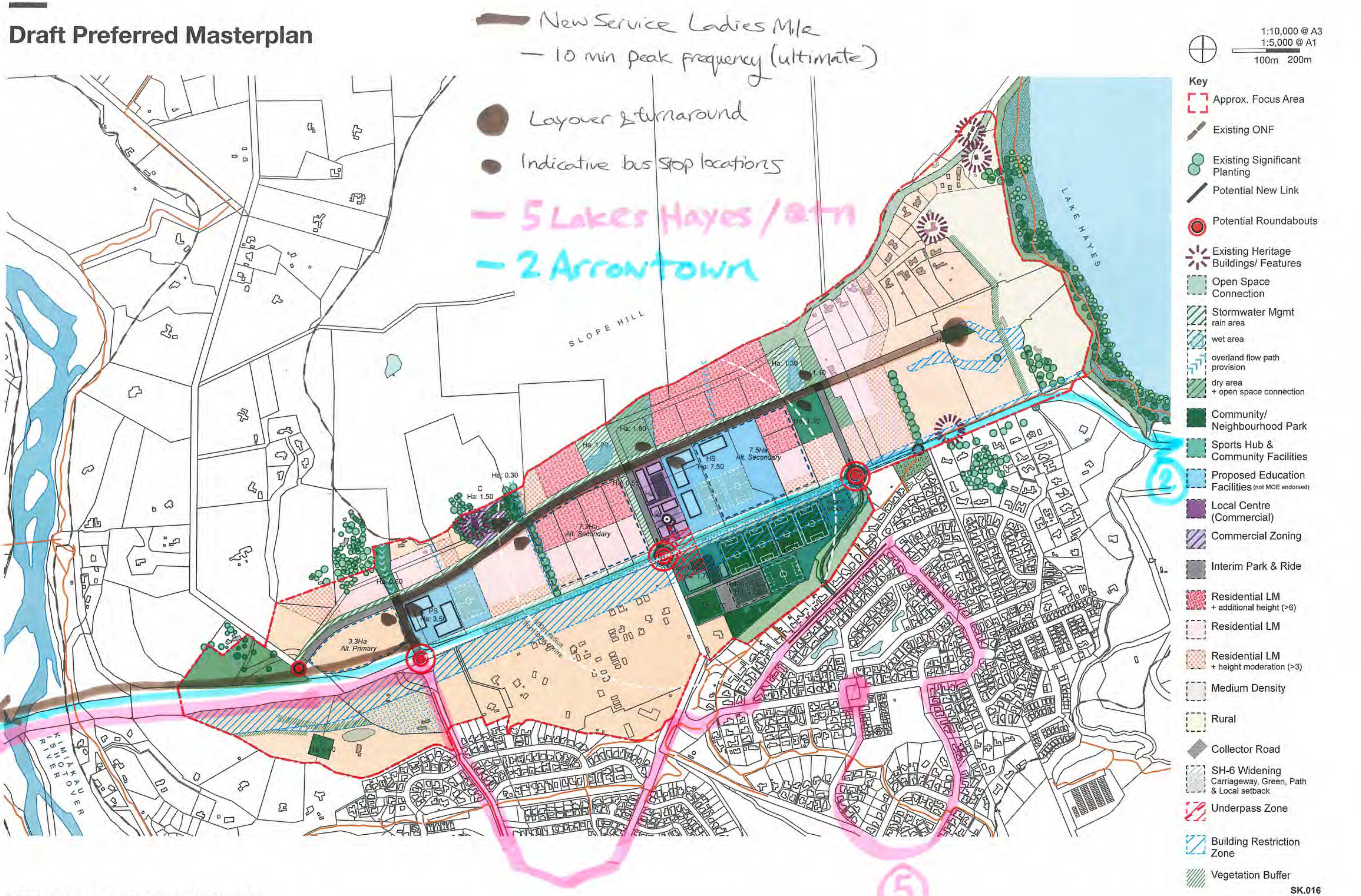
01 - Bus Option Diagram 3 (MP Option B)



04 - Bus Option Diagram 4 (MP Option B)

Figure 6
NZTA Proposed Bus Routing

Draft Preferred Masterplan



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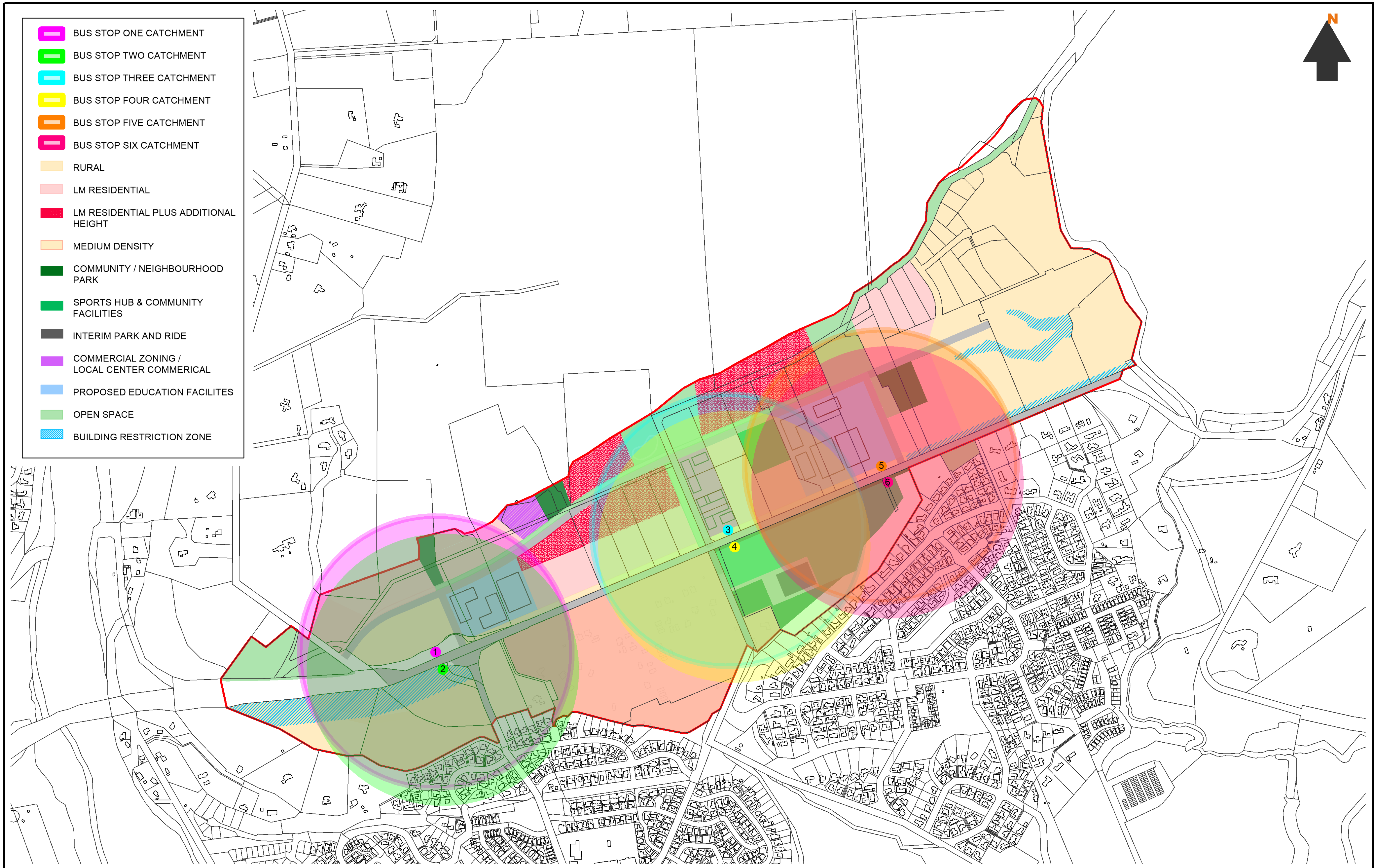
Issue Date: 30.11.2020

Te Pūtahi: Ladies Mile   FOR DISCUSSION - WAY TO GO

Appendix A Masterplan Proposed Bus Route

Bus Stop Catchments



REV DESCRIPTION BY APPVD DATE	Candor3 ENGINEERING FOR LIFE	PROJECT	CLIENT	PURPOSE
		LADIES MILE MASTER PLAN 400M BUS STOP CATCHMENT	QLDC	DRAFT
				DESIGN BCF / DRAWN BCF / CHECK CS — APPROVED BY CS DATE DD MMM 20XX — SCALE 1:10000 @ A3
				PROJECT NO. 1457 — DRAWING NO. 3-100 — REV. -

PRINT DATE: 18.12.2020 J:\PROJECTS LAND DEVELOPMENT\1457 LADIES MILE - MASTER PLANNING AND APPROVALS\BELLAS WORK\TAKE TWO.DWG

REV	DESCRIPTION	BY	APPVD	DATE

Candor³
ENGINEERING FOR LIFE

PROJECT
LADIES MILE MASTER PLAN
500M BUS STOP CATCHMENT

CLIENT
QLDC

PURPOSE
DRAFT

DESIGN BCF DRAWN BCF CHECK CS	APPROVED BY CS DATE DD MMM 20XX	SCALE 1:10000 @ A3
PROJECT NO. 1457	DRAWING NO. 3-100	REV. -

PRINT DATE: 18.12.2020 J:\PROJECTS\LAND DEVELOPMENT\1457 - LADIES MILE - MASTER PLANNING AND APPROVALS\BELLAS WORK\TAKE TWO.DWG

Appendix B NZTA Bus Route - Bus Stop Catchments

REV	DESCRIPTION	BY	APPVD	DATE

Candor3
ENGINEERING FOR LIFE

PROJECT
LADIES MILE MASTER PLAN
400M BUS STOP CATCHMENT
NZTA BUS ROUTE OPTION

CLIENT
QLDC

PURPOSE
DRAFT

DESIGN BCF	APPROVED	SCALE
DRAWN BCF	BY CS	1:10000 @ A3
CHECK CS	DATE DD MMM 20XX	

PROJECT NO.	DRAWING NO.	REV.
1457	3-100	-

PRINT DATE: 18.12.2020 J:\PROJECTS LAND DEVELOPMENT\1457 LADIES MILE - MASTER PLANNING AND APPROVALS\BELLAS WORK\TAKE TWO.DWG

Appendix F

Modelling Technical Note

Ladies Mile Masterplan Transportation Modelling Technical Note

Prepared for: Colin Shields and Bruce Harland (Candor3)
Job Number: QLDC-J054
Revision: 2 - Final
Issue Date: 17 March 2021
Prepared by: Jared White (Abley); Matthew Gatenby (WSP)
Reviewed by: Dave Smith (Abley)

1. Introduction

Abley have been instructed by the Candor3 team and commissioned by Queenstown-Lakes District Council (QLDC) to undertake transportation modelling of scenarios to inform the Ladies Mile Masterplan. Modelling scenarios are initially run through the Queenstown-Lakes Tracks Transportation Model which assumed no mode shift away from vehicle driver travel beyond that mode shift which is achieved in the base year (2016). The results are passed to WSP who run a bespoke Public Transport model and return a vehicle driver skim matrix which implements the mode shift based on improved public transport provision and infrastructure. The Tracks model is then re-run with the mode shift away from vehicle driver trips removed from the vehicle assignment.

Prior to the preparation of this technical note there was a results discussion workshop held for the modelling on 9th February 2021. The information and outputs from the analysis presented at this workshop are included in Appendix A bundle of outputs. It is noted that minutes were not taken at the workshop.

This technical note aggregates the outputs from the January-February 2021 iteration of Ladies Mile modelling. These results correspond to a base model and two scenarios and were presented and discussed at a meeting held on 9th February 2021 attended by Candor3, QLDC and Waka Kotahi. Subsequent to this meeting several requests for additional information and clarification were received from Candor3 and Waka Kotahi. These matters are addressed in this report with additional outputs included in the Appendix B bundle.

The three modelled scenarios are as follows:

1. Base Model - 1100 households; 138 jobs based on Shotover Country 2018 census which are Work from Home (WFH) jobs;
2. Option 1 - 1800 households; 812 jobs (280 schools; 307 community centres; 225 WFH jobs)
3. Option 2 - 2400 households; 890 jobs (280 schools, 307 comm centres and 303 WFH jobs)

All scenarios assume that 8% of households are holiday homes which has been calibrated from census data and Queenstown Country Club future land use assumptions are also altered as instructed by Candor 3. The road network layout for Ladies Mile is shown in **Figure 1.1** with the Ladies Mile residential activity for the base and Option 1 loaded into zones 269, 271 and 272. Zone 269 is the location of the park and ride station (200 spaces), zone 270 includes additional residential activity in Option 2 only and commercial centres are included in Zones 271 and 272 (Options 1 and 2 only). Note that the Sylvan St link to SH6 is disabled in the Base Scenario modelling for the updated analysis set.

Section 2 addresses ad hoc queries made since the results were presented on 9th February 2021. The remaining sections are grouped according to the standard stages of the transportation model from pre-skim trip generation through to post-skim final assignment. The information and outputs from the analysis for this technical note are included in the Appendix B bundle.

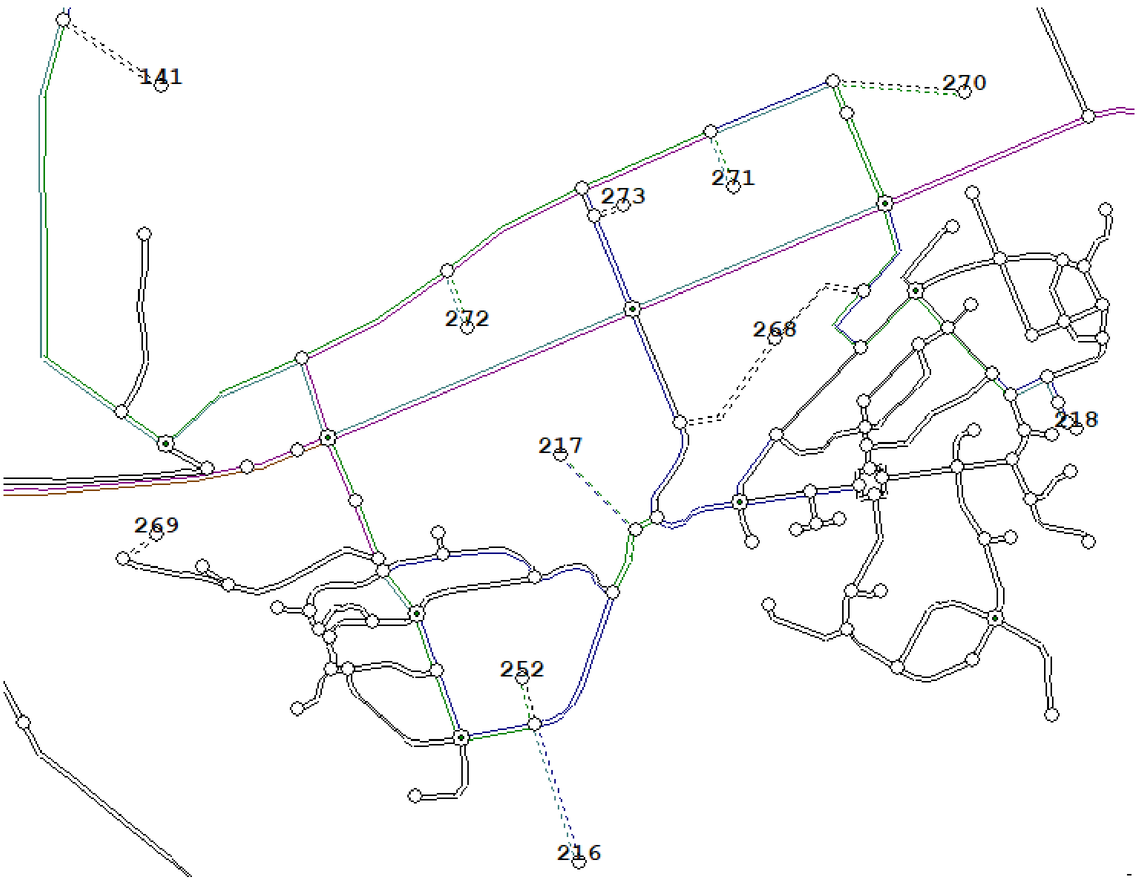


Figure 1.1 Ladies Mile road network

2. Clarification Points

One of the items raised through the work on the Ladies Mile Masterplan was the low modelled flow on Howards Drive in some of the optioneering. The model was interrogated, and it was found that traffic was not using Howards Drive to access SH6 and instead utilising Stalker Road and travelling through to Lake Hayes Estate or using the Sylvan St link in the east instead. The speed limit of SH6 was dropped from 80kph to 50kmph as an appropriate speed limit for residential areas so rat running through the Ladies Mile east-west spine road becomes more prevalent. However, to acknowledge SH6 within the local Hierarchy a sensitivity test was undertaken with the freeflow speed of the SH6 Ladies Mile section increased to 60kmph. The result was that traffic volumes increased on Howards Drive extension to the north of SH6 as a result particularly in the base case models as the Sylvan link is not accessible in the base model.

One of the queries was clarification of the quantum of trips from the Ladies Mile Masterplan area that visit Frankton, as it has been stated many trips interact with Frankton and the public transport (PT) provision in this area is not as good as to other parts such as Queenstown CBD and SH6/SH6A corridors. Depending on the period and option the quantum of peak direction trips between the Masterplan area and Frankton ranges from 26% to 38%. More details on the proportions by scenario and period are shown in Table 2.1.

Table 2.1 Peak Hour Trip Proportions between LM MP and Frankton

Scenario	2048 Base		2048 LM MP Opt1		2048 LM MP Opt2	
direction	to Fktn	from Fktn	to Fktn	from Fktn	to Fktn	from Fktn
LM - AM Pre-skim	34%	22%	28%	17%	26%	15%
LM - AM Post-skim	37%	21%	30%	17%	27%	15%
LM - PM Pre-skim	34%	38%	29%	32%	27%	31%
LM - PM Post-skim	36%	41%	31%	34%	29%	32%

An analysis was provided on 12th January 2021 on the cordoned trips for the original option (noted as Option A) selected versus the spatial plan baseline. An updated analysis has now been undertaken as requested which compares the two latest Options 1 and 2 against the updated base for this work. This also included information at pre-skim and post-skim levels and is included as page 1 in the bundle of outputs appended to the technical note. These results account for 8% second homes and internalised trips.

Full select link plots for roads surrounding the Ladies Mile area have also been requested and are included in the Appendix bundle as follows (for Post PT Skim results):

- pages 13-18 (base scenario morning peak);
- page 19 (placeholder for base model interpeak plots – not requested at this stage)
- pages 20-25 (base scenario evening peak);
- pages 26-31 (Option 1 morning peak);
- page 32 (placeholder for Option 1 interpeak plots – not requested at this stage)
- pages 33-38 (Option 1 evening peak);
- pages 39-44 (Option 2 morning peak);
- page 45 (placeholder for Option 2 interpeak plots – not requested at this stage)
- pages 46-51 (Option 2 evening peak);

3. Trip Generation

A series of data requests and queries has been made around how the model calculates trips and how these are assigned to the traffic network either as an internal trip, private vehicle trip or PT trip. The following two sections provide additional data or clarification as requested. This section has details on the quantum of trips whereas the following section has details on emerging trip patterns.

The trip generation module of the Tracks model calculates the number of trips that correspond to land use inputs for each model zone. This is only the point where a trip starts or ends and once the trip generation module has estimated all the different trip purposes, such as home to work or home to education as examples, the scale of overall trip generation of a model zone is known. Each trip purpose will have a number of trip productions (trips from the zone) and trip attractions (trips to the zone) which are equivalent in scale. For many trip purposes it is the household supply that provides the trip productions or quantum of trips while the employment activity provides a trip distribution function.

After the trip generation module was run the following is the level of inbound and outbound trips from the Ladies Mile zones prior to any internalisation of trips such as working from home or other trip ends to activities within the same zone such as education, shopping or employment. Note the reduction of 8% for second homes is already accounted for before the trip generation module is run.

Table 3.1 Morning Peak Hour Trip Ends Pre-Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	2043	705	1338	2035	698	1337	2047	708	1339
LM MP	769	185	584	1841	780	1061	2289	897	1392
Total	2812	890	1922	3876	1478	2398	4336	1606	2730

Table 3.2 Evening Peak Hour Trip Ends Pre-Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	2205	1371	834	2207	1371	835	2217	1375	842
LM MP	948	621	327	2032	1182	850	2580	1538	1042
Total	3153	1992	1161	4239	2554	1685	4797	2913	1884

The total two-way trip generation of the masterplan area increases from 769 to 1841 and to 2289 trips for the morning peak while this is 948 to 1896 to 2580 for the evening peak. For the Ladies Mile Eastern Corridor area including Shotover Country (SC) and Lake Hayes Estate (LHE) the total two-way trip generation increases from 2812 to 3876 and to 4336 trips for the morning peak while this is 3153 to 4239 to 4797 for the evening peak.

4. Trip Distribution

The previous traffic volume data supplied on 12th January 2021 to show the flows in and out of Ladies Mile has now been updated to include Stalker Rd and Howards Drive traffic volumes to the south of SH6. Note we have also included the Sylvan Link to SH6 as vehicles to Lake Hayes Estate (LHE) appear to prefer this as an access route instead of Howards Drive. This is included as page 2 in the Appendix bundle of outputs accompanying this note.

The internalisation of LM MP trips is a function of the gravity distribution module of the Tracks model. The distribution module takes the trip generation results which are the trip productions and trip attractions for each trip purpose and then joins the trips together which is a function of the generalised cost (GC) of travel on the network which is a function of travel time and distance. Congestion on the network will affect the distribution of trips as congestion will increase the GC for trips made along a congested corridor.

School catchments are not able to be fixed to certain catchments or zonings within the current model structure. The distribution model does seek to find the lowest GC for each trip so schools will typically service the zones closest to them that have a demand for a school-based trip, but it would be difficult to eliminate cross boundary trips. To complicate things further the education trip purpose in the model is a function of the number of education jobs rather than the school roll or type of school.

Like the school-based trips, any trip making activity related to commercial areas is driven by the employment allocated to the zone. The number of trips that start or end in a commercial area is determined by the gravity-based distribution module. Trip activity for a local centre will include local centre employees traveling to and from their place of work and also customers visiting the centre. The distribution of the local centre trips is dependent on the GC for trips within the same trip purpose so there could be an extent of external trips (external to the LM area) but the high concentration of housing in the Ladies Mile area will help to minimise this effect under a gravity-based model.

Once the trip distribution module has been processed the following internal trips are noted to occur in the morning and evening peak hours. The Masterplan internal trips are in the order of 13% in the morning peak and 10% in the evening peak.

Table 4.1 2048 Morning Peak Hour Internal Trips Pre Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	302	151	151	272	136	136	265	133	133
	15%	21%	11%	13%	19%	10%	13%	19%	10%
LM MP	35	18	18	221	110	110	308	154	154
	5%	9%	3%	12%	14%	10%	13%	17%	11%

Table 4.2 2048 Evening Peak Hour Internal Trip Pre Skim

Scenario	2048 Base			2048 LM MP Opt1			2048 LM MP Opt2		
Zone	total	in	out	total	in	out	total	in	out
LHE+SC	244	122	122	226	113	113	220	110	110
	11%	9%	15%	10%	8%	14%	10%	8%	13%
LM MP	37	19	19	190	95	95	275	138	138
	4%	3%	6%	9%	8%	11%	11%	9%	13%

5. Trip Assignment Pre-Skim

The peak hour matrices from the Tracks model have been analysed and sectored so the trip distribution can be understood outside of the Ladies Mile Area. There are nine areas of the model study area that have been defined to capture the trip patterns as follows:

- Basin – the Wakatipu Basin area outside of the Ladies Mile
- BasinPnR – The Park and Ride station on SH6 just to the east of the LMMP area (includes some residential)
- E of Basin – All areas east via the Crown Range and Kawarau Gorge
- Frk – The wider Frankton area north of Kawarau River and west of Shotover River
- LHE – Lake Hayes Estate
- LMMP – Ladies Mile Masterplan areas
- SC – Shotover Country
- SofKwBdg – areas south of the Kawarau River crossing on SH6.
- WofBP – areas accessed by SH6A and beyond west of the BP roundabout.

The results in this section are presented as a matrix of trips with the origin location of the trip down the left-hand column and the destination location of the trip across the top row. The diagonal from top left to bottom right represents the internal trips to that area.

The matrices in this section are for the 2048 morning peak hour first showing the base, Option 1 then Option 2 and following on from this is the 2048 evening peak hour in the same order. They represent the pre-skim scenario once the trip generation and distribution modules have been run and the model has achieved convergence. They also represent the number of vehicle trips.

Table 5.1 2048 Morning Peak Hour Base Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	746	7	112	243	24	27	62	29	933	2183
BasinPnR	9	1	2	10	1	1	3	1	6	35
EofBASIN	143	2	11899	318	11	10	23	50	243	12701
FRK	188	6	111	1993	31	41	98	376	711	3553
LHE	85	3	12	136	51	18	59	11	85	461
LMMP	108	3	13	198	18	35	60	16	132	584
SC	139	5	19	295	31	32	160	24	173	878
SofKwBdg	63	2	51	1013	7	9	31	1211	759	3145
WofBP	300	2	139	505	10	12	24	233	5162	6386
TOTALS	1781	30	12358	4711	184	185	521	1951	8205	29925

Table 5.2 2048 Morning Peak Hour Option 1 Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	723	6	110	227	22	103	58	27	902	2181
BasinPnR	8	1	2	9	1	5	3	1	5	34
EofBASIN	140	2	11888	307	10	37	23	50	235	12692
FRK	174	5	108	1944	28	135	88	368	697	3548
LHE	74	3	12	116	47	74	52	9	73	460
LMMP	167	6	26	301	31	221	96	25	188	1061
SC	124	4	18	256	28	128	144	21	152	877
SofKwBdg	59	2	51	1003	6	45	28	1200	749	3143
WofBP	297	2	136	508	9	32	22	233	5139	6377
TOTALS	1767	29	12350	4671	183	780	515	1934	8142	30373

Table 5.3 2048 Morning Peak Hour Option 2 Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	710	6	110	210	22	111	57	25	933	2184
BasinPnR	8	1	2	8	1	6	3	1	6	35
EofBASIN	136	2	11916	291	10	40	22	48	237	12702
FRK	163	5	105	1980	25	137	80	375	684	3555
LHE	74	3	12	109	45	80	51	9	78	461
LMMP	225	7	34	362	41	308	123	29	262	1392
SC	124	4	18	240	28	137	142	19	166	878
SofKwBdg	54	1	50	1019	6	41	25	1217	731	3144
WofBP	294	1	133	513	9	36	22	234	5149	6390
TOTALS	1788	30	12380	4733	185	897	523	1957	8246	30740

Table 5.4 2048 Evening Peak Hour Base Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	860	13	150	296	84	108	133	47	395	2086
BasinPnR	10	2	4	12	4	4	6	1	2	46
EofBASIN	120	3	14783	489	19	23	32	49	200	15717
FRK	310	14	431	3803	162	235	332	1092	717	7096
LHE	44	3	19	78	55	24	38	8	24	294
LMMP	53	3	21	109	22	37	36	12	34	327
SC	74	4	35	161	44	46	107	20	49	541
SofKwBdg	21	1	41	528	8	11	16	1507	354	2487
WofBP	809	7	284	972	90	131	183	754	7215	10445
TOTALS	2302	49	15768	6448	488	621	883	3491	8989	39039

Table 5.5 2048 Evening Peak Hour Option 1 Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	767	11	134	239	74	177	117	40	360	1918
BasinPnR	9	1	4	10	4	7	5	1	2	42
EofBASIN	106	3	13553	463	16	42	27	44	178	14432
FRK	269	12	409	3397	141	365	292	1014	655	6553
LHE	37	2	17	64	48	42	33	6	21	271
LMMP	115	6	52	198	57	177	95	25	56	781
SC	64	3	30	131	38	79	94	16	44	501
SofKwBdg	18	1	36	467	6	18	13	1379	322	2260
WofBP	746	6	247	929	81	206	167	740	6431	9554
TOTALS	2131	44	14482	5898	465	1115	843	3265	8070	36312

Table 5.6 2048 Evening Peak Hour Option 2 Trip Patterns Pre Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	831	12	137	255	77	246	123	40	389	2111
BasinPnR	9	1	3	10	4	10	5	1	2	47
EofBASIN	116	3	14869	470	18	60	30	49	188	15803
FRK	272	12	396	3790	141	475	294	1078	729	7188
LHE	40	3	17	67	50	58	34	7	22	296
LMMP	149	8	66	256	70	275	114	30	75	1042
SC	68	4	32	138	39	105	97	17	46	546
SofKwBdg	18	1	40	527	7	23	14	1524	359	2513
WofBP	810	6	265	976	84	283	174	761	7256	10617
TOTALS	2314	49	15827	6490	489	1538	886	3505	9065	40163

6. Public Transport Model

6.1 General

The purpose of the PT model is to estimate the capture rate (or mode share) of public transport modes, given the future trip levels in 2048, by creating a “skim” of PT trips from the overall trip demand. The input to the model is the “pre-skim” travel demand matrices from Tracks, with the output being the “post-skim” matrices (i.e. once PT trips have been removed) – these remaining trips are assumed to be private-vehicle trips, and are assigned onto the network within the Tracks model.

The model is a multinomial logit model, which calculates the generalised cost for any O-D trip for the transport modes available, and then allocates a proportion to each mode based on a logit model. The generalised cost equation takes account of the following elements for non-PT and PT modes:

- Private vehicle
  - Travel time
  - Vehicle operating cost
  - Parking charge
  - Access (walk) time at origin and/or destination
  - Mode constant
- Public transport
  - Travel time
  - Wait time (related to service frequency)
  - Transfer time
  - Transfer penalty
  - Fare
  - Access (walk) time at origin and/or destination
  - Mode constant

More details on the PT model development can be found in the WSP technical note - **Wakatipu Basin Future Public Transport Demand Analysis: Technical Note 3 – Land Use, Demand and Capacity (Bespoke Model Build), 27 March 2019.**

6.2 Application to Ladies Mile Masterplan

The PT model was used in the Queenstown to Frankton SSBC, Queenstown Town Centre DBC and Wakatipu Park and Ride SSBC work to determine forecast PT splits (by local bus, park & ride bus, water and gondola modes) within these projects at both 2028 and 2048. A similar approach was used for the Ladies Mile masterplan work, with the following assumptions applied for **ALL** three 2048 scenarios (Base, Option 1, Option 2):

- 200 Park and Ride spaces at Ladies Mile
- 600 Park and Ride spaces at Alec Robins Road
- 10-minute frequency on service 2 (Arrowtown to Queenstown Town Centre)
- 10-minute frequency on service 5 (Lake Hayes Estate to Queenstown Town Centre)

Regarding the bus service patterns:

- It is important to note that once the service headway is 10 minutes or better, the additional time saving (in generalised cost terms) is negligible as the reduction in average wait time becomes very small (e.g. for a 10-minute frequency (6bph), the average wait time is 5 minutes for a random arrival; which drops to 4 minutes for a 7.5-minute frequency service (8bph) – so that 1 minute saving in wait cost is very small and has negligible impact on patronage through additional mode share).
- The PT model is not capacity constrained. Therefore, the model calculates the level of patronage that would be captured as a direct result of the service frequency (which is high on all routes at 2048).
- In reality, there may be issues in providing this level of service (due to operational practicalities, funding issues etc), and therefore the level of PT usage predicted can be viewed as the "perfect equilibrium" – and PT patronage would deteriorate below this level if the loading capacity was reached in reality. We explore this further in the sensitivity queue analysis
- Although there are a number of service pattern options to serve the existing and proposed residential areas, and Park and Ride hubs, the model simplifies this by assuming all areas in the vicinity of Ladies Mile have a 10-minute frequency (or better) – this is a reasonable approximation, given the high trip levels across the area at 2048, and the uncertainty over service patterns at this time

For each of the three options, for the three modelled periods (0800-0900, 1200-1300, 1700-1800), the pre-skim trip matrix was input into the PT model, and the model run to obtain the predicted PT patronage.

6.3 Results

PT Mode Share – Shotover Bridge

The key outputs for the Shotover Bridge link in the two critical periods are as shown in Table 6.1.

Table 6.1 PT patronage for critical movements

Period	Scenario	Local Bus	Park & Ride Bus	Total PT	Difference to Base	Buses per hour*	Additional bus frequency to Base**	PT mode share	Bridge V/C***
2048 AM Peak Westbound	**Base**	282	292	574	-	12	-	20.2%	115%
	Option 1	290	289	579	+5	12	0.1	20.0%	117%
	Option 2	347	326	673	+99	14	2.0	22.2%	121%
2048 PM Peak Eastbound	**Base**	614	297	911	-	19	-	25.1%	112%
	Option 1	710	306	1016	+115	21	2.3	26.4%	117%
	Option 2	889	356	1245	+334	25	6.7	30.5%	119%

* Bus frequency required to serve the forecast patronage assuming a 50-seat capacity vehicle

** Additional number of buses required compared to the Base scenario

*** Ratio of Flow Volume to Capacity

A number of key conclusions can be drawn from the analysis:

- PT share is significantly higher in the PM peak period. This is for two main reasons:
  - The PM trip levels are generally higher than in the AM peak (as they are in the existing situation), and therefore there is a greater level of congestion in the wider network, particularly on SH6A and within Frankton Flats – this increases the attractiveness of the PT mode due to planned bus priority infrastructure within the network at 2048
  - In the AM peak, the proposed additional school on Ladies Mile removes some trips from needing to cross the bridge, but the PM peak does not coincide with the end of the school day, so this effect is not felt in the PM peak period
- Park and Ride trips are relatively consistent between the two peak periods, as would be expected given the two-way dependency of the mode. The maximum peak total of around 300 people per hour in the Base scenario is also consistent with the total capacity of the Park and Ride sites of 800 vehicles (300 person-trips is equivalent to around 230 vehicles with an average car occupancy of 1.3, and the peak hour activity being around 25-30% of the total activity through the day)
- In the critical PM peak period, it is forecasted that Option 1 requires a modest service increase of 2 buses/hour, whilst Option 2 requires a more significant increase of over 6 buses per hour (or an additional 10-minute frequency service)
- The overall PT share across the bridge sees an increase of 2 percentage points between the Base and Option 2 in the AM peak, with a higher increase of over 5 percentage points in the PM peak, again as a function of the greater levels of congestion on the network in the PM peak
- In all scenarios, the bridge is operating significantly beyond the practical capacity, albeit the addition of Ladies Mile masterplan related trips deteriorates the operation by around 6-7 percentage points (Base v Option 2)
- The PM peak bus frequencies are very high in all scenarios, at a bus headway of less than 3 minutes in all scenarios. This level of operation would be operationally challenging, both from a public transport operations perspective (bus congestion at stops, bus bunching etc) and for network operation, particularly at the points on either side of the bridge where buses merge with general traffic

PT Mode Share – by Area

The Appendix bundle of outputs includes a breakdown of the estimated mode share of PT trips from various aggregated zones within the wider network on pages 4-12. This provides information on the differences in mode shares predicted by option, and by area of the network.

A summary of this information for the key AM westbound and PM eastbound person-trips over Shotover Bridge is shown in **Table 6.2** below for the mode share and in **Table 6.3** for the total trips by mode.

Table 6.2 PT mode share for critical Origin-Destinations

Period	Scenario	Ladies Mile			Lake Hayes Estate/Shotover Country			Arrowtown			External East		
		Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car
2048 AM Peak Westbound													
To Frankton Flats	**Base**	3%	1%	96%	2%	1%	97%	3%	2%	94%	0%	4%	96%
	Option 1	3%	1%	96%	2%	1%	97%	3%	2%	94%	0%	4%	96%
	Option 2	3%	1%	96%	2%	1%	97%	4%	3%	94%	0%	4%	96%
To QTC	**Base**	41%	16%	43%	37%	14%	49%	17%	22%	61%	0%	37%	63%
	Option 1	41%	16%	43%	37%	14%	49%	17%	22%	61%	0%	37%	63%
	Option 2	42%	17%	41%	38%	15%	47%	18%	22%	60%	0%	39%	61%
To All	**Base**	11%	4%	86%	9%	3%	88%	9%	9%	82%	0%	11%	89%
	Option 1	10%	4%	86%	9%	3%	88%	9%	9%	83%	0%	11%	89%
	Option 2	11%	4%	84%	10%	4%	86%	9%	9%	82%	0%	12%	88%
2048 PM Peak Eastbound													
From Frankton Flats	**Base**	16%	1%	82%	10%	1%	90%	5%	5%	90%	0%	7%	93%
	Option 1	16%	2%	82%	10%	1%	89%	5%	6%	89%	0%	7%	93%
	Option 2	19%	2%	79%	12%	1%	87%	6%	7%	87%	0%	9%	91%
From QTC	**Base**	83%	7%	10%	78%	7%	15%	21%	18%	61%	0%	46%	54%
	Option 1	82%	8%	10%	78%	7%	15%	21%	18%	61%	0%	47%	53%
	Option 2	85%	8%	7%	82%	8%	11%	22%	19%	58%	0%	54%	46%
From All	**Base**	27%	2%	71%	24%	2%	74%	9%	7%	84%	0%	14%	86%
	Option 1	27%	2%	71%	24%	2%	74%	9%	7%	84%	0%	14%	86%
	Option 2	30%	2%	67%	27%	2%	71%	10%	8%	83%	0%	17%	83%

Table 6.3 Person-trips for critical Origin-Destinations

Period	Scenario	Ladies Mile			Lake Hayes Estate/Shotover Country			Arrowtown			External East		
		Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car
2048 AM Peak Westbound													
To Frankton Flats	**Base**	7	2	246	12	4	527	9	7	255	0	15	380
	Option 1	10	4	365	11	4	460	9	6	236	0	14	368
	Option 2	13	5	434	11	4	432	8	6	216	0	15	348
To QTC	**Base**	59	23	62	85	32	114	92	118	325	0	88	151
	Option 1	79	31	83	74	29	100	89	112	308	0	86	146

Period	Scenario	Ladies Mile			Lake Hayes Estate/Shotover Country			Arrowtown			External East		
		Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car	Bus	P&R	Car
	Option 2	114	46	110	86	34	105	94	120	322	0	92	146
To All	**Base**	63	22	513	116	41	1132	115	126	1091	0	104	845
	Option 1	92	33	784	100	36	995	116	119	1121	0	102	850
	Option 2	133	49	987	112	41	973	122	127	1124	0	108	820
2048 PM Peak Eastbound													
From Frankton Flats	**Base**	45	4	228	63	6	594	17	18	314	0	35	496
	Option 1	74	7	372	62	6	546	17	19	285	0	37	473
	Option 2	109	11	451	71	7	520	19	22	265	0	43	447
From QTC	**Base**	127	11	15	184	17	36	94	80	270	0	122	143
	Option 1	191	18	23	171	16	32	93	79	264	0	120	135
	Option 2	257	24	22	177	16	23	100	85	260	0	135	113
From All	**Base**	185	14	486	326	25	1023	125	99	1160	0	168	1006
	Option 1	306	24	802	305	24	936	125	99	1187	0	169	1003
	Option 2	433	34	966	337	26	885	136	108	1185	0	192	947

A number of key conclusions can be drawn from the analysis:

- The vast majority of PT mode share is for trips to and from Queenstown Town Centre from all other areas. In the AM peak, PT mode share from Ladies Mile to the Town Centre is around 55-60%, but only around 15% mode share of the total trips to all destinations. Similarly, in the PM peak, PT mode share from the Town Centre to Ladies Mile is above 90% in all scenarios, but still a more modest 30% when considering all origins. This is as a function of the implemented bus priority and frequencies along the corridors serving the town centre, but also the parking charges (and lack of parking supply) within the town centre. As can be seen, PT patronage to the other main commercial centre on Frankton Flats is relatively low, and this is due to the less connected nature of the Frankton Flats network, and the lack of control on parking supply or cost. Potentially, an increase in patronage to this area could be obtained through an enhancement of the PT service, combined with other incentives to decrease private car attractiveness. This is likely to be considered in any future PT services DBC.
- Local PT share is significantly higher in the PM peak period. This is a function of the higher levels of congestion in the model in this period, which drives further mode shift to PT, up to around 4 out of every 5 trips from the town centre to Ladies Mile. Whilst this is, in reality, optimistic, it is a function of the congestion on the network, and shows the level of PT shift required to achieve anything near an operational network. As a sense check, it should be noted that out of the total number of trips heading to Ladies Mile in the PM period, 67% are still predicted to travel by private car in the model (in Option 2) – it is just that the journey from the town centre has, in generalised cost terms, a much lower cost by PT
- It should be noted that one shortfall in the PT model is that there is no connection between AM and PM periods, in terms of (particularly) commuter trips being “locked into” a mode for both trips. Therefore, mode shares can vary between these two periods, as they are based on generalised cost without taking into account some of the restrictions in mode choice due to earlier decisions

7. Trip Assignment Post-Skim

The pre skim matrices are provided to WSP as an input to the PT model process of which an output is the number of trips to be removed from the pre-skim matrices that have transferred to PT and park and ride services. This is fed into the Tracks model as a matrix to remove these trips and allowing the Tracks model to be reassigned with mode shift applied to account for appropriate PT demand in terms of the number of vehicular trips removed.

The matrices in this section are for the 2048 morning peak hour first showing the base, Option 1 then Option 2 and following on from this is the 2048 evening peak hour in the same order representing the post-skim scenario. They also represent the number of vehicle trips.

Table 7.1 2048 Morning Peak Hour Base Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	733	87	112	231	22	23	58	28	607	1901
BasinPnR	15	1	5	10	1	1	3	1	4	41
EofBASIN	143	76	11899	308	11	10	23	50	181	12701
FRK	184	5	110	1953	30	39	95	368	539	3323
LHE	83	3	12	132	62	25	83	11	61	473
LMMP	105	3	13	189	18	35	59	16	69	507
SC	136	4	19	285	32	30	157	23	109	795
SofKwBdg	61	2	51	936	7	8	28	1202	543	2836
WofBP	275	2	136	451	9	9	21	224	3180	4306
TOTALS	1734	184	12358	4494	192	180	527	1924	5291	26883

Table 7.2 2048 Morning Peak Hour Option 1 Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	710	83	110	215	21	98	56	27	576	1894
BasinPnR	14	1	5	8	1	5	3	1	3	41
EofBASIN	140	76	11888	296	10	37	23	50	173	12693
FRK	170	5	107	1905	27	132	86	361	526	3319
LHE	73	3	12	112	52	96	67	9	49	472
LMMP	164	5	26	292	32	221	94	25	122	981
SC	121	4	18	248	28	126	142	20	96	803
SofKwBdg	57	1	51	939	6	44	26	1191	542	2857
WofBP	272	1	133	454	8	30	19	225	3155	4297
TOTALS	1721	180	12350	4468	185	788	515	1909	5242	27357

Table 7.3 2048 Morning Peak Hour Option 2 Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	710	6	110	210	22	111	57	25	933	2184
BasinPnR	8	1	2	8	1	6	3	1	6	35
EofBASIN	136	2	11916	291	10	40	22	48	237	12702
FRK	163	5	105	1980	25	137	80	375	684	3555
LHE	74	3	12	109	45	80	51	9	78	461
LMMP	225	7	34	362	41	308	123	29	262	1392
SC	124	4	18	240	28	137	142	19	166	878
SofKwBdg	54	1	50	1019	6	41	25	1217	731	3144
WofBP	294	1	133	513	9	36	22	234	5149	6390
TOTALS	1788	30	12380	4733	185	897	523	1957	8246	30740

Table 7.4 2048 Evening Peak Hour Base Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	845	26	150	280	77	93	119	46	353	1988
BasinPnR	93	2	135	12	4	4	6	1	2	259
EofBASIN	120	29	14783	478	19	23	32	49	186	15719
FRK	281	12	399	3716	142	188	282	1061	652	6734
LHE	43	3	19	76	68	37	56	8	22	331
LMMP	51	3	21	103	21	37	34	12	28	309
SC	72	4	35	154	43	45	105	20	43	521
SofKwBdg	19	1	41	491	6	10	10	1499	317	2394
WofBP	520	3	184	579	30	19	47	568	3983	5932
TOTALS	2044	81	15767	5889	410	455	690	3265	5585	34186

Table 7.5 2048 Evening Peak Hour Option 1 Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	823	25	144	254	71	173	112	42	349	1993
BasinPnR	89	1	134	10	4	8	5	1	2	255
EofBASIN	117	29	14795	467	18	48	31	49	179	15733
FRK	258	11	382	3684	126	328	259	1051	657	6755
LHE	40	3	18	68	61	65	49	7	20	331
LMMP	123	7	57	214	59	190	98	28	53	829
SC	68	4	34	140	40	83	98	18	41	525
SofKwBdg	18	1	41	487	5	17	9	1502	319	2399
WofBP	512	2	172	575	24	58	44	570	3982	5939
TOTALS	2047	82	15778	5900	408	969	705	3268	5603	34759

Table 7.6 2048 Evening Peak Hour Option 2 Trip Patterns Post Skim

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	816	26	137	240	70	222	111	39	347	2007
BasinPnR	96	1	138	10	4	10	5	1	2	267
EofBASIN	116	29	14869	460	18	60	30	49	174	15805
FRK	242	10	363	3703	120	402	247	1046	662	6796
LHE	39	2	17	64	58	79	46	6	19	332
LMMP	146	8	66	246	68	275	111	29	66	1017
SC	67	3	32	133	38	103	96	16	40	529
SofKwBdg	17	1	40	490	5	21	8	1516	321	2419
WofBP	514	2	163	576	23	72	42	572	4001	5965
TOTALS	2051	83	15827	5922	404	1244	697	3276	5633	35137

8. Spatial Trip Reduction

If the pre skim and post skim matrices are compared the reduction of trips by origin and destination area can be calculated. The tables in this section present these vehicle driver trips skimmed from the model and are for the 2048 morning peak hour first showing the base, Option 1 then Option 2 and following on from this is the 2048 evening peak hour in the same order. The values represent the number of vehicles removed from the network and not the number of public transport passengers or the number of persons in those vehicles.

Table 8.1 2048 Morning Peak Hour Base Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-13	80	0	-13	-2	-4	-4	-1	-327	-282
BasinPnR	6	0	4	0	0	0	0	0	-2	6
EofBASIN	0	74	0	-11	0	0	0	0	-63	1
FRK	-5	0	-1	-39	-1	-2	-3	-8	-172	-231
LHE	-2	0	0	-4	11	7	24	0	-24	12
LMMP	-3	0	0	-10	0	0	-1	0	-63	-77
SC	-3	0	0	-10	0	-2	-3	-1	-64	-83
SofKwBdg	-3	0	0	-76	0	-1	-3	-9	-216	-308
WofBP	-25	0	-3	-54	-1	-3	-3	-8	-1983	-2080
TOTALS	-47	154	0	-217	7	-5	6	-27	-2914	-3042

Table 8.2 Morning Peak Hour Option 1 Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-13	76	0	-13	-2	-5	-3	-1	-327	-286
BasinPnR	6	0	4	0	0	0	0	0	-2	6
EofBASIN	0	74	0	-11	0	0	0	0	-63	1
FRK	-5	0	-1	-39	-1	-3	-2	-7	-172	-230
LHE	-2	0	0	-4	5	22	15	0	-24	12
LMMP	-3	0	0	-9	1	0	-2	0	-66	-79
SC	-2	0	0	-9	0	-2	-2	-1	-57	-73
SofKwBdg	-3	0	0	-64	0	-1	-3	-9	-206	-286
WofBP	-25	0	-3	-54	-1	-3	-3	-8	-1984	-2080
TOTALS	-47	150	0	-203	2	8	0	-25	-2901	-3015

Table 8.3 2048 Morning Peak Hour Option 2 Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-13	82	0	-12	-2	-6	-2	-1	-340	-294
BasinPnR	6	0	3	0	0	0	0	0	-3	6
EofBASIN	0	79	0	-11	0	0	0	0	-67	1
FRK	-4	0	-1	-40	-1	-3	-2	-8	-168	-228
LHE	-2	0	0	-4	6	22	13	0	-27	8
LMMP	-4	0	0	-14	0	0	-2	0	-105	-125
SC	-2	0	0	-9	0	-3	-2	-1	-67	-84
SofKwBdg	-2	0	0	-76	0	-1	-2	-9	-207	-298
WofBP	-25	0	-2	-54	-1	-4	-2	-8	-1987	-2085
TOTALS	-47	160	0	-222	3	4	0	-28	-2971	-3100

Table 8.4 2048 Evening Peak Hour Base Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-16	13	0	-15	-7	-16	-14	-1	-42	-98
BasinPnR	82	0	131	0	0	0	0	0	0	212
EofBASIN	0	26	0	-10	0	0	0	0	-14	2
FRK	-29	-2	-31	-86	-20	-47	-50	-32	-65	-363
LHE	-1	0	0	-3	13	12	18	0	-2	37
LMMP	-2	0	0	-7	-1	0	-2	0	-6	-18
SC	-2	0	0	-7	-1	-1	-3	-1	-6	-20
SofKwBdg	-2	0	0	-37	-2	-2	-6	-7	-37	-93
WofBP	-289	-4	-100	-393	-59	-113	-136	-186	-3232	-4513
TOTALS	-258	33	-1	-559	-78	-166	-193	-227	-3404	-4853

Table 8.5 2048 Evening Peak Hour MP Option 1 Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-16	13	0	-15	-7	-18	-12	-1	-42	-98
BasinPnR	79	0	131	0	0	0	0	0	0	209
EofBASIN	0	26	0	-10	0	0	0	0	-14	2
FRK	-28	-2	-31	-86	-20	-53	-44	-32	-65	-361
LHE	-1	0	0	-3	10	19	14	0	-2	37
LMMP	-2	0	0	-8	-1	0	-3	0	-7	-21
SC	-1	0	0	-5	-1	-2	-1	-1	-5	-16
SofKwBdg	-2	0	0	-37	-2	-2	-6	-7	-37	-92
WofBP	-287	-4	-100	-393	-59	-157	-128	-186	-3232	-4547
TOTALS	-258	33	-1	-559	-80	-213	-179	-227	-3404	-4887

Table 8.6 2048 Evening Peak Hour Option 2 Vehicles Skimmed

R/C	BASIN	Basin PnR	East of BASIN	FRK	LHE	LMMP	SC	S of KwBdg	WofBP	TOTALS
BASIN	-16	14	0	-15	-8	-24	-12	-1	-42	-104
BasinPnR	86	0	135	0	0	0	0	0	0	220
EofBASIN	0	26	0	-10	0	0	0	0	-14	2
FRK	-31	-2	-33	-87	-21	-73	-47	-31	-67	-391
LHE	-1	0	0	-2	9	21	12	0	-2	36
LMMP	-3	0	0	-10	-1	0	-3	0	-9	-26
SC	-1	0	0	-5	-1	-2	-1	-1	-5	-17
SofKwBdg	-2	0	0	-38	-2	-3	-6	-7	-38	-95
WofBP	-297	-4	-102	-400	-61	-212	-132	-189	-3255	-4652
TOTALS	-263	34	-1	-568	-85	-293	-189	-229	-3432	-5026

9. Queue Length Analysis

Whilst the Tracks model provides key output in terms of forecast traffic volumes and travel times within the network, another important output is the estimated queue lengths on the network under the various scenarios. This would ordinarily be carried out using a micro-simulation model (or similar approach), but due to the levels of congestion in the network (in the Base Scenario, as well as Options 1 and 2), this approach is unlikely to provide any clarity due to the potential gridlock in the network (particularly in Frankton Flats in the PM peak period).

Consequently, an alternative approach has been taken, to provide a simplified spreadsheet analysis of the queueing. Therefore, our method in this regard has been to:

- Take the Tracks post-skim output (volumes on Shotover Bridge) and calculate associated queue lengths back from the bridge

- Add in a refinement to (slightly) reduce the capacity of the bridge, depending on the frequency of bus service required in each scenario
- This then gives queue lengths back from the bridge in each scenario
- Then proportion the estimated queue on each approach to the bridge by the respective demand on all links feeding traffic towards the bridge. In reality, by 2048, additional network control measures could be in place on the network to bias which links store such queues – but as there is uncertainty over the level of this interventions, the simple pro-rata assignment of queue on each link provides a reasonable starting point
- We have then introduced some sensitivities for PT mode split to show the likely queue lengths if we get less (or more) PT patronage in each scenario compared to what the PT model is currently generating, which provides a range of outcomes for discussion

The outcome is the analysis set out below, for the following scenarios:

- 2048 Base
- 2048 Ladies Mile Option 1
- 2048 Ladies Mile Option 2
- As 3 options above, but with no Park and Ride service (as a pessimistic case to show the impact of increased private car trips)
- As 3 options above, but with a 25 per cent reduction in PT mode (local bus and P&R)
- As 3 options above, but with a 50 per cent reduction in PT mode (local bus and P&R)

The sensitivity tests are provided to show the impact of the predicted PT model share not being achieved.

Figure 9.1 shows the locations of the queues that are reported in the following tables.

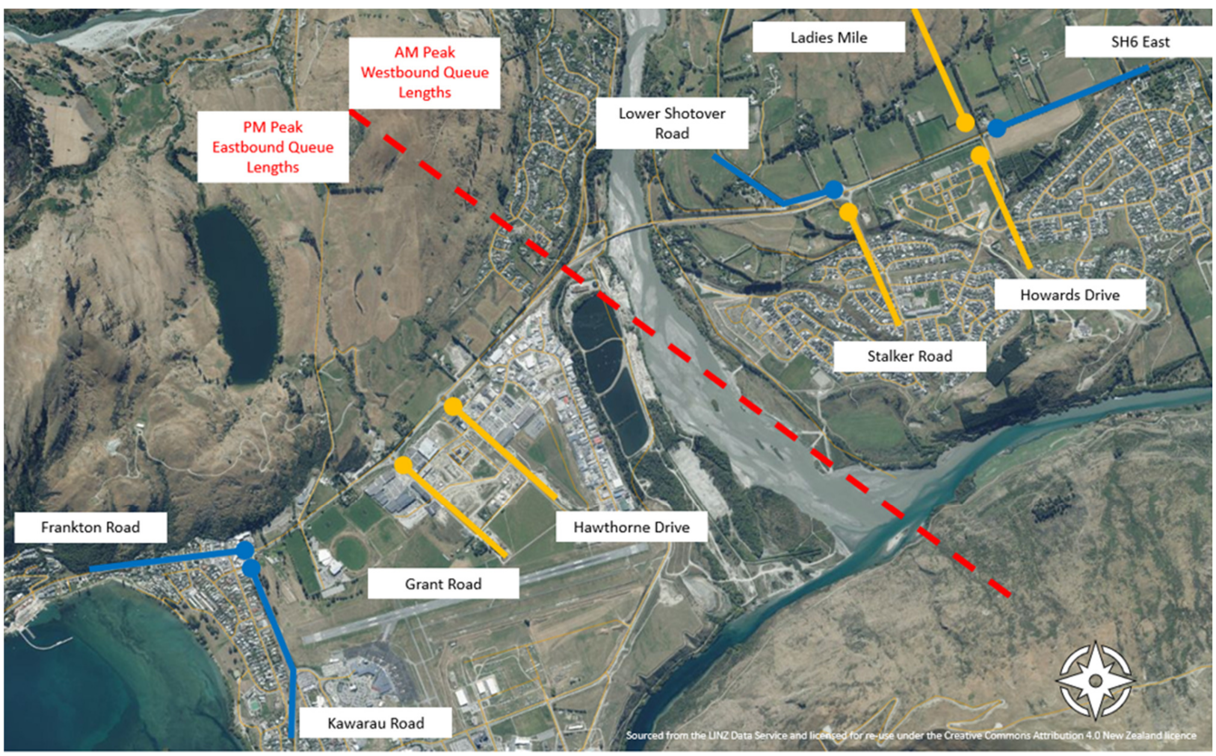


Figure 9.1 Queue Length Measurement Points

9.1 Morning Peak Queues

Figure 9.2 shows the queue length predictions (and associated bus service frequencies within each scenario) for the AM peak period, for the westbound direction and these are shown spatially in **Figure 9.3**. The output of buses per hour has been provided in terms of using a single decker fleet, or a double-decker fleet (the latter providing around 80-100% more capacity per bus). In reality, a hybrid fleet could be used, but this has not been considered here for simplicity.

Sensitivity	Option	Total Queue (km)						Buses/hour	
		Full Queue[1]	Lower Shotover[2]	Stalker Road[2]	Howards Drive[3]	Ladies Mile[3]	SH6 East[3]	Single Decker	Double Decker
Base Case	Base	3.0	0.2	0.3	0.3	0.6	0.5	12	6
	Option 1	3.4	0.2	0.3	0.3	0.9	0.7	12	6
	Option 2	4.0	0.2	0.4	0.4	1.1	1.0	14	7
PT Share 25% lower	Base	4.3	0.3	0.5	0.5	0.9	1.1	9	5
	Option 1	4.7	0.3	0.5	0.5	1.2	1.4	9	5
	Option 2	5.5	0.3	0.5	0.5	1.5	1.8	11	6
PT Share 50% lower	Base	5.5	0.4	0.6	0.6	1.1	1.8	6	3
	Option 1	6.0	0.3	0.6	0.6	1.5	2.0	6	3
	Option 2	7.0	0.4	0.6	0.6	1.9	2.5	7	4
No P&R	Base	5.5	0.4	0.6	0.6	1.1	1.8	6	3
	Option 1	6.0	0.3	0.6	0.6	1.5	2.0	6	3
	Option 2	7.0	0.4	0.6	0.6	1.9	2.5	7	4

1 Full Queue represents total queue on all approaches heading westbound towards Shotover Bridge, measured back from the SH6/Stalker Road intersection
2 Queue on Lower Shotover Road and Stalker Road measured back from the SH6/Stalker Road intersection
3 Queue on Ladies Mile access road, Howards Drive and SH6 measured back from the SH6/Howards Drive intersection

Figure 9.2 Queue Analysis – AM Peak Westbound

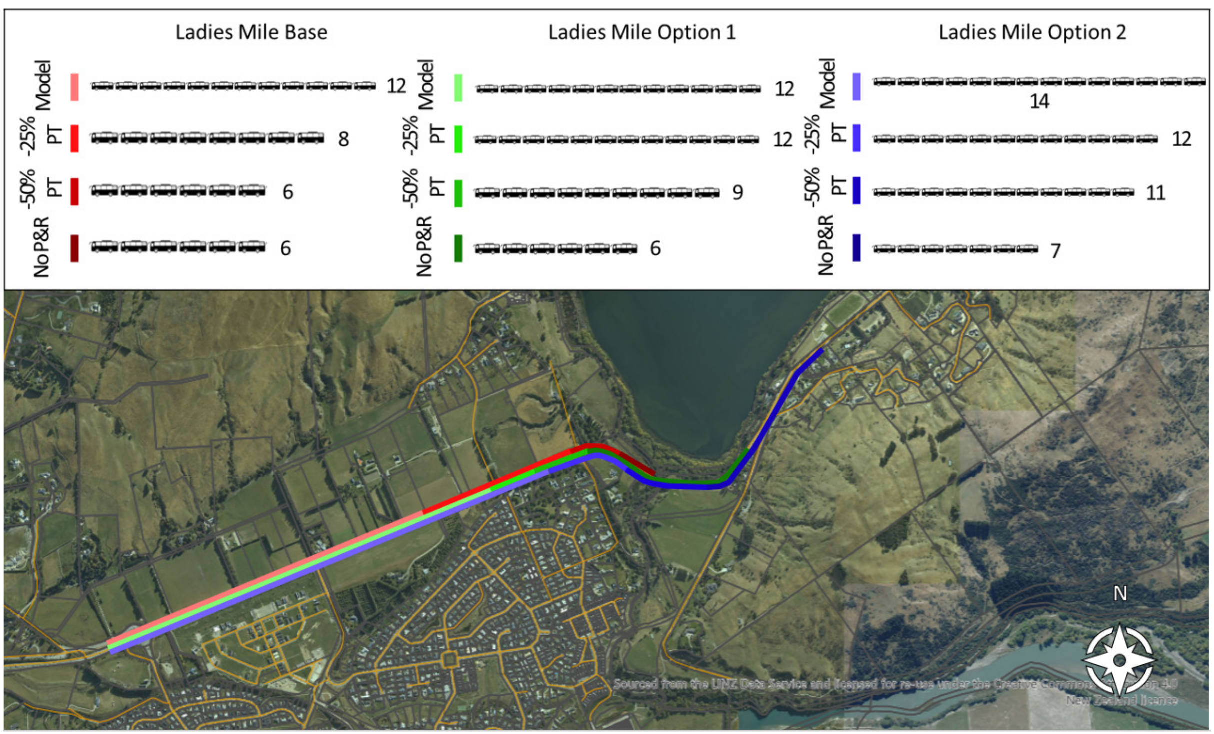


Figure 9.3 2048 AM Peak Queue Length Spatial Analysis

- In the Base Case (non-sensitivity) scenarios, it can be seen that queues are predicted to stretch back beyond the Howards Drive intersection, and increase with the addition of the Ladies Mile options 1 and 2 development:
- In the without Park&Ride sensitivity, queues are significantly longer in all scenarios, up to a total of 7km in Option 2 (compared to 5.5km in the Base Case)

- If it is assumed that the forecast PT share is not reached (and these trips are re-allocated to private car), then an increase in queues are also predicted (as would be expected) – with the 50% PT reduction having a similar impact to the without-P&R sensitivity

9.2 Evening peak queues

Figure 9.4 shows the queue length predictions (and associated bus service frequencies within each scenario) for the PM peak period, for the eastbound direction. These queues are shown spatially in **Figure 9.5**. The output of buses per hour has been provided in terms of using a single decker fleet, or a double-decker fleet (the latter providing around 80-100% more capacity per bus). In reality, a hybrid fleet could be used, but this has not been considered here for simplicity.

Sensitivity	Option	Total Queue (km)					Buses/hour	
		Full Queue[1]	Hawthorne Drive[2]	Grant Road[3]	Kawarau Road[4]	Frankton Road[4]	Single Decker	Double Decker
Base Case	Base	2.8	0.5	0.5	0.3	0.2	19	10
	Option 1	3.9	0.8	0.7	0.7	0.5	21	11
	Option 2	4.4	0.9	0.8	0.8	0.7	25	13
PT Share 25% lower	Base	4.8	0.9	0.9	1.0	0.8	14	7
	Option 1	6.2	1.2	1.2	1.4	1.2	16	8
	Option 2	7.2	1.4	1.3	1.7	1.5	19	10
PT Share 50% lower	Base	6.8	1.3	1.3	1.6	1.3	10	5
	Option 1	8.4	1.7	1.6	2.1	1.8	11	6
	Option 2	9.9	2.0	1.9	2.6	2.3	13	7
No P&R	Base	7.4	1.5	1.4	1.8	1.5	8	4
	Option 1	9.1	1.8	1.7	2.4	2.0	9	5
	Option 2	10.8	2.2	2.0	2.9	2.5	11	6

1 Full Queue represents total queue on all approaches heading eastbound towards Shotover Bridge, measured back from the SH6/Hawthorne Drive intersection
2 Queue on Hawthorne Drive measured back from the SH6/Howards Drive intersection
3 Queue on Grant Road measured back from the SH6/Grant Road intersection
4 Queue on Frankton Road and Kawarau Road measured back from the SH6/SH6A intersection

Figure 9.4 Queue Analysis – PM Peak Eastbound

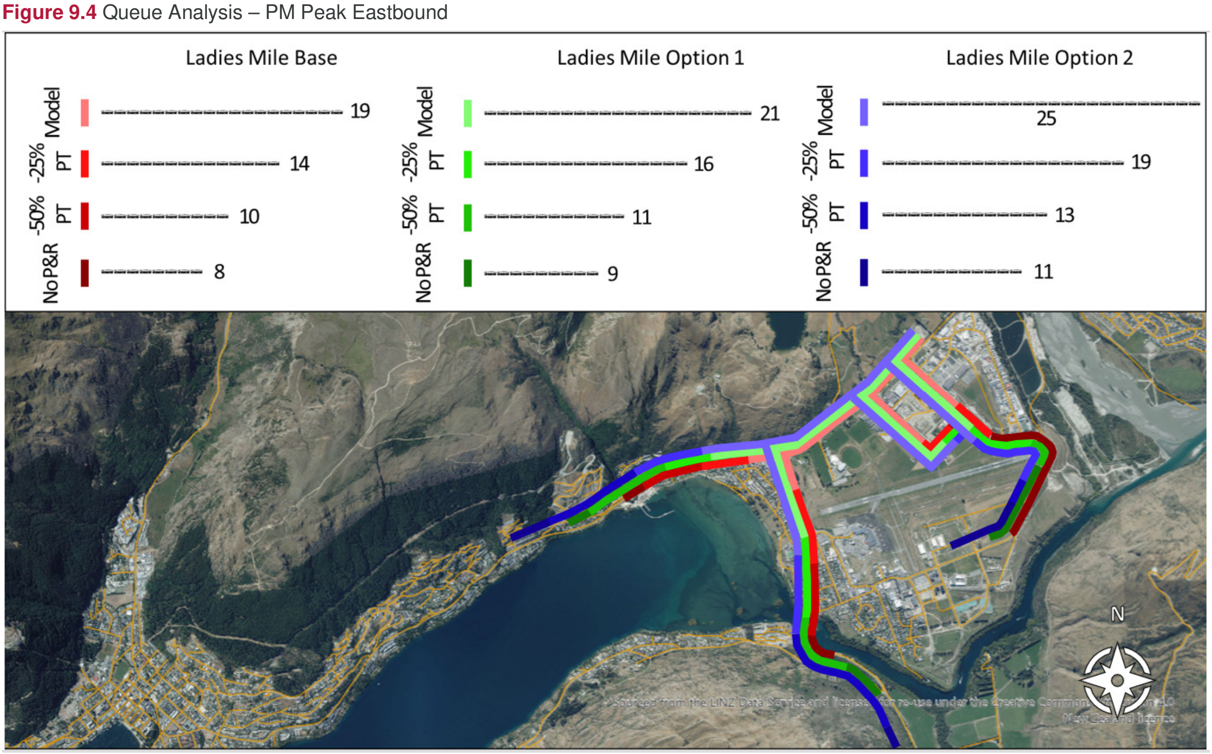


Figure 9.5 2048 PM Peak Queue Length Spatial Analysis

It should be noted that for the PM peak period, the queue lengths estimated are only generated based on the level of operation at the Shotover Bridge pinch point. Whilst this is a reasonable approximation in the AM peak period, as 85-90% of trips are heading westbound towards Shotover Bridge, in the PM peak, additional traffic that is bound for other destinations may also be affected (by being stuck in the queue towards the Bridge). This has not been incorporated into this simplistic analysis for two main reasons:

- It would add several layers of complexity to the analysis, which would require a number of other assumptions
- By 2048, the Frankton Flats network is predicted to be heavily congested in the PM peak period in the Base scenario, with several pinch points in the networks (SH6A, the approach to Kawarau Falls Bridge, and most intersections on SH6). Therefore, the exercise would be largely theoretical, and even developing a micro-simulation model to investigate the level of operation would fail to provide much insight due to the levels of gridlock

However, this point does indicate that the queue lengths are likely to be underestimates, particularly on the Frankton Road and Kawarau Road approaches, where there is a significant level of traffic heading to other destinations. Due to the relative turning movements at the SH6/SH6A intersection on these two approaches, an approximation is that the queues shown would be **double** those indicated in the analysis.

A number of key conclusions can be drawn from the analysis:

- In the Base Case (non-sensitivity) scenarios, it can be seen that queues are predicted to stretch back beyond the SH6/SH6A intersection, and the full length of queue increases with the addition of the Ladies Mile options 1 and 2 development by an estimated 1.1km and 1.6km respectively.
- In the without-P&R sensitivity, queues are significantly longer in all scenarios, up to a total of 10.8km in Option 2 (or 7.4km in the comparable Base Case), with lengthy queues along both local and SH roads back from the Shotover Bridge
- If it assumed that the forecast PT share is not reached (and these trips are re-allocated to private car), then an increase in queues are also predicted (as would be expected) – with the 50% PT reduction having a similar impact to the without-P&R sensitivity

9.3 Morning peak sensitivity test

As an additional sensitivity test, the impact of re-basing the volumes over the Shotover bridge in the 2018 model to a 2018 count have been considered. On review of the assigned traffic volumes in the Tracks 2018 scenario, it was apparent that in some areas of the network, and particularly the westbound morning peak volume across Shotover Bridge, the strategic model assignment was underestimating traffic volumes when compared against recent counts (counts being used to calibrate and validate the Queenstown micro-sim model, that have been seasonally adjusted, so again consistency between approaches).

Consequently, a sensitivity tests has been carried out for the AM peak, that uplifts the Shotover Bridge westbound volume at 2048 by the shortfall amount of around 350v/h (the difference between 2018 model flow and 2018 count). Note that flow counts on the bridge do vary significantly by season – and it is expected that a whole number of other variables could change by 2048 (peak spreading, trip suppression, behavioural change etc) that mean that this adjustment could be an overestimate.

Figure 9.6 shows the queue length predictions (and associated bus service frequencies within each scenario) for the AM peak period, for the eastbound direction, under this re-based scenario. The output of buses per hour has been provided in terms of using a single decker fleet, or a double-decker fleet (the latter providing around 80-100% more capacity per bus). In reality, a hybrid fleet could be used, but this has not been considered here for simplicity.

Sensitivity	Option	Total Queue (km)						Buses/hour	
		Full Queue[1]	Lower Shotover[2]	Stalker Road[2]	Howards Drive[3]	Ladies Mile[3]	SH6 East[3]	Single Decker	Double Decker
Base Case	Base	7.7	0.5	0.9	0.9	1.6	2.8	14	7
	Option 1	8.1	0.5	0.8	0.8	2.0	3.1	14	7
	Option 2	8.7	0.4	0.8	0.8	2.4	3.4	17	9
PT Share 25% lower	Base	9.2	0.6	1.1	1.1	1.9	3.6	11	6
	Option 1	9.7	0.6	0.9	0.9	2.4	3.8	11	6
	Option 2	10.5	0.5	0.9	0.9	2.9	4.3	13	7
PT Share 50% lower	Base	10.7	0.7	1.2	1.2	2.2	4.4	7	4
	Option 1	11.2	0.6	1.1	1.1	2.8	4.6	7	4
	Option 2	12.3	0.6	1.1	1.1	3.4	5.1	9	5
PT Share 25% higher	Base	6.2	0.4	0.7	0.7	1.3	2.1	18	9
	Option 1	6.6	0.4	0.6	0.6	1.6	2.3	18	9
	Option 2	7.0	0.4	0.6	0.6	1.9	2.5	21	11
PT Share 50% higher	Base	4.7	0.3	0.5	0.5	0.9	1.3	21	11
	Option 1	5.1	0.3	0.5	0.5	1.3	1.5	21	11
	Option 2	5.2	0.3	0.5	0.5	1.4	1.6	25	13
No P&R	Base	10.7	0.7	1.2	1.2	2.2	4.4	7	4
	Option 1	11.2	0.6	1.1	1.1	2.8	4.6	7	4
	Option 2	12.3	0.6	1.1	1.1	3.3	5.1	8	4

1 Full Queue represents total queue on all approaches heading westbound towards Shotover Bridge, measured back from the SH6/Stalker Road intersection

2 Queue on Lower Shotover Road and Stalker Road measured back from the SH6/Stalker Road intersection

3 Queue on Ladies Mile access road, Howards Drive and SH6 measured back from the SH6/Howards Drive intersection

Figure 9.6 Queue Analysis – AM Peak Westbound – Re-factored Base Flows

A number of key conclusions can be drawn from the analysis:

- As would be expected, the queue lengths increase significantly from those shown in **Figure 9.2**, with queues exceeding 2km in most cases for the Ladies Mile access road (at Howards Drive), and commonly 3-5km on SH6
- In sensitivity scenarios where the PT share is lower than predicted in the model, queues are extensive queues stretching back beyond Wet Jacket vineyard
- Therefore, additional sensitivity tests have been set up to explore a higher PT mode share (25% and 50% increase on the Base Cases). The results of the 50% increase yield results that are similar to the Base Case where the volumes are not re-based (in **Figure 9.2**) – it should be noted that the bus frequencies required to yield this patronage level is similar to those required in the opposite direction in the PM peak for the Base Cases (in **Figure 9.4**)
- If it assumed that the forecast PT share is not reached (and these trips are re-allocated to private car), then an increase in queues are also predicted (as would be expected) – with the 50% PT reduction having a similar impact to the without-P&R sensitivity

10. SH6 Travel Times

A high-level analysis has been completed to indicate changes in travel times along SH6 through the Ladies Mile. Two routes have been extracted from the Tracks model which includes one representing the immediate Masterplan area and the other extends over the Shotover bridge to Tuckers Beach Road (shown dashed in **Figure 10.1****Error! Reference source not found.**).

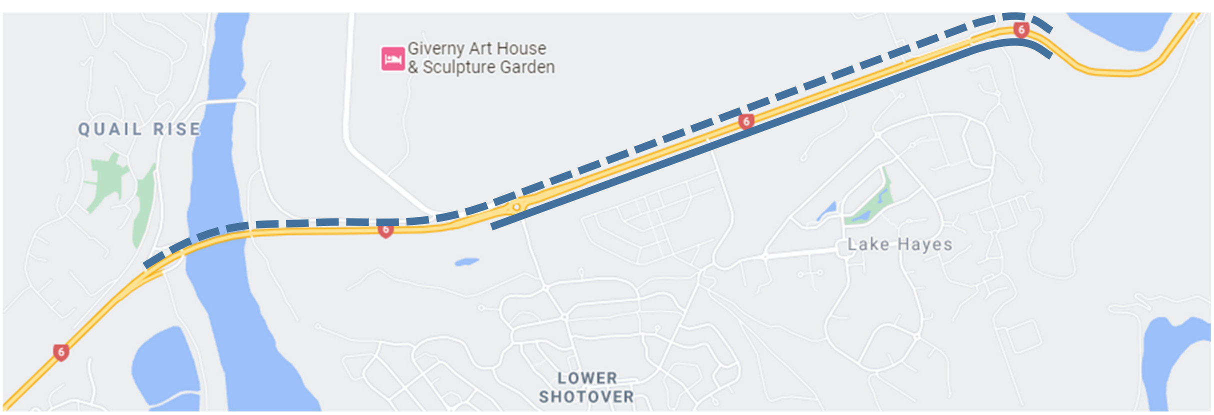


Figure 10.1 Travel Time Section Extents

The 2048 travel time for the Base ,Option 1 and Option 2 are in the following tables. Note that TBR has been used in the tables to represent Tuckers Beach Road and travel times represent the general traffic and any effects of bus priority on general traffic will not be reflected. It is important to note that the Tracks model is a strategic model and is likely to be coarse in roundabout delay calculations through the Ladies Mile corridor and will be conservatively low especially in light of the preceding queue length analysis.

Table 10.1 2048 Morning Peak Hour SH6 Travel Times Post Skim

Route	Base (t=sec)	Opt1	Opt2	Change Opt1	Change Opt2
SH6 WB Ladies Mile	167.4	168.6	169.9	1.2	2.5
SH6 EB Ladies Mile	162.6	163.5	163.3	0.9	0.7
SH6 WB Ladies Mile to TBR	266.9	276.6	288.8	9.7	21.9
SH6 EB Ladies Mile to TBR	240.5	242.5	242	2	1.5

Table 10.2 2048 Interpeak Hour SH6 Travel Times Post Skim

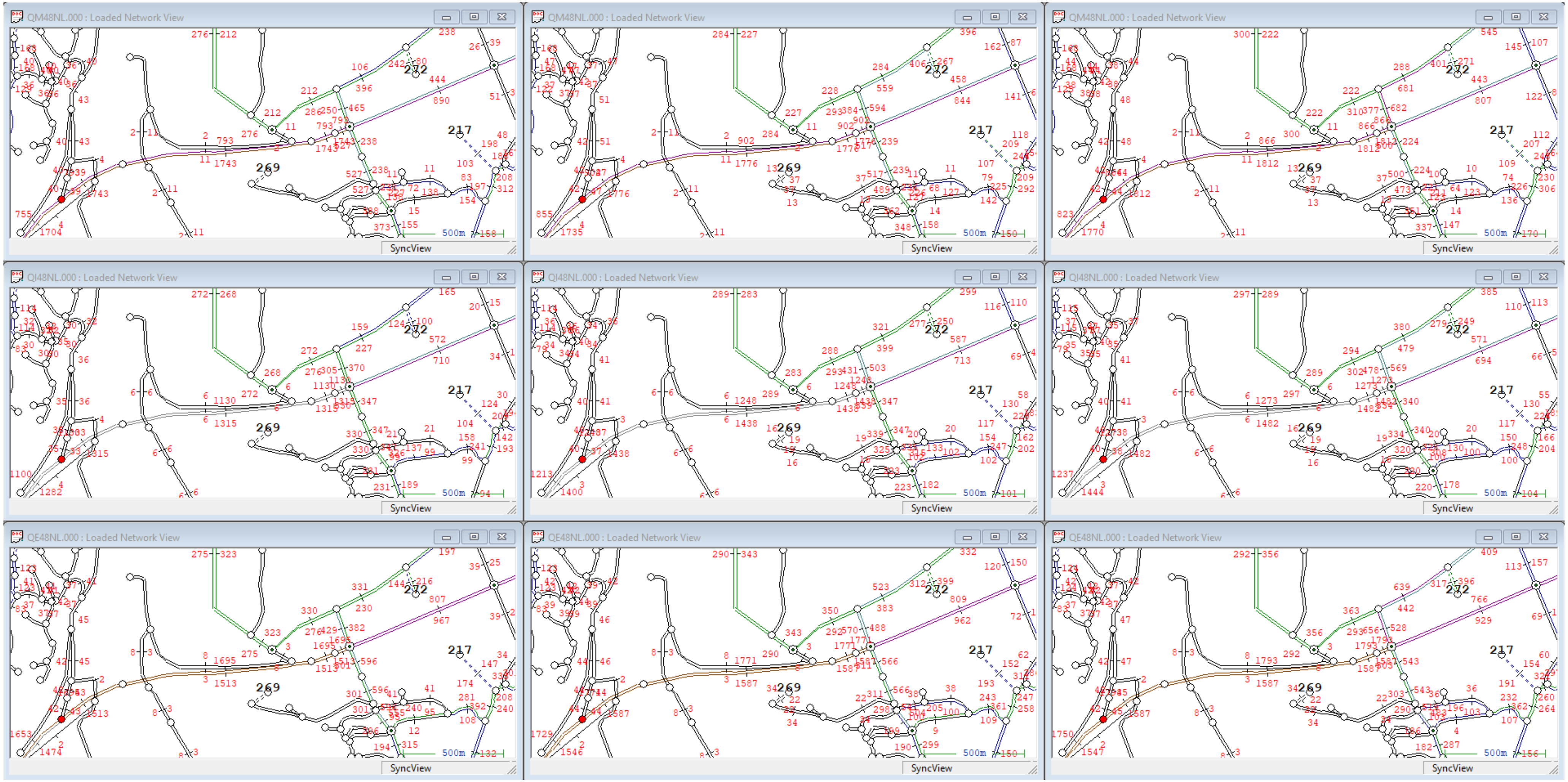
Route	Base (t=sec)	Opt1	Opt2	Change Opt1	Change Opt2
SH6 WB Ladies Mile	165.7	168.6	168.4	2.9	2.7
SH6 EB Ladies Mile	164	164.6	164.3	0.6	0.3
SH6 WB Ladies Mile to TBR	249.7	253.9	254.1	4.2	4.4
SH6 EB Ladies Mile to TBR	245.6	247.3	247.3	1.7	1.7

Table 10.3 2048 Evening Peak Hour SH6 Travel Times Post Skim

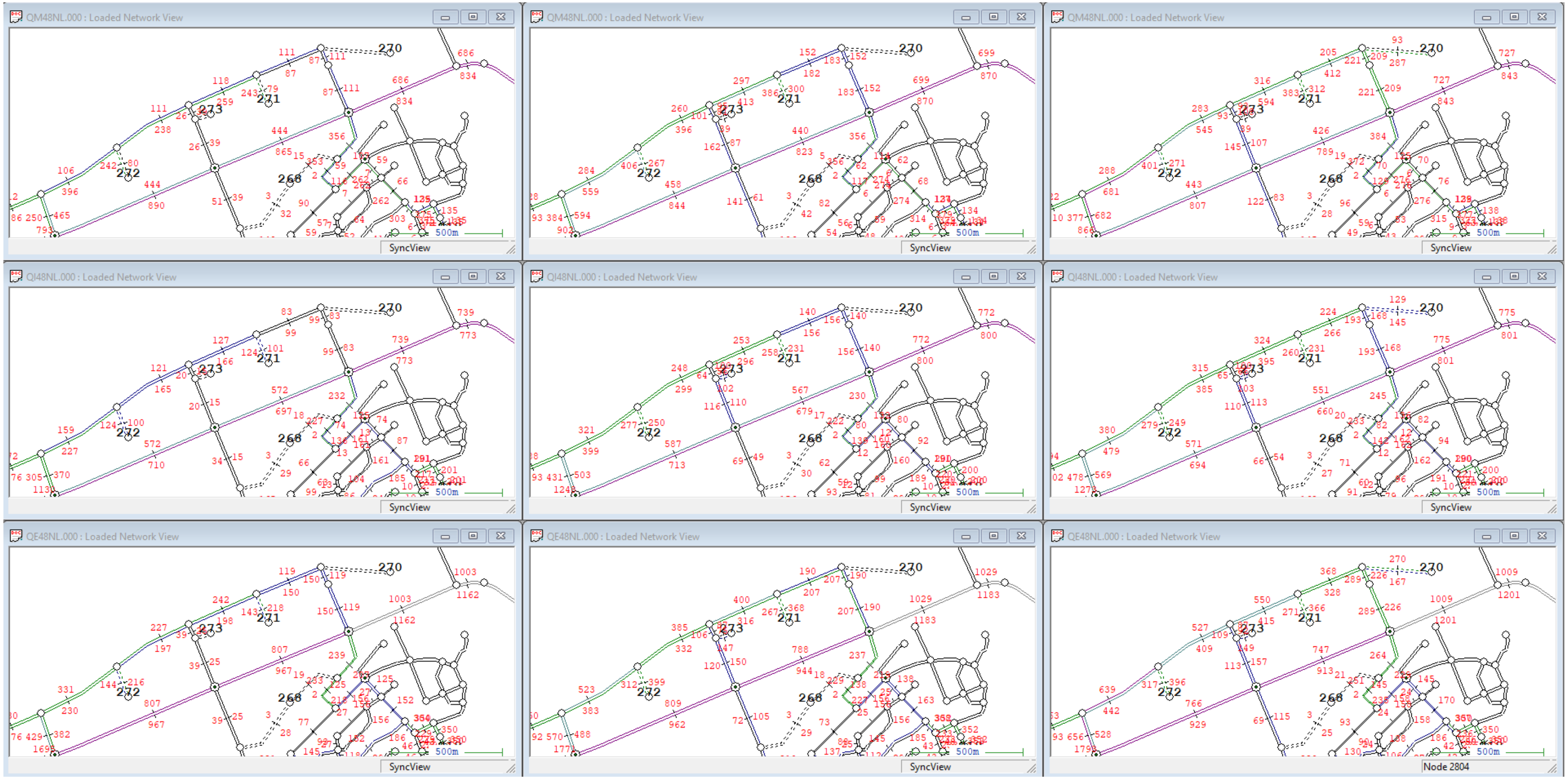
Route	Base (t=sec)	Opt1	Opt2	Change Opt1	Change Opt2
SH6 WB Ladies Mile	172.7	174.2	174.1	1.5	1.4
SH6 EB Ladies Mile	168.8	168.4	168.1	-0.4	-0.7
SH6 WB Ladies Mile to TBR	258.3	260.6	260.4	2.3	2.1
SH6 EB Ladies Mile to TBR	258	267.7	271	9.7	13

The effects of any bottleneck queuing will not be reflected in these travel times but slower speeds are reflected in the increase in travel time on the Shotover Bridge section. These typically corelate with higher traffic volumes between the scenarios. These are more noticeable in the peak tidal directions westbound in the morning and eastbound in the evening increasing from the base to option 1 then again to option 2. There are only subtle changes through the Ladies Mile section.

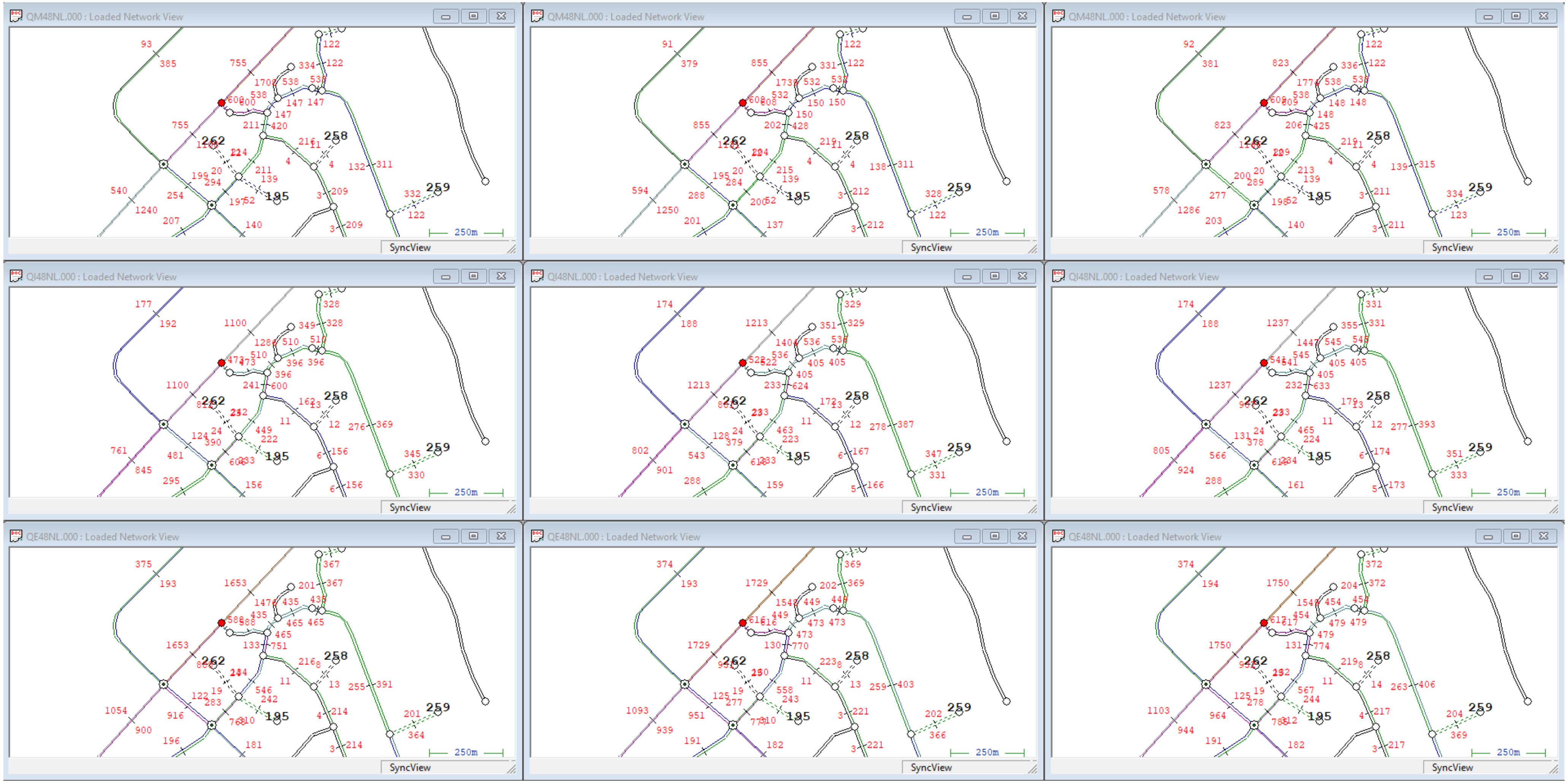
2048 Hourly Traffic Flows – SH6 Shotover Bridge View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



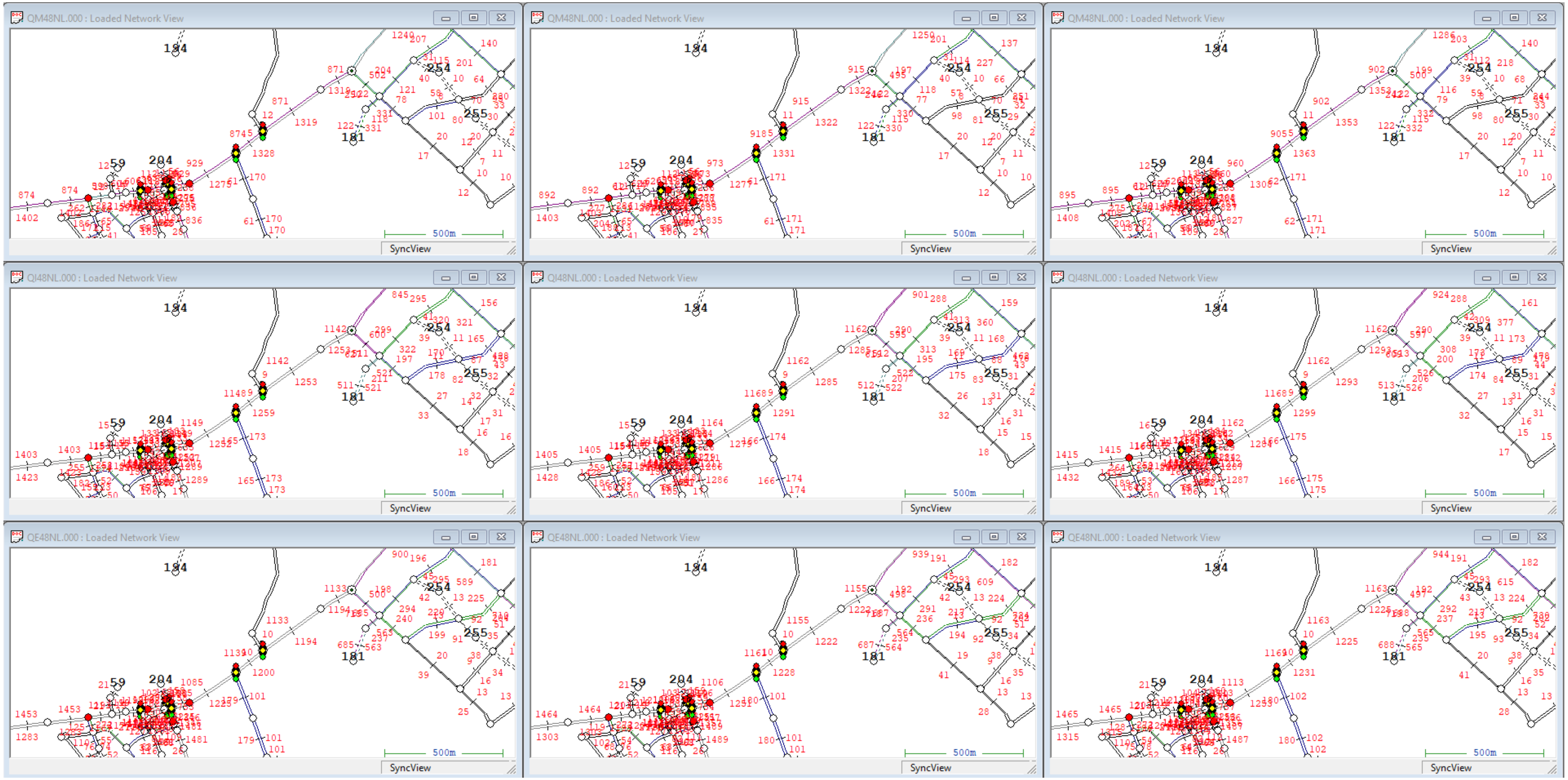
2048 Hourly Traffic Flows – SH6 Eastern View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



2048 Hourly Traffic Flows – SH6 Frankton Flats View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

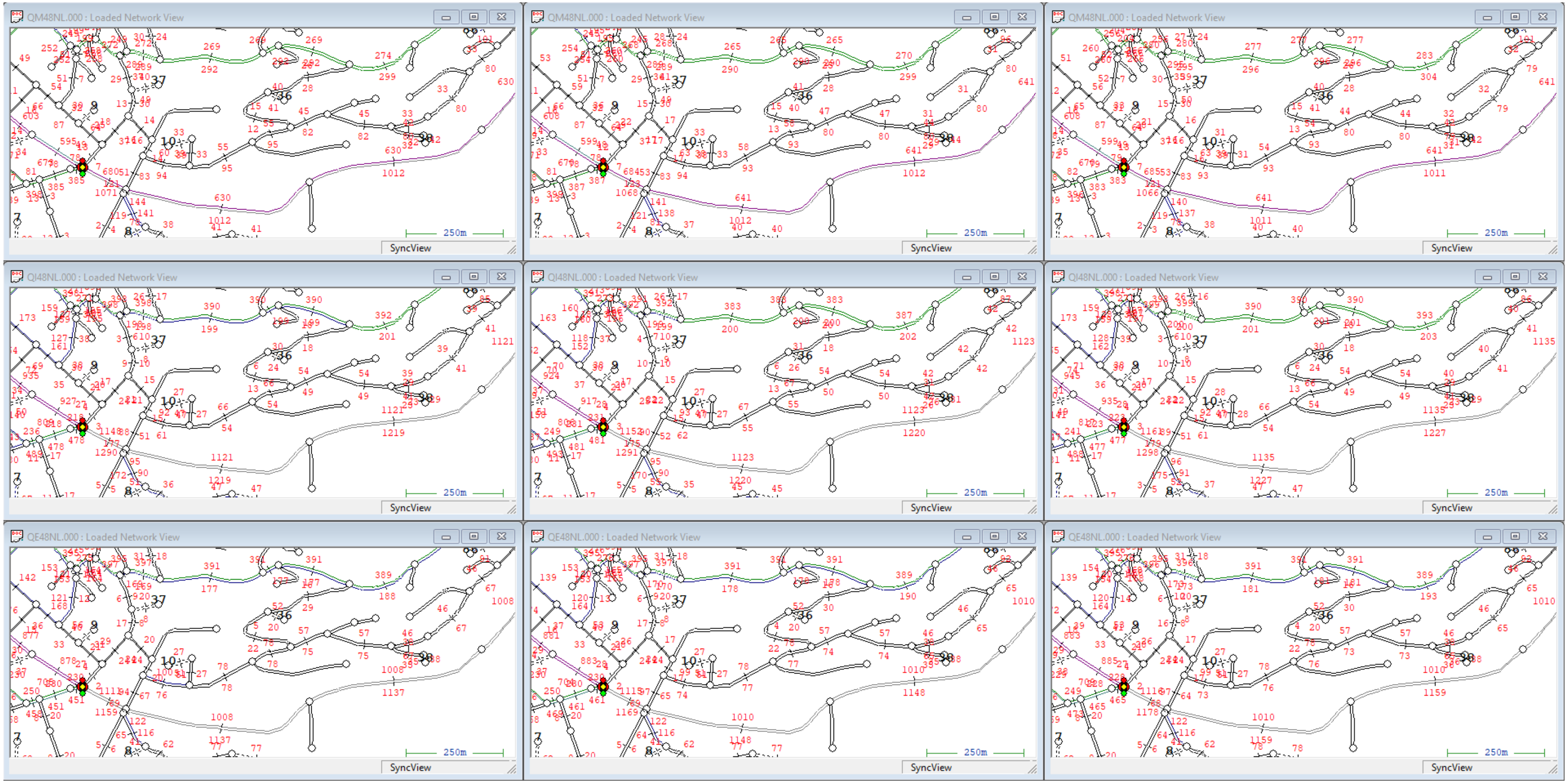


2048 Hourly Traffic Flows – SH6 / SH6A East View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

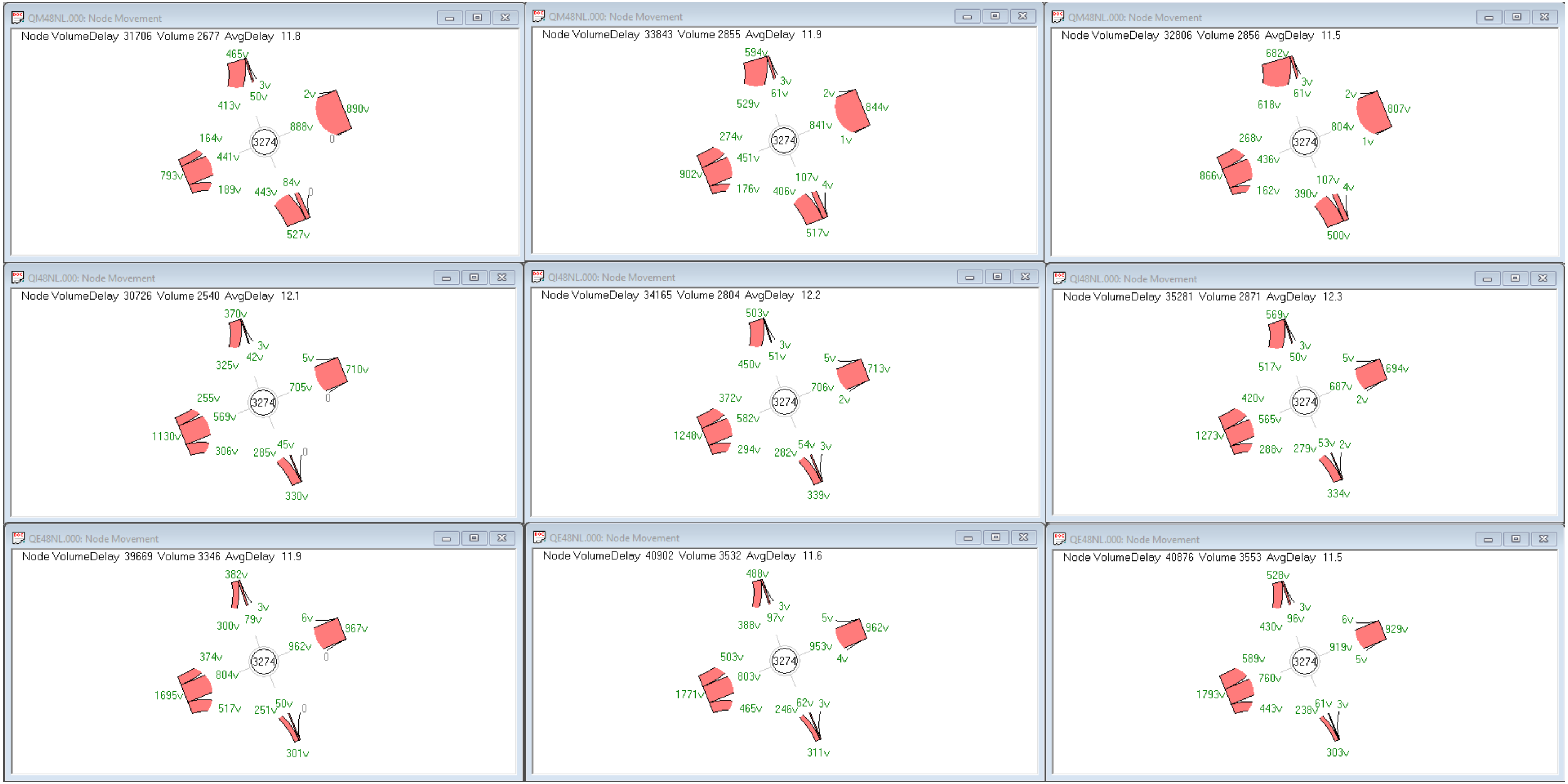


2048 Hourly Traffic Flows – Gorge Road View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

2048 Hourly Traffic Flows – SH6A West View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

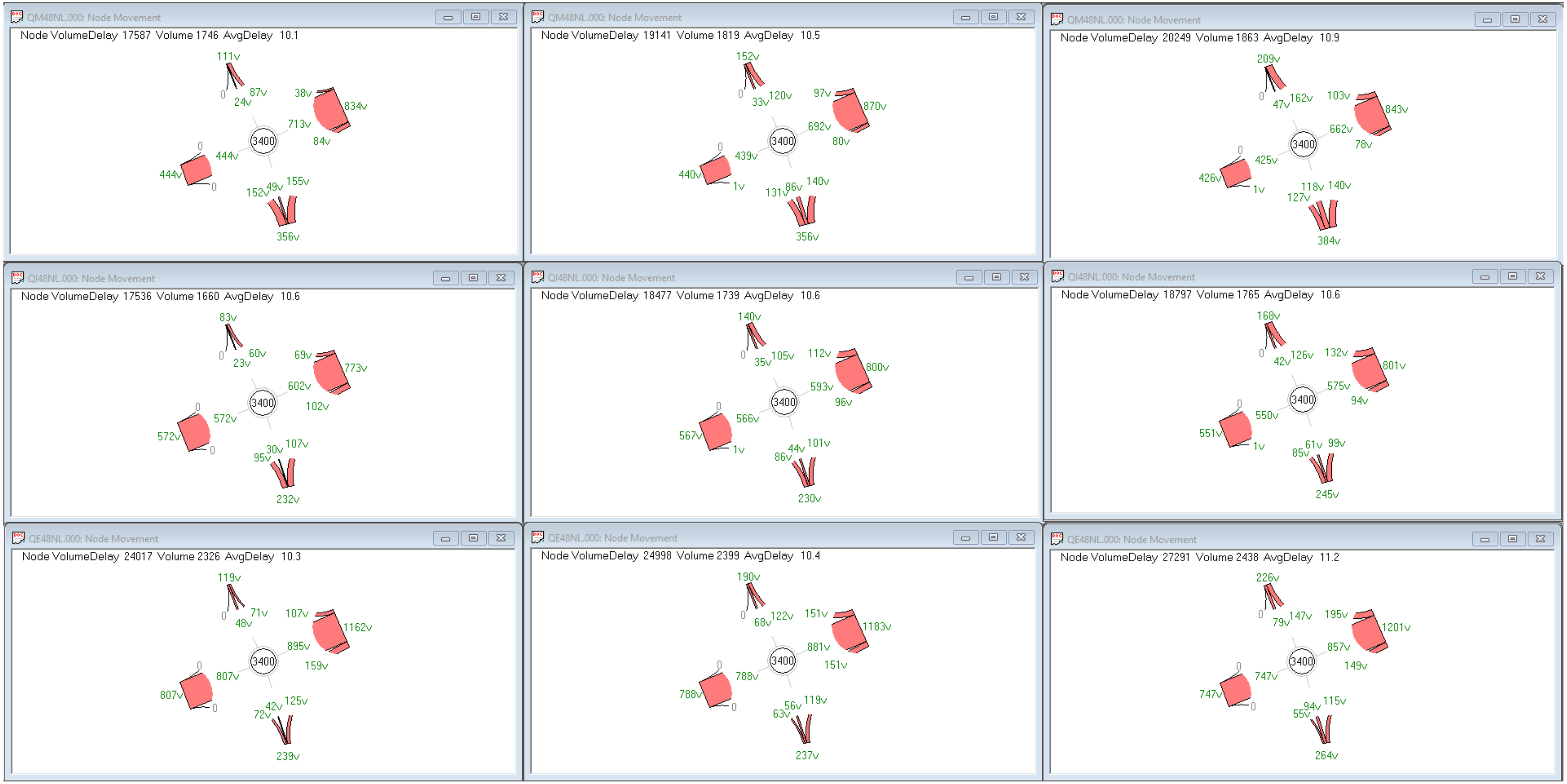


2048 Turning Movements – SH6 / Stalker Road (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

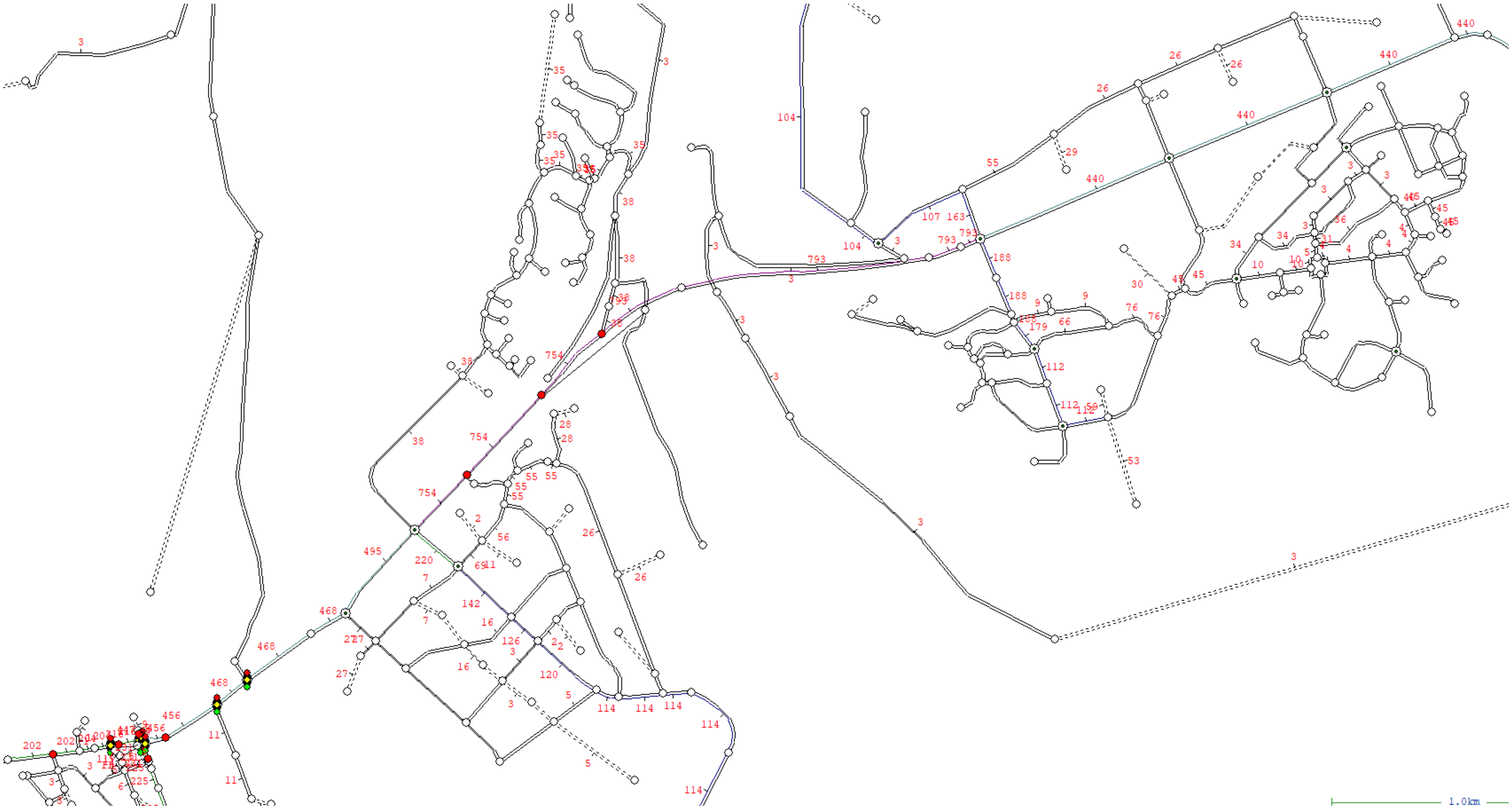


2048 Turning Movements – SH6 / Howards Drive (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

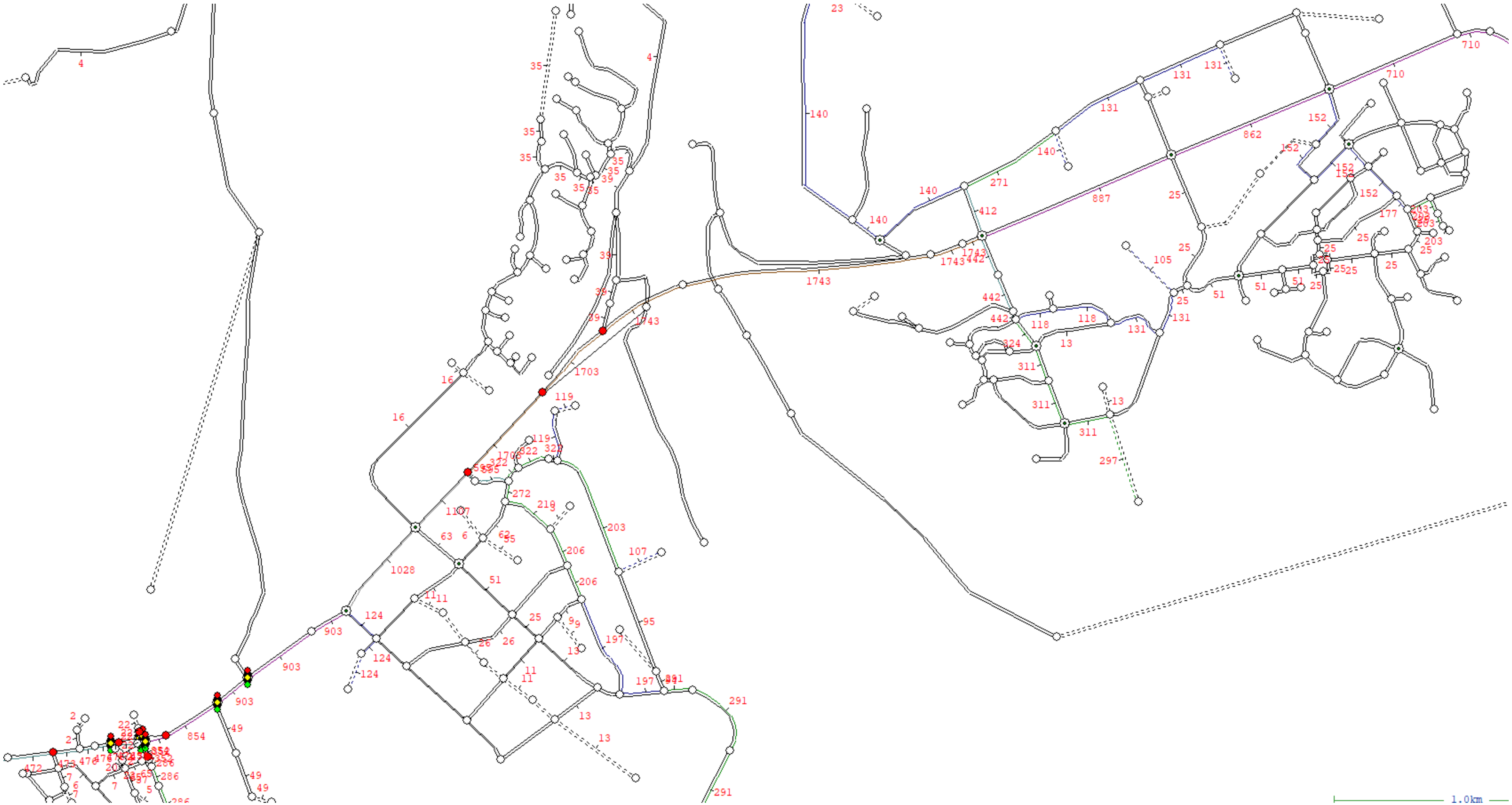
2048 Turning Movements – SH6 / Ada Place extension (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



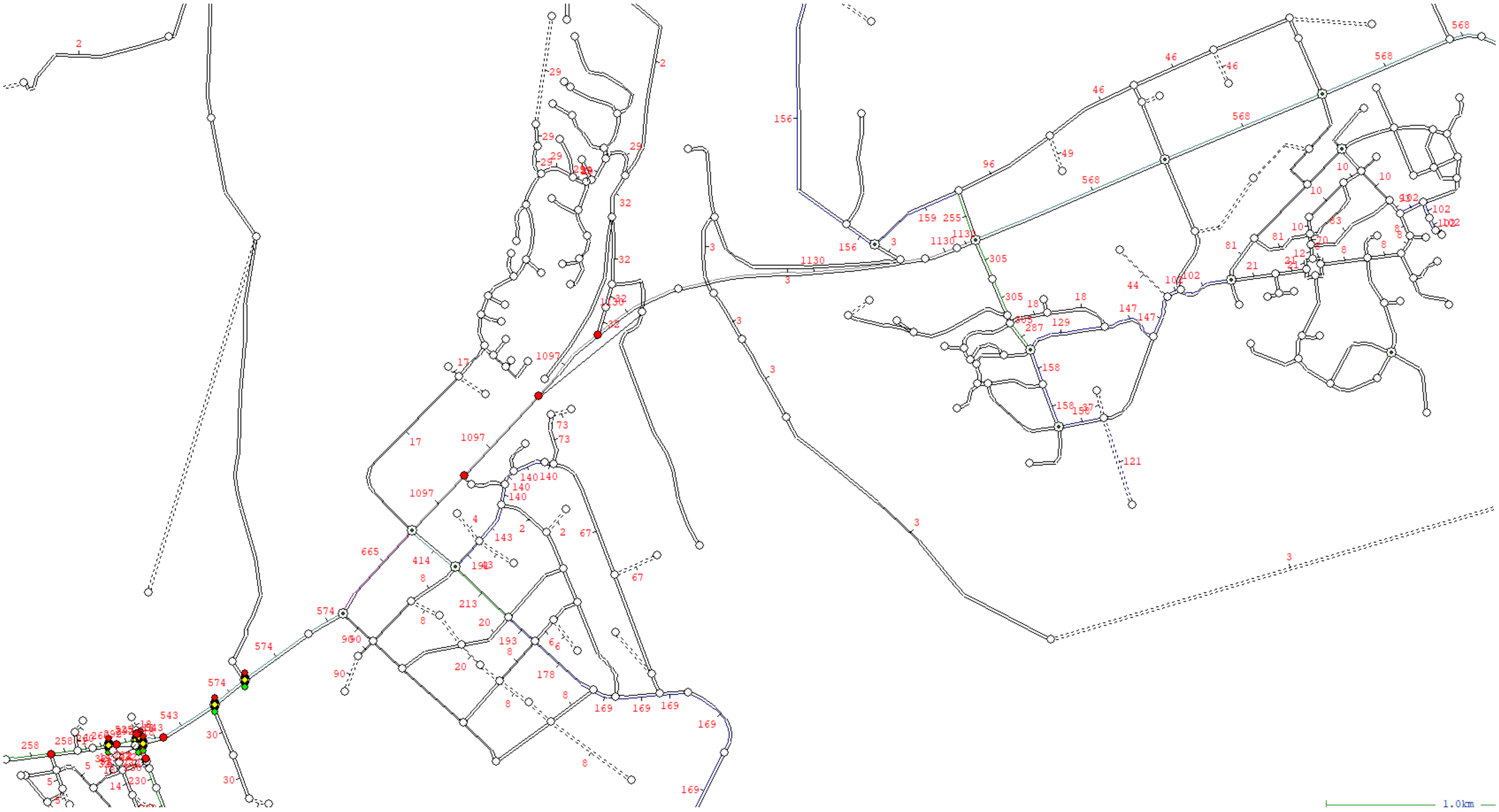
2048 Base Scenario Shotover Bridge AM Peak Eastbound select link plot



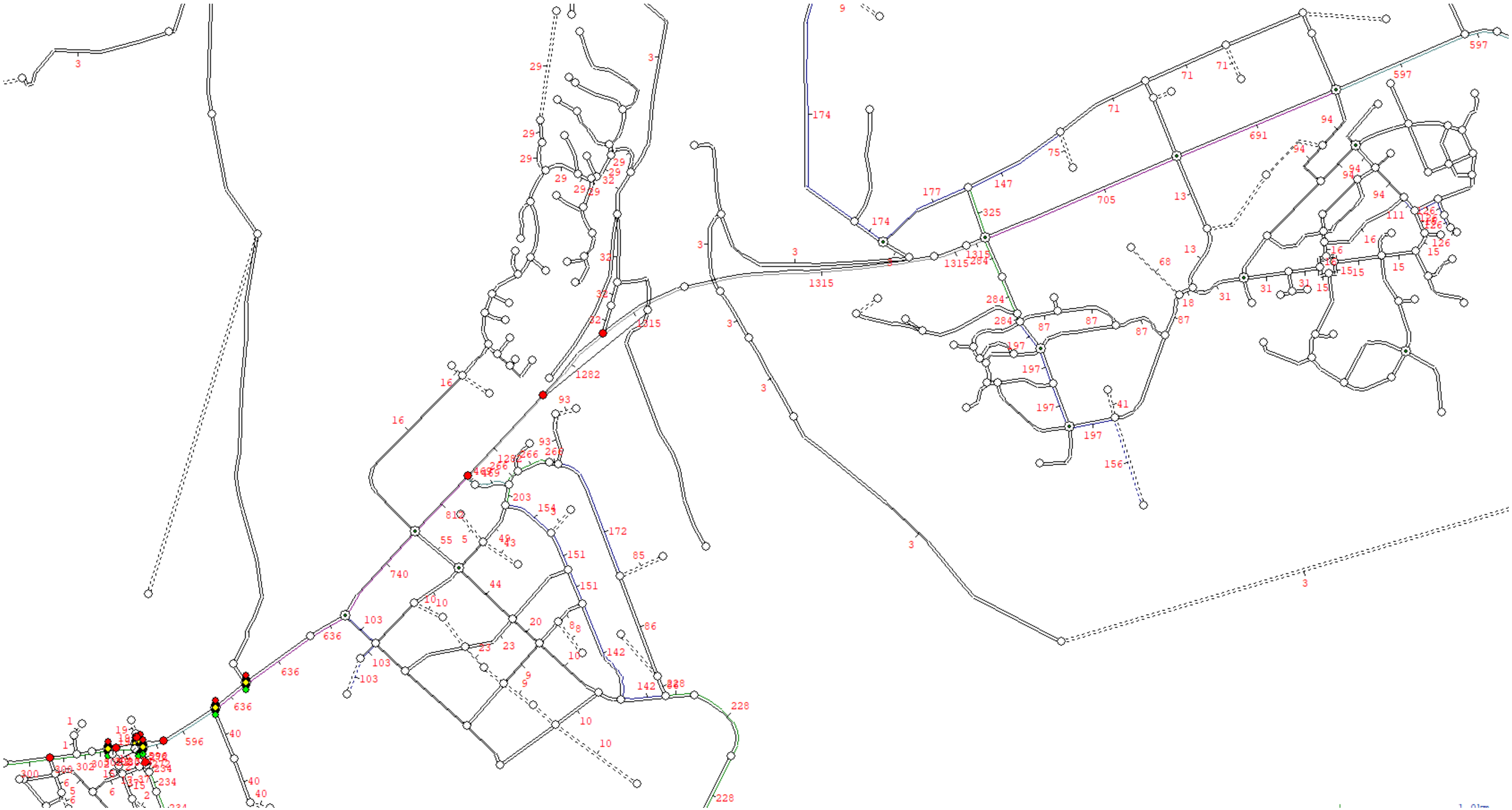
2048 Base Scenario Shotover Bridge AM Peak Westbound select link plot



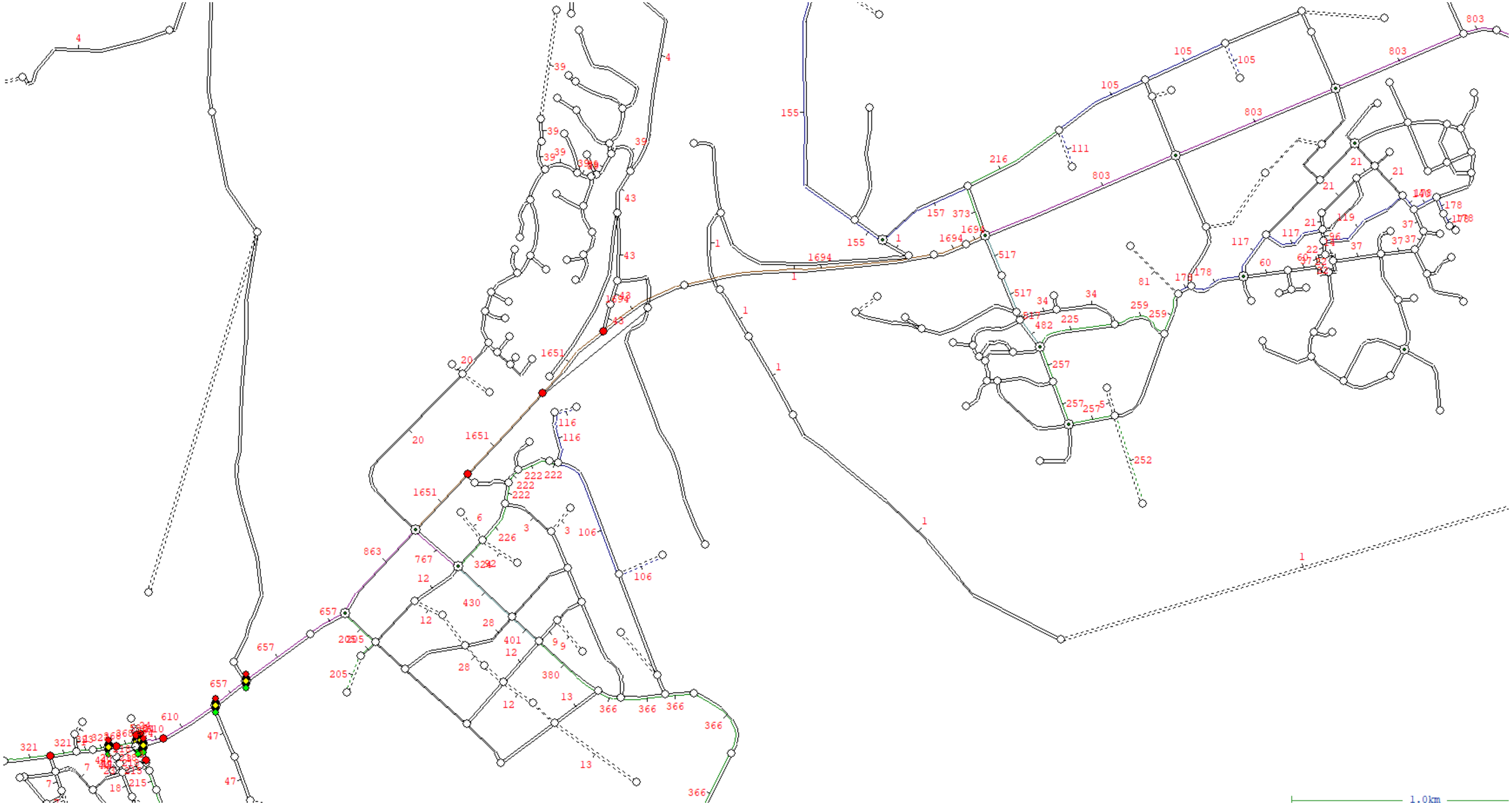
2048 Base Scenario Shotover Bridge Interpeak Eastbound select link plot



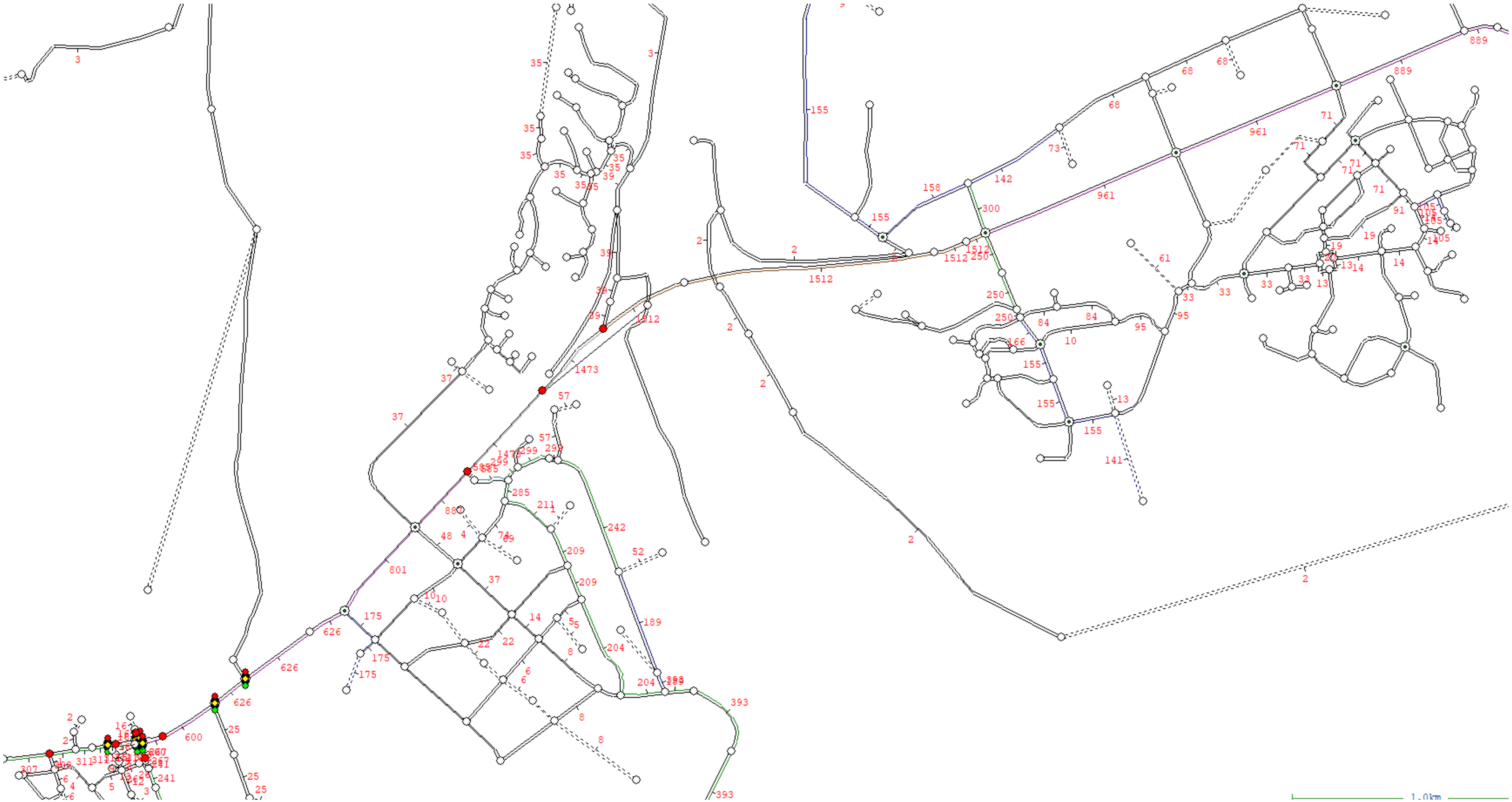
2048 Base Scenario Shotover Bridge Interpeak Westbound select link plot



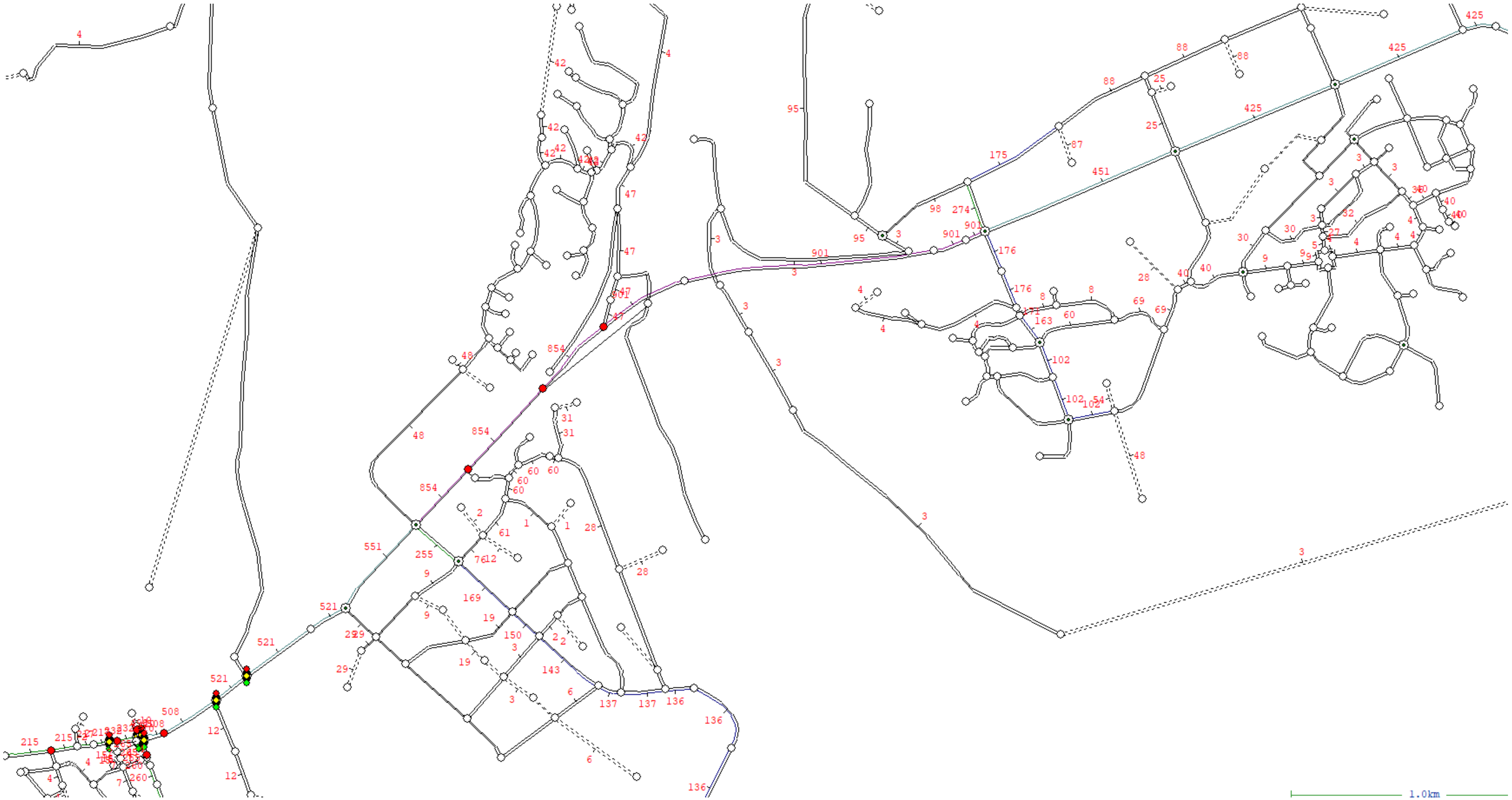
2048 Base Scenario Shotover Bridge PM Peak Eastbound select link plot



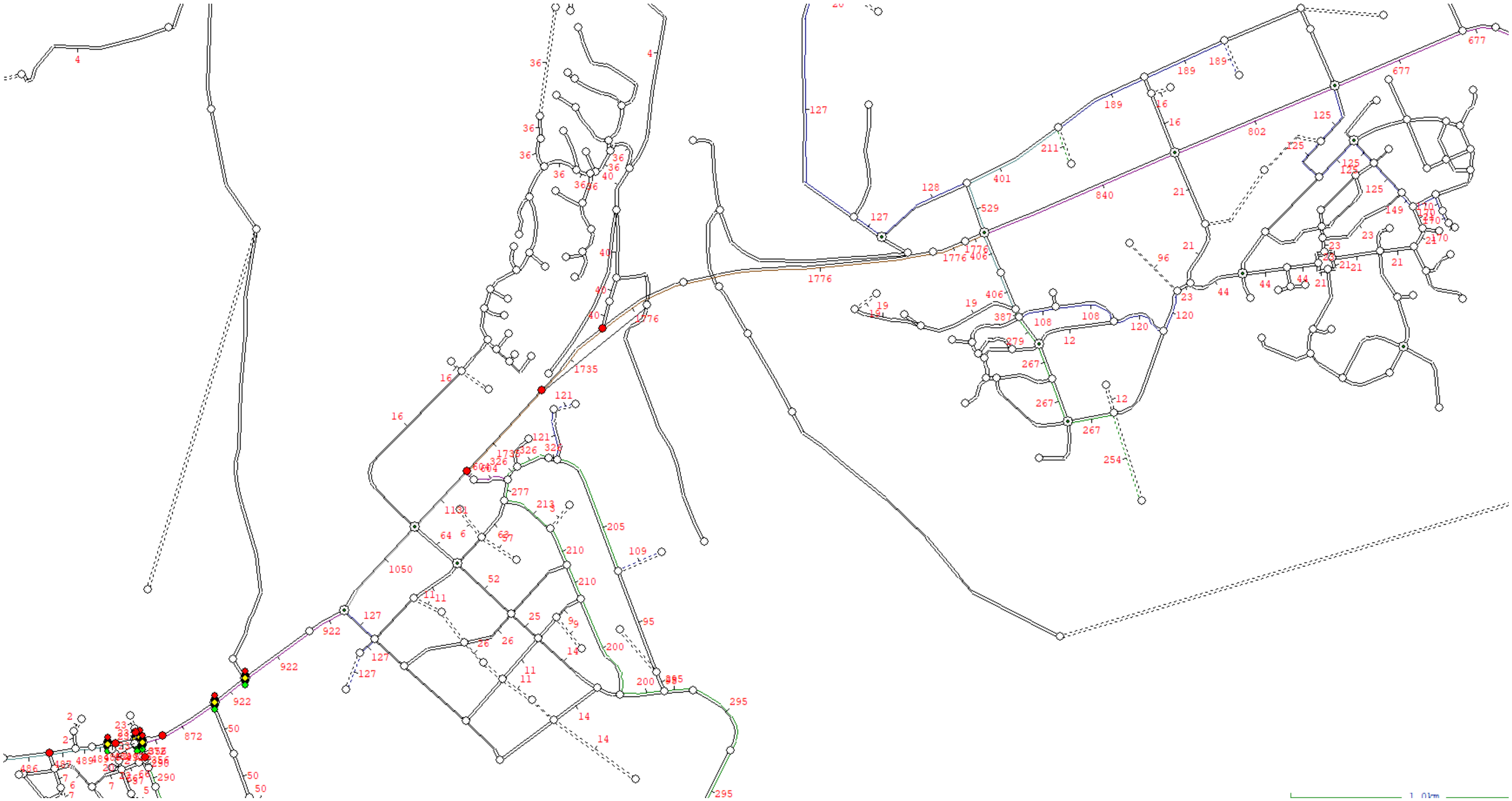
2048 Base Scenario Shotover Bridge PM Peak Westbound select link plot



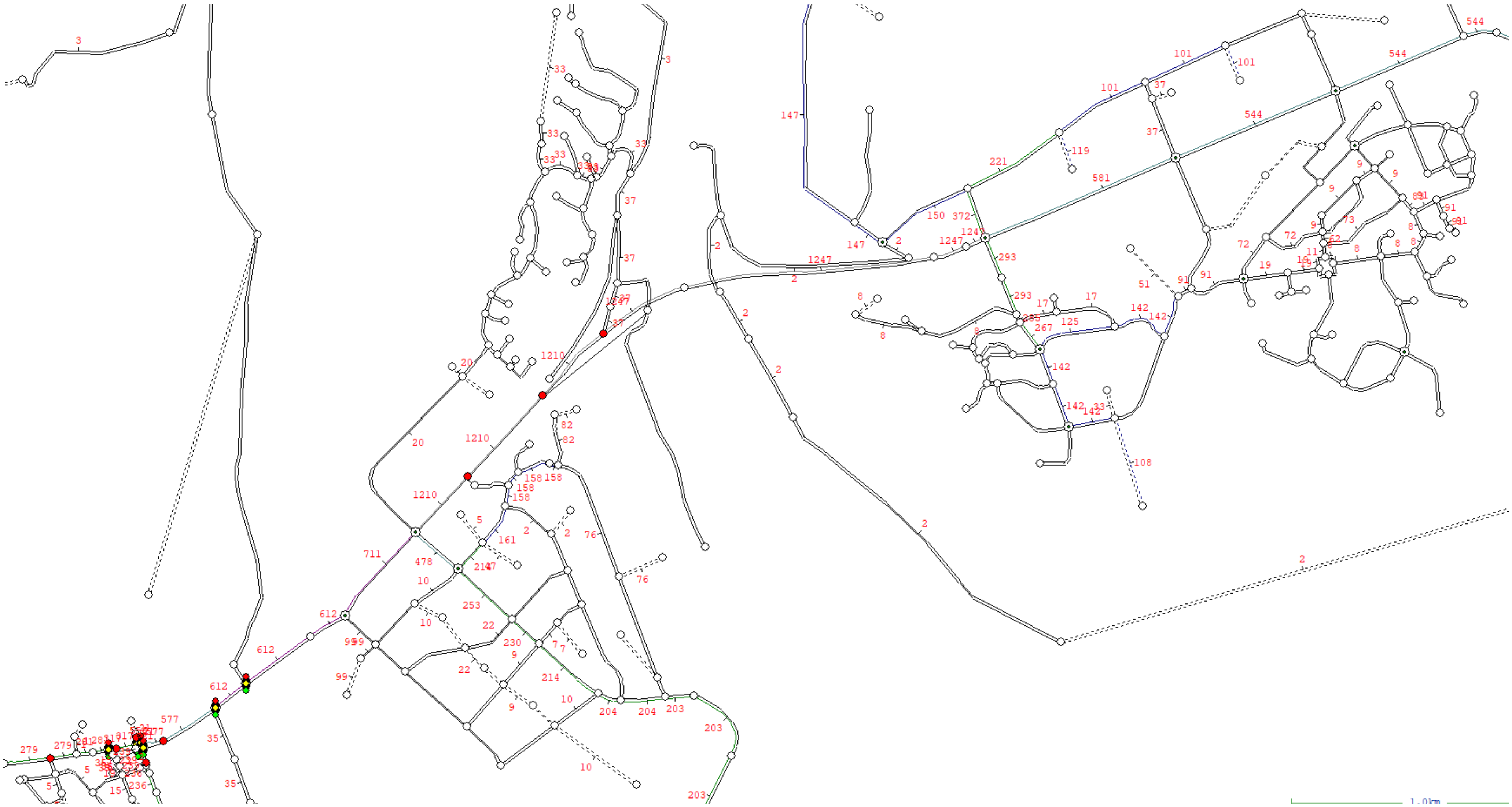
2048 Scenario 1 Shotover Bridge AM Peak Eastbound select link plot



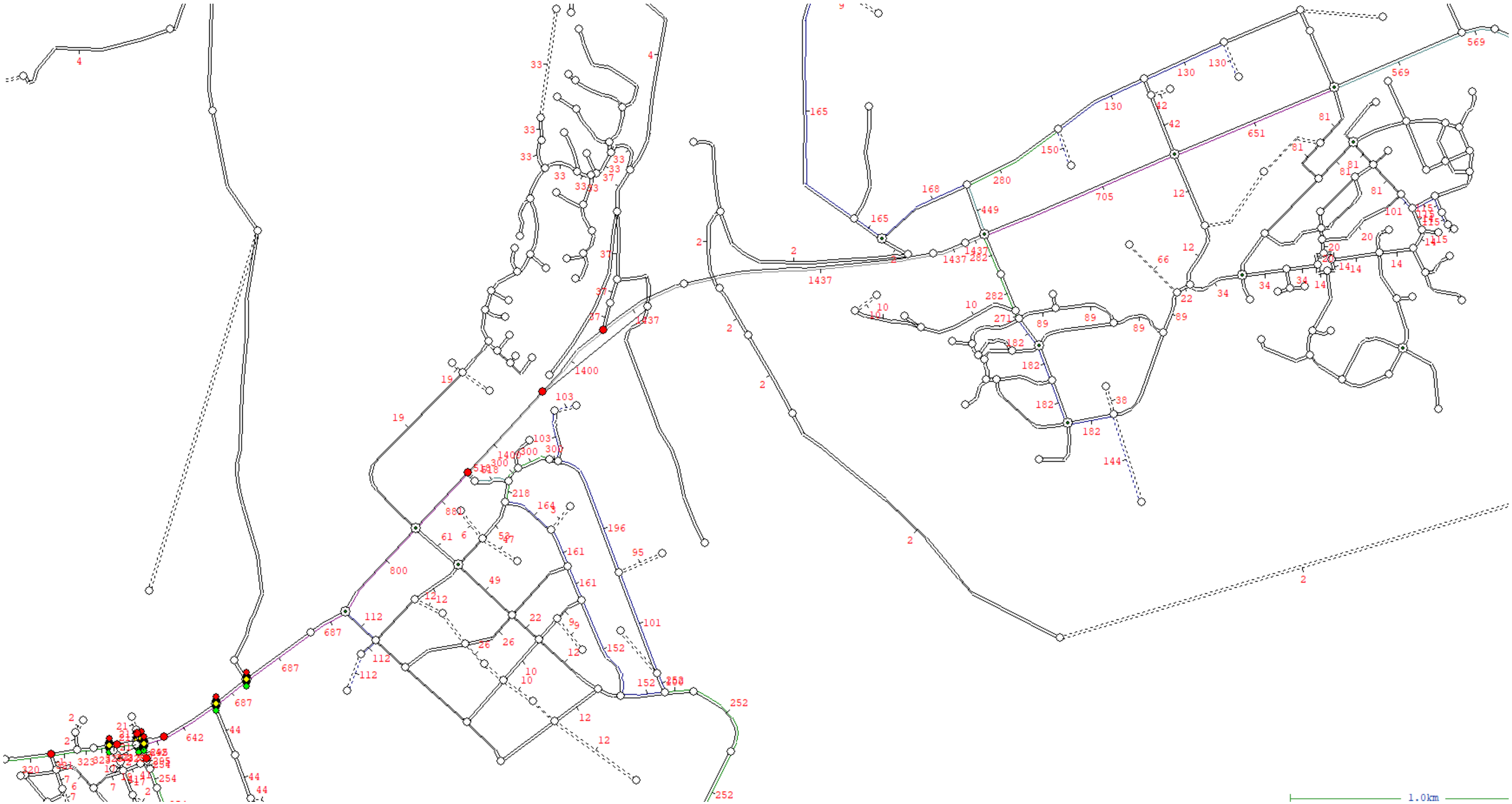
2048 Scenario 1 Shotover Bridge AM Peak Westbound select link plot



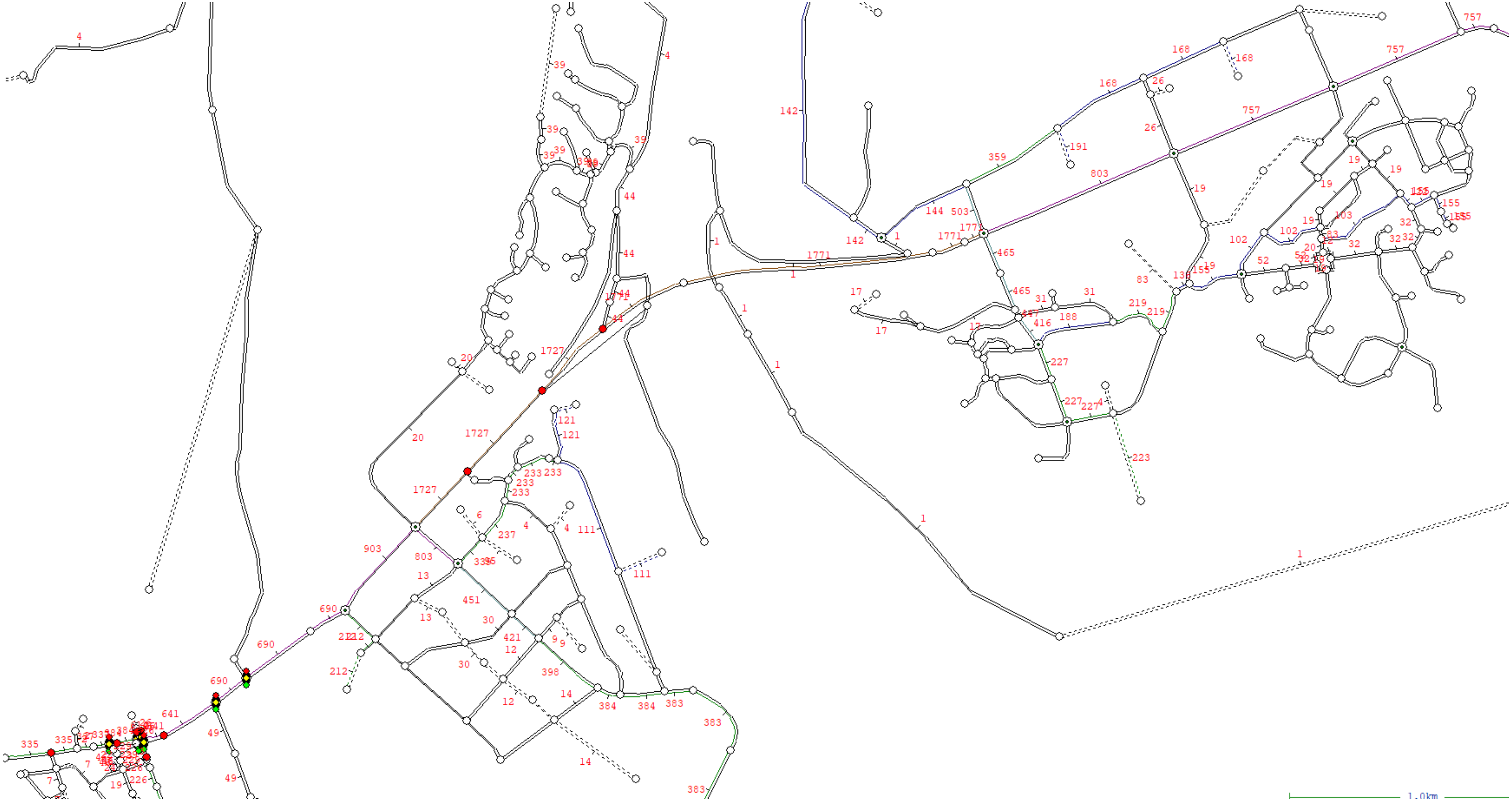
2048 Scenario 1 Shotover Bridge Interpeak Eastbound select link plot



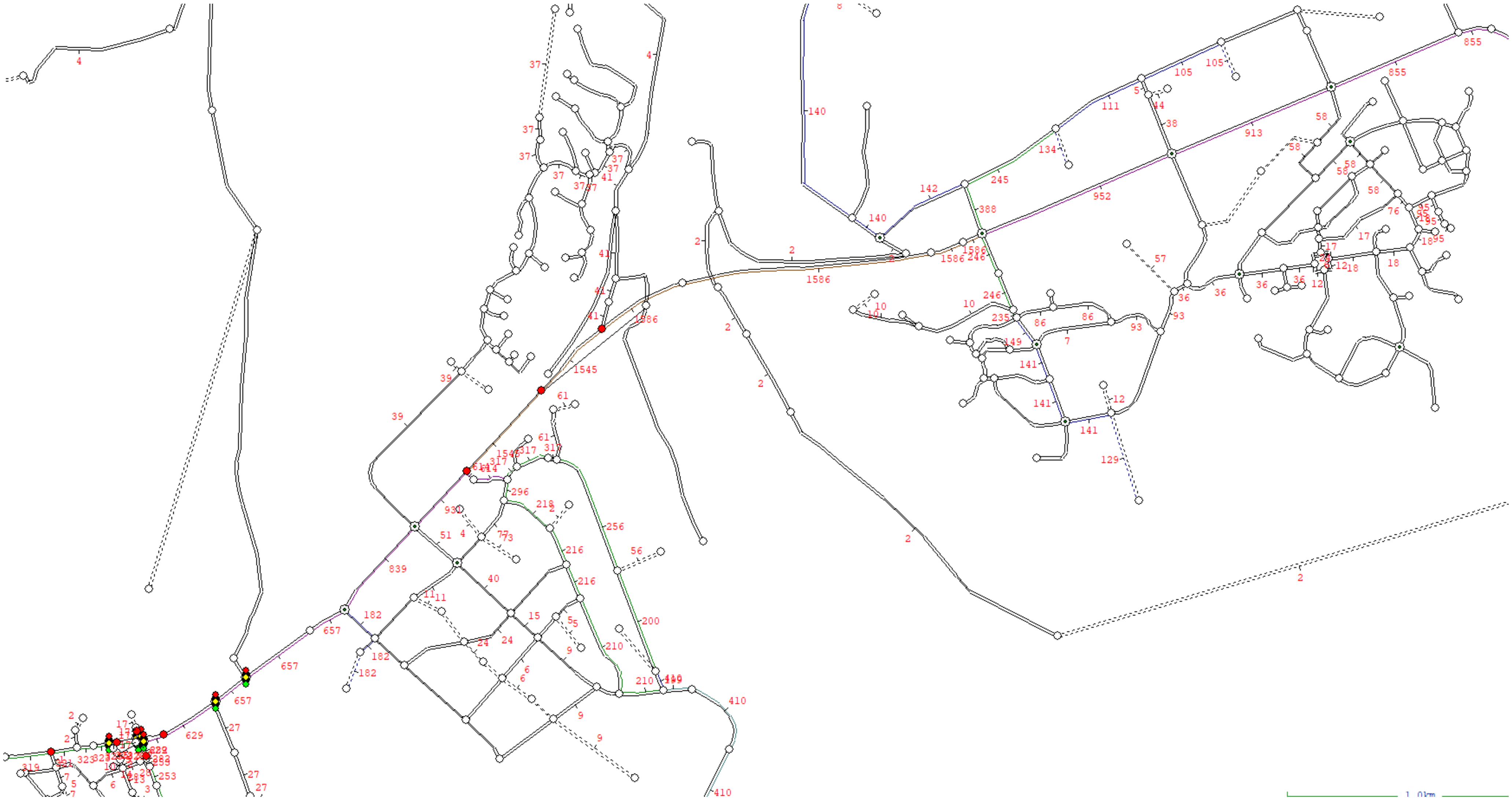
2048 Scenario 1 Shotover Bridge Interpeak Westbound select link plot



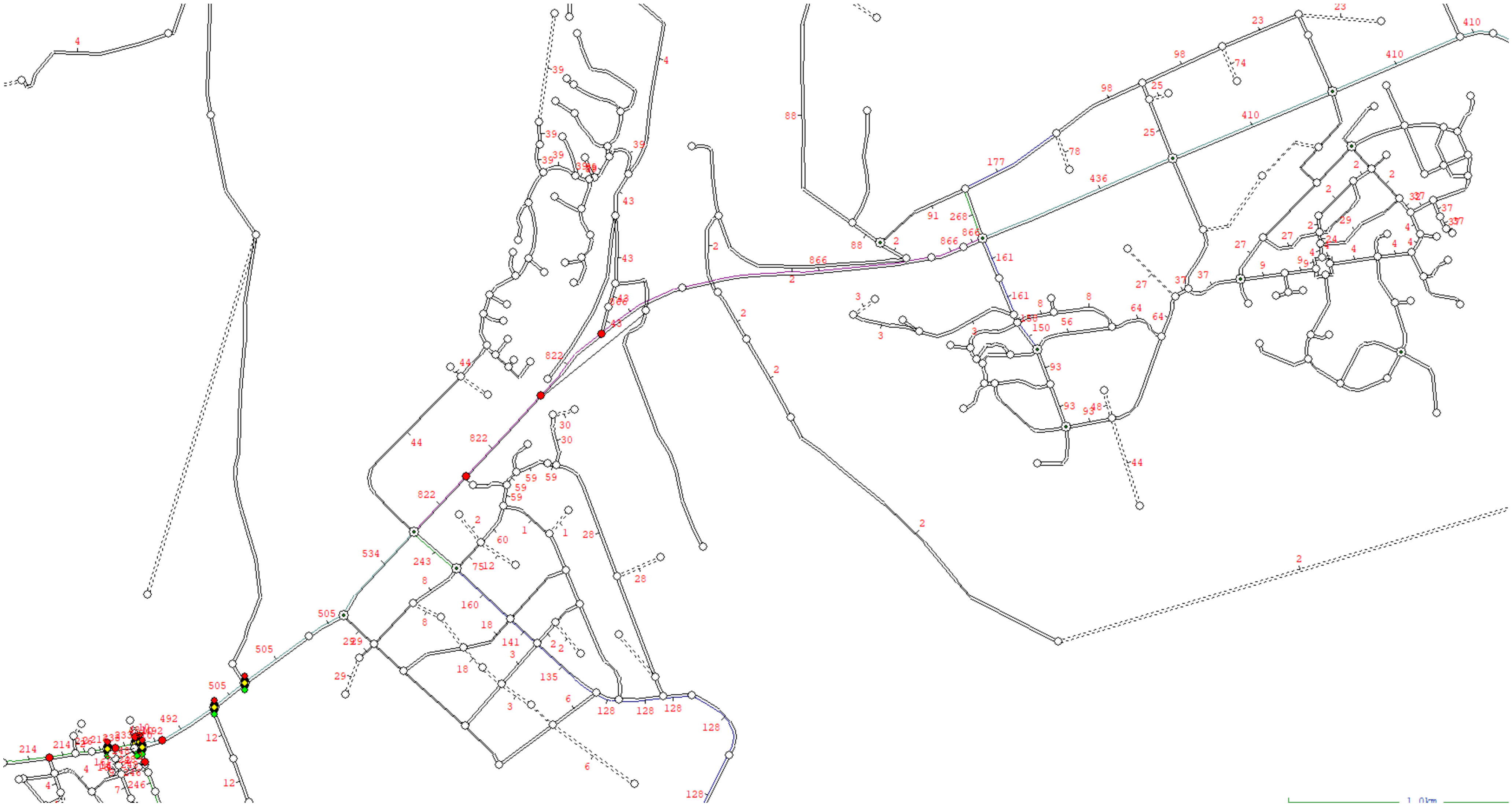
2048 Scenario 1 Shotover Bridge PM Peak Eastbound select link plot



2048 Scenario 1 Shotover Bridge PM Peak Westbound select link plot



2048 Scenario 2 Shotover Bridge AM Peak Eastbound select link plot



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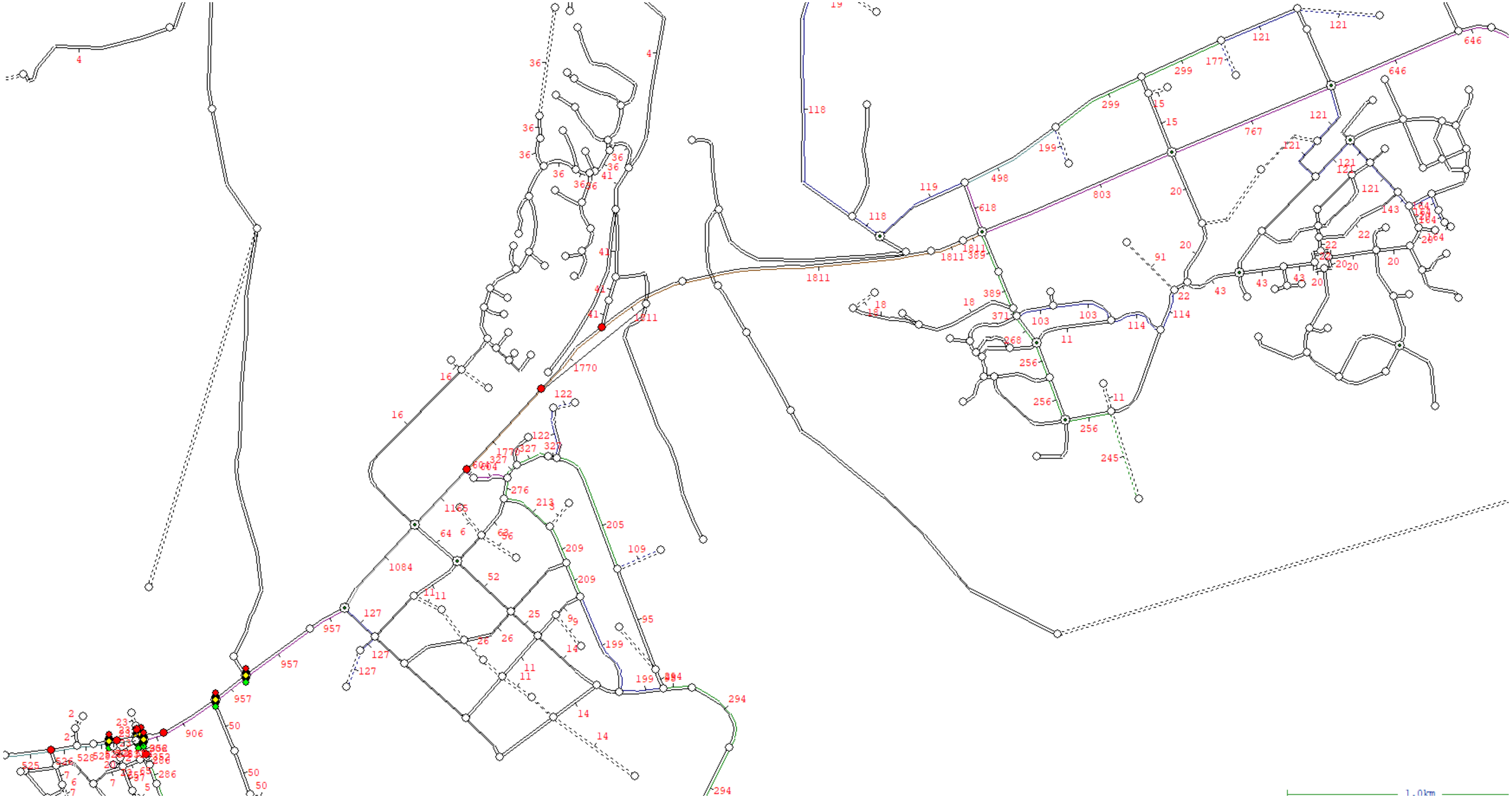
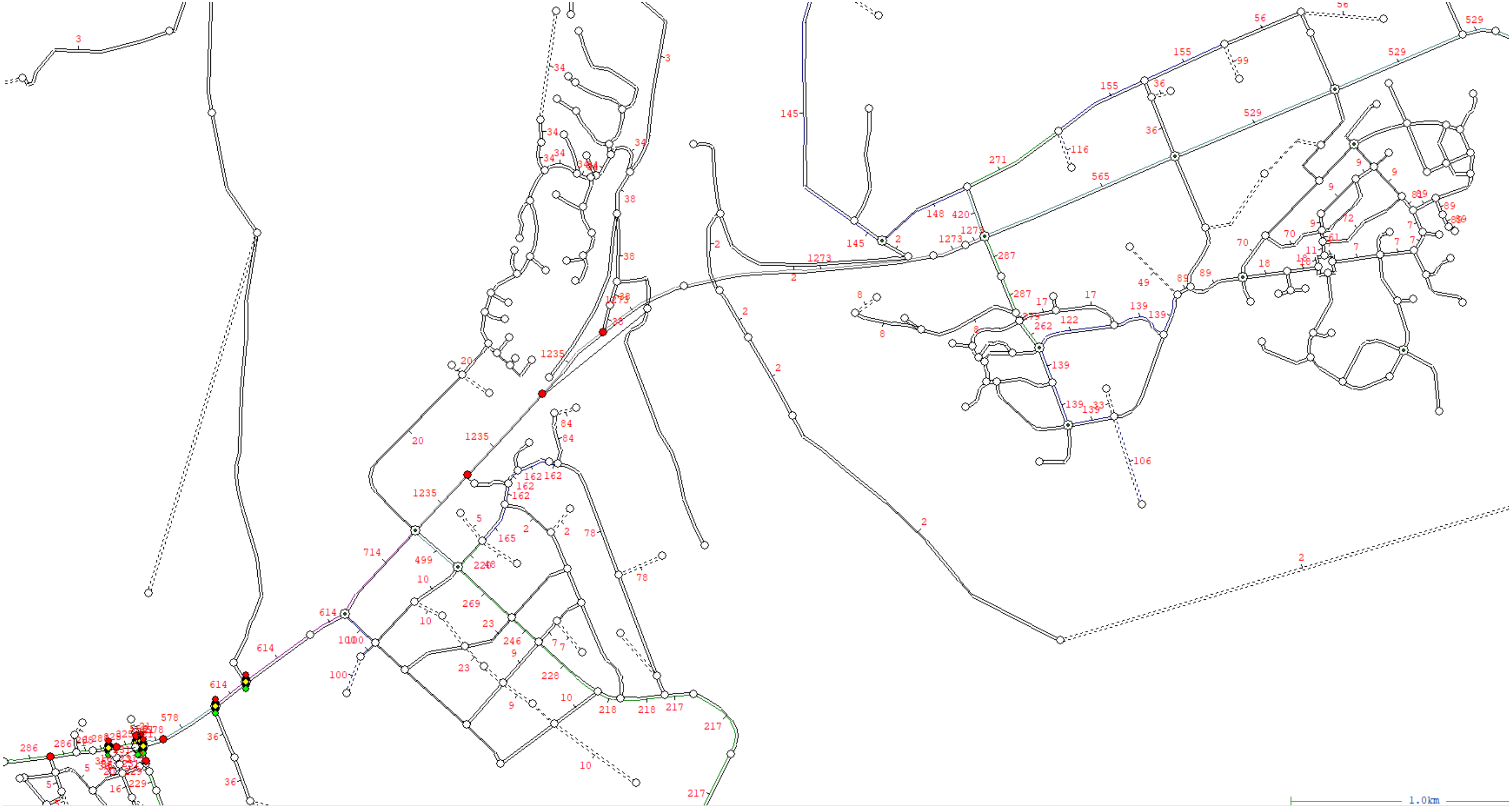
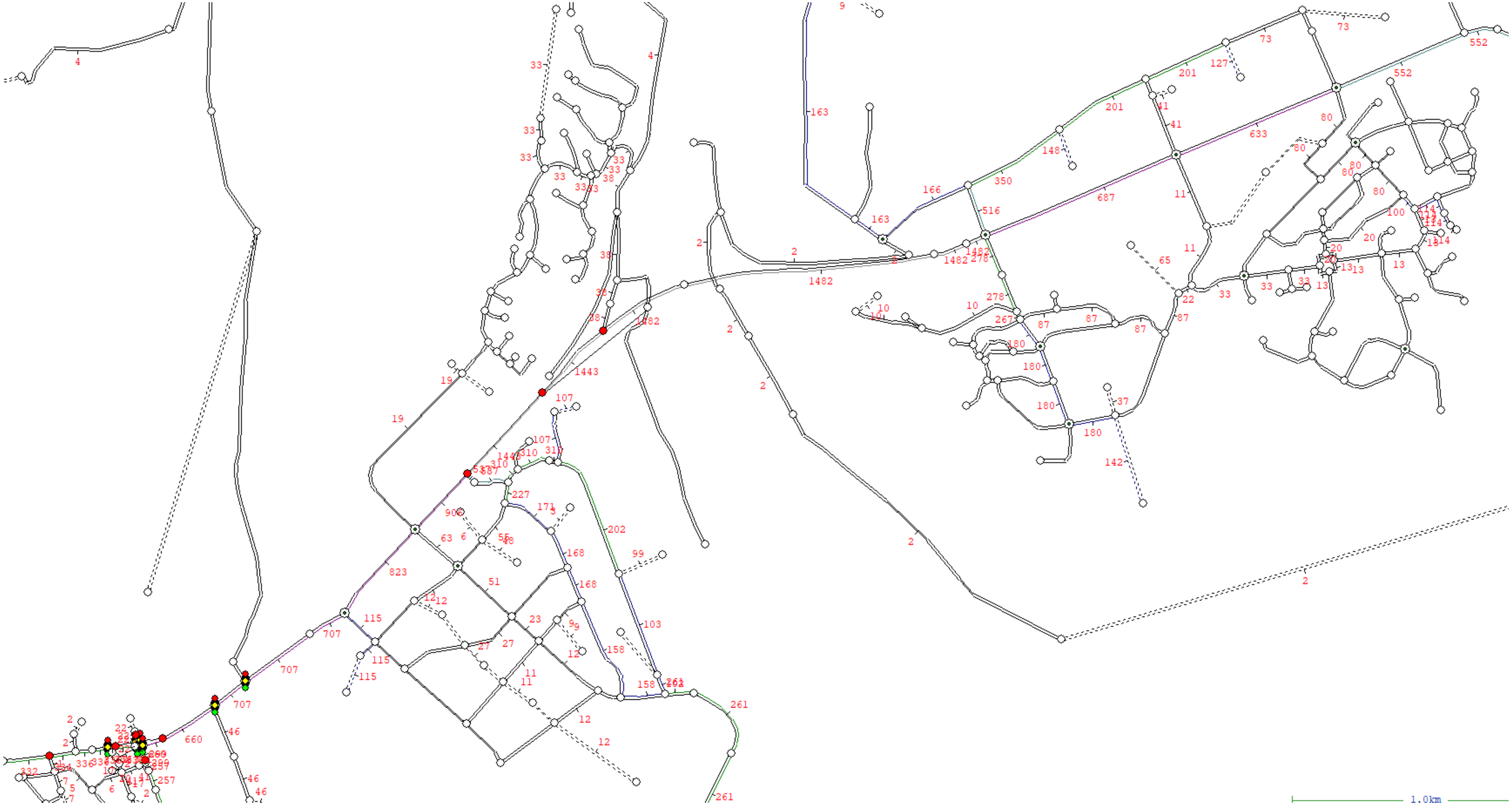


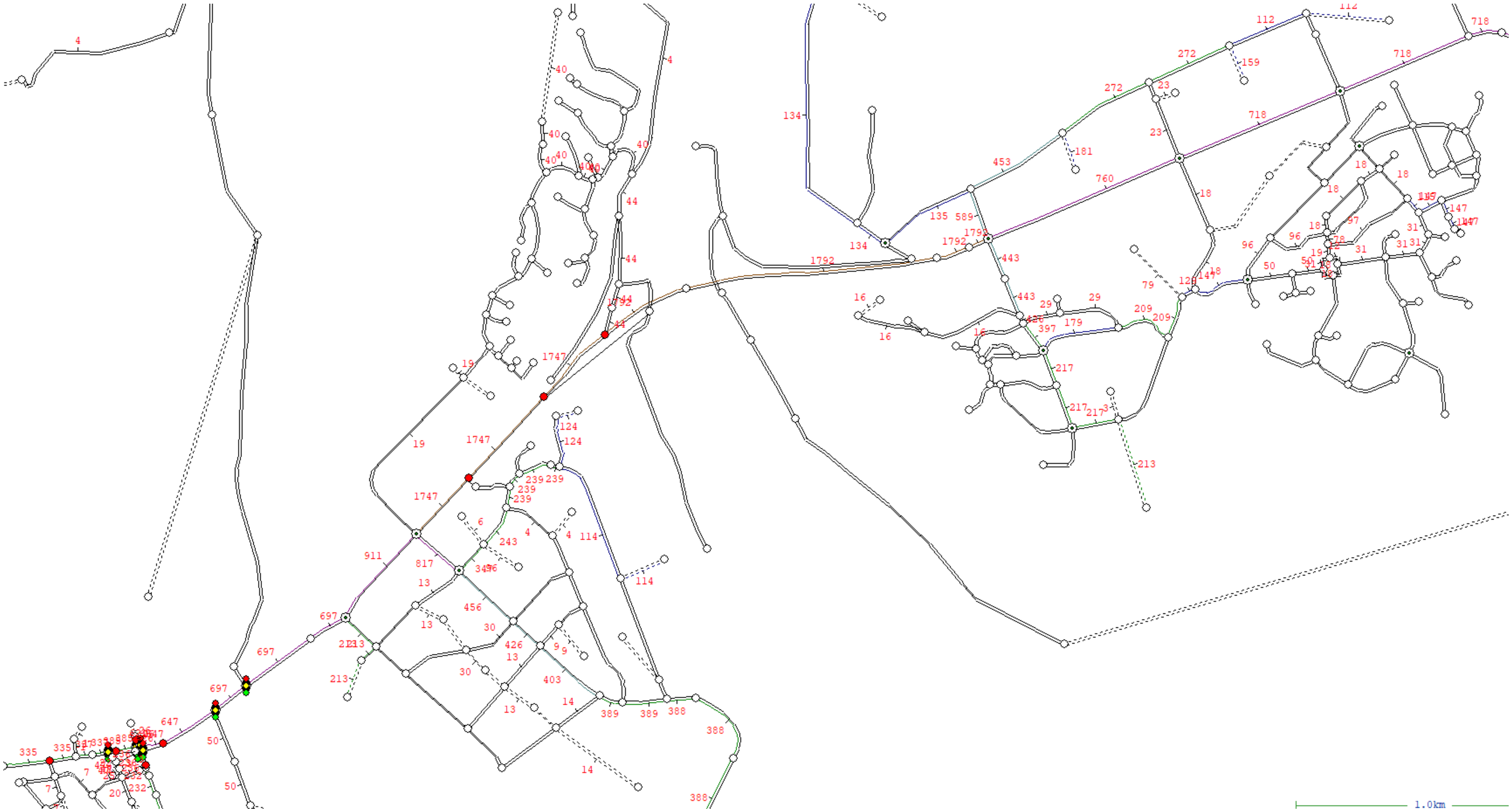
2048 Scenario 2 Shotover Bridge Interpeak Eastbound select link plot



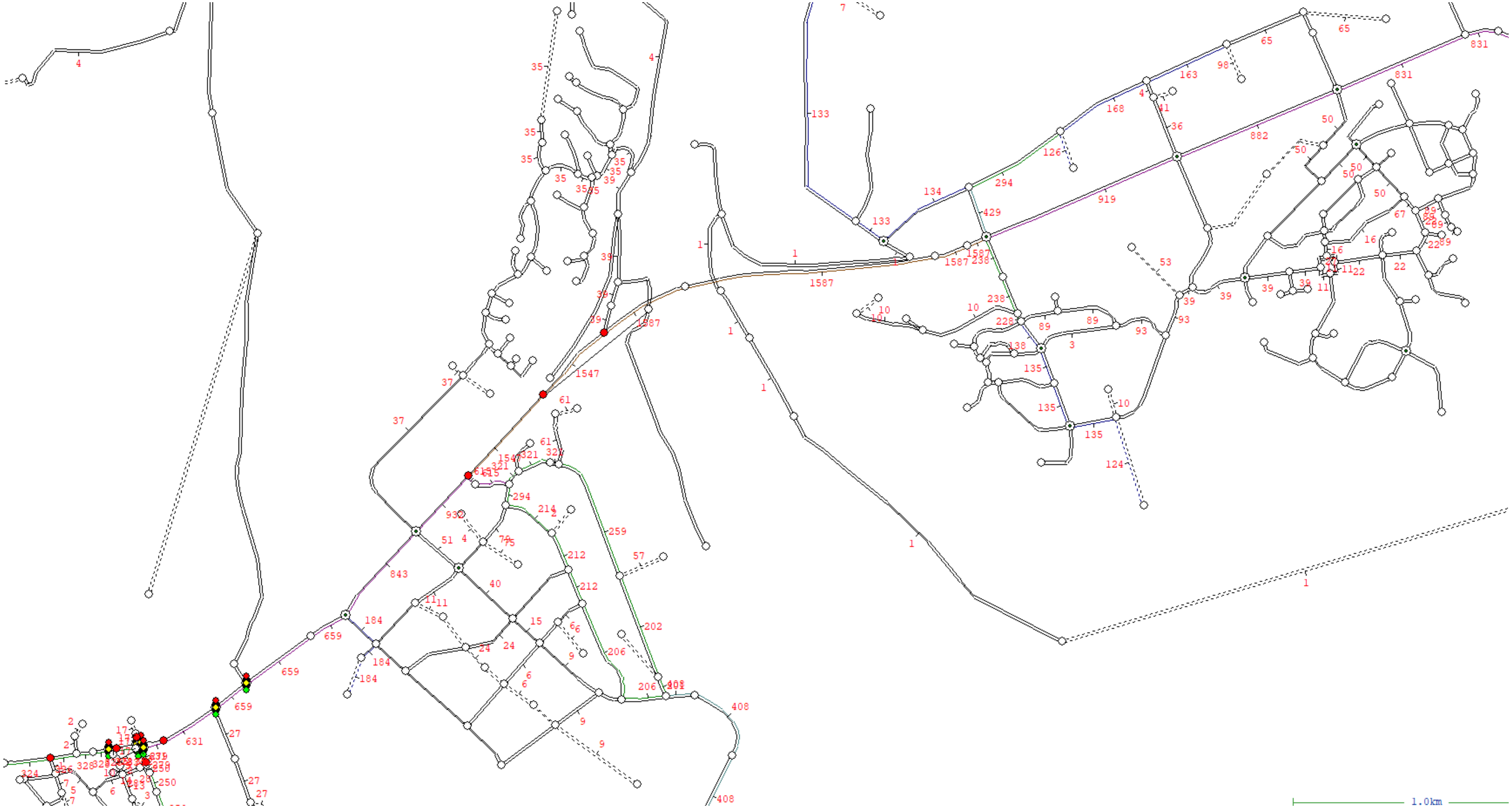
2048 Scenario 2 Shotover Bridge Interpeak Westbound select link plot



2048 Scenario 2 Shotover Bridge PM Peak Eastbound select link plot



2048 Scenario 2 Shotover Bridge PM Peak Westbound select link plot



	Bus		P&R	
AM Base	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	199	24	292	9
SH6 Ladies Mile btw Howards and new RAB	136	19	230	8
SH6 Ladies Mile east of new RAB	109	17	230	8
Stalker Rd south of SH6	55	5	0	0
Nerin Sq	63	6	0	0
SH6 Shotover Bridge	282	31	292	9
SH6 west of BP	1164	127	269	6
[Ladies Mile North]	28	2	0	0

	Bus		P&R	
AM Option 1	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	199	33	289	10
SH6 Ladies Mile btw Howards and new RAB	145	28	221	9
SH6 Ladies Mile east of new RAB	104	19	221	9
Stalker Rd south of SH6	52	6	0	0
Nerin Sq	53	6	0	0
SH6 Shotover Bridge	290	46	289	10
SH6 west of BP	1161	132	266	7
[Ladies Mile North]	39	7	0	0

		Bus		P&R	
	AM Option 2	Westbound	Eastbound	Westbound	Eastbound
	SH6 Ladies Mile btw Stalker and Howards	244	33	326	10
	SH6 Ladies Mile btw Howards and new RAB	185	28	236	9
	SH6 Ladies Mile east of new RAB	110	18	236	9
	Stalker Rd south of SH6	60	6	0	0
	Nerin Sq	60	6	0	0
579	SH6 Shotover Bridge	347	45	326	10
56	SH6 west of BP	1195	134	301	7
	[Ladies Mile North]	43	6	0	0

	Bus		P&R	
IP Base	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	67	157	86	175
SH6 Ladies Mile btw Howards and new RAB	48	102	76	148
SH6 Ladies Mile east of new RAB	41	81	76	148
Stalker Rd south of SH6	16	49	0	0
Nerin Sq	19	55	0	0
SH6 Shotover Bridge	90	226	86	175
SH6 west of BP	596	616	25	239
[Ladies Mile North]	7	21	0	0

	Bus		P&R	
IP Option 1	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	82	215	98	215
SH6 Ladies Mile btw Howards and new RAB	62	155	82	174
SH6 Ladies Mile east of new RAB	43	94	82	174
Stalker Rd south of SH6	19	62	0	0
Nerin Sq	20	61	0	0
SH6 Shotover Bridge	116	325	98	215
SH6 west of BP	610	673	28	242
[Ladies Mile North]	15	48	0	0

		Bus		P&R	
	IP Option 2	Westbound	Eastbound	Westbound	Eastbound
	SH6 Ladies Mile btw Stalker and Howards	98	252	106	223
	SH6 Ladies Mile btw Howards and new RAB	76	187	86	175
	SH6 Ladies Mile east of new RAB	45	96	86	175
	Stalker Rd south of SH6	21	65	0	0
	Nerin Sq	22	65	0	0
214	SH6 Shotover Bridge	136	368	106	223
539	SH6 west of BP	622	676	28	272
	[Ladies Mile North]	17	51	0	0

	Bus		P&R	
PM Base	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	39	371	46	297
SH6 Ladies Mile btw Howards and new RAB	29	200	42	258
SH6 Ladies Mile east of new RAB	25	121	42	258
Stalker Rd south of SH6	8	164	0	0
Nerin Sq	10	171	0	0
SH6 Shotover Bridge	52	614	46	297
SH6 west of BP	204	1591	69	135
[Ladies Mile North]	4	79	0	0

	Bus		P&R	
PM Option 1	Westbound	Eastbound	Westbound	Eastbound
SH6 Ladies Mile btw Stalker and Howards	47	417	52	306
SH6 Ladies Mile btw Howards and new RAB	37	257	46	258
SH6 Ladies Mile east of new RAB	26	121	46	258
Stalker Rd south of SH6	10	169	0	0
Nerin Sq	10	160	0	0
SH6 Shotover Bridge	65	710	52	306
SH6 west of BP	212	1624	77	158
[Ladies Mile North]	8	124	0	0

		Bus		P&R	
	PM Option 2	Westbound	Eastbound	Westbound	Eastbound
	SH6 Ladies Mile btw Stalker and Howards	52	557	53	356
	SH6 Ladies Mile btw Howards and new RAB	41	377	46	295
	SH6 Ladies Mile east of new RAB	27	133	46	295
	Stalker Rd south of SH6	10	191	0	0
	Nerin Sq	10	181	0	0
117	SH6 Shotover Bridge	70	889	53	356
1016	SH6 west of BP	218	1812	83	161
	[Ladies Mile North]	8	140	0	0

Base AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.15	7.62
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.29	22.43
Nerin Square to Frankton Flats	18.19	15.66
Nerin Square to Queenstown Town Centre	38.57	33.83

Option 1 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.15	7.62
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.29	22.43
Nerin Square to Frankton Flats	19.03	17.10
Nerin Square to Queenstown Town Centre	38.69	34.43

Option 2 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.15	7.61
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.28	22.43
Nerin Square to Frankton Flats	18.31	19.01
Nerin Square to Queenstown Town Centre	38.20	33.59

Base AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.20	7.75
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.34	22.53
Nerin Square to Frankton Flats	18.12	19.15
Nerin Square to Queenstown Town Centre	39.34	34.53

Option 1 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.20	7.75
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.34	22.53
Nerin Square to Frankton Flats	18.60	19.63
Nerin Square to Queenstown Town Centre	38.26	33.81

Option 2 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.20	7.75
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.34	22.53
Nerin Square to Frankton Flats	18.48	18.55
Nerin Square to Queenstown Town Centre	39.34	34.29

Base AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.26	5.91
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.38	20.67
Nerin Square to Frankton Flats	18.18	17.07
Nerin Square to Queenstown Town Centre	38.90	32.43

Option 1 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.26	5.93
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.38	20.68
Nerin Square to Frankton Flats	18.90	17.45
Nerin Square to Queenstown Town Centre	38.90	31.84

Option 2 AM	Inbound	Outbound
SH6 Ladies Mile btw Stalker and Howards to Frankton Flats	7.26	5.92
SH6 Ladies Mile btw Stalker and Howards to Queenstown Town Centre	27.37	20.67
Nerin Square to Frankton Flats	18.42	17.08
Nerin Square to Queenstown Town Centre	38.65	31.83

LM Updated Baseline

AM Pre-Skim

Total HH		LM MP	LHE+SC	Wider Area	Total
1012	LM MP	35.1	78.5	470.3	583.9
1813	LHE+SC	49.7	302.2	986.5	1338.5
	Wider Area	100.1	324.2	1500.1	1924.4
	Total	185.0	704.9	2956.8	3846.8

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	37.4	57.7	231.6	326.7
LHE+SC	70.3	244.5	519.4	834.2
Wider Area	513.6	1068.3	2161.1	3743.0
Total	621.4	1370.5	2912.1	4904.0

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	35.1	75.8	394.4	505.3
LHE+SC	45.4	293.6	878.5	1217.5
Wider Area	90.1	307.3	1447.7	1845.0
Total	170.6	676.7	2720.6	3567.9

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	37.4	53.5	216.8	307.7
LHE+SC	66.7	235.9	498.5	801.1
Wider Area	336.5	773.3	2079.5	3189.3
Total	440.7	1062.7	2794.8	4298.1

LM Opt 1

AM Pre-Skim

Total HH		LM MP	LHE+SC	Wider Area	Total
1657	LM MP	220.9	127.0	712.9	1060.8
1813	LHE+SC	202.4	271.8	862.8	1336.9
	Wider Area	356.7	299.6	1424.4	2080.7
	Total	780.0	698.3	3000.0	4478.3

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	189.9	160.4	499.3	849.6
LHE+SC	130.4	226.1	478.6	835.1
Wider Area	862.1	985.0	2049.1	3896.1
Total	1182.4	1371.5	3027.0	5580.8

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	220.9	123.9	634.0	978.9
LHE+SC	196.5	265.2	764.4	1226.2
Wider Area	344.9	285.0	1371.7	2001.6
Total	762.3	674.1	2770.2	4206.6

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	189.9	154.4	481.8	826.1
LHE+SC	125.9	220.1	460.4	806.5
Wider Area	631.4	708.0	1967.8	3307.2
Total	947.3	1082.5	2910.0	4939.8

LM Opt 1 Change from LM Base

AM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	185.8	48.5	242.6	476.9
LHE+SC	152.6	-30.5	-123.8	-1.6
Wider Area	256.6	-24.7	-75.7	156.2
Total	595.0	-6.6	43.2	631.5

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	152.5	102.7	267.7	522.9
LHE+SC	60.1	-18.4	-40.8	0.8
Wider Area	348.4	-83.3	-112.0	153.1
Total	561.0	1.0	114.8	676.8

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	185.8	48.1	239.7	473.5
LHE+SC	151.1	-28.4	-114.1	8.6
Wider Area	254.8	-22.3	-75.9	156.6
Total	591.7	-2.6	49.7	638.7

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	152.5	101.0	264.9	518.4
LHE+SC	59.2	-15.9	-38.1	5.3
Wider Area	294.9	-65.2	-111.7	117.9
Total	506.6	19.9	115.2	641.7

LM Opt B

AM Pre-Skim

Total HH		LM MP	LHE+SC	Wider Area	Total
2228	LM MP	308.4	163.3	919.9	1391.5
1813	LHE+SC	217.2	265.1	856.5	1338.8
	Wider Area	371.6	280.1	1359.8	2011.5
	Total	897.2	708.5	3136.2	4741.8

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	275.5	183.8	583.1	1042.4
LHE+SC	163.1	220.1	458.5	841.7
Wider Area	1098.9	971.1	1975.6	4045.6
Total	1537.5	1375.0	3017.2	5929.8

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	308.4	159.1	796.2	1263.7
LHE+SC	209.9	262.0	743.8	1215.7
Wider Area	356.8	267.4	1310.6	1934.9
Total	875.1	688.6	2850.6	4414.3

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	275.5	176.9	561.7	1014.1
LHE+SC	157.5	214.3	440.5	812.4
Wider Area	786.7	682.9	1891.1	3360.6
Total	1219.7	1074.1	2893.3	5187.1

LM Opt 1 Change from LM Base

AM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	273.3	84.8	449.6	807.7
LHE+SC	167.4	-37.1	-130.0	0.3
Wider Area	271.5	-44.1	-140.3	87.1
Total	712.1	3.5	179.3	895.0

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	238.1	126.1	351.5	715.7
LHE+SC	92.8	-24.4	-60.9	7.5
Wider Area	585.3	-97.3	-185.5	302.6
Total	916.2	4.5	105.1	1025.8

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	273.3	83.3	401.8	758.4
LHE+SC	164.5	-31.6	-134.8	-1.9
Wider Area	266.8	-39.8	-137.0	89.9
Total	704.5	11.9	130.0	846.4

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	238.1	123.5	344.8	706.4
LHE+SC	90.8	-21.7	-57.9	11.2
Wider Area	450.1	-90.4	-188.4	171.4
Total	779.1	11.4	98.5	889.0

LM Opt 1 Change from LM Opt 1

AM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	87.5	36.3	207.0	330.8
LHE+SC	14.8	-6.7	-6.3	1.9
Wider Area	14.9	-19.5	-64.6	-69.2
Total	117.2	10.2	136.2	263.5

PM Pre-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	85.5	23.4	83.8	192.8
LHE+SC	32.7	-6.0	-20.1	6.7
Wider Area	236.9	-13.9	-73.5	149.5
Total	355.1	3.5	-9.7	348.9

AM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	87.5	35.2	162.2	284.9
LHE+SC	13.4	-3.2	-20.7	-10.5
Wider Area	11.9	-17.5	-61.1	-66.7
Total	112.8	14.5	80.4	207.7

PM Post-Skim

	LM MP	LHE+SC	Wider Area	Total
LM MP	85.5	22.5	79.9	188.0
LHE+SC	31.6	-5.8	-19.9	5.9
Wider Area	155.3	-25.1	-76.7	53.4
Total	272.4	-8.4	-16.7	247.3

Summary of Travel Demand for Cordon around Ladies Mile (prior to mode shift)

Two Way AADT Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge	32862	35198	36261	35714	36075	35502
SH6 east of Ladies Mile	18871	19487	19525	19178	19263	18907
Lower Shotover Road	6883	7858	7973	7437	7849	7958
Total	58616	62543	63759	62329	63187	62367
Change		3927	5143	3713	4571	3751
Trip Change due to adding Commercial Centres						1430
Trip Change due to adding Schools						572
Trip Change due to adding both						1392
Stalker Rd	9786	9618	9478	9578	9525	9690
Howards Dr	5305	1540	1691	1472	1629	1267
Sylvan Link		4686	4903	4946	4876	4985
Total LHE/SC	15091	15844	16072	15996	16030	15942
LHE/SC Change		753	981	905	939	851

AM Peak Outbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge WB	1896	1921	1974	1979	2027	2034
SH6 east EB	686	700	728	726	744	743
LS Rd WB/NB	359	366	419	429	474	489
Total Outbound Trips	2941	2987	3121	3134	3245	3266
Change		46	180	193	304	325
Trip Change due to adding Commercial Centres						-13
Trip Change due to adding Schools						-124
Trip Change due to adding both						-145
Stalker Rd NB	607	590	610	621	642	655
Howards Dr NB	429	113	107	89	65	46
Sylvan Link NB		393	389	390	386	388
Total LHE/SC NB	1036	1096	1106	1100	1093	1089
LHE/SC NB Change		60	70	64	57	53

AM Peak Inbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge EB	844	949	920	889	840	810
SH6 east WB	877	913	878	857	817	798
LS Rd EB/SB	197	215	207	200	187	179
Total Inbound Trips	1918	2077	2005	1946	1844	1787
Change		159	87	28	-74	-131
Trip Change due to adding Commercial Centres						59
Trip Change due to adding Schools						161
Trip Change due to adding both						218
Stalker Rd SB	251	250	234	236	230	232
Howards Dr SB	152	61	78	79	83	79
Sylvan Link SB		118	134	130	134	134
Total LHE/SC SB	403	429	446	445	447	445
LHE/SC NB Change		26	43	42	44	42

Interpeak Outbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge WB	1375	1492	1549	1519	1538	1507
SH6 east EB	809	841	846	830	835	817
LS Rd WB/NB	294	317	332	332	334	333
Total Outbound Trips	2478	2650	2727	2681	2707	2657
Change		172	249	203	229	179
Trip Change due to adding Commercial Centres						46
Trip Change due to adding Schools						20
Trip Change due to adding both						70
Stalker Rd NB	359	360	358	367	364	373
Howards Dr NB	267	55	53	39	46	31
Sylvan Link NB		240	252	255	253	255
Total LHE/SC NB	626	655	663	661	663	659
LHE/SC NB Change		29	37	35	37	33

Interpeak Inbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge EB	1393	1508	1565	1536	1558	1526
SH6 east WB	766	792	795	779	786	770
LS Rd EB/SB	287	308	319	316	320	317
Total Inbound Trips	2446	2608	2679	2631	2664	2613
Change		162	233	185	218	167
Trip Change due to adding Commercial Centres						48
Trip Change due to adding Schools						15
Trip Change due to adding both						66
Stalker Rd SB	456	445	444	443	440	445
Howards Dr SB	147	49	55	52	61	44
Sylvan Link SB		138	143	143	139	148
Total LHE/SC SB	603	632	642	638	640	637
LHE/SC NB Change		29	39	35	37	34

PM Peak Outbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge WB	1636	1722	1735	1714	1726	1704
SH6 east EB	1008	1030	1005	974	986	956
LS Rd WB/NB	251	269	265	269	260	256
Total Outbound Trips	2895	3021	3005	2957	2972	2916
Change		126	110	62	77	21
Trip Change due to adding Commercial Centres						48
Trip Change due to adding Schools						33
Trip Change due to adding both						89
Stalker Rd NB	318	329	322	322	317	318
Howards Dr NB	272	62	61	51	64	53
Sylvan Link NB		232	253	259	254	259
Total LHE/SC NB	590	623	636	632	635	630
LHE/SC NB Change		33	46	42	45	40

PM Peak Inbound Trips	Base	Sc 1	Sc 2	Sc 2 No CC	Sc 2 No schools	Sc 2 No CC No Schools
Shotover Bridge EB	2024	2091	2140	2143	2150	2155
SH6 east WB	1172	1192	1207	1207	1209	1209
LS Rd EB/SB	526	602	685	700	710	723
Total Inbound Trips	3722	3885	4032	4050	4069	4087
Change		163	310	328	347	365
Trip Change due to adding Commercial Centres						-18
Trip Change due to adding Schools						-37
Trip Change due to adding both						-55
Stalker Rd SB	777	732	667	675	664	680
Howards Dr SB	348	190	250	227	250	221
Sylvan Link SB		258	273	281	273	279
Total LHE/SC SB	1125	1180	1190	1183	1187	1180
LHE/SC NB Change		55	65	58	62	55

2028 AM Base

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	14	4	5	17	27	14	14	3	8	11	2	67	22	50	22	37	10	**327**
Arrowtown	22	0	83	28	61	52	41	64	69	10	136	9	535	20	112	18	53	19	**1332**
Arthurs Point	3	39	0	22	8	6	32	5	50	2	10	1	418	3	19	2	9	1	**629**
Fernhill	5	10	17	0	11	11	42	5	47	2	3	1	718	4	10	12	17	2	**916**
Five Mile	24	38	6	3	0	62	24	73	5	9	39	8	72	31	21	12	67	26	**521**
Frankton	49	31	5	7	56	0	47	54	10	20	37	7	141	68	18	30	94	33	**708**
Frankton Rd	22	24	21	33	35	57	0	27	56	8	17	4	723	24	21	18	45	11	**1144**
Glenda Dr	29	43	7	4	84	75	27	0	6	10	53	13	80	36	20	15	73	34	**610**
Gorge Road	3	11	16	20	7	6	28	4	0	2	3	0	268	4	9	10	10	1	**403**
Kelvin Heights	44	19	4	5	30	90	33	35	10	0	13	3	136	85	11	10	66	29	**623**
LHE/Shotover Country	70	356	60	19	154	176	66	219	52	16	0	31	374	56	39	20	113	67	**1888**
Quail Rise	10	16	3	1	23	26	10	31	2	3	22	0	34	9	4	2	17	11	**225**
Town Centre	48	125	170	239	89	83	308	48	237	25	38	6	0	48	132	129	131	17	**1874**
Jacks Point	139	45	9	15	97	289	104	113	22	95	47	10	353	0	2	53	215	96	**1704**
East External	36	144	24	15	128	31	24	37	30	10	49	5	239	2	0	11	154	10	**949**
South External	18	13	1	5	9	26	16	10	4	8	6	1	81	49	6	0	20	8	**281**
Remarkables Park	90	43	8	8	102	159	55	104	13	33	42	8	187	107	18	27	0	92	**1096**
Frankton South East	41	20	4	4	48	75	25	65	8	13	25	5	90	45	5	8	96	0	**576**
Total	**653**	**993**	**443**	**434**	**958**	**1250**	**897**	**907**	**625**	**272**	**552**	**113**	**4516**	**613**	**498**	**398**	**1217**	**466**	**15807**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	1	1	0	0	0	0	0	44	1	0	0	1	0	**51**
Arrowtown	0	0	2	1	2	2	2	2	2	1	7	0	92	0	0	0	2	0	**115**
Arthurs Point	0	1	0	1	0	0	2	0	3	0	1	0	249	0	0	0	1	0	**259**
Fernhill	1	0	1	0	1	1	3	0	4	0	0	0	431	0	0	0	2	0	**443**
Five Mile	1	1	0	0	0	2	1	2	0	1	1	0	35	1	0	0	4	1	**49**
Frankton	3	1	0	1	3	0	3	3	1	1	2	0	85	4	0	0	5	1	**113**
Frankton Rd	2	1	1	2	2	4	0	2	3	1	1	0	339	2	0	0	3	1	**362**
Glenda Dr	0	1	0	0	2	2	1	0	0	1	1	0	37	1	0	0	3	1	**51**
Gorge Road	0	0	1	1	0	0	2	0	0	0	0	0	156	0	0	0	1	0	**163**
Kelvin Heights	3	1	0	1	5	8	4	5	1	0	1	0	88	3	0	0	11	4	**135**
LHE/Shotover Country	1	7	2	1	3	6	3	4	2	1	0	0	144	1	0	0	4	1	**180**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	**8**
Town Centre	8	8	19	31	9	10	34	5	29	4	4	0	0	5	0	0	20	2	**188**
Jacks Point	10	1	1	1	6	26	11	6	2	3	2	0	194	0	0	0	14	5	**283**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	1	0	0	0	1	1	1	1	0	1	0	0	29	1	0	0	0	1	**38**
Frankton South East	1	0	0	0	1	2	1	1	0	1	0	0	39	1	0	0	3	0	**50**
Total	**30**	**24**	**27**	**41**	**37**	**66**	**67**	**33**	**47**	**14**	**21**	**1**	**1968**	**19**	**0**	**0**	**74**	**18**	**2394**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	2%	4%	7%	3%	5%	7%	2%	6%	4%	2%	1%	65%	3%	-	-	3%	3%	**15%**
Arrowtown	2%	-	2%	2%	3%	4%	5%	3%	3%	6%	5%	0%	17%	2%	-	-	5%	2%	**9%**
Arthurs Point	5%	2%	-	6%	5%	5%	6%	5%	6%	6%	7%	1%	60%	3%	-	-	7%	6%	**41%**
Fernhill	11%	3%	6%	-	7%	8%	7%	7%	8%	10%	8%	1%	60%	4%	-	-	10%	8%	**48%**
Five Mile	2%	2%	4%	5%	-	3%	4%	2%	5%	8%	3%	1%	49%	3%	-	-	5%	3%	**9%**
Frankton	6%	4%	7%	10%	5%	-	7%	5%	8%	6%	6%	1%	60%	6%	-	-	5%	4%	**16%**
Frankton Rd	8%	5%	5%	6%	5%	6%	-	6%	5%	8%	6%	1%	47%	7%	-	-	7%	6%	**32%**
Glenda Dr	1%	1%	4%	5%	2%	3%	4%	-	4%	7%	2%	1%	46%	2%	-	-	4%	3%	**8%**
Gorge Road	7%	3%	6%	5%	6%	6%	6%	6%	-	10%	7%	1%	58%	4%	-	-	10%	8%	**40%**
Kelvin Heights	8%	6%	7%	10%	15%	9%	13%	14%	9%	-	6%	6%	64%	3%	-	-	16%	14%	**22%**
LHE/Shotover Country	1%	2%	3%	5%	2%	3%	4%	2%	3%	5%	-	0%	39%	2%	-	-	4%	2%	**10%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	3%	0%	-	18%	1%	-	-	3%	1%	**4%**
Town Centre	16%	7%	11%	13%	10%	12%	11%	11%	12%	14%	12%	2%	-	10%	-	-	15%	12%	**10%**
Jacks Point	7%	3%	6%	7%	6%	9%	10%	6%	7%	4%	3%	2%	55%	-	-	-	7%	6%	**17%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	1%	1%	1%	2%	1%	1%	1%	1%	2%	2%	1%	1%	16%	1%	-	-	0%	1%	**3%**
Frankton South East	1%	1%	3%	4%	3%	2%	3%	2%	4%	5%	1%	1%	43%	2%	-	-	3%	0%	**9%**
Total	**5%**	**2%**	**6%**	**9%**	**4%**	**5%**	**8%**	**4%**	**7%**	**5%**	**4%**	**1%**	**44%**	**3%**	**0%**	**0%**	**6%**	**4%**	**15%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0			**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	39	0	0	0			**40**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	13	0	0	0			**15**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	0	1	3	0	0	1	0	0	9	0	0	0			**14**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**0**	**1**	**0**	**0**	**68**	**0**	**0**	**0**			**76**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	4%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	2%	0%	0%	5%	0%	-	-	0%	0%	**3%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	2%	0%	1%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	1	1	0	1	1	0	0	0	118	0	0	0	3	0	**126**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	1	1	0	1	1	0	0	0	55	0	0	0	2	1	**63**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	**6**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	0	1	1	0	0	0	88	0	0	0	9	0	**104**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
Remarkables Park	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**2**	**4**	**0**	**0**	**5**	**2**	**0**	**3**	**3**	**0**	**0**	**0**	**261**	**0**	**5**	**0**	**14**	**1**	**286**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	2%	-	0%	0%	2%	1%	0%	2%	2%	0%	0%	0%	22%	0%	0%	0%	5%	2%	**9%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	1%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	1%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	1%	0%	0%	0%	1%	1%	0%	1%	2%	0%	-	0%	15%	0%	0%	0%	2%	1%	**3%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	2%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	0%	2%	2%	0%	2%	4%	0%	0%	1%	37%	0%	-	0%	6%	3%	**11%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	-	0%	0%	**0%**
Remarkables Park	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	0%	**0%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**6%**	**0%**	**1%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	14	4	4	16	26	13	13	3	7	11	2	23	22	50	22	36	10	**276**
Arrowtown	21	0	81	28	58	49	39	62	66	10	129	9	325	20	112	18	48	18	**1091**
Arthurs Point	3	39	0	21	7	6	30	4	47	2	9	1	169	3	19	2	8	1	**370**
Fernhill	4	10	16	0	10	10	39	4	44	2	3	1	287	4	10	12	15	2	**473**
Five Mile	23	37	6	3	0	60	23	71	5	9	38	8	36	30	21	12	63	26	**470**
Frankton	46	30	5	6	53	0	44	51	9	18	35	7	50	64	18	30	90	32	**588**
Frankton Rd	20	23	20	31	33	53	0	26	53	7	16	4	345	22	21	18	42	10	**742**
Glenda Dr	28	42	7	4	82	73	26	0	5	9	52	13	43	35	20	15	70	33	**559**
Gorge Road	3	10	15	19	7	6	26	4	0	1	3	0	112	4	9	10	9	1	**240**
Kelvin Heights	41	18	4	5	25	81	28	30	9	0	13	3	35	82	11	10	55	25	**474**
LHE/Shotover Country	69	350	58	18	150	169	64	213	50	15	0	30	175	55	39	20	107	65	**1646**
Quail Rise	10	16	3	1	23	26	10	31	2	2	22	0	28	9	4	2	16	11	**217**
Town Centre	40	115	151	208	79	73	272	43	208	21	33	6	0	44	129	129	112	15	**1677**
Jacks Point	129	44	9	14	91	263	93	107	21	91	46	10	159	0	2	53	200	91	**1421**
East External	35	144	24	15	125	30	24	36	29	10	49	5	151	2	0	11	145	9	**845**
South External	18	13	1	5	9	26	16	10	4	8	6	1	81	49	6	0	20	8	**281**
Remarkables Park	90	42	7	8	101	157	54	103	13	32	42	8	158	106	18	27	0	91	**1057**
Frankton South East	41	20	3	3	47	74	24	64	7	12	25	5	51	45	5	8	92	0	**526**
Total	**621**	**965**	**416**	**393**	**916**	**1181**	**825**	**871**	**574**	**257**	**531**	**112**	**2228**	**595**	**494**	**398**	**1129**	**446**	**12952**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	97%	96%	93%	97%	95%	93%	98%	94%	96%	98%	99%	35%	97%	99%	100%	97%	97%	**84%**
Arrowtown	96%	-	98%	98%	95%	95%	95%	95%	96%	94%	95%	100%	61%	98%	100%	100%	90%	96%	**82%**
Arthurs Point	95%	98%	-	94%	95%	95%	94%	95%	94%	94%	93%	99%	40%	97%	100%	100%	93%	94%	**59%**
Fernhill	89%	97%	94%	-	93%	92%	93%	93%	92%	90%	92%	99%	40%	96%	100%	100%	90%	92%	**52%**
Five Mile	98%	97%	96%	95%	-	97%	96%	98%	95%	92%	97%	99%	50%	97%	99%	100%	95%	97%	**90%**
Frankton	94%	96%	93%	90%	95%	-	92%	95%	92%	93%	94%	99%	36%	94%	99%	100%	95%	96%	**83%**
Frankton Rd	92%	95%	95%	93%	94%	93%	-	94%	95%	90%	94%	99%	48%	93%	100%	100%	93%	94%	**65%**
Glenda Dr	99%	98%	96%	95%	98%	97%	96%	-	96%	93%	98%	99%	53%	98%	99%	100%	96%	97%	**92%**
Gorge Road	93%	96%	94%	95%	94%	94%	94%	94%	-	90%	92%	99%	42%	96%	99%	100%	90%	92%	**60%**
Kelvin Heights	92%	94%	93%	89%	84%	90%	85%	86%	90%	-	94%	94%	26%	97%	100%	100%	84%	86%	**76%**
LHE/Shotover Country	98%	98%	97%	95%	97%	96%	96%	97%	95%	95%	-	100%	47%	98%	100%	100%	94%	98%	**87%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	97%	100%	-	82%	99%	100%	100%	97%	99%	**96%**
Town Centre	84%	91%	89%	87%	89%	88%	88%	89%	88%	83%	88%	98%	-	90%	98%	100%	85%	88%	**89%**
Jacks Point	93%	97%	94%	93%	94%	91%	90%	94%	93%	96%	97%	98%	45%	-	100%	100%	93%	94%	**83%**
East External	98%	100%	100%	100%	98%	98%	100%	98%	96%	100%	100%	99%	63%	100%	-	100%	94%	97%	**89%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	99%	98%	99%	98%	99%	99%	99%	99%	98%	98%	99%	99%	84%	99%	99%	100%	-	99%	**96%**
Frankton South East	99%	98%	97%	96%	97%	98%	97%	98%	96%	95%	99%	99%	57%	98%	99%	100%	97%	-	**91%**
Total	**95%**	**97%**	**94%**	**91%**	**96%**	**94%**	**92%**	**96%**	**92%**	**95%**	**96%**	**99%**	**49%**	**97%**	**99%**	**100%**	**93%**	**96%**	**82%**

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TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	14	4	5	16	26	14	13	3	8	14	2	67	22	50	22	37	10	**327**
Arrowtown	21	0	80	27	57	48	39	59	66	10	220	8	509	18	111	17	50	17	**1355**
Arthurs Point	3	39	0	22	8	6	32	5	50	2	14	1	413	3	18	2	9	1	**628**
Fernhill	5	10	17	0	11	11	40	5	47	2	5	1	720	4	10	12	17	2	**918**
Five Mile	23	35	6	3	0	60	23	70	5	9	56	7	71	30	21	11	65	26	**523**
Frankton	48	29	5	7	55	0	46	53	10	20	51	6	140	67	18	30	93	33	**709**
Frankton Rd	22	23	21	33	35	57	0	27	55	8	24	4	718	24	21	18	45	11	**1146**
Glenda Dr	28	39	7	4	82	73	27	0	5	10	77	13	78	35	19	15	71	33	**614**
Gorge Road	3	11	16	20	7	6	28	4	0	2	4	0	267	4	9	10	10	1	**402**
Kelvin Heights	44	18	4	5	29	89	34	34	10	0	23	3	133	84	11	9	65	29	**624**
LHE/Shotover Country	74	395	64	20	169	184	70	232	57	16	0	33	396	60	52	23	125	69	**2039**
Quail Rise	10	15	3	1	22	25	10	30	2	2	34	0	32	9	3	2	16	10	**225**
Town Centre	48	124	169	238	89	84	307	49	235	25	51	6	0	49	129	128	131	17	**1880**
Jacks Point	137	42	9	15	96	286	103	112	22	94	80	10	346	0	2	52	213	95	**1714**
East External	34	142	24	15	125	29	23	34	29	10	77	5	233	2	0	11	151	9	**952**
South External	17	12	1	5	9	26	16	10	4	8	10	1	80	48	6	0	20	8	**283**
Remarkables Park	89	40	7	8	100	156	54	102	13	32	64	8	184	105	18	26	0	91	**1098**
Frankton South East	40	19	3	4	47	74	24	64	7	12	39	5	87	44	5	8	94	0	**577**
Total	**648**	**1006**	**440**	**430**	**955**	**1239**	**890**	**903**	**622**	**270**	**844**	**113**	**4474**	**606**	**503**	**396**	**1212**	**462**	**16014**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	1	1	0	0	0	0	0	44	1	0	0	1	0	**51**
Arrowtown	0	0	2	1	2	2	2	2	2	1	12	0	89	0	0	0	2	0	**116**
Arthurs Point	0	1	0	1	0	0	2	0	3	0	1	0	246	0	0	0	1	0	**256**
Fernhill	1	0	1	0	1	1	3	0	4	0	0	0	432	0	0	0	2	0	**445**
Five Mile	1	1	0	0	0	2	1	2	0	1	2	0	34	1	0	0	4	1	**49**
Frankton	3	1	0	1	3	0	3	3	1	1	4	0	84	4	0	0	5	1	**114**
Frankton Rd	2	1	1	2	2	4	0	2	3	1	2	0	337	2	0	0	3	1	**361**
Glenda Dr	0	1	0	0	2	2	1	0	0	1	2	0	36	1	0	0	3	1	**50**
Gorge Road	0	0	1	1	0	0	2	0	0	0	0	0	155	0	0	0	1	0	**162**
Kelvin Heights	3	1	0	1	5	8	4	5	1	0	2	0	87	3	0	0	11	4	**135**
LHE/Shotover Country	1	7	2	1	4	6	3	5	2	1	0	0	153	1	0	0	5	1	**192**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	**8**
Town Centre	8	9	19	31	9	10	34	5	29	4	7	0	0	5	0	0	20	2	**191**
Jacks Point	10	1	1	1	6	26	11	7	2	3	4	0	193	0	0	0	14	5	**285**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	1	0	0	0	1	1	1	1	0	1	1	0	29	1	0	0	0	1	**38**
Frankton South East	1	0	0	0	1	2	1	1	0	1	1	0	38	1	0	0	3	0	**50**
Total	**30**	**26**	**27**	**41**	**37**	**66**	**68**	**34**	**47**	**14**	**38**	**1**	**1964**	**19**	**0**	**0**	**74**	**18**	**2411**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	3%	4%	7%	3%	5%	7%	2%	6%	4%	3%	1%	66%	3%	-	-	3%	2%	**16%**
Arrowtown	2%	-	2%	2%	3%	4%	5%	3%	3%	6%	5%	0%	17%	2%	-	-	5%	2%	**9%**
Arthurs Point	5%	2%	-	6%	5%	5%	6%	6%	6%	6%	9%	1%	60%	3%	-	-	7%	6%	**41%**
Fernhill	11%	3%	6%	-	7%	8%	7%	7%	8%	10%	10%	2%	60%	4%	-	-	10%	8%	**49%**
Five Mile	2%	2%	4%	5%	-	3%	4%	2%	5%	8%	3%	1%	48%	3%	-	-	5%	3%	**9%**
Frankton	6%	5%	7%	10%	5%	-	7%	5%	8%	6%	7%	1%	60%	6%	-	-	5%	4%	**16%**
Frankton Rd	8%	6%	5%	6%	5%	6%	-	6%	5%	8%	8%	1%	47%	7%	-	-	7%	6%	**32%**
Glenda Dr	1%	2%	4%	5%	2%	3%	4%	-	4%	7%	2%	1%	46%	2%	-	-	4%	3%	**8%**
Gorge Road	7%	3%	6%	5%	6%	6%	6%	7%	-	10%	9%	1%	58%	4%	-	-	10%	8%	**40%**
Kelvin Heights	8%	8%	7%	10%	16%	9%	13%	15%	9%	-	9%	7%	65%	3%	-	-	16%	14%	**22%**
LHE/Shotover Country	1%	2%	3%	5%	2%	3%	4%	2%	3%	5%	-	0%	39%	2%	-	-	4%	2%	**9%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	3%	0%	-	18%	1%	-	-	3%	1%	**3%**
Town Centre	16%	7%	11%	13%	10%	12%	11%	11%	12%	14%	14%	2%	-	10%	-	-	15%	12%	**10%**
Jacks Point	7%	3%	6%	8%	7%	9%	11%	6%	7%	4%	5%	2%	56%	-	-	-	7%	6%	**17%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	1%	1%	1%	2%	1%	1%	1%	1%	2%	2%	1%	1%	16%	1%	-	-	0%	1%	**3%**
Frankton South East	1%	2%	3%	5%	3%	2%	3%	2%	4%	5%	2%	1%	44%	2%	-	-	3%	0%	**9%**
Total	**5%**	**3%**	**6%**	**9%**	**4%**	**5%**	**8%**	**4%**	**7%**	**5%**	**5%**	**1%**	**44%**	**3%**	**0%**	**0%**	**6%**	**4%**	**15%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0			**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	39	0	0	0			**40**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	13	0	0	0			**15**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	0	1	3	0	0	1	0	0	9	0	0	0			**14**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**0**	**1**	**0**	**0**	**68**	**0**	**0**	**0**			**76**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	4%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	2%	0%	0%	5%	0%	-	-	0%	0%	**3%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	2%	0%	1%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Arrowtown	0	0	0	0	1	1	0	1	1	0	0	0	112	0	0	0	2	0	**119**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	1	0	0	0	1	1	0	1	1	0	0	0	60	0	0	0	3	1	**69**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	**6**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	0	1	1	0	0	0	86	0	0	0	9	0	**102**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
Remarkables Park	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**2**	**4**	**0**	**0**	**5**	**2**	**0**	**3**	**3**	**0**	**1**	**0**	**258**	**0**	**6**	**0**	**14**	**1**	**285**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	2%	-	0%	0%	2%	1%	0%	2%	2%	0%	0%	0%	22%	0%	0%	0%	5%	2%	**9%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	1%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton	0%	1%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	1%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	1%	0%	0%	0%	1%	1%	0%	1%	2%	0%	-	0%	15%	0%	0%	0%	2%	1%	**3%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	0%	3%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	0%	2%	2%	0%	2%	4%	0%	0%	1%	37%	0%	-	0%	6%	3%	**11%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	-	0%	0%	**0%**
Remarkables Park	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	-	0%	**0%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**6%**	**0%**	**1%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	13	4	4	16	25	13	13	3	7	14	2	23	21	50	22	36	10	**275**
Arrowtown	20	0	78	26	54	45	37	57	63	9	208	8	308	18	111	17	45	16	**1121**
Arthurs Point	3	39	0	21	7	6	30	4	47	2	13	1	167	3	18	2	8	1	**372**
Fernhill	5	10	16	0	10	10	37	4	44	2	4	1	288	4	10	12	16	2	**473**
Five Mile	22	34	6	3	0	58	22	69	5	8	54	7	36	29	20	11	62	25	**472**
Frankton	45	28	5	6	52	0	43	50	9	18	47	6	50	63	18	30	88	32	**588**
Frankton Rd	20	22	20	31	33	53	0	26	52	7	22	4	342	22	21	18	42	10	**745**
Glenda Dr	27	38	6	4	80	70	26	0	5	9	76	13	42	34	19	15	68	32	**563**
Gorge Road	3	10	15	19	7	6	26	4	0	1	4	0	112	4	9	10	9	1	**239**
Kelvin Heights	40	17	4	5	25	80	29	29	9	0	21	3	34	81	11	9	55	25	**474**
LHE/Shotover Country	73	387	62	19	164	177	67	226	54	16	0	33	183	59	52	23	118	68	**1779**
Quail Rise	10	15	3	1	22	25	10	29	2	2	33	0	26	9	3	2	16	10	**218**
Town Centre	41	112	150	207	79	73	270	43	207	21	43	6	0	44	125	128	112	15	**1677**
Jacks Point	127	40	8	14	89	260	93	105	20	90	77	10	153	0	2	52	198	90	**1429**
East External	34	142	24	15	122	28	23	34	28	10	77	5	146	2	0	11	142	9	**850**
South External	17	12	1	5	9	26	16	10	4	8	10	1	80	48	6	0	20	8	**283**
Remarkables Park	89	39	7	8	99	154	54	101	12	31	63	8	155	104	18	26	0	89	**1059**
Frankton South East	40	18	3	3	46	72	24	62	7	12	38	5	49	43	5	8	91	0	**527**
Total	**616**	**976**	**413**	**390**	**912**	**1169**	**818**	**866**	**572**	**255**	**805**	**112**	**2193**	**588**	**498**	**396**	**1124**	**442**	**13144**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	96%	96%	93%	97%	95%	93%	98%	94%	96%	97%	99%	34%	97%	99%	100%	97%	98%	**84%**
Arrowtown	96%	-	98%	98%	95%	95%	95%	95%	96%	94%	95%	100%	61%	98%	100%	100%	90%	96%	**83%**
Arthurs Point	95%	98%	-	94%	95%	95%	94%	94%	94%	94%	91%	99%	40%	97%	100%	100%	93%	94%	**59%**
Fernhill	89%	97%	94%	-	93%	92%	93%	93%	92%	90%	90%	98%	40%	96%	100%	100%	90%	92%	**51%**
Five Mile	98%	96%	96%	95%	-	97%	96%	98%	95%	92%	96%	99%	51%	97%	99%	100%	95%	97%	**90%**
Frankton	94%	94%	93%	90%	95%	-	92%	95%	92%	93%	93%	99%	35%	94%	99%	100%	95%	96%	**83%**
Frankton Rd	92%	94%	95%	94%	94%	93%	-	94%	95%	90%	92%	99%	48%	93%	100%	100%	93%	94%	**65%**
Glenda Dr	99%	98%	96%	95%	98%	97%	96%	-	96%	93%	98%	99%	54%	98%	99%	100%	96%	97%	**92%**
Gorge Road	93%	96%	94%	95%	94%	94%	94%	93%	-	90%	91%	99%	42%	96%	99%	100%	90%	92%	**60%**
Kelvin Heights	92%	92%	93%	89%	84%	90%	85%	85%	89%	-	91%	93%	25%	97%	100%	100%	84%	86%	**76%**
LHE/Shotover Country	98%	98%	97%	95%	97%	96%	96%	97%	95%	95%	-	100%	46%	98%	100%	100%	94%	98%	**87%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	97%	100%	-	82%	99%	100%	100%	97%	99%	**97%**
Town Centre	84%	91%	89%	87%	89%	88%	88%	89%	88%	83%	85%	98%	-	90%	97%	100%	85%	88%	**89%**
Jacks Point	93%	97%	94%	92%	93%	91%	89%	94%	93%	96%	95%	98%	44%	-	100%	100%	93%	94%	**83%**
East External	98%	100%	100%	100%	98%	98%	100%	98%	96%	100%	100%	99%	63%	100%	-	100%	94%	97%	**89%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	99%	97%	99%	98%	99%	99%	99%	99%	98%	98%	99%	99%	84%	99%	98%	100%	-	99%	**96%**
Frankton South East	99%	97%	97%	95%	97%	98%	97%	98%	96%	95%	98%	99%	56%	98%	99%	100%	97%	-	**91%**
Total	**95%**	**97%**	**94%**	**91%**	**96%**	**94%**	**92%**	**96%**	**92%**	**95%**	**95%**	**99%**	**49%**	**97%**	**99%**	**100%**	**93%**	**96%**	**82%**

2028 AM Option 2

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	13	4	5	16	27	14	14	3	8	14	2	67	22	50	22	37	10	**328**
Arrowtown	19	0	81	29	53	43	42	54	67	9	227	8	536	17	111	17	47	15	**1373**
Arthurs Point	3	38	0	22	7	6	33	4	49	2	15	1	417	3	18	2	9	1	**631**
Fernhill	5	10	17	0	11	11	45	5	46	2	5	1	712	4	10	12	17	2	**913**
Five Mile	23	33	6	3	0	61	23	72	5	9	55	7	69	30	20	12	66	26	**522**
Frankton	49	28	5	7	55	0	47	54	9	20	50	7	136	68	17	30	94	34	**709**
Frankton Rd	22	22	20	33	35	58	0	28	54	8	24	4	714	24	20	17	45	11	**1141**
Glenda Dr	28	36	6	4	83	74	27	0	5	10	75	13	76	36	19	15	72	33	**613**
Gorge Road	3	10	16	20	7	6	28	4	0	2	5	0	268	4	9	10	10	1	**404**
Kelvin Heights	45	17	4	5	30	90	33	35	9	0	21	3	130	86	11	9	66	29	**622**
LHE/Shotover Country	78	456	76	23	178	194	73	244	74	17	0	35	494	63	59	26	133	73	**2296**
Quail Rise	10	14	3	1	23	26	10	31	2	2	31	0	32	9	3	2	17	11	**225**
Town Centre	49	123	168	241	89	85	311	49	233	25	55	6	0	48	127	129	131	17	**1887**
Jacks Point	140	37	8	15	96	290	100	113	20	95	73	10	333	0	2	52	215	97	**1696**
East External	32	136	23	14	121	25	21	30	28	9	79	4	238	2	0	10	147	8	**928**
South External	18	12	1	5	9	27	16	10	4	8	11	1	75	48	6	0	21	8	**283**
Remarkables Park	90	38	7	8	101	159	54	104	12	33	61	8	179	107	18	26	0	92	**1097**
Frankton South East	41	17	3	4	48	75	24	65	7	13	36	5	86	45	5	8	95	0	**577**
Total	**657**	**1041**	**448**	**438**	**964**	**1259**	**899**	**915**	**628**	**273**	**836**	**114**	**4561**	**616**	**504**	**399**	**1223**	**469**	**16244**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	1	1	0	0	0	0	0	44	1	0	0	1	0	**51**
Arrowtown	0	0	2	1	2	2	2	2	2	1	12	0	94	0	0	0	2	0	**122**
Arthurs Point	0	1	0	1	0	0	2	0	3	0	1	0	248	0	0	0	1	0	**259**
Fernhill	1	0	1	0	1	1	3	0	4	0	0	0	427	0	0	0	2	0	**440**
Five Mile	1	1	0	0	0	2	1	2	0	1	2	0	34	1	0	0	4	1	**49**
Frankton	3	1	0	1	3	0	3	3	1	1	4	0	82	4	0	0	5	1	**112**
Frankton Rd	2	1	1	2	2	4	0	2	3	1	2	0	334	2	0	0	3	1	**359**
Glenda Dr	0	1	0	0	2	3	1	0	0	1	2	0	36	1	0	0	3	1	**51**
Gorge Road	0	0	1	1	0	0	2	0	0	0	0	0	156	0	0	0	1	0	**163**
Kelvin Heights	3	1	0	1	5	8	4	5	1	0	2	0	84	3	0	0	11	4	**131**
LHE/Shotover Country	1	9	3	1	4	7	3	5	3	1	0	0	200	2	0	0	5	1	**245**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	**8**
Town Centre	8	9	19	32	9	10	34	5	29	4	8	0	0	5	0	0	20	2	**193**
Jacks Point	10	1	0	1	6	26	10	6	1	3	3	0	183	0	0	0	14	5	**274**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	1	0	0	0	1	1	1	1	0	1	1	0	28	1	0	0	0	1	**37**
Frankton South East	1	0	0	0	1	2	1	1	0	1	1	0	37	1	0	0	3	0	**49**
Total	**31**	**26**	**28**	**41**	**38**	**68**	**68**	**34**	**47**	**14**	**39**	**1**	**1993**	**19**	**0**	**0**	**76**	**19**	**2447**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	3%	4%	7%	3%	5%	7%	2%	6%	4%	3%	1%	65%	3%	-	-	3%	3%	**15%**
Arrowtown	2%	-	2%	2%	4%	4%	5%	3%	3%	7%	5%	0%	18%	2%	-	-	5%	2%	**9%**
Arthurs Point	5%	2%	-	6%	5%	5%	6%	6%	6%	6%	9%	1%	60%	3%	-	-	7%	6%	**41%**
Fernhill	11%	3%	6%	-	7%	8%	7%	7%	8%	10%	10%	2%	60%	4%	-	-	10%	8%	**48%**
Five Mile	2%	2%	4%	6%	-	4%	4%	2%	5%	8%	3%	1%	50%	3%	-	-	6%	3%	**9%**
Frankton	6%	5%	7%	10%	5%	-	7%	5%	8%	7%	7%	1%	60%	6%	-	-	5%	4%	**16%**
Frankton Rd	8%	6%	5%	6%	5%	6%	-	6%	5%	9%	8%	1%	47%	7%	-	-	7%	6%	**31%**
Glenda Dr	1%	2%	4%	5%	2%	3%	4%	-	4%	7%	2%	1%	48%	2%	-	-	4%	3%	**8%**
Gorge Road	7%	3%	6%	5%	6%	6%	6%	7%	-	10%	9%	1%	58%	4%	-	-	10%	8%	**40%**
Kelvin Heights	8%	8%	7%	10%	15%	9%	13%	14%	9%	-	9%	7%	64%	3%	-	-	16%	14%	**21%**
LHE/Shotover Country	2%	2%	4%	6%	2%	4%	5%	2%	4%	5%	-	0%	40%	2%	-	-	4%	2%	**11%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	3%	0%	-	19%	1%	-	-	3%	1%	**4%**
Town Centre	16%	7%	11%	13%	10%	12%	11%	11%	12%	15%	15%	2%	-	10%	-	-	15%	12%	**10%**
Jacks Point	7%	3%	6%	7%	6%	9%	10%	6%	7%	4%	5%	2%	55%	-	-	-	7%	6%	**16%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	1%	1%	1%	2%	1%	1%	1%	1%	2%	2%	1%	1%	15%	1%	-	-	0%	1%	**3%**
Frankton South East	1%	2%	3%	4%	3%	2%	3%	2%	4%	5%	2%	1%	44%	2%	-	-	3%	0%	**8%**
Total	**5%**	**3%**	**6%**	**9%**	**4%**	**5%**	**8%**	**4%**	**7%**	**5%**	**5%**	**1%**	**44%**	**3%**	**0%**	**0%**	**6%**	**4%**	**15%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0			**6**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	38	0	0	0			**39**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	12	0	0	0			**14**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	0	1	3	0	0	1	0	0	9	0	0	0			**14**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**0**	**1**	**0**	**0**	**67**	**0**	**0**	**0**			**75**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	4%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	2%	0%	0%	5%	0%	-	-	0%	0%	**3%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	2%	0%	1%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Arrowtown	0	0	0	0	1	1	0	1	1	0	0	0	120	0	0	0	3	0	**127**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	1	0	0	0	1	1	0	2	1	0	0	0	80	0	0	0	3	1	**90**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	**6**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	0	1	1	0	0	0	92	0	0	0	10	0	**108**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
Remarkables Park	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**2**	**4**	**0**	**0**	**5**	**3**	**0**	**3**	**4**	**0**	**1**	**0**	**293**	**0**	**6**	**0**	**15**	**1**	**320**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	2%	-	0%	0%	2%	2%	0%	2%	2%	0%	0%	0%	22%	0%	0%	0%	5%	2%	**9%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	1%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton	0%	1%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	1%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	1%	0%	0%	0%	1%	1%	0%	1%	2%	0%	-	0%	16%	0%	0%	0%	2%	1%	**4%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	0%	3%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	0%	2%	2%	0%	2%	4%	0%	0%	1%	39%	0%	-	0%	7%	3%	**12%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	-	0%	0%	**0%**
Remarkables Park	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	-	0%	**0%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**6%**	**0%**	**1%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	13	4	4	16	26	13	13	3	7	14	2	23	22	49	22	36	10	**277**
Arrowtown	18	0	79	28	50	41	40	51	64	8	215	8	322	16	111	17	42	15	**1124**
Arthurs Point	3	37	0	21	7	6	31	4	46	2	13	1	168	3	18	2	8	1	**373**
Fernhill	5	9	16	0	10	10	42	4	43	2	4	1	285	4	10	12	15	2	**473**
Five Mile	23	32	6	3	0	59	22	70	5	9	53	7	34	29	20	12	62	25	**472**
Frankton	46	26	4	6	52	0	43	51	8	19	46	6	48	64	17	30	90	32	**590**
Frankton Rd	20	21	19	31	33	54	0	26	51	7	22	4	341	22	20	17	42	10	**743**
Glenda Dr	28	36	6	3	81	72	25	0	5	9	73	13	40	35	18	15	69	33	**561**
Gorge Road	3	10	15	19	7	6	26	4	0	1	4	0	112	4	9	10	9	1	**240**
Kelvin Heights	41	16	4	5	25	82	28	30	8	0	19	3	34	83	11	9	55	25	**477**
LHE/Shotover Country	76	447	73	22	173	185	70	238	70	16	0	35	215	61	59	26	124	71	**1960**
Quail Rise	10	13	3	1	22	26	9	30	2	2	31	0	26	9	3	2	16	11	**217**
Town Centre	41	112	149	209	80	74	274	44	205	21	47	6	0	44	123	129	111	15	**1683**
Jacks Point	130	36	8	13	90	264	89	106	19	92	69	9	150	0	2	52	201	91	**1423**
East External	31	136	23	14	118	24	21	30	27	9	79	4	146	2	0	10	137	8	**820**
South External	18	12	1	5	9	27	16	10	4	8	11	1	75	48	6	0	21	8	**283**
Remarkables Park	90	37	7	8	100	157	53	103	12	32	60	8	152	107	17	26	0	91	**1059**
Frankton South East	40	17	3	3	46	74	23	63	7	12	36	5	48	45	5	8	92	0	**527**
Total	**624**	**1010**	**420**	**397**	**921**	**1187**	**826**	**878**	**578**	**258**	**797**	**113**	**2218**	**596**	**499**	**399**	**1131**	**449**	**13302**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	96%	96%	93%	97%	95%	93%	98%	94%	96%	97%	99%	35%	97%	99%	100%	97%	97%	**84%**
Arrowtown	96%	-	98%	98%	94%	94%	95%	95%	96%	93%	95%	100%	60%	98%	100%	100%	89%	95%	**82%**
Arthurs Point	95%	98%	-	94%	95%	95%	94%	94%	94%	94%	91%	99%	40%	97%	100%	100%	93%	94%	**59%**
Fernhill	89%	97%	94%	-	93%	92%	93%	93%	92%	90%	90%	98%	40%	96%	100%	100%	90%	92%	**52%**
Five Mile	98%	96%	96%	94%	-	96%	96%	98%	95%	92%	96%	99%	50%	97%	99%	100%	94%	97%	**90%**
Frankton	94%	94%	93%	90%	95%	-	92%	95%	92%	93%	93%	99%	36%	94%	99%	100%	95%	96%	**83%**
Frankton Rd	92%	94%	95%	94%	94%	93%	-	94%	95%	90%	92%	99%	48%	93%	100%	100%	93%	94%	**65%**
Glenda Dr	99%	98%	96%	95%	98%	97%	96%	-	95%	93%	98%	99%	52%	98%	99%	100%	96%	97%	**92%**
Gorge Road	93%	96%	94%	95%	94%	94%	94%	93%	-	90%	90%	99%	42%	96%	99%	100%	90%	92%	**60%**
Kelvin Heights	92%	92%	93%	89%	84%	90%	85%	86%	90%	-	91%	93%	26%	97%	100%	100%	84%	86%	**77%**
LHE/Shotover Country	98%	98%	96%	94%	97%	96%	95%	97%	95%	95%	-	100%	43%	98%	100%	100%	94%	97%	**85%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	97%	100%	-	81%	99%	100%	100%	97%	99%	**96%**
Town Centre	84%	91%	89%	87%	89%	88%	88%	89%	88%	83%	85%	98%	-	90%	97%	100%	85%	88%	**89%**
Jacks Point	93%	97%	94%	93%	94%	91%	90%	94%	93%	96%	95%	98%	45%	-	100%	100%	93%	94%	**84%**
East External	98%	100%	100%	100%	98%	98%	100%	98%	96%	100%	100%	99%	61%	100%	-	100%	93%	97%	**88%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	99%	97%	99%	98%	99%	99%	99%	99%	98%	98%	99%	99%	85%	99%	98%	100%	-	99%	**97%**
Frankton South East	99%	97%	97%	96%	97%	98%	97%	98%	96%	95%	98%	99%	56%	98%	99%	100%	97%	-	**91%**
Total	**95%**	**97%**	**94%**	**91%**	**96%**	**94%**	**92%**	**96%**	**92%**	**94%**	**95%**	**99%**	**49%**	**97%**	**99%**	**100%**	**93%**	**96%**	**82%**

2028 IP Base

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	27	6	9	41	67	34	37	5	27	40	5	109	86	77	14	108	31	**725**
Arrowtown	30	0	50	20	101	57	32	78	45	9	176	12	310	29	126	15	83	19	**1192**
Arthurs Point	7	46	0	18	11	6	24	8	38	1	21	1	251	4	24	2	10	2	**474**
Fernhill	12	30	26	0	17	15	53	9	45	6	13	2	554	19	25	18	24	5	**874**
Five Mile	47	102	12	10	0	126	62	152	9	25	124	19	153	74	51	11	271	49	**1299**
Frankton	69	58	6	12	122	0	77	91	11	48	101	14	166	157	32	30	198	53	**1243**
Frankton Rd	23	26	14	32	52	58	0	33	50	14	32	5	645	48	26	16	62	14	**1148**
Glenda Dr	37	72	7	6	158	96	38	0	6	19	118	18	87	67	37	11	147	49	**973**
Gorge Road	10	36	31	48	17	15	63	9	0	6	16	2	438	21	20	9	23	5	**768**
Kelvin Heights	28	10	2	4	23	47	21	20	5	0	7	1	76	46	8	18	55	12	**384**
LHE/Shotover Country	43	180	22	7	127	96	41	131	23	8	0	17	151	33	76	10	86	29	**1079**
Quail Rise	6	12	2	1	19	14	6	18	1	2	17	0	19	6	7	2	13	5	**150**
Town Centre	107	322	257	595	176	171	656	97	458	70	169	22	0	224	179	94	249	57	**3903**
Jacks Point	88	27	4	11	71	163	71	71	17	49	31	6	237	0	0	80	170	46	**1143**
East External	78	123	23	13	54	32	31	39	23	8	71	6	139	1	0	14	49	13	**718**
South External	10	14	1	13	8	23	20	8	4	14	8	1	83	64	13	0	23	10	**320**
Remarkables Park	108	82	10	17	260	197	94	139	16	59	88	13	260	172	45	31	0	100	**1690**
Frankton South East	30	20	2	3	50	53	20	49	4	13	32	5	60	45	13	14	103	0	**517**
Total	**732**	**1188**	**475**	**818**	**1308**	**1237**	**1343**	**988**	**760**	**377**	**1063**	**150**	**3738**	**1096**	**761**	**388**	**1676**	**499**	**18599**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	2	0	1	1	9	6	0	0	2	2	0	56	3	0	0	4	1	**87**
Arrowtown	1	0	1	0	1	2	1	1	1	0	4	0	29	0	0	0	3	0	**45**
Arthurs Point	0	1	0	1	1	0	1	1	2	0	4	0	82	0	0	0	1	0	**96**
Fernhill	1	1	2	0	1	2	4	1	4	0	2	0	161	1	0	0	2	0	**181**
Five Mile	2	6	0	0	0	5	3	4	0	2	13	0	30	2	0	0	12	2	**81**
Frankton	3	6	0	1	4	0	7	3	1	3	13	0	51	6	0	0	8	1	**108**
Frankton Rd	2	4	1	2	2	4	0	2	3	1	6	0	146	3	0	0	4	0	**179**
Glenda Dr	0	3	0	0	4	4	2	0	0	1	12	0	19	2	0	0	5	1	**54**
Gorge Road	1	1	2	4	1	1	4	1	0	1	3	0	141	1	0	0	3	0	**164**
Kelvin Heights	2	1	0	0	2	5	3	2	0	0	1	0	27	1	0	0	8	1	**54**
LHE/Shotover Country	1	3	1	0	3	4	2	3	1	0	0	0	30	1	0	0	3	0	**52**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**3**
Town Centre	36	44	75	182	34	53	159	24	133	17	73	3	0	39	0	0	79	10	**961**
Jacks Point	5	1	0	1	2	15	7	2	1	1	2	0	61	0	0	0	9	1	**108**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	4	10	1	2	14	15	9	5	2	6	11	1	100	6	0	0	0	5	**193**
Frankton South East	1	1	0	0	2	4	2	1	0	1	2	0	20	1	0	0	5	0	**40**
Total	**58**	**84**	**83**	**197**	**71**	**126**	**209**	**49**	**149**	**37**	**149**	**6**	**954**	**65**	**0**	**0**	**146**	**24**	**2236**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	6%	5%	13%	2%	14%	17%	1%	6%	8%	5%	1%	51%	3%	-	-	4%	2%	**12%**
Arrowtown	2%	-	2%	2%	1%	3%	4%	1%	2%	3%	2%	0%	9%	1%	-	-	4%	1%	**4%**
Arthurs Point	6%	2%	-	8%	5%	7%	5%	7%	6%	8%	21%	3%	33%	3%	-	-	9%	5%	**20%**
Fernhill	10%	4%	6%	-	5%	10%	7%	6%	8%	8%	18%	3%	29%	4%	-	-	10%	4%	**21%**
Five Mile	3%	6%	4%	5%	-	4%	4%	2%	4%	6%	11%	1%	19%	3%	-	-	4%	4%	**6%**
Frankton	5%	10%	8%	9%	3%	-	9%	4%	8%	5%	13%	2%	31%	4%	-	-	4%	2%	**9%**
Frankton Rd	7%	14%	5%	6%	4%	7%	-	6%	5%	7%	18%	3%	23%	6%	-	-	7%	3%	**16%**
Glenda Dr	1%	4%	4%	5%	2%	5%	5%	-	5%	8%	10%	1%	22%	2%	-	-	3%	2%	**6%**
Gorge Road	9%	3%	6%	8%	7%	9%	6%	9%	-	10%	22%	4%	32%	3%	-	-	13%	6%	**21%**
Kelvin Heights	7%	12%	7%	9%	10%	11%	13%	8%	9%	-	18%	13%	36%	1%	-	-	15%	9%	**14%**
LHE/Shotover Country	1%	2%	4%	5%	2%	5%	5%	2%	4%	4%	-	0%	20%	2%	-	-	4%	1%	**5%**
Quail Rise	1%	0%	1%	1%	1%	2%	2%	1%	1%	3%	0%	-	7%	1%	-	-	3%	1%	**2%**
Town Centre	33%	14%	29%	31%	19%	31%	24%	25%	29%	25%	43%	14%	-	17%	-	-	32%	17%	**25%**
Jacks Point	5%	4%	6%	6%	3%	9%	10%	2%	6%	3%	6%	3%	26%	-	-	-	5%	3%	**9%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	4%	13%	9%	12%	5%	8%	10%	4%	11%	11%	12%	8%	39%	4%	-	-	0%	5%	**11%**
Frankton South East	2%	5%	4%	10%	3%	8%	9%	2%	5%	12%	6%	1%	33%	2%	-	-	4%	0%	**8%**
Total	**8%**	**7%**	**18%**	**24%**	**5%**	**10%**	**16%**	**5%**	**20%**	**10%**	**14%**	**4%**	**26%**	**6%**	**0%**	**0%**	**9%**	**5%**	**12%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**2**
Frankton	0	0	0	0	0	0	1	0	0	0	0	0	6	0	0	0			**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0			**28**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	7	0	0	0			**9**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	6	26	0	0	5	0	0	12	0	0	0			**51**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**3**	**7**	**29**	**0**	**0**	**6**	**0**	**0**	**53**	**0**	**0**	**0**			**99**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	3%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	1%	-	0%	0%	2%	0%	0%	4%	0%	-	-	0%	0%	**2%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	1%	2%	4%	0%	2%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	3%	4%	0%	0%	7%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	**2**
Arrowtown	0	0	0	0	1	1	0	1	1	0	0	0	32	0	0	0	5	0	**42**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	7	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	**11**
Frankton	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	**5**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	4	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**7**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**3**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	1	0	0	0	0	0	0	7	0	0	0	1	0	**10**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	47	0	0	0	0	0	0	0	0	20	0	0	0	61	0	0	0	**128**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	1	1	1	1	1	0	0	0	26	0	0	0	2	0	**34**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	**7**
Remarkables Park	0	10	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	**17**
Frankton South East	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Total	**2**	**73**	**0**	**0**	**3**	**2**	**1**	**2**	**2**	**0**	**27**	**0**	**65**	**0**	**83**	**0**	**8**	**1**	**259**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	2%	0%	0%	0%	**0%**
Arrowtown	1%	-	0%	0%	1%	2%	0%	1%	2%	0%	0%	0%	10%	0%	0%	0%	6%	2%	**4%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	7%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	6%	0%	0%	0%	**1%**
Frankton	0%	4%	0%	0%	0%	-	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	6%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**1%**
Gorge Road	0%	2%	0%	0%	0%	0%	0%	0%	-	0%	3%	0%	0%	0%	9%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	-	0%	5%	0%	0%	0%	1%	0%	**1%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%	-	0%	34%	0%	0%	0%	**3%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	2%	2%	2%	2%	1%	5%	0%	0%	0%	19%	0%	-	0%	4%	2%	**5%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	-	0%	0%	**2%**
Remarkables Park	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	10%	0%	-	0%	**1%**
Frankton South East	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	-	**0%**
Total	**0%**	**6%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0%**	**2%**	**0%**	**11%**	**0%**	**1%**	**0%**	**1%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	25	6	8	41	58	29	37	5	25	37	5	53	84	76	14	105	30	**635**
Arrowtown	29	0	49	19	98	54	30	76	43	9	172	12	249	29	126	15	75	19	**1105**
Arthurs Point	6	45	0	16	11	5	23	7	36	1	16	1	169	4	24	2	9	2	**378**
Fernhill	11	29	24	0	16	14	49	8	41	5	11	2	394	18	25	18	21	5	**693**
Five Mile	46	89	12	9	0	121	59	148	9	23	109	19	122	72	48	11	259	47	**1205**
Frankton	65	49	5	11	119	0	70	87	10	45	87	13	108	151	31	30	190	51	**1123**
Frankton Rd	22	22	13	30	49	53	0	31	47	12	27	5	472	45	26	16	58	14	**941**
Glenda Dr	36	65	7	6	154	91	36	0	5	18	105	18	68	66	36	11	142	47	**911**
Gorge Road	9	34	29	44	16	14	59	8	0	6	12	2	297	20	18	9	20	5	**601**
Kelvin Heights	26	9	1	3	21	41	18	18	5	0	6	1	41	45	8	18	47	11	**320**
LHE/Shotover Country	42	177	21	6	124	91	38	128	22	7	0	17	113	33	76	10	82	29	**1017**
Quail Rise	6	12	2	1	19	14	6	18	1	1	17	0	18	6	7	2	13	5	**148**
Town Centre	71	231	183	413	139	112	471	72	325	47	77	19	0	185	118	94	170	47	**2774**
Jacks Point	83	26	4	11	69	148	64	69	16	48	29	6	177	0	0	80	161	45	**1035**
East External	77	123	23	13	53	32	31	38	21	8	71	6	114	1	0	14	47	13	**684**
South External	10	14	1	13	8	23	20	8	4	14	8	1	83	64	13	0	23	10	**320**
Remarkables Park	104	62	9	15	246	182	84	134	14	52	74	12	160	166	40	31	0	95	**1480**
Frankton South East	30	19	2	3	48	49	18	48	4	11	30	5	40	44	12	14	99	0	**476**
Total	**673**	**1032**	**392**	**620**	**1231**	**1102**	**1105**	**937**	**608**	**335**	**888**	**144**	**2678**	**1032**	**685**	**388**	**1521**	**475**	**15846**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	92%	95%	87%	98%	86%	83%	99%	94%	92%	95%	99%	49%	97%	98%	100%	96%	98%	**88%**
Arrowtown	97%	-	98%	98%	97%	95%	96%	98%	96%	97%	98%	100%	80%	99%	100%	100%	90%	97%	**93%**
Arthurs Point	94%	98%	-	92%	95%	93%	95%	93%	94%	92%	79%	97%	67%	97%	100%	100%	91%	95%	**80%**
Fernhill	90%	96%	94%	-	95%	90%	93%	94%	92%	92%	82%	97%	71%	96%	100%	100%	90%	96%	**79%**
Five Mile	97%	88%	96%	95%	-	96%	95%	98%	95%	94%	88%	99%	80%	97%	94%	100%	96%	96%	**93%**
Frankton	95%	85%	92%	91%	97%	-	90%	96%	92%	94%	86%	98%	65%	96%	96%	100%	96%	98%	**90%**
Frankton Rd	93%	86%	94%	93%	96%	92%	-	94%	94%	92%	82%	97%	73%	94%	100%	100%	93%	97%	**82%**
Glenda Dr	99%	90%	96%	95%	98%	95%	95%	-	95%	92%	89%	99%	78%	98%	96%	100%	97%	98%	**94%**
Gorge Road	91%	95%	94%	92%	93%	91%	94%	91%	-	89%	75%	96%	68%	97%	91%	100%	87%	94%	**78%**
Kelvin Heights	93%	88%	93%	90%	89%	87%	83%	92%	90%	-	82%	87%	54%	99%	100%	100%	85%	91%	**83%**
LHE/Shotover Country	98%	98%	96%	95%	97%	95%	95%	98%	95%	96%	-	100%	75%	98%	100%	100%	95%	98%	**94%**
Quail Rise	99%	100%	99%	99%	99%	98%	98%	99%	99%	97%	100%	-	93%	99%	100%	100%	97%	99%	**98%**
Town Centre	67%	72%	71%	69%	79%	65%	72%	75%	71%	68%	45%	86%	-	83%	66%	100%	68%	83%	**71%**
Jacks Point	95%	96%	94%	94%	97%	91%	90%	98%	94%	97%	94%	97%	74%	-	100%	100%	95%	97%	**91%**
East External	98%	100%	100%	98%	98%	98%	98%	99%	95%	100%	100%	100%	81%	100%	-	100%	96%	98%	**95%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	96%	75%	91%	88%	95%	92%	90%	96%	89%	89%	85%	92%	61%	96%	90%	100%	-	95%	**88%**
Frankton South East	98%	92%	96%	90%	97%	92%	91%	98%	95%	88%	93%	99%	67%	98%	97%	100%	96%	-	**92%**
Total	**92%**	**87%**	**82%**	**76%**	**94%**	**89%**	**82%**	**95%**	**80%**	**89%**	**83%**	**96%**	**72%**	**94%**	**90%**	**100%**	**91%**	**95%**	**85%**

2028 IP Option 1

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	26	6	9	41	66	34	36	5	27	48	5	109	86	76	13	108	30	**726**
Arrowtown	29	0	49	20	97	54	31	73	44	9	236	11	306	28	121	14	81	19	**1221**
Arthurs Point	7	45	0	17	11	6	25	8	38	1	26	1	251	4	23	2	10	2	**474**
Fernhill	12	29	25	0	16	15	53	8	44	6	15	2	553	18	23	18	23	5	**864**
Five Mile	46	98	12	10	0	123	61	147	9	24	157	18	150	72	49	11	269	48	**1305**
Frankton	68	55	5	12	119	0	77	87	11	48	125	13	164	156	30	30	196	52	**1246**
Frankton Rd	23	26	15	32	51	57	0	32	50	14	42	5	644	48	25	16	62	14	**1155**
Glenda Dr	36	68	7	6	153	93	37	0	6	19	152	17	85	66	35	11	144	47	**981**
Gorge Road	10	34	30	47	16	14	62	8	0	6	19	2	438	20	19	9	22	5	**761**
Kelvin Heights	28	10	2	4	23	47	21	20	5	0	10	1	75	46	8	18	55	12	**384**
LHE/Shotover Country	53	242	27	8	161	121	50	168	29	11	0	24	175	48	109	14	111	38	**1388**
Quail Rise	6	12	1	1	18	13	6	17	1	1	23	0	19	6	6	2	13	5	**151**
Town Centre	106	318	257	597	173	170	657	94	458	69	198	21	0	223	174	94	247	56	**3912**
Jacks Point	87	26	4	11	69	162	71	69	17	49	44	6	236	0	0	78	169	46	**1145**
East External	77	118	23	12	51	30	30	36	22	8	100	6	132	1	0	14	47	12	**719**
South External	10	14	1	13	8	23	20	8	4	14	12	1	83	63	13	0	23	10	**321**
Remarkables Park	108	79	10	16	257	195	93	136	16	58	112	13	258	171	43	31	0	99	**1694**
Frankton South East	30	20	2	3	49	52	20	48	4	13	41	5	59	45	12	14	102	0	**518**
Total	**734**	**1218**	**476**	**818**	**1314**	**1241**	**1347**	**996**	**761**	**377**	**1359**	**150**	**3737**	**1099**	**768**	**387**	**1680**	**500**	**18964**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	2	0	1	1	10	6	0	0	2	4	0	56	3	0	0	4	1	**89**
Arrowtown	1	0	1	0	2	2	1	1	1	0	5	0	30	0	0	0	4	0	**49**
Arthurs Point	0	1	0	1	1	0	1	1	2	0	8	0	82	0	0	0	1	0	**99**
Fernhill	1	1	1	0	1	2	4	1	4	0	4	0	160	1	0	0	2	0	**182**
Five Mile	2	8	0	0	0	5	3	3	0	2	25	0	30	2	0	0	12	2	**95**
Frankton	3	8	0	1	3	0	7	4	1	3	23	0	52	6	0	0	8	1	**120**
Frankton Rd	2	5	1	2	2	4	0	2	3	1	11	0	146	3	0	0	4	0	**186**
Glenda Dr	0	4	0	0	3	5	2	0	0	1	21	0	20	2	0	0	5	1	**66**
Gorge Road	1	1	2	4	1	1	4	1	0	1	5	0	141	1	0	0	3	0	**166**
Kelvin Heights	2	2	0	0	2	5	3	2	0	0	3	0	27	1	0	0	8	1	**56**
LHE/Shotover Country	1	4	1	1	4	7	3	4	1	1	0	0	42	1	0	0	6	1	**76**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**3**
Town Centre	38	48	74	182	36	56	160	26	133	18	100	4	0	41	0	0	84	10	**1010**
Jacks Point	5	1	0	1	2	15	7	2	1	1	4	0	60	0	0	0	9	1	**110**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	4	13	1	2	14	16	9	5	2	6	19	1	100	6	0	0	0	5	**203**
Frankton South East	1	1	0	0	2	4	2	1	0	1	4	0	20	1	0	0	5	0	**42**
Total	**61**	**98**	**84**	**197**	**74**	**132**	**211**	**52**	**149**	**38**	**236**	**6**	**967**	**68**	**0**	**0**	**155**	**24**	**2373**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	8%	5%	13%	2%	14%	17%	1%	6%	8%	7%	1%	51%	3%	-	-	4%	2%	**12%**
Arrowtown	2%	-	2%	2%	2%	4%	5%	1%	2%	3%	2%	0%	10%	1%	-	-	4%	1%	**4%**
Arthurs Point	6%	2%	-	8%	5%	8%	5%	8%	6%	9%	30%	4%	33%	3%	-	-	10%	5%	**21%**
Fernhill	10%	4%	6%	-	5%	11%	7%	7%	8%	8%	25%	4%	29%	4%	-	-	11%	5%	**21%**
Five Mile	4%	8%	4%	5%	-	4%	5%	2%	5%	7%	16%	1%	20%	3%	-	-	5%	5%	**7%**
Frankton	5%	14%	8%	9%	3%	-	9%	4%	8%	5%	18%	3%	32%	4%	-	-	4%	2%	**10%**
Frankton Rd	8%	18%	5%	6%	4%	8%	-	7%	5%	7%	26%	4%	23%	7%	-	-	7%	4%	**16%**
Glenda Dr	1%	6%	4%	5%	2%	5%	6%	-	5%	8%	14%	1%	23%	3%	-	-	4%	2%	**7%**
Gorge Road	10%	3%	6%	8%	7%	9%	6%	10%	-	11%	29%	5%	32%	4%	-	-	14%	6%	**22%**
Kelvin Heights	7%	16%	7%	9%	10%	11%	13%	8%	9%	-	26%	14%	36%	1%	-	-	15%	9%	**15%**
LHE/Shotover Country	2%	2%	5%	7%	3%	6%	7%	2%	4%	5%	-	0%	24%	2%	-	-	5%	2%	**6%**
Quail Rise	1%	0%	1%	1%	1%	2%	2%	1%	1%	3%	0%	-	8%	1%	-	-	3%	1%	**2%**
Town Centre	36%	15%	29%	31%	21%	33%	24%	27%	29%	26%	51%	17%	-	18%	-	-	34%	19%	**26%**
Jacks Point	5%	5%	6%	6%	3%	9%	10%	2%	6%	3%	9%	3%	26%	-	-	-	5%	3%	**10%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	4%	16%	9%	12%	5%	8%	10%	4%	11%	11%	17%	9%	39%	4%	-	-	0%	5%	**12%**
Frankton South East	2%	6%	4%	10%	3%	8%	9%	2%	5%	12%	9%	1%	34%	2%	-	-	4%	0%	**8%**
Total	**8%**	**8%**	**18%**	**24%**	**6%**	**11%**	**16%**	**5%**	**20%**	**10%**	**17%**	**4%**	**26%**	**6%**	**0%**	**0%**	**9%**	**5%**	**13%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**2**
Frankton	0	0	0	0	0	0	1	0	0	0	0	0	6	0	0	0			**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0			**28**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	7	0	0	0			**9**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	6	26	0	0	5	0	0	12	0	0	0			**51**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**3**	**7**	**29**	**0**	**0**	**6**	**0**	**0**	**53**	**0**	**0**	**0**			**99**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	3%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	1%	-	0%	0%	2%	0%	0%	4%	0%	-	-	0%	0%	**2%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	1%	2%	4%	0%	2%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	3%	4%	0%	0%	7%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	**3**
Arrowtown	0	0	0	0	2	1	0	1	1	0	0	0	34	0	0	0	6	0	**45**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	9	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	**16**
Frankton	0	3	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	5	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	**10**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**4**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	1	1	0	1	0	0	0	0	10	0	0	0	2	0	**16**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	51	0	0	0	0	0	0	0	0	27	0	0	0	72	0	0	0	**150**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	1	1	1	1	1	0	0	0	28	0	0	0	2	0	**37**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	**10**
Remarkables Park	0	12	0	0	0	0	0	0	0	0	5	0	0	0	6	0	0	0	**23**
Frankton South East	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total	**2**	**84**	**0**	**0**	**3**	**3**	**1**	**2**	**3**	**0**	**41**	**0**	**72**	**0**	**99**	**0**	**11**	**1**	**311**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**0%**
Arrowtown	1%	-	0%	0%	2%	2%	0%	1%	2%	0%	0%	0%	11%	0%	0%	0%	8%	2%	**4%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	9%	0%	0%	-	0%	0%	0%	0%	0%	2%	0%	0%	0%	8%	0%	0%	0%	**1%**
Frankton	0%	6%	0%	0%	0%	-	0%	0%	0%	0%	1%	0%	0%	0%	5%	0%	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	8%	0%	0%	0%	0%	0%	-	0%	0%	2%	0%	0%	0%	6%	0%	0%	0%	**1%**
Gorge Road	0%	2%	0%	0%	0%	0%	0%	0%	-	0%	4%	0%	0%	0%	11%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	-	0%	6%	0%	0%	0%	2%	1%	**1%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	-	0%	41%	0%	0%	0%	**4%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	2%	2%	2%	3%	2%	6%	0%	0%	0%	21%	0%	-	0%	5%	2%	**5%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	74%	-	0%	0%	**3%**
Remarkables Park	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	14%	0%	-	0%	**1%**
Frankton South East	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	-	**0%**
Total	**0%**	**7%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0%**	**2%**	**0%**	**13%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	23	6	8	40	57	29	36	5	25	44	5	53	83	74	13	104	30	**634**
Arrowtown	28	0	48	19	94	51	30	71	42	9	230	11	243	27	121	14	71	18	**1127**
Arthurs Point	6	44	0	16	11	5	23	7	35	1	18	1	169	4	23	2	9	2	**375**
Fernhill	10	28	23	0	15	13	49	8	41	5	11	2	393	17	23	18	20	4	**682**
Five Mile	45	81	12	9	0	118	58	143	9	23	130	18	119	70	45	11	257	46	**1192**
Frankton	64	44	5	11	116	0	69	84	10	45	100	13	106	149	28	30	188	51	**1113**
Frankton Rd	21	21	14	30	49	52	0	30	48	12	31	5	472	45	25	16	57	14	**941**
Glenda Dr	35	59	7	5	150	88	35	0	5	17	128	17	65	64	33	11	138	46	**905**
Gorge Road	9	32	28	43	15	13	58	8	0	5	12	2	296	19	17	9	19	4	**590**
Kelvin Heights	26	9	1	3	20	41	18	18	4	0	8	1	40	45	8	18	47	11	**319**
LHE/Shotover Country	52	238	26	7	156	113	46	163	27	10	0	24	123	47	109	14	104	38	**1296**
Quail Rise	6	12	1	1	18	13	6	17	1	1	23	0	17	6	6	2	13	5	**148**
Town Centre	68	218	183	415	135	108	472	68	324	46	70	18	0	182	102	94	163	46	**2712**
Jacks Point	83	25	4	11	67	147	64	67	16	48	41	6	175	0	0	78	160	45	**1035**
East External	76	118	23	12	50	30	29	36	20	8	100	6	104	1	0	14	45	12	**682**
South External	10	14	1	13	8	23	20	8	4	14	12	1	83	63	13	0	23	10	**321**
Remarkables Park	103	54	9	14	243	179	84	130	14	52	87	11	158	165	37	31	0	94	**1467**
Frankton South East	29	17	2	3	47	48	18	46	4	11	37	5	39	44	12	14	97	0	**474**
Total	**671**	**1037**	**392**	**620**	**1234**	**1099**	**1107**	**942**	**608**	**333**	**1083**	**144**	**2656**	**1031**	**678**	**387**	**1515**	**475**	**16013**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	88%	95%	87%	98%	86%	83%	99%	94%	92%	92%	99%	49%	97%	97%	100%	96%	98%	**87%**
Arrowtown	97%	-	98%	98%	97%	94%	95%	97%	96%	97%	98%	100%	79%	99%	100%	100%	88%	97%	**92%**
Arthurs Point	94%	98%	-	92%	95%	92%	95%	92%	94%	91%	70%	96%	67%	97%	100%	100%	90%	95%	**79%**
Fernhill	90%	96%	94%	-	95%	89%	93%	93%	92%	91%	75%	96%	71%	96%	100%	100%	89%	95%	**79%**
Five Mile	96%	83%	96%	95%	-	96%	95%	98%	95%	93%	82%	99%	79%	97%	92%	100%	95%	95%	**91%**
Frankton	95%	80%	92%	91%	97%	-	90%	96%	92%	94%	80%	97%	65%	96%	95%	100%	96%	98%	**89%**
Frankton Rd	92%	82%	95%	93%	96%	92%	-	93%	94%	91%	74%	96%	73%	93%	100%	100%	93%	96%	**81%**
Glenda Dr	99%	86%	96%	95%	98%	95%	94%	-	95%	92%	84%	99%	77%	97%	94%	100%	96%	98%	**92%**
Gorge Road	90%	94%	94%	92%	93%	90%	94%	90%	-	88%	66%	95%	68%	96%	89%	100%	86%	94%	**78%**
Kelvin Heights	93%	84%	93%	90%	89%	87%	83%	92%	90%	-	74%	86%	54%	99%	100%	100%	85%	91%	**83%**
LHE/Shotover Country	98%	98%	95%	93%	97%	93%	93%	97%	94%	95%	-	100%	70%	98%	100%	100%	93%	98%	**93%**
Quail Rise	99%	100%	99%	99%	99%	98%	98%	99%	99%	97%	100%	-	92%	99%	100%	100%	97%	99%	**98%**
Town Centre	64%	69%	71%	69%	78%	64%	72%	72%	71%	66%	36%	83%	-	82%	59%	100%	66%	81%	**69%**
Jacks Point	95%	95%	94%	94%	97%	91%	90%	98%	94%	97%	91%	97%	74%	-	100%	100%	95%	97%	**90%**
East External	98%	100%	100%	98%	98%	98%	97%	98%	94%	100%	100%	100%	79%	100%	-	100%	95%	98%	**95%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	96%	69%	91%	88%	95%	92%	90%	96%	89%	89%	78%	91%	61%	96%	86%	100%	-	95%	**87%**
Frankton South East	98%	89%	96%	90%	97%	92%	91%	98%	95%	88%	90%	99%	66%	98%	96%	100%	96%	-	**92%**
Total	**91%**	**85%**	**82%**	**76%**	**94%**	**89%**	**82%**	**95%**	**80%**	**88%**	**80%**	**96%**	**71%**	**94%**	**88%**	**100%**	**90%**	**95%**	**84%**

2028 IP Option 2

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	26	6	9	41	67	34	37	5	27	53	5	108	86	75	13	109	31	**732**
Arrowtown	29	0	49	20	96	53	31	73	44	9	257	11	311	27	117	14	80	18	**1240**
Arthurs Point	7	44	0	17	11	6	24	8	38	1	29	1	252	4	23	2	10	2	**477**
Fernhill	13	32	27	0	18	16	55	9	46	6	19	2	556	19	25	19	24	5	**892**
Five Mile	47	98	12	9	0	124	61	147	9	24	171	18	148	71	47	11	269	48	**1313**
Frankton	69	55	5	12	119	0	77	88	11	48	136	13	163	156	28	30	197	52	**1258**
Frankton Rd	23	25	14	31	50	57	0	31	50	13	45	5	650	47	24	16	61	14	**1155**
Glenda Dr	36	68	7	6	154	93	36	0	5	19	165	17	84	65	33	11	144	47	**991**
Gorge Road	10	36	31	49	17	15	64	9	0	6	23	2	440	21	19	9	23	5	**778**
Kelvin Heights	28	10	2	4	23	47	21	19	5	0	11	1	75	47	8	18	55	12	**384**
LHE/Shotover Country	59	264	30	9	174	133	54	182	36	11	0	25	202	51	117	15	121	42	**1527**
Quail Rise	6	11	2	1	18	13	6	17	1	1	25	0	19	6	6	2	13	5	**152**
Town Centre	104	317	255	598	169	167	657	92	457	69	226	21	0	221	167	91	242	56	**3908**
Jacks Point	87	25	4	11	68	162	70	68	16	50	47	6	236	0	0	77	170	46	**1145**
East External	76	114	22	12	49	28	28	34	21	8	107	6	129	1	0	13	46	12	**705**
South External	10	14	1	13	8	23	20	8	4	14	13	1	83	62	13	0	23	10	**321**
Remarkables Park	108	79	9	16	258	196	93	136	15	58	121	13	255	171	42	31	0	99	**1702**
Frankton South East	30	19	2	3	49	52	20	47	4	13	45	5	59	45	12	14	102	0	**521**
Total	**740**	**1237**	**479**	**820**	**1323**	**1252**	**1351**	**1006**	**768**	**378**	**1491**	**151**	**3769**	**1100**	**756**	**387**	**1688**	**504**	**19201**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	2	0	1	1	10	6	0	0	2	4	0	56	3	0	0	4	1	**90**
Arrowtown	1	0	1	0	2	2	2	1	1	0	6	0	31	0	0	0	4	0	**51**
Arthurs Point	0	1	0	1	1	0	1	1	2	0	9	0	83	0	0	0	1	0	**101**
Fernhill	1	1	2	0	1	2	4	1	4	0	5	0	161	1	0	0	2	0	**185**
Five Mile	2	8	0	0	0	5	3	3	0	2	30	0	30	2	0	0	12	2	**101**
Frankton	3	8	0	1	3	0	7	4	1	3	27	0	52	6	0	0	8	1	**125**
Frankton Rd	2	5	1	2	2	4	0	2	3	1	13	0	147	3	0	0	4	0	**188**
Glenda Dr	0	4	0	0	3	5	2	0	0	1	26	0	20	2	0	0	5	1	**71**
Gorge Road	1	1	2	4	1	1	4	1	0	1	7	0	142	1	0	0	3	0	**169**
Kelvin Heights	2	2	0	0	2	5	3	2	0	0	3	0	27	1	0	0	8	1	**56**
LHE/Shotover Country	1	4	2	1	5	9	4	5	2	1	0	0	52	1	0	0	7	1	**95**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**3**
Town Centre	36	48	74	183	33	53	159	24	133	18	116	3	0	39	0	0	79	10	**1008**
Jacks Point	5	1	0	1	2	15	7	2	1	1	5	0	60	0	0	0	9	1	**110**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	4	13	1	2	14	16	9	5	2	6	23	1	98	6	0	0	0	5	**207**
Frankton South East	1	1	0	0	2	4	2	1	0	1	5	0	20	1	0	0	5	0	**43**
Total	**59**	**101**	**84**	**198**	**73**	**132**	**212**	**52**	**150**	**38**	**278**	**6**	**981**	**66**	**0**	**0**	**151**	**24**	**2427**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	9%	5%	13%	2%	15%	17%	1%	6%	8%	8%	1%	51%	3%	-	-	4%	2%	**12%**
Arrowtown	2%	-	2%	2%	2%	4%	5%	1%	2%	3%	2%	0%	10%	1%	-	-	5%	1%	**4%**
Arthurs Point	6%	2%	-	8%	5%	7%	5%	7%	6%	8%	31%	4%	33%	3%	-	-	9%	5%	**21%**
Fernhill	10%	4%	6%	-	5%	10%	7%	7%	8%	8%	26%	4%	29%	4%	-	-	10%	4%	**21%**
Five Mile	4%	8%	4%	5%	-	4%	5%	2%	5%	7%	17%	1%	20%	3%	-	-	5%	5%	**8%**
Frankton	5%	15%	8%	9%	3%	-	9%	4%	8%	5%	20%	3%	32%	4%	-	-	4%	2%	**10%**
Frankton Rd	7%	19%	5%	6%	4%	7%	-	7%	5%	7%	28%	4%	23%	6%	-	-	7%	3%	**16%**
Glenda Dr	1%	7%	5%	6%	2%	5%	6%	-	5%	8%	16%	1%	24%	3%	-	-	4%	2%	**7%**
Gorge Road	10%	4%	6%	9%	7%	9%	6%	10%	-	11%	31%	5%	32%	4%	-	-	13%	6%	**22%**
Kelvin Heights	7%	16%	7%	9%	10%	11%	13%	8%	9%	-	28%	15%	36%	1%	-	-	15%	9%	**15%**
LHE/Shotover Country	2%	2%	5%	8%	3%	7%	8%	3%	5%	6%	-	0%	26%	3%	-	-	6%	2%	**6%**
Quail Rise	1%	0%	1%	1%	1%	2%	2%	1%	1%	3%	0%	-	8%	2%	-	-	3%	1%	**2%**
Town Centre	34%	15%	29%	31%	20%	32%	24%	26%	29%	25%	52%	16%	-	18%	-	-	33%	18%	**26%**
Jacks Point	5%	6%	6%	6%	3%	9%	10%	2%	6%	3%	10%	3%	26%	-	-	-	5%	3%	**10%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	4%	17%	9%	12%	5%	8%	10%	4%	11%	11%	19%	9%	39%	4%	-	-	0%	5%	**12%**
Frankton South East	2%	7%	4%	10%	3%	8%	9%	2%	5%	12%	10%	1%	34%	2%	-	-	4%	0%	**8%**
Total	**8%**	**8%**	**17%**	**24%**	**5%**	**11%**	**16%**	**5%**	**20%**	**10%**	**19%**	**4%**	**26%**	**6%**	**0%**	**0%**	**9%**	**5%**	**13%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			**2**
Frankton	0	0	0	0	0	0	1	0	0	0	0	0	6	0	0	0			**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0			**28**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	1	1	0	0	0	0	0	7	0	0	0			**9**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	6	26	0	0	5	0	0	12	0	0	0			**51**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**3**	**7**	**29**	**0**	**0**	**6**	**0**	**0**	**53**	**0**	**0**	**0**			**99**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	4%	0%	-	-	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	1%	-	0%	0%	2%	0%	0%	4%	0%	-	-	0%	0%	**2%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	1%	2%	4%	0%	2%	-	0%	0%	10%	0%	-	-	0%	0%	**2%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	3%	4%	0%	0%	7%	0%	0%	-	0%	-	-	0%	0%	**1%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**4**
Arrowtown	0	0	0	0	2	1	0	1	1	0	0	0	36	0	0	0	7	0	**48**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	10	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	**18**
Frankton	0	4	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	**7**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	6	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	**11**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**4**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	1	1	0	1	1	0	0	0	13	0	0	0	2	0	**20**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	51	0	0	0	0	0	0	0	0	32	0	0	0	70	0	0	0	**153**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	1	1	1	1	1	0	0	0	29	0	0	0	3	0	**38**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	**10**
Remarkables Park	0	13	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	**25**
Frankton South East	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**2**
Total	**2**	**87**	**0**	**0**	**4**	**3**	**1**	**2**	**3**	**0**	**48**	**0**	**78**	**0**	**98**	**0**	**12**	**1**	**327**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	4%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**1%**
Arrowtown	2%	-	0%	0%	2%	2%	0%	1%	2%	0%	0%	0%	11%	0%	0%	0%	8%	2%	**4%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	10%	0%	0%	-	0%	0%	0%	0%	0%	2%	0%	0%	0%	9%	0%	0%	0%	**1%**
Frankton	0%	7%	0%	0%	0%	-	0%	0%	0%	0%	2%	0%	0%	0%	5%	0%	0%	0%	**1%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	9%	0%	0%	0%	0%	0%	-	0%	0%	2%	0%	0%	0%	6%	0%	0%	0%	**1%**
Gorge Road	0%	3%	0%	0%	0%	0%	0%	0%	-	0%	5%	0%	0%	0%	12%	0%	0%	0%	**1%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	1%	0%	0%	0%	1%	1%	0%	0%	2%	0%	-	0%	7%	0%	0%	0%	2%	1%	**1%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	-	0%	42%	0%	0%	0%	**4%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	2%	0%	0%	2%	2%	3%	3%	2%	7%	0%	0%	0%	23%	0%	-	0%	6%	2%	**5%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	79%	-	0%	0%	**3%**
Remarkables Park	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	15%	0%	-	0%	**1%**
Frankton South East	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	-	**0%**
Total	**0%**	**7%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0%**	**2%**	**0%**	**13%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	23	6	8	40	57	28	36	4	25	49	5	53	83	73	13	105	30	**639**
Arrowtown	28	0	48	19	93	50	29	70	43	8	251	11	245	27	117	14	69	18	**1141**
Arthurs Point	6	44	0	16	11	5	23	7	36	1	20	1	169	4	23	2	9	2	**377**
Fernhill	12	30	26	0	17	14	51	8	42	5	14	2	395	19	25	19	22	5	**706**
Five Mile	45	79	12	9	0	118	57	144	8	23	137	18	116	69	43	11	257	46	**1193**
Frankton	65	43	5	11	116	0	69	84	10	45	107	13	105	150	27	30	189	51	**1118**
Frankton Rd	21	20	13	29	48	52	0	29	48	12	32	4	476	44	24	16	57	13	**939**
Glenda Dr	35	57	7	5	150	88	34	0	5	17	136	17	64	63	31	11	139	46	**908**
Gorge Road	9	34	29	45	16	13	60	8	0	6	15	2	298	20	17	9	20	5	**604**
Kelvin Heights	26	8	1	3	20	41	18	18	4	0	8	1	41	46	8	18	47	11	**319**
LHE/Shotover Country	57	260	29	8	168	123	50	176	34	11	0	25	137	50	117	15	111	41	**1412**
Quail Rise	6	11	1	1	18	13	5	17	1	1	25	0	17	6	6	2	13	5	**149**
Town Centre	68	218	181	415	134	109	472	68	323	47	78	18	0	182	97	91	163	46	**2708**
Jacks Point	83	24	4	11	66	147	64	67	15	49	43	6	175	0	0	77	161	45	**1035**
East External	75	114	22	11	48	28	28	34	19	8	107	6	99	1	0	13	43	12	**667**
South External	10	14	1	13	8	23	20	8	4	14	13	1	83	62	13	0	23	10	**321**
Remarkables Park	104	53	9	14	244	180	83	131	14	52	92	12	156	165	36	31	0	95	**1470**
Frankton South East	30	17	2	3	47	48	18	46	4	11	39	5	39	44	11	14	98	0	**477**
Total	**679**	**1050**	**396**	**621**	**1244**	**1110**	**1110**	**952**	**615**	**334**	**1165**	**145**	**2668**	**1034**	**668**	**387**	**1525**	**479**	**16182**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	87%	95%	87%	98%	85%	83%	99%	94%	92%	91%	99%	49%	97%	97%	100%	96%	98%	**87%**
Arrowtown	96%	-	98%	98%	96%	94%	95%	97%	96%	97%	98%	100%	79%	99%	100%	100%	87%	97%	**92%**
Arthurs Point	94%	98%	-	92%	95%	93%	95%	93%	94%	92%	69%	96%	67%	97%	100%	100%	91%	95%	**79%**
Fernhill	90%	96%	94%	-	95%	90%	93%	93%	92%	91%	74%	96%	71%	96%	100%	100%	90%	96%	**79%**
Five Mile	96%	81%	96%	95%	-	96%	95%	98%	95%	93%	81%	99%	79%	97%	91%	100%	95%	95%	**91%**
Frankton	95%	79%	92%	91%	97%	-	90%	96%	92%	94%	78%	97%	65%	96%	95%	100%	96%	98%	**89%**
Frankton Rd	93%	81%	95%	93%	96%	92%	-	93%	94%	91%	72%	96%	73%	94%	100%	100%	93%	97%	**81%**
Glenda Dr	99%	85%	95%	94%	98%	95%	94%	-	95%	92%	83%	99%	76%	97%	94%	100%	96%	98%	**92%**
Gorge Road	90%	94%	94%	91%	93%	91%	94%	90%	-	88%	65%	95%	68%	96%	88%	100%	87%	94%	**78%**
Kelvin Heights	93%	84%	93%	90%	89%	87%	83%	92%	90%	-	72%	85%	54%	99%	100%	100%	85%	91%	**83%**
LHE/Shotover Country	98%	98%	95%	92%	97%	92%	92%	97%	93%	94%	-	100%	68%	97%	100%	100%	92%	97%	**93%**
Quail Rise	99%	100%	99%	99%	99%	98%	98%	99%	99%	97%	100%	-	92%	98%	100%	100%	97%	99%	**98%**
Town Centre	66%	69%	71%	69%	79%	65%	72%	73%	71%	67%	34%	84%	-	82%	58%	100%	67%	82%	**69%**
Jacks Point	95%	94%	94%	94%	97%	91%	90%	98%	94%	97%	90%	97%	74%	-	100%	100%	95%	97%	**90%**
East External	98%	100%	100%	98%	98%	97%	97%	98%	93%	100%	100%	100%	77%	100%	-	100%	94%	98%	**95%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	96%	67%	91%	88%	95%	92%	90%	96%	89%	89%	76%	91%	61%	96%	85%	100%	-	95%	**86%**
Frankton South East	98%	88%	96%	90%	97%	92%	91%	98%	95%	88%	88%	99%	66%	98%	96%	100%	96%	-	**91%**
Total	**92%**	**85%**	**83%**	**76%**	**94%**	**89%**	**82%**	**95%**	**80%**	**88%**	**78%**	**96%**	**71%**	**94%**	**88%**	**100%**	**90%**	**95%**	**84%**

2028 PM Base

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	24	2	2	31	60	20	33	1	48	83	10	21	150	12	29	132	49	**706**
Arrowtown	18	0	45	17	87	45	31	58	19	14	367	15	166	26	148	22	86	21	**1184**
Arthurs Point	4	75	0	23	14	6	29	7	24	4	47	2	194	8	23	3	15	3	**481**
Fernhill	5	29	24	0	13	8	51	5	37	7	19	2	470	20	28	5	27	4	**753**
Five Mile	33	95	9	11	0	113	53	144	8	34	224	31	106	100	208	23	360	66	**1618**
Frankton	47	61	5	9	113	0	72	88	7	85	192	24	105	248	26	49	238	77	**1448**
Frankton Rd	17	42	29	49	49	58	0	31	47	35	84	11	550	107	24	34	89	25	**1280**
Glenda Dr	23	74	5	4	138	78	30	0	3	32	225	29	49	97	36	29	154	66	**1073**
Gorge Road	3	77	58	63	13	12	79	9	0	13	41	4	360	42	33	4	26	9	**844**
Kelvin Heights	16	6	2	3	17	36	18	14	3	0	13	2	46	83	3	20	60	13	**357**
LHE/Shotover Country	26	203	17	6	115	72	34	92	8	11	0	20	92	32	85	18	106	29	**967**
Quail Rise	4	12	1	1	18	12	5	18	1	3	30	0	13	9	6	4	17	6	**160**
Town Centre	60	444	340	845	138	147	836	94	392	149	391	44	0	454	265	62	316	97	**5074**
Jacks Point	42	14	3	7	47	97	46	37	9	76	33	6	115	0	0	93	170	35	**831**
East External	64	115	23	18	191	32	40	37	19	14	79	7	173	0	0	10	277	13	**1114**
South External	21	17	2	17	9	31	26	10	11	19	14	2	142	92	21	0	32	11	**476**
Remarkables Park	88	77	12	29	323	198	96	120	19	92	165	22	255	273	241	46	0	135	**2192**
Frankton South East	19	18	2	3	43	45	17	38	3	20	51	7	37	59	7	22	115	0	**506**
Total	**489**	**1383**	**579**	**1107**	**1359**	**1050**	**1483**	**835**	**610**	**657**	**2059**	**239**	**2893**	**1800**	**1165**	**474**	**2220**	**661**	**21064**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	2	15	7	1	0	7	7	0	12	4	0	0	4	1	**61**
Arrowtown	0	0	1	0	3	2	2	1	0	1	19	0	11	0	0	0	3	0	**44**
Arthurs Point	0	1	0	2	1	1	1	1	1	0	18	0	29	0	0	0	1	0	**58**
Fernhill	0	1	1	0	1	1	3	0	3	0	5	0	66	1	0	0	2	0	**85**
Five Mile	1	4	0	0	0	4	2	3	0	2	23	0	8	2	0	0	12	3	**66**
Frankton	2	6	0	1	7	0	7	6	1	6	48	1	20	8	0	0	8	2	**123**
Frankton Rd	1	5	1	3	4	4	0	2	2	2	24	0	60	5	0	0	5	1	**120**
Glenda Dr	0	3	0	0	3	4	1	0	0	3	20	0	4	3	0	0	5	1	**47**
Gorge Road	0	2	4	5	1	1	4	1	0	1	15	0	54	1	0	0	3	1	**94**
Kelvin Heights	1	1	0	0	4	5	3	2	0	0	4	0	13	1	0	0	8	1	**44**
LHE/Shotover Country	0	3	1	0	3	3	2	2	0	0	0	0	10	0	0	0	3	0	**29**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Town Centre	35	94	197	495	85	83	402	47	219	69	311	15	0	139	0	0	177	50	**2418**
Jacks Point	2	1	0	1	4	12	6	2	1	2	5	0	23	0	0	0	8	1	**69**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	1	0	1	2	2	2	1	0	4	8	0	12	1	0	0	0	1	**37**
Frankton South East	0	1	0	1	2	6	3	1	0	4	4	0	13	1	0	0	5	0	**41**
Total	**45**	**125**	**207**	**509**	**122**	**143**	**447**	**70**	**229**	**100**	**511**	**18**	**335**	**166**	**0**	**0**	**245**	**65**	**3026**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	5%	7%	29%	5%	25%	35%	2%	9%	14%	8%	1%	56%	3%	-	-	3%	3%	**9%**
Arrowtown	2%	-	2%	2%	3%	4%	5%	2%	2%	4%	5%	0%	7%	1%	-	-	3%	2%	**4%**
Arthurs Point	6%	2%	-	7%	11%	8%	5%	12%	6%	7%	38%	4%	15%	2%	-	-	9%	7%	**12%**
Fernhill	8%	3%	5%	-	9%	10%	6%	7%	7%	7%	29%	3%	14%	3%	-	-	8%	6%	**11%**
Five Mile	4%	5%	3%	4%	-	4%	4%	2%	4%	5%	10%	1%	8%	2%	-	-	3%	5%	**4%**
Frankton	4%	10%	8%	11%	6%	-	10%	6%	9%	7%	25%	3%	19%	3%	-	-	3%	3%	**8%**
Frankton Rd	6%	11%	5%	6%	7%	7%	-	8%	5%	6%	29%	4%	11%	5%	-	-	5%	4%	**9%**
Glenda Dr	1%	4%	3%	4%	2%	5%	4%	-	4%	9%	9%	1%	8%	3%	-	-	3%	2%	**4%**
Gorge Road	7%	3%	6%	8%	12%	9%	6%	10%	-	10%	37%	5%	15%	3%	-	-	10%	9%	**11%**
Kelvin Heights	6%	14%	8%	11%	21%	14%	17%	15%	11%	-	35%	16%	28%	1%	-	-	13%	10%	**12%**
LHE/Shotover Country	2%	2%	3%	5%	2%	5%	5%	2%	3%	3%	-	0%	10%	1%	-	-	3%	2%	**3%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	2%	1%	-	2%	1%	-	-	2%	1%	**1%**
Town Centre	58%	21%	58%	59%	62%	56%	48%	50%	56%	46%	80%	35%	-	31%	-	-	56%	51%	**48%**
Jacks Point	5%	5%	6%	8%	8%	13%	13%	6%	8%	3%	16%	4%	20%	-	-	-	5%	4%	**8%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	2%	1%	3%	1%	1%	2%	1%	1%	4%	5%	2%	5%	0%	-	-	0%	1%	**2%**
Frankton South East	2%	4%	5%	20%	5%	14%	20%	2%	6%	19%	7%	1%	35%	2%	-	-	4%	0%	**8%**
Total	**9%**	**9%**	**36%**	**46%**	**9%**	**14%**	**30%**	**8%**	**37%**	**15%**	**25%**	**8%**	**12%**	**9%**	**0%**	**0%**	**11%**	**10%**	**14%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Frankton	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0			**3**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0			**8**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0			**3**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	7	46	0	0	12	0	0	13	0	0	0			**80**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**2**	**7**	**48**	**0**	**0**	**13**	**0**	**0**	**23**	**0**	**0**	**0**			**95**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**1%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	3%	0%	1%	-	0%	0%	4%	0%	-	-	0%	0%	**1%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	4%	6%	0%	0%	8%	0%	0%	-	0%	-	-	0%	0%	**2%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**3%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	1	1	0	0	0	0	0	0	7	0	0	0	3	0	**13**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	4	0	0	0	0	0	0	0	0	2	0	0	0	7	0	0	0	**13**
Frankton	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	**4**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	**5**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**4**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	**4**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	80	0	0	0	0	0	0	0	0	28	0	0	0	122	0	0	0	**230**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	1	0	1	0	0	0	14	0	0	0	8	0	**29**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	**9**
Remarkables Park	0	9	0	0	0	0	0	0	0	0	5	0	0	0	26	0	0	0	**40**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**1**	**99**	**0**	**0**	**4**	**1**	**1**	**1**	**1**	**0**	**38**	**0**	**23**	**0**	**168**	**0**	**12**	**1**	**339**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	1%	-	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%	4%	0%	0%	0%	4%	1%	**1%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	4%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**1%**
Frankton	0%	3%	0%	0%	0%	-	0%	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	3%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**0%**
Gorge Road	0%	1%	0%	0%	0%	0%	0%	0%	-	0%	2%	0%	0%	0%	6%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	-	0%	2%	0%	0%	0%	1%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	18%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	-	0%	46%	0%	0%	0%	**5%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	1%	0%	0%	1%	1%	2%	2%	1%	4%	0%	0%	0%	8%	0%	-	0%	3%	1%	**3%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	-	0%	0%	**2%**
Remarkables Park	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	11%	0%	-	0%	**2%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**7%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0%**	**1%**	**0%**	**14%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	23	2	1	29	45	13	32	1	41	76	10	9	145	12	29	128	48	**645**
Arrowtown	18	0	44	16	83	42	29	56	18	14	348	15	148	26	148	22	80	20	**1127**
Arthurs Point	4	74	0	21	12	6	27	6	23	4	29	2	165	8	23	3	14	3	**423**
Fernhill	5	28	23	0	12	7	48	5	34	6	13	2	404	19	28	5	25	4	**667**
Five Mile	31	87	9	10	0	109	51	141	7	32	200	31	98	98	200	23	348	63	**1539**
Frankton	45	53	5	8	106	0	64	82	6	79	143	24	83	241	25	49	230	75	**1319**
Frankton Rd	16	38	27	46	45	54	0	29	44	33	59	10	484	102	24	34	85	24	**1153**
Glenda Dr	22	68	5	4	135	74	29	0	3	29	204	29	45	94	35	29	149	65	**1020**
Gorge Road	3	74	54	58	11	11	75	8	0	12	25	4	305	40	31	4	24	8	**746**
Kelvin Heights	15	6	1	3	14	31	15	12	3	0	8	2	31	83	3	20	52	12	**310**
LHE/Shotover Country	25	200	17	6	112	68	33	90	7	11	0	20	81	32	85	18	102	29	**934**
Quail Rise	4	12	1	1	18	12	5	18	1	3	30	0	13	9	6	4	17	6	**159**
Town Centre	25	270	143	351	51	58	387	48	172	69	52	29	0	315	143	62	138	48	**2359**
Jacks Point	40	13	3	7	43	85	40	35	8	74	28	6	92	0	0	93	162	34	**762**
East External	63	115	23	18	188	32	40	37	18	14	79	7	159	0	0	10	269	13	**1085**
South External	21	17	2	17	9	31	26	10	11	19	14	2	142	92	21	0	32	11	**476**
Remarkables Park	88	66	12	28	321	196	93	119	18	89	152	22	243	271	216	46	0	133	**2115**
Frankton South East	19	17	2	2	41	39	13	37	2	16	47	7	24	58	7	22	110	0	**465**
Total	**443**	**1160**	**372**	**597**	**1231**	**898**	**987**	**763**	**380**	**544**	**1509**	**221**	**2524**	**1634**	**1006**	**474**	**1964**	**595**	**17304**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	
Airport	-	95%	93%	71%	95%	75%	65%	98%	91%	86%	92%	99%	44%	97%	99%	100%	97%	97%	**91%**
Arrowtown	97%	-	98%	98%	96%	95%	95%	97%	97%	96%	95%	100%	89%	99%	100%	100%	93%	97%	**95%**
Arthurs Point	94%	98%	-	93%	89%	92%	95%	88%	94%	93%	62%	96%	85%	98%	100%	100%	91%	93%	**88%**
Fernhill	92%	97%	95%	-	91%	90%	93%	93%	93%	93%	71%	97%	86%	97%	100%	100%	92%	94%	**89%**
Five Mile	96%	91%	97%	96%	-	96%	96%	98%	96%	95%	89%	99%	92%	98%	96%	100%	97%	95%	**95%**
Frankton	96%	86%	92%	88%	94%	-	89%	94%	91%	93%	74%	97%	79%	97%	97%	100%	97%	97%	**91%**
Frankton Rd	94%	89%	95%	94%	92%	93%	-	92%	95%	93%	71%	96%	88%	95%	100%	100%	95%	96%	**90%**
Glenda Dr	99%	93%	97%	96%	98%	95%	96%	-	96%	91%	91%	99%	92%	97%	97%	100%	97%	98%	**95%**
Gorge Road	93%	96%	94%	92%	88%	90%	94%	90%	-	90%	62%	95%	85%	97%	94%	100%	90%	91%	**88%**
Kelvin Heights	94%	86%	92%	88%	79%	85%	80%	85%	88%	-	65%	84%	68%	99%	100%	100%	87%	90%	**87%**
LHE/Shotover Country	98%	98%	97%	95%	97%	95%	95%	98%	96%	97%	-	100%	88%	99%	100%	100%	96%	98%	**97%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	98%	99%	-	98%	99%	100%	100%	98%	99%	**99%**
Town Centre	42%	61%	42%	41%	37%	39%	46%	50%	44%	46%	13%	65%	-	69%	54%	100%	44%	49%	**46%**
Jacks Point	95%	95%	94%	92%	92%	87%	87%	94%	92%	97%	84%	96%	80%	-	100%	100%	95%	96%	**92%**
East External	99%	100%	100%	99%	99%	98%	98%	99%	96%	100%	100%	100%	92%	100%	-	100%	97%	99%	**97%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	100%	86%	99%	97%	99%	99%	98%	99%	99%	96%	92%	98%	95%	100%	89%	100%	-	99%	**96%**
Frankton South East	98%	95%	95%	80%	95%	86%	80%	98%	94%	81%	93%	99%	65%	98%	99%	100%	96%	-	**92%**
Total	**91%**	**84%**	**64%**	**54%**	**91%**	**86%**	**67%**	**91%**	**62%**	**83%**	**73%**	**92%**	**87%**	**91%**	**86%**	**100%**	**88%**	**90%**	**82%**

2028 PM Option 1

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	22	2	2	31	59	20	32	1	48	93	10	21	150	11	28	132	49	**711**
Arrowtown	17	0	44	17	80	40	29	51	18	13	442	13	165	23	142	21	80	18	**1214**
Arthurs Point	4	73	0	23	13	6	29	7	24	4	57	2	193	8	22	3	15	3	**483**
Fernhill	5	28	24	0	13	8	51	5	37	7	22	2	470	20	27	5	27	4	**755**
Five Mile	32	88	8	11	0	112	54	142	8	33	258	30	107	98	201	23	356	65	**1626**
Frankton	47	56	5	10	112	0	72	87	7	84	214	24	107	246	23	49	236	77	**1457**
Frankton Rd	17	40	29	49	49	57	0	31	47	35	95	11	549	108	22	34	89	25	**1287**
Glenda Dr	22	66	5	4	136	77	31	0	4	31	252	29	50	95	32	29	152	65	**1080**
Gorge Road	3	76	57	63	12	12	79	9	0	13	51	4	359	42	32	4	26	9	**849**
Kelvin Heights	16	6	2	3	17	36	19	13	3	0	15	2	46	84	3	20	59	13	**358**
LHE/Shotover Country	30	279	23	7	145	89	43	113	10	15	0	26	109	43	125	24	135	37	**1253**
Quail Rise	4	10	1	1	18	12	6	18	1	3	34	0	13	9	5	4	17	6	**161**
Town Centre	60	436	339	846	133	148	832	94	392	150	451	44	0	455	255	63	317	97	**5111**
Jacks Point	42	13	3	8	47	97	47	37	9	76	38	6	115	0	0	91	168	35	**830**
East External	63	113	23	17	188	31	39	36	19	14	105	7	167	0	0	10	270	13	**1115**
South External	21	16	2	17	9	31	26	10	11	19	18	1	143	90	20	0	31	11	**477**
Remarkables Park	88	72	12	29	319	197	96	118	19	92	193	22	254	270	236	46	0	134	**2198**
Frankton South East	19	16	2	3	43	45	17	38	3	20	57	7	37	59	6	22	114	0	**507**
Total	**491**	**1411**	**580**	**1108**	**1365**	**1055**	**1488**	**839**	**612**	**657**	**2396**	**240**	**2905**	**1798**	**1163**	**475**	**2226**	**662**	**21471**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	2	15	7	1	0	7	9	0	12	4	0	0	4	1	**63**
Arrowtown	0	0	1	0	3	2	2	1	0	1	23	0	12	0	0	0	3	0	**49**
Arthurs Point	0	1	0	2	1	0	1	1	1	0	22	0	29	0	0	0	1	0	**61**
Fernhill	0	1	1	0	1	1	3	0	3	0	7	0	66	1	0	0	2	0	**86**
Five Mile	1	5	0	0	0	4	2	3	0	2	30	0	9	2	0	0	12	3	**73**
Frankton	2	6	0	1	7	0	8	6	1	5	59	1	21	8	0	0	8	2	**135**
Frankton Rd	1	5	1	3	4	4	0	2	2	2	30	0	60	5	0	0	4	1	**124**
Glenda Dr	0	3	0	0	3	4	1	0	0	3	25	0	4	3	0	0	5	1	**53**
Gorge Road	0	2	4	5	1	1	4	1	0	1	19	0	54	1	0	0	2	1	**97**
Kelvin Heights	1	1	0	0	4	5	3	2	0	0	6	0	13	1	0	0	8	1	**45**
LHE/Shotover Country	1	4	1	0	4	5	3	3	0	1	0	0	14	1	0	0	5	1	**42**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Town Centre	34	93	197	495	80	81	400	45	219	67	362	15	0	134	0	0	173	48	**2442**
Jacks Point	2	1	0	1	4	12	6	2	1	2	7	0	23	0	0	0	8	1	**70**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	1	0	1	2	2	2	1	0	3	9	0	12	1	0	0	0	1	**39**
Frankton South East	0	1	0	1	2	6	3	1	0	4	5	0	13	1	0	0	5	0	**42**
Total	**44**	**125**	**206**	**510**	**117**	**143**	**447**	**68**	**229**	**98**	**611**	**19**	**341**	**161**	**0**	**0**	**241**	**63**	**3119**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	5%	7%	29%	5%	25%	35%	2%	9%	14%	9%	1%	56%	3%	-	-	3%	3%	**9%**
Arrowtown	2%	-	2%	2%	4%	4%	6%	3%	2%	4%	5%	0%	7%	1%	-	-	4%	2%	**4%**
Arthurs Point	5%	2%	-	7%	10%	8%	5%	11%	6%	7%	39%	4%	15%	2%	-	-	8%	6%	**13%**
Fernhill	8%	3%	5%	-	9%	9%	6%	7%	7%	7%	30%	3%	14%	3%	-	-	7%	5%	**11%**
Five Mile	4%	5%	3%	4%	-	4%	4%	2%	4%	5%	11%	1%	8%	2%	-	-	3%	5%	**5%**
Frankton	4%	11%	8%	12%	6%	-	11%	6%	9%	6%	28%	3%	20%	3%	-	-	3%	3%	**9%**
Frankton Rd	5%	12%	5%	6%	7%	6%	-	8%	5%	6%	31%	4%	11%	4%	-	-	5%	4%	**10%**
Glenda Dr	1%	4%	4%	5%	2%	5%	4%	-	4%	9%	10%	1%	9%	3%	-	-	3%	2%	**5%**
Gorge Road	6%	3%	6%	8%	11%	9%	6%	9%	-	9%	38%	5%	15%	3%	-	-	9%	8%	**11%**
Kelvin Heights	6%	15%	8%	11%	21%	14%	17%	15%	11%	-	38%	17%	28%	1%	-	-	13%	10%	**12%**
LHE/Shotover Country	2%	2%	4%	7%	3%	6%	6%	2%	4%	4%	-	0%	12%	2%	-	-	4%	2%	**3%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	2%	1%	-	3%	1%	-	-	2%	1%	**1%**
Town Centre	57%	21%	58%	58%	60%	55%	48%	48%	56%	45%	80%	35%	-	29%	-	-	54%	49%	**48%**
Jacks Point	5%	6%	6%	8%	8%	13%	13%	6%	8%	3%	17%	5%	20%	-	-	-	5%	4%	**8%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	2%	1%	3%	1%	1%	2%	1%	1%	4%	5%	2%	5%	0%	-	-	0%	1%	**2%**
Frankton South East	2%	4%	5%	20%	5%	14%	20%	2%	6%	19%	8%	1%	35%	2%	-	-	4%	0%	**8%**
Total	**9%**	**9%**	**36%**	**46%**	**9%**	**14%**	**30%**	**8%**	**37%**	**15%**	**26%**	**8%**	**12%**	**9%**	**0%**	**0%**	**11%**	**10%**	**15%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Frankton	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	0			**3**
Frankton Rd	0	0	0	0	0	0	0	0	0	1	0	0	6	0	0	0			**8**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0			**4**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	8	47	0	0	15	0	0	13	0	0	0			**84**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**2**	**9**	**49**	**0**	**0**	**16**	**0**	**0**	**24**	**0**	**0**	**0**			**100**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	1%	-	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**1%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	3%	0%	1%	-	0%	0%	5%	0%	-	-	0%	0%	**1%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	5%	6%	0%	0%	10%	0%	0%	-	0%	-	-	0%	0%	**2%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**3%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	1	1	0	0	0	0	0	0	8	0	0	0	4	0	**14**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	4	0	0	0	0	0	0	0	0	2	0	0	0	8	0	0	0	**14**
Frankton	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	**4**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	3	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	**5**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	**4**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	1	0	**6**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	79	0	0	0	0	0	0	0	0	33	0	0	0	120	0	0	0	**232**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	1	0	1	0	0	0	16	0	0	0	9	0	**32**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	**10**
Remarkables Park	0	10	0	0	0	0	0	0	0	0	7	0	0	0	28	0	0	0	**45**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**1**	**99**	**0**	**0**	**5**	**2**	**1**	**1**	**1**	**0**	**47**	**0**	**26**	**0**	**169**	**0**	**14**	**1**	**353**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	1%	-	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%	5%	0%	0%	0%	5%	1%	**1%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	5%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**1%**
Frankton	0%	4%	0%	0%	0%	-	0%	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	4%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	**1%**
Gorge Road	0%	2%	0%	0%	0%	0%	0%	0%	-	0%	2%	0%	0%	0%	6%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	-	0%	2%	0%	0%	0%	1%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	18%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	-	0%	47%	0%	0%	0%	**5%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	1%	0%	0%	1%	2%	2%	2%	1%	5%	0%	0%	0%	9%	0%	-	0%	3%	2%	**3%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	-	0%	0%	**2%**
Remarkables Park	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	12%	0%	-	0%	**2%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**7%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0%**	**1%**	**0%**	**15%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	21	2	1	29	44	13	32	1	42	84	10	10	145	11	28	127	48	**647**
Arrowtown	17	0	43	16	76	38	28	49	18	13	419	13	145	23	142	21	73	18	**1152**
Arthurs Point	3	71	0	21	12	6	27	6	23	3	35	2	164	8	22	3	13	3	**422**
Fernhill	5	27	23	0	12	7	47	5	34	6	16	2	404	19	27	5	25	4	**668**
Five Mile	31	79	8	10	0	108	51	139	7	32	226	30	98	96	193	23	344	62	**1538**
Frankton	45	48	5	8	105	0	64	81	7	78	154	23	84	239	23	49	228	75	**1315**
Frankton Rd	16	36	27	46	46	53	0	29	44	33	66	10	483	103	22	34	85	24	**1156**
Glenda Dr	22	61	5	4	133	73	29	0	3	28	225	29	46	92	31	29	148	64	**1022**
Gorge Road	3	72	54	58	11	11	74	8	0	12	31	4	305	40	30	4	24	8	**747**
Kelvin Heights	15	5	1	3	14	31	15	11	3	0	9	2	31	83	3	20	52	12	**310**
LHE/Shotover Country	30	275	22	7	140	83	40	110	9	14	0	25	93	42	125	24	129	36	**1205**
Quail Rise	4	10	1	1	18	11	6	17	1	3	34	0	13	8	5	4	17	6	**159**
Town Centre	26	264	142	351	51	59	385	49	173	69	56	29	0	321	135	63	145	49	**2365**
Jacks Point	40	12	3	7	43	84	41	35	8	74	32	6	93	0	0	91	160	33	**759**
East External	62	113	23	17	185	30	38	35	18	14	105	7	151	0	0	10	262	12	**1083**
South External	21	16	2	17	9	31	26	10	11	19	18	1	143	90	20	0	31	11	**477**
Remarkables Park	88	61	12	28	317	195	94	117	18	88	176	22	242	269	209	46	0	133	**2115**
Frankton South East	19	16	1	2	41	38	14	37	2	16	52	7	24	58	6	22	110	0	**465**
Total	**446**	**1187**	**374**	**598**	**1241**	**903**	**992**	**770**	**381**	**544**	**1738**	**221**	**2528**	**1637**	**1003**	**475**	**1971**	**598**	**17606**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	94%	93%	71%	95%	75%	65%	98%	91%	86%	91%	99%	44%	97%	99%	100%	97%	97%	**91%**
Arrowtown	97%	-	98%	98%	95%	94%	94%	96%	96%	96%	95%	100%	88%	99%	100%	100%	92%	97%	**95%**
Arthurs Point	95%	98%	-	93%	90%	92%	95%	89%	94%	93%	61%	96%	85%	98%	100%	100%	92%	94%	**87%**
Fernhill	92%	97%	95%	-	91%	91%	93%	93%	93%	93%	70%	97%	86%	97%	100%	100%	93%	95%	**89%**
Five Mile	96%	90%	97%	96%	-	96%	96%	98%	96%	95%	88%	99%	92%	98%	96%	100%	97%	95%	**95%**
Frankton	96%	85%	92%	88%	94%	-	89%	94%	90%	93%	72%	97%	79%	97%	97%	100%	97%	97%	**90%**
Frankton Rd	95%	88%	95%	94%	93%	93%	-	92%	95%	93%	69%	96%	88%	96%	100%	100%	95%	96%	**90%**
Glenda Dr	99%	92%	96%	95%	98%	95%	96%	-	96%	91%	89%	99%	91%	97%	97%	100%	97%	98%	**95%**
Gorge Road	94%	95%	94%	92%	89%	91%	94%	91%	-	90%	60%	95%	85%	97%	94%	100%	91%	92%	**88%**
Kelvin Heights	94%	85%	92%	88%	79%	85%	80%	85%	88%	-	62%	83%	68%	99%	100%	100%	87%	90%	**87%**
LHE/Shotover Country	98%	98%	96%	93%	97%	94%	94%	97%	95%	96%	-	100%	85%	98%	100%	100%	95%	98%	**96%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	98%	99%	-	97%	99%	100%	100%	98%	99%	**99%**
Town Centre	43%	61%	42%	41%	39%	40%	46%	52%	44%	46%	12%	65%	-	71%	53%	100%	46%	51%	**46%**
Jacks Point	95%	94%	94%	92%	92%	87%	87%	94%	92%	97%	83%	95%	80%	-	100%	100%	95%	96%	**92%**
East External	99%	100%	100%	99%	98%	98%	98%	99%	95%	100%	100%	100%	91%	100%	-	100%	97%	98%	**97%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	100%	85%	99%	97%	99%	99%	98%	99%	99%	96%	91%	98%	95%	100%	88%	100%	-	99%	**96%**
Frankton South East	98%	94%	95%	80%	95%	86%	80%	98%	94%	81%	92%	99%	65%	98%	99%	100%	96%	-	**92%**
Total	**91%**	**84%**	**64%**	**54%**	**91%**	**86%**	**67%**	**92%**	**62%**	**83%**	**73%**	**92%**	**87%**	**91%**	**86%**	**100%**	**89%**	**90%**	**82%**

2028 PM Option 2

TOTAL DEMAND	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	21	2	2	31	60	20	33	2	48	105	10	22	149	9	28	132	49	**723**
Arrowtown	17	0	43	16	76	38	28	48	18	12	503	11	164	20	133	21	76	17	**1243**
Arthurs Point	4	73	0	23	12	6	28	6	24	4	65	2	193	8	21	3	14	3	**488**
Fernhill	5	29	24	0	12	8	51	5	37	7	26	2	473	20	26	5	27	5	**762**
Five Mile	33	83	8	11	0	113	54	143	8	33	280	30	107	96	196	24	355	65	**1638**
Frankton	47	54	5	10	113	0	73	88	7	84	236	24	108	245	20	49	238	77	**1477**
Frankton Rd	17	40	29	49	49	58	0	32	47	36	107	11	554	107	20	34	89	25	**1303**
Glenda Dr	23	63	4	4	137	77	31	0	4	31	275	29	51	93	27	30	152	65	**1095**
Gorge Road	3	78	58	63	13	12	79	9	0	13	60	4	360	42	31	4	25	9	**861**
Kelvin Heights	16	5	2	3	17	36	19	13	3	0	16	2	47	84	3	20	60	13	**361**
LHE/Shotover Country	33	304	25	8	154	94	46	118	11	14	0	25	121	42	132	25	144	38	**1333**
Quail Rise	4	10	1	1	18	12	6	18	1	3	36	0	13	8	5	5	17	6	**163**
Town Centre	60	445	341	849	131	149	835	95	394	152	520	45	0	459	249	61	321	100	**5206**
Jacks Point	42	12	3	8	47	97	47	37	9	77	41	6	117	0	0	90	169	35	**837**
East External	62	111	23	17	187	30	38	34	19	13	118	7	162	0	0	10	267	12	**1110**
South External	21	16	2	17	9	31	27	10	10	19	21	1	144	90	18	0	31	11	**478**
Remarkables Park	89	70	13	29	319	199	97	119	19	92	212	22	256	269	232	46	0	135	**2215**
Frankton South East	20	16	1	3	43	45	17	38	3	20	62	7	38	59	5	22	115	0	**512**
Total	**494**	**1429**	**582**	**1112**	**1369**	**1063**	**1495**	**844**	**616**	**658**	**2681**	**241**	**2929**	**1791**	**1129**	**475**	**2232**	**665**	**21806**

BUS PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	1	0	0	2	15	7	1	0	7	12	0	12	4	0	0	4	1	**68**
Arrowtown	0	0	1	0	3	2	2	1	0	1	26	0	12	0	0	0	3	0	**52**
Arthurs Point	0	1	0	2	1	1	1	1	1	0	32	0	29	0	0	0	1	0	**73**
Fernhill	0	1	1	0	1	1	3	0	3	1	10	0	66	1	0	0	2	0	**91**
Five Mile	1	5	0	0	0	4	2	3	0	2	39	0	9	2	0	0	12	3	**84**
Frankton	2	7	0	1	7	0	8	6	1	6	77	1	22	8	0	0	8	2	**155**
Frankton Rd	1	6	1	3	4	4	0	3	2	2	42	0	60	6	0	0	5	1	**142**
Glenda Dr	0	3	0	0	3	4	1	0	0	3	34	0	5	3	0	0	5	1	**62**
Gorge Road	0	3	4	5	2	1	4	1	0	2	29	0	55	1	0	0	3	1	**111**
Kelvin Heights	1	1	0	0	4	5	3	2	0	0	7	0	13	1	0	0	8	1	**47**
LHE/Shotover Country	1	5	1	1	4	6	3	3	0	1	0	0	15	1	0	0	6	1	**47**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Town Centre	37	100	198	497	85	88	403	50	221	74	434	19	0	152	0	0	193	55	**2606**
Jacks Point	2	1	0	1	4	13	6	2	1	2	9	0	24	0	0	0	8	1	**74**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	2	0	1	2	2	2	1	0	3	12	0	13	1	0	0	0	1	**43**
Frankton South East	0	1	0	1	2	7	3	1	0	4	6	0	13	1	0	0	5	0	**44**
Total	**47**	**136**	**208**	**512**	**125**	**152**	**451**	**75**	**231**	**107**	**770**	**23**	**349**	**181**	**0**	**0**	**264**	**71**	**3367**

BUS PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	6%	7%	30%	5%	26%	36%	2%	9%	14%	11%	1%	56%	3%	-	-	3%	3%	**9%**
Arrowtown	2%	-	2%	3%	4%	4%	6%	3%	2%	4%	5%	0%	8%	1%	-	-	4%	2%	**4%**
Arthurs Point	7%	2%	-	8%	12%	9%	5%	14%	6%	8%	50%	5%	15%	3%	-	-	10%	8%	**15%**
Fernhill	9%	4%	5%	-	10%	11%	7%	9%	7%	8%	38%	4%	14%	3%	-	-	9%	7%	**12%**
Five Mile	4%	6%	3%	4%	-	4%	4%	2%	4%	5%	14%	1%	8%	2%	-	-	3%	5%	**5%**
Frankton	4%	13%	8%	12%	6%	-	11%	7%	9%	7%	33%	4%	20%	3%	-	-	3%	3%	**11%**
Frankton Rd	6%	15%	5%	6%	8%	7%	-	9%	5%	6%	39%	5%	11%	5%	-	-	6%	5%	**11%**
Glenda Dr	1%	5%	4%	5%	2%	5%	4%	-	4%	9%	12%	1%	9%	3%	-	-	3%	2%	**6%**
Gorge Road	8%	3%	6%	8%	14%	11%	6%	11%	-	11%	48%	6%	15%	3%	-	-	12%	10%	**13%**
Kelvin Heights	6%	18%	9%	12%	21%	14%	17%	15%	11%	-	44%	19%	28%	1%	-	-	13%	10%	**13%**
LHE/Shotover Country	2%	2%	4%	7%	3%	6%	7%	2%	4%	4%	-	0%	13%	2%	-	-	4%	2%	**4%**
Quail Rise	1%	0%	1%	1%	1%	1%	1%	1%	1%	2%	1%	-	3%	1%	-	-	2%	1%	**1%**
Town Centre	62%	22%	58%	59%	65%	59%	48%	53%	56%	49%	84%	42%	-	33%	-	-	60%	55%	**50%**
Jacks Point	5%	7%	7%	8%	9%	13%	13%	6%	8%	3%	21%	5%	20%	-	-	-	5%	4%	**9%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	2%	1%	3%	1%	1%	2%	1%	1%	4%	6%	2%	5%	0%	-	-	0%	1%	**2%**
Frankton South East	2%	5%	6%	21%	5%	15%	20%	2%	6%	19%	10%	1%	35%	2%	-	-	4%	0%	**9%**
Total	**10%**	**10%**	**36%**	**46%**	**9%**	**14%**	**30%**	**9%**	**37%**	**16%**	**29%**	**9%**	**12%**	**10%**	**0%**	**0%**	**12%**	**11%**	**15%**

FERRY PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Frankton	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0			**3**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0			**8**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Kelvin Heights	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0			**4**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Town Centre	0	0	0	0	2	7	47	0	0	13	0	0	13	0	0	0			**83**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
Total	**0**	**0**	**0**	**0**	**2**	**8**	**48**	**0**	**0**	**15**	**0**	**0**	**24**	**0**	**0**	**0**			**98**

FERRY PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	1%	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	1%	0%	-	-	0%	0%	**1%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	1%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	1%	0%	1%	3%	0%	1%	-	0%	0%	5%	0%	-	-	0%	0%	**1%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	1%	5%	6%	0%	0%	9%	0%	0%	-	0%	-	-	0%	0%	**2%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	**0%**
East External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
South External	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	0%	0%	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**3%**	**0%**	**0%**	**2%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

P&R PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Arrowtown	0	0	0	0	1	1	0	0	0	0	0	0	8	0	0	0	4	0	**14**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	5	0	0	0	0	0	0	0	0	3	0	0	0	9	0	0	0	**17**
Frankton	0	2	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	**5**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	3	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	**7**
Gorge Road	0	1	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	**5**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	1	1	0	0	0	0	0	0	3	0	0	0	2	0	**6**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	85	0	0	0	0	0	0	0	0	40	0	0	0	135	0	0	0	**261**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	1	0	0	0	3	1	1	0	1	0	0	0	16	0	0	0	9	0	**32**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	**11**
Remarkables Park	0	11	0	0	0	0	0	0	0	0	10	0	0	0	32	0	0	0	**54**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**1**	**108**	**0**	**0**	**5**	**2**	**1**	**1**	**1**	**0**	**60**	**0**	**26**	**0**	**192**	**0**	**14**	**1**	**398**

P&R PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	**0%**
Arrowtown	1%	-	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%	5%	0%	0%	0%	5%	1%	**1%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	5%	0%	0%	-	0%	0%	0%	0%	0%	1%	0%	0%	0%	5%	0%	0%	0%	**1%**
Frankton	0%	4%	0%	0%	0%	-	0%	0%	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	5%	0%	0%	0%	0%	0%	-	0%	0%	1%	0%	0%	0%	4%	0%	0%	0%	**1%**
Gorge Road	0%	2%	0%	0%	0%	0%	0%	0%	-	0%	2%	0%	0%	0%	8%	0%	0%	0%	**1%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	-	0%	2%	0%	0%	0%	1%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	19%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	-	0%	54%	0%	0%	0%	**5%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	1%	0%	0%	1%	2%	2%	2%	1%	5%	0%	0%	0%	10%	0%	-	0%	3%	2%	**3%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	-	0%	0%	**2%**
Remarkables Park	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	14%	0%	-	0%	**2%**
Frankton South East	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	-	**0%**
Total	**0%**	**8%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0%**	**1%**	**0%**	**17%**	**0%**	**2%**	**0%**	**2%**

MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

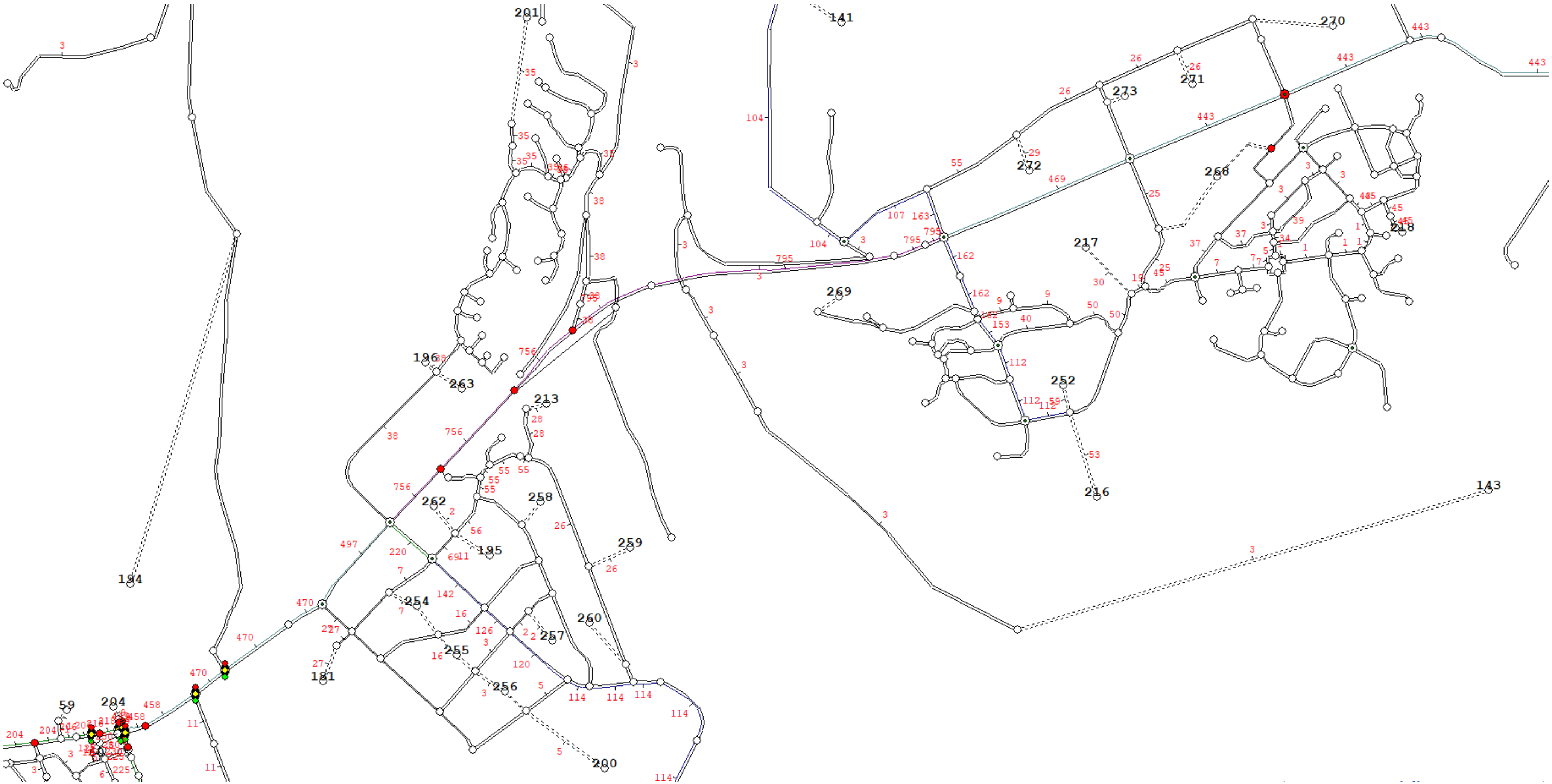
P&R-MRT PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arrowtown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Arthurs Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fernhill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Five Mile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Glenda Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Gorge Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Kelvin Heights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
LHE/Shotover Country	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Quail Rise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Town Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Jacks Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
East External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
South External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Remarkables Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Frankton South East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P&R-MRT PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arrowtown	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Arthurs Point	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Fernhill	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Five Mile	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Frankton Rd	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Glenda Dr	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Gorge Road	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Kelvin Heights	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
LHE/Shotover Country	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	**0%**
Quail Rise	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	**0%**
Town Centre	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	**0%**
Jacks Point	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**
East External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	**0%**
South External	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	**0%**
Remarkables Park	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	**0%**
Frankton South East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	**0%**
Total	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

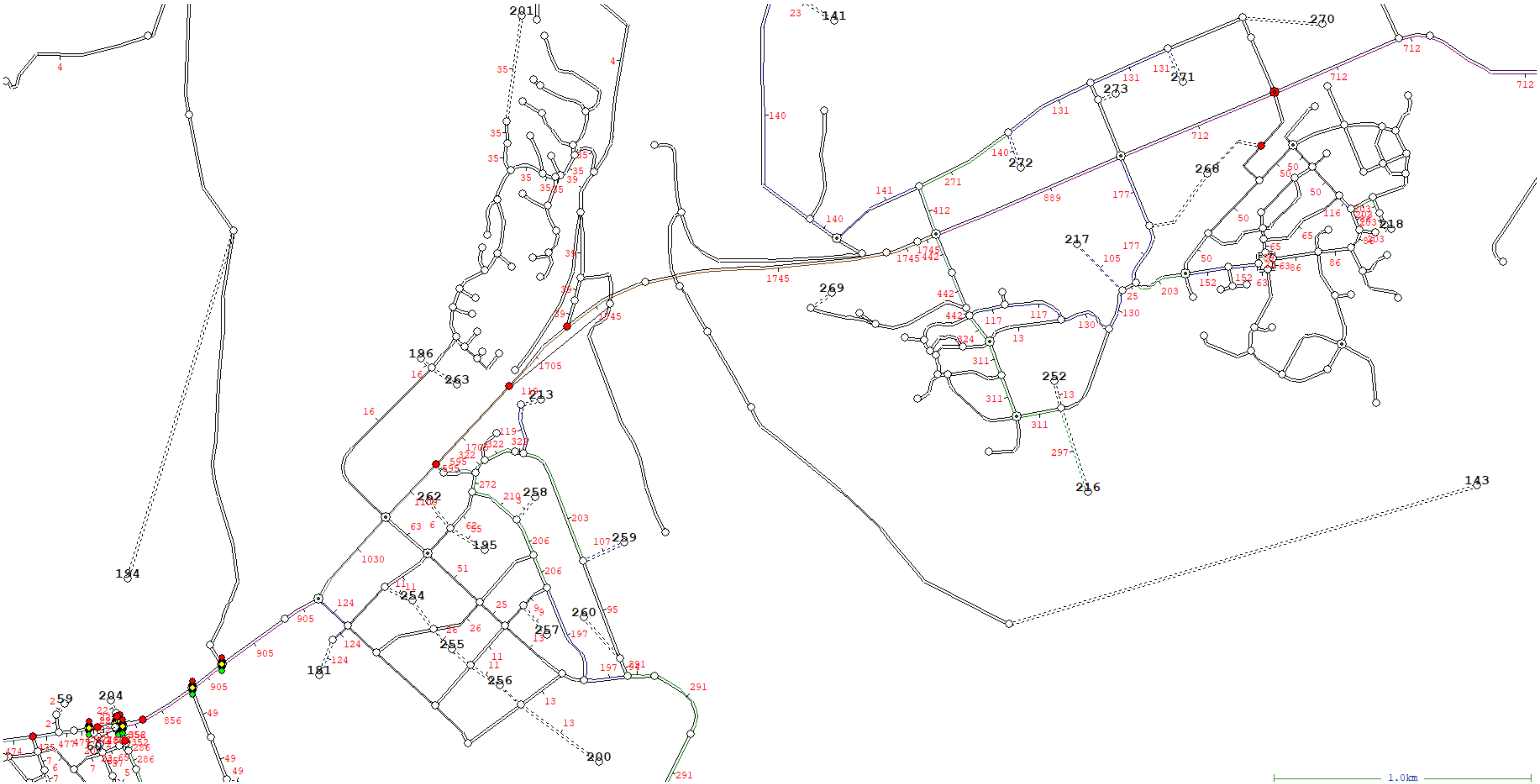
CAR PASSENGERS (TOTAL)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	0	20	2	1	29	44	13	32	1	42	92	10	10	145	9	28	128	48	**654**
Arrowtown	16	0	42	16	73	36	27	46	18	12	477	11	144	20	133	21	70	16	**1177**
Arthurs Point	3	72	0	21	11	5	27	5	23	3	33	2	163	8	21	3	13	3	**415**
Fernhill	5	28	23	0	11	7	48	5	34	6	16	2	407	20	26	5	25	4	**671**
Five Mile	31	74	8	10	0	108	52	140	7	31	238	30	98	94	187	24	343	62	**1537**
Frankton	45	44	5	8	106	0	65	82	7	78	157	23	85	237	19	49	229	75	**1314**
Frankton Rd	16	34	27	46	45	53	0	29	44	33	65	10	487	102	20	34	84	24	**1154**
Glenda Dr	22	56	4	4	134	73	30	0	3	28	239	29	46	90	26	30	147	63	**1026**
Gorge Road	3	74	54	58	11	11	74	8	0	12	29	4	305	41	29	4	22	8	**745**
Kelvin Heights	16	4	1	3	13	31	15	11	3	0	9	2	32	84	3	20	52	12	**310**
LHE/Shotover Country	32	300	24	8	149	87	43	115	11	14	0	25	103	41	132	25	136	37	**1280**
Quail Rise	4	10	1	1	18	12	6	17	1	3	36	0	13	8	5	5	17	6	**161**
Town Centre	23	260	143	352	45	54	385	45	174	64	45	26	0	306	113	61	129	45	**2270**
Jacks Point	40	11	3	7	43	84	41	35	8	75	33	6	93	0	0	90	160	34	**763**
East External	61	111	23	17	184	29	37	34	18	13	118	7	146	0	0	10	258	12	**1078**
South External	21	16	2	17	9	31	27	10	10	19	21	1	144	90	18	0	31	11	**478**
Remarkables Park	88	57	12	28	317	196	95	118	19	88	189	22	243	268	200	46	0	133	**2119**
Frankton South East	19	14	1	2	41	38	14	37	3	16	55	7	24	58	5	22	110	0	**468**
Total	**445**	**1185**	**375**	**599**	**1238**	**901**	**996**	**768**	**384**	**537**	**1851**	**218**	**2543**	**1610**	**947**	**475**	**1954**	**593**	**17619**

CAR PASSENGERS (SHARE)	Airport	Arrowtown	Arthurs Point	Fernhill	Five Mile	Frankton	Frankton Rd	Glenda Dr	Gorge Road	Kelvin Heights	LHE/Shotover Country	Quail Rise	Town Centre	Jacks Point	East External	South External	Remarkables Park	Frankton South East	Total
Airport	-	93%	93%	70%	95%	74%	64%	98%	91%	86%	88%	99%	44%	97%	99%	100%	97%	97%	**91%**
Arrowtown	97%	-	98%	97%	95%	94%	94%	96%	96%	96%	95%	100%	88%	99%	100%	100%	91%	96%	**95%**
Arthurs Point	93%	98%	-	92%	88%	91%	95%	86%	94%	92%	50%	95%	85%	97%	100%	100%	90%	92%	**85%**
Fernhill	91%	96%	95%	-	90%	89%	93%	91%	93%	92%	62%	96%	86%	97%	100%	100%	91%	93%	**88%**
Five Mile	96%	88%	97%	96%	-	96%	96%	98%	96%	95%	85%	99%	92%	98%	95%	100%	97%	95%	**94%**
Frankton	96%	82%	92%	88%	94%	-	88%	93%	90%	93%	67%	96%	79%	97%	96%	100%	97%	97%	**89%**
Frankton Rd	94%	85%	95%	94%	92%	92%	-	91%	95%	92%	61%	95%	88%	95%	100%	100%	94%	95%	**89%**
Glenda Dr	99%	90%	96%	95%	98%	95%	96%	-	96%	91%	87%	99%	91%	97%	96%	100%	97%	98%	**94%**
Gorge Road	92%	95%	94%	92%	86%	89%	94%	89%	-	88%	49%	94%	85%	97%	92%	100%	88%	90%	**86%**
Kelvin Heights	94%	82%	91%	88%	78%	85%	80%	85%	87%	-	56%	81%	67%	99%	100%	100%	87%	90%	**86%**
LHE/Shotover Country	98%	98%	96%	93%	97%	93%	93%	97%	95%	96%	-	100%	85%	98%	100%	100%	95%	98%	**96%**
Quail Rise	99%	100%	99%	99%	99%	99%	99%	99%	99%	98%	99%	-	97%	99%	100%	100%	98%	99%	**99%**
Town Centre	38%	58%	42%	41%	34%	36%	46%	47%	44%	42%	9%	58%	-	67%	46%	100%	40%	45%	**44%**
Jacks Point	95%	93%	93%	92%	91%	87%	87%	94%	92%	97%	79%	95%	80%	-	100%	100%	95%	96%	**91%**
East External	99%	100%	100%	99%	98%	98%	98%	99%	95%	100%	100%	100%	90%	100%	-	100%	97%	98%	**97%**
South External	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%	**100%**
Remarkables Park	100%	82%	99%	97%	99%	99%	98%	99%	99%	96%	89%	98%	95%	100%	86%	100%	-	99%	**96%**
Frankton South East	98%	93%	94%	79%	95%	85%	80%	98%	94%	81%	90%	99%	65%	98%	99%	100%	96%	-	**91%**
Total	**90%**	**83%**	**64%**	**54%**	**90%**	**85%**	**67%**	**91%**	**62%**	**82%**	**69%**	**91%**	**87%**	**90%**	**84%**	**100%**	**88%**	**89%**	**81%**

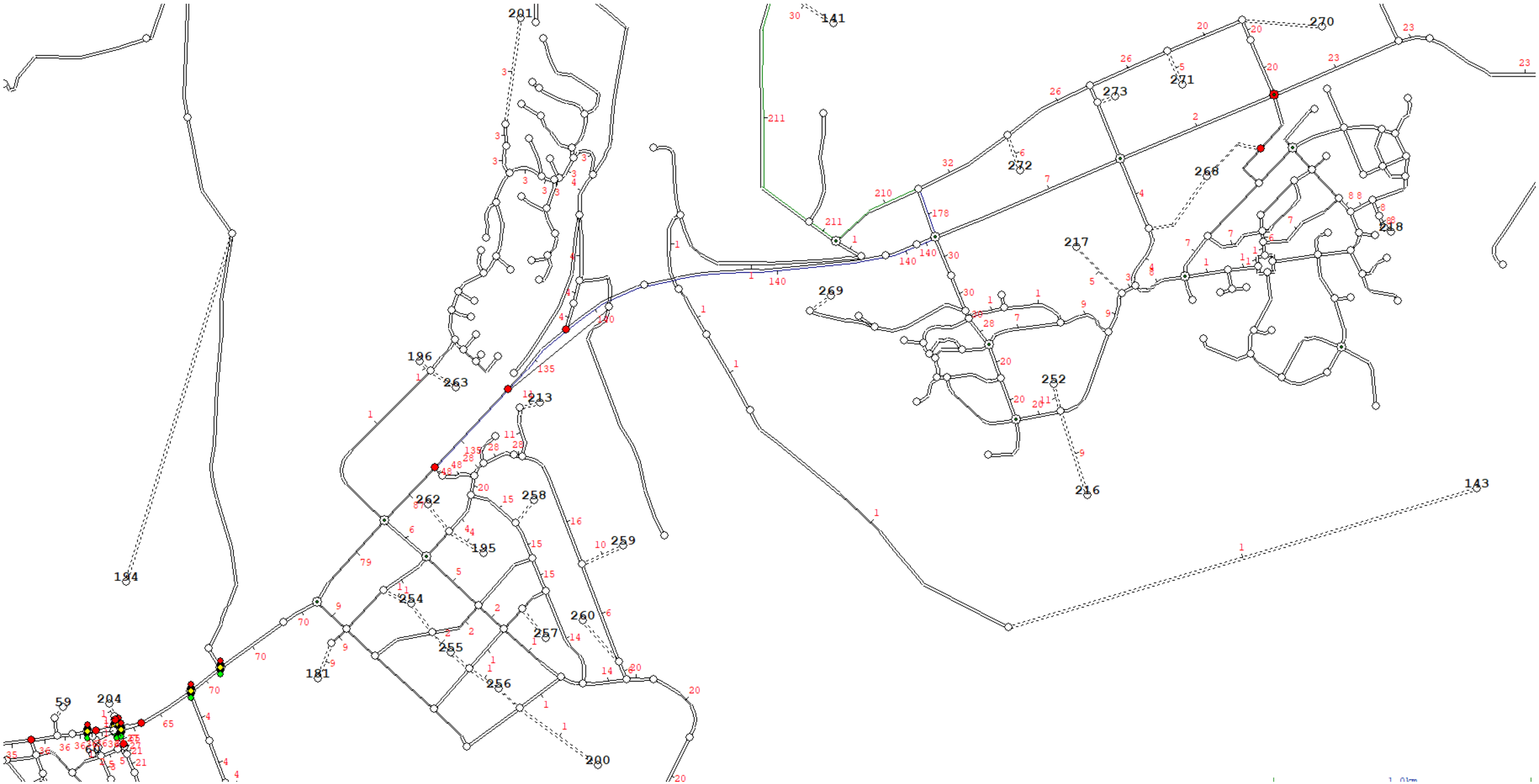
2048 Base Scenario Shotover Bridge AM Peak Eastbound select link plot



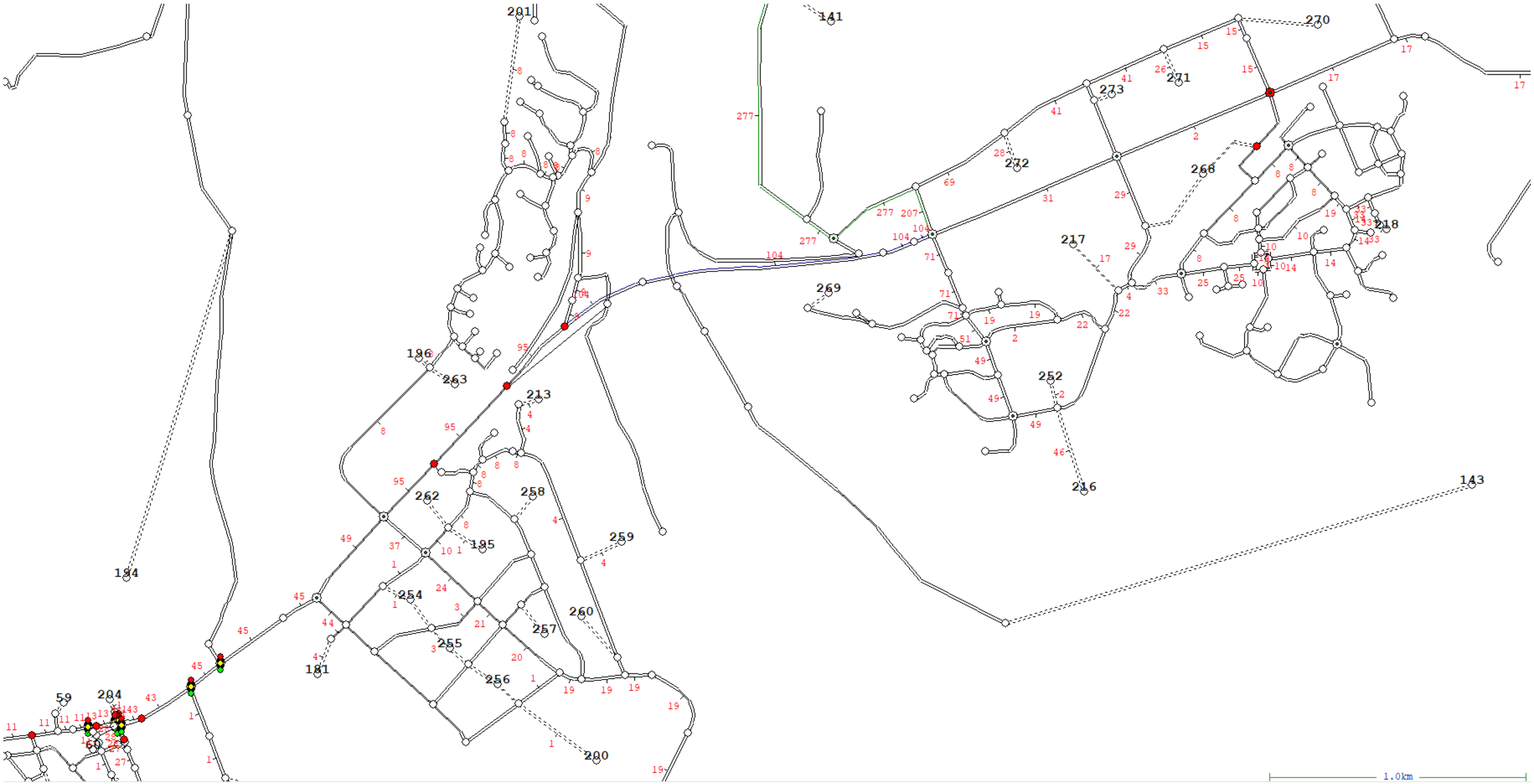
2048 Base Scenario Shotover Bridge AM Peak Westbound select link plot



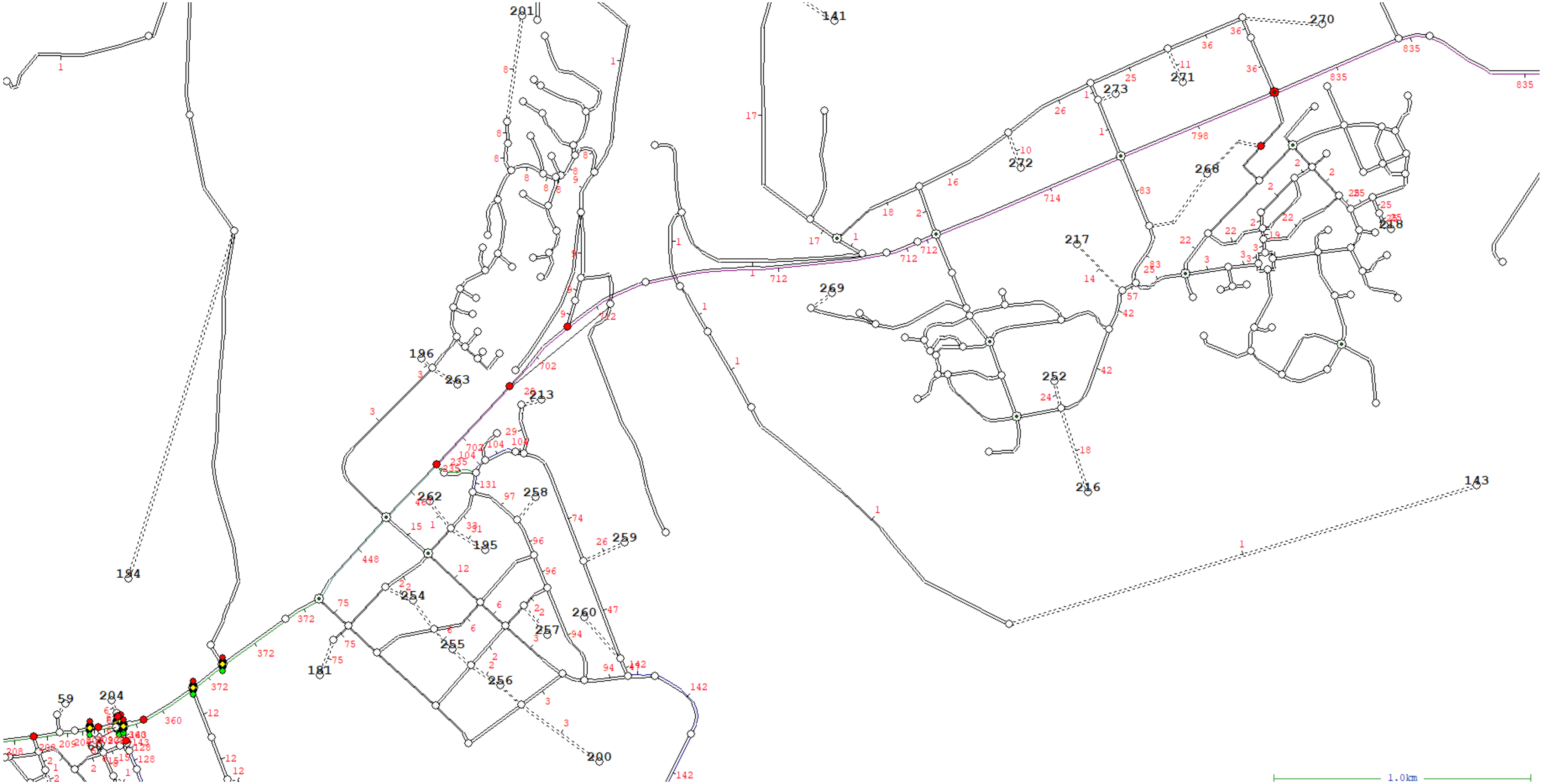
2048 Base Scenario Lower Shotover Rd AM Peak Southbound select link plot



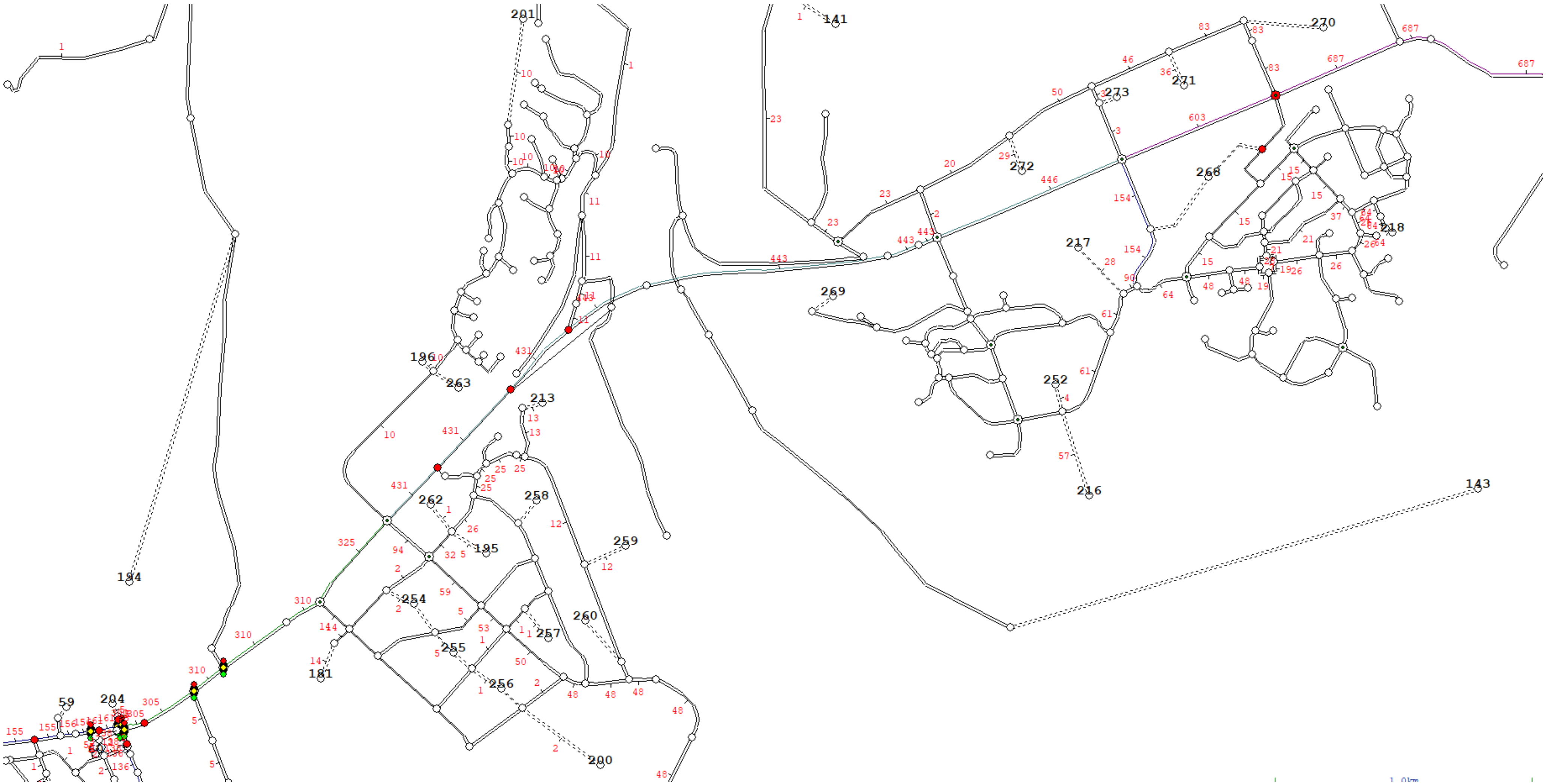
2048 Base Scenario Lower Shotover Rd AM Peak Northbound select link plot



2048 Base Scenario SH6 east of Ladies Mile AM Peak Westbound select link plot



2048 Base Scenario SH6 east of Ladies Mile AM Peak Eastbound select link plot



2048 Base Scenario Shotover Bridge Interpeak Eastbound select link plot

2048 Base Scenario Shotover Bridge Interpeak Westbound select link plot

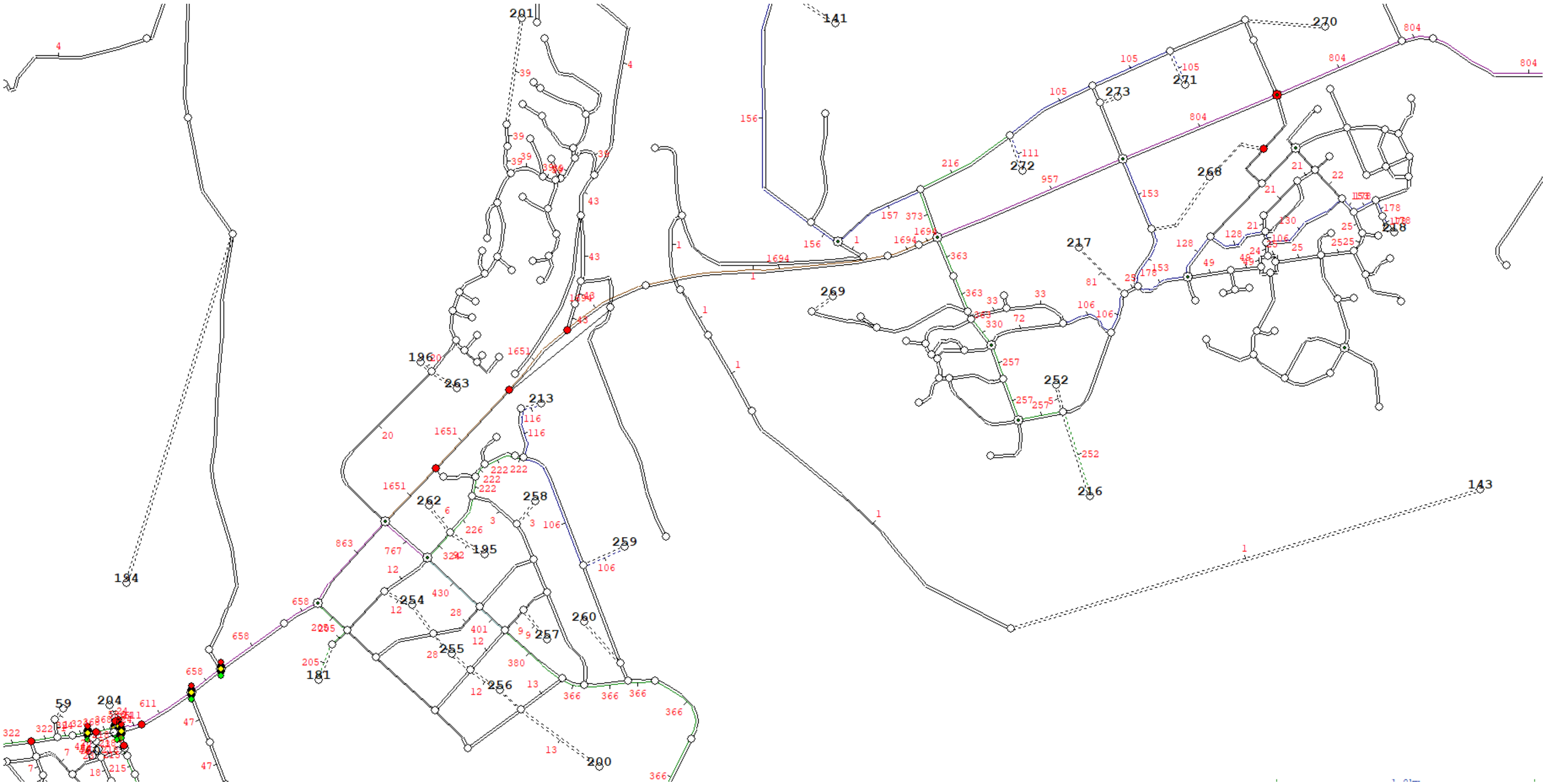
2048 Base Scenario Lower Shotover Rd Interpeak Southbound select link plot

2048 Base Scenario Lower Shotover Rd Interpeak Northbound select link plot

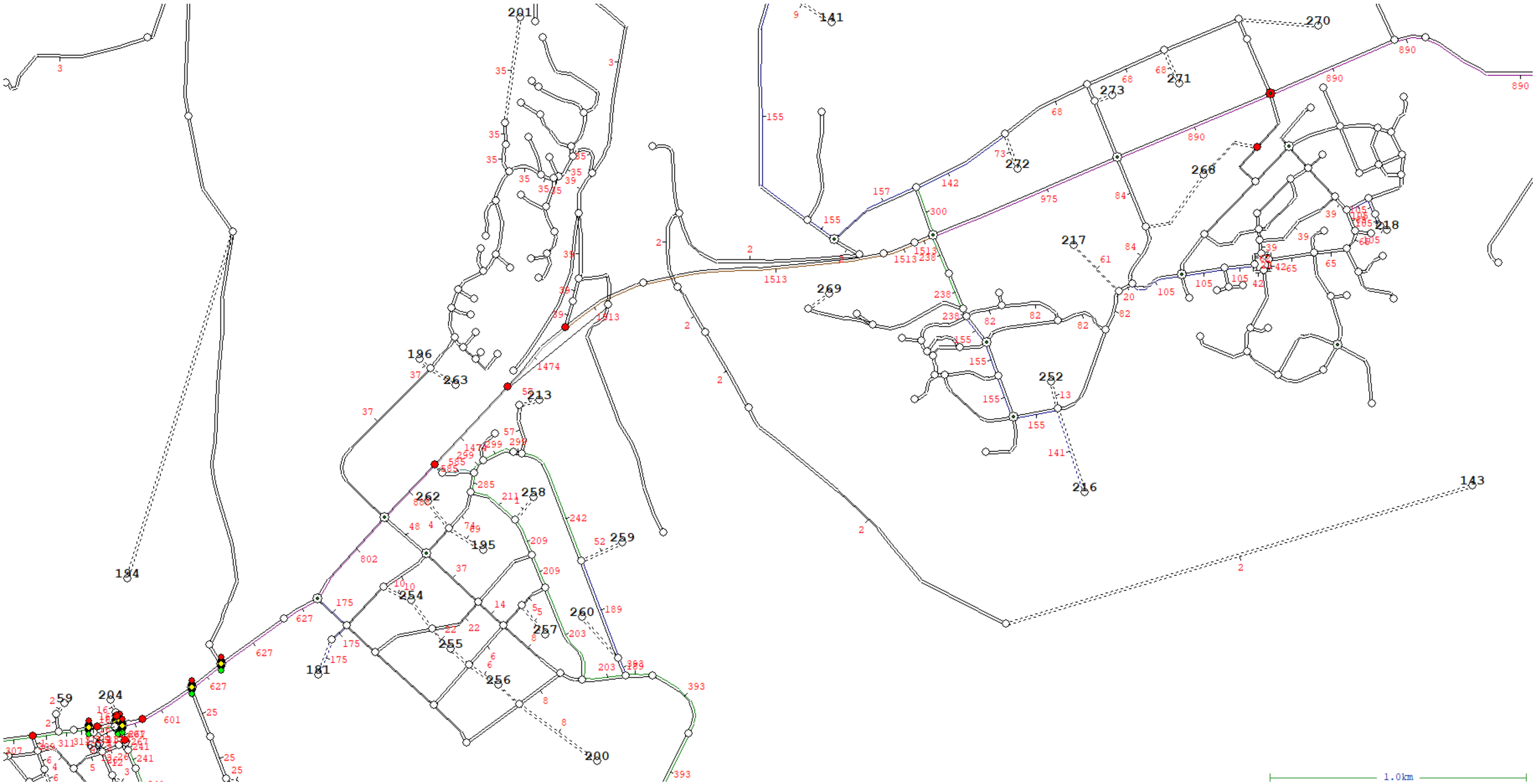
2048 Base Scenario SH6 east of Ladies Mile Interpeak Westbound select link plot

2048 Base Scenario SH6 east of Ladies Mile Interpeak Eastbound select link plot

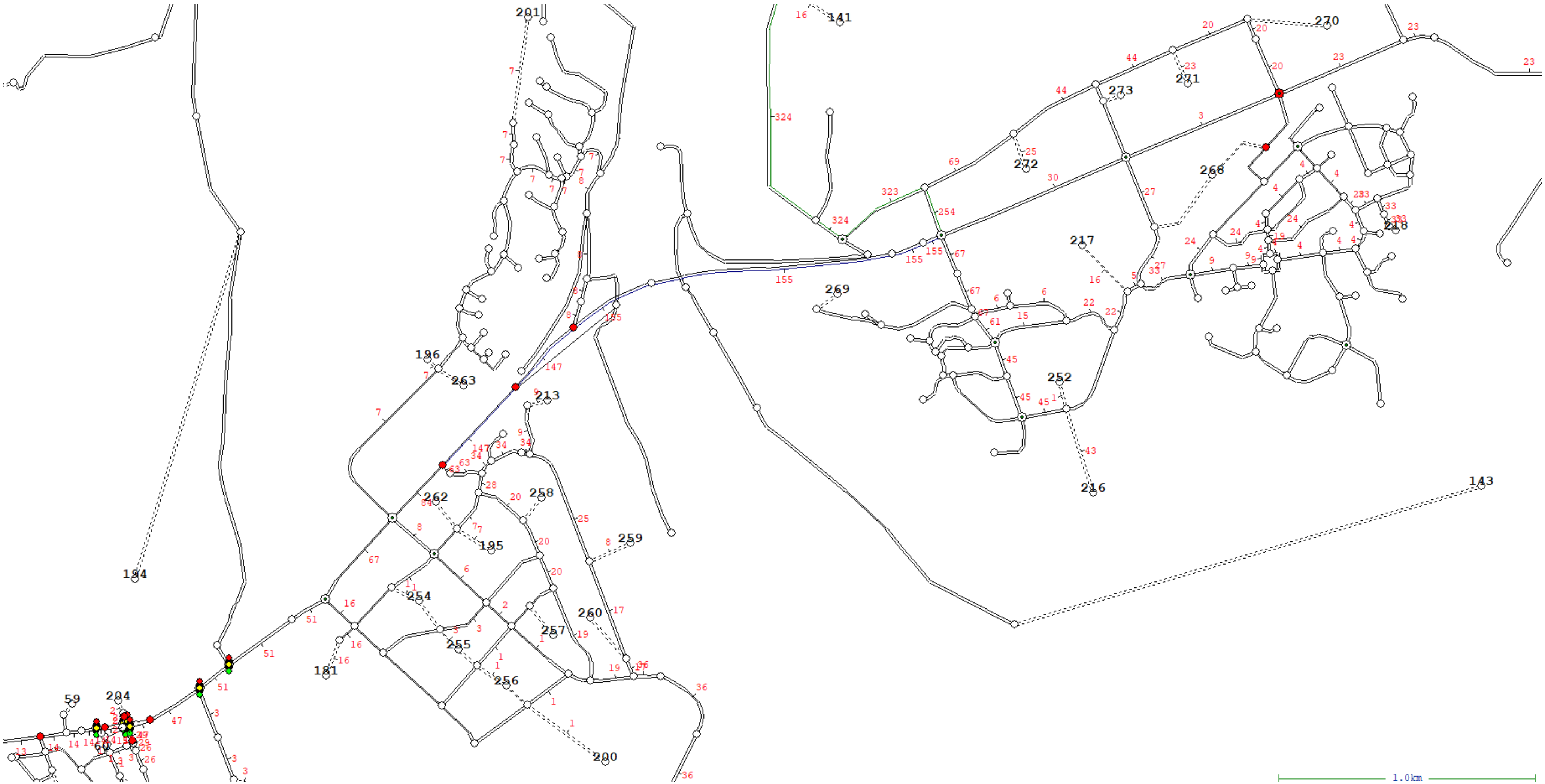
2048 Base Scenario Shotover Bridge PM Peak Eastbound select link plot



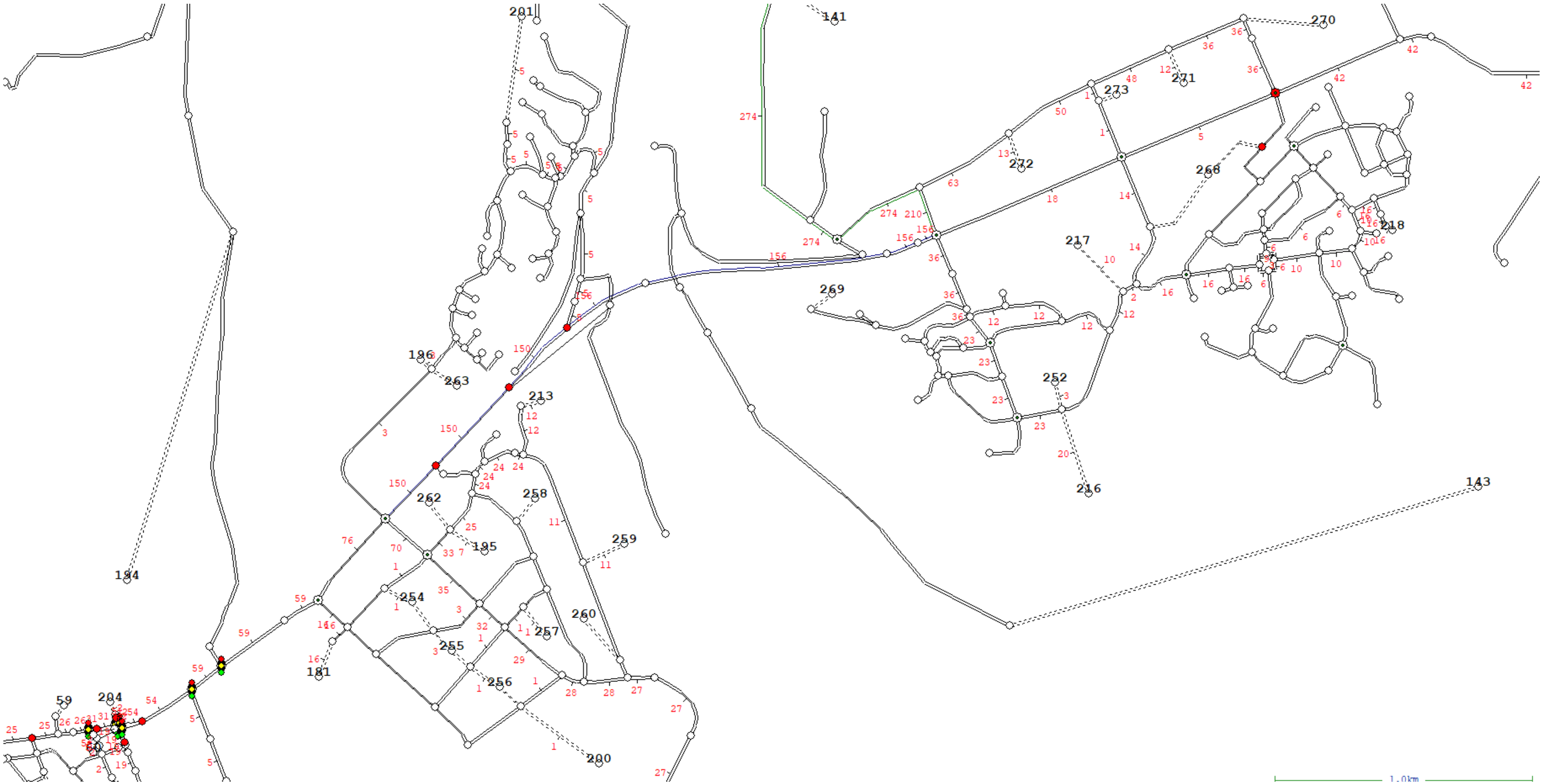
2048 Base Scenario Shotover Bridge PM Peak Westbound select link plot



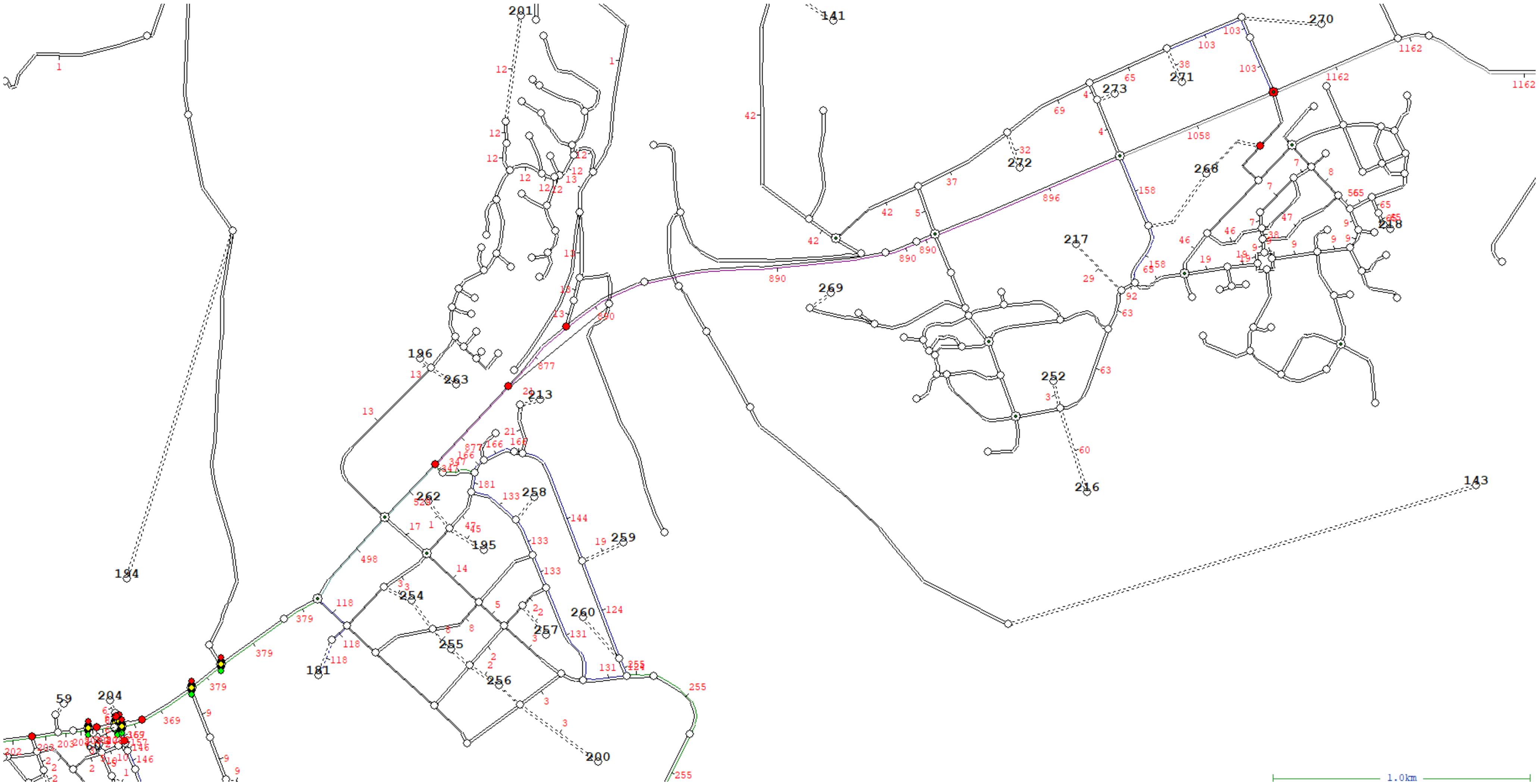
2048 Base Scenario Lower Shotover Rd PM Peak Southbound select link plot



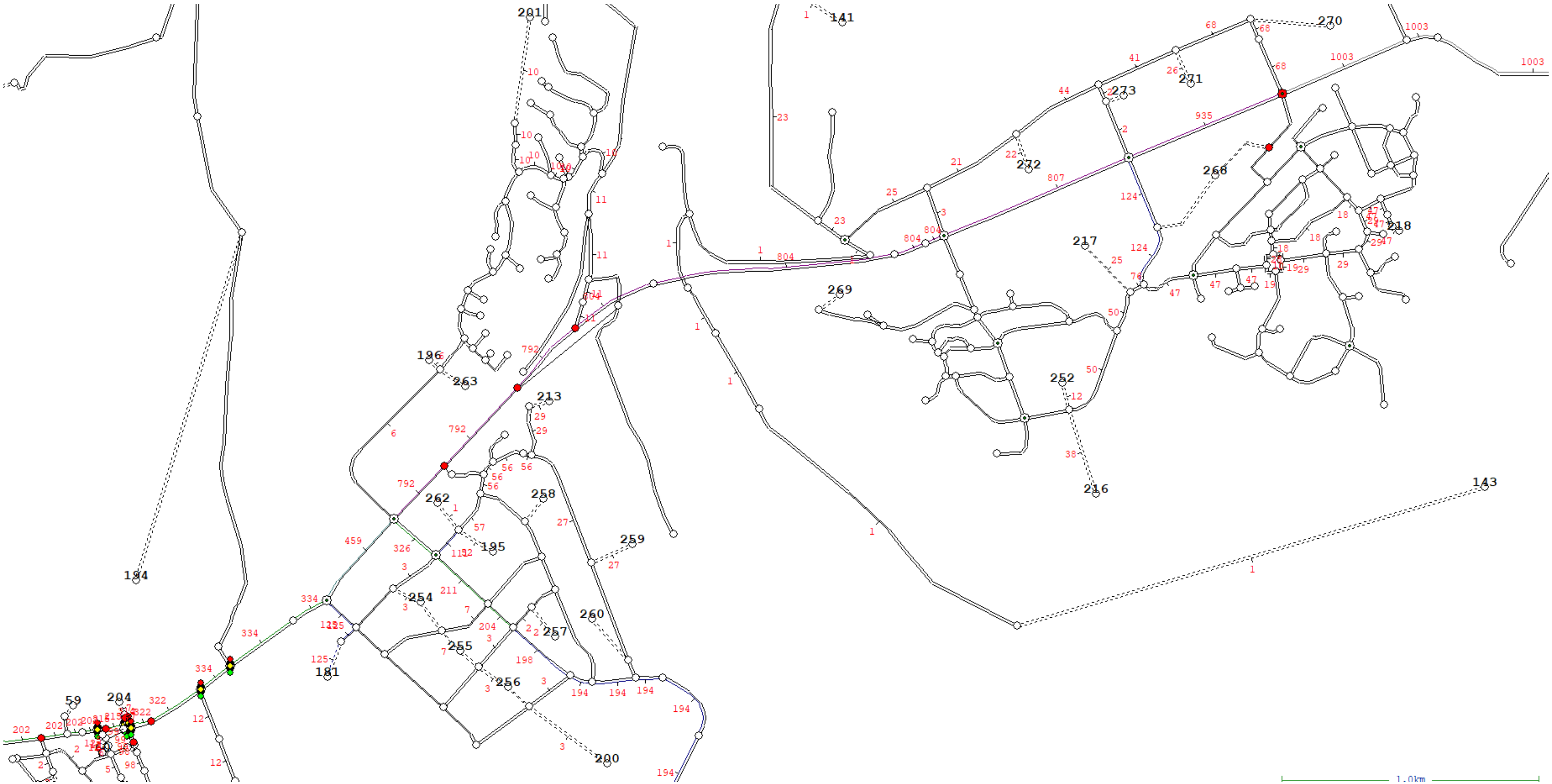
2048 Base Scenario Lower Shotover Rd PM Peak Northbound select link plot



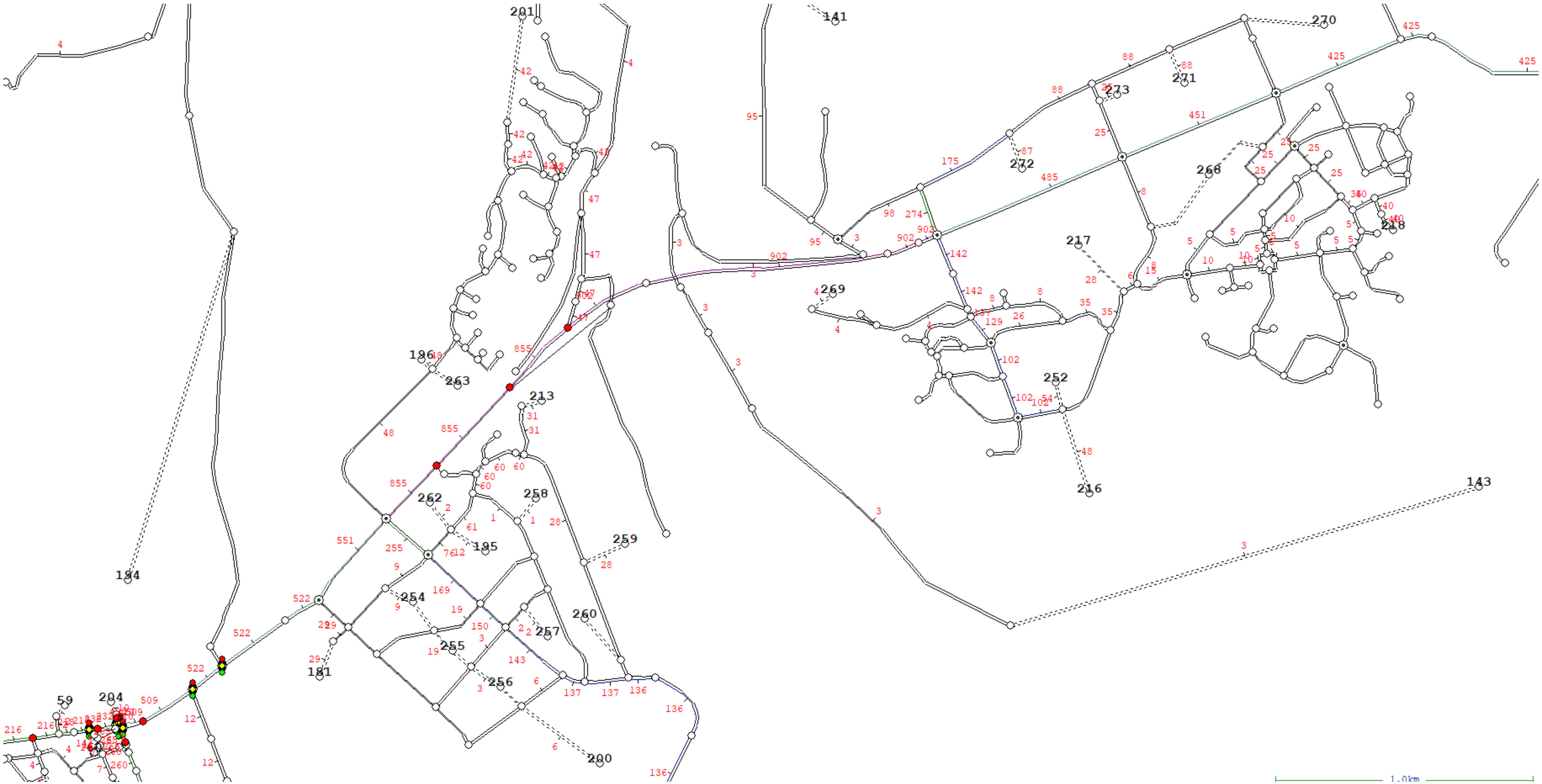
2048 Base Scenario SH6 east of Ladies Mile PM Peak Westbound select link plot



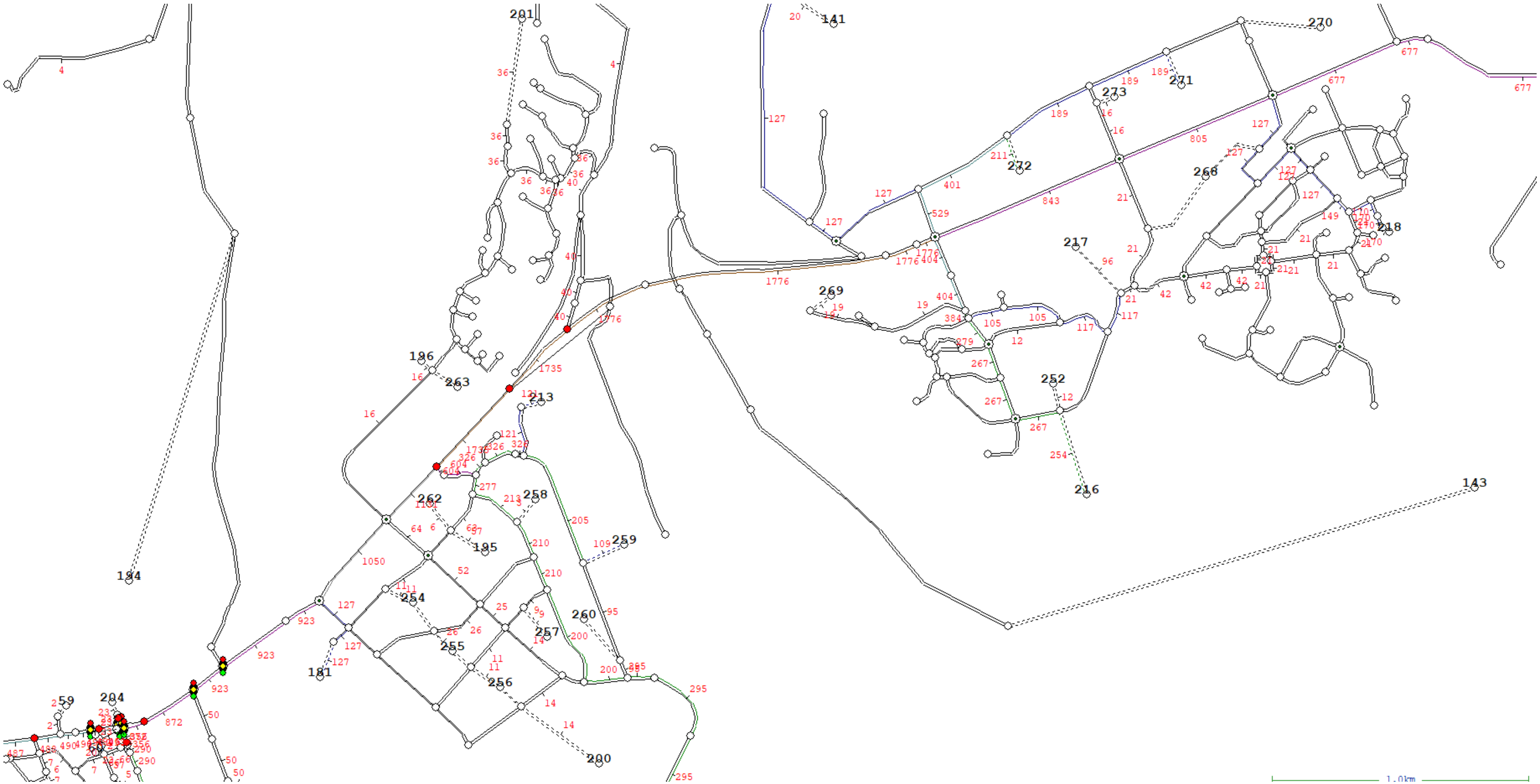
2048 Base Scenario SH6 east of Ladies Mile PM Peak Eastbound select link plot



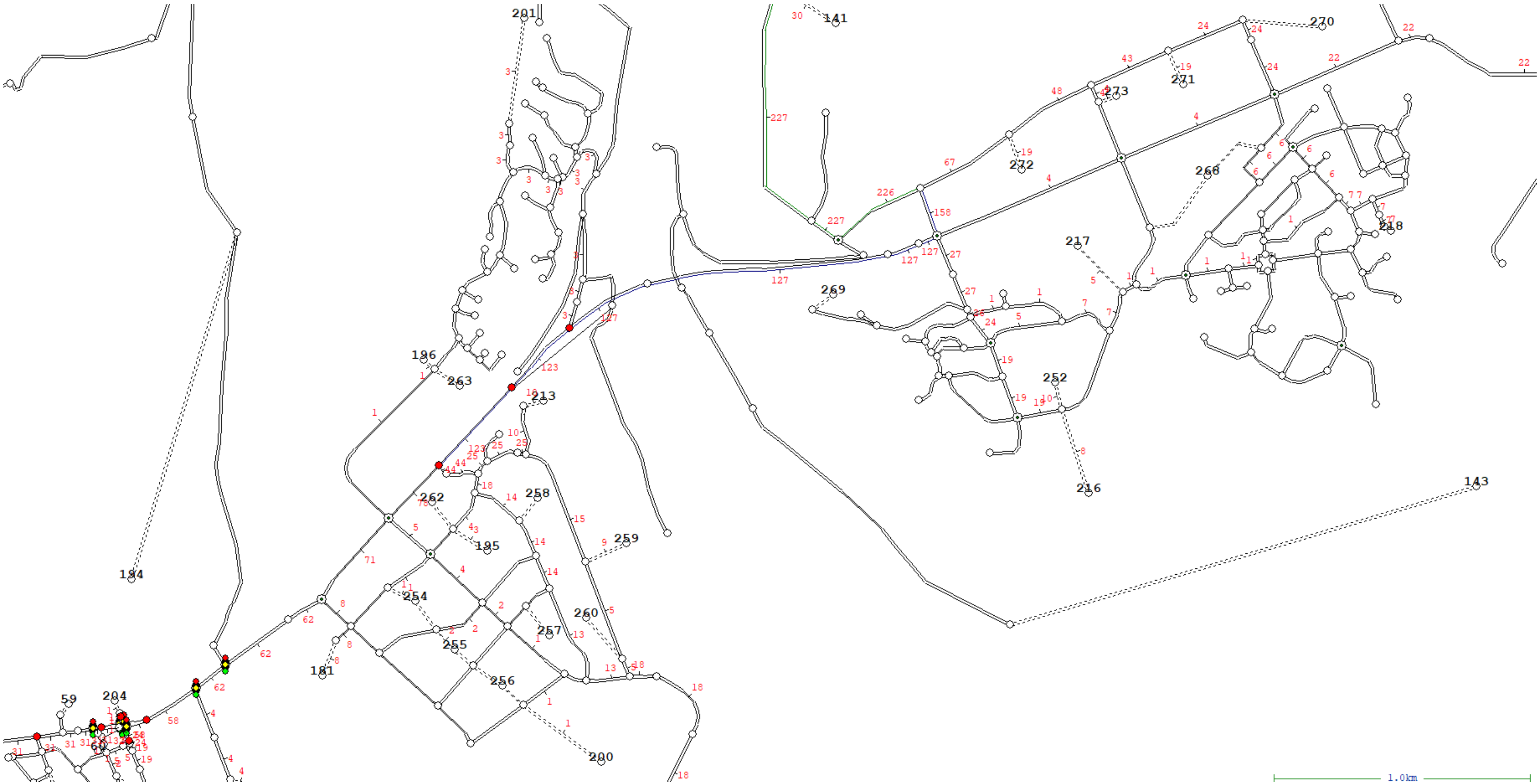
2048 Option 1 Shotover Bridge AM Peak Eastbound select link plot



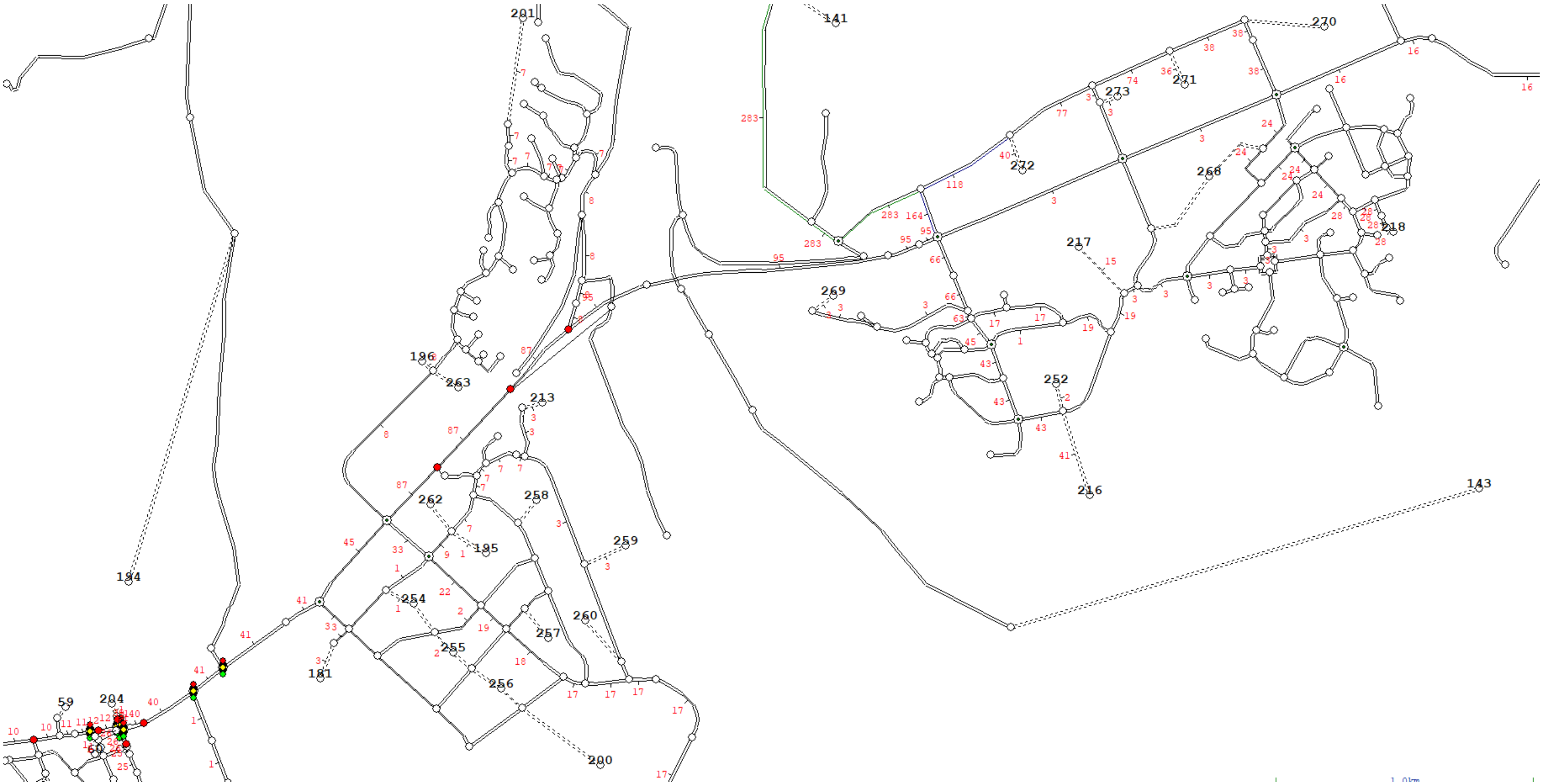
2048 Option 1 Shotover Bridge AM Peak Westbound select link plot



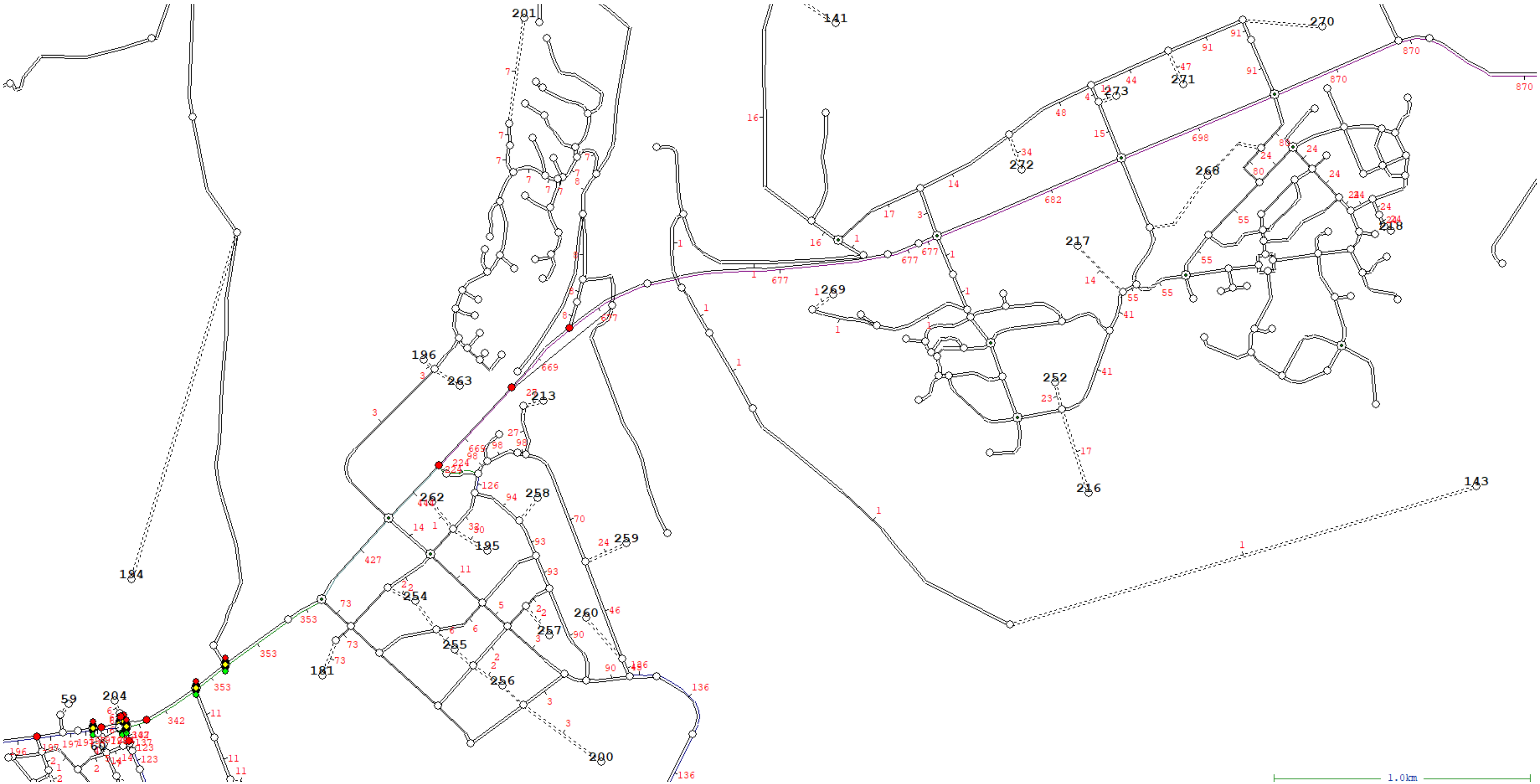
2048 Option 1 Lower Shotover Rd AM Peak Southbound select link plot



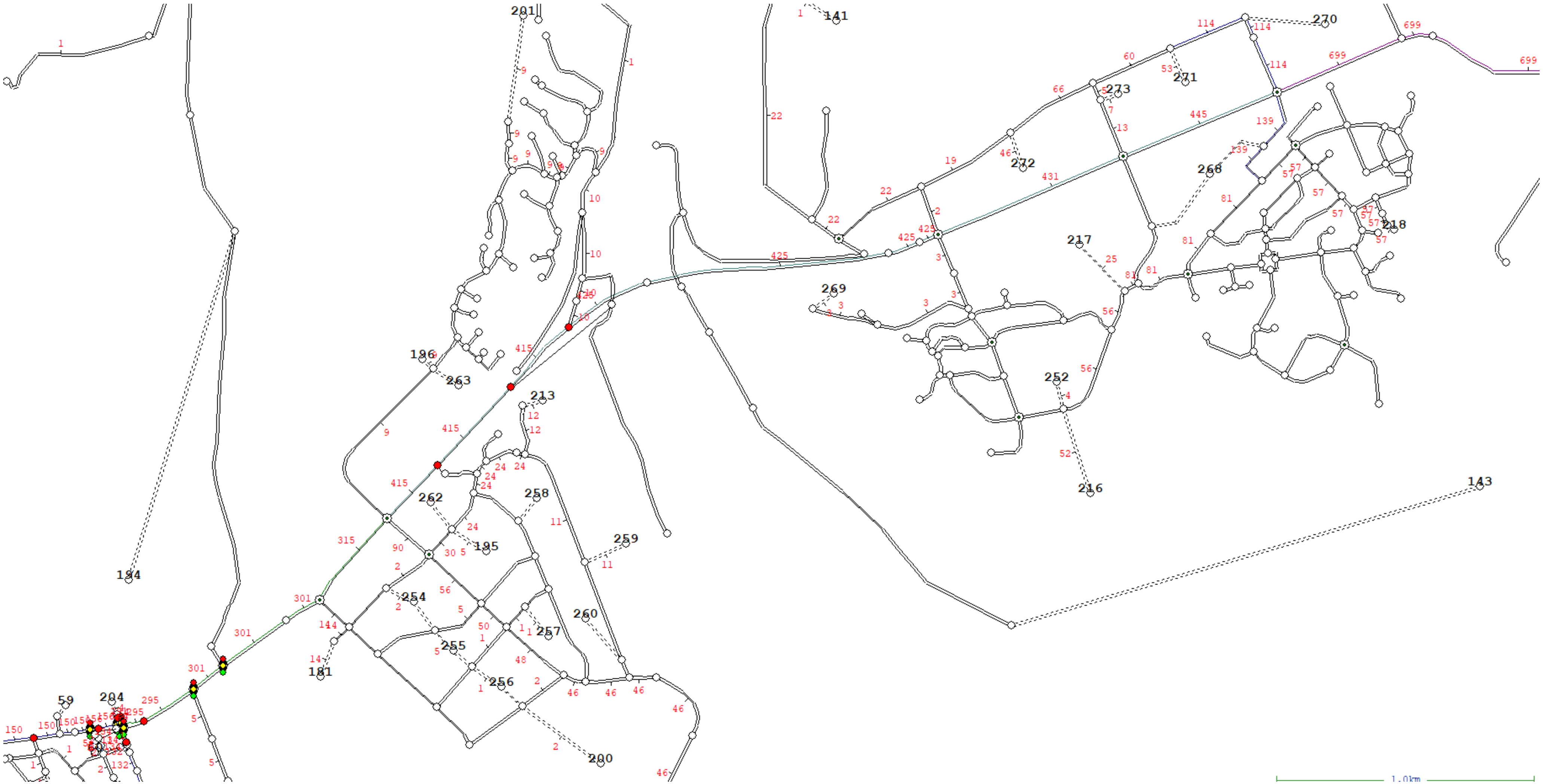
2048 Option 1 Lower Shotover Rd AM Peak Northbound select link plot



2048 Option 1 SH6 east of Ladies Mile AM Peak Westbound select link plot



2048 Option 1 SH6 east of Ladies Mile AM Peak Eastbound select link plot



2048 Option 1 Shotover Bridge Interpeak Eastbound select link plot

2048 Option 1 Shotover Bridge Interpeak Westbound select link plot

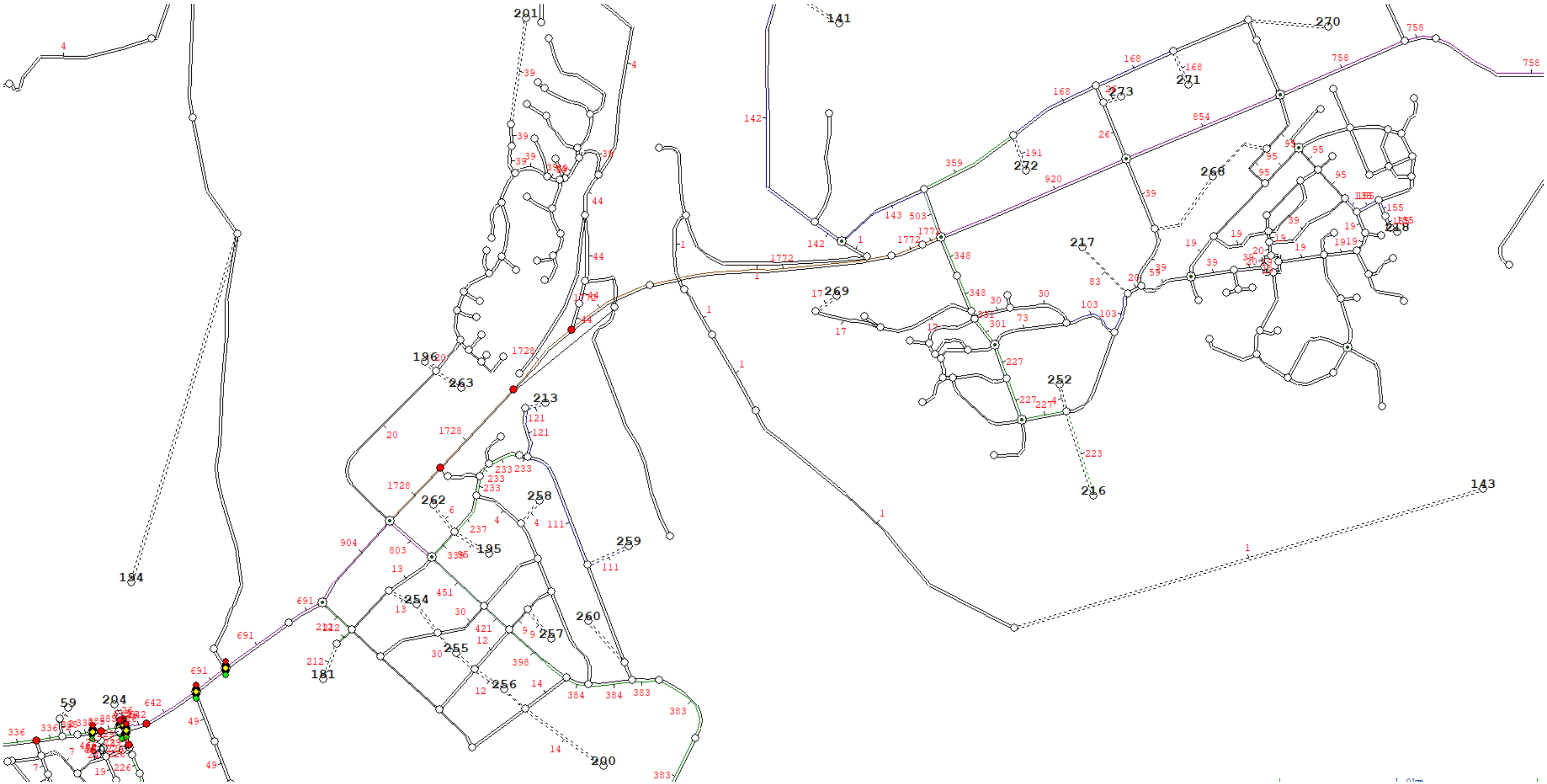
2048 Option 1 Lower Shotover Rd Interpeak Southbound select link plot

2048 Option 1 Lower Shotover Rd Interpeak Northbound select link plot

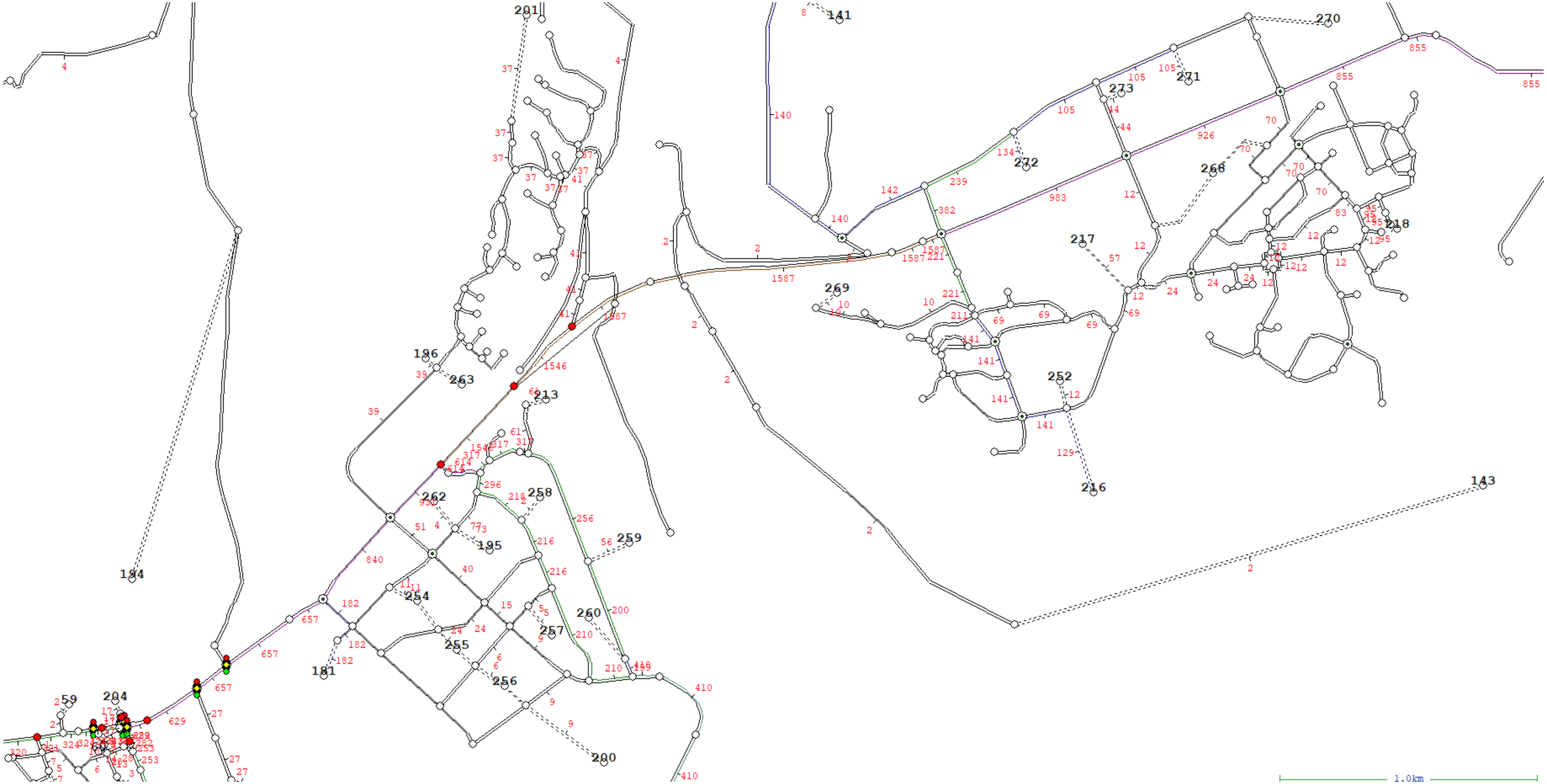
2048 Option 1 SH6 east of Ladies Mile Interpeak Westbound select link plot

2048 Option 1 SH6 east of Ladies Mile Interpeak Eastbound select link plot

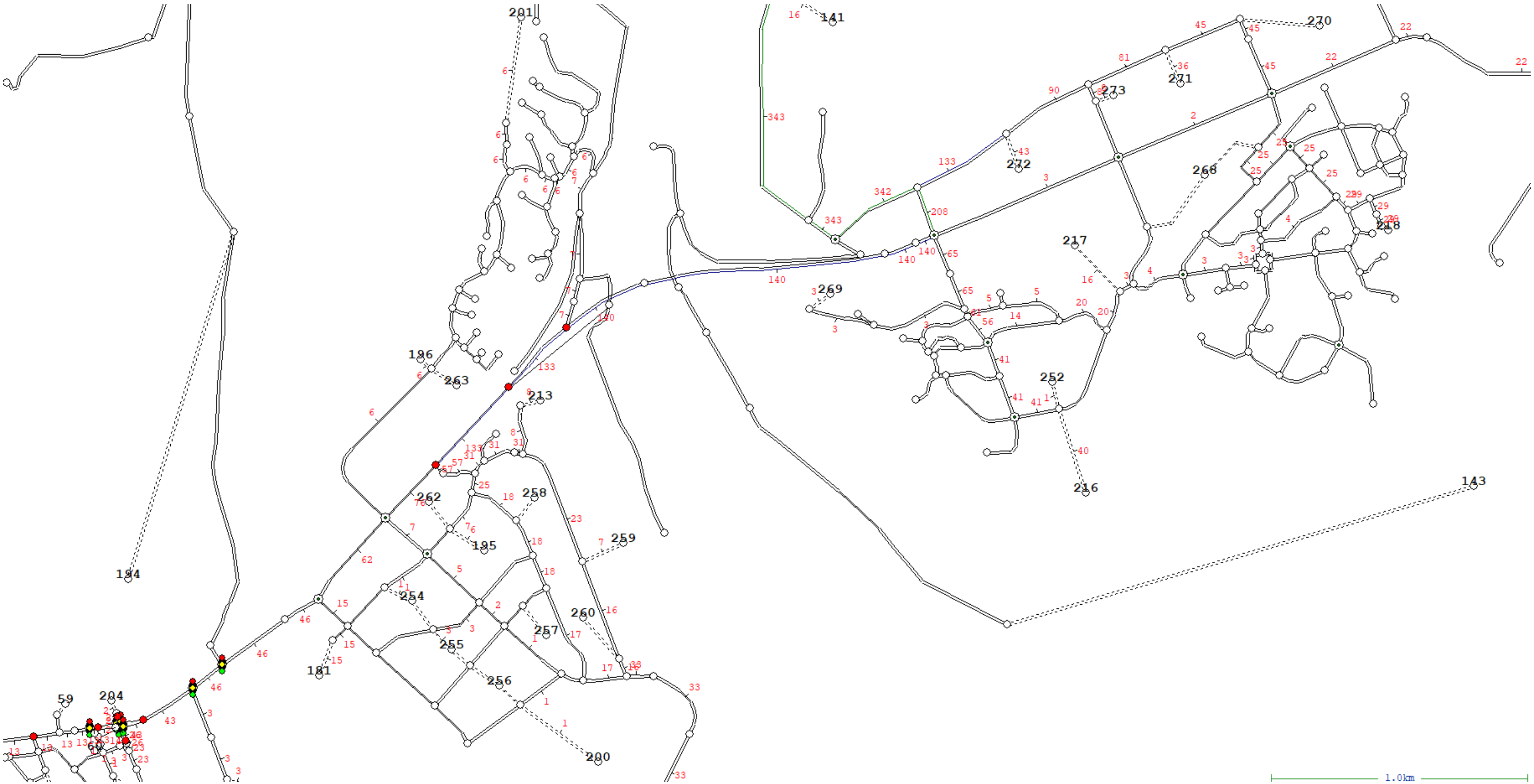
2048 Option 1 Shotover Bridge PM Peak Eastbound select link plot



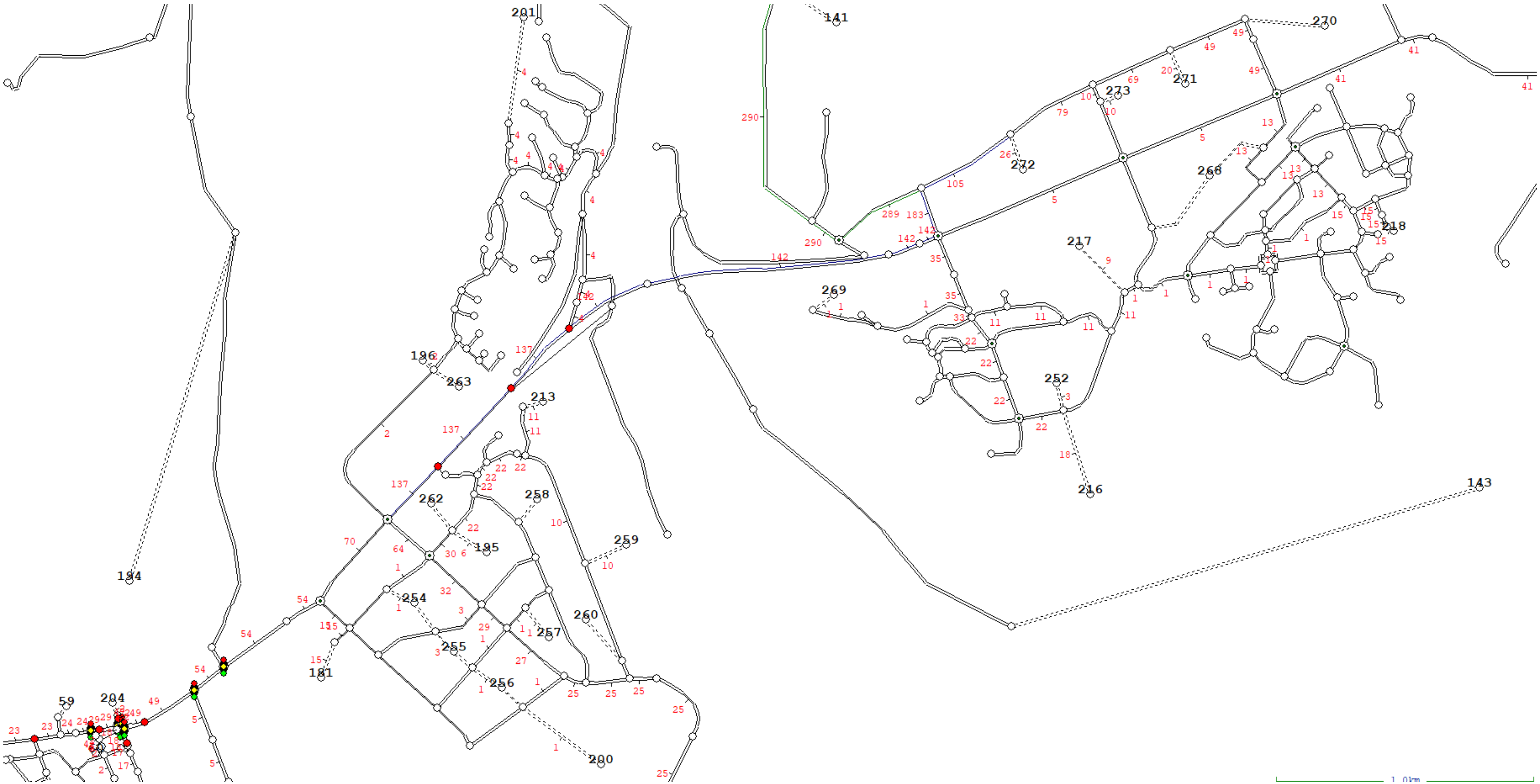
2048 Option 1 Shotover Bridge PM Peak Westbound select link plot



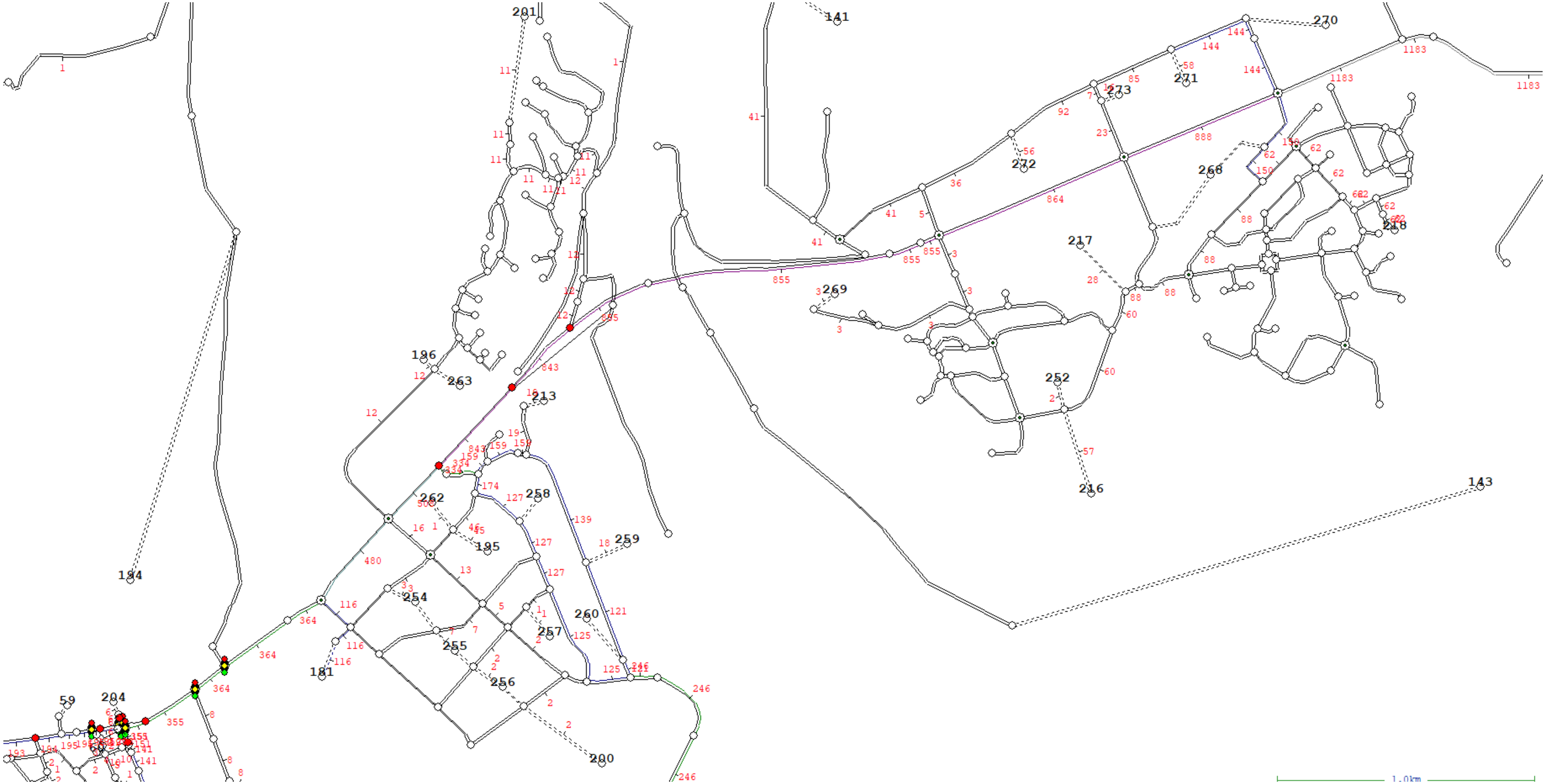
2048 Option 1 Lower Shotover Rd PM Peak Southbound select link plot



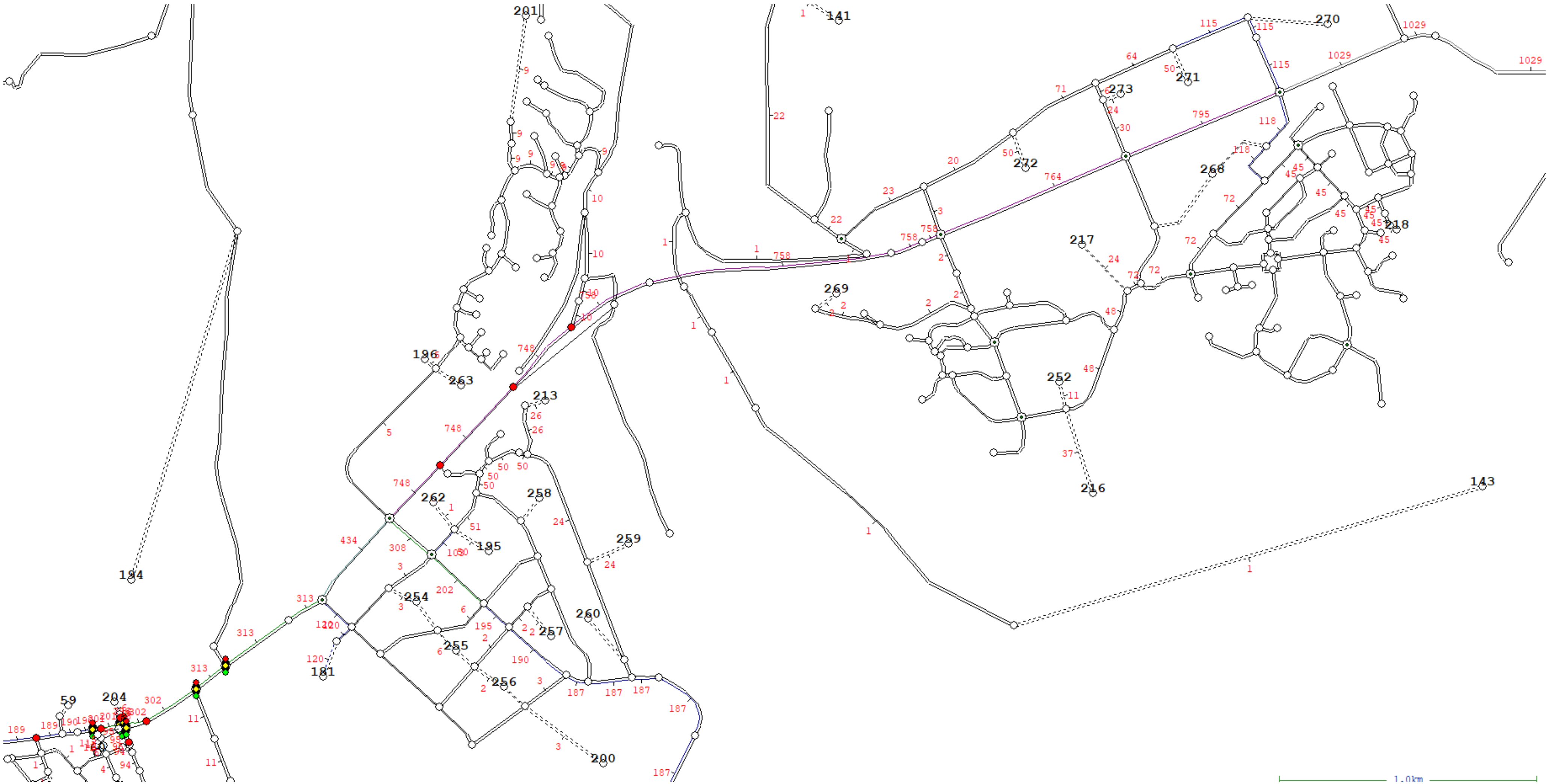
2048 Option 1 Lower Shotover Rd PM Peak Northbound select link plot



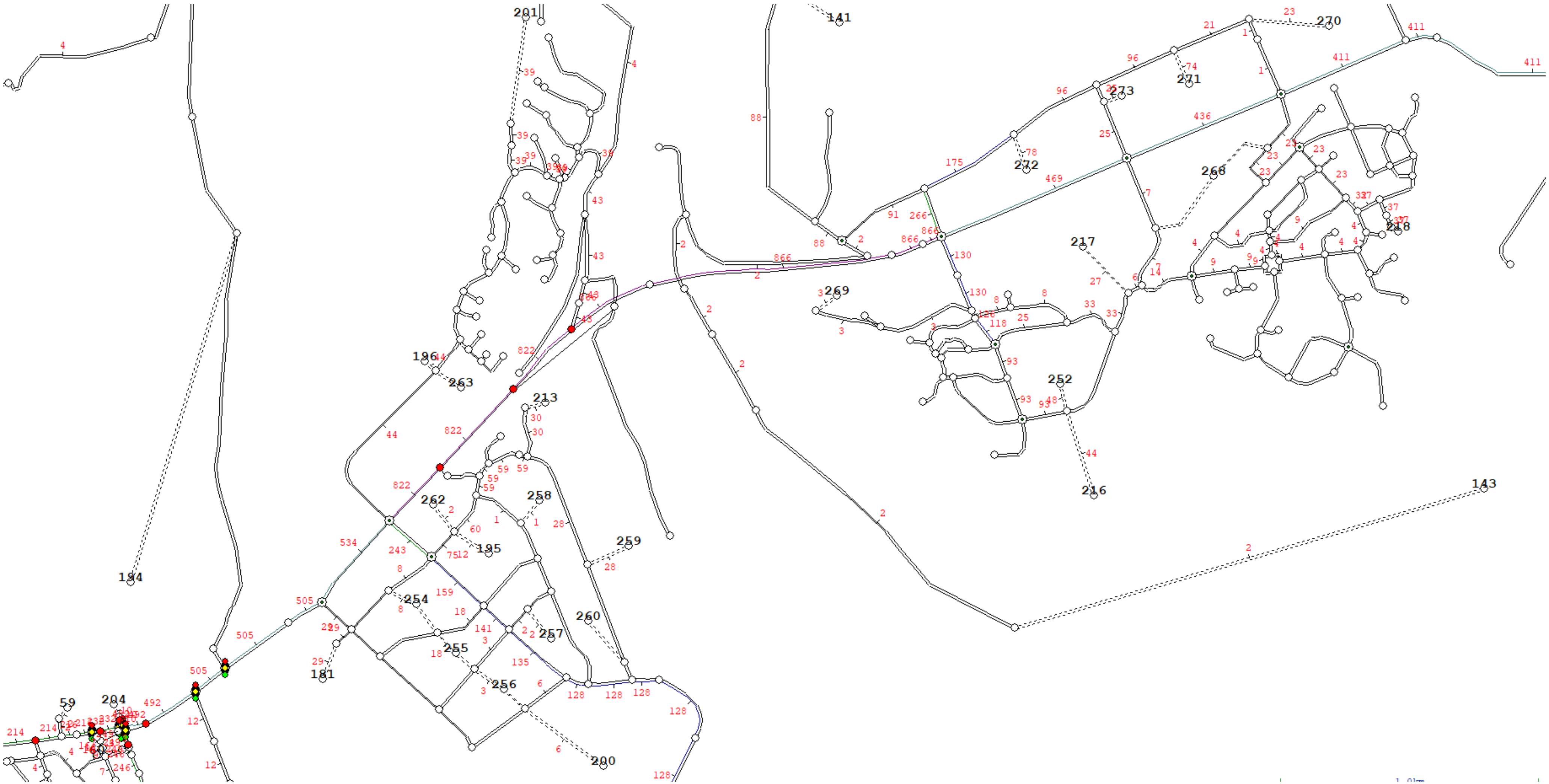
2048 Option 1 SH6 east of Ladies Mile PM Peak Westbound select link plot



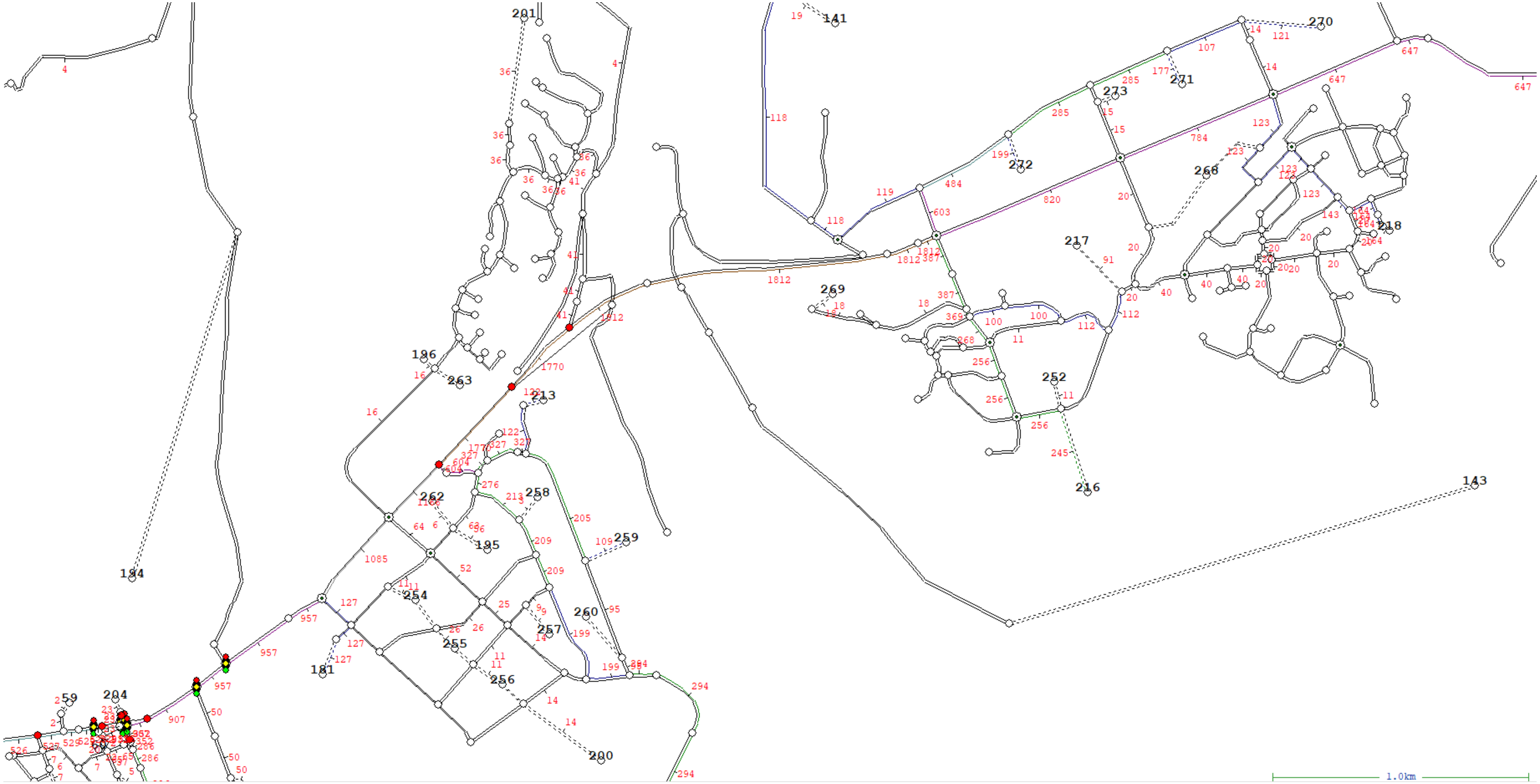
2048 Option 1 SH6 east of Ladies Mile PM Peak Eastbound select link plot



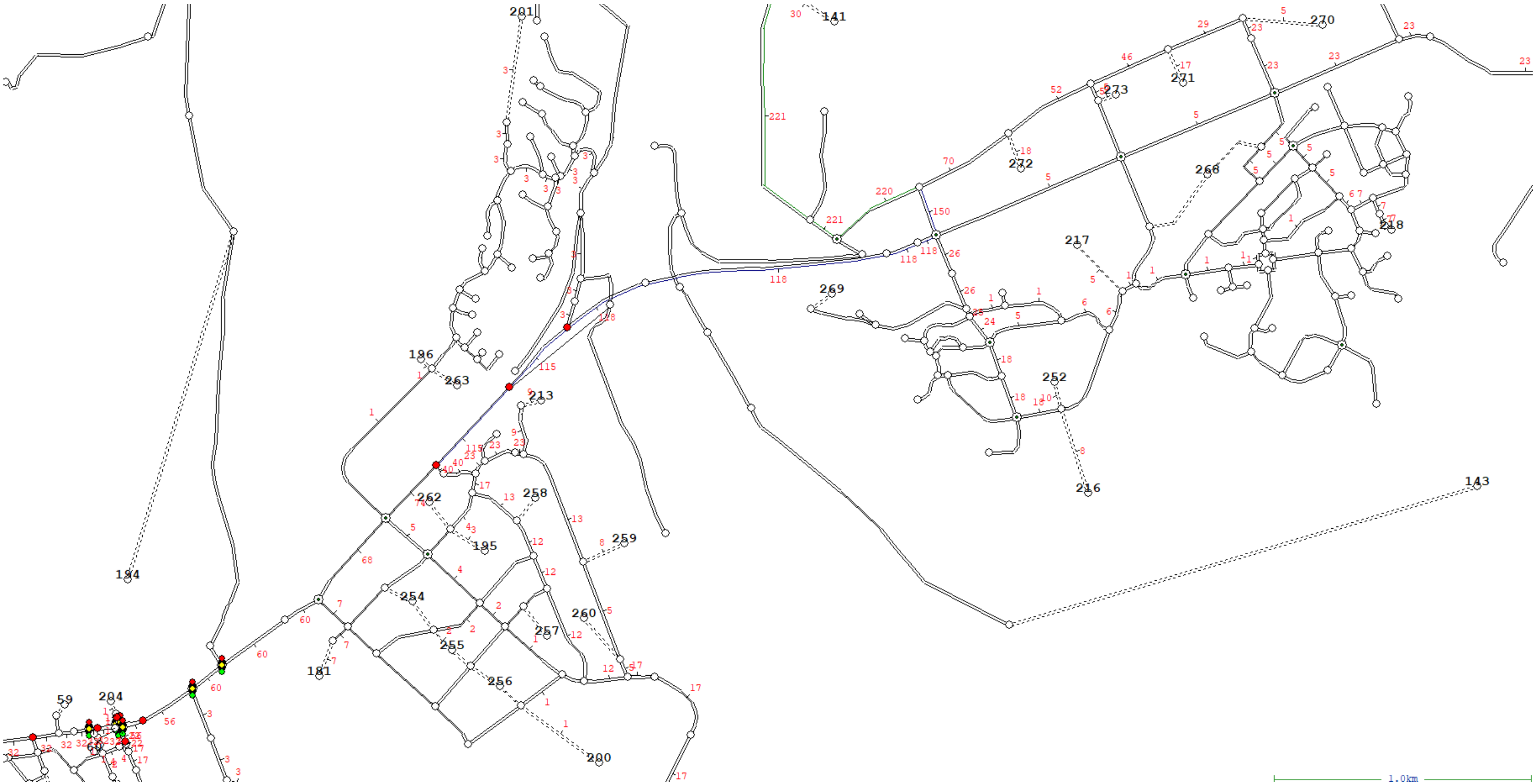
2048 Option 2 Shotover Bridge AM Peak Eastbound select link plot



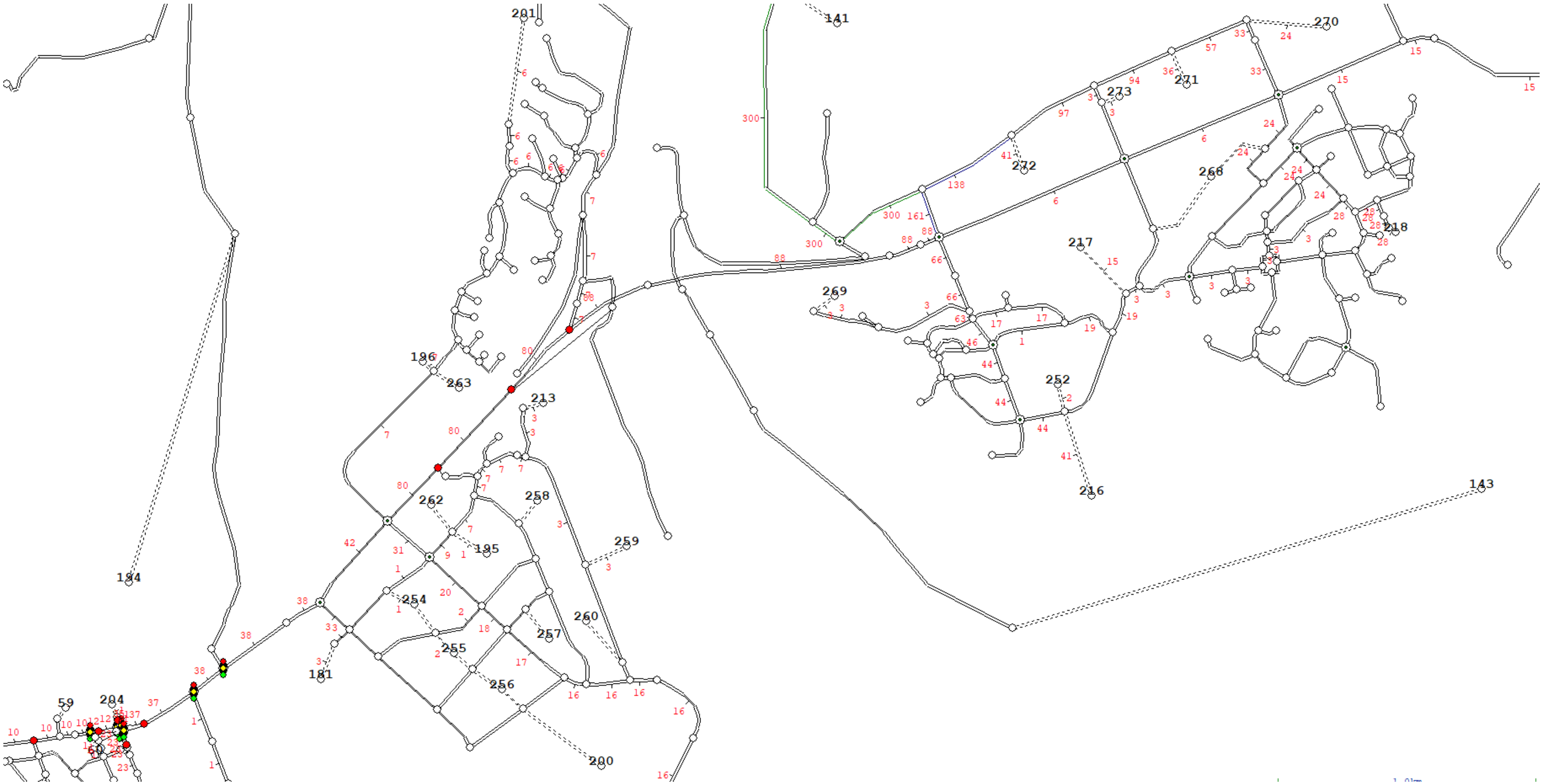
2048 Option 2 Shotover Bridge AM Peak Westbound select link plot



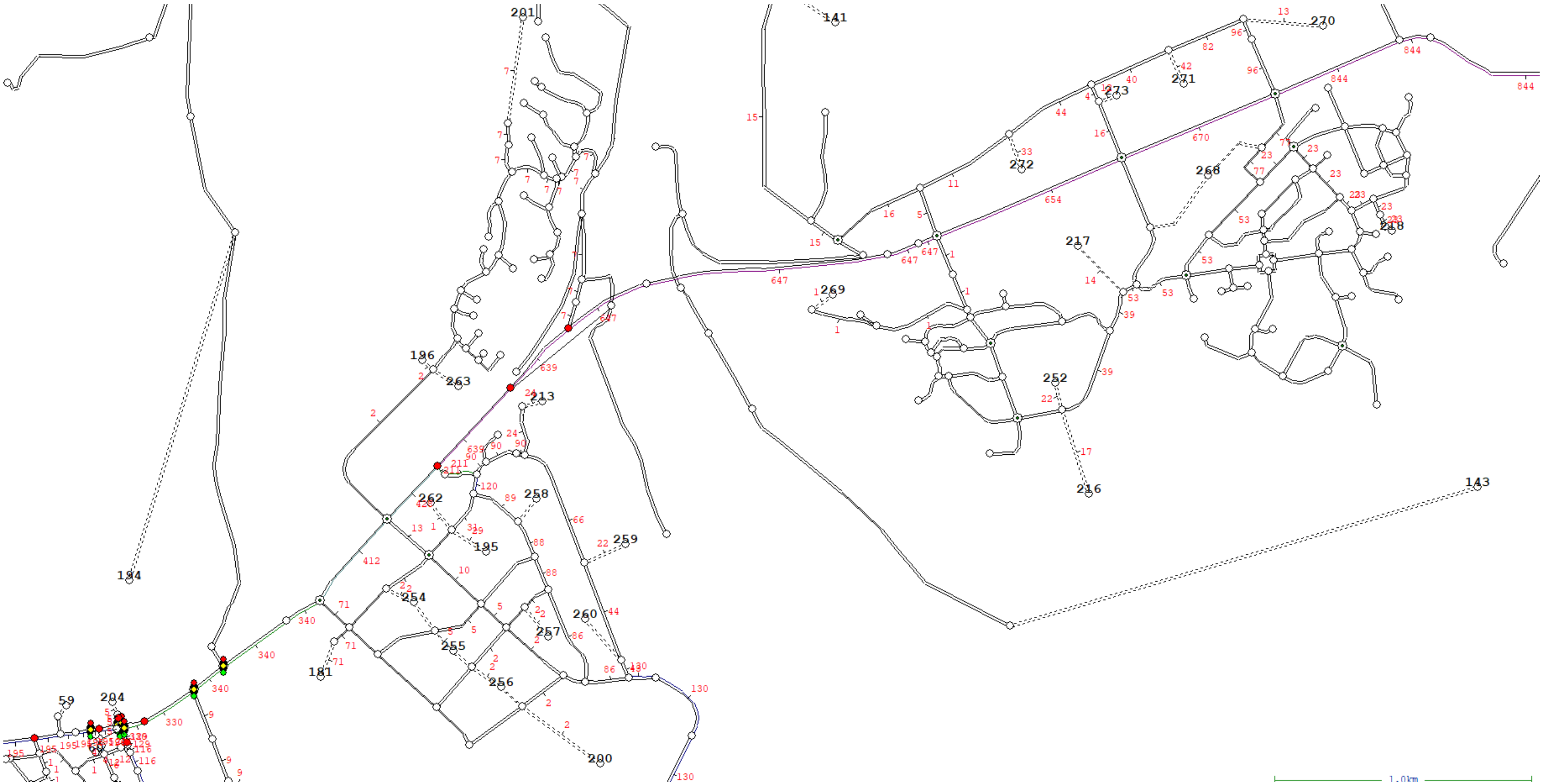
2048 Option 2 Lower Shotover Rd AM Peak Southbound select link plot



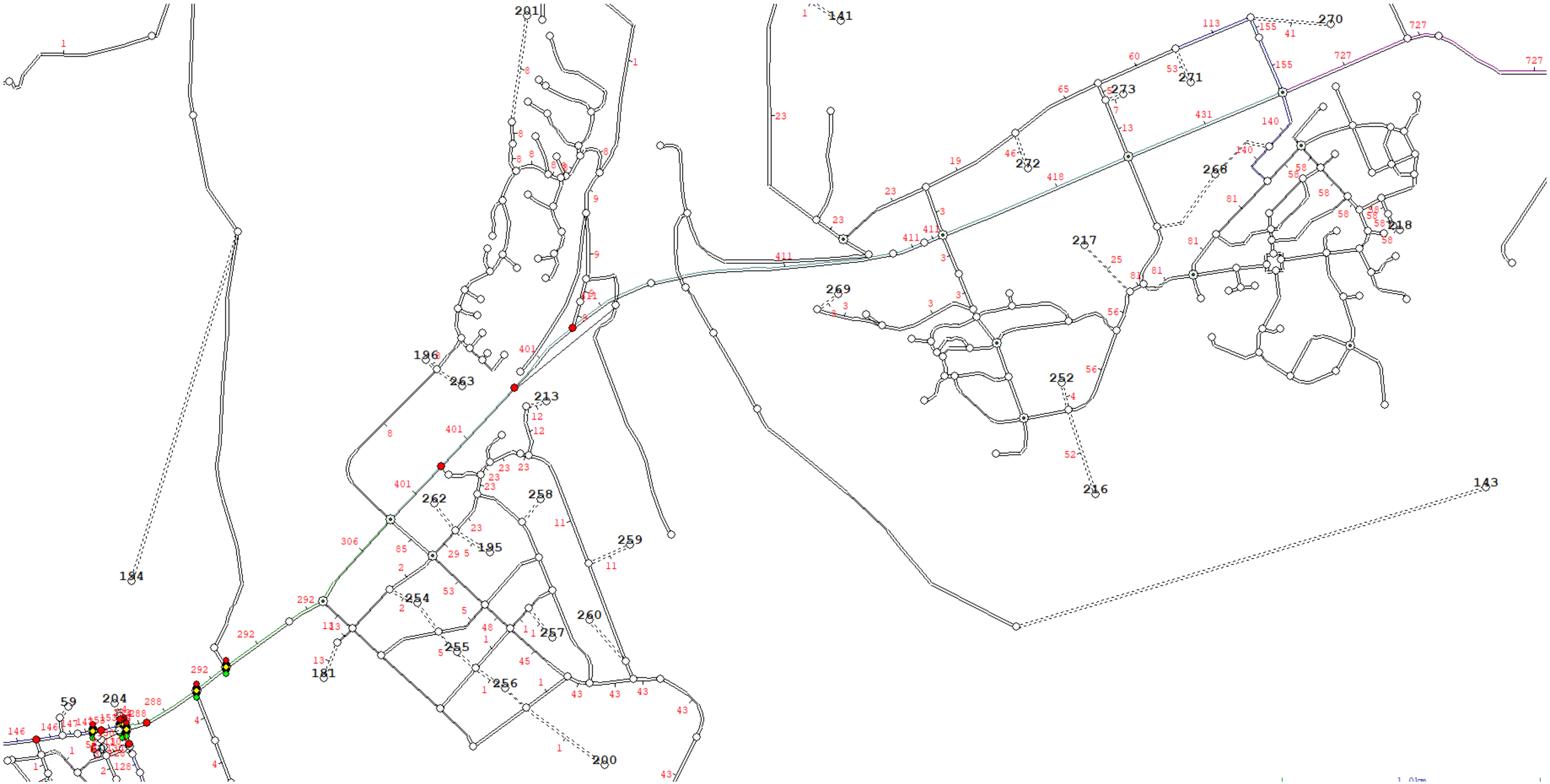
2048 Option 2 Lower Shotover Rd AM Peak Northbound select link plot



2048 Option 2 SH6 east of Ladies Mile AM Peak Westbound select link plot



2048 Option 2 SH6 east of Ladies Mile AM Peak Eastbound select link plot



2048 Option 2 Shotover Bridge Interpeak Eastbound select link plot

2048 Option 2 Shotover Bridge Interpeak Westbound select link plot

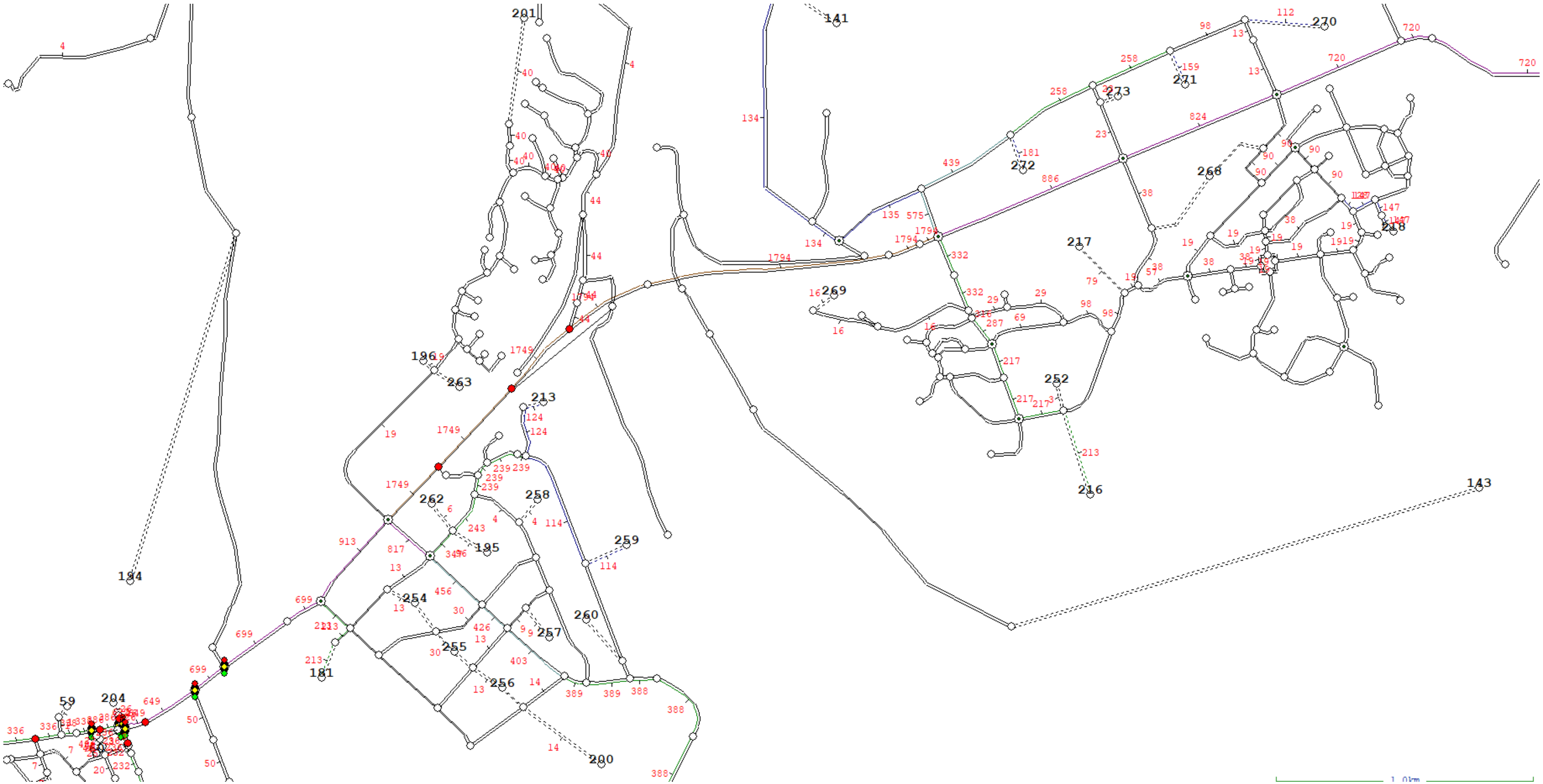
2048 Option 2 Lower Shotover Rd Interpeak Southbound select link plot

2048 Option 2 Lower Shotover Rd Interpeak Northbound select link plot

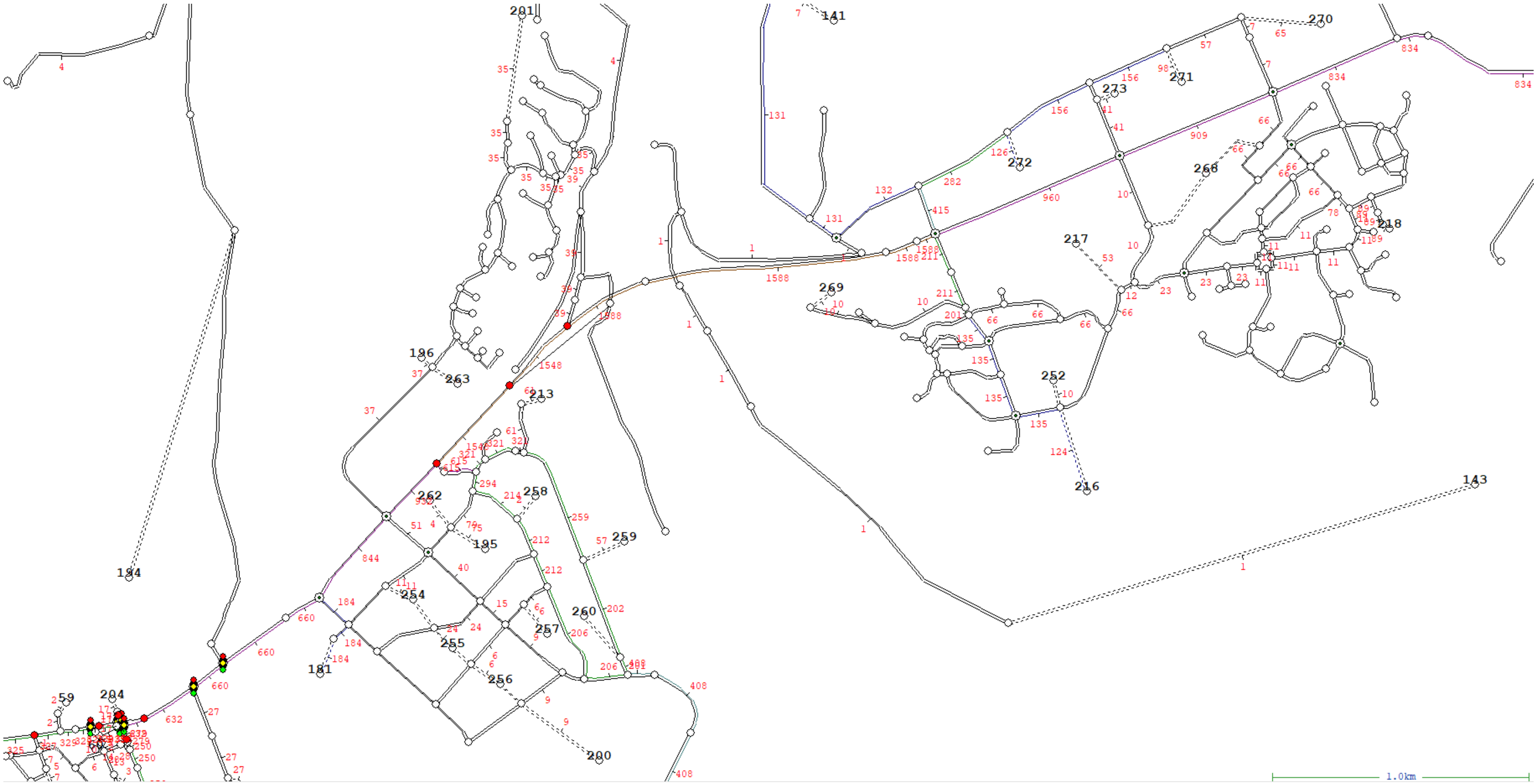
2048 Option 2 SH6 east of Ladies Mile Interpeak Westbound select link plot

2048 Option 2 SH6 east of Ladies Mile Interpeak Eastbound select link plot

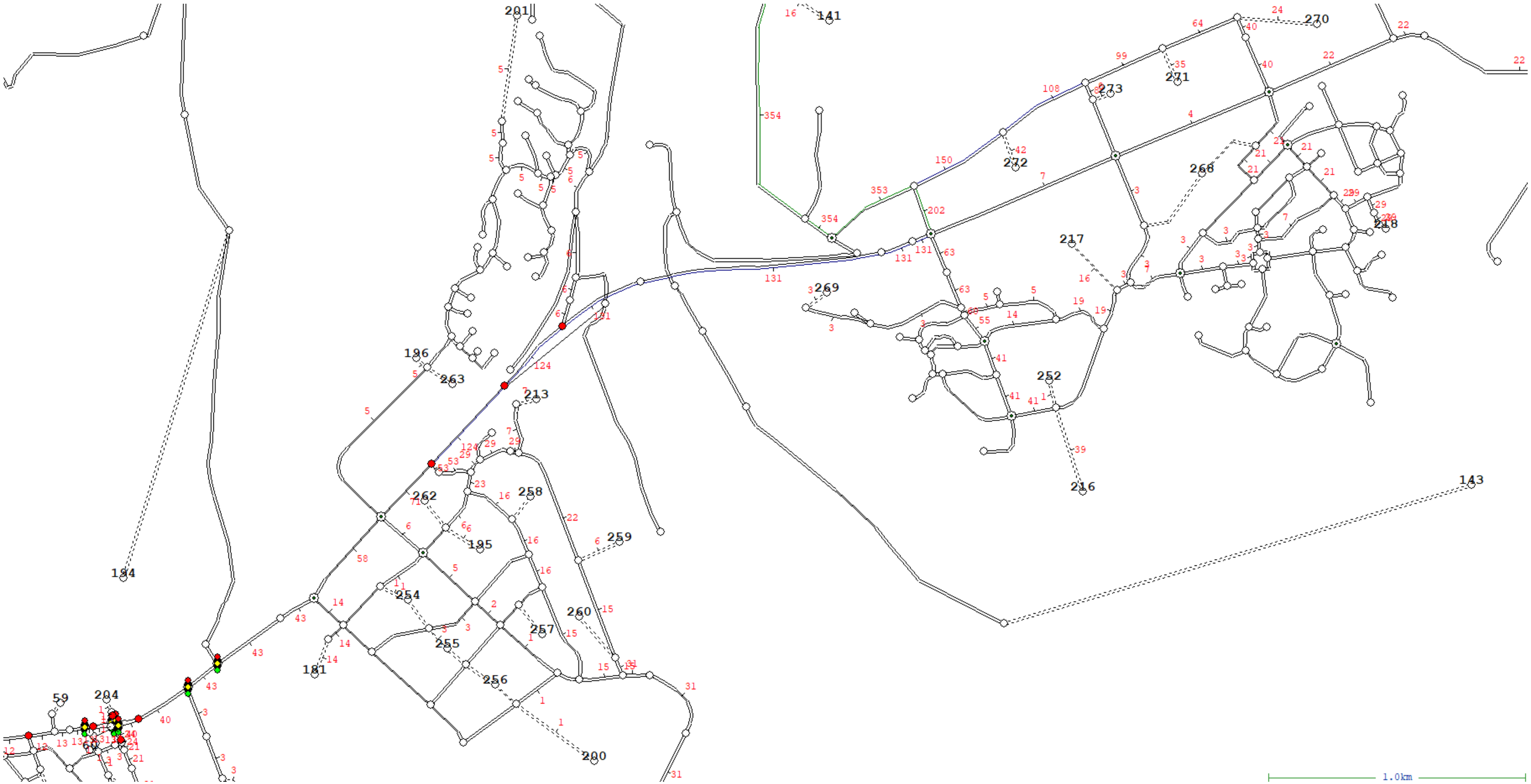
2048 Option 2 Shotover Bridge PM Peak Eastbound select link plot



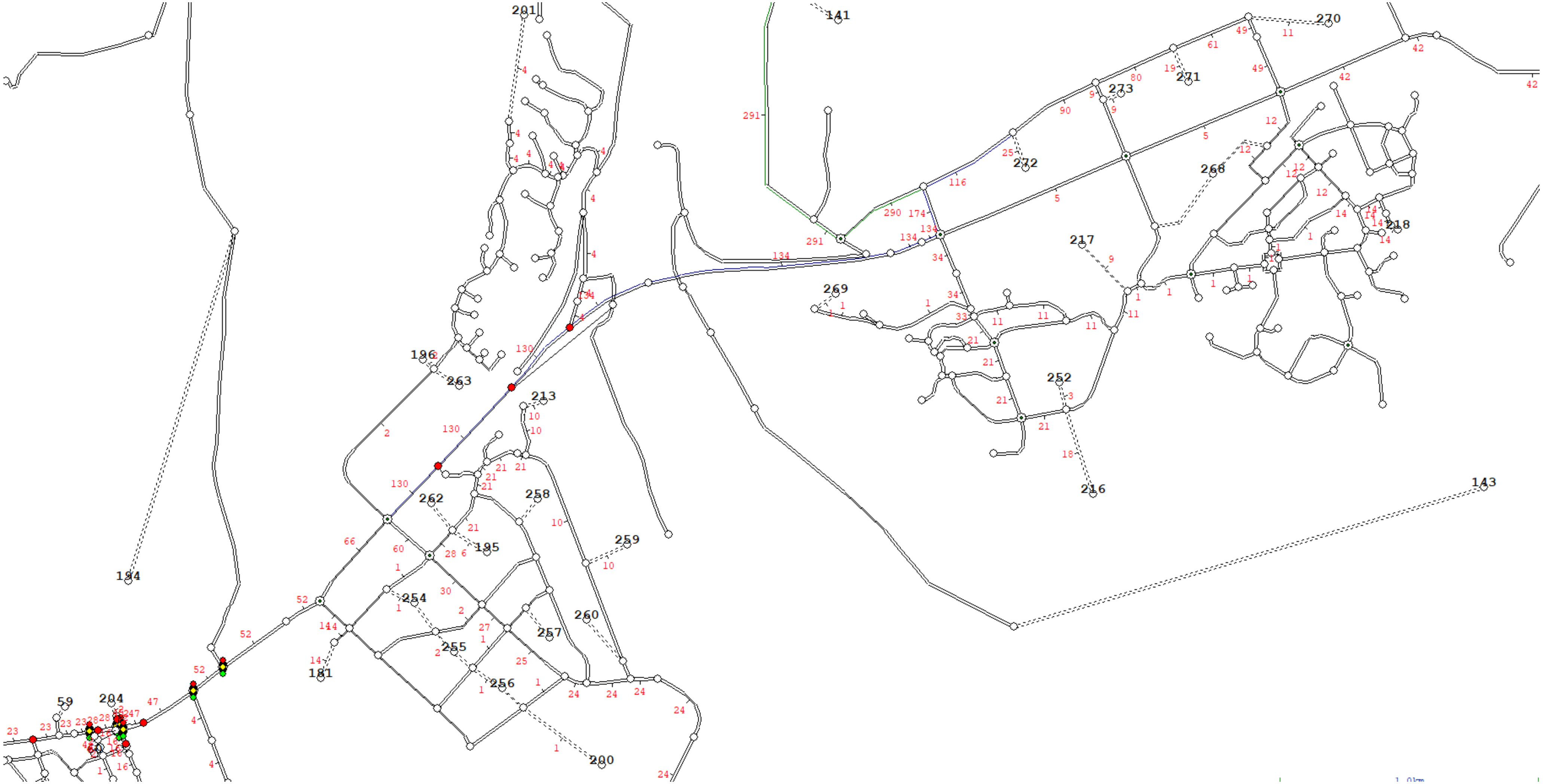
2048 Option 2 Shotover Bridge PM Peak Westbound select link plot



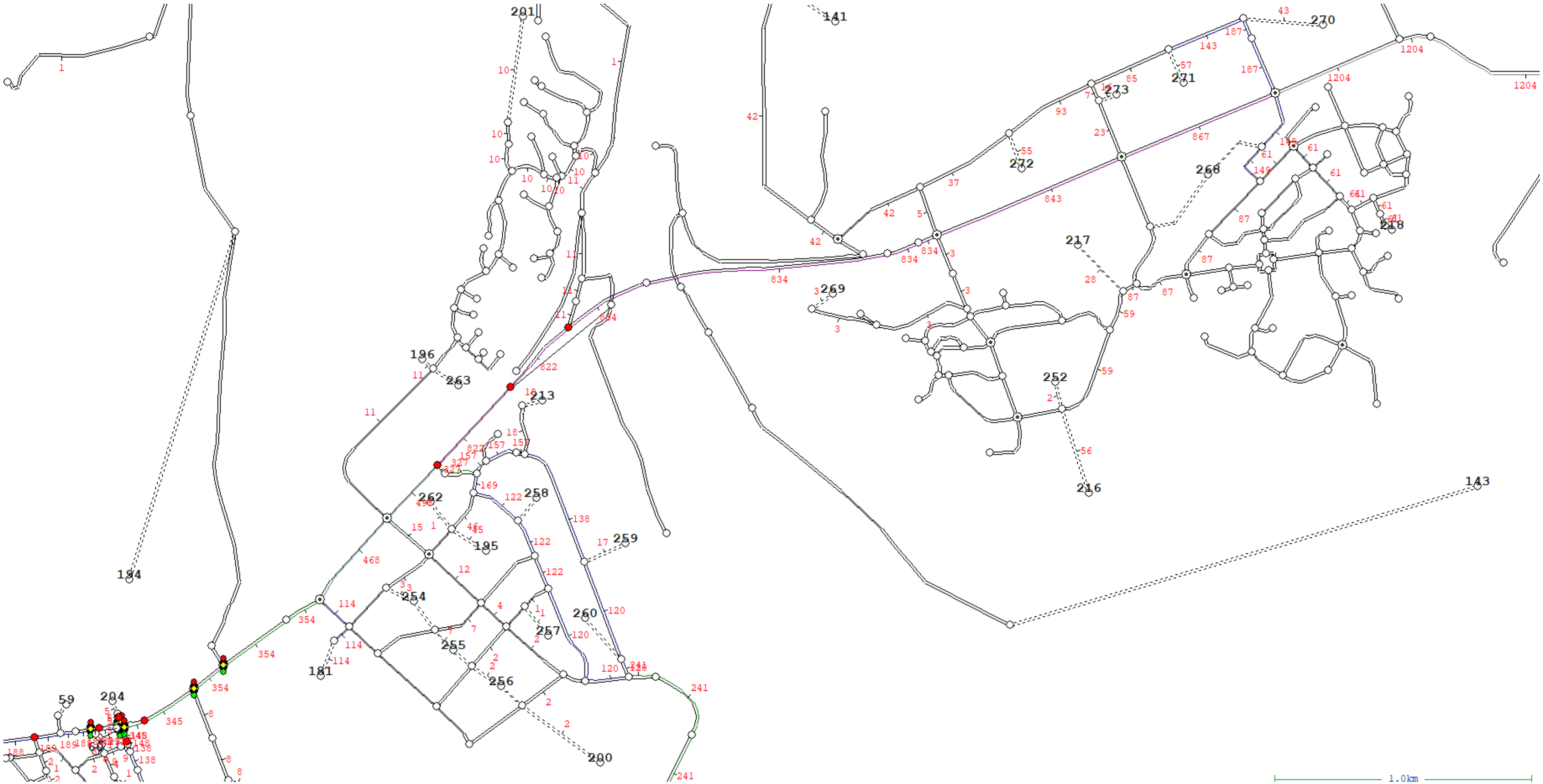
2048 Option 2 Lower Shotover Rd PM Peak Southbound select link plot



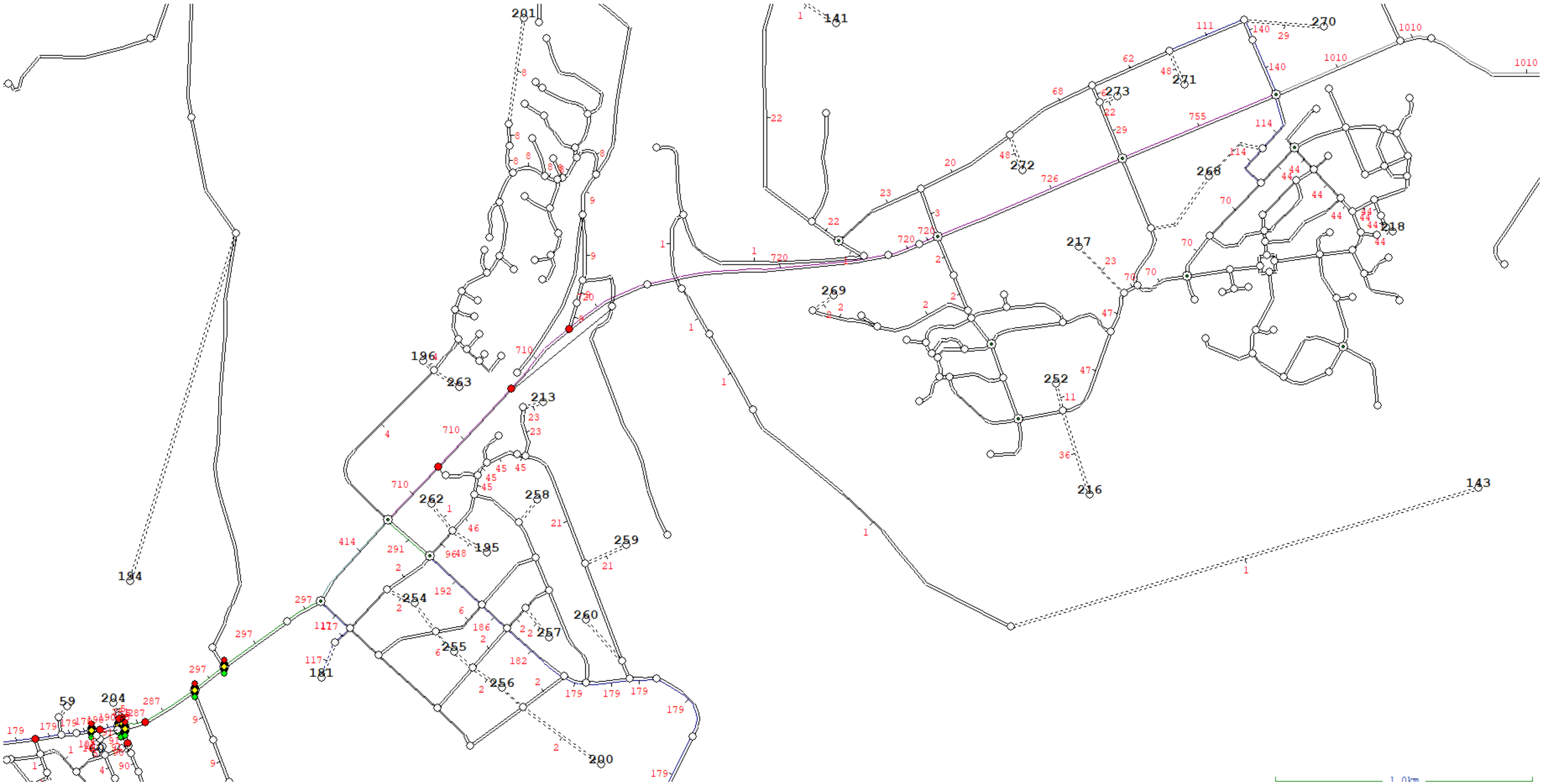
2048 Option 2 Lower Shotover Rd PM Peak Northbound select link plot



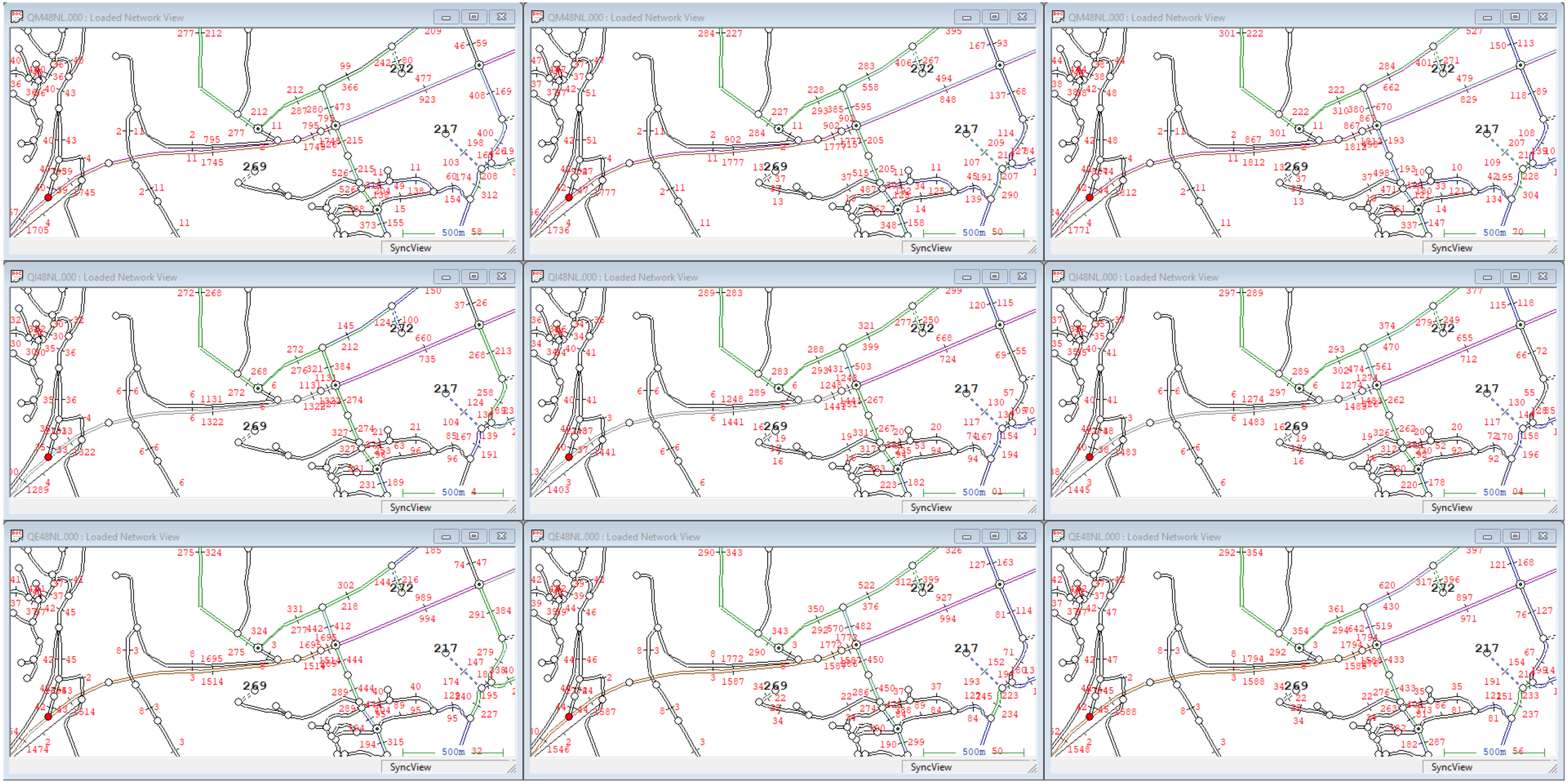
2048 Option 2 SH6 east of Ladies Mile PM Peak Westbound select link plot



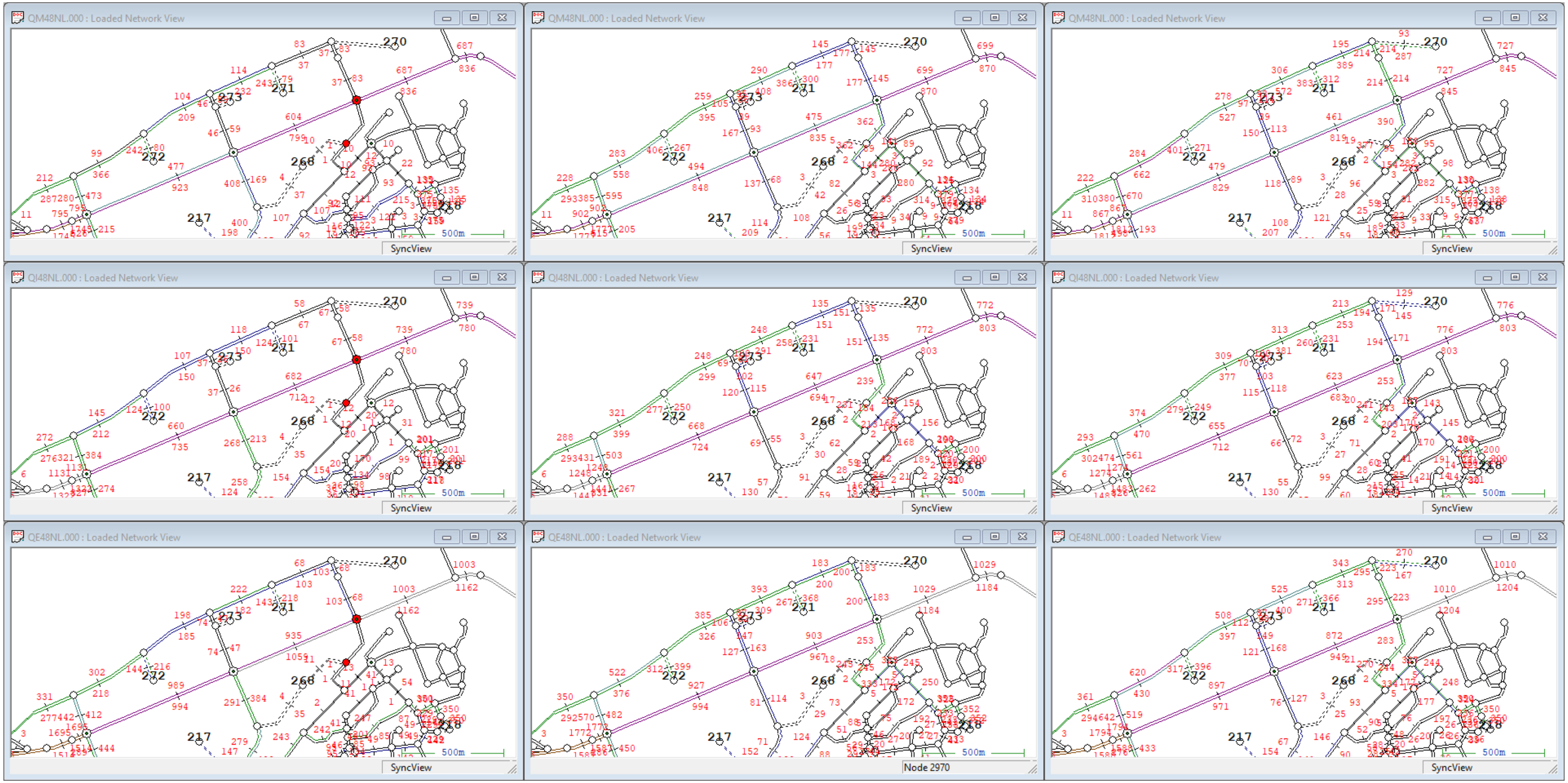
2048 Option 2 SH6 east of Ladies Mile PM Peak Eastbound select link plot



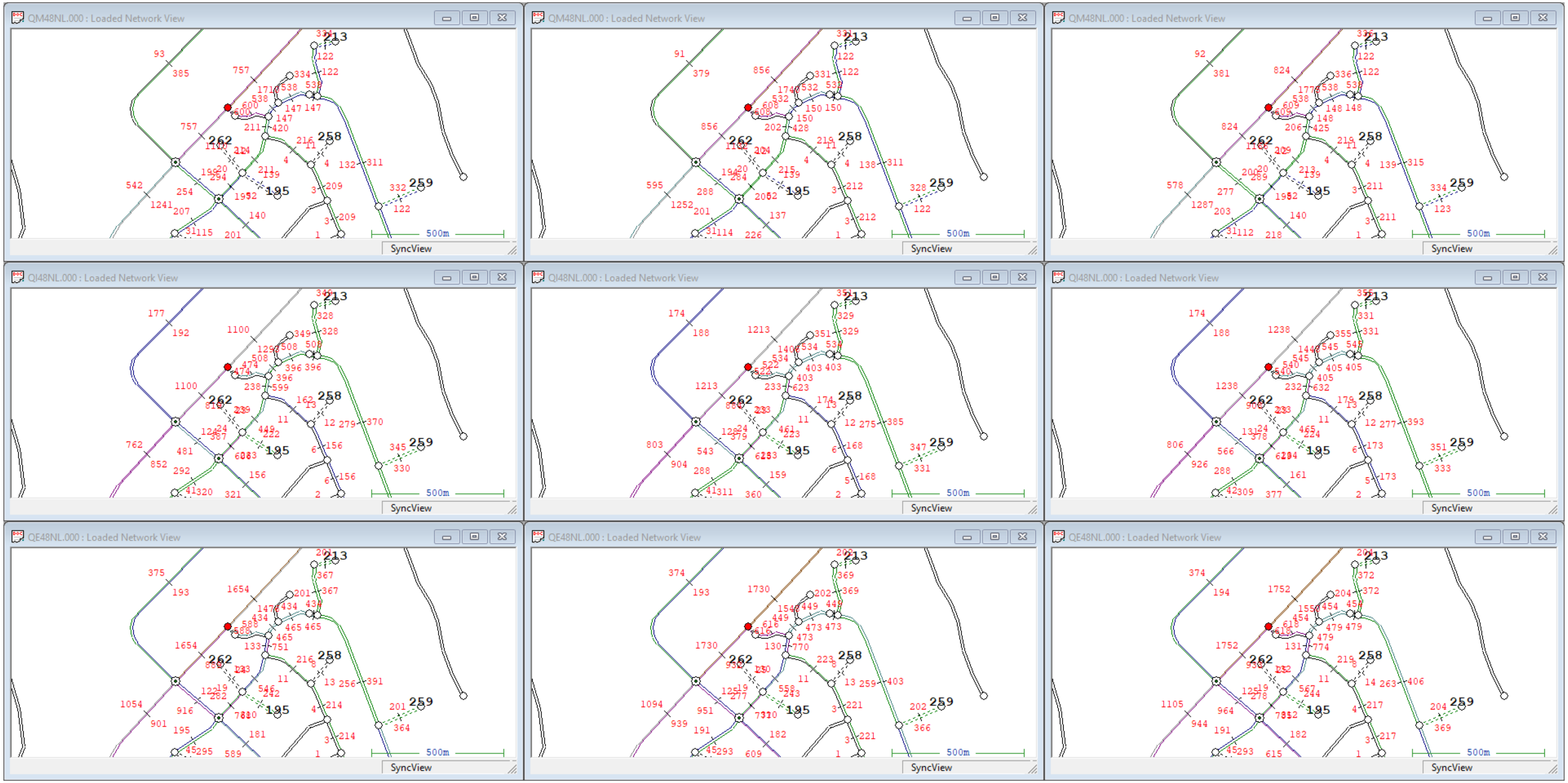
2048 Hourly Traffic Flows – SH6 Shotover Bridge View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



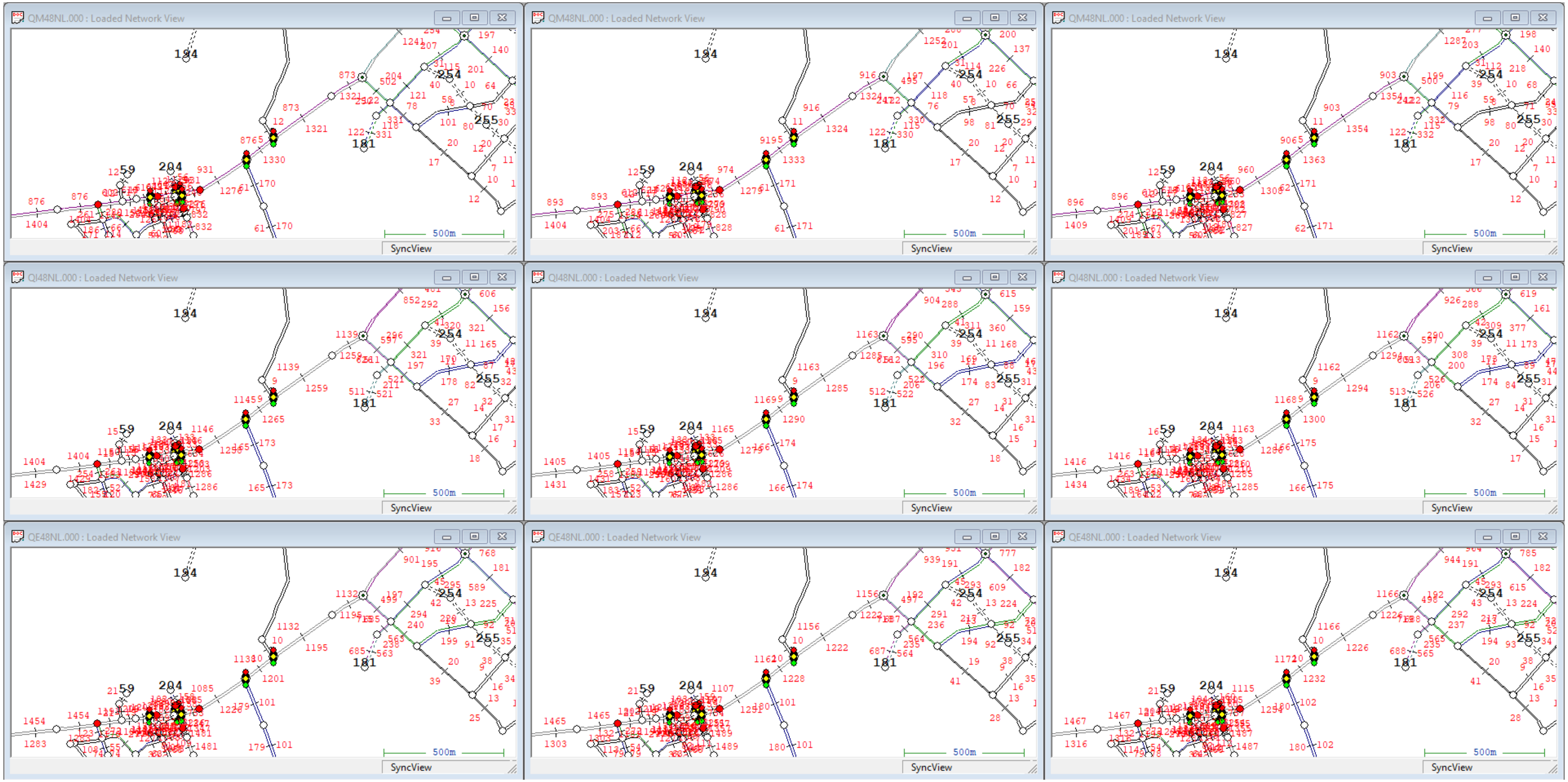
2048 Hourly Traffic Flows – SH6 Eastern View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



2048 Hourly Traffic Flows – SH6 Frankton Flats View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

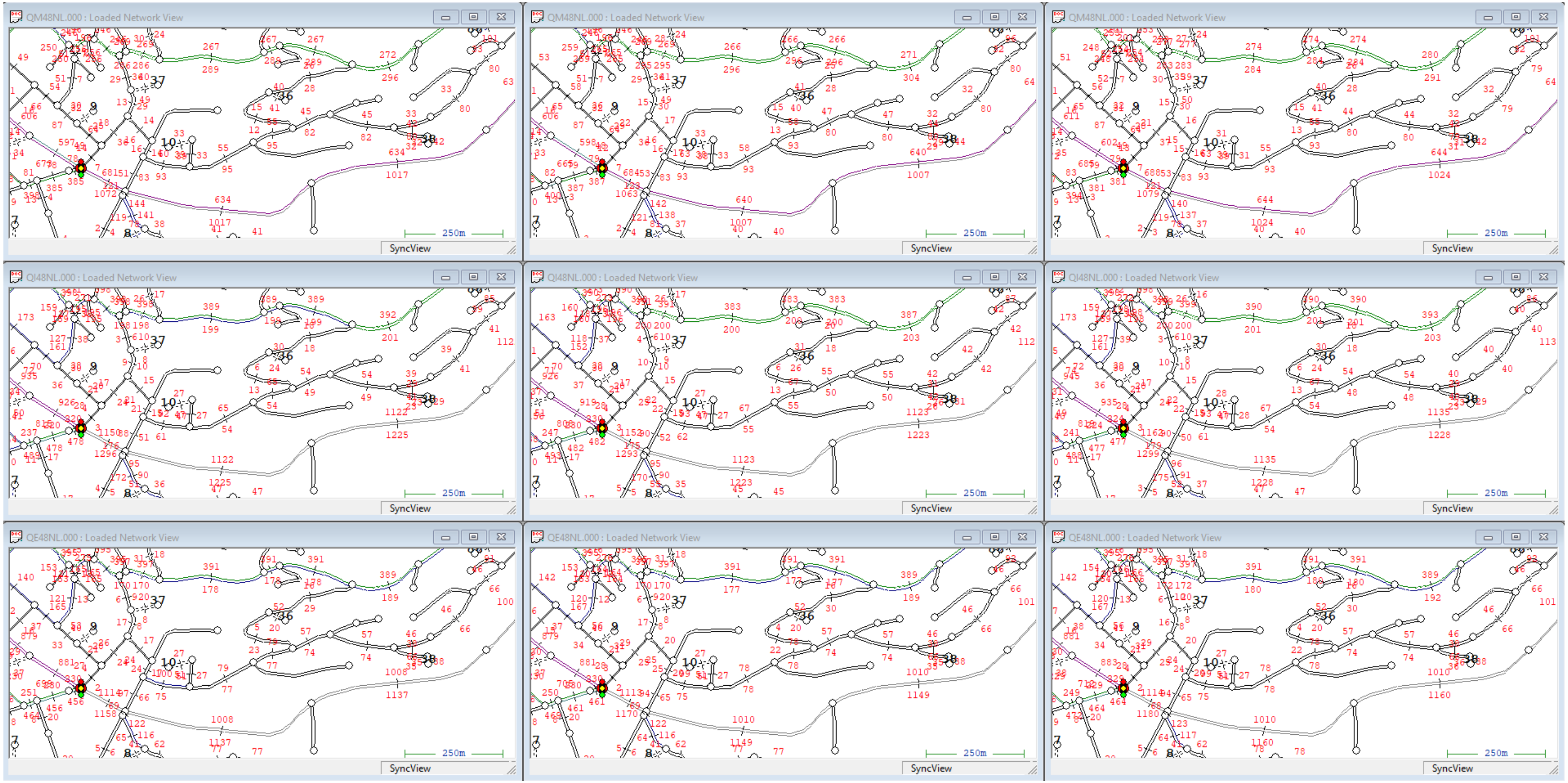


2048 Hourly Traffic Flows – SH6 / SH6A East View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

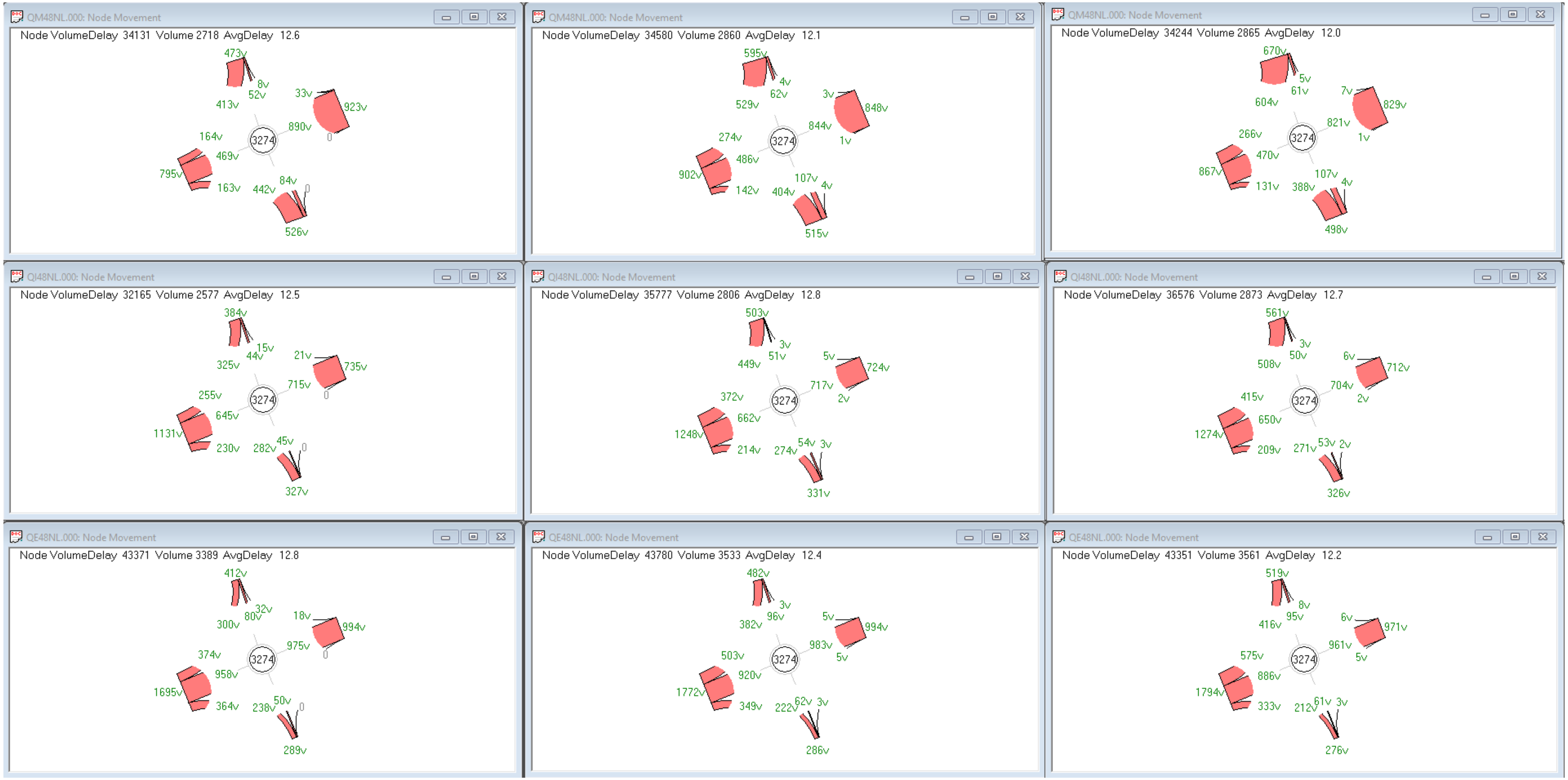


2048 Hourly Traffic Flows – Gorge Road View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)

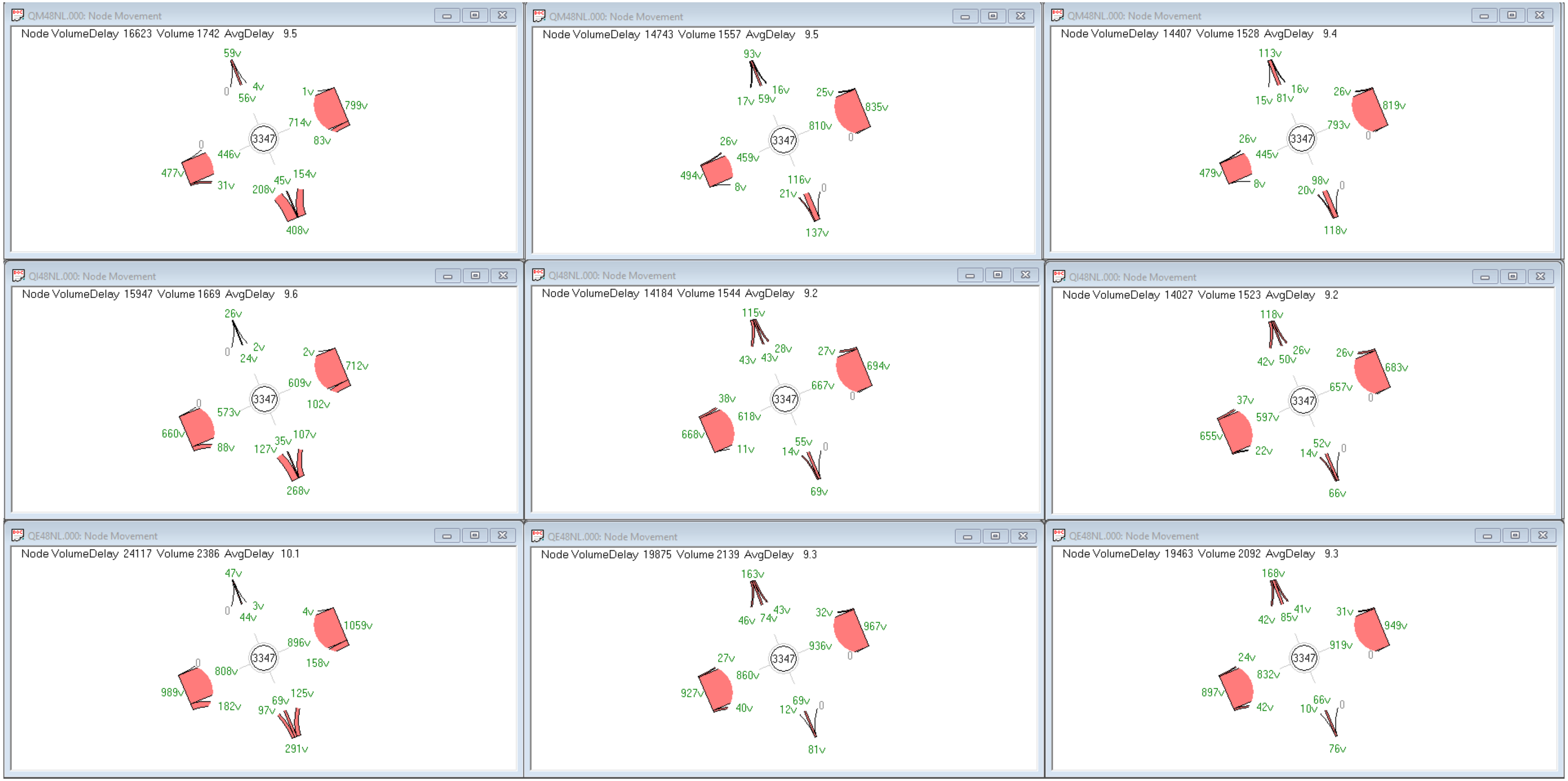
2048 Hourly Traffic Flows – SH6A West View (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



2048 Turning Movements – SH6 / Stalker Road (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



2048 Turning Movements – SH6 / Howards Drive (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)



2048 Turning Movements – SH6 / Ada Place extension (Base left, Opt 1 middle, Opt 2 right; 8-9am top row, 12-1pm middle row, 5-6pm bottom row)