Limerick Bus Network Redesign Volume II: Final New Network

DECEMBER 2023

BUS CONNECTS LIMERICK

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Prepared by Jarrett Walker & Associates and SYSTRA on behalf of the National Transport Authority

Table of Contents

1 Introduction & Summary

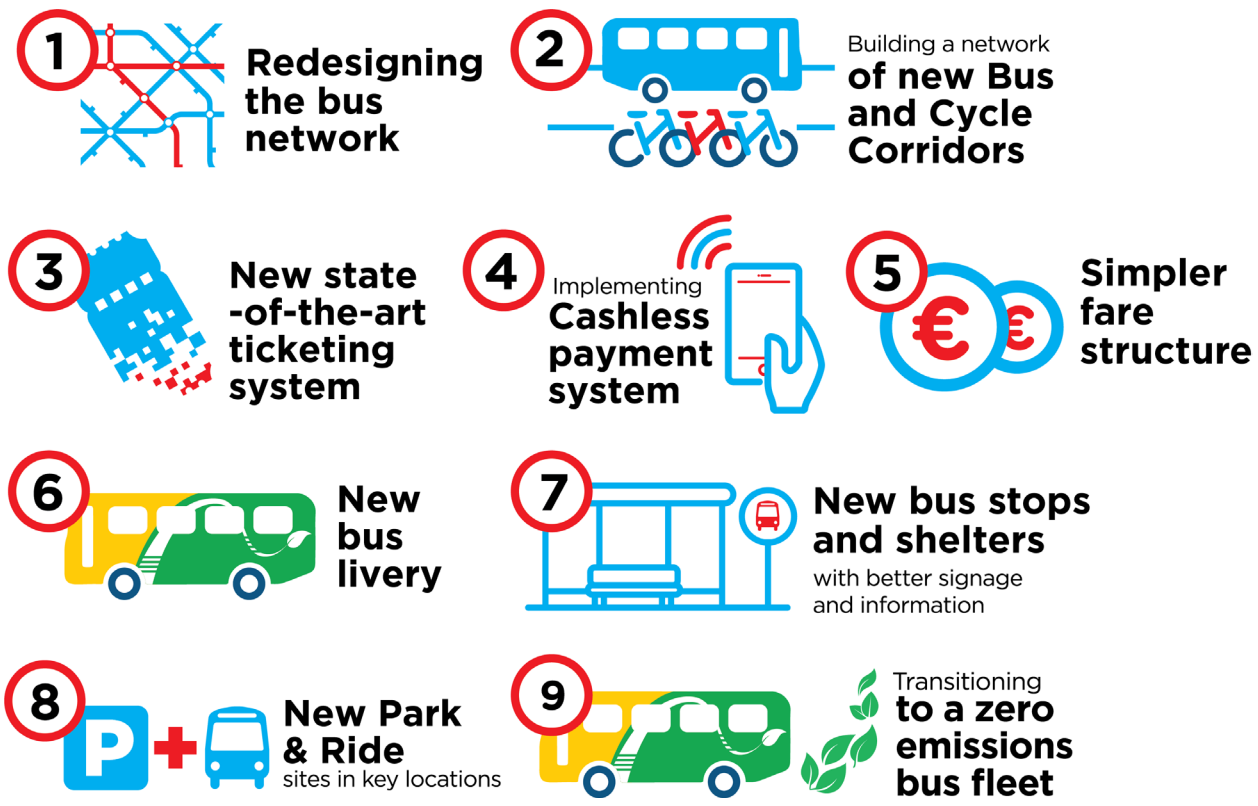
What is BusConnects Limerick?

BusConnects is a programme of public transport investment in Ireland's major urban centres. It is developed and managed by the National Transport Authority (NTA), and funded by Project Ireland 2040.

BusConnects includes many elements:

- **Redesigning the bus network**
- **Building new bus corridors and cycle lanes**
- **Implementing a state of the art ticketing system**
- **Implementing a cashless payment system**
- **Simpler fare structure**
- **New bus livery**
- **New bus stops and shelters**
- **New Park & Ride sites in key locations**
- **Transitioning to a new zero emissions bus fleet**

Some of these elements are already underway in Limerick. Many older buses with Bus Éireann livery have been replaced by newer yellow-and-green TFI buses. Twenty new battery-electric buses are being added to the local fleet in 2023.



Completing BusConnects Limerick will help realise these Government policy strategies and local plans:

- **The National Development Plan 2021-2030**
- **The Climate Action Plan 2023**
- **The Limerick Development Plan 2022-2028**
- **The Limerick Shannon Metropolitan Area Transport Strategy 2040**
- **The Clare County Development Plan 2023-2029**

What is the Network Redesign?

Limerick's bus network has evolved gradually over many years, as the city and its surroundings have changed.

Given recent and planned growth, and national efforts to develop more sustainably, there is an urgent need to re-evaluate bus services. It is time to rethink the design of the local bus network and invest in its success.

This network redesign is a collaboration between the:

- **National Transport Authority**
- **Limerick City and County Council**
- **Clare County Council**
- **Bus Éireann**

The bus network redesign is a review of where and how often the bus should come. This includes which roads buses run on, times and days of service, frequencies, stop locations, and how passengers interchange.

To make sure the network is right for current and future needs, the project team is rethinking the network from a blank slate, rather than adjusting the current network. Most of the new network will run on the same streets as today, but not necessarily in the same patterns.

Redesign Process

This report includes:

- **Key principles and choices** in redesigning the bus network
- **Summary of consultation** on the Draft New Network.
- **The final New Network proposal**, incorporating consultation feedback.

This report is the result of public engagement on the Draft New Network and the gathering of important feedback on the draft put forward by the NTA in early 2023. We thank everybody that took the time to provide valuable comments on the Draft Network.

Implementation of route changes consistent with the final New Network plan could begin by 2025, subject to necessary approvals.

Routes Under Review

This network redesign focuses on Limerick City and its suburbs. It includes services currently provided on the following existing routes:

Route	Operator
301	Bus Éireann
302	Bus Éireann
303	Bus Éireann
304	Bus Éireann
304A	Bus Éireann
305	Bus Éireann
305A	Bus Éireann
306	Bus Éireann
310	Dublin Coach
313	Bus Éireann

The network redesign will change which roads buses run on, times and days of service, frequencies, stop locations and how people interchange.

Study Area

The study area for this network redesign includes areas served by Transport for Ireland (TFI) local bus services operated by Bus Éireann and Dublin Coach. It includes built-up areas in:

- **Limerick City and suburbs**
- **Mungret**
- **Annacotty**
- **Ardnacrusha and Parteen**

These areas collectively form an urbanised area that is home to nearly 110,000 people, with an economic base of around 50,000 jobs[1].

The study area does not include towns further to the northeast (such as Castleconnell, Killaloe or Nenagh) or the northwest (such as Shannon or Sixmilebridge) as these settlements are outside the catchment of the city bus network.

Bus services between outlying areas and Limerick City are being reviewed as part of Connecting Ireland, a national initiative for the improvement of rural and intercity public transport services.

1 Population according to Census 2022. Employment according to Census 2016. Employment data from Census 2022 is still pending at time of publication.

Key Principle - More Bus Service Investment

Patronage vs. Coverage

Public transport can be designed to achieve different goals.

One of the main goals for public transport is high patronage. Service designed for high patronage is typically frequent, direct, and connects places where many people live and work. This type of service is necessary to meet Limerick's climate, development, and liveability goals.

But patronage is not public transport's only goal. Public transport is also expected to provide a basic level of service to certain areas where relatively few people live or work, even if patronage is low, to prevent isolation.

Within a limited service budget, these two goals are in tension. The more a network concentrates service into frequent, all-day routes, in the places with the most residents and activities, the less service is available to serve areas with fewer people.

This tension between pursuing high patronage and providing wide coverage exists in every public transport system.

Added Bus Service

Recognising that the existing bus network does not adequately address patronage or coverage goals, the NTA is proposing a significant increase in service through BusConnects Limerick.

The New Network would increase the amount of bus service in Limerick City and its suburbs by about 70%. This increase includes elements primarily targeting higher patronage, such as:

- 24-hour service between University Hospital Limerick, City Centre and the University of Limerick
- 4 routes operating every 15 minutes or better until 8 PM, seven days a week

It also includes elements aimed at expanding the area covered by public transport, such as:

- New services on the Dock Road, Bloodmill Road, Ennis Road and Condell Road
- All-day service to Ardnacrusha, Parteen and Raheen Industrial Estate

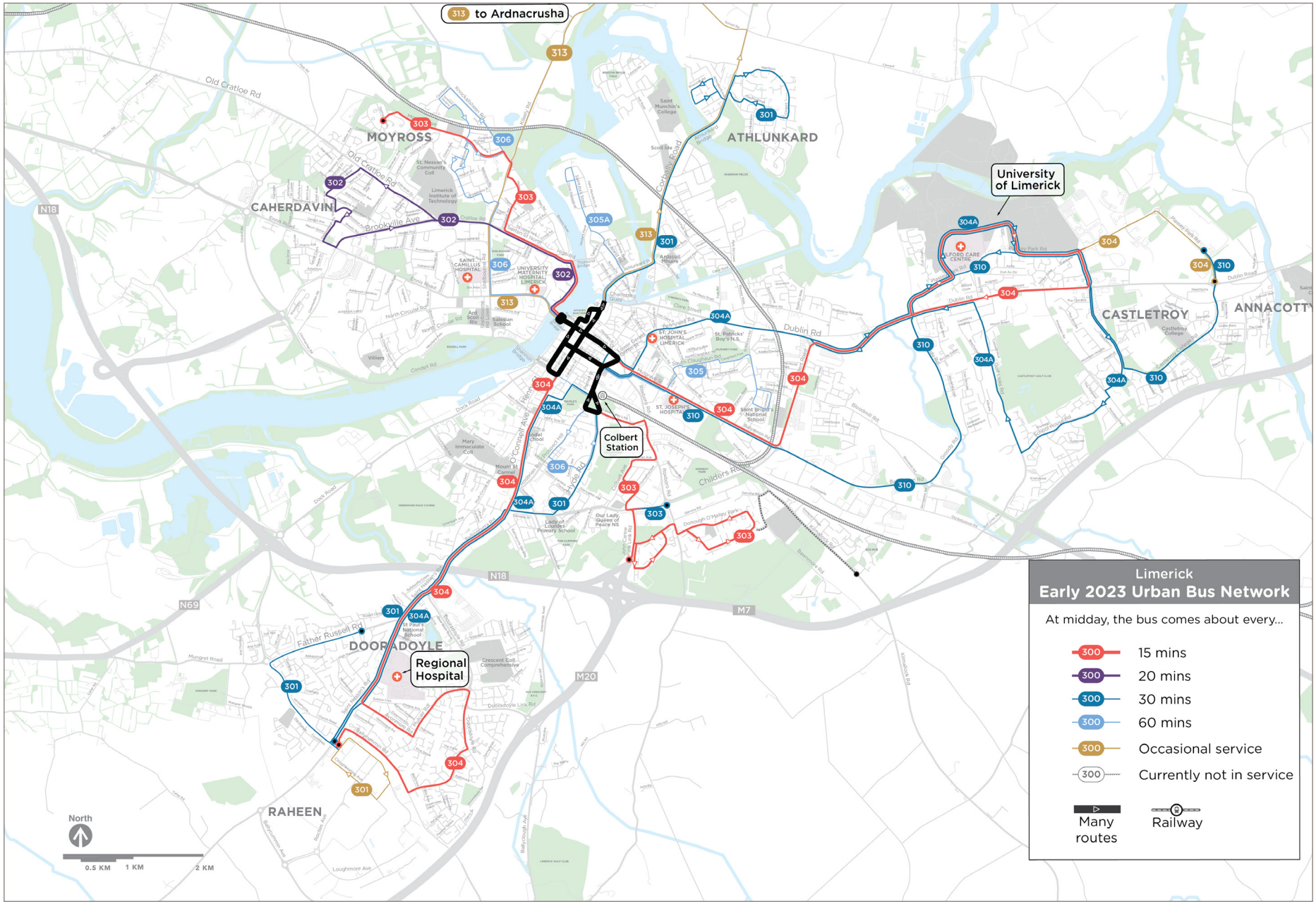
Why add bus service to meet patronage goals?

- **Make service more useful for more people**
- **Support dense and walkable development**
- **Improve access to large numbers of jobs, educational and other opportunities**
- **Encourage more people to switch from car to public transport**
- **Combat traffic congestion and support economic growth**
- **Reduce carbon emissions and combat climate change**

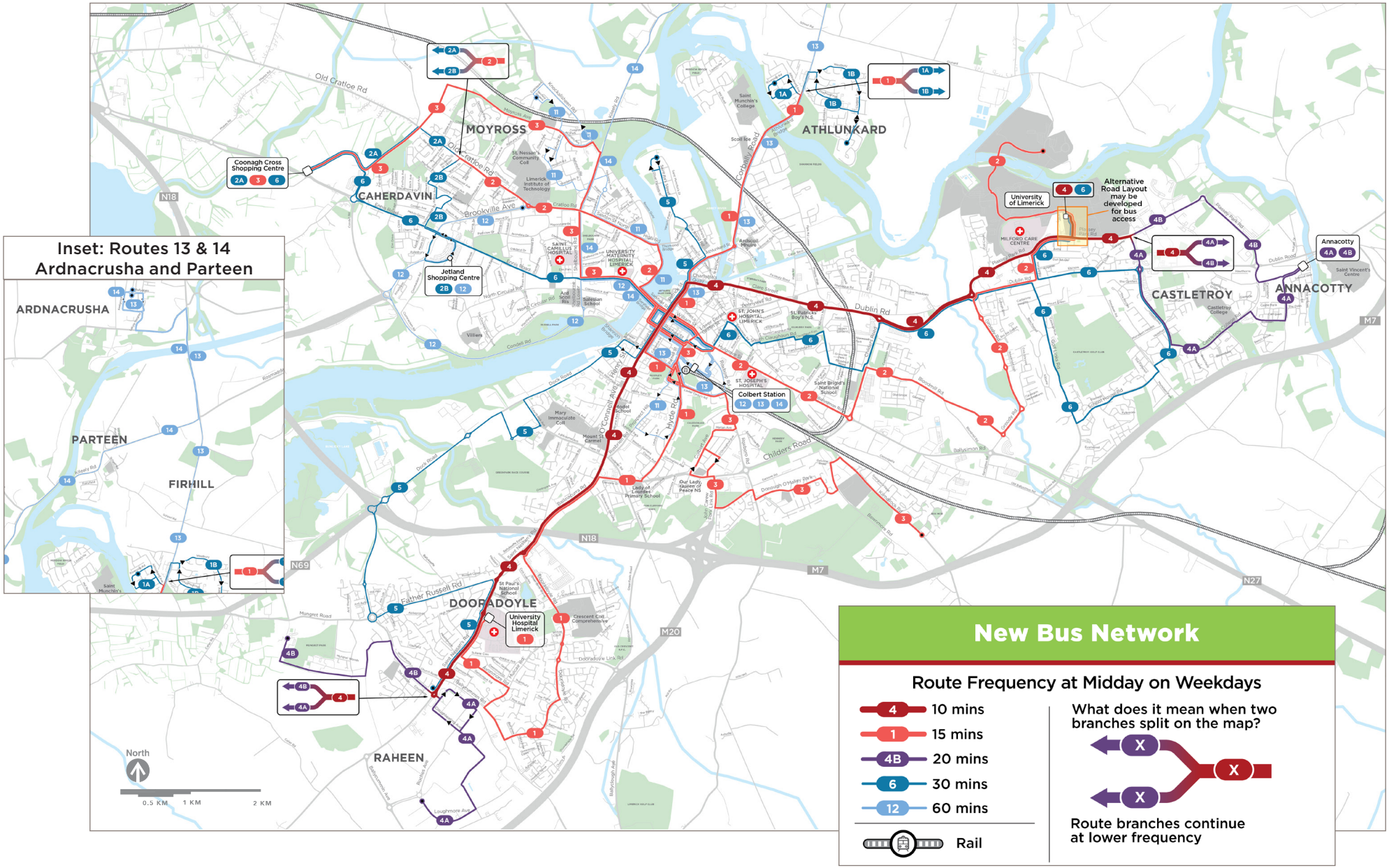
Why add bus service to meet coverage goals?

- **Promote social and economic inclusion, regardless of where people live**
- **Serve people for whom public transport is their only option to travel**
- **Include everyone in the benefits of public transport**

Map of the Existing Network



Map of the New Network



Feedback from the Draft to Final New Network

Process

In early 2023, the NTA put forward a Draft New Network for Limerick and completed a public consultation, with the goal of gathering important feedback on the network to develop a final recommended network.

We thank Limerick City and County Council, Clare County Council, various businesses and institutions, and, most importantly, the people who live, work, and play in this region, for providing this vital feedback.

We received over 650 responses to the consultation. This includes nearly 600 responses from individuals, and over 50 responses from a range of local organisations. Most of these submissions (525) came through the online consultation portal, while the remainder were submitted by e-mail, paper or during in-person public consultation events.

Based on feedback from the consultation, the project team went back and made changes to the network in some areas. The result of these changes is the New Network in this report.

What we heard

People were supportive of change in Limerick's public transport.

Over half (57%) of online respondents stated that the new network should be designed primarily to maximise benefits to the largest possible number of people. Only 28% of believed the new network should be designed primarily to minimise inconvenience to existing riders.

People were supportive of the new network as a whole.

When asked *"How does the draft network compare to the existing network for Limerick City and its suburbs as a whole"*, 46% of online respondents said it was an improvement, and 25% said it would be worse.

Concerns were expressed about impacts in specific areas.

When asked the *"How does the draft network compare to the existing network for you?"*, 34% of online respondents said it was an improvement, and 34% said it would be worse.

The patterns of concern appear to be highly place-specific. Two issues in particular recurred the most:

- Impacts on the Milford Care Center and Infinity Woodland in the vicinity of the University of Limerick.
- Loss of service coverage to parts of Garryowen.

Both of these concerns, and a number of others, are addressed in the final New Network.

Implementing all parts of this network will require infrastructure works.

In the consultation, a variety of infrastructure considerations were raised. These spanned the spectrum of small items like bus stop placement to large items like planned bus facilities around the University of Limerick. These items will be looked at further during the implementation phase.

How to Read the Network Maps

Colours Show Frequency

The maps on the previous pages feature a style used throughout this report, in which **route colours represent frequency,** in the daytime on weekdays.

- **Dark red** lines indicate very frequent service, with a bus coming every 10 minutes or better.
- **Red** lines indicate frequent service, every 15 minutes or better.
- **Purple** lines indicate routes that come about every 20 minutes.
- **Dark blue** lines indicate routes that come about every 30 minutes.
- **Light blue** lines indicate routes that come about every 60 minutes.

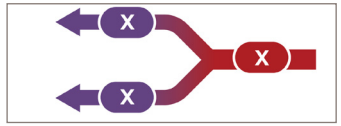
New Route Numbers

The route numbers in the New Network are different from any existing route numbers.

These new numbers are provided to avoid confusion with existing services. They are not final, and may change before the Final New Network is put in place.

Route Branching

Some routes in the New Network would branch at their ends. This is shown on the maps as below:



This is not an interchange. The buses on the purple (or blue) routes come together to form the red route.

For example, Route 4 is a combination of Route 4A and Route 4B. Route 4A (from Raheen Industrial Estate) and Route 4B (from Mungret Park) come together at the Raheen roundabout. All 4A and 4B buses continue to the City Centre and the University of Limerick. They split again in Castletroy, where 4A buses continue to Kilmurry Road and Castletroy College Road, while 4B buses continue on Plassey Park Road. The 4A and 4B then meet at Annacotty.

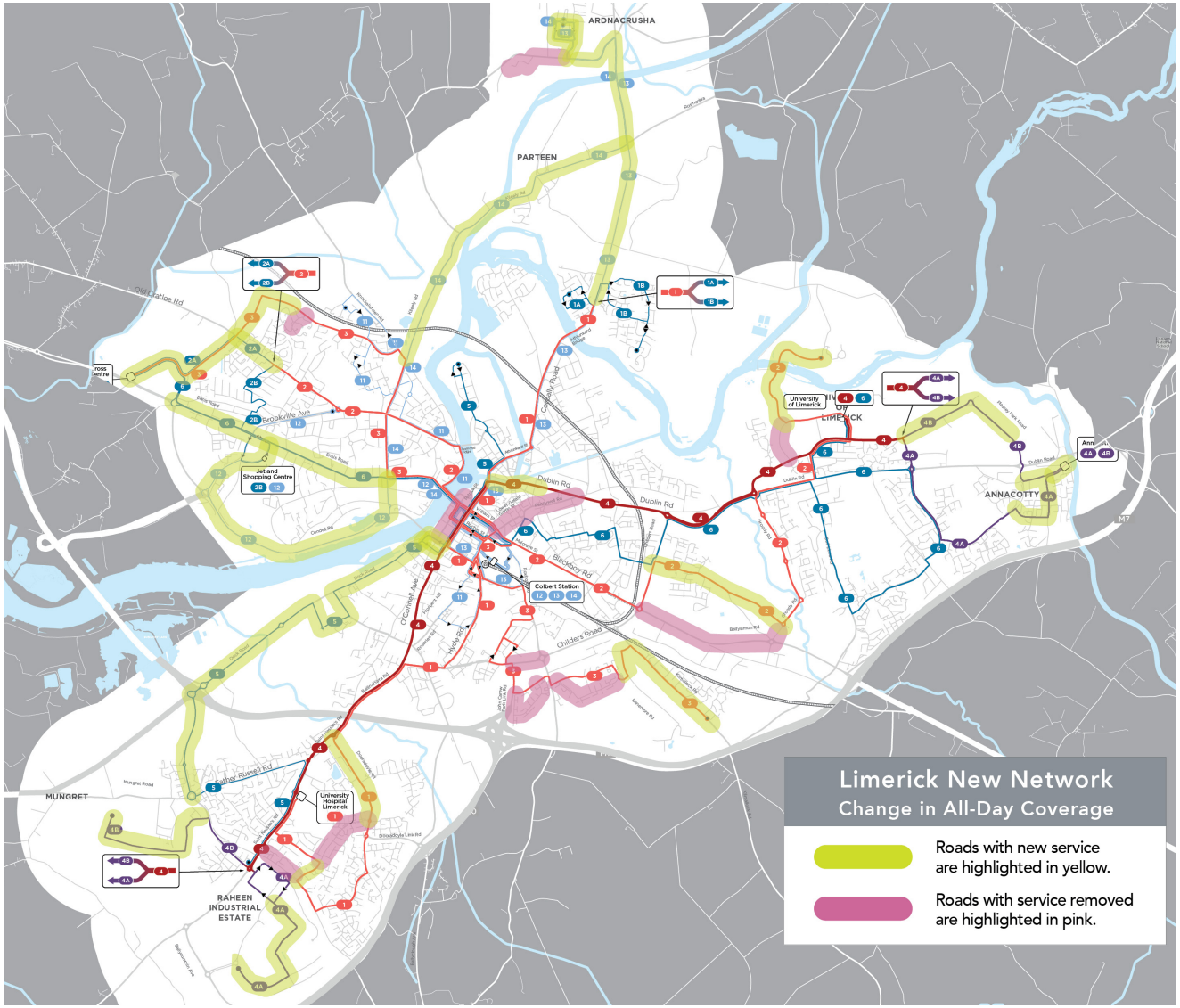
Service to More Areas

The New Network would provide all-day service in many areas not served today, or served just a few times a day. These include:

- **Ennis Road**
- **Dock Road**
- **Condell Road**
- **Raheen Industrial Estate**
- **Bloodmill Road**
- **University of Limerick, North Campus**
- **Ardnacrusha, Parteen and Firhill**
- **Dooradoyle Road**, between St. Nessan's Road and Mulcair Road
- **Plassey Park Road**, between Oaklawns and Annacotty
- **Development Lands at Mungret**

The New Network would also remove service on some roads. In many cases, this would replace one-way service on two roads with two-way service on a single road. Roads with service removed include Pennywell Road; Mulcair Road; and parts of Ballysimon Road; Childers Road; John Carew Park; O'Malley Park; and St. Patrick's Road.

Overall the share of residents within a 400 metres walk of a bus stop (about a five minute walk) would increase from 53% to 65%.



More Routes with Frequent Service

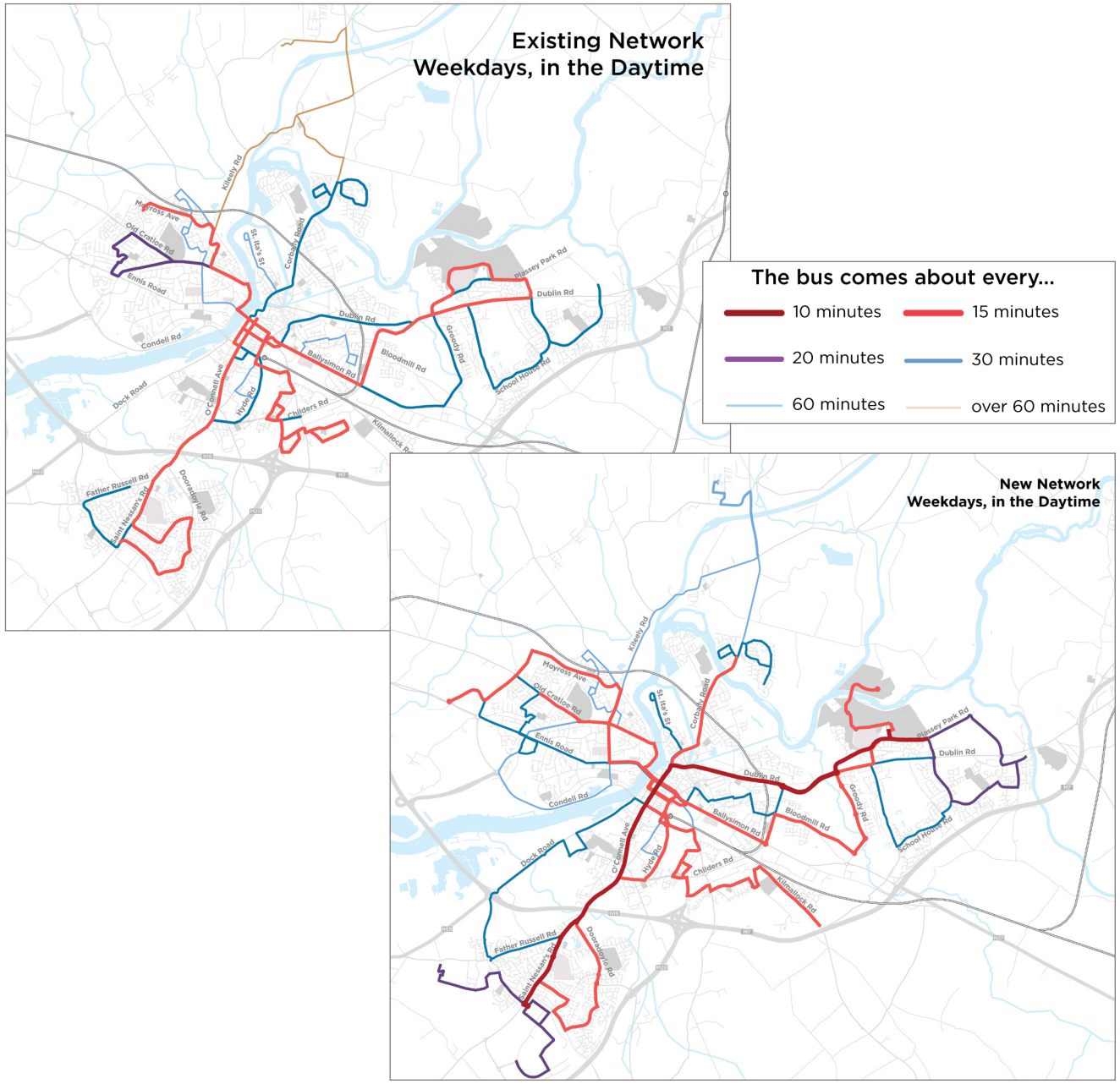
Frequent service is more useful service because it:

- Reduces time spent waiting.
- Makes interchange fast and reliable.
- Improves reliability, because if a bus breaks down, another one is coming soon.

Frequent service would be extended to new areas and key destinations including:

- **Dooradoyle Road**
- **Hyde Road**
- **TUS Moylish**
- **Coonagh Cross Shopping Centre**
- **Corbally Road**
- **Bloodmill Road**
- **Groody Road**
- **University of Limerick, North Campus**

As a result, 41% of residents would live within 400 metres of service every 15 minutes or better, compared to 28% in the existing network.



Better Service on Sundays

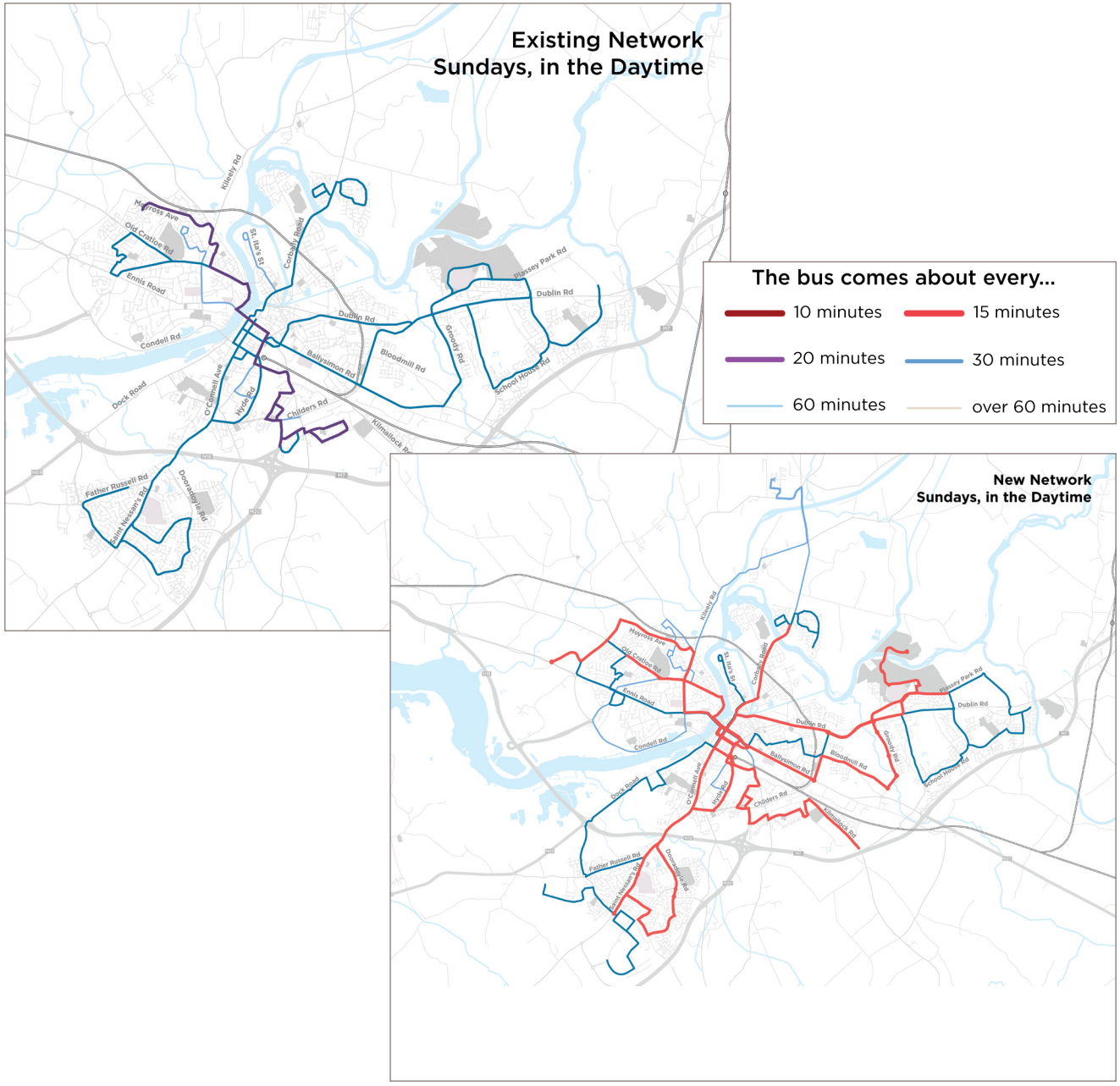
Sunday service is important in helping people live with fewer cars, since people cannot rely on public transport unless it is useful every day they may need to travel.

In the existing network, many public transport trips that might be convenient on weekdays are inconvenient or impossible on Sundays.

This is for a variety of reasons: most routes start service after 10 AM; no route provides service better than every 20 minutes; and some routes don't operate at all on Sundays.

For most of Sunday, public transport would run at frequencies comparable to weekdays, double the service of the existing network. The 41% of residents within 400 metres of service every 15 minutes on weekdays would also be near service every 15 minutes or better on Sundays.

- **Most routes would start service at 7 AM.**
- **The four frequent routes would offer service every 15 minutes or better from 9 AM to 8 PM.**
- After 10 AM, service on less frequent routes would be similar to service on weekdays and Saturdays.

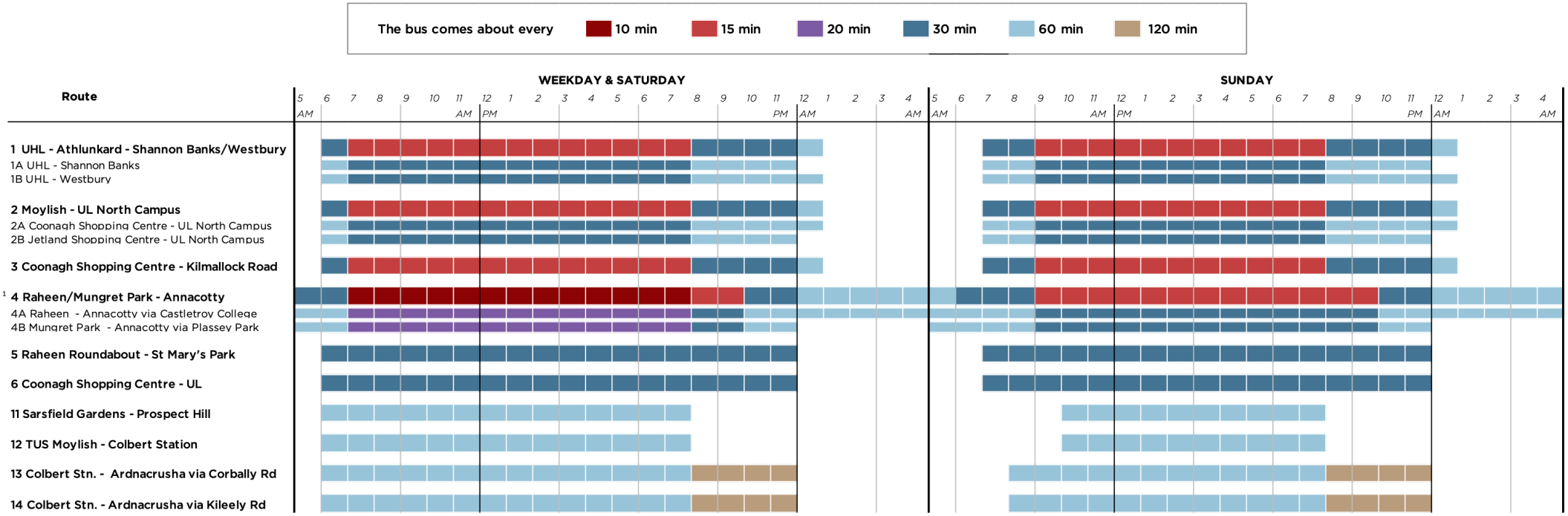


24-Hour Service in Key Areas

The proposed Route 4, which would connect University Hospital Limerick, City Centre and the University of Limerick would provide service at all times of day and night.

Late night and early morning service would be provided on the 4A branch, which would serve several areas with significant night-time activity, including Raheen Industrial Estate, University Hospital Limerick, City Centre, and the University of Limerick.

Limerick Urban Bus Routes — Service Frequencies* — New Network



Notes

* Service to Castleconnell, Shannon, and Ennis is not included in this study. Revisions to these routes are being studied through TFI's Connecting Ireland scheme.

1 On **Saturdays** between 7 am and 8 pm, **Route 4** has a frequency of **15 minutes,** and not 10 minutes. Correspondigly, Routes **4A** and **4B** have a frequency of **30 minutes,** and not 20 minutes.

Key Principle - More Access to Opportunity

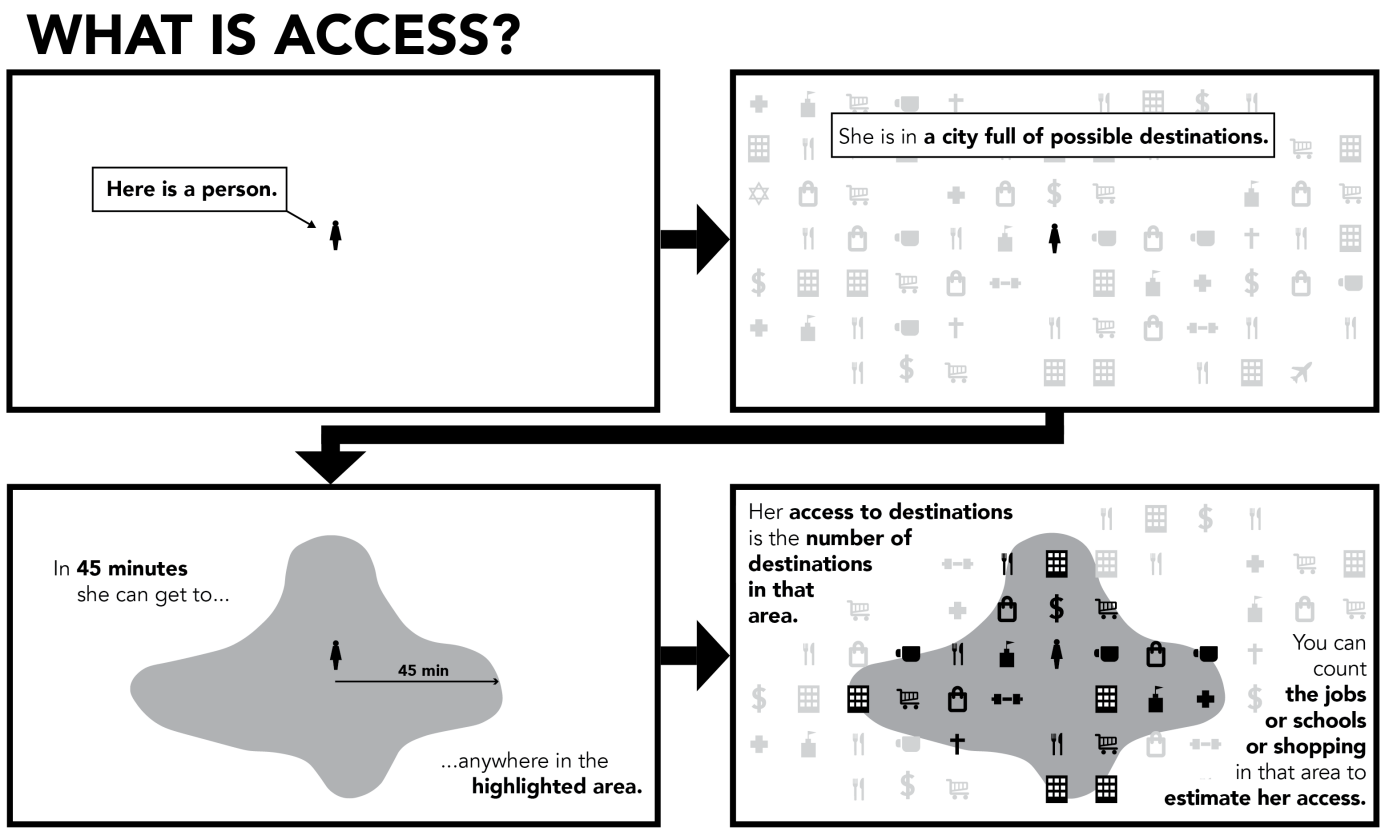
More Useful Service

It's impossible to predict exactly how many people might use an improved bus network. A person's decision to use public transport on any given day might depend on where they are going, when they want to travel, the weather, their plans throughout the day, the price of a taxi, and many other factors.

However, it is possible to measure whether changes in service would make public transport more useful.

Public transport is useful to the extent that it allows people to go where they need, in a reasonable amount of time. **The more useful places you can reach in a reasonable amount of time, the more access to opportunity you have.**

In turn, designing service to increase many people's access to opportunity is the best tool that planners have to increase public transport patronage.



What factors affect access to opportunity?

Access to opportunity by public transport is affected by:

- **How many destinations are near public transport**
- **How long a person has to walk to** and from service
- **How long they have to wait** for the service
- **How far they have to travel** on public transport
- **The speed of the service**
- **How long they have to wait to interchange between services**

Public transport providers have control over some of these factors: waiting time, interchange, route directness, and where service is provided.

They have less control (or no control) over other factors: public transport speed, travel distances, and where jobs and housing are located. These factors are generally controlled by local authorities as they manage land use, development, and roadways.

Estimating Journey Times

Often when people describe public transport journey time they focus on the time spent on the bus. Public transport journeys also include time spent walking and waiting, which can exceed the time spent on the vehicle itself.

Walking to and from the stop

Most public transport journeys begin and end with walking.

Waiting for the next bus

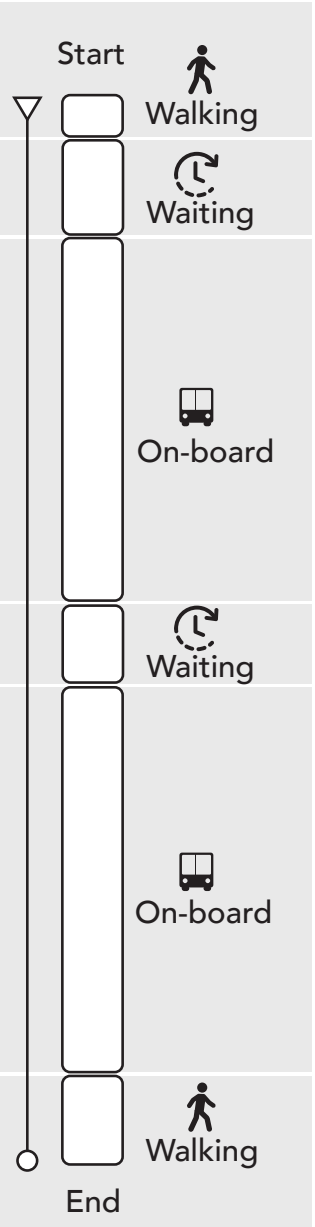
Waiting doesn't always happen at the start of your journey, it can also happen at the end. You may leave home only a short time before your bus departs, but if your bus comes infrequently you often have to choose between arriving at your destination very early or too late.

If you're interchanging, you'll have to wait a second time.

On average, across all passengers, both of these forms of waiting will require about one-half the frequency of the routes in question.

On-board the vehicle

Time spent on the vehicle is affected by the distance you are traveling and the speed of the vehicle. Our analysis of the Draft New Network used conservative (slow) speed assumptions. Improvements in speeds will result in greater job and school access for more people.



Increased Access Throughout the City

The maps on this page show how far someone can travel from the City Centre, starting from the intersection of O'Connell Street and William Street, in 30 and 45 minutes, in the existing network (in pink) and with the New Network (in blue).

These maps show that, for example, if the New Network were put into place, someone living in the City Centre could reach about 28% more jobs in 30 minutes or less using public transport. The 30 minute travel time includes time spent walking to and from bus stops, waiting for the bus, and journey time on the bus itself.

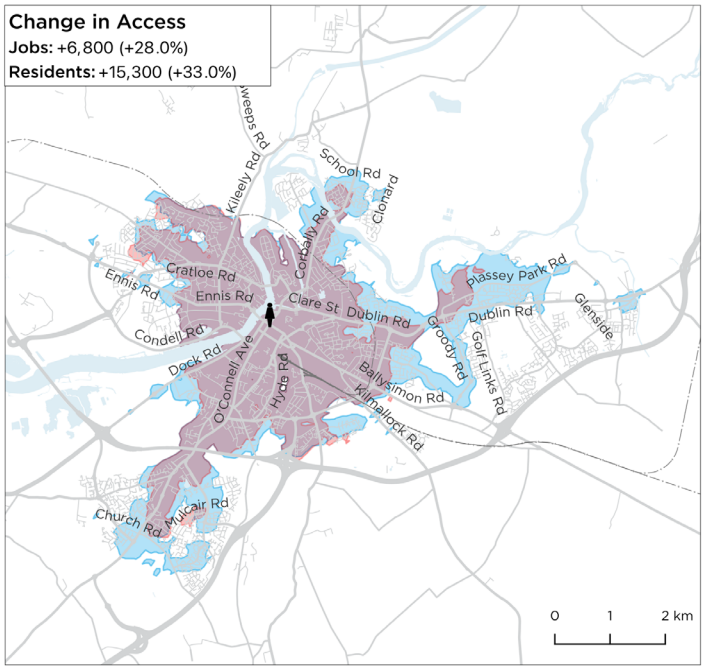
This kind of change has been measured throughout the study area. Key outcomes include:

- **The average Limerick resident could access 47% more jobs on weekdays, and 110% more jobs on Sundays within 30 minutes.**
- Within 45 minutes, the average Limerick resident could access 30% more jobs on weekdays, and 47% more jobs on Sundays.
- **Over 93% of study area residents would be able to access more jobs within 45 minutes.**

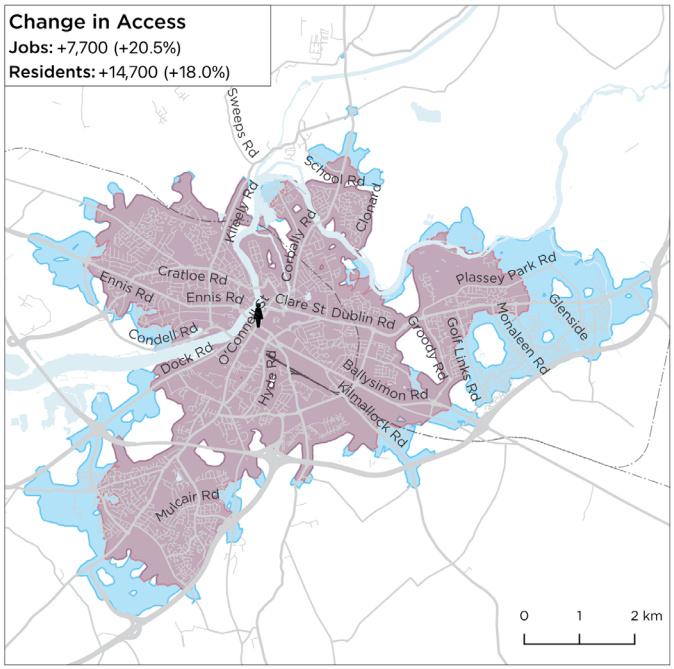
How far could I travel from
O'Connell St & William St
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



Many places people visit regularly (such as shopping, schools, restaurants, medical services) are places of employment, so better access to jobs means better access to many kinds of opportunity.

Map of Increased Access to Jobs on Weekdays

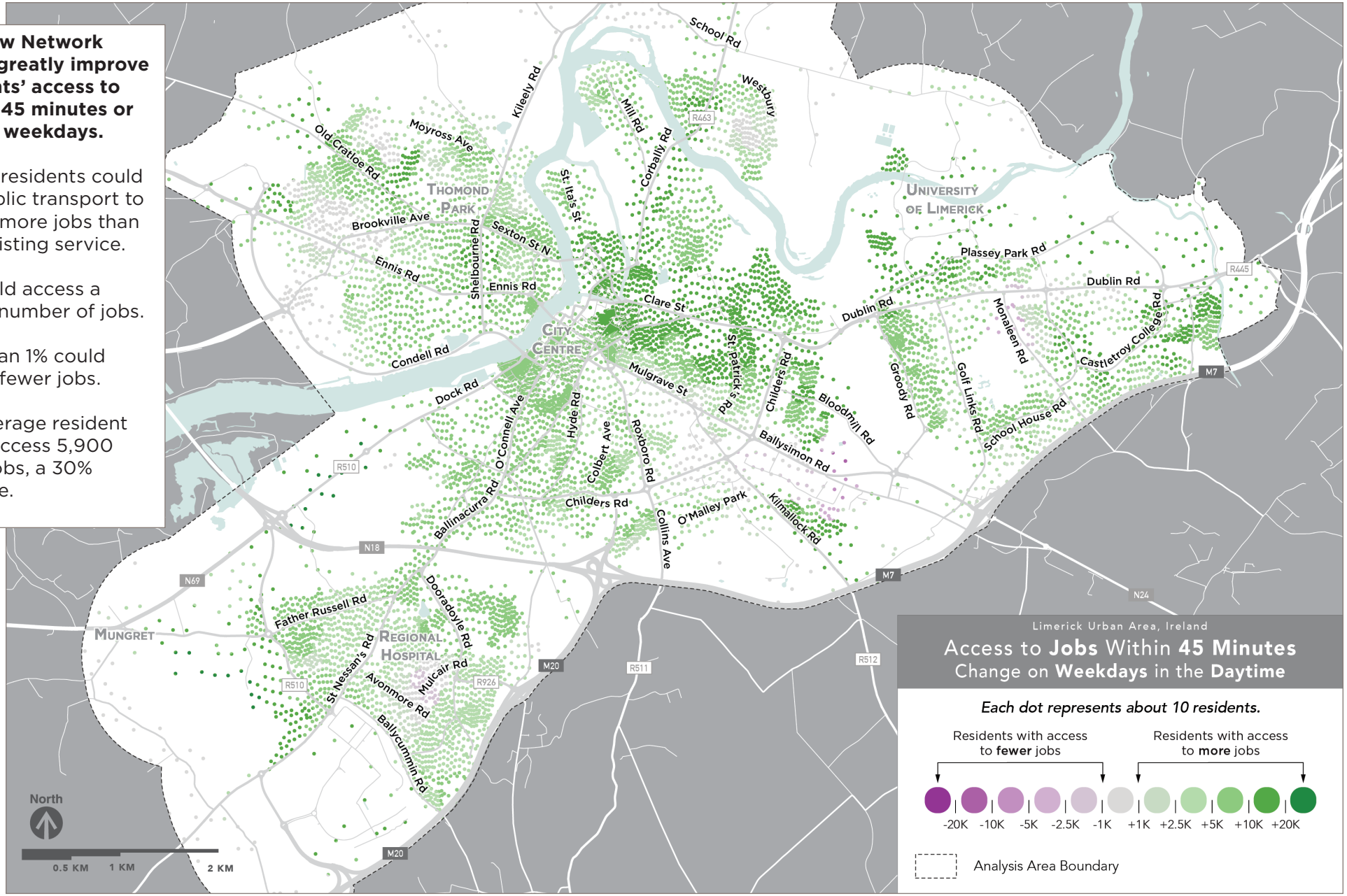
The New Network would greatly improve residents' access to jobs in 45 minutes or less on weekdays.

93% of residents could use public transport to access more jobs than with existing service.

6% could access a similar number of jobs.

Less than 1% could access fewer jobs.

The average resident could access 5,900 more jobs, a 30% increase.



Map of Increased Access to Jobs on Sundays

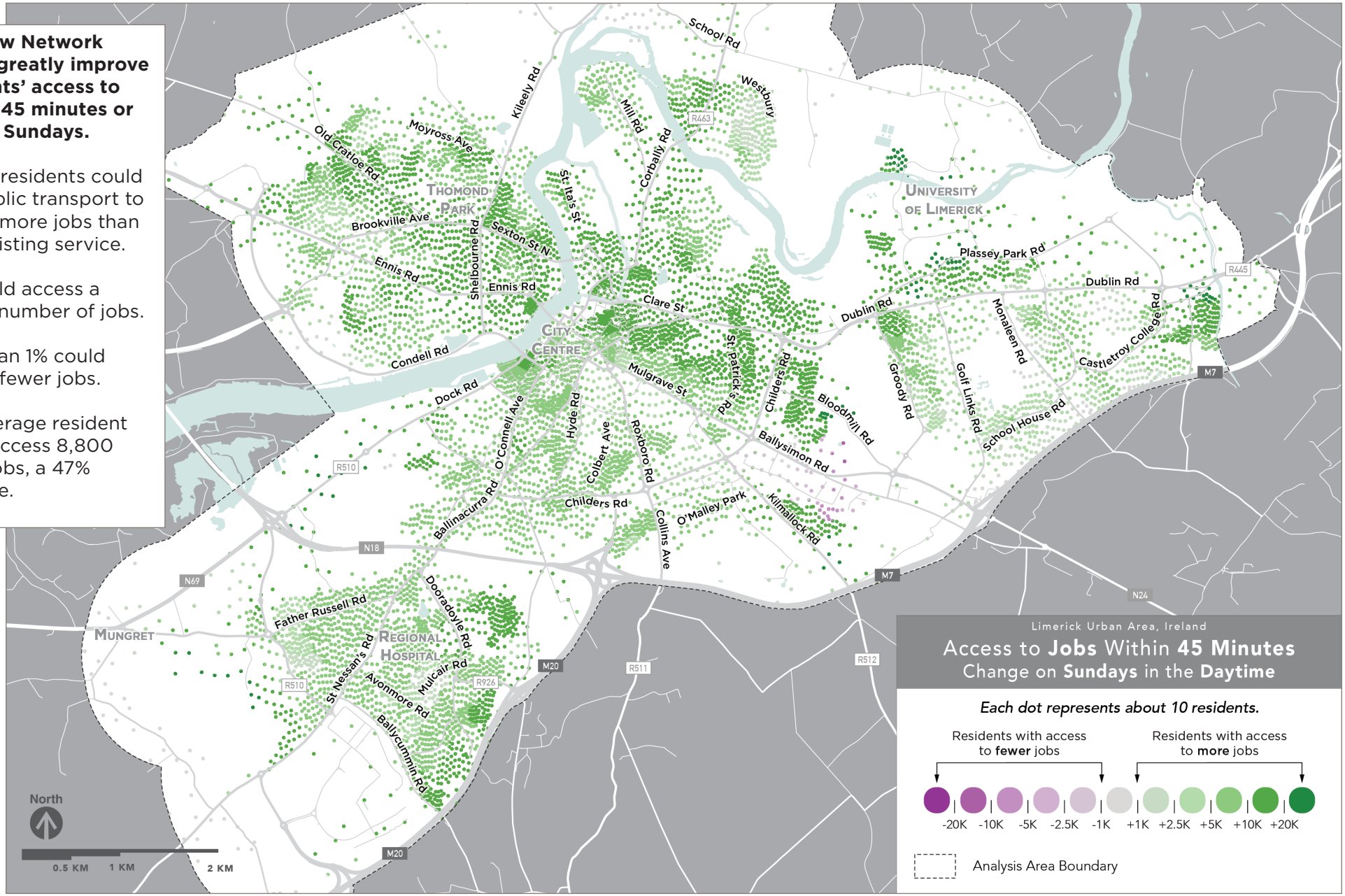
The New Network would greatly improve residents' access to jobs in 45 minutes or less on Sundays.

97% of residents could use public transport to access more jobs than with existing service.

3% could access a similar number of jobs.

Less than 1% could access fewer jobs.

The average resident could access 8,800 more jobs, a 47% increase.



How to Learn About the New Network

In this Report

This Report is one source of information about the New Network. Within this Report you will find:

- **The principles used in bus network design, starting on page 24.**
- **An overview of the Draft Network consultation process and the feedback received, starting on page 32.**
- **An overview of the New Network, starting on page 48.**
- **Analysis of how residents' access to jobs and schools would change with the New Network, starting on page 65.**

New Route Numbers

All of the routes in the New Network have been given new numbers and names.

The purpose of using all-new numbers is to avoid confusion during public engagement as people compare existing and proposed new routes.

The route numbers presented at this time may not be the final route numbers used when the new network is implemented.

All routes in the New Network have new numbers!

Online Map

To explore what the New Network would mean for your area and for your journeys, you can refer to the online webmap available at the BusConnects website.

The online map allows you to:

- **Zoom in and see detailed routing.**
- **Look at areas across the City (that are difficult to show on these small pages).**
- **See how average access to jobs would change in your area.**
- **Create an "isochrone" comparing where you could travel in 30 or 45 minutes using the existing network or the New Network.**

Learn more on the NTA's project website: www.busconnects.ie/limerick

Implementation

The NTA anticipates putting the New Network into service starting in 2025.

As the network is implemented and the new routes are put in place, there may be slight modifications made to ensure efficient service delivery.

The NTA and Bus Éireann will monitor the performance of the New Network and make adjustments as necessary.

In the future, subject to demand and funding, some services may be enhanced with greater frequencies and spans than presented in this report.

Bus Priority Measures

As part of the BusConnects program, the NTA and Limerick City & County Council also intend to invest in bus priority measures on key corridors.

These measures will help buses maintain their on-time performance and may address concerns about congestion articulated during the engagement.

More details on these priority measures will emerge as Sustainable Transport Corridors are planned.

Ancillary Issues

Numerous issues related but ancillary to the design of the New Network arose during this planning process. Some were raised by people who provided feedback on the Draft New Network, and others were flagged by members of the planning team, Limerick City & County Council, Clare County Council, or Bus Éireann.

These issues relate to bus stop amenities, bus stop placement, footpaths, street crossings, signals needed at junctions, space needed to layover buses at route termini, and more.

Addressing these ancillary issues will involve collaboration among NTA, the local Councils, Bus Éireann, universities, and major employers.

2 Public Transport & Network Design Principles

What Leads to a Useful Network?

Access to opportunity, described in Chapter 1, is the way that public transport network design can affect **patronage**.

There are many factors that affect patronage which have nothing to do with access or public transport network design, such as the weather, people's plans throughout the day, or price of a taxi.

In this report, we focus on the factors that the NTA and partners in Limerick **CAN** influence. These factors determine the degree to which the public transport network can be useful, and thus contribute to patronage outcomes:

- **Frequency and hours of service**
- **The connections among public transport services, and the usefulness of the entire network**
- **Land use and development patterns**
- **Street design, distance and walkability**
- **Demographics, and where people with particular needs are located**

A well-connected network is key to high patronage. Routes must connect with one another so that people can reach many destinations without a difficult or costly interchange.

Frequency

One of the most powerful ways to increase access across a network is to shorten waiting times by improving frequency.

More frequent service:

- **Reduces waiting time (and thus overall travel time).**
- **Lets you travel whenever you want.**
- **Improves reliability, because if you miss your bus or it breaks down, another one is coming soon.**
- **Makes interchange (between two frequent services) fast and reliable.**

When frequency improves in places with large numbers of residents, jobs and other opportunities, that improves access for many people.

Better frequency increases the potential for high patronage, but it isn't enough on its own to cause high patronage.

A high-patronage network is useful for most people. And most people are in a hurry.

How Frequent is Frequent Enough?

In cities of the scale of Limerick, peoples' trips tend to be short. Public transport must be very frequent for short trips, since waiting time can dwarf journey time on the bus.

To think about whether any frequency is "frequent enough," imagine waiting one-half of the frequency (since on average, you will) and ask yourself whether you could tolerate waiting that long as part of an everyday trip.

One can imagine that with real-time bus arrival information available on people's phones, frequency doesn't matter, because nobody needs to wait for a bus anymore. So if a bus only comes once an hour, that's fine, because your phone will tell you when you should walk to the stop.

Despite this new technology, frequency still matters enormously, because:

- **Waiting doesn't just happen at the start of your journey, it also happens at the end. You might not spend much time waiting at the stop, but if your bus is infrequent, you may have to choose between being very early or too late.**
  - For example, if you start work at 8:00 am but the bus passes your workplace only at 7:10 and 8:10 am, you have a choice between being 50 minutes early or 10 minutes late. Many people would choose to travel by other means like car or bicycle.
- **Many of the places people travel to don't let them stay until the next bus arrives. You may be able to time your departure from home to the bus schedule, but few people get to decide when their work shift ends, let alone when a cinema screening finishes, or when a doctor's appointment ends.**

Real-time arrival information doesn't make the bus more reliable. Your phone can tell you when your bus is arriving, but it cannot prevent your bus from having a problem and being delayed. Only frequency—which means that another bus is always coming soon—can offer this kind of reliability.

The shorter their trip, the less people tend to tolerate a long wait.

Distance, Speed and the Cost of Frequency

Within a limited public transport budget, longer routes trade-off against higher frequencies.

This doesn't mean that a high frequency network is all short routes. But it does mean that as a system expands to serve new areas, maintaining high frequency requires investing in more vehicles, and paying more drivers. The more people a route serves per kilometre, the more likely the public transport provider can justify that investment.

Slower speeds have the same effect as longer distances. If the same route takes twice as long to serve now than it did ten years ago, the transport agency needs twice as many buses and drivers to maintain the same frequency.

As public transport slows down, the cost of operating it increases. A public transport provider can either reduce frequencies to maintain the cost, or come up with additional funding, which could otherwise have been used to improve service rather than run slower service at a higher cost.

One bus can provide 30-minute frequency service over a short distance…

…but double the distance means half the frequency. Now the bus comes every 60 minutes.

As routes get longer, their frequency must get worse, or the transport agency must spend more to add buses and drivers to the route.

Frequency, Speed and Bus Priority

The link between speeds and operating costs is why **bus priority** is so essential to public transport success in a growing city like Limerick.

Measures that protect buses from the impacts of traffic congestion not only help passengers travel faster, they also help maintain convenient service frequencies.

When congestion slows down public transport, it becomes more costly to operate. This consumes funding that could otherwise be spent to make the service better.

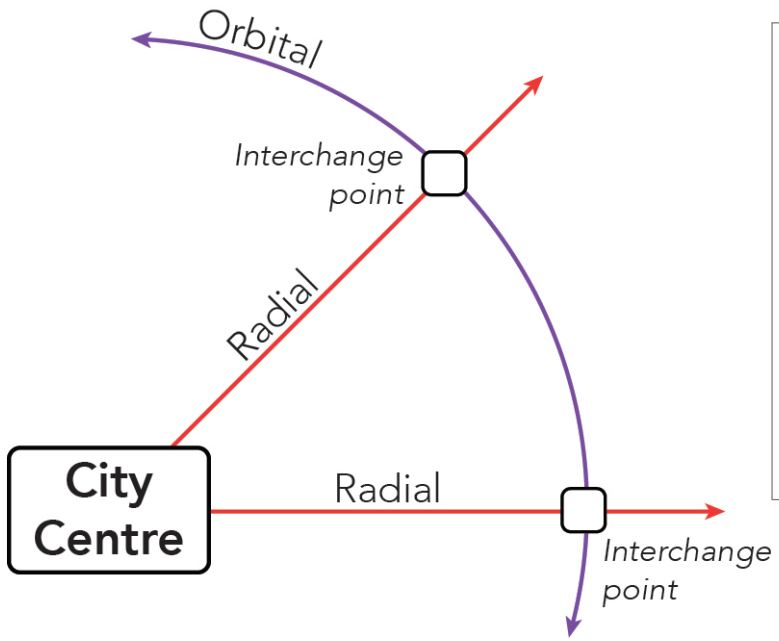
Radial vs. Orbital Services

A public transport network should be greater than the sum of its routes. One route can take people only so many places – but if that route makes connections with many other lines, vastly more places become reachable.

The Limerick public transport network is highly **radial**: all lines connect in the City Centre. This reflects the shape of the city: all major surface roads lead to the City Centre, which has the highest concentration of activity.

In a purely-radial network, every route connects with every other route at the centre; only one interchange is needed to reach every point in the system. But as Limerick has grown, more journeys take place between outlying locations, and travelling through the centre can feel like a hassle.

Orbital routes might solve this problem, by allowing for cross-city travel without going through the centre. However, the relatively small size of Limerick and concentration of demand in the City Centre mean that larger numbers of journeys are served by focusing investment on high frequency interconnecting radial routes. At the same level of funding, adding more orbital routes means less frequent service overall.



Radial bus routes travel between the City Centre and suburbs. All existing bus routes in Limerick are radial, following the main roads in and out of town.

Orbital bus routes travel between suburbs. This can be useful to connect suburban destinations. However, there is a trade-off between adding orbital service, and making radial routes more frequent.

Connections or Complexity?

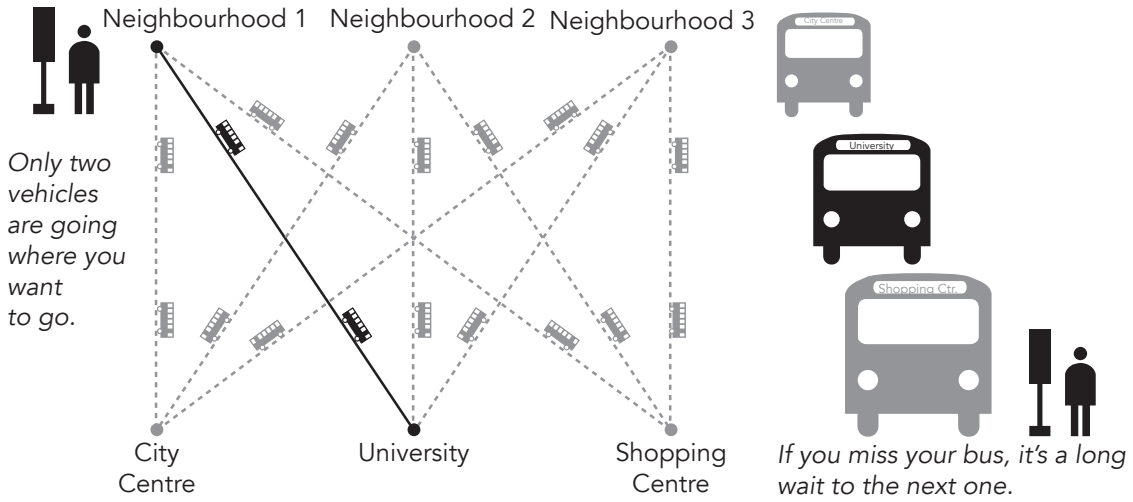
There is a trade-off between interchange and complexity that arises from the simple math and geometry of public transport. The more a public transport network is designed to avoid interchange, the more complex it will be, and the poorer the frequency of many routes.

Obviously we would all prefer a one-seat-ride, rather than a second wait for a second bus. But making that wish come true for all would spread service thin, and thereby make it less useful.

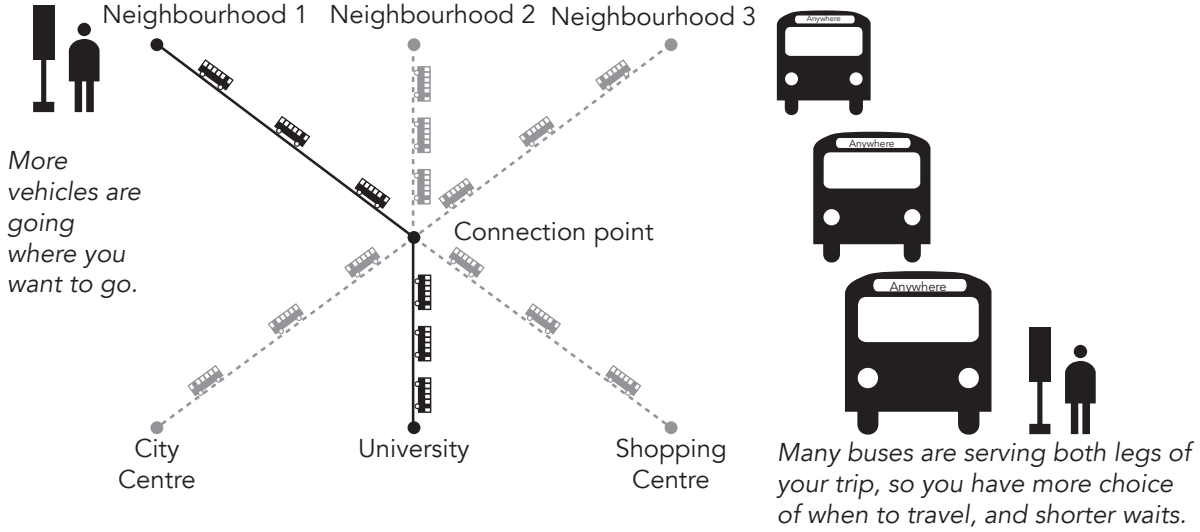
The illustration to the right shows why designing a network for some interchange allows for better frequencies, better reliability and shorter journey times overall.

The top network is made of direct routes, one from each of three neighbourhoods to each of three major destinations. There are a total of nine routes, but each is only run by two buses, so the frequencies are poor. A person travelling from home to the city centre gets a direct journey, but they can't depart when they want to, they have to time their departure to the bus schedule. If they miss their bus, it's a long wait until the next one.

Direct Routes, Higher Complexity



Connections, Lower Complexity



The bottom network connects the same six places but uses fewer routes. Each route offers much better frequency. In order to make this high frequency service possible, it must be designed for interchange for some trips—but the high frequencies also make those interchanges fast and reliable.

In the network at bottom, a person travelling from home to the city centre can depart at the right time for their work shift, because a bus is always coming soon. They needn't get to the work excessively early because that's when the bus schedule dictates. They spend less time waiting for the bus and their travel time is shorter—even despite the interchange.

An important thing to note about these two networks is that they cost the same to operate.

Even with the significant increase in service envisioned by BusConnects Limerick, there is a low limit to how many routes can run at high frequency if avoiding interchange remains important.

Interchange in Limerick

There are an increasing number of major destinations in outlying areas of Limerick City and its suburbs. There is also a lack of viable suburb-to-suburb paths for buses.

This means that **many journeys will inevitably go through Limerick City Centre, which must function as a viable interchange point between multiple bus routes.**

To facilitate a higher level of interchange, BusConnects Limerick will include the elimination of interchange fares. But interchange must also be organised to minimise waiting time. This can be done in two ways.

Pulses

When routes are infrequent (e.g. every 30 to 60 minutes), the best way to facilitate connections is to create a "pulse". This is a connection point where all buses meet at the same time, and dwell together for a few minutes.

People can interchange between them with a reliably short wait, instead of the very long waits that would inevitably occur with random connections.

For pulses to work, buses must be able to arrive on time extremely reliably. Pulses are hard to maintain in congested or unreliable traffic.

Pulses become less necessary as service becomes more frequent, when the next bus is coming in a few minutes at any time.

Frequent Connections

In situations where pulses aren't viable or preferable, the best way to facilitate connections is to make them comfortable and frequent. **The more often every route involved in an interchange comes, the less time passengers will spend waiting for their second bus.**

This argues for concentrating bus service into as few routes as necessary to connect all parts of the city, and to run each route as frequently as possible. **This is the approach proposed in the New Network.**

3 Public Input on the Draft New Network

About the Draft Network Consultation

In 2022 the National Transport Authority (NTA) began work on reviewing the Limerick Area bus network, in collaboration with Limerick City and County Council, and Bus Éireann, and with assistance from Jarrett Walker & Associates (JWA) and SYSTRA Ltd.

In March 2023, the NTA published the Draft New Network report and carried out a six-week non-statutory public consultation. Following this, the NTA, project team, and key stakeholders reviewed the Draft network and made certain changes incorporating feedback received.

This section of the report summarises some of the findings from the Draft Network Consultation. A detailed version of the report will be available in the Appendices.

Consultation Elements

Between the 22nd February to the 7th April 2023, the NTA made the following resources available for consultation

- **BusConnects Limerick website:** including the Draft New Network Report in multiple formats comprising English, Irish, and accessible PDF
- **Local Area Booklets** delivered to homes and businesses in the BusConnects Limerick study area
- **Public Information Campaign** across all local media outlets
- **Interactive Online Map**
- **Online consultation portal** including an interactive survey for submissions
- **Email and phone line** made available for queries
- **Two online public webinars**
- **Three in-person public consultation events**

Key Findings

Diversity of Submissions

The consultation gathered over 650 submissions in total. This included:

- **484 online submissions by individual**
- **41 online submissions by organisations**
- **89 submissions by e-mail**
- **49 submissions by other means** (in-person, on paper, or via post)

Submissions were received from nearly all parts of the study area.

- 325 online respondents provided a location. Half of these came from eight areas: Castletroy, Corbally, Dooradoyle, Ballysimon, Garryowen, City Centre, Ardnacrusha, and Caherdavin.
- 363 online respondents stated whether or not they use the bus. Among these, 76% stated they were bus users. Existing buses most often used by respondents included Routes 304, 304A, 301, and 305.

Positive Response Overall

People were supportive of change in Limerick's public transport.

Over half (57%) of online respondents stated that the new network should be designed primarily to maximise benefits to the largest possible number of people. Only 28% of believed the new network should be designed primarily to minimise inconvenience to existing riders.

People were supportive of the new network as a whole.

When asked *"How does the draft network compare to the existing network for Limerick City and its suburbs as a whole"*, 46% of online respondents said it was an improvement, and 25% said it would be worse.

"The Draft New Network proposes improved bus coverage for Limerick City and suburbs and has made good use of BusConnects principles to achieve this."

Local Concerns

When asked the *"How does the draft network compare to the existing network for you?"*, 34% of online respondents said it was an improvement, and 34% said it would be worse.

The recurrence of specific local issues suggests that most concerns were place-specific, including:

- Impacts on the Milford Care Centre (mentioned in 22% of submissions) from a proposed facility serving the University of Limerick.
- Loss of service coverage to parts of Garryowen. 88 submissions from users of existing Route 305.
- No new service proposed in the Mill Road, Lower Park, and Rhebogue areas. 49 submissions from Corbally, Mill Road and Rhebogue.
- Loss of direct service between certain areas and Dooradoyle. 31 submissions from Dooradoyle.

"No bus route should go through Milford Care Centre grounds, that would be disgraceful."

How Does the Draft Network Compare to the Existing Network?

...for you?

About a third of respondents (34%) stated that, for themselves, the Draft New Network would be better than the existing network.

Around a quarter (23%) of respondents thought the Draft New Network was about the same for them. A third (34%) stated that they viewed the Draft New Network as worse for themselves.

...for people you know?

Responses mirror that of the individual question.

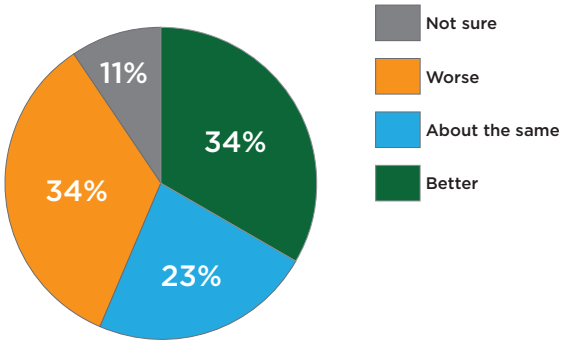
About a third of respondents (33%) stated that, for people they know, the Draft New Network would be better than the exisitng network.

Around a fifth (21%) responded that the Draft New Network would be about the same, and about a third (35%) responding it would be worse for people they knew.

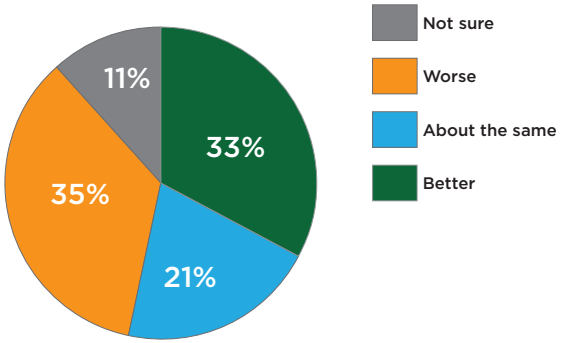
...for the Limerick area?

Nearly half of respondents (46%) considered the Draft New Network to be better for Limerick City and its suburbs as a whole.

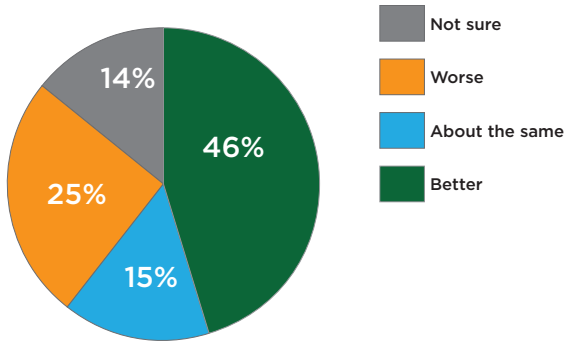
A quarter (25%) of respondents thought that the Draft New Network would be worse for the Limerick area as a whole. 15% thought it would be about the same.



... for you?



... for people you know?



... for Limerick City and its suburbs as a whole?

General Feedback

Access to Key Destinations

Many submissions made references to particular journeys that are currently undertaken by bus, highlighting how the existing network serves particular categories of passenger demand well.

Some of these welcomed the changes to the network but highlighted concerns over the frequency of services or the location of future bus stops. Many submissions made suggestion for additional direct services to key destinations, particularly UL.

Response

In general, the new network is planned as an integrated set of routes which supports the potential for interchange that would result in an increase in accessibility to key destinations by bus throughout the day and from a wider range of origins.

The team reviewed the network in detail in relation to the issues raised and more detailed responses are included in the area-based analysis.

University of Limerick Bus Facility

The Draft New Network included a proposal to improve bus access to UL by way of a new two way link from Plassey Park Road. The indicative alignment of this new two way link as shown in the public consultation documentation was open to interpretation as being within the grounds of the Milford Care Centre and directly impacting the Infinity Woodland.

A large number of submissions from both individuals and organisations raised concerns over the impact of a new bus link related to a number of issues including:

- Negative impacts on those receiving care at Milford;
- Loss of amenity for those who use the paths through the grounds and particularly the Infinity Woodland Walk; and
- Impact on the environment, specifically the native trees planted as part of the Infinity Garden, noting that this is a protected Native Irish Woodland

Response

The concerns raised during the public consultation have highlighted a need to mitigate any potential impacts on the Milford Care Centre and Infinity Woodland.

UL is for many the most important destination in Limerick to be served by bus and this is reflected in the many submissions seeking improved links to the university. A number of routes are planned to serve UL and it will be important to provide for efficient and reliable operation.

A number of alternatives for UL access, whilst avoiding impact on the Milford Care Centre, were suggested in submissions. The NTA will seek to provide new arrangements to serve UL which will avoid directly impacting the grounds of Milford Care Centre.

The development of a new link access, should it proceed, will be subject to detailed design and planning.

Service Beyond Limerick City

Around 6% of submissions referenced locations that were not within the study area, namely villages and settlements in County Limerick and County Clare.

Response

The New Network focuses on the urbanised area. Public transport service to and from places beyond the study area are being considered as part of the parallel Connecting Ireland project.

Extended Hours of Operation

People were generally supportive of the expanded hours of operation on the draft network and especially the introduction of 24-hour service on Route 4.

Response

The analysis of the submissions confirms the worth in considering the introduction of a 24 hour service in Limerick. Through the BusConnects programme, the NTA is prioritising improving access to public transport in the late evenings to support the growing Irish late-night economy.

"Really great addition with 24 hour route. Delighted to see this."

Orbital Routes

Some respondents suggested a need for orbital bus services that would connect areas to the west and east without having to go through the city centre. Many suggested using Childers Road as part of an orbital route.

Response

Given the wide distribution of demand across Limerick, it would not be possible to connect all east/west origins and destinations with direct orbital bus services.

Childers Road itself has heavy vehicle traffic and poor pedestrian connectivity to adjacent residential areas. There is not sufficient demand along Childers Road to warrant a high frequency service other than where the Draft New Network has made provision. A low frequency orbital service is unlikely to be attractive.

In the medium term, the BusConnects Sustainable Transport Corridors programme will result in faster and more reliable journey times through the City Centre, where there will also be possibility for interchange to many points.

"I think a trick is being missed here whereby the busses connecting University of Limerick/ Caslteltroy/Monaleen and Raheen/ Dooradoyle/Ballycummin are all going via the City Centre."

City Centre vs. Colbert Station

Comments were received on the integration of bus and rail services and the need to provide for access by bus to Colbert Station. Some comments expressed a desire for all bus routes to serve Colbert Station directly.

Response

Due to the location of the station, it is not practical for most routes to directly serve both the heart of City Centre and Colbert Station. Because this network is primarily geared toward trips within the urbanised area, the New Network focuses most on City Centre, which generates the higher volume of trips.

Nevertheless, high frequency Routes 1 and 3 will pass by Colbert Station and provide an opportunity for interchange with other routes. Routes 11, 12, 13 and 14 will also serve Colbert Station directly. Furthermore, Colbert Station is a distance of 400m from O'Connell Street which is a reasonable walk for many people.

Bus Priority and Bus Stops

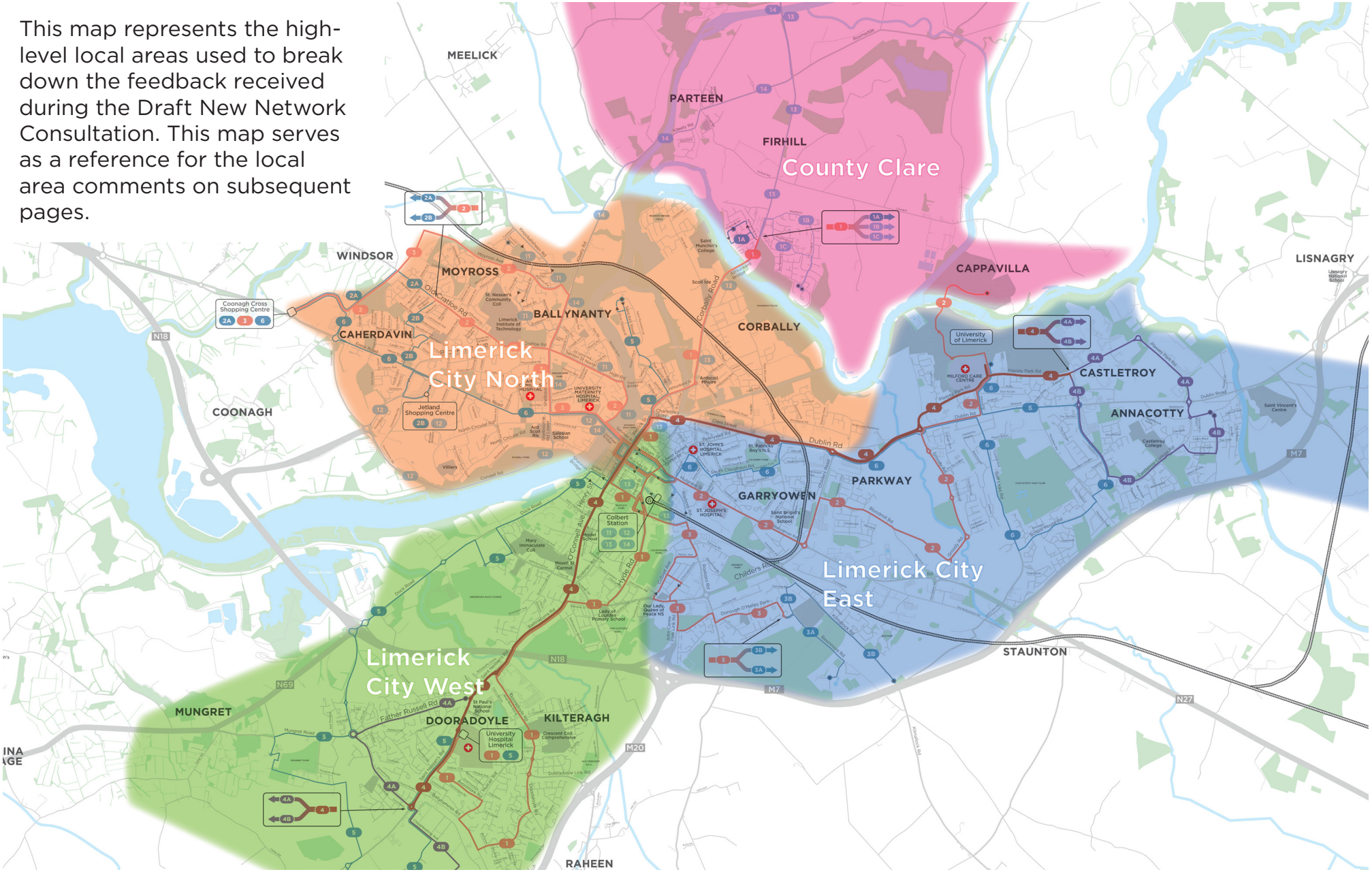
Some comments were received in relation to other elements of the BusConnects programme such as the Core Bus Corridors and bus stop infrastructure.

Response

This consultation was specific to the network redesign. Comments related to concerns other than route locations, hours and frequencies will be taken into account during implementation planning.

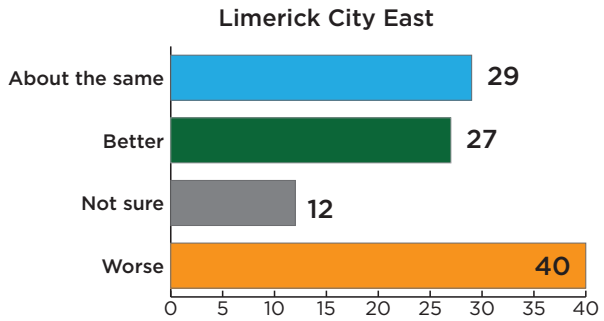
Map of Local Areas for Consultation Feedback

This map represents the high-level local areas used to break down the feedback received during the Draft New Network Consultation. This map serves as a reference for the local area comments on subsequent pages.



Limerick City East

As illustrated in the graphic below, over a third (37%) of the responses from residents in the Limerick City East Area viewed the Draft New Network as 'worse' from their own perspective.



Garryowen/Lynwood Park

A number of respondents commented on the impact of the removal of bus services to stops currently served by Route 305. Many were concerned that the removal of bus services from Lynwood / Garryowen would have a significant impact on the elderly population in the area such as those living in Lynwood Park.

"People depend on the bus in Lynwood Park and it should be maintained."

"I don't think the 305 should be taken away, a lot of elderly people depend on this bus."

Action taken:

Route 6 adjusted to provide coverage similar to the existing route 305 through Lynwood and Garryowen. This new through routing will be subject to the design and approval of a bus gate from Granville Park to Childers Road.

Annacotty

The changes to the network in the Annacotty area were broadly welcomed. The increase in frequency was remarked on as well as the improved directness in services between Annacotty and Limerick City Centre.

Some respondents suggested that the network should extend more into Annacotty Village. Others would like to see service extended to St Vincents Centre and the Annacotty Business Park. Submissions from employers and employees in Annacotty Business Park highlighted the number of jobs in the area.

The team explored extending the service further, but found challenges in identifying a turnaround for buses.

Action taken:

Routes 4A / 4B extended to get as close as possible to Annacotty Village, subject to a suitable terminating location and driver facilities. Service beyond Annacotty village to be considered within Connecting Ireland.

"It's great to see a frequent bus being added to the east Castletroy/ Annacotty area"

"Getting rid of the loop through UL makes a more direct & predicable route for me to the city centre."

Ballysimon Road and Bloodmill Road

Concerns were raised over the removal of bus services on Ballysimon Road east of Childers Road where the existing Route 310 operates.

Much of the demand on Ballysimon Road would be within 400m of proposed Route 2. It was noted in submissions and by the team that the road network in this area is a barrier to pedestrians. Improvements to pedestrian connectivity would better retain some coverage of Ballysimon Road.

Action taken:

No changes to the network.

Georgian Village and Ros Mor

In the Draft New Network Route 3 branches into the 3A and 3B resulting in a bus every half hour on each branch. Respondents noted that there is significantly more development along the Kilmallock Road (Route 3B) compared to Bawnmore Road (Route 3A).

Some respondents requested that all Route 3 services operate to Kilmallock Road to serve Ros Mor. This would increase the frequency to every 15 minutes for a larger population.

Action taken:

Remove section of Route 3B on Bawnmore Road. Operate Route 3 to Kilmallock Road at a general frequency of every 15 minutes.

Southill

Existing Route 303 follows a complex routing in this area with one-way sections and coverage loops. Some submissions raised concerns, particularly for elderly residents, over requiring longer walks in some cases, and eliminating the deviation to the Childers Road Aldi stop.

Deviations and one-way route splits increase journey time for most trips. Furthermore, when the two directions of a route are split, people take different walking routes for their two journeys, which adds time and complexity to their day.

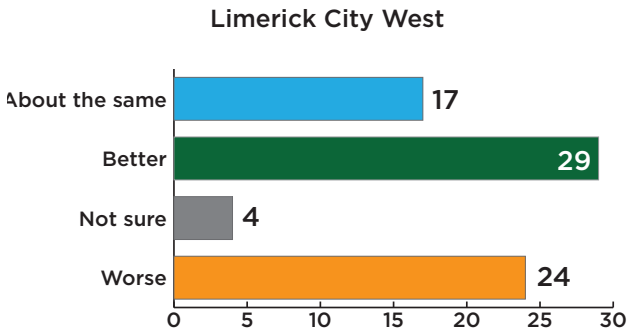
This area of the city has sufficient pedestrian permeability to enable a short walk for many to access Route 3, provided appropriate actions are taken at the implementation stage to ensure the most accessible bus stop locations, and safe pedestrian crossings on Childers Road.

Action taken:

Bus stops and pedestrian crossing locations to be reviewed during implementation to minimise walk time.

Limerick City West

As illustrated in the graphic below, over a third (39%) of the responses from residents in the Limerick City West Area viewed the Draft New Network as 'better' from their own perspective.



Mulcair Road

The Draft New Network increases coverage in the Dooradoyle area. To achieve this, it is proposed to move services from Mulcair Road to Dooradoyle Road, and to route service on the Dooradoyle Road into the City Centre via Hyde Road (planned Route 1), instead of O'Connell Avenue (existing Route 304).

Some respondents raised concerns over the removal of service on Mulcair Road, often with reference to limited bus stop coverage on Avonmore Road.

Bus users on Mulcair Road will have a choice to access service between Dooradoyle Road and Avonmore Road. In this way bus services will be retained within a reasonable walk of Mulcair Road.

Action taken

The location of bus stops will be reviewed as part of implementation.

Dooradoyle/Mungret schools connection

Some submissions mentioned that children living in the Dooradoyle area would benefit from bus connections to schools in Mungret. The team reviewed the Mungret, Dooradoyle and Raheen area in detail taking the consultation feedback into account. As a result, the branches of the 4A and 4B have been redesigned in the New Network to provide more direct access.

Action taken

Route 4B is redesigned to provide more direct bus links to the schools in Mungret, from the most central path in the area on St. Nessan's Road.

Route 5 is redesigned to serve Father Russell Road and terminate at UHL instead of Mungret. At time of implementation, peak-only variations to Route 1 service may be added.

Direct link between Dooradoyle and UL

Some parts of Dooradoyle are directly linked to UL at present by Route 304. This direct connection would no longer be available in areas served by planned Route 1 in the Draft New Network. This change is intended to allow the primary route connecting UL, City Centre and UHL (Route 4) to have the most efficient route and highest frequency possible, maximizing interchange possibilities.

It is not possible to reconfigure the network for greater efficiency without breaking some direct links. Increases in frequency to services connecting the western part of the city to the City Centre and the City Centre to UL will support more reliable journeys to UL and nearby destinations.

Action taken

No changes to the network.

"Route 1 is a change on current 304 route. It takes away Dooradoyle direct link to UL/ Plassey."

O'Connell Street and O'Connell Avenue

Some respondents raised concerns over the volume of buses that will operate on O'Connell Street and O'Connell Avenue in the Draft New Network.

The City Centre represents a key destination for many trips and it is important that bus services provide direct access for as many as possible within an efficient, affordable bus network. O'Connell Street and O'Connell Avenue are the most direct path from much of the south of Limerick City to the City Centre, including the critical connection with UHL.

Action taken

Planning for Sustainable Transport Corridors will follow the finalisation of the New Network. Options will be identified to help support bus operations while allowing for other traffic.

Prospect Hill

A number of submissions expressed concern on the removal of service on Prospect Hill and Lord Edward Street which is currently serviced by Route 306. Reference was made to the elderly population in the area and the challenging walking environment given how steep the road is. The team reviewed the network and identified the potential to extend Route 11 to maintain service on Prospect Hill and Lord Edward Street.

Action taken

Route 11 is extended to Prospect Hill, on a similar path to existing Route 306.

Raheen Industrial Estate

Respondents welcomed the increase in service to Raheen Industrial Estate. It was noted that no service was provided on Ballycummin Avenue and that the traffic management arrangements within the Raheen Business Park do not support the route as it was drafted. Minor changes to the routing through Raheen Industrial Estate are proposed.

Action taken

Minor change to route 4A within Raheen Industrial Estate to ensure operability and serve as many destinations as possible.

"Great to see improvement in accessibility to the Raheen industrial estate. Thousands of people work here so it's great the service is finally improving."

Dock Road

The introduction of bus services on Dock Road as proposed in the Draft New Network was welcomed by a number of respondents.

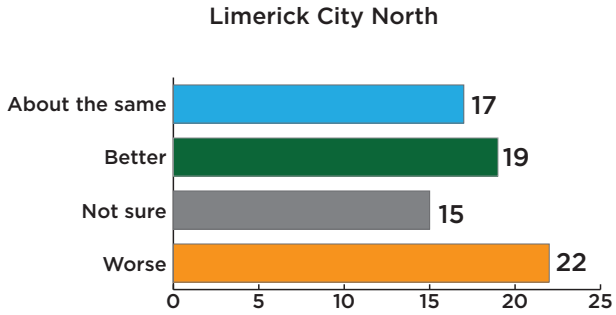
Action taken

No changes on Dock Road proposed. Changes to Route 5 south of the N18, facilitating connectivity between schools in Mungret and Dooradoyle (see above).

"I like this route. Very much appreciated. Dock Road has been neglected from the public transport perspective."

Limerick City North

Just under a third (30%) of the responses from residents in the Limerick City North Area viewed the Draft New Network as 'worse' from their own perspective.



Mill Road, Corbally, Lower Park, and Rhebogue

A number of respondents expressed disappointment that bus services were not proposed in these areas in the Draft New Network. A number of physical constraints make operation of regular bus service in these areas challenging, including:

- Narrow roads that are only marginally operable by buses. For example, although it may be physically possible for a single bus to drive up the Mill Road, running a regular all-day service in both directions in a variety of operating conditions (weather, opposing traffic, school hours etc.) is extremely challenging and may pose safety hazards.
- Lack of through-paths for buses, severely limiting the number of people served by any bus route in these areas. There is no viable path from the end of Mill Road to areas further north, nor is there a viable path for buses from Lower Park to Rhebogue and the Dublin Road.

As a result, these areas are considered to be potential candidate areas for demand-responsive transport (DRT) service, but not areas for investment in regular bus service at this time.

Action taken:

NTA to examine feasibility of operating Demand Responsive Transport services.

Brookville Avenue

A number of submissions expressed concerns of the removal of service on Brookville Avenue, with mention of the elderly population in this area. The area which is currently served on a one way loop on Route 302.

Action taken:

Extend Route 12 to serve Brookville Avenue.

"Unhappy with the removal of route from Brookville Avenue, was convenient not only myself with access to the city centre but also for elderly people with limited mobility."

North Circular Road

Some respondents suggested that bus services should operate on North Circular Road. Whilst the existing network does not operate on North Circular Road, reference was made to bus services operating in the past. The need to provide for access to schools on North Circular Road was also suggested.

The team reviewed North Circular Road in the context of the New Network, taking into account the comments received. It is very challenging to operate a service through this area given the road network. It was noted in submissions that with good pedestrian links, North Circular Road will be served by Route 12 on Condell Road.

Action taken

No changes to the network.

Moyross/Corbally/UL North Orbital

There was suggestion that consideration should be given to an orbital route that connects Moyross and the wider Limerick City North area to UL North Campus. In addition to the challenges with orbital routes mentioned earlier, the existing road network restricts the potential for access to the UL campus from the north.

Action taken

No changes to the network.

Moyross Local Connectivity

Within the New Network there are some small but potentially impactful route changes to services in the Moyross area. The importance of links to Thomondgate to access shops and services was mentioned in submissions. In the Draft New Network Route 3 enters the city via Kileely Road and Shelbourne Road.

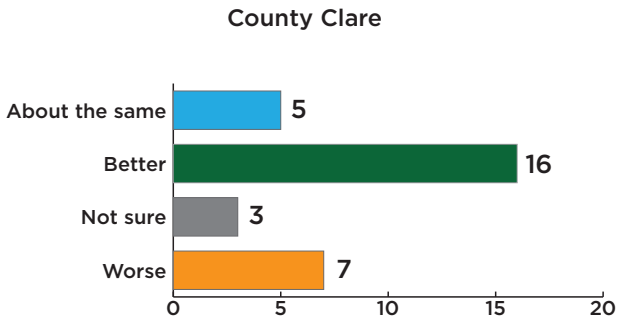
Connectivity to Thomondgate is retained through Route 11 and Route 2. Bus users will have the option of walking from Route 3, using Route 11 or interchanging with Route 2.

Action taken

No changes to the network.

County Clare

The graphic below shows that half (52%) of the responses from residents in the County Clare Area viewed the Draft New Network as 'better' from their own perspective.



Ardnacrusha

Suggestions were made to extend the coverage of bus services in Ardnacrusha. One suggestion suggestion was to extend services northwards on the L3052 and returning southwards on the Lakyle/ Ardnacrusha Road.

The road network in the area is challenging for the operation of city buses. In addition, there is a lack of footpaths and it would be difficult to locate bus stops that would be accessible to the surrounding population. Further, extending the route at this time would add a number of kilometres to the route to benefit a relatively small number of households.

Action taken:

NTA to consider whether new routes or extensions to current routes become warranted in the future, based on additional development in the area and the availability of a suitable bus terminus.

Westbury

A number of respondents raised concerns over the proposed changes to the bus routing in Westbury. The feedback indicates that residents in the area would prefer to retain the existing one-way operation in the area with a half hourly service rather than split into 2 two-way routes with each operating hourly (Routes 1B and 1C proposed in the Draft New Network).

Action taken:

Route 1B/1C revised to replicate the existing one-way pattern in Westbury, while maintaining the extension to the southern end of the estate, with frequency every 30 minutes.

Gillogue Business Park / UL North Campus

A number of submissions were received in relation to Gillogue Business park from individuals and organisations/businesses located in the park. Some submissions also suggested that this would be a path for providing access to UL North Campus.

At present the road network does not support the operation of city buses.

Action taken:

No changes to the network.

4 Overview of the New Network

What is the New Network?

The New Network is a redesign put forward by BusConnects Limerick. The redesigned network will bring about a **significant change to where and how often city buses operate**, and is intended for implementation starting in 2025.

More Service Investment

Recognising that the existing bus network does not adequately address patronage or coverage goals, the NTA is proposing a significant increase in service through BusConnects Limerick.

The added service would include:

- **Service to More Areas**
- **More Routes with Frequent Service**
- **Better Service on Sundays**
- **24-Hour Service in Key Areas**

Overall, the New Network would increase the amount of bus service in Limerick City and its suburbs by about 70%.

More Useful Service

The network redesign does not simply increase service for its own sake, but specifically to maximise how many useful places people can reach in a reasonable amount of time.

The proposed investments in service result in:

- **Less waiting**
- **Service when you need it**
- **More connections to useful destinations**

Reading Network Maps

The map on the next page depicts the New Network in Limerick. As in previous pages, **route colours represent frequency**.

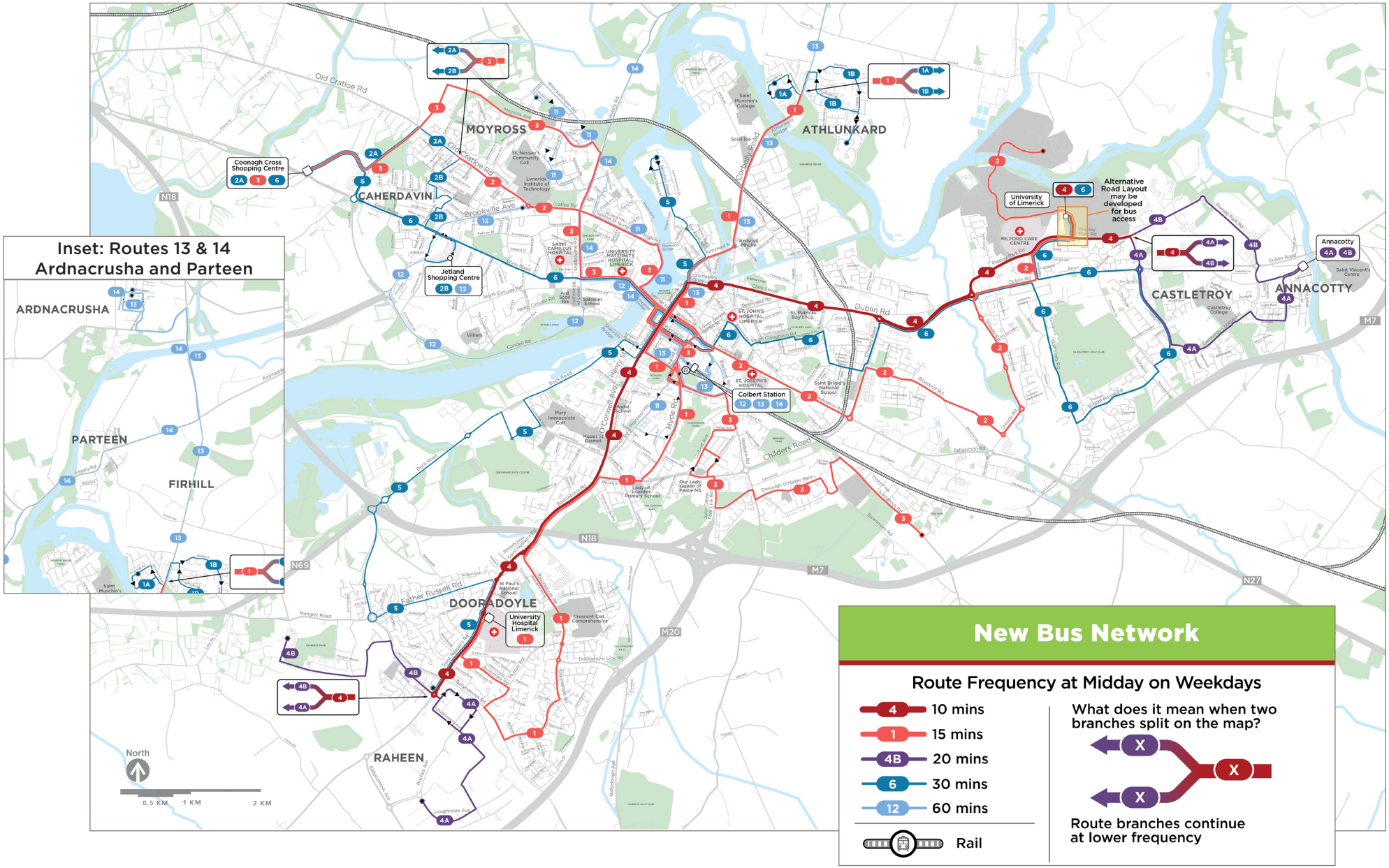
Red represents frequent service, with a bus coming every 15 minutes or better, in the midday on weekdays, and **dark red** indicates service every 10 minutes or better.

Purple is for routes coming every 20 minutes. **Dark blue** routes come every 30 minutes and **light blue** routes come every 60 minutes.

Route Numbers

The route numbers in this network are different from any existing route numbers. These new numbers are provided to avoid confusion with existing services. They are not final, and may change before the Final New Network is put in place.

Map of the New Network



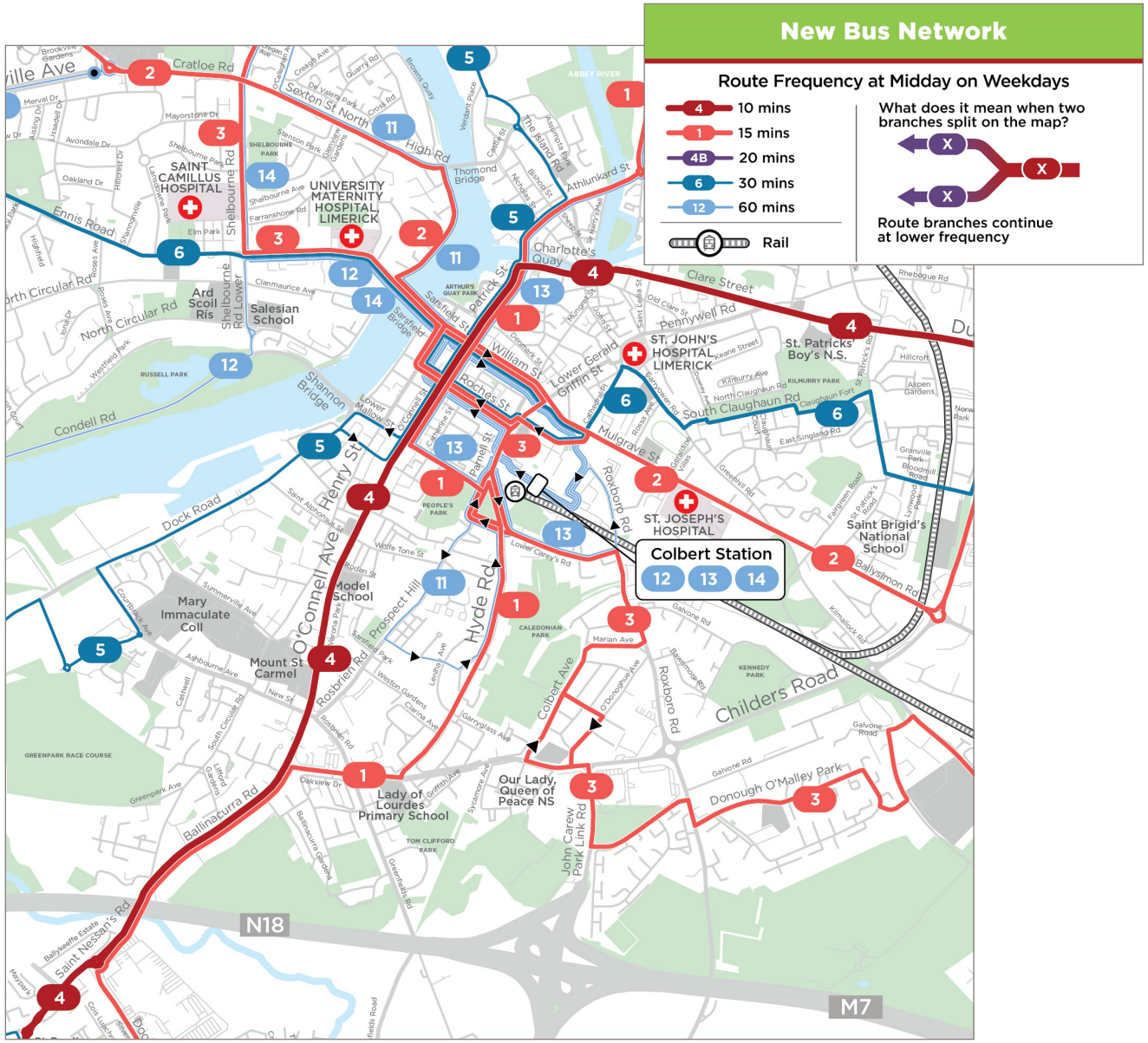
Proposed Service in the City Centre

All routes in the New Network would serve the City Centre. As in the existing network, some routes would end there, but most would pass through and travel cross-city.

As much as possible, proposed service would be consolidated into a single north-south path on O'Connell Street, and an east-west path using William Street (eastbound) and Roches Street (westbound). The main points of interchange for cross-city travel would therefore be near the junctions of:

- **O'Connell Street and William Street**, between north-south buses, and buses heading east
- **O'Connell Street and Roches Street,** between north-south buses and buses heading west

Reliably operating services on O'Connell Street, Patrick Street, Roches Street and William Street will require a review of car circulation and bus priority. The NTA and Limerick City and County Council will collaborate on this review as part of the Limerick City Centre Transport Plan to commence in 2023 and be finalised in advance of BusConnects being implemented. This may result in minor changes to certain route paths in the City Centre.



Impacts to City Centre Access Points

Colbert Station

Colbert Station is Limerick's primary connection to regional and national transport services. In the New Network it would be served by the following routes:

- **Route 1** and its branches, every 15 minutes to University Hospital Limerick, Dooradoyle, Hyde Road, and Corbally Road
- **Route 3**, every 15 minutes to O'Malley Park, John Carew Park, Roxboro, Shelbourne Road, Moyross, and Coonagh Cross
- **Route 11**, every 60 minutes to Ballynanty and Prospect Hill
- **Route 12**, every 60 minutes to Condell Road, Jetland Shopping Centre, and TUS Moylish Campus
- **Routes 13 and 14**, providing service every 60 minutes to Parteen, Firhill and Ardnacrusha

Service to other areas would require a 400 metre walk to O'Connell Street or Upper William Street. This includes the University of Limerick, which would be reachable via Route 2 (every 15 minutes) on Upper William Street and Route 4 (every 10 minutes) on O'Connell Street.

Sarsfield Bridge

The Sarsfield bridge would become the sole bridge carrying all local buses from the northwest, including:

- **Route 2** and its branches, every 15 minutes, coming from Old Cratloe Road
- **Route 3**, every 15 minutes, coming from Moyross
- **Route 6**, every 30 minutes from Ennis Road
- **Route 11**, every 60 minutes from Ballynanty and Prospect Hill
- **Route 12**, every 60 minutes from Condell Road
- **Route 14**, every 60 minutes from Parteen and Ardnacrusha

The increase in bus volume carried by this bridge may require a review of existing traffic circulation patterns to ensure reliable operation of buses and minimise congestion.

Mathew Bridge

The Mathew Bridge would also see an increase in buses, due to increased frequency to and from Corbally Road (**Route 1** and its branches, every 15 minutes), St. Mary's Park (**Route 5**, every 30 minutes), and Ardnacrusha (**Route 13**, every 60 minutes).

Ensuring reliable operations across the Mathew bridge will require coordinating circulation plans with potential changes to Patrick Street and Charlotte's Quay.

Charlotte's Quay

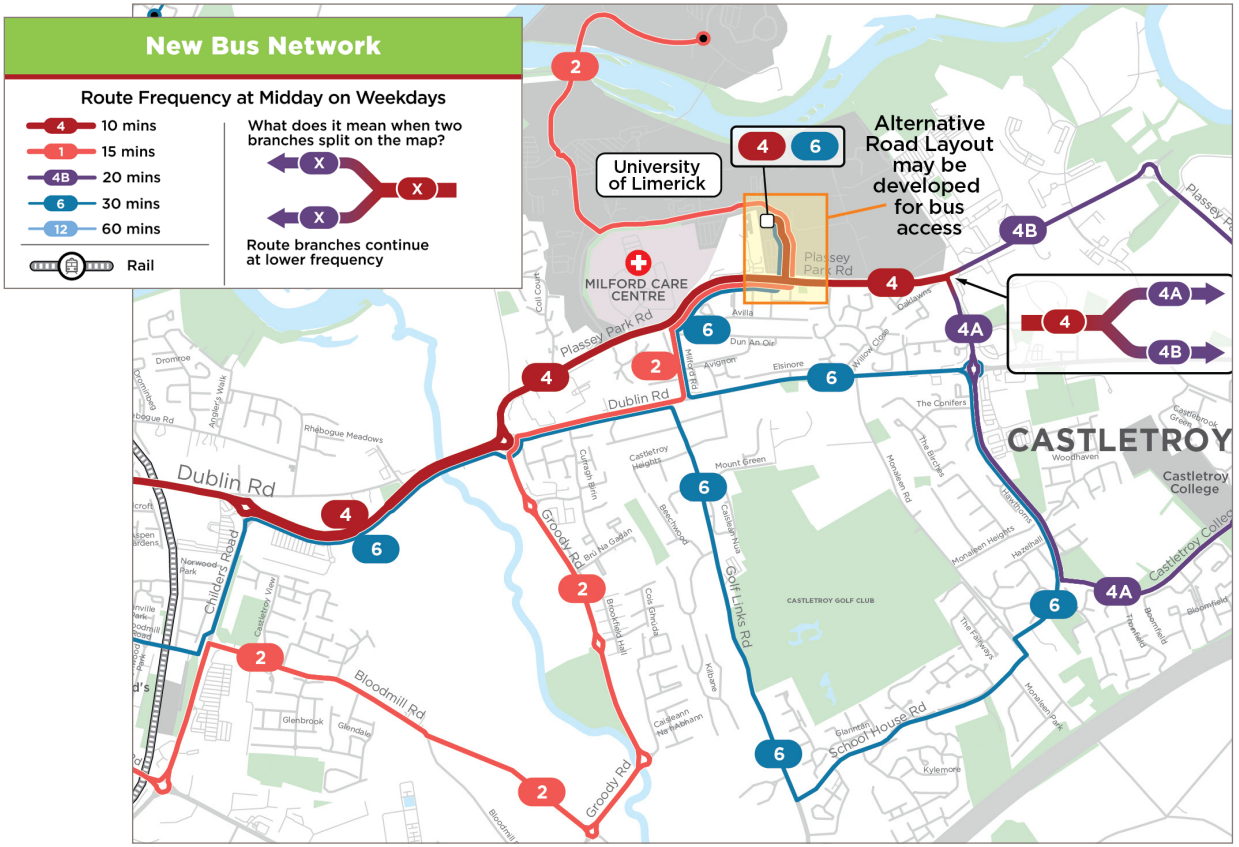
The most frequent and direct path between the City Centre and University of Limerick (**Route 4**, every 10 minutes) would use Patrick Street, Charlotte's Quay and Clare Street. This will make trips between the University of Limerick and City Centre 5 to 10 minutes faster.

Introducing frequent, all-day local service in this area will very likely require new bus stops and some changes to street configuration.

Proposed Service at the University of Limerick

After the City Centre, the University of Limerick (UL) is the second most important public transport destination in Limerick. The New Network would significantly increase service in this area, making travel to many parts of Limerick faster (see page 71). Service at UL would include:

- **Route 4**, every 10 minutes. This would be the fastest, most frequent and most direct path from campus to City Centre and Dooradoyle, via the Dublin Road and Clare Street.
- In the eastbound direction, Route 4 would split into **Route 4A** and **Route 4B**, each every 20 minutes, providing service to parts of Castletroy and Annacotty.
- **Route 2**, every 15 minutes. This route would connect the north campus, central campus and student housing on Groody Road, and would continue to shopping and services on Childers Road and in the City Centre. This route would also provide direct service to TUS Moylish and Caherdavin.
- **Route 6**, every 30 minutes. This would provide service from campus to areas south of the Dublin Road. It would also continue to City Centre and the Ennis Road.



Making this possible would rely on two key changes to bus circulation:

- **A new bus facility located off the Plassey Park Road** would be the main campus bus stop. This would also be the terminus for Route 6. The exact location of this facility will be determined in coordination with the University of Limerick and Limerick City Council.
- **Two-way bus circulation on some campus roads**, to allow Route 2 to reach north campus.

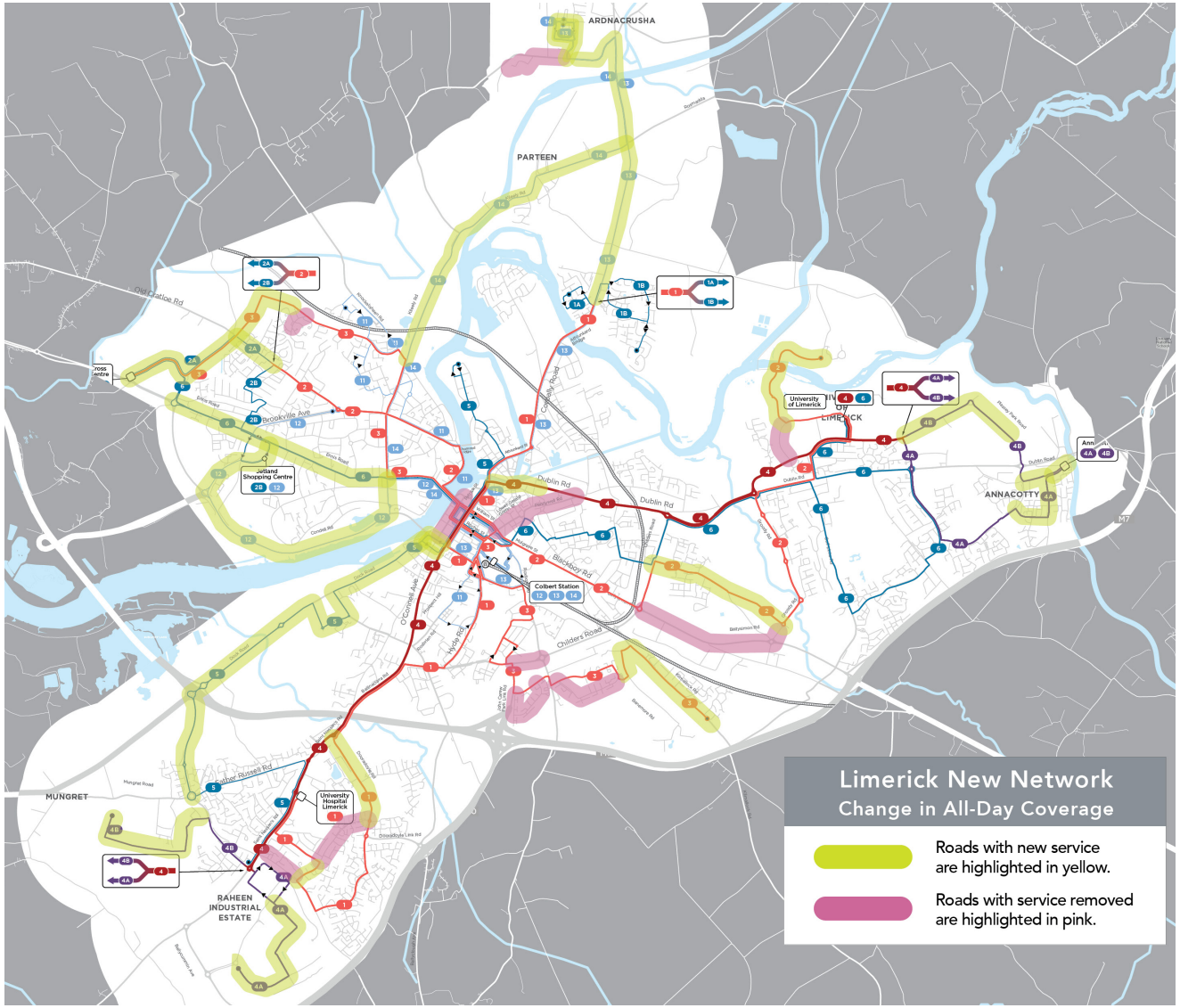
Access from UL to Colbert Station would rely on Routes 2 and 4. There would be a 400 metre walk in the City Centre between the train station and the nearest bus stop. Passengers unable to make this walk could use Routes 1 and 3 at Colbert Station (see page 52) to interchange with Route 4 at O'Connell Street.

Service to More Areas

The New Network would provide all-day service in many areas not served today, or served just a few times a day. These include:

- **Ennis Road**
- **Dock Road**
- **Condell Road**
- **Raheen Industrial Estate**
- **Bloodmill Road**
- **University of Limerick, north campus**
- **Ardnacrusha, Parteen and Firhill**
- **Dooradoyle Road**, between St. Nessan's Road and Mulcair Road
- **Plassey Park Road**, between Oaklawns and Annacotty
- **Development Lands at Mungret**

The New Network would also remove service on some roads. In many cases, this would replace one-way service on two roads with two-way service on a single road. Roads with service removed would include Pennywell Road; Mulcair Road; and parts of Ballysimon Road; Childers Road; John Carew Park; and O'Malley Park.



Map of Areas within 400 m of Proposed Service

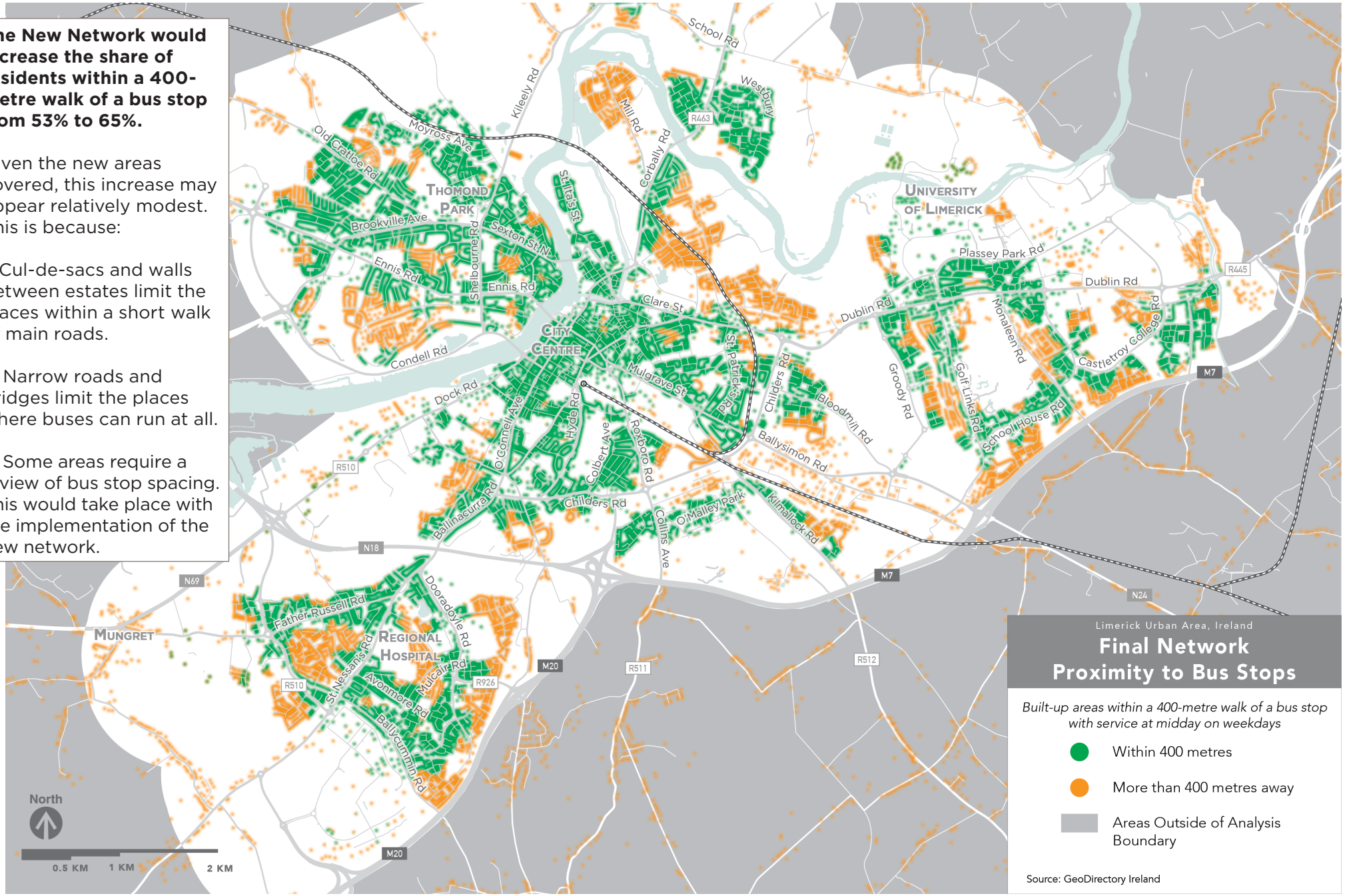
The New Network would increase the share of residents within a 400-metre walk of a bus stop from 53% to 65%.

Given the new areas covered, this increase may appear relatively modest. This is because:

1. Cul-de-sacs and walls between estates limit the places within a short walk of main roads.

2. Narrow roads and bridges limit the places where buses can run at all.

3. Some areas require a review of bus stop spacing. This would take place with the implementation of the new network.



Limerick Urban Area, Ireland

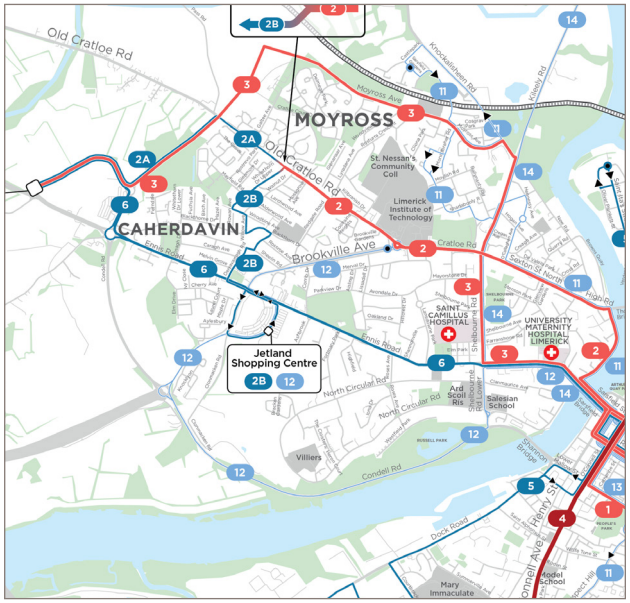
Final Network Proximity to Bus Stops

Built-up areas within a 400-metre walk of a bus stop with service at midday on weekdays

- Within 400 metres
- More than 400 metres away
- Areas Outside of Analysis Boundary

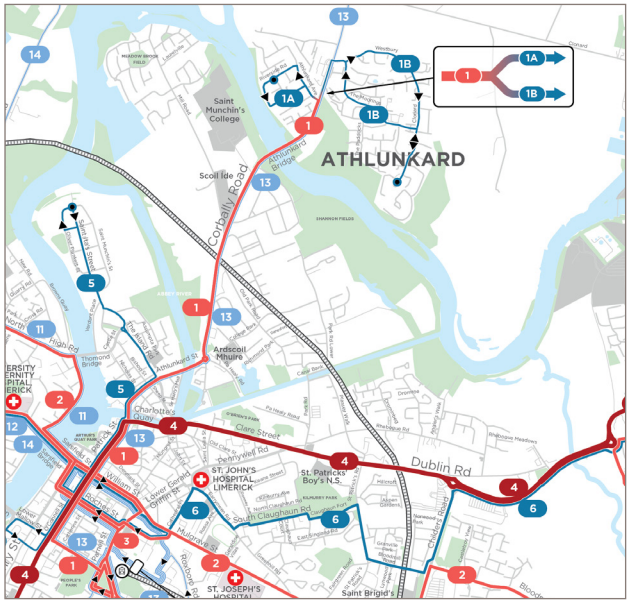
Source: GeoDirectory Ireland

Local Detail



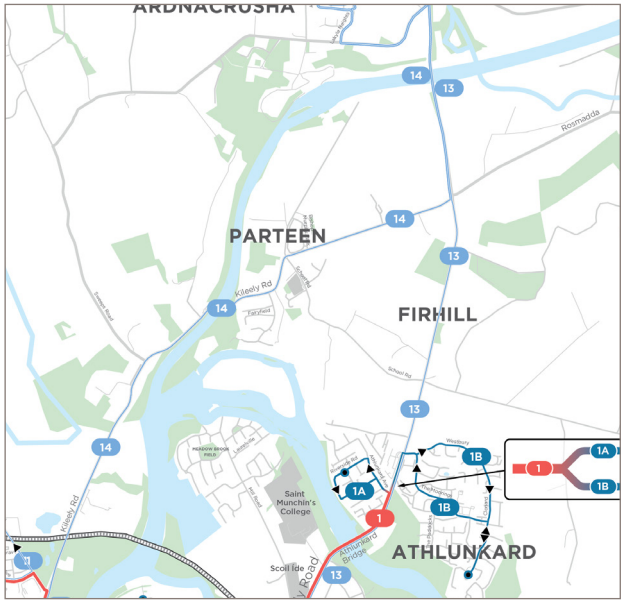
North West

- Route 2 would serve TUS Moylish every 15 minutes. It would split into Route 2A to Coonagh Cross and Route 2B to Jetland.
- Route 3 would serve Shelbourne Road, Kileely Road and Moyross every 15 minutes.
- Route 6 would serve the Ennis Road every 30 minutes.
- Route 11 would serve areas of Ballynanty and Moyross farther from Route 3, every 60 minutes.
- Route 12 would serve Condell Road and Brookville Avenue, every 60 minutes.
- The Northern Distributor Road under construction would allow Routes 2A and 3 to extend to Coonagh Cross Shopping Centre.
- Routes 2 and 6 would both continue past City Centre to the University of Limerick.



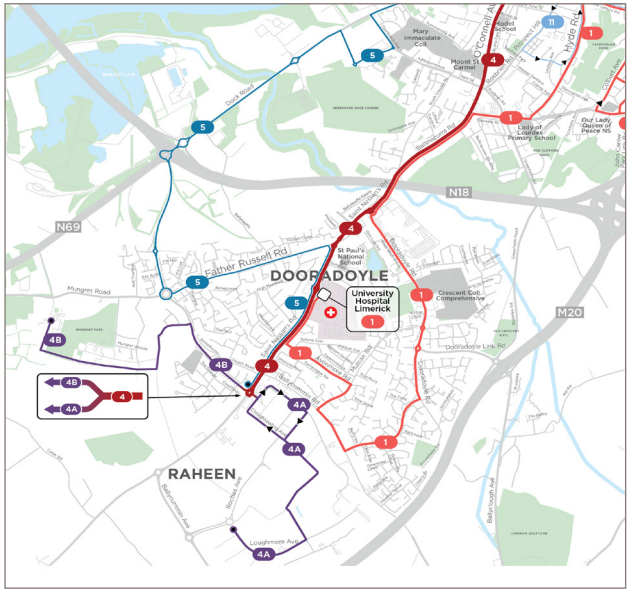
North East

- Route 4 would connect City Centre to the University of Limerick. It would operate via Clare Street and Dublin Road, every 10 minutes.
- Route 1 would serve Corbally Road every 15 minutes. It would continue beyond City Centre to Hyde Road, Dooradoyle and University Hospital Limerick.
- Route 1 would split into two branches. Route 1A would serve Shannon Banks, every 30 minutes. Route 1B would serve Westbury every 30 minutes.
- Route 5 would serve Saint Mary's Park every 30 minutes. It would continue beyond City Centre to Dock Road, Father Russell Road and University Hospital Limerick.
- Route 6 would serve Garryowen every 30 minutes. It would continue beyond City Centre to Ennis Road.



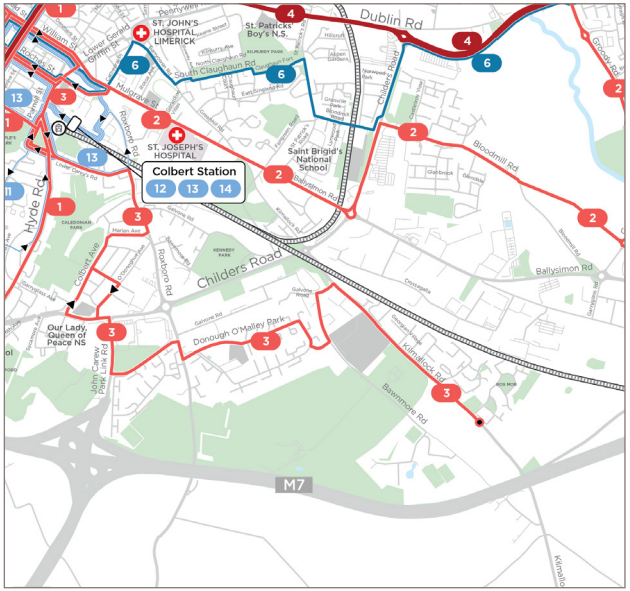
Far North

- Route 13 would serve Firhill and Ardnacrusha to City Centre every 60 minutes via R463.
- Route 14 would serve Parteen and Ardnacrusha to City Centre every 60 minutes via R464. It would include a stop within walking distance of Thomond Park and TUS Moylish.
- Route 13 and 14 would be jointly scheduled such that there would be a bus approximately every 30 minutes between Ardnacrusha and City Centre.



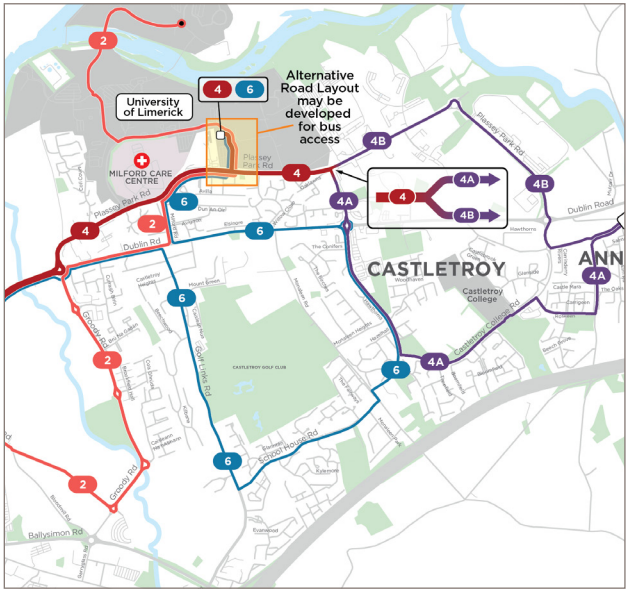
South West

- Route 4 would connect City Centre to University Hospital Limerick via O'Connell Ave and St. Nessan's Road, every 10 minutes.
- Route 4 would split at the Raheen Roundabout into Route 4A to Raheen Industrial Estate and Route 4B to Mungret Park.
- Route 4 and its branches would also provide a direct service between this area and the University of Limerick.
- Route 1 would provide service from University Hospital Limerick, through residential areas in Dooradoyle, to the Hyde Road and City Centre. It would continue beyond City Centre to Corbally Road.
- Route 5 would provide a new service every 30 minutes on Dock Road and through Father Russell Road to University Hospital Limerick and St. Nessan's Road.



South and Inner East

- Route 2 would provide service every 15 minutes on Mulgrave Street and Bloodmill Road. This service would continue to University of Limerick via Groody Road heading east. Going west, this route would connect the area to City Centre and TUS Moylish.
- Route 3 would provide service to Colbert Ave, John Carew Park, O'Malley Park, and Kilmallock Road every 15 minutes.
- Route 3 would make fewer deviations and splits than existing service, by operating two-way on the northern streets of Carew Park and O'Malley Park. It would serve Aldi and Roxboro Shopping Centre via a stop by the Maldron Hotel.



East

- Route 4 would connect Annacotty and the University of Limerick to City Centre, every 10 minutes. It would split into Route 4A on Kilmurry Road and Castletroy College Road, and Route 4B on Plassey Park Road. It would continue beyond City Centre to University Hospital Limerick.
- Route 2 would connect the UL North Campus to City Centre every 15 minutes via Groody Road, Bloodmill Road and Mulgrave Street. It would continue past City Centre to TUS Moylish.
- Route 6 would provide service every 30 minutes on Golf Links Road, School House Road, Kilmurry Road and Dublin Road. It would connect to both the University of Limerick and City Centre.
- All routes in this area would be designed to provide two-way service. This would be made possible by a new bus facility at the University of Limerick, removing the requirement for buses to traverse campus in one direction only.

Route-by-Route Description

The table on this page provides a detailed textual description of every proposed route and branch in the New Network.

The frequencies described in this table represent the minimum frequency provided on weekdays, between 7 am and 8 pm.

All routes shown in red or dark red would also operate every 15 minutes or better from 7 am to 8 pm on Saturdays, and from 9 am to 8 pm on Sundays.

Full details on route and branch frequencies at different times of day are provided in the following pages.

Route	From	Via	To	How Often
1	**University Hospital Limerick**	St Nessans Road - Avonmore Road - Ballycummin Avenue - Dooradoyle Road - Crescent Shopping Centre - Ballinacura Road - Childers Road - Hyde Road - Colbert Station - Mallow Street - City Centre - Athlunkard Street - Corbally Road	**Athlunkard**	Every 15 mins
1A	**University Hospital Limerick**	St Nessans Road - Avonmore Road - Ballycummin Avenue - Dooradoyle Road - Crescent Shopping Centre - Ballinacura Road - Childers Road - Hyde Road - Colbert Station - Mallow Street - City Centre - Athlunkard Street - Corbally Road - Shannon Banks Estate	**Shannon Banks**	Every 30 mins
1B	**University Hospital Limerick**	St Nessans Road - Ballycummin Avenue - Avonmore Road - Dooradoyle Road - Crescent Shopping Centre - Ballinacura Road - Childers Road - Hyde Road - Colbert Station - Mallow Street - City Centre - Athlunkard Street - Corbally Road - Athlunkard Avenue - Annavilla Grove - Clonard - Crofton Drive	**Westbury**	Every 30 mins
2	**Moylish**	Old Cratloe Road - Sexton Street - Clancy's Strand - Sarsfield Bridge - City Centre - Mulgrave Street - Childers Road - Bloodmill Road - Groody Road - Dublin Road - Milford Road - University of Limerick - University Bridge	**UL North Campus**	Every 15 mins
2A	**Coonagh Shopping Centre**	Coonagh/Knockalisheen Distributor Road - Old Cratloe Road - Sexton Street - Clancy's Strand - Sarsfield Bridge - City Centre - Mulgrave Street - Childers Road - Bloodmill Road - Groody Road - Dublin Road - Milford Road - University of Limerick - University Bridge	**UL North Campus**	Every 30 mins
2B	**Jetland Shopping Centre**	Clonmacken Road - Derravarragh Road - Sheelin Drive - Blackthorne Drive - Willow Avenue - Whitethorn Drive - Old Cratloe Road - High Road - Clancy's Strand - Sarsfield Bridge - City Centre - Mulgrave Street - Childers Road - Bloodmill Road - Groody Road - Dublin Road - Milford Road - University of Limerick - University Bridge	**UL North Campus**	Every 30 mins
3	**Coonagh Shopping Centre**	Coonagh/Knockalisheen Distributor Road - Moyross Link Road - Moyross Avenue - Kileely Road - Shelbourne Road - Ennis Road - Sarsfield Bridge - City Centre - Colbert Station - Upper Careys Road - Roxboro Road - Childers Road - John Carew Park Link Road - O'Malley Park - Kilmallock Road	**Georgian Village**	Every 15 mins
4	**St Nessans Church**	St Nessans Road - Ballinacurra Road - City Centre - Charlotte's Quay - Dublin Road - Plassey Park Road - University of Limerick	**University of Limerick**	Every 10 mins
4A	**Raheen Industrial Estate**	Eli Lilly - Loughmore Ave - Dell - Regeneron - Cloughkeating Ave/ Ballycummin Ave - St Nessans Road - Ballinacurra Road - City Centre - Charlotte's Quay - Dublin Road - Plassey Park Road - University of Limerick - Plassey Park Road - Kilmurry Road - Castletroy College Road - Roskeen - Limerick County Council Offices - Walkers Road - Annacotty	**Annacotty via Castletroy College Road**	Every 20 mins
4B	**Mungret Park**	Mungret Woods - Mungret Gate - R510 - St Nessans Road - Ballinacurra Road - City Centre - Charlotte's Quay - Dublin Road - Plassey Park Road - University of Limerick - Plassey Park Road - Walkers Road - Annacotty	**Annacotty via Plassey Park Road**	Every 20 mins
5	**University Hospital Limerick**	St Nessans Road - Father Russell Road - R510 - Dock Road - Ashford - Courtbrack Avenue - Dock Road - O'Connell Street - Island Road	**St Mary's Park**	Every 30 mins
6	**Coonagh Shopping Centre**	Ennis Road - Sarsfield Bridge - City Centre - Cathedral Place - Garryowen Road - S Claughan Road - Claughan Fort - St Patrick's Road - Bloodmill Road - Childers Road - Dublin Road - Golf Links Road - School House Road - Kilmurry Road - Dublin Road - Milford Road - University of Limerick	**University of Limerick**	Every 30 mins
11	**Sarsfield Gardens**	Meelick Road - Sarsfield Gardens - Moyross Avenue - Monabraher Road - Shanabooly Road - Hogan Avenue - O'Callaghan Ave - High Road - Clancy's Strand - Sarsfield Bridge - City Centre - Colbert Station	**Prospect Hill**	Every 60 mins
12	**TUS Moylish Campus**	Brookville Avenue - Clonmacken Road - Condell Road - Shelbourne Road - Ennis Road - Sarsfield Bridge - City Centre	**Colbert Station**	Every 60 mins
13	**Colbert Station**	City Centre - Bridge Street - Athlunkard Street - Connors Cross - Blackwater Cross - Lakyle Heights	**Ardnacrusha via Corbally Road**	Every 60 mins
14	**Colbert Station**	City Centre - Sarsfield Bridge - Ennis Road - Shelbourne Road - Kilelly Road - Parteen - Connors Cross - Blackwater Cross - Lakyle Heights	**Ardnacrusha via Kileely Road & Parteen**	Every 60 mins

*Midday frequency shown in table. Services may be more frequent in peak hours. Less frequent at weekends/evenings.

Detailed Frequencies and Hours of Service

The graphic below provides detailed frequencies by time and day for all routes planned in the New Network.

Service on most routes would be provided from 6 am to midnight on weekdays, and 7 am to midnight on Sundays.

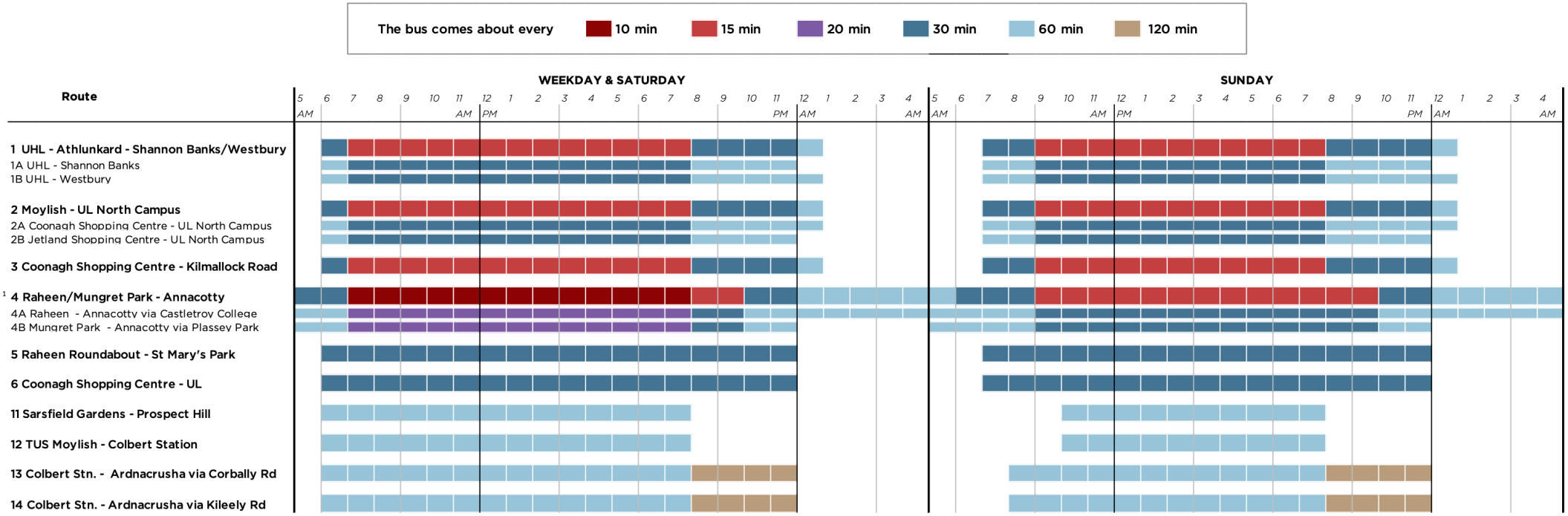
Frequent Routes (1, 2, 3 and 4) would operate every 15 minutes or better from 7 am to 8 pm on weekdays and Saturdays, and from 9 am to 8 pm on Sundays.

Branches of frequent routes would typically operate at half the frequency of the principal route.

Routes 5 and 6 would operate every 30 minutes whenever in service.

Routes 11, 12, 13 and 14 would typically operate every 60 minutes, and would have reduced hours compared to more frequent routes. However, they would still operate seven days a week.

Limerick Urban Bus Routes — Service Frequencies* — New Network



Notes

* Service to Castleconnell, Shannon, and Ennis is not included in this study. Revisions to these routes are being studied through TFI's Connecting Ireland scheme.

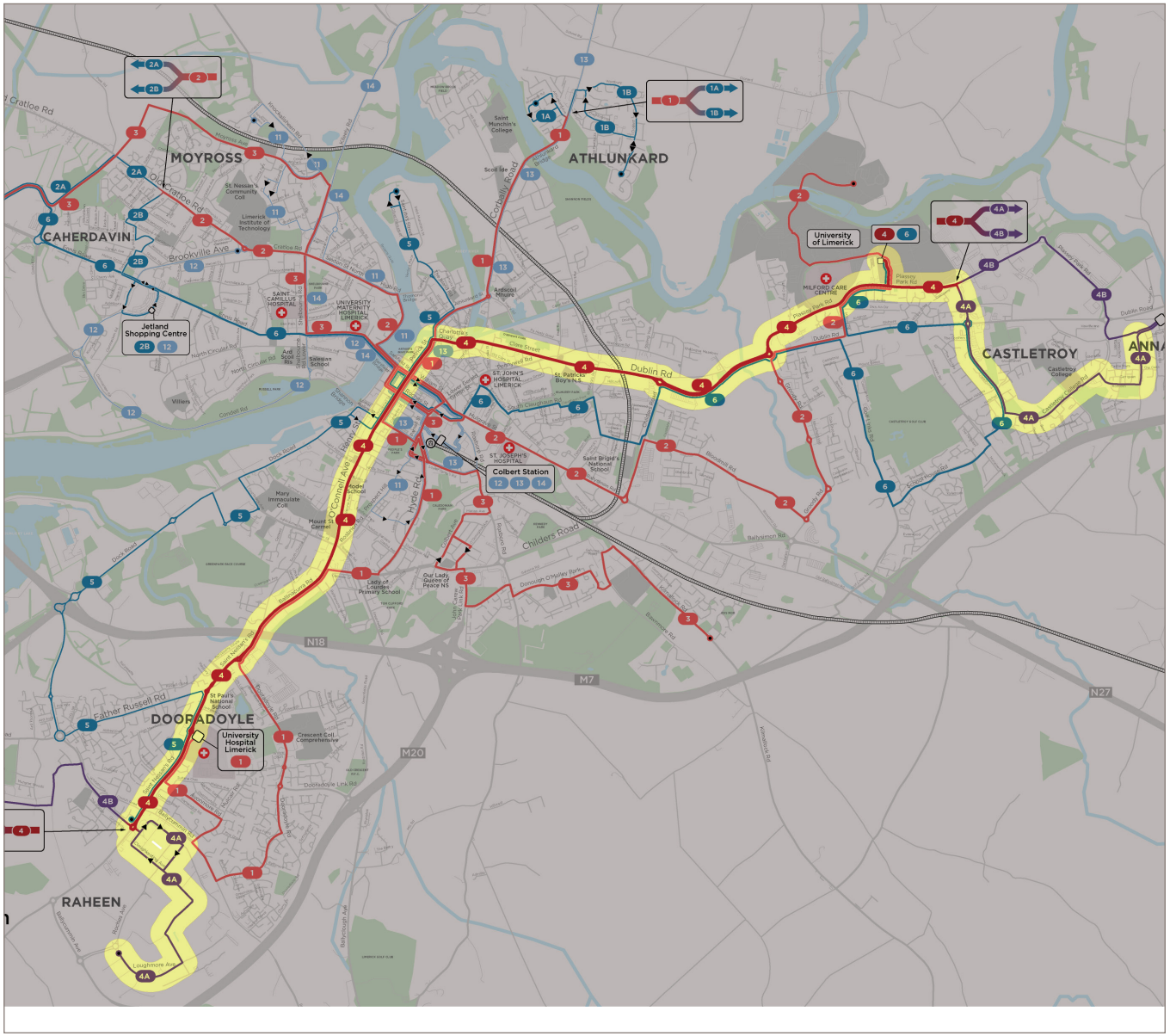
1 On **Saturdays** between 7 am and 8 pm, **Route 4** has a frequency of **15 minutes,** and not 10 minutes. Correspondigly, Routes **4A** and **4B** have a frequency of **30 minutes,** and not 20 minutes.

24-Hour Service on Route 4

The proposed Route 4, which would connect University Hospital Limerick, City Centre and the University of Limerick would provide service at all times of day and night.

Route 4 would operate at a higher level of service than other routes at most other times, including service every 10 minutes from 7 AM to 8 PM on weekdays.

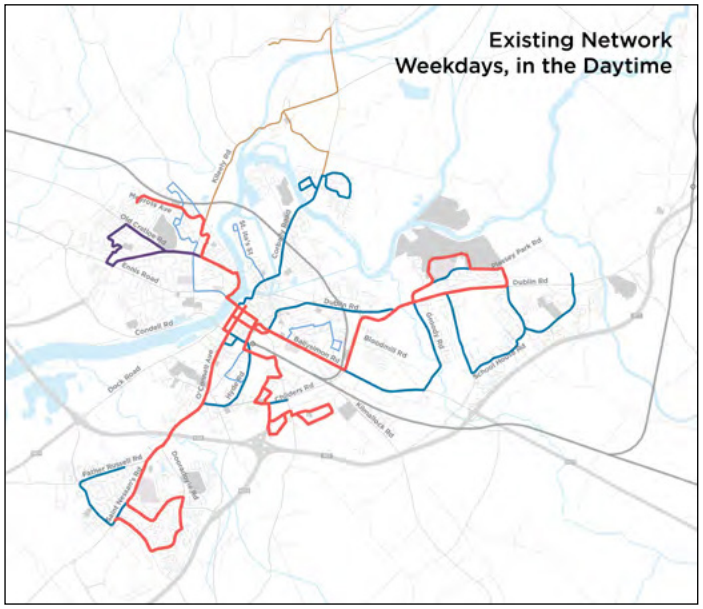
Late night service would be provided every 60 minutes on the 4A branch from midnight to 6 am. This would serve several areas with night-time activity, including Raheen Industrial Estate, University Hospital Limerick, City Centre and the University of Limerick.

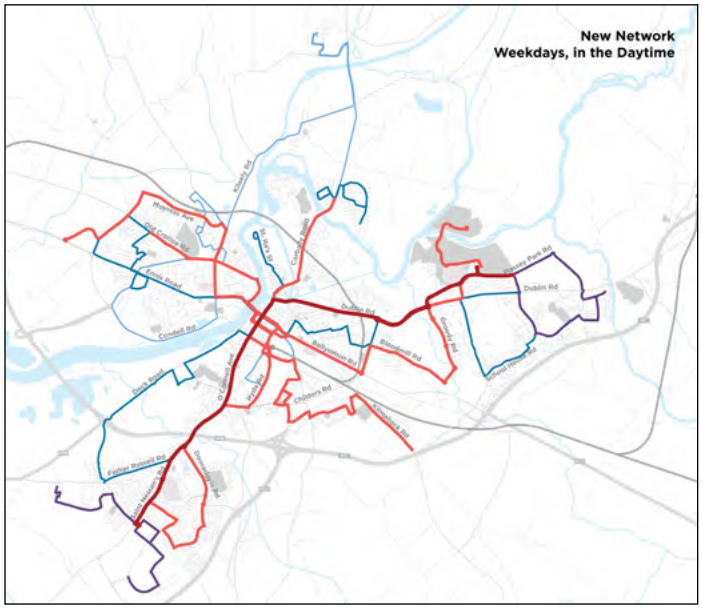


5 Snapshot Comparisons: Existing Network vs. New Network

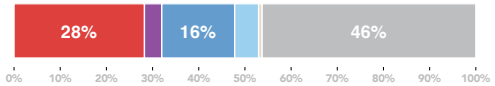
Weekday, Daytime

Many people need to travel throughout the day, in addition to mornings and afternoons, be it to come home from an early shift, get off work or school early, go to a meeting, or run errands.

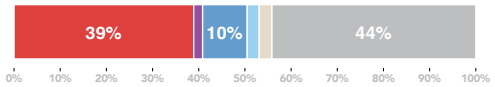




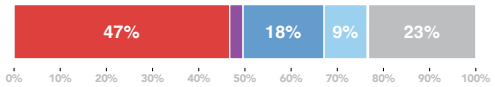
Residents



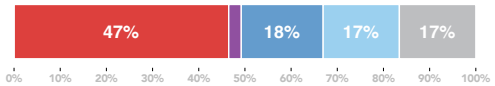
Jobs



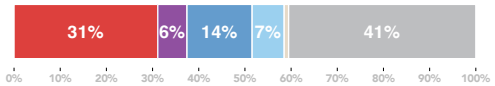
Households Without Cars



Residents in Deprived Areas

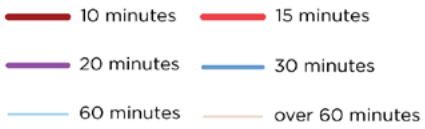


Senior Residents



Map legend:

The bus comes about every...



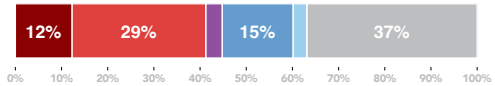
Graph legend:

Within 400 m walk of buses coming around every

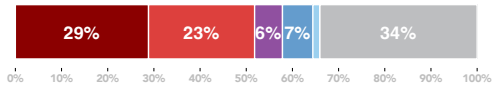
The graph at left shows the percentage of residents and jobs in the study area that are today within a 400 metre walk of public transport, and at what frequency, in the daytime on weekdays.

The graph on the right shows the same measure for the New Network.

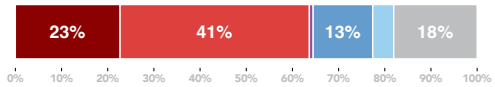
Residents



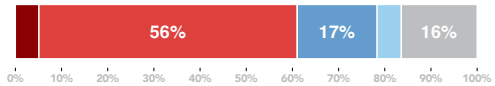
Jobs



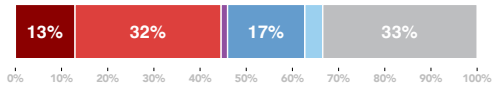
Households Without Cars



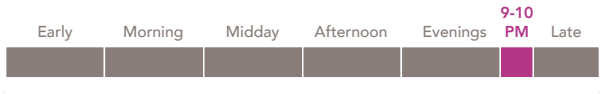
Residents in Deprived Areas



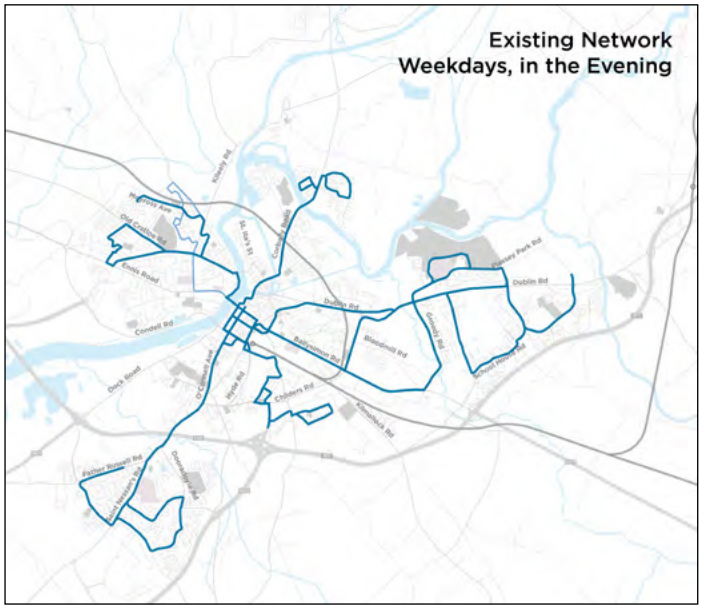
Senior Residents

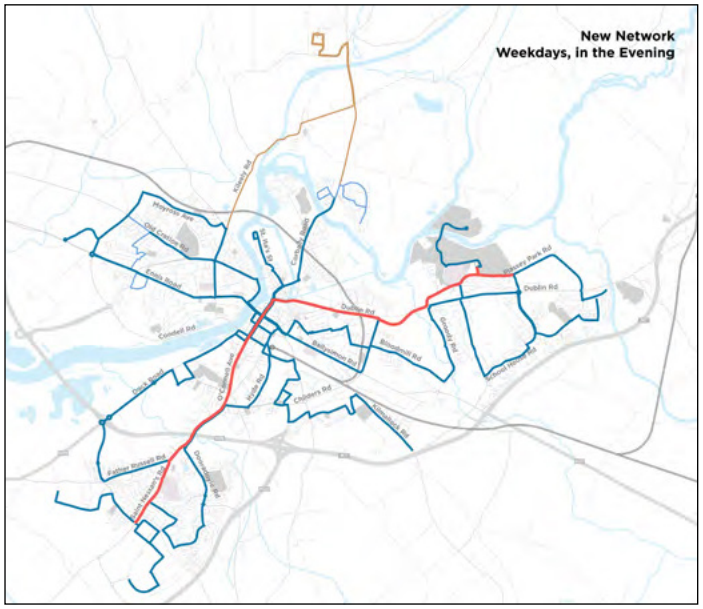


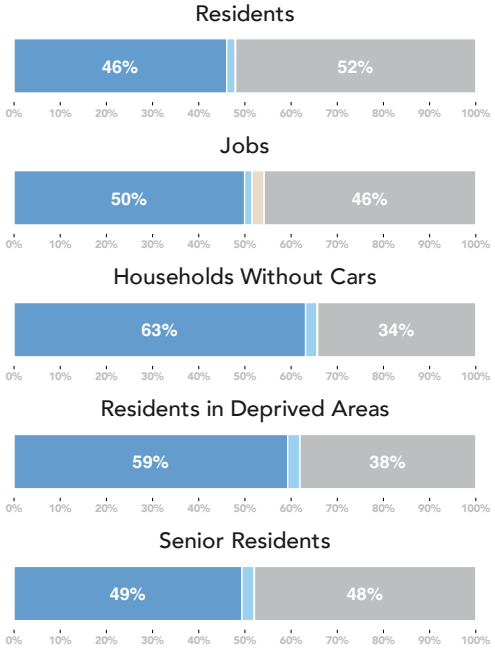
Weekday, Evening



Evening and nighttime service rarely gets as much patronage as daytime service, but it is an important part of the network because it allows people to rely on public transport for journeys at any time of day.







Map legend:

The bus comes about every...

- 10 minutes
- 15 minutes
- 20 minutes
- 30 minutes
- 60 minutes
- over 60 minutes

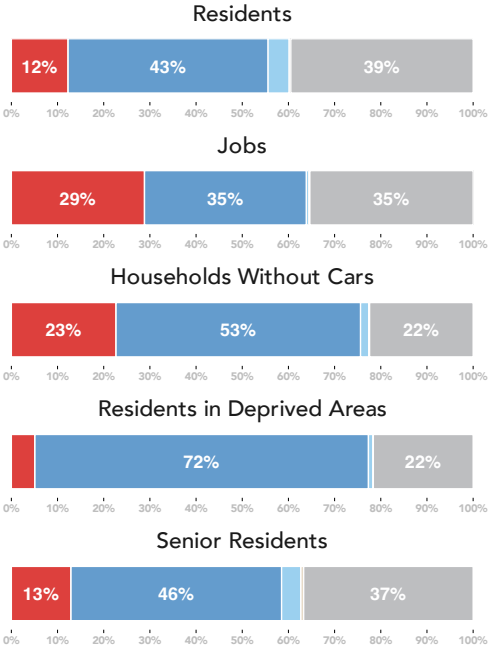
Graph legend:

Within 400 m walk of buses coming around every

10 minutes or better	15 minutes	20 minutes	30 minutes	40-60 minutes	60+ minutes	over 400 m from service

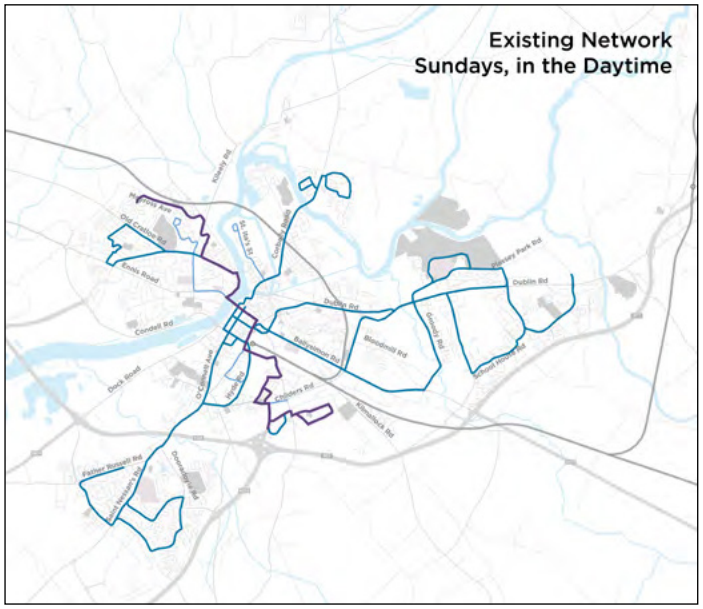
The graph at left shows the percentage of residents and jobs in the study area that are today within a 400 metre walk of public transport, and at what frequency, in the evenings on weekdays.

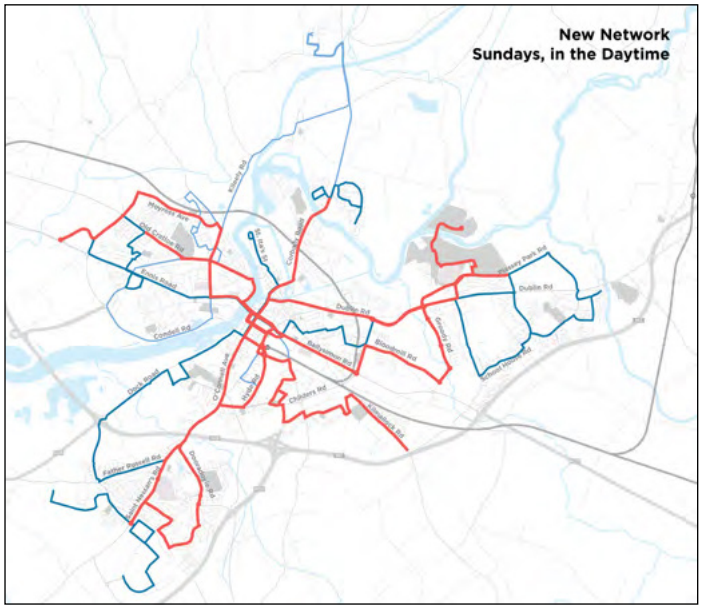
The graph on the right shows the same measure for the New Network.

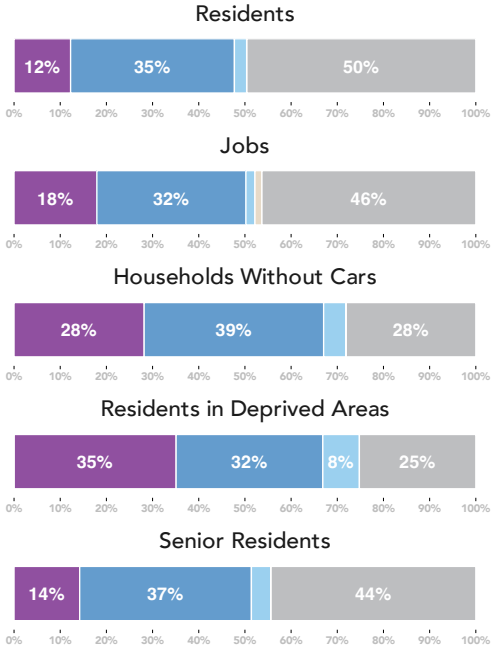


Sunday, Daytime

As traditions relating to Sundays shift, more people want to travel for all purposes. Industrial jobs sometimes call for weekend shifts as well.







Map legend:

The bus comes about every...

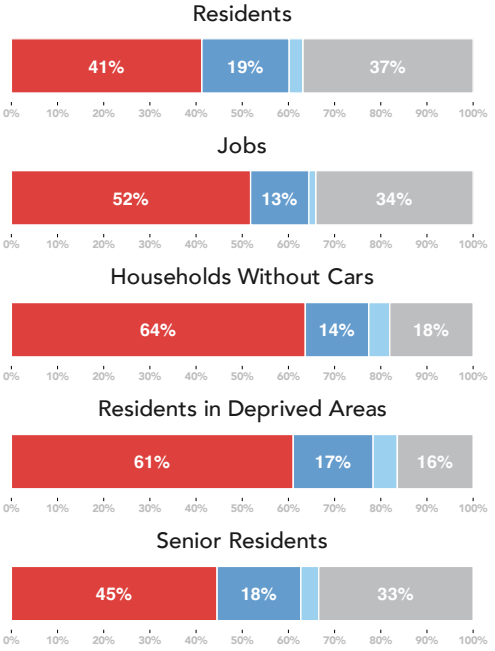
- 10 minutes
- 15 minutes
- 20 minutes
- 30 minutes
- 60 minutes
- over 60 minutes

Graph legend:

Within 400 m walk of buses coming around every

The graph at left shows the percentage of residents and jobs in the study area that are today within a 400 metre walk of public transport, and at what frequency, in the daytime on Sundays.

The graph on the right shows the same measure for the New Network.



6 How the New Network would be More Useful

Key Principle - More Access to Opportunity

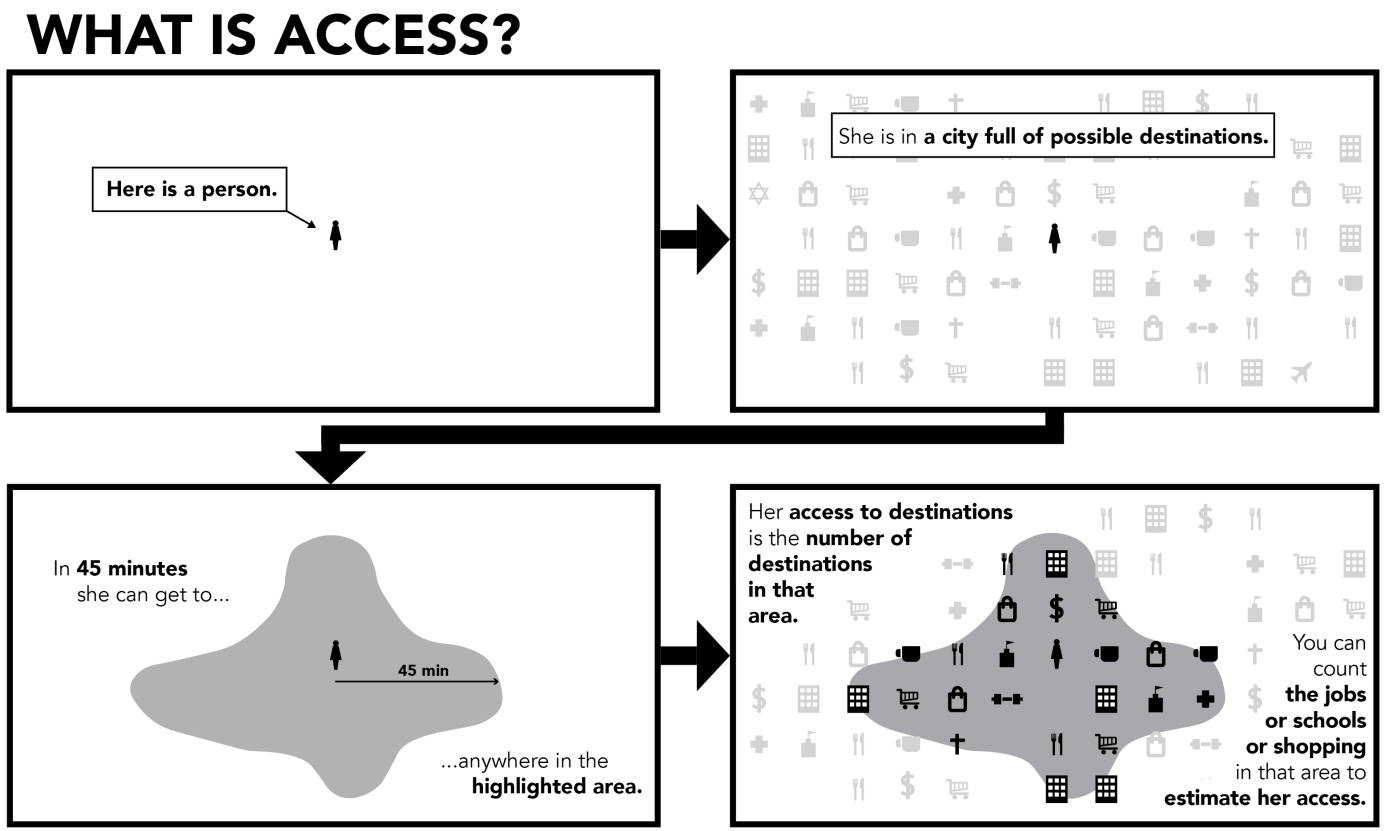
More Useful Service

It's impossible to predict exactly how many people might use an improved bus network. A person's decision to use public transport on any given day might depend on where they are going, when they want to travel, the weather, their plans throughout the day, the price of a taxi, and many other factors.

However, it is possible to measure whether changes in service would make public transport more useful.

Public transport is useful to the extent that it allows people to go where they need, in a reasonable amount of time. **The more useful places you can reach in a reasonable amount of time, the more access to opportunity you have.**

In turn, designing service to increase many people's access to opportunity is the best tool that planners have to increase public transport patronage.



What factors affect access to opportunity?

Access to opportunity by public transport is affected by:

- **How many destinations are near public transport**
- **How long a person has to walk to** and from service
- **How long they have to wait** for the service
- **How far they have to travel** on public transport
- **The speed of the service**
- **How long they have to wait to interchange between services**

Public transport providers have control over some of these factors: waiting time, interchange, route directness, where service is provided.

They have less control (or no control) over other factors: public transport speed, travel distances, where jobs and housing are located. These factors are generally controlled by local authorities as they manage land use, development and roadways.

Estimating Journey Times

Often when people describe public transport journey time they focus on the time spent on the bus. Public transport journeys also include time spent walking and waiting, which can exceed the time spent on the vehicle itself.

Walking to and from the stop

Most public transport journeys begin and end with walking.

Waiting for the next bus

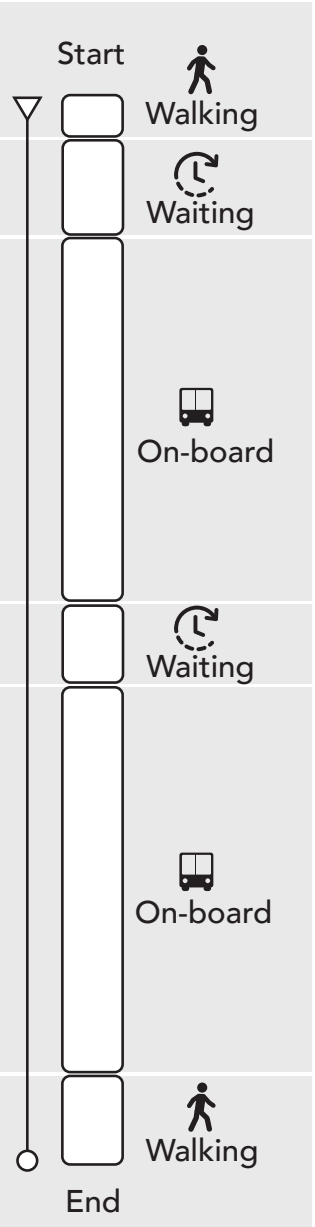
Waiting doesn't always happen at the start of your journey, it can also happen at the end. You may leave home only a short time before your bus departs, but if your bus comes infrequently you often have to choose between arriving at your destination very early or too late.

If you're interchanging, you'll have to wait a second time.

On average, across all passengers, both of these forms of waiting will require about one-half the frequency of the routes in question.

On-board the vehicle

Time spent on the vehicle is affected by the distance you are traveling and the speed of the vehicle. Our analysis of the Draft New Network used conservative (slow) speed assumptions. Improvements in speeds will result in greater job and school access for more people.



Improved Access from Key Locations

The following pages will present maps that show how access to the most significant locations in Limerick would change in the New Network. These maps cover:

- **O'Connell Street & William Street,** the centre of the City Centre
- **Colbert Station,** Limerick's connection point to regional and national public transport
- **University of Limerick,** the largest educational destination in the city, and a significant employer
- **University Hospital Limerick,** the largest employment destination outside City Centre
- **TUS Moylish,** the second largest educational destination in the city

Maps for many more locations are available as an appendix to this report.

What do these maps mean?

These maps are meant to answer the following questions:

- **How many places could I reach from each place, in a reasonable amount of time?**
- **How would this be different from where I could go today?**

Implicit Assumptions

You're using public transport. This is showing improvement in the bus network, not comparing car or bicycle trips to public transport trips.

You walk at an average speed. The maps assume a walking speed of 1 metre per second, on the slow side for a healthy and able-bodied adult. This reflects factors that can slow people down, like street crossings.

Most bus stops will be located in the same places as they are now. In places where the Draft New Network would change which streets are served, we have made some assumptions about where stops would be located. Otherwise, the maps assume stops are unchanged from today. This avoids overestimating the benefit of changing the network.

On average, you'll wait for the bus for a time equal to half its frequency, for the reasons explained on the previous page. For example, if the bus comes every 15 minutes, you'll wait 7.5 minutes on average. If it comes every 30 minutes, you'll wait 15 minutes on average.

Buses will travel at similar speeds as they do now. It's possible that bus speeds might improve in future, thanks to bus priority measures or changes in bus stop locations. However, most of this network is intended to be operable before those are in effect. This also avoids overstating the benefit of changing the network.

You're willing to interchange, if it makes your trip shorter overall. Unless you are willing to walk long distances, interchange is required for many bus trips in Limerick at present, and this would continue to be the case. BusConnects Limerick will include the elimination of interchange fares.

If you interchange, you'll have to wait for the second bus as well. As with the first bus, your wait time will be half the frequency of the second bus on average.

You're travelling on a weekday, in the daytime. Similar maps exist for Sundays, in the appendix to this report.

City Centre

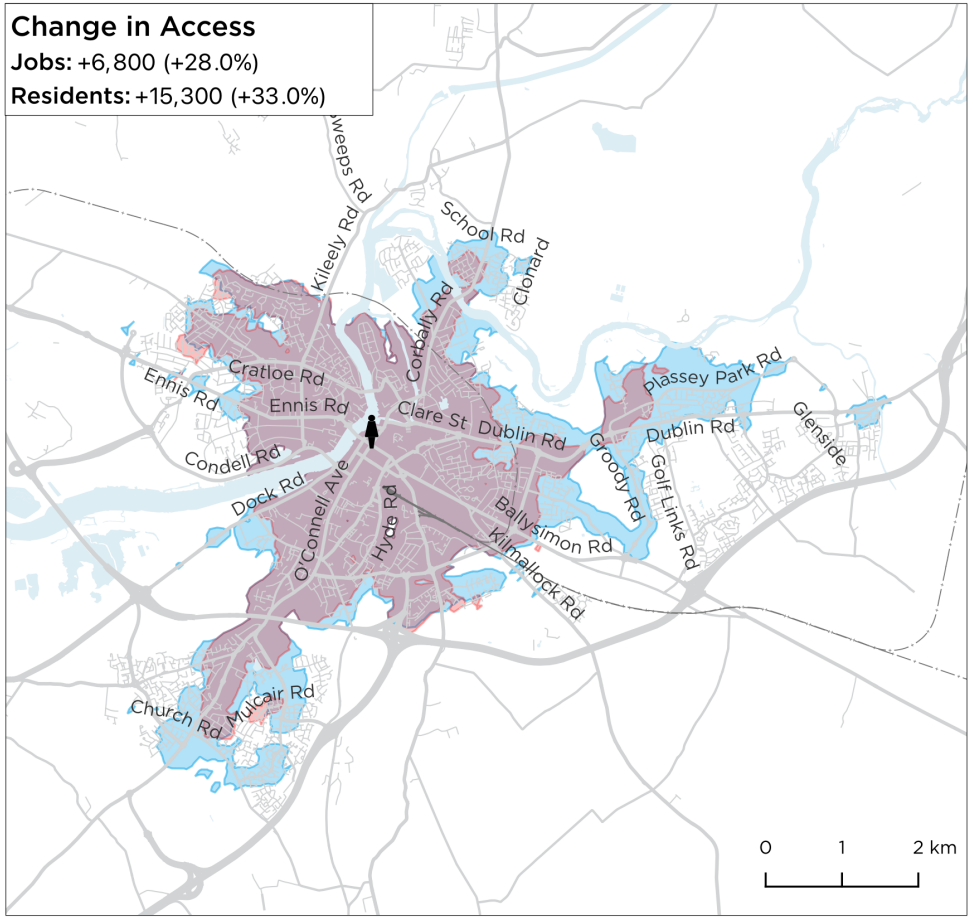
How far could I travel from

O'Connell St & William St

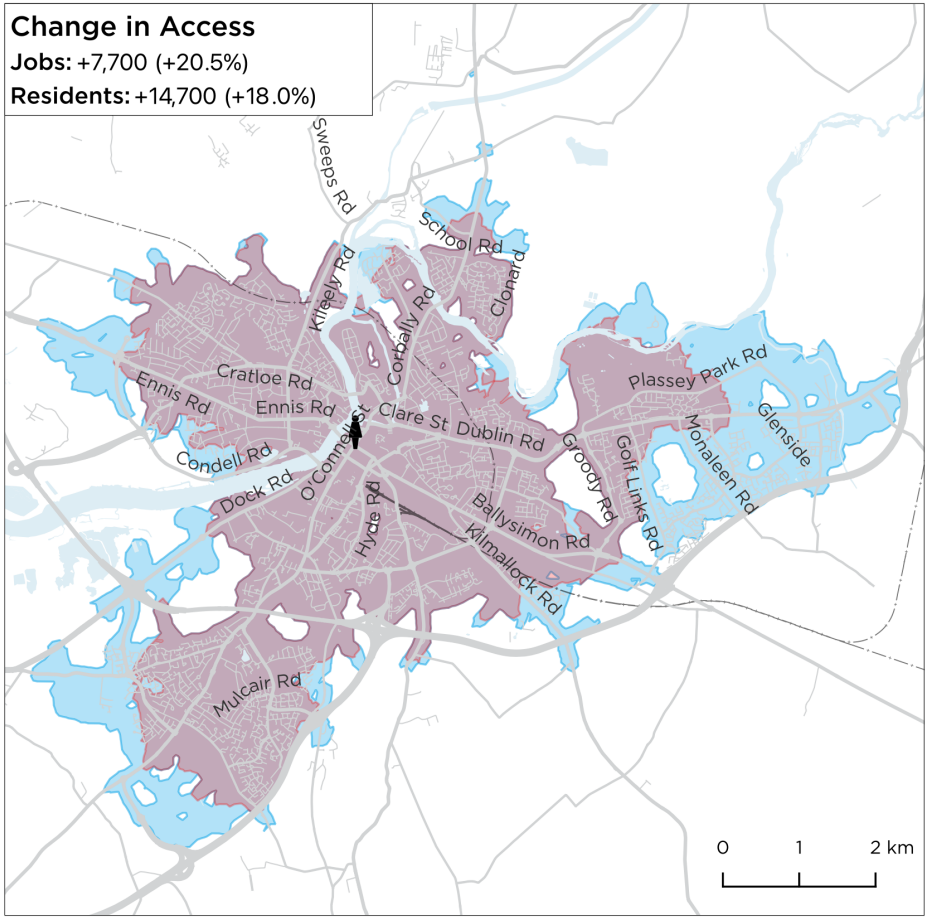
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



Colbert Station

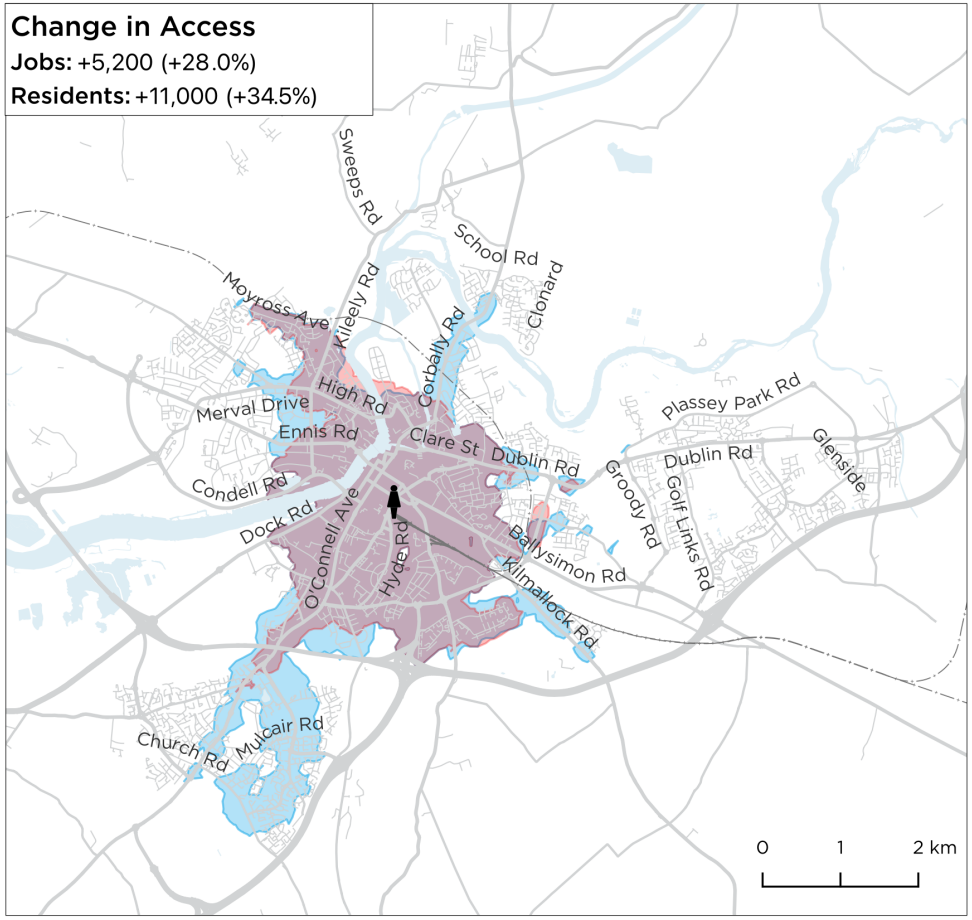
How far could I travel from

Colbert Station

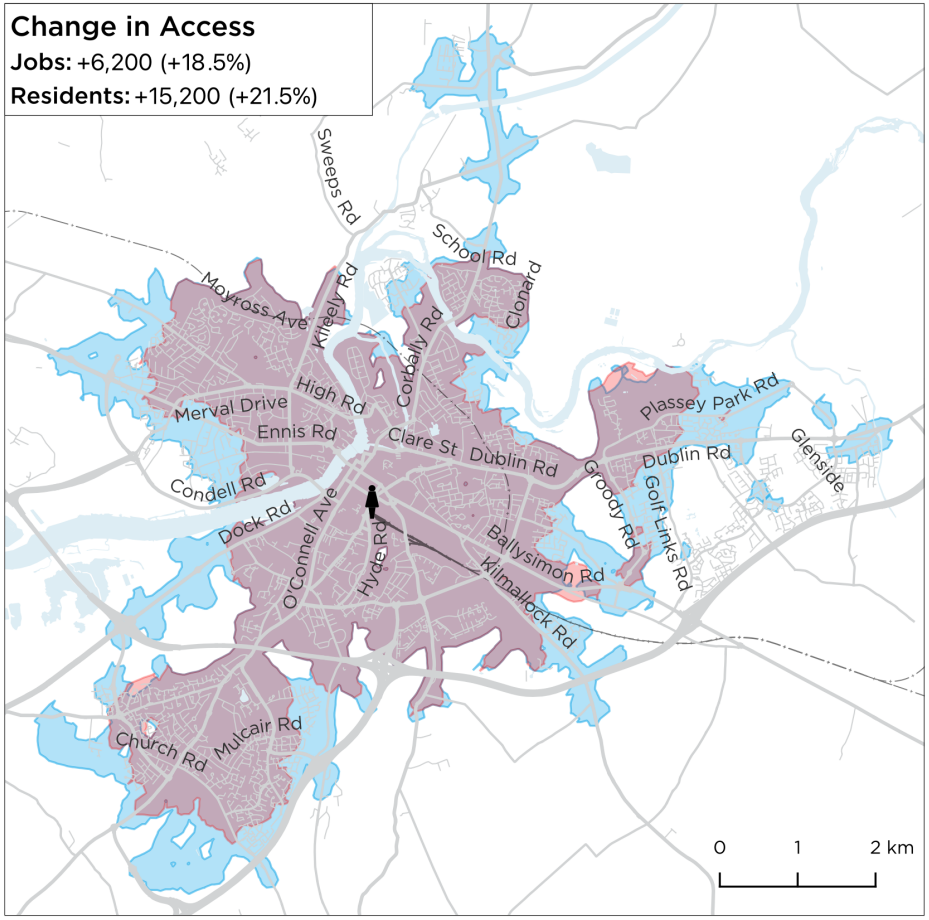
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



University of Limerick

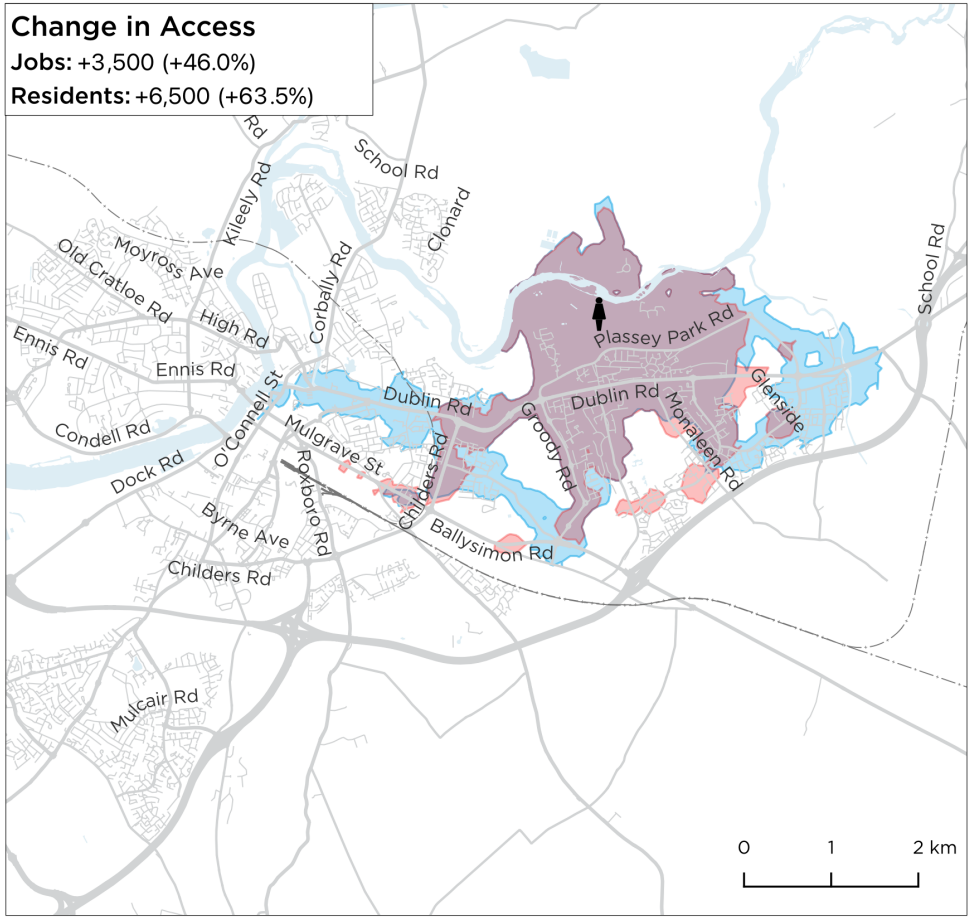
How far could I travel from

UL Student Life

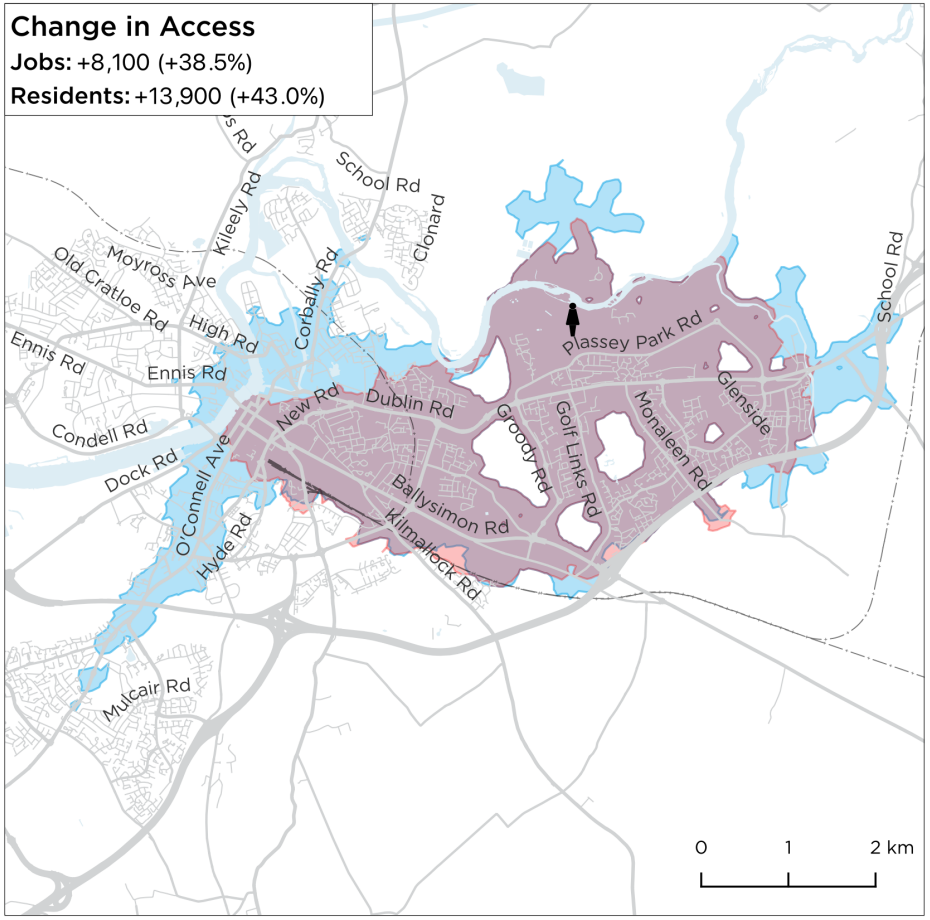
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



University Hospital Limerick

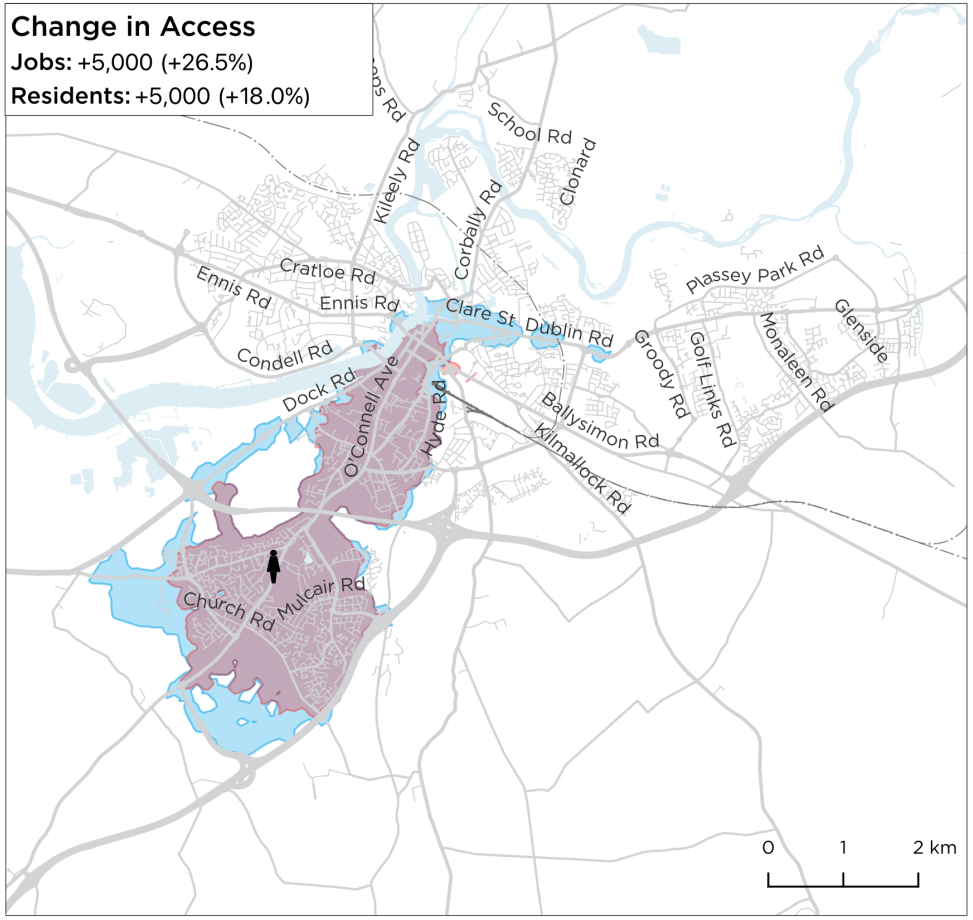
How far could I travel from

Regional Hospital (UHL)

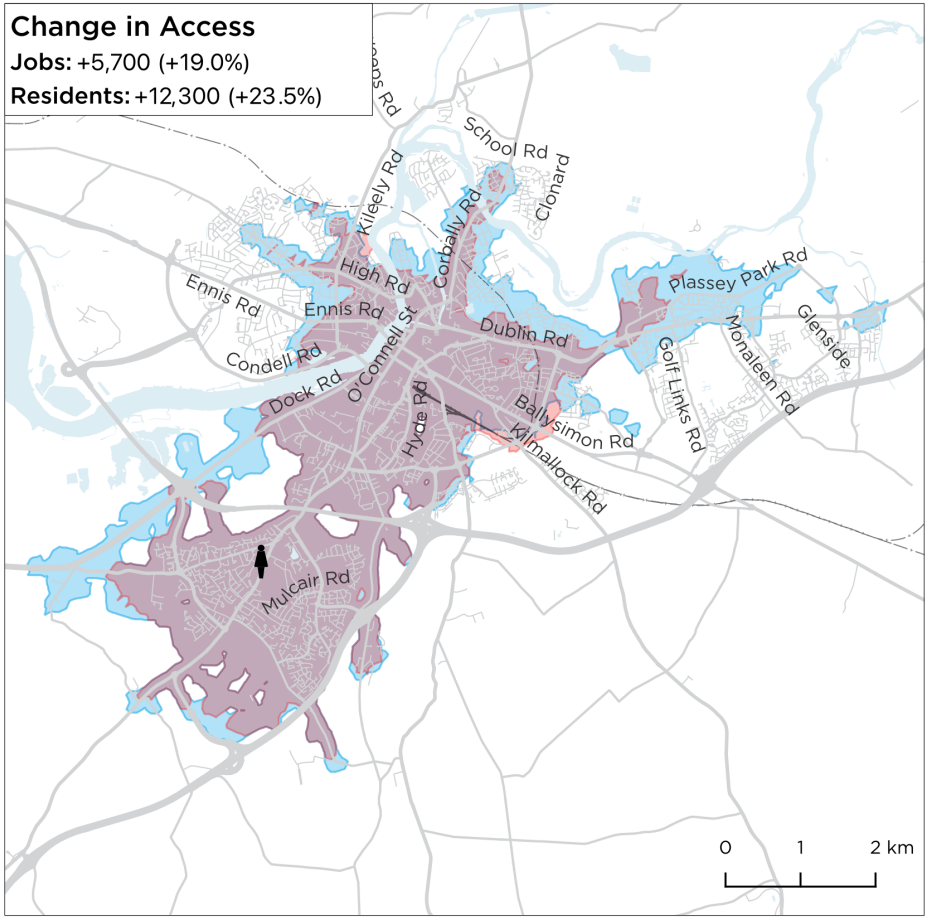
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



TUS Moylish Campus (former Limerick IT)

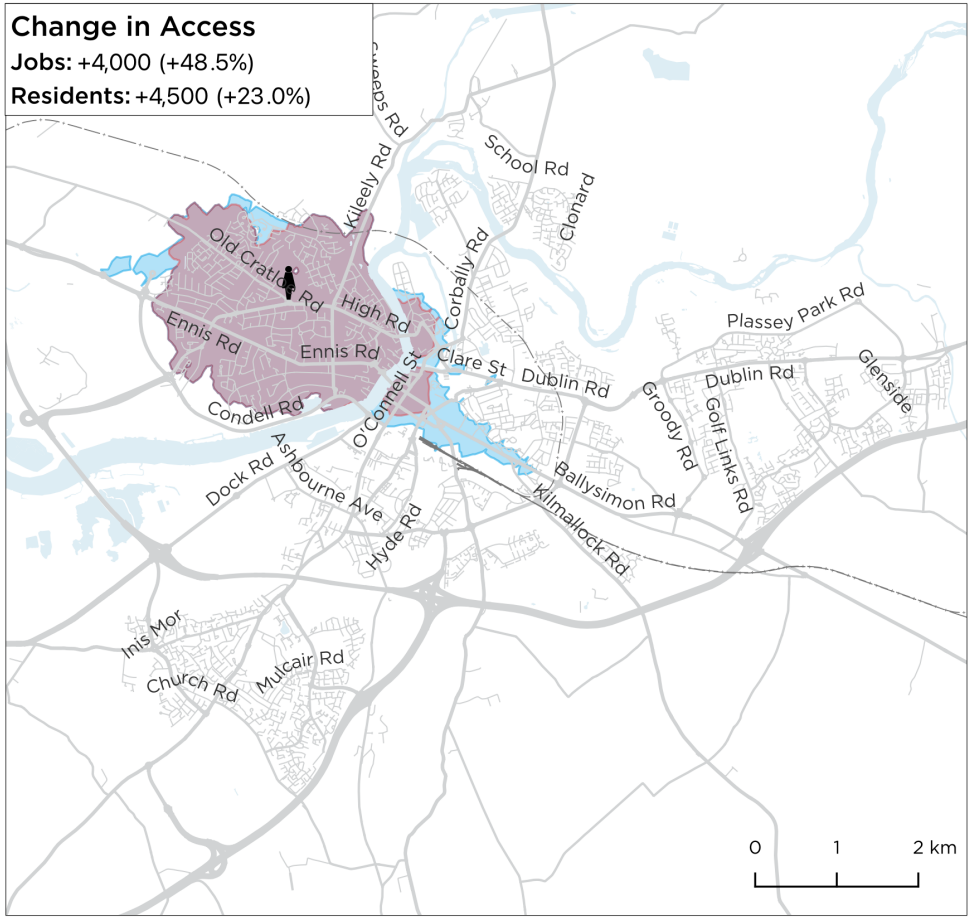
How far could I travel from

TUS Moylish

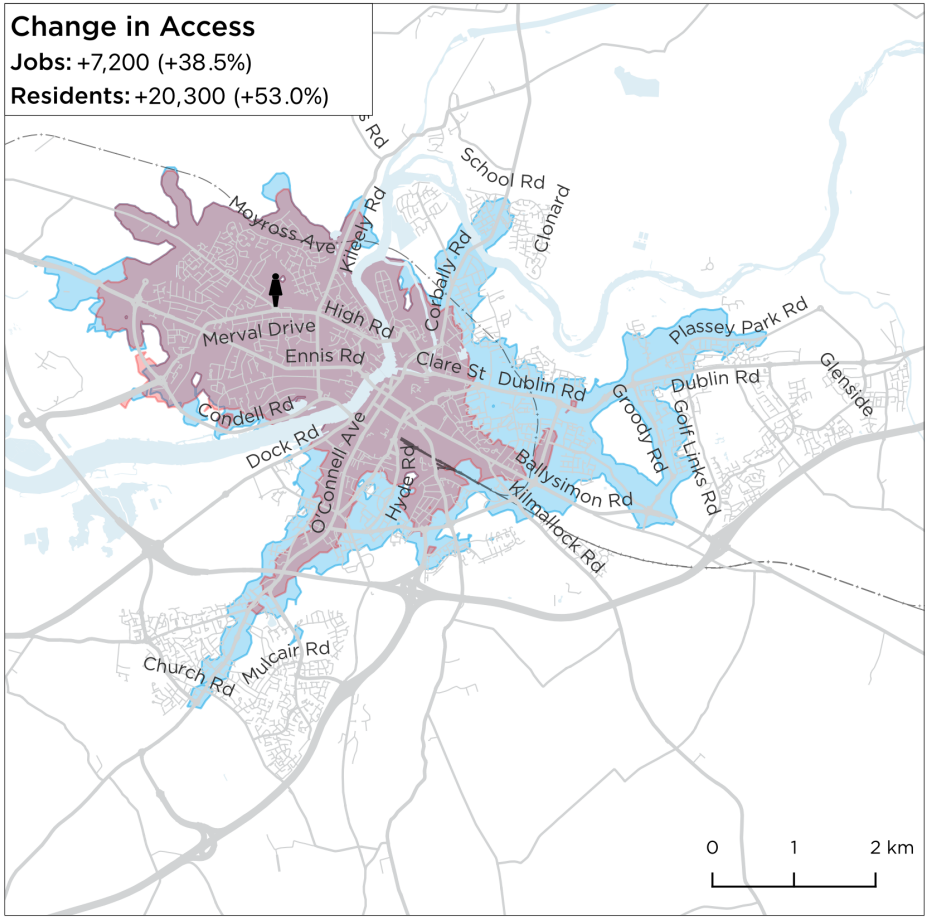
in a reasonable amount of time?

Weekdays, in the Daytime

30 minutes



45 minutes



Improved Access Throughout the City

The kind of change shown in the maps on previous pages has been calculated throughout the study area.

The following pages will include maps that answer the following questions:

- **Where would the New Network improve access to jobs, in a reasonable amount of time?**
- **Where would access to jobs degrade, compared to existing service?**

The maps focus on change in access in 30 and 45 minutes, on weekdays and on Sundays.

Saturday services are nearly the same as on weekdays, and as such were not analysed separately.

Why focus on access to jobs?

People travel to many kinds of places every day. Non-work travel comprises a large portion of daily journeys. So why focus just on jobs in this report? There are three main reasons:

- **Jobs and third-level student enrolment have the most consistent and comparable data.** Data on other types of destinations isn't as consistently maintained, and isn't as comparable from one location to another.
- **Many places people visit regularly are places of employment.** This includes shopping, schools, restaurants, medical services, and many others. As a result, better access to jobs means better access to many kinds of opportunity.
- **Third-level enrolments are highly concentrated in two locations: the University of Limerick and TUS Moylish.** Jobs are more dispersed throughout the city. Incorporating both jobs and third level enrolment might overstate the benefit of the New Network, in places where improvements only helped people reach those two places.

Summary Outcomes

Within 30 minutes:

- The average resident could access 47% more jobs on weekdays, and 110% more jobs on Sundays.
- 60% of residents could access more jobs, and 2% could access fewer jobs.

Within 45 minutes:

- The average resident could access 30% more jobs on weekdays, and 47% more jobs on Sundays.
- 93% of residents could access more jobs, and less than 1% could access fewer jobs.

Map of Job Access Change - 30 Minutes, Weekdays

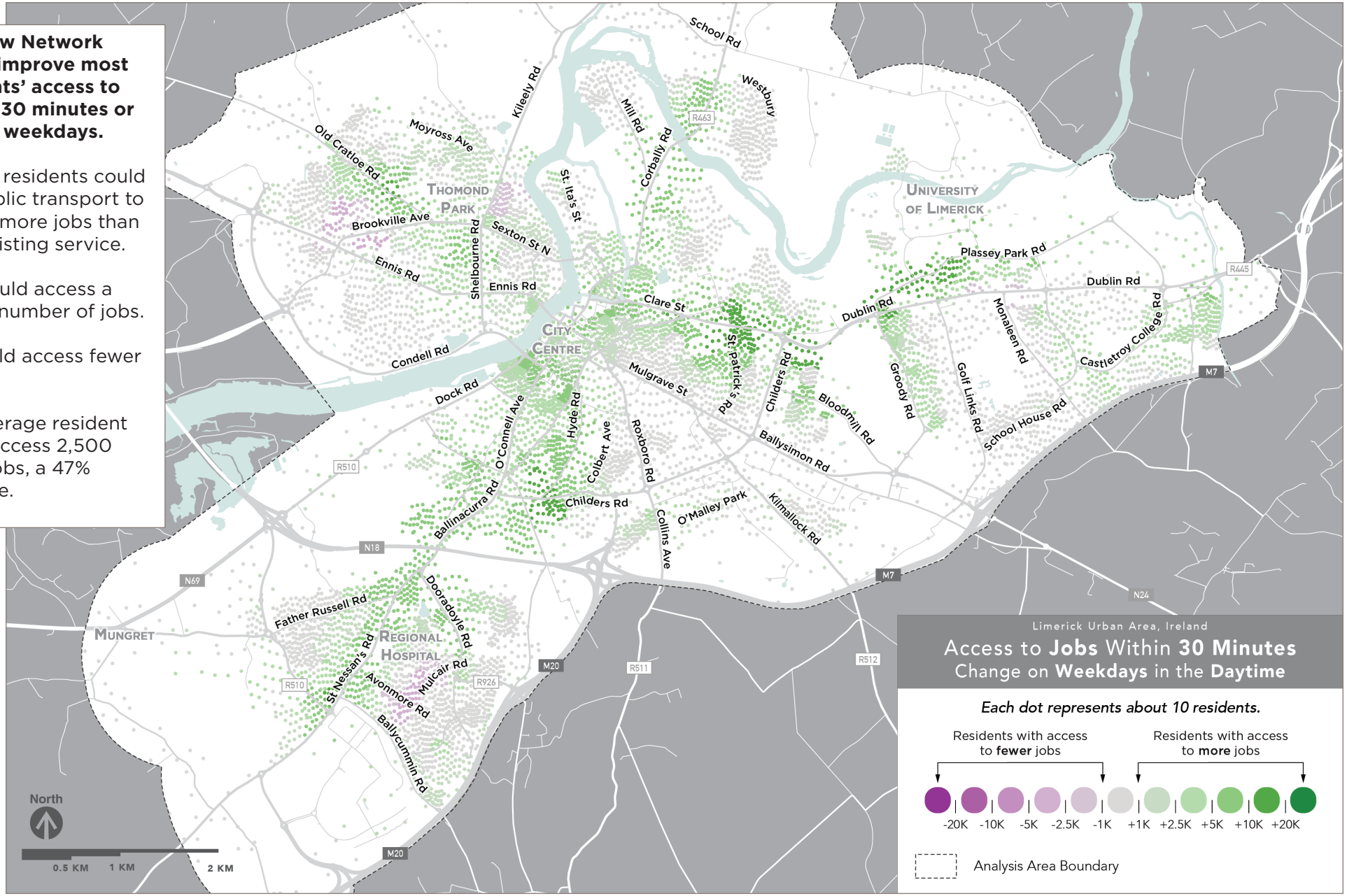
The New Network would improve most residents' access to jobs in 30 minutes or less on weekdays.

60% of residents could use public transport to access more jobs than with existing service.

38% could access a similar number of jobs.

2% could access fewer jobs.

The average resident could access 2,500 more jobs, a 47% increase.



Map of Job Access Change - 45 Minutes, Weekdays

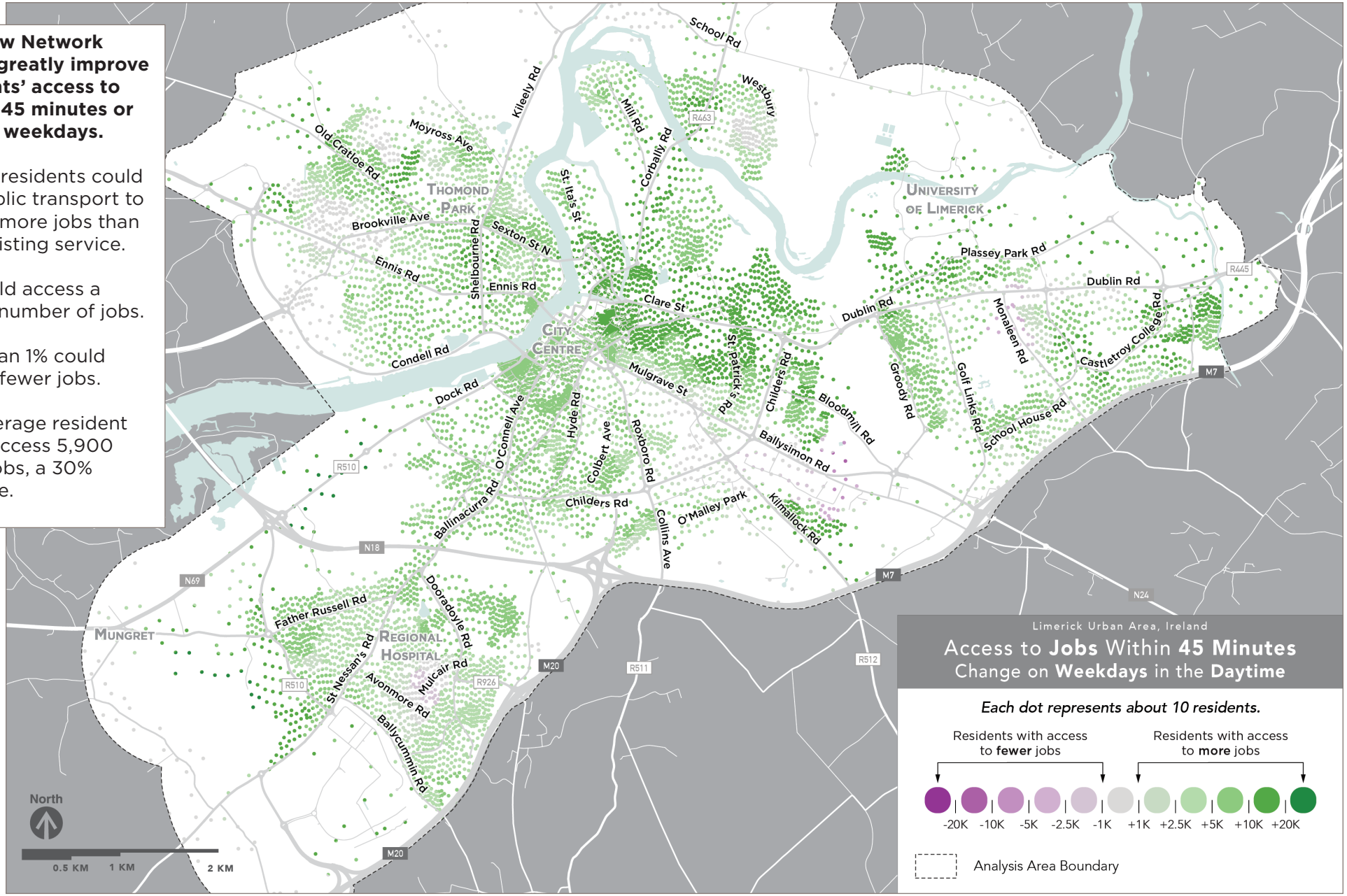
The New Network would greatly improve residents' access to jobs in 45 minutes or less on weekdays.

93% of residents could use public transport to access more jobs than with existing service.

6% could access a similar number of jobs.

Less than 1% could access fewer jobs.

The average resident could access 5,900 more jobs, a 30% increase.



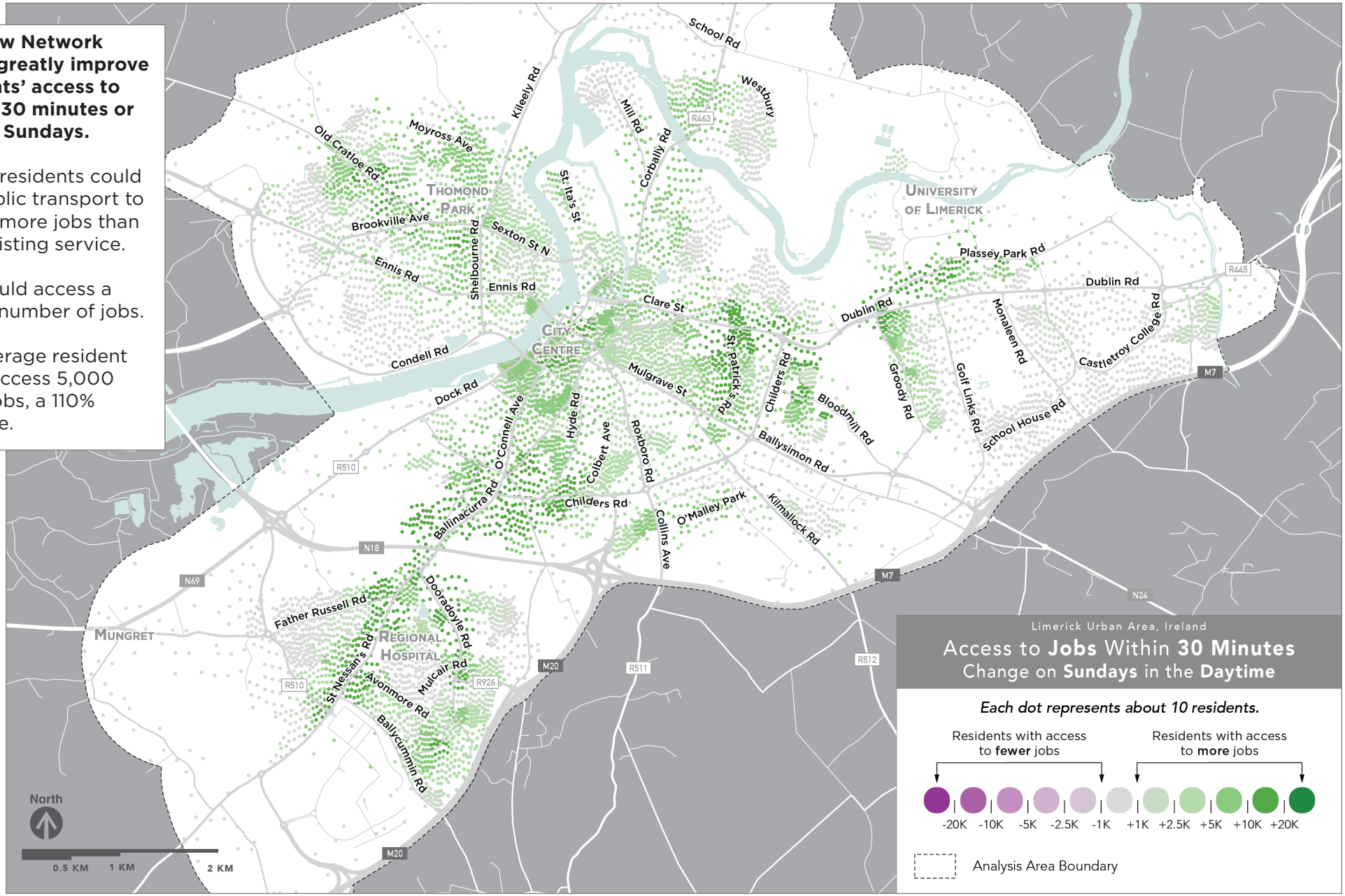
Map of Job Access Change - 30 Minutes, Sundays

The New Network would greatly improve residents' access to jobs in 30 minutes or less on Sundays.

74% of residents could use public transport to access more jobs than with existing service.

26% could access a similar number of jobs.

The average resident could access 5,000 more jobs, a 110% increase.



Map of Job Access Change - 45 Minutes, Sundays

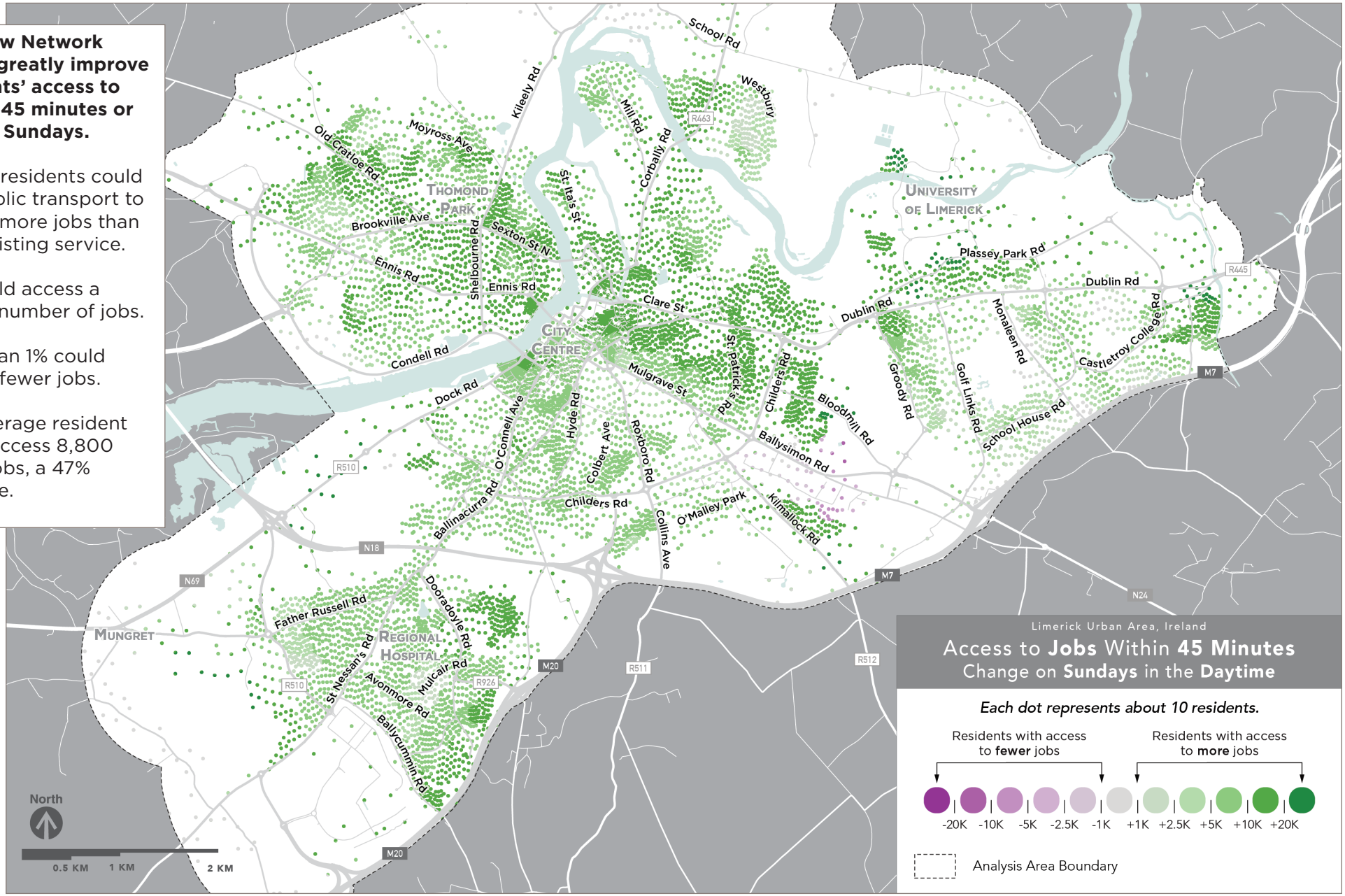
The New Network would greatly improve residents' access to jobs in 45 minutes or less on Sundays.

97% of residents could use public transport to access more jobs than with existing service.

3% could access a similar number of jobs.

Less than 1% could access fewer jobs.

The average resident could access 8,800 more jobs, a 47% increase.



This report continues in three appendices. Appendix A follows this page.

To control file size, Appendices B and C have been published separately.

These are available at the project website: www.busconnects.ie/limerick/.

Appendix A

Service Frequencies by Time of Day in the Existing Network and New Network – Accessible Table

Existing Network Frequencies and Spans (Text, 1/2)

Route	Weekdays and Saturdays from 5am to 8pm	Weekdays and Saturdays from 8pm to 5am	Sundays from 5am to 8pm	Sundays from 8pm to 5am	Notes
Route 301 between Raheen and Westbury	Every 30 minutes from 7am to 8pm	Every 30 minutes from 8pm to 12 midnight	Every 30 minutes from 10am to 8pm	Every 30 minutes from 8pm to 12 midnight	After 7pm, Route 301 does not serve Hyde Road, but instead serves O'Connell Avenue
Route 301 Extension to Raheen Industrial Estate	Every 30 minutes from 7am to 10am and between 4pm and 7pm	No service	No service	No service	
Route 302 between Caherdavin and Limerick City Centre	Every 20 minutes from 7am to 7pm	Every 30 minutes from 7pm to 12 midnight	Every 30 minutes from 10am to 8pm	Every 30 minutes from 8pm to 12 midnight	
Route 303 between Pineview and O'Malley Park	Every 30 minutes from 6am to 7am, then every 15 minutes to 8pm	Every 30 minutes from 8pm to 12 midnight	Every 30 minutes from 7am to 10am, then every 20 minutes to 8pm	Every 30 minutes from 8pm to 12 midnight	
Route 303 Extension to Childers Road Aldi	Every 30 minutes from 10am to 4pm	No service	Every 30 minutes from 10am to 4pm	No service	
Route 304 between Ballycummin and University of Limerick	Every 15 minutes from 6am to 9pm	Every 30 minutes from 9pm to 12 midnight	Every 60 minutes from 7am to 8am, then every 30 minutes to 8pm	Every 30 minutes from 8pm to 12 midnight	
Route 304 Extension to National Tech Park	Every 15 minutes from 7am to 10am and between 4pm to 8pm	No service	Every 60 minutes from 7am to 8am	Every 30 minutes from 7pm to 8pm	
Route 304 Extension to Johnson & Johnson Vision Care	Every 15 minutes from 7am to 8am	Every 15 minutes from 7pm to 8pm	Every 60 minutes from 7am to 8am	Every 30 minutes from 7pm to 8pm	

Existing Network Frequencies and Spans (Text, 2/2)

Route	Weekdays and Saturdays from 5am to 8pm	Weekdays and Saturdays from 8pm to 5am	Sundays from 5am to 8pm	Sundays from 8pm to 5am	Notes
Route 304A between Raheen and University of Limerick	Every 30 minutes from 7am to 8pm	Every 30 minutes from 8pm to 12 midnight	Every 30 minutes from 9am to 8pm	Every 30 minutes from 8pm to 12 midnight	
Route 305 between Lynwood Park and Limerick City Centre	Every 60 minutes from 7am to 5pm	No service	No service	No service	
Route 305A between St Mary's Park and Limerick City Centre	Every 60 minutes from 7am to 5pm	No service	Every 60 minutes from 10am to 6pm	No service	
Route 306 between Ballynanty and Edward Street	Every 60 minutes from 7am to 8pm	No service	No service	No service	
Route 306 short segment between Shanbooly Road and Limerick City Centre only	Served by route 306 every 60 minutes from 7am to 8pm	Every 60 minutes from 7am to 11pm	Every 60 minutes from 10am to 8pm	Every 60 minutes from 8pm to 10pm	On weekdays and Saturdays after 7pm and all day Sunday, Route 306 does not serve areas south of Sarsfield Street and Henry Street.
Route 310 between National Tech Park and Limerick City Centre	Every 30 minutes from 6am to 8pm	Every 30 minutes from 8pm to 12 midnight	Every 30 minutes from 6am to 8pm	Every 30 minutes from 8pm to 12 midnight	

New Network Frequencies and Spans (Text, 1/3)

Route	Weekdays and Saturdays from 5am to 8pm	Weekdays and Saturdays from 8pm to 5am	Sundays from 5am to 8pm	Sundays from 8pm to 5am	Notes
Route 1 between University Hospital Limerick and Athlunkard	Every 30 minutes from 6 am to 7am, then every 15 minutes to 8pm.	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes to 1am	Every 30 minutes from 7am to 9am, then every 15 minutes until 8pm	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes to 1 am	
Route 1A between UHL and Shannon Banks	Every 60 minutes from 6am to 7am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 12 midnight	Every 60 minutes from 7am to 9am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 12 midnight	
Route 1B between UHL and Westbury	Every 60 minutes from 6am to 7am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 1am	Every 60 minutes from 7am to 9am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 1am	
Route 2 between Moylish and UL North Campus	Every 30 minutes from 6 am to 7am, then every 15 minutes to 8pm.	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes to 1 am	Every 30 minutes from 7am to 9am, then every 15 minutes until 8pm	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes to1 am	
Route 2A between Coonagh Shopping Centre and UL North Campus	Every 60 minutes from 6am to 7am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 1am	Every 60 minutes from 7am to 9am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 1am	
Route 2B between Jetland Shopping Center and UL North Campus	Every 60 minutes from 6am to 7am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 12 midnight	Every 60 minutes from 7am to 9am, then every 30 minutes to 8pm	Every 60 minutes from 8pm to 12 midnight	
Route 3 between Coonagh Shopping Centre and Kilmallock Road	Every 30 minutes from 6 am to 7am, then every 15 minutes to 8pm.	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes to 1am	Every 30 minutes from 7am to 9am, then every 15 minutes until 8pm	Every 30 minutes from 8 pm to 12 midnight, then every 60 minutes until 1 am	

New Network Frequencies and Spans (Text, 2/3)

Route	Weekdays and Saturdays from 5am to 8pm	Weekdays and Saturdays from 8pm to 5am	Sundays from 5am to 8pm	Sundays from 8pm to 5am	Notes
Route 4 between Raheen Roundabout and University of Limerick	Every 30 minutes from 5am to 7am, then every 10 minutes to 8pm	Every 15 minutes from 8pm to 10pm, then every 30 minutes from 10pm to 12 midnight, then every 60 minutes to 5am	Every 60 minutes from 5am to 6am, then every 30 minutes from 6am to 9am, then every 15 minutes to 10pm	Every 30 minutes from 10pm to 12 midnight, then every 60 minutes from 12 midnight to 5am	On Saturdays between 7am and 8pm, Route 4 has a frequency of every 15 minutes.
Route 4A between Raheen Industrial Estate and Annacotty via Castletroy College Road	Every 60 minutes from 5am to 7am, then every 20 minutes to 8pm	Every 30 minutes from 8pm to 10pm, then every 60 minutes from 10pm to 5am	Every 60 minutes from 5am to 9am, then every 30 minutes to 10pm	Every 60 minutes from 10pm to 5am	On Saturdays between 7am and 8pm, Branch 4A has a frequency of every 30 minutes.
Route 4B between Mungret Park and Annacotty via Plassey Park Road	Every 60 minutes from 5am to 7am, then every 20 minutes to 8pm	Every 30 minutes from 8pm to 10pm, then every 60 minutes from 10pm to 12 midnight.	Every 60 minutes from 6am to 9am, then every 30 minutes to 10pm	Every 60 minutes from 10pm to 12 midnight.	On Saturdays between 7am and 8pm, Branch 4B has a frequency of every 30 minutes.
Route 5 between Raheen Roundabout and St Mary's Park	Every 30 minutes from 6am to 8pm	Every 30 minutes from 8 pm to 12 midnight	Every 30 minutes from 7am to 8pm	Every 30 minutes from 8 pm to 12 midnight	
Route 6 between Coonagh Shopping Centre and University of Limerick	Every 30 minutes from 6am to 8pm	Every 30 minutes from 8 pm to 12 midnight	Every 30 minutes from 7am to 8pm	Every 30 minutes from 8 pm to 12 midnight	
Route 11 between Sarsfield Gardens and Prospect Hill	Every 60 minutes from 6am to 8pm	No service after 8pm	Every 60 minutes from 10am to 8pm	No service after 8pm	

New Network Frequencies and Spans (Text, 3/3)

Route	Weekdays and Saturdays from 5am to 8pm	Weekdays and Saturdays from 8pm to 5am	Sundays from 5am to 8pm	Sundays from 8pm to 5am	Notes
Route 12 between TUS Moylish Campus and Colbert Station	Every 60 minutes from 6am to 8pm	No service after 8pm	Every 60 minutes from 10am to 8pm	No service after 8pm	
Route 13 between Colbert Station and Ardnacrusha via Corbally Road	Every 60 minutes from 6am to 8pm	Every 120 minutes from 8pm to 12 midnight	Every 60 minutes from 8am to 8pm	Every 120 minutes from 8pm to 12 midnight	
Route 14 between Colbert Station and Ardnacrusha via Kileely Road	Every 60 minutes from 6am to 8pm	Every 120 minutes from 8pm to 12 midnight	Every 60 minutes from 8am to 8pm	Every 120 minutes from 8pm to 12 midnight	


304
PAD119
212-L-1633
BUS