

Revised Network Proposal Executive Summary

Improved Bus Service is Essential for the Continued Prosperity of Dublin

Dublin can only grow and prosper if the role of public transport dramatically expands.¹ Any other option will strangle the city with traffic congestion, because in a dense city, there is simply not enough room for everyone's car.

The National Transport Authority (NTA) is making numerous improvements to public transport. The bus element of this effort, called BusConnects, includes several parallel strands of activity:

- Infrastructure and bus priority measures, such as the Core Bus Corridors project, to expedite the flow of buses and improve pedestrian and cycling conditions through Dublin.
- Improvements to fares and ticketing, including making it possible to interchange without paying an additional fare.
- Changes to the buses themselves, including moving the fleet toward cleaner technology and establishing an updated single livery under the Transport for Ireland brand.
- A redesign of the bus network – the pattern of routes and schedules that buses follow.

This report is about the recommended bus network redesign. It represents the culmination of a three-year long effort of study, analysis, consultation, and iterative thinking to develop a new network design for Dublin's buses.

- In June 2017, the NTA released the Choices Report, an examination of the existing bus network, the levels of demand and need for public transport services throughout the Dublin area, and possible paths forward to improve service.
- The Choices Report release was followed by a public survey which gathered the priorities of over 11,000 respondents.
- In July 2018, the Public Consultation Report detailed the initial network proposal. The key inputs to this proposal were the priorities established in the survey, and the technical expertise of the NTA, Dublin Bus, and the consultant team.
- An public consultation followed from July to September 2018. This consultation yielded over 30,000 comments and submissions. **This report covers the revised network proposal, taking into account the results of the 2018 consultation.**

Figure 1: Public transport and cycling require far less space to move the same number of people than cars, as shown in the photo below.

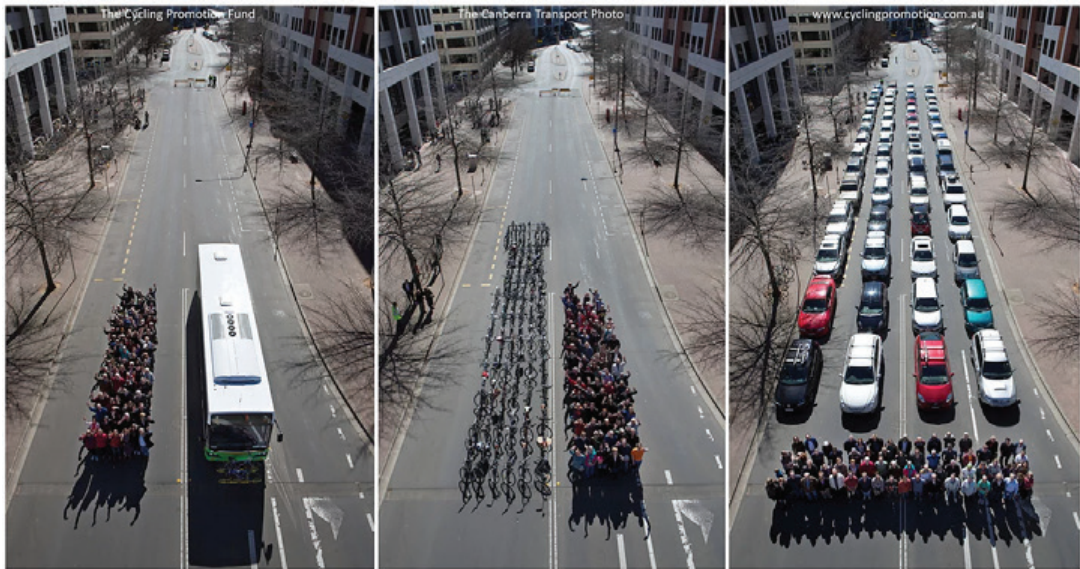
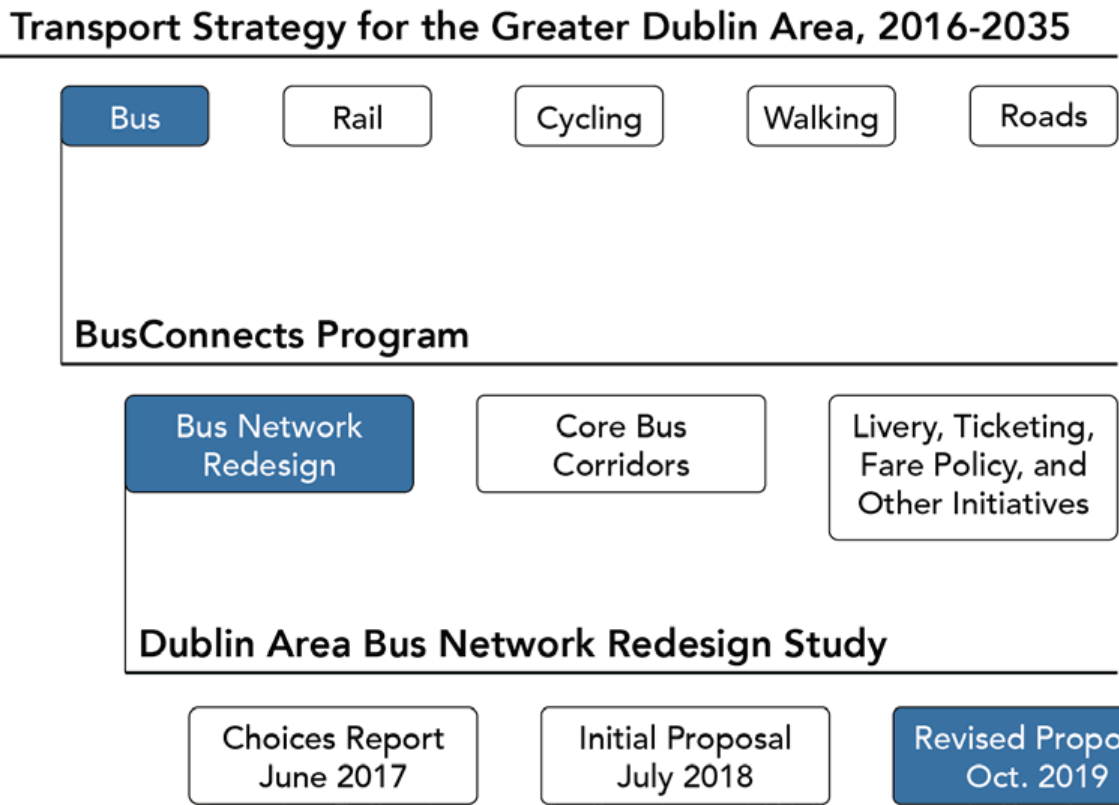


Photo Credit: (c) We Ride Australia

Figure 2: The bus network redesign is part of the BusConnects program, which is itself part of NTA's broader efforts at improving transport under the Transport Strategy of the Greater Dublin Region, as shown in the chart below.



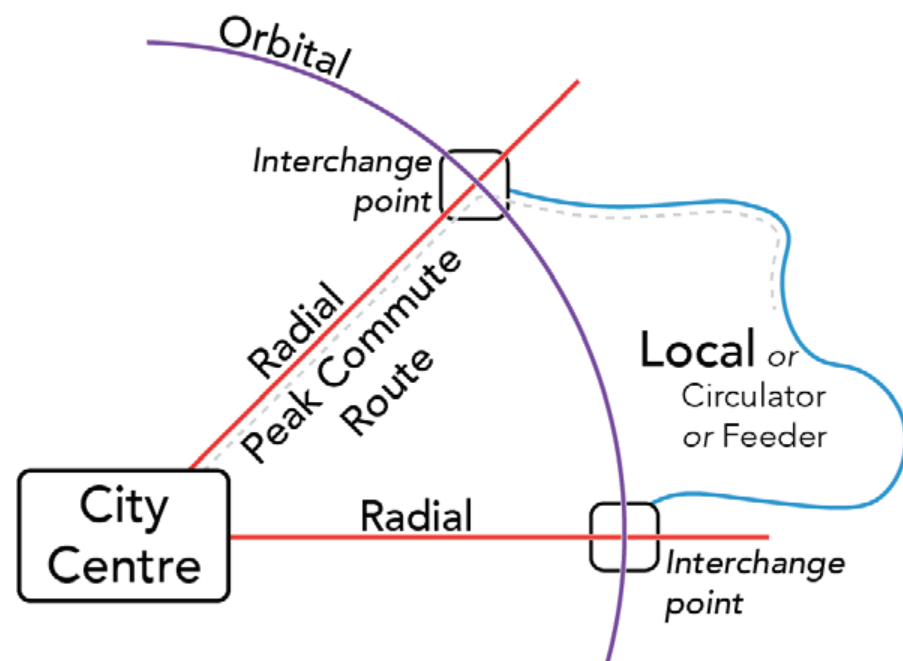
¹ Cycling also plays an important complementary role to public transport. While there is a large overlap in the role of the two modes, they are useful in different situations. Cycling is more competitive for shorter trips, and public transport for longer ones. That's why the Transport Strategy of the Greater Dublin Region includes a cycling element as well public transport elements such as BusConnects, of which this study is a part.

Why Rethink the Bus Network?

Changing a bus network means changing people's lives and habits. As such, this process is inevitably controversial. The NTA has received many submissions asking for a more useful network, and many others expressing dismay at proposed changes. Nonetheless, in fact, the network has obvious problems that only a redesign can repair.

- **The network is very complex**, which makes it hard to remember and use spontaneously. You can remember a bus route you take every day, but to feel free to move about the city, you need to be able to remember the structure of a network, just as most people remember the structure of the street network.
- **The network is good for many radial trips – taking people into Dublin's core – but not for orbital trips.** For example, a trip from Blanchardstown to Lucan, or from DCU to the Malahide Road, usually requires going into the City Centre and back out, which takes far too long and puts more buses into crowded city streets than need to be there.
- **Many routes overlap for long distances.** While lots of buses go down some streets, they are not evenly spaced to create the most frequent possible service.

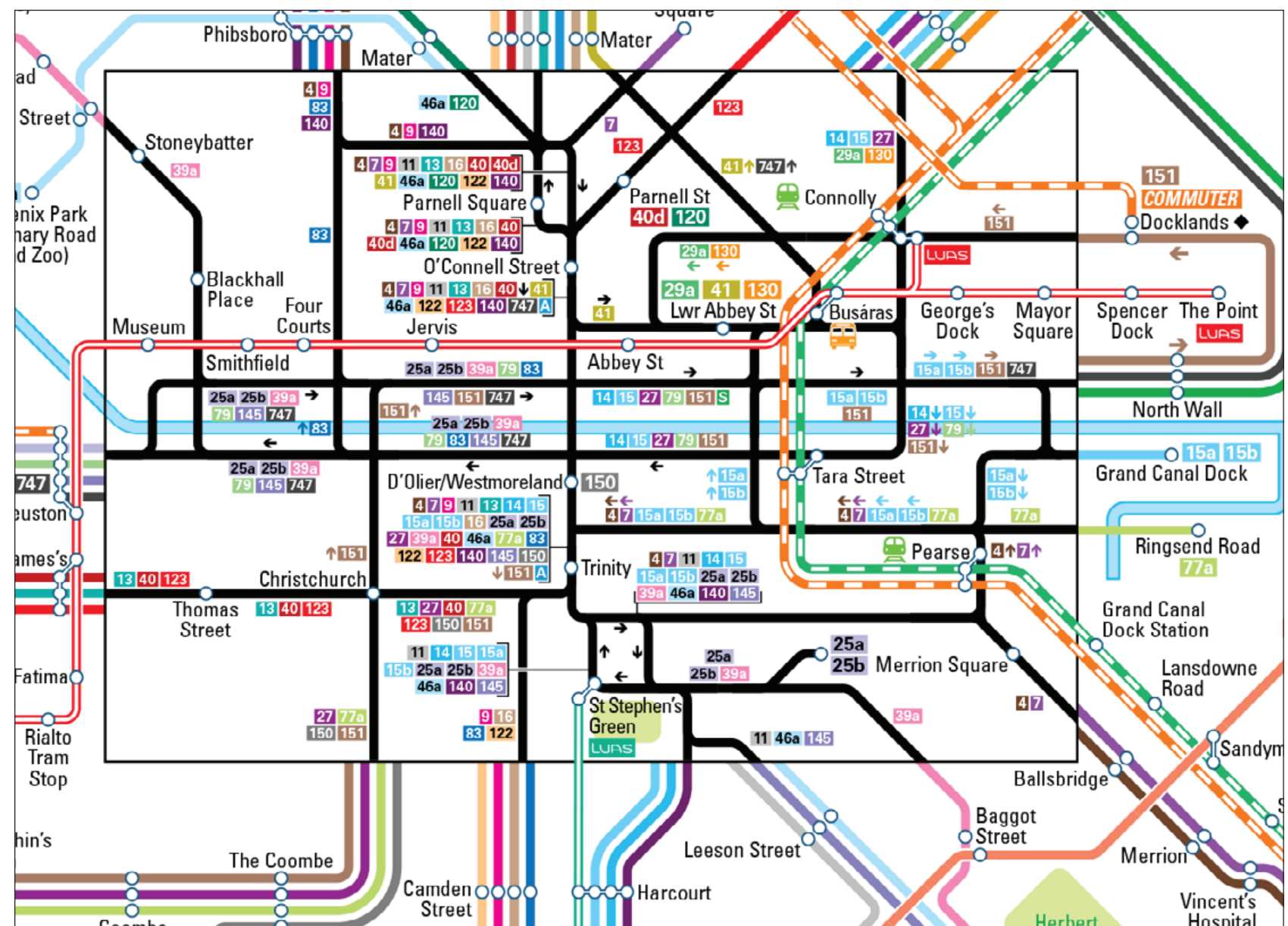
Figure 3: The three main types of public transport route are radials, orbitals, and local feeders, as shown below. Radials connect neighbourhoods and suburbs to the City Centre. Orbitals connect neighbourhoods and suburbs to each other, avoiding the City Centre. Local feeders connect outer suburban areas to suburban centres.



- **Rail and tram network improvements require changes to the bus services.** Buses, trams, and trains are not competitors. They are meant to work together to create the most useful possible network. Recent rail and tram upgrades (such as the Luas Green Line extension and the 10-minute DART) change the role that buses should play in the affected areas.
- **The city is growing and changing**, in ways that the bus network must adapt to serve. New communities and job centres are appearing on the fringe, while the city centre continues to grow denser, especially in and near the Docklands.

All of these factors tell us that while any change in bus routes will raise objections, it is time to consider a substantial redesign.

Figure 4: The city centre bus network is so complex that it is impossible to draw a clear map of it. The diagram below shows one of the best attempts to date. A more useful and legible network would have fewer overlapping routes, but those routes would run much more frequently, so that they are coming whenever you need them.



What's Included

This plan deals only with the public bus services contracted by the NTA that operate primarily within the Dublin Metropolitan Area¹.

As of September 2019, approximately 90% of these services are operated by Dublin Bus, and 10% (mostly orbital and suburban local routes) are operated by Go-Ahead Ireland, following their successful bid in a tender competition.

Services that operate for profit – including airport express services, the Swords Express (and a range of others) are not covered by the plan. Intercity and longer-distance commuter services provided by Bus Éireann and other operators are also not included.

To Increase Patronage, Make Service Useful and Liberating

The goal of the proposed network is to make public transport useful to more people to reach more destinations all over Dublin.

Dublin-area residents have already shown that they use public transport when it is useful. But there are many purposes for which the service is not useful, and this is what the plan aims to change.

Later in this summary, we quantify this expansion of usefulness. For example, **under the proposed network, the average Dubliner would be able to access 27% more jobs and educational opportunities within 30 minutes², compared to the existing system.**

1 Consisting of Dublin City, the adjacent built-up areas of South Dublin, Dun Laoghaire-Rathdown and Fingal, and nearby towns in Meath (Dunboyne), Kildare (Celbridge, Maynooth, Leixlip) and Wicklow (Bray, Greystones), and all other areas currently served by Dublin Bus or Go-Ahead Ireland.

2 Technically, the measure here is the change in the number of jobs, and the number of enrolled students at post-secondary colleges and universities, within 30 minutes door-to-door, by walking and public transport. The 30 minutes includes all walking, waiting, riding and interchange time.

Process

Figure 5 shows how this plan was developed. Many of these steps correspond to chapters in this report.

Chapters 1 to 5 are from the original Choices Report, which was released early in June 2017. The Choices Report shared the consultant team's analysis of the existing situation and described several high-level strategies that could guide a network redesign.

The public was asked to comment on these strategies in June 2017, to guide us on whether, and how strongly, to pursue them. The initial public response is described in Chapter 6.

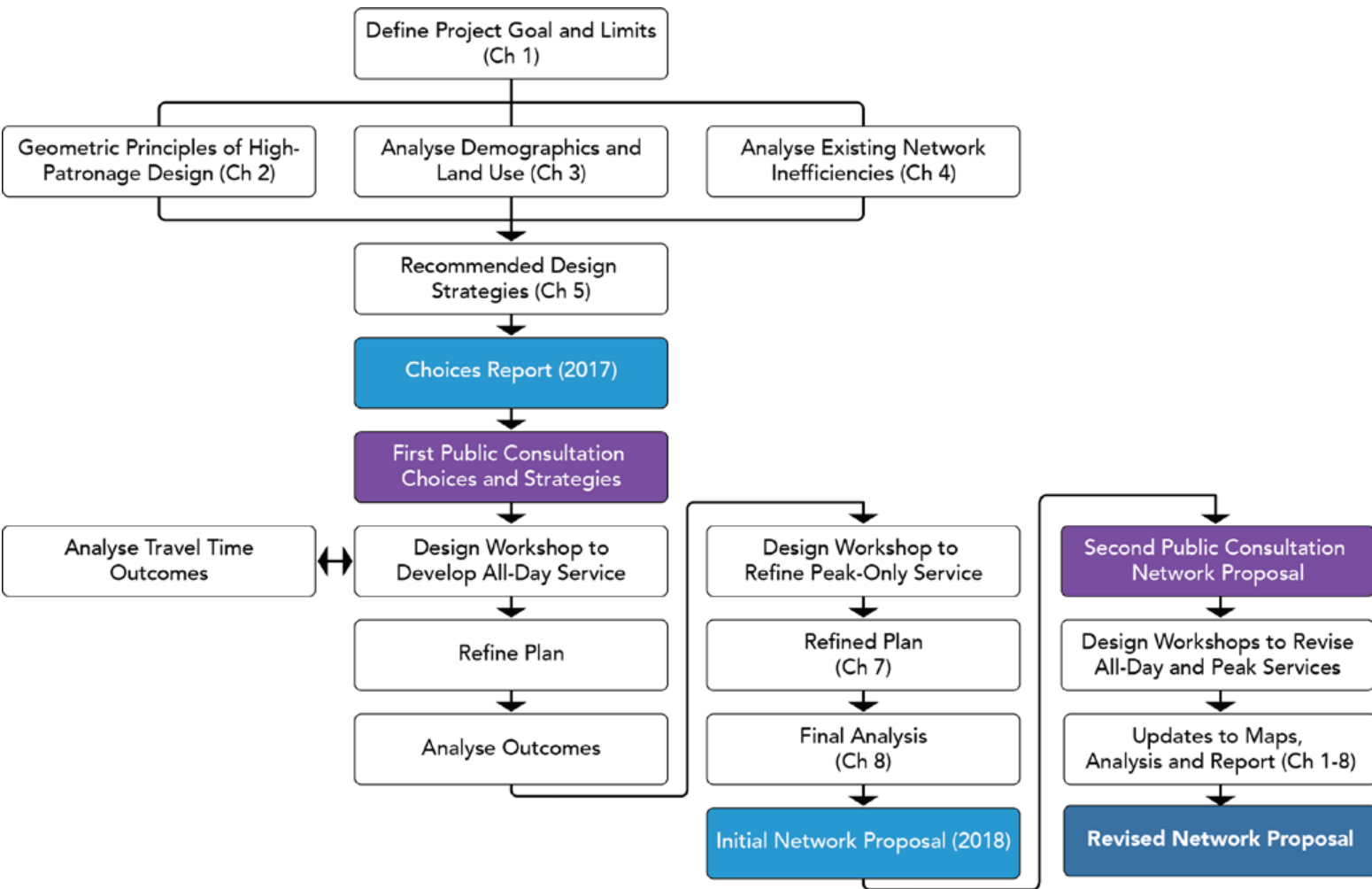
In July 2017, the consultant team facilitated a two-week intensive retreat with NTA, Dublin Bus, and local council officials. The proposed network was designed collaboratively, to about 80%

completion in these workshops. The plan then went through further cycles of iteration with NTA and Dublin Bus, including an additional workshop focused on the peak-only services, leading to the July 2018 initial network proposal.

Following the second public consultation in summer 2018 (also described in Chapter 6), the consultant team facilitated further design workshops with NTA and Dublin Bus to take into account public input and submissions. This has led to the network now described in Chapter 7.

During the design workshops and subsequently we repeatedly checked how the new network would improve where people could get to quickly, and used that feedback to continuously improve the design. Network coverage, travel time and job access impacts are described in Chapter 8.

Figure 5: The chart below shows the process used to develop the network redesign proposal, and how each step relates to the chapters in the report. The revised network proposal comes on the heels of a comprehensive design process and two rounds of public consultation, in 2017 and 2018.



The plan is based on a geometric principle that may sound wrong when you first hear it: **a network that assumes you are willing to change buses can get you to your destination sooner.**

This is because reducing the number of bus routes allows each remaining route to operate more frequently. **In a network with relatively few but very frequent routes, getting from any point A to B can require changing vehicles at least once, but waits are very short.** So it's usually much faster than waiting for a direct route that may only come every 20, 30 or 60 minutes. We describe this principle in more detail in Chapter 5.

Following this principle, if the network redesign is implemented, a number of trips in Dublin that are now direct may require changing buses. However, most of those trips will still be much faster, as evidenced by the increase in access to jobs and educational opportunities shown in Chapter 8.

While a tolerance of interchange is thus an essential feature, there is still an inconvenience to getting off one bus, walking to a different bus stop, and getting on a different bus.

Thus, **the revised network redesign seeks to minimize the number of cases where multiple interchanges are required to complete a trip.** Under the plan:

- Within the M50, almost all areas retain all-day direct service to the City Centre. And nearly all areas with peak-hour direct service to or from City Centre retain a similar service, including in outer suburbs.
- All of Dublin is no more than one interchange away from the city centre.
- With few exceptions, trips between any two points in Dublin can be completed with no more than two interchanges, and often with zero or one.
- In very limited instances, three interchanges may be required between two points, but in practice that situation affects a very small number of trips going from one extremity of the network to another (e.g. Blessington to Skerries).

Taking into account public feedback after the initial proposal, **the revised network redesign also now includes many more peak-only and lifeline routes whose purpose is to maintain occasional direct trips to the City Centre** for commuter needs and to meet the needs of people with less ability to walk long distances to reach service.

Figure 6: Table explaining how the four main strategies behind the bus network redesign help solve known issues with the existing bus network in Dublin.

TOOL	PROBLEM ADDRESSED				
		Poor orbital service	Complexity	Low frequency	Buses in City Centre
	1 STANDARDIZE SERVICE CATEGORIES	Yes. Categories make planning efficient services easier.	Yes. Frequency and span are apparent from the category, without looking at timetables.	Yes. Standard categories make frequencies predictable and consistent.	Yes. Categories make planning efficient services easier, reducing excess bus trips.
	2 SIMPLIFY RADIAL SERVICE	Yes. Releases resources for orbital use.	Yes. Reduction of complexity, especially in city centre	Yes. Higher frequency for travel to, from and through the city centre	Yes. Consolidating service to the centre on fewer routes means frequency can be optimized, reducing surplus trips.
	3 BUILD FREQUENT ORBITALS	Yes.	Yes. The intersection of frequent orbitals and radials produce a pattern that is easy to grasp.	Yes. Increased orbital frequency.	Yes. Fewer passenger trips are forced through city centre, reducing loads.
	4 GROW SUBURBAN FEEDER NETWORKS	Yes. Improves market for both orbital and radial services to regional centres.	Yes. Fewer overlapping routes in suburban markets	Yes. Improved local frequency for travel within suburban areas.	Yes. Feeder networks support consolidating service to city centre on fewer routes.

Strategy 1: Clearer Service Categories

Strategy 1 is to develop a clearer set of service categories to which all services would be assigned.

Service categories mark clear distinctions in usefulness. For example, they clearly distinguish frequent services from infrequent ones, and peak-only services from all-day services. These categories improve the clarity of the network, and can form the basis for clearer mapping and public information.

A key idea is that **the network of higher frequency services (every 15 minutes or better) should be easy to identify**, because these services are so useful for a diversity of purposes.

Strategy 2: Simplify Radial Services

Figure 8 and Figure 9 show a schematic of the existing and proposed radial networks.

In the existing system, most radial corridors are served by a pile of overlapping routes, each of which goes to a different corridor on the opposite side of the city. This provides direct service

between many places, but many individual routes are not very frequent, so wait times can be long.

The proposed strategy would put a single line (the “spine”) on each radial corridor, but would run this service very frequently. Service would come every 3 to 8 minutes all day, so that the next bus is coming whenever you need it. This also means you could change from any spine to any other with little delay, so that trips across the city would still be easy. Again, total travel times are usually faster because the waiting time saved by the high frequency is greater than the time spent on the interchange.

Note that **each spine (e.g. A) would be composed of several branches (e.g. A1, A2, A3, A4), each of which would provide direct access to City Centre and points beyond.** No interchange would be required at the point where the branches peel off.

For example, heading from City Centre to a point on the A spine (e.g. DCU St. Patrick’s College), one would board any A bus (A1, A2, A3 or A4). Travelling from City Centre to a point beyond the “spine” segment such as Beaumont Hospital, one would board the appropriate bus (A1) for a direct trip.

Figure 8: Existing Network. Multiple routes from each corridor cross the city centre in different directions.

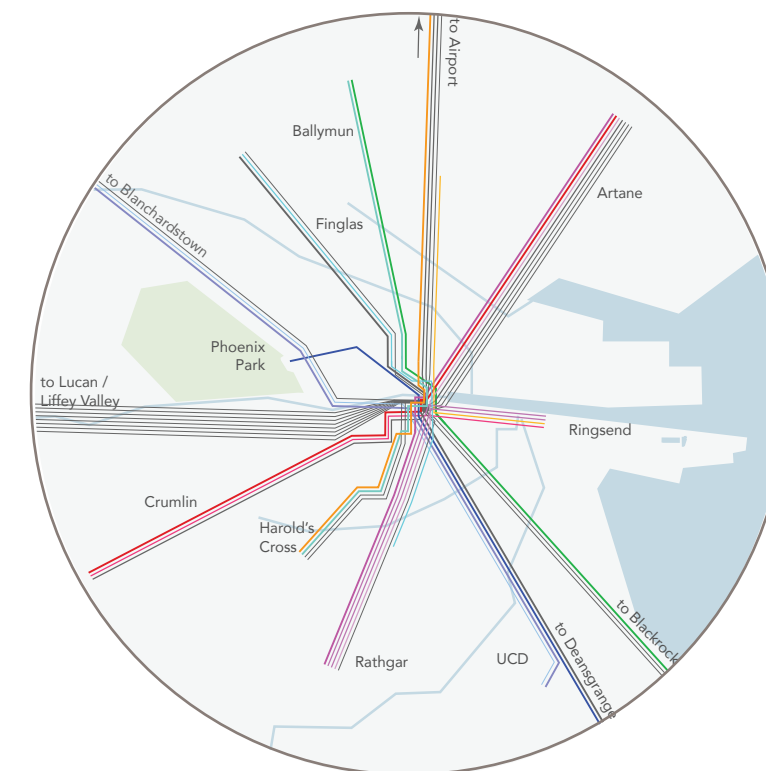


Figure 9: Proposed Network. Each corridor has a single frequent line crossing the city centre on a single path.



Figure 7: Montréal, Canada presents a simple map of just its high frequency services, so that people can see where they can go without waiting long.



Strategy 3: Build Frequent Orbitals

The lack of frequent orbital service is a major gap in the current network. As of late 2019, there are relatively few orbital routes, none of which operate more frequently than every 20 minutes in the middle of the day.

The network redesign would replace the existing orbital services with multiple frequent orbitals including:

- An inner orbital (O) operating two-way on the North and South Circular roads, every 8 minutes all day.
- Two northern orbitals operating every 10 minutes, serving key locations such as Beaumont Hospital, DCU, Charlestown, Finglas Village and Blanchardstown.
- One southern orbital operating every 10 minutes and two operating every 15 minutes, serving key locations like Ballsbridge, Rathmines, Heuston, UCD, Crumlin Hospital, Liffey Valley, Blackrock, Dundrum, and Tallaght (The Square).
- One western orbital operating every 15 minutes between Liffey Valley, Clondalkin Village and Tallaght (The Square).

The network redesign also would include several other less frequent orbitals along paths with fewer major destinations.

In some locations, existing radial routes would not be replaced, and frequent orbital service would be provided to the nearest radial instead, as shown in Figure 10.

Strategy 4: Replace Infrequent Radials with Frequent Locals

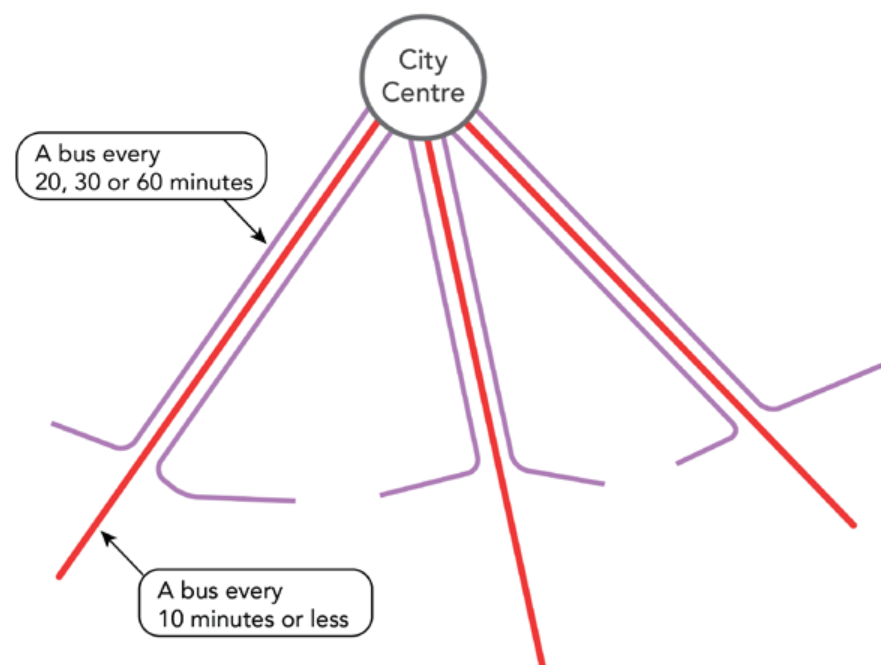
On the outermost edges of Dublin, long and infrequent routes from the city centre can be replaced by more frequent local routes feeding into a spine.

As in the other strategies, the result is a faster travel time due to reduced waiting, even though an interchange is required. Local routes are also very short, which makes them much more reliable.

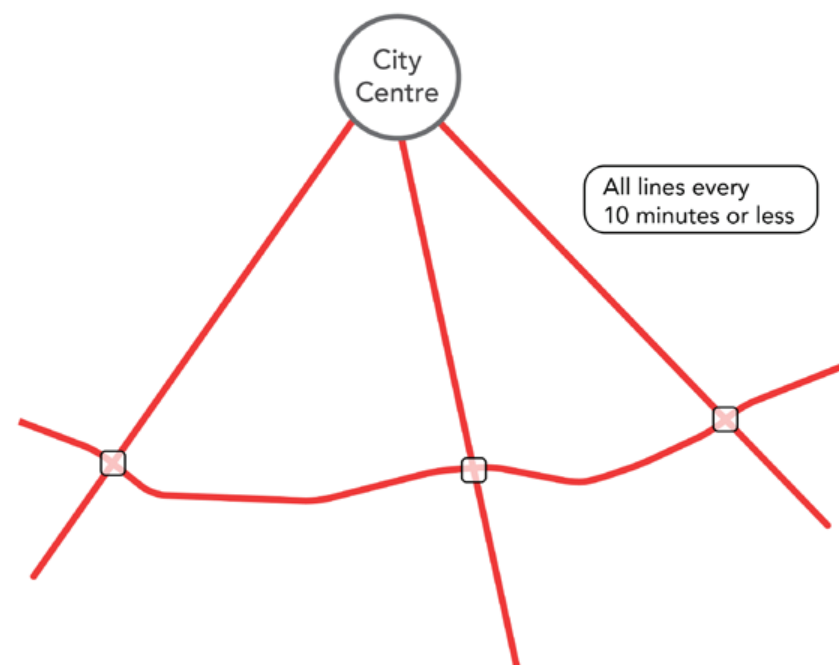
In certain cases, these feeder routes would be complemented by peak-only express routes providing direct access to City Centre at morning and afternoon commute hours.

Figure 10: In the existing network, many infrequent radial routes reach in areas far from main roads. For most travellers, a faster and more useful network arises from replacing such minor radial routes with frequent orbitals.

EXISTING NETWORK STRUCTURE



PROPOSED NETWORK STRUCTURE



Public Response to the Network Design Strategies Was Highly Favourable

The NTA carried out an initial public consultation on the general principles of the bus network redesign in June 2017. An online and paper survey seeking public input on Strategies 2 and 3, and more generally on the willingness to interchange.

The survey received over 11,000 responses, a very high number by the standards of any opinion poll. For context, national political opinion polls in Ireland are typically carried out on samples of fewer than 1,000 people, and almost never on samples larger than 3,000 people.

The overwhelming majority respondents strongly favoured the strategies presented. 89% agreed with pursuing the spine strategy, and 85% were positive about the orbital strategy. 81% agreed that it is reasonable to ask people to change buses if it gets them to their destination sooner.

This positive feedback gave NTA the necessary direction to proceed with the development of a network redesign, based on the strategies outlined above.

Figure 11: Public survey responses on openness to interchange for faster individual trips. (June 2017)

"We can ask people to change vehicles (buses or trains) once during a trip, if those people reach their destination sooner."

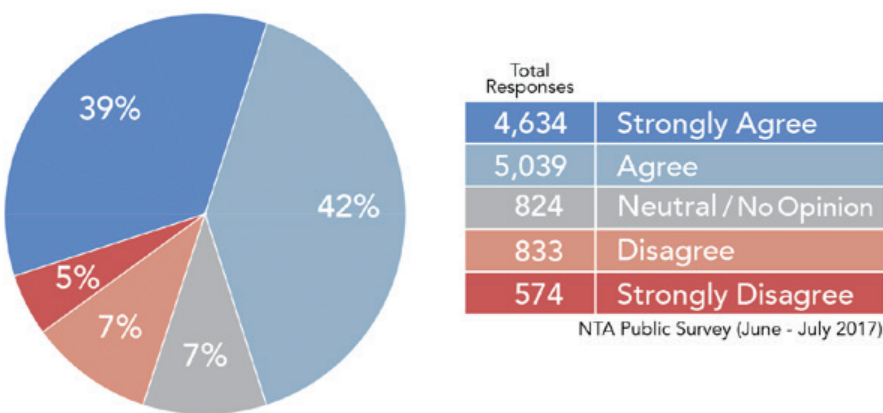


Figure 12: Public survey responses on the spine strategy. (June 2017)

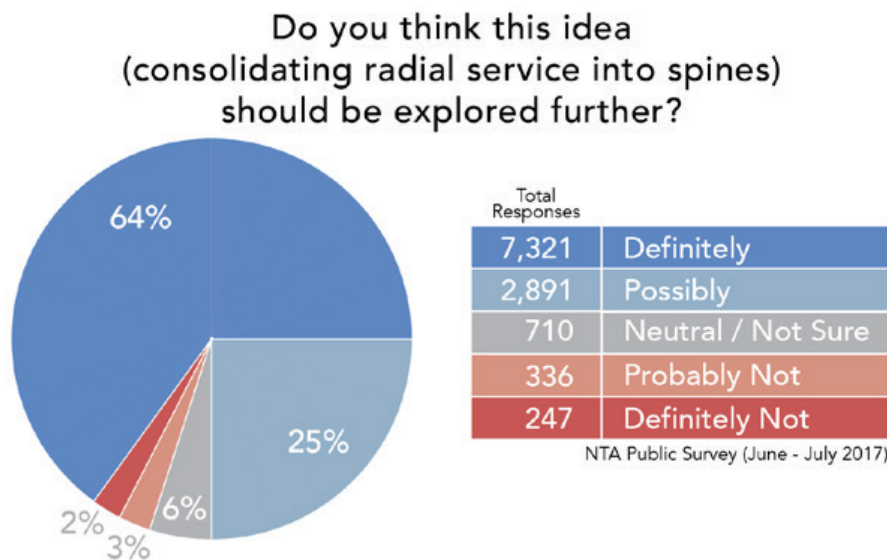
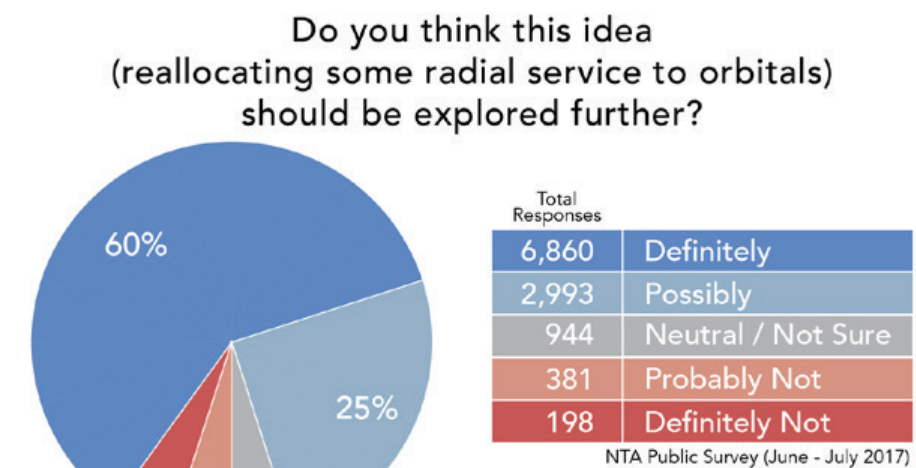


Figure 13: Public survey responses on the orbital strategy. (June 2017)



Consultation and Response

The NTA released the Public Consultation Report for the initial network proposal in July 2018, and carried out a three-month public consultation. This consultation included many opportunities for public comment, such as:

- An online and paper survey and comment form
- 33 public information sessions throughout Dublin
- E-mail and in-person (hard copy) letter submissions.

In addition, many unofficial local meetings were organized by politicians and community groups of all stripes. In total, the NTA received 20,751 responses to the survey, 7,780 written submissions, and 65 petitions with a total of 20,209 signatures. This represents an unprecedented level of response to a public consultation on public transport in Ireland.

Based on the comments received, the overall response to the initial proposal was negative. Nearly 60% of survey respondents said that the proposed network would be “worse” or “much worse” for Dublin than existing service; only 24% said it would be “better” or “much better”. The relative proportions of positive and negative responses varied slightly by age, geographic location and how often people ride public transport, but not in a way that changes this general conclusion.

This response reflects a wide variety of concerns. Some of the main ones include:

- People in many areas would be required to interchange to travel to or from the City Centre.
- Proposed peak routes and frequencies may not provide sufficient passenger capacity, causing overcrowding.
- Many proposed routes take different paths than existing service. Some could result in longer in-vehicle travel times.
- Changes to the network may be difficult for the elderly, as well as people who are physically and intellectually disabled.
- Established travel patterns to schools and hospitals would change, in many cases requiring more interchange.
- Existing conditions (mostly crowding) on Luas and DART do not favour additional interchange.
- Certain interchange locations require significant improvements to infrastructure.
- Potential loss of transport service in semi-rural areas.

Patterns of Response

The NTA read and analysed all received comments, and summarized the issues encountered by area of Dublin¹. The consultant team analysed patterns in survey comments, to help establish a hierarchy of concerns. Based on this analysis, the team noted that:

- Comments on the overall network proposal were in many cases positive, but comments citing specific situations and locations tended to be negative.
- Although some concerns were expressed from nearly all parts of Dublin, the levels of concern are very uneven from one area to another. For example:
 - » Half of survey comments citing specific areas came from 22 areas (of 147)².
 - » Half of survey comments citing specific routes related to 19 existing routes (of 115).

This helps explain the discrepancy between the results of the first and second consultation. The June 2017 consultation suggested that the vast majority of people approve the general ideas behind the network redesign, and the case was made in the Public Consultation Report that most people’s lives would be positively impacted.

However, in a comprehensive redesign of an entire bus network, there are many people who may in some way be negatively affected, and who will express legitimate concerns. **Many of these concerns were considered grounds to make revisions to the network proposal, as described in the following pages.**

¹ See *BusConnects: Dublin Area Bus Network Redesign, Public Consultation 2018, Key Issues Report*.

² A further example of how concentrated comments are in certain areas: Rush and Lusk, which together account for about 1.3% of the population of County Dublin, provided nearly 8% of comments identified by area in the survey. Similarly, nearly 8% of all comments identified by existing route mentioned Routes 33 and 33x, which serve northern Fingal.

The Revised Network Proposal

The two following pages show a big-picture look at the existing network and the revised network proposal. These maps are not meant to be legible in detail. Chapter 7 provides a complete atlas showing the proposed network for each sub-area of the city, also including rural edges that are not on this big-picture map.

Subsequent pages illustrate two of the network's most important "big ideas": the creation of spines and orbitals, and the significant expansion of the network of frequent routes.

To read most maps in this report, note that **red** is used to indicate high frequency service, **every 15 minutes** or better all day. **Thick red** is used for very high frequency, **every 6 to 8 minutes** or better, and **dark thick red** is used for extremely high frequency, **every 5 minutes** or better. Other colours indicate lower frequencies, as shown below.

Figure 14: Legend of colours used on the maps of the proposed network



The Big Ideas

The proposed network builds on the four strategies described above through the following actions:

- **Spines A to H would provide very high frequency on the main roads to and from City Centre.** Each spine is composed of several branches (e.g. A1, A2, A3, A4) which provide service beyond the main roads into neighbourhoods and suburbs. The branch timetables would be staggered to ensure regular frequency between buses on the main trunk. **All branches on spines A to G would operate cross-city,** to allow direct travel between the different sides of Dublin.
- **Frequent orbital routes would be added on the north, west, and south sides of the city so that far more trips can be made without going into the centre.** These orbitals would serve many trips that are very difficult to achieve by public transport in a reasonable amount of time today.
- **The all-day frequent network would be much expanded.** Nearly 200,000 more residents would be within 400m of the frequent network. About 125,000 more residents would be within 400m of frequent direct service to City Centre.
- **The frequent network would become a web-shaped grid, with many opportunities to reach more destinations.** Everywhere two red lines cross, a fast interchange between two high-frequency services would be possible. Today's network provides few of these high-frequency interchanges outside City Centre. The proposed network introduces many of them, all over the city.
- **More routes would converge on major suburban centres** – such as Tallaght, Dun Laoghaire, Liffey Valley and Blanchardstown – increasing local access and interchange opportunities at each centre. NTA is working to plan suitable capacity expansions for these facilities.
- **Travel within the City Centre would also become easier.** The proposed network provides the extreme frequency that short trips within the canals require, and offers many new direct links. A very frequent inner orbital route (Line O) would also make it easier to travel on the edges of the centre.
- **Significant additions to evening and weekend service.** On weekdays, all frequent routes would operate every 15 minutes or better from 6 AM to 11 PM. All frequent routes would retain service every 15 minutes or better on Saturday, and most would have this on Sunday as well.

Key Revisions and Updates

Following on the input received in public consultation, the revised proposal introduces significant revisions:

- **More direct frequent services to City Centre,** reflecting a significant expansion of the spine-and-branch system.
- **Additions to proposed peak-hour services.** Proposed peak frequencies match the latest data on observed demand and likely short-term growth. The vast majority of existing peak-only routes are reproduced in the proposed network
- **More direct lifeline services to City Centre** in areas that would be further from frequent main lines. Service every 30 to 60 minutes ensures a minimum level of service for people who are not able to walk longer distances.
- **More direct services to hospitals,** schools and other important community, health and social service destinations.
- Every route in the proposed network was reviewed; nearly all show some routing or frequency adjustment, or both.

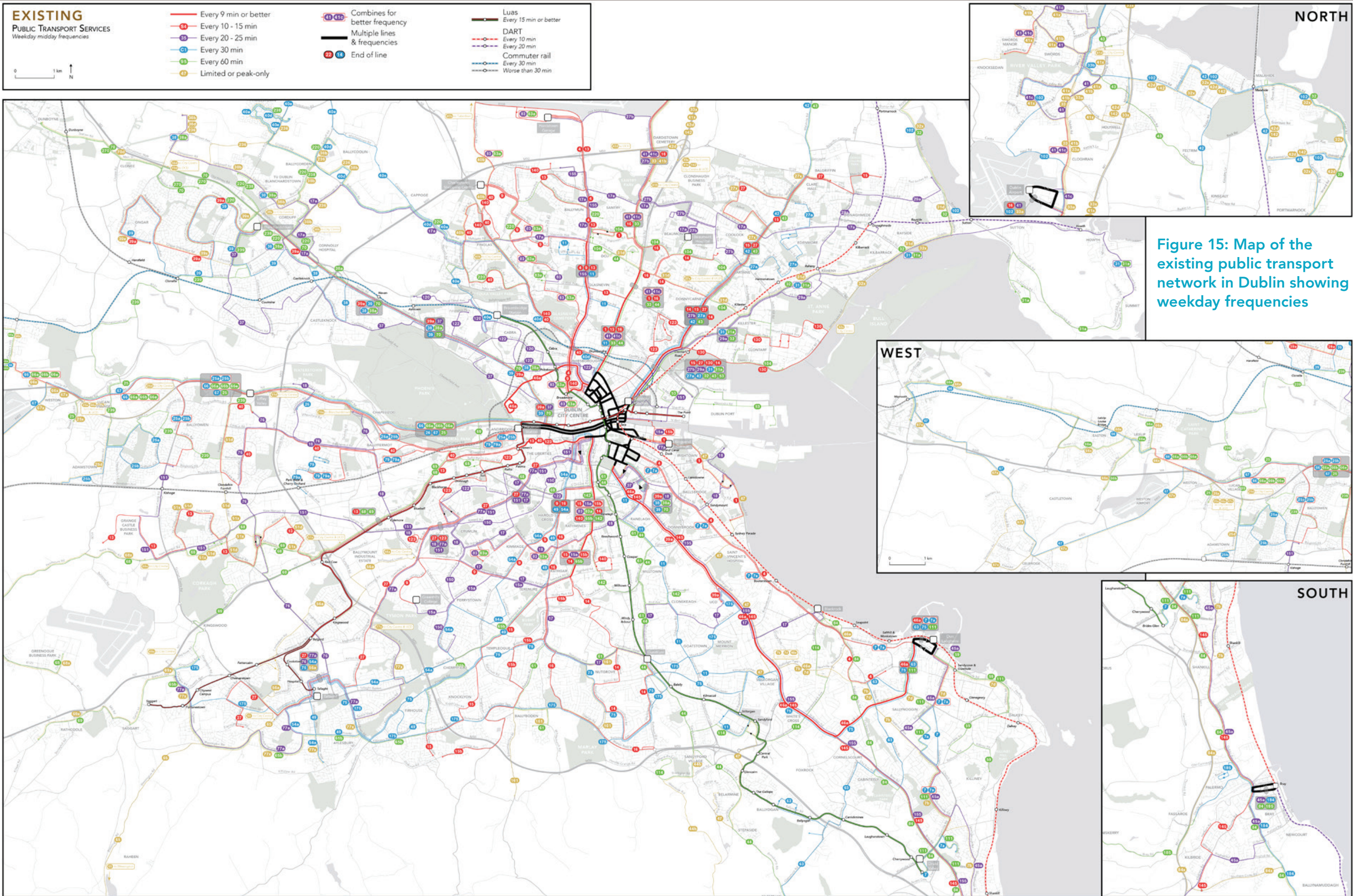
All told, **the revised proposal includes 22% more service hours than are currently provided** on an annual basis, and over 50% more service than was provided in 2016.

Assumptions

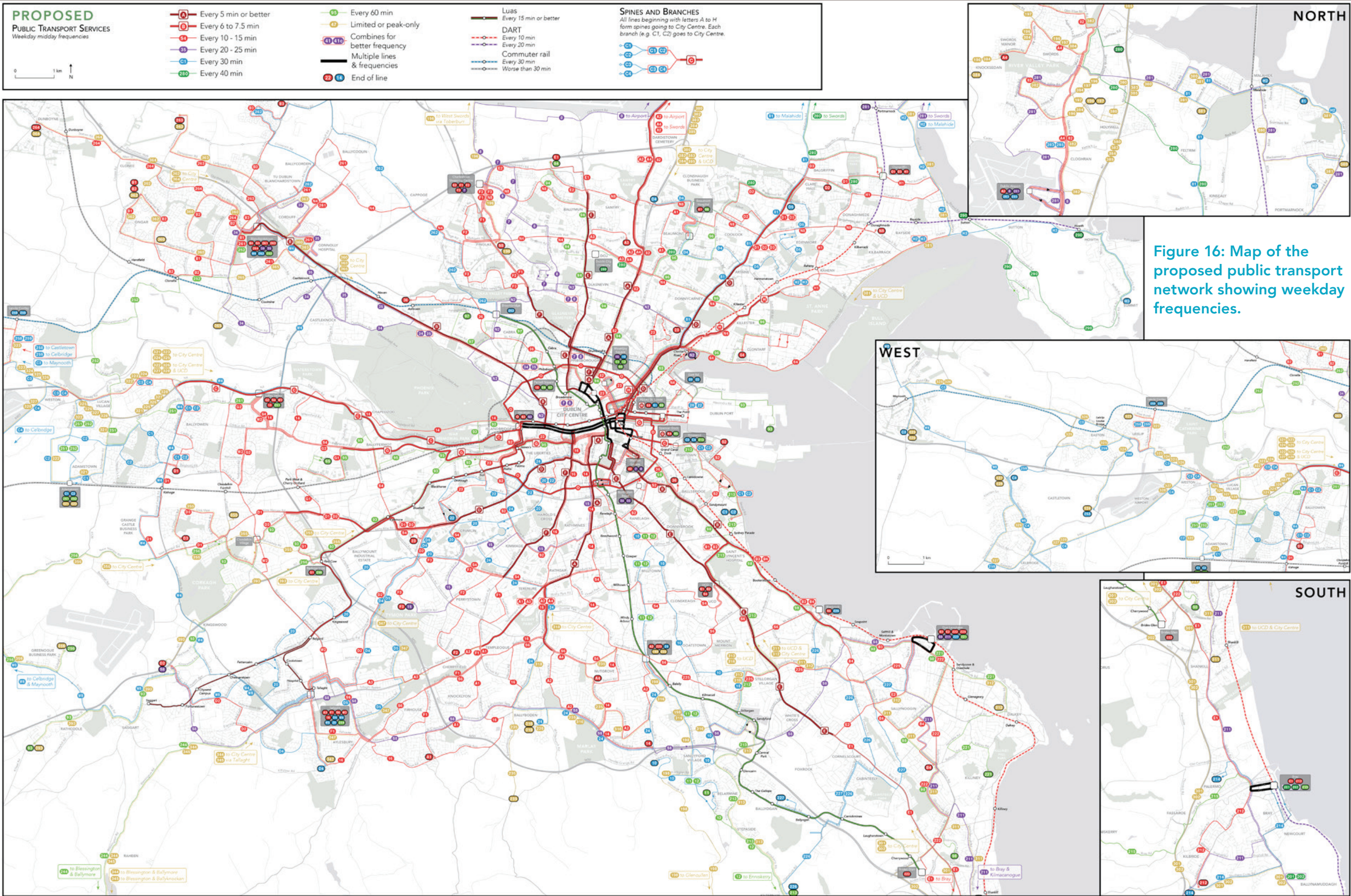
The revised proposal is still built on the following assumptions:

- **Fare penalties for interchanging are removed.** Any fare paid getting on the bus would be valid for 90 minutes throughout the Dublin public transport network. No second fare would be required upon boarding a second vehicle.
- **Progressive improvements in reliability** as the Core Bus Corridors project and other initiatives increase bus priority on Dublin's main roads.
- **Information is available at every interchange stop, and any walk required for the interchange is safe.** NTA would work with local councils to improve stop locations and pedestrian facilities to ensure short and easy connections. A program of improvements would progressively bring better shelter and lighting to all interchange stops.
- **Key interchange facilities can be developed and expanded.** The plan requires only one entirely new interchange, at Liffey Valley Shopping Centre. Several other interchanges (e.g. in Tallaght, Blanchardstown, Dundrum) would need expansion.

Existing Network: Big Picture



Revised Proposed Network: Big Picture



Big Idea: Spines and Frequent Orbitals

Simple, Frequent Routes Across the Core

In the proposed network, most of the bus routes that flow into the centre of Dublin would be reorganized into eight spines.

Spines are very frequent bus lines, designated by a letter (from A to H). Each spine is composed of several numbered branches (e.g. A1, A2, A3, A4), whose timetables would be staggered to provide extremely high frequency on the main trunk. No interchange would be required at the point where the branches peel off.

With service every 3 to 8 minutes all day on every spine, a bus would always be coming soon. This high frequency would make it very fast to connect from one spine to another, as well as to other frequent lines like DART, Luas, and the frequent orbitals.

A person could navigate much of inner Dublin paying attention only to the spine letter, and ignoring the number. Signage and information in this area should use a term like "all A buses," to reinforce this simplicity.

Frequent Orbitals

The proposed network includes seven orbital lines that would operate every 8 to 15 minutes. These would serve the growing number of suburb-to-suburb trips, and provide additional interchange locations outside City Centre for those travelling cross-city.



Figure 18: This image shows a possible design for a bus stop sign for the A spine and branches southbound. This shows that all A buses go to Terenure, and which specific buses (A1, A2, A3, or A4) to board if one is travelling beyond Terenure.

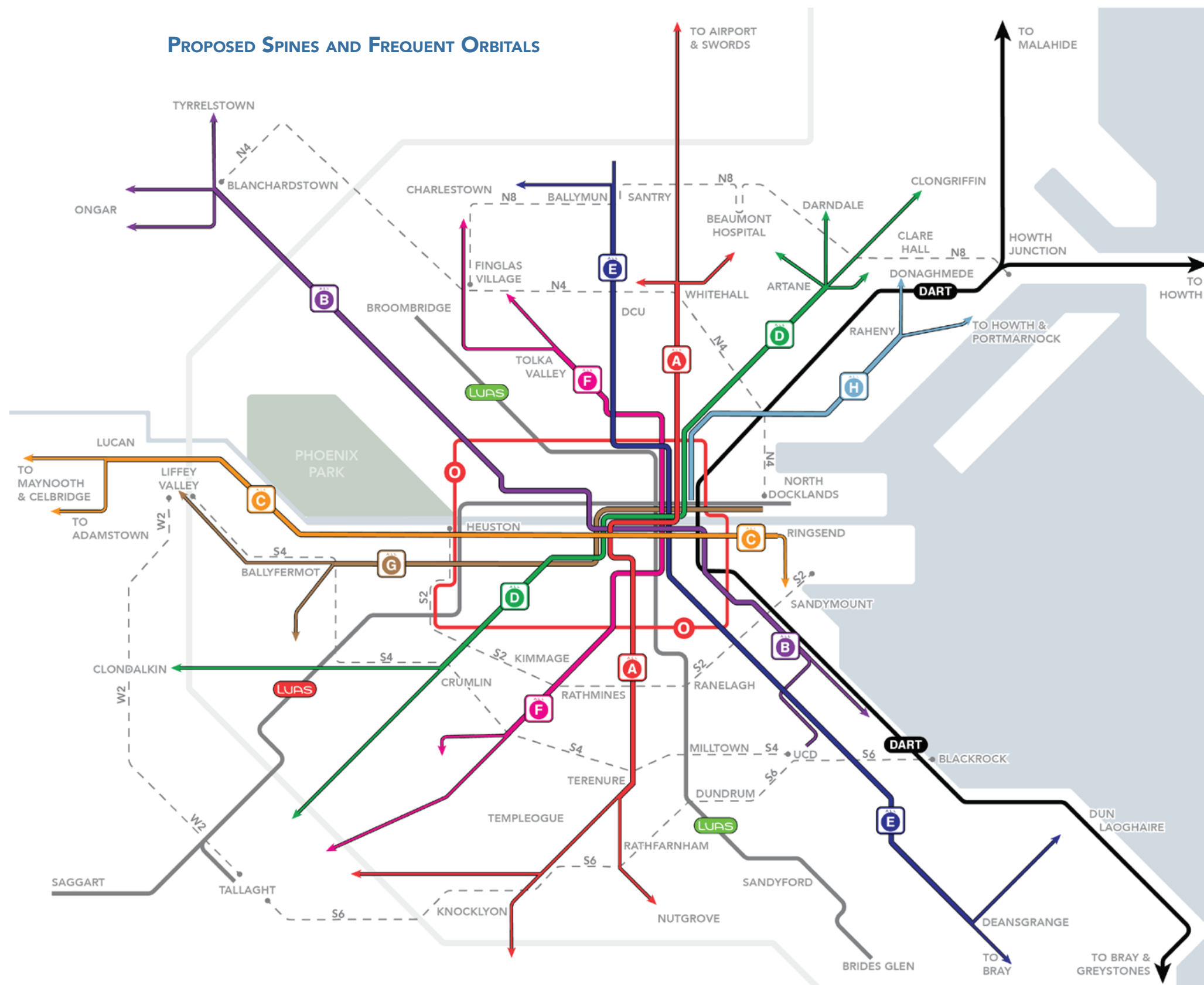


Figure 17: The image above is a simplified diagram of spines and frequent orbitals in the proposed network. Spines would have buses every 3 to 8 minutes, and divide into branches (e.g. A1, A2, A3, A4) with no interchange required. Most branches would operate every 15 minutes or better, with higher frequencies at peak times. The orbitals shown in grey on this map would operate every 10 to 15 minutes. The O would run every 8 minutes, almost like a spine.

Big Idea: Expanding the Frequent Network

The images on this page show the existing and proposed high-frequency networks -- the network where the bus comes every 15 minutes or better all day. Darker red means still higher frequency.

When service comes very frequently, you no longer plan your life around a timetable. Without high frequency, the market for public transport is limited to the small number of people who have the spare time and patience to bear long waits, or understand the timetable. The NTA has recognized the considerable benefits of frequent all-day service, and many of the new service investments made in 2017 and 2018 serve to reinforce the existing frequent network.

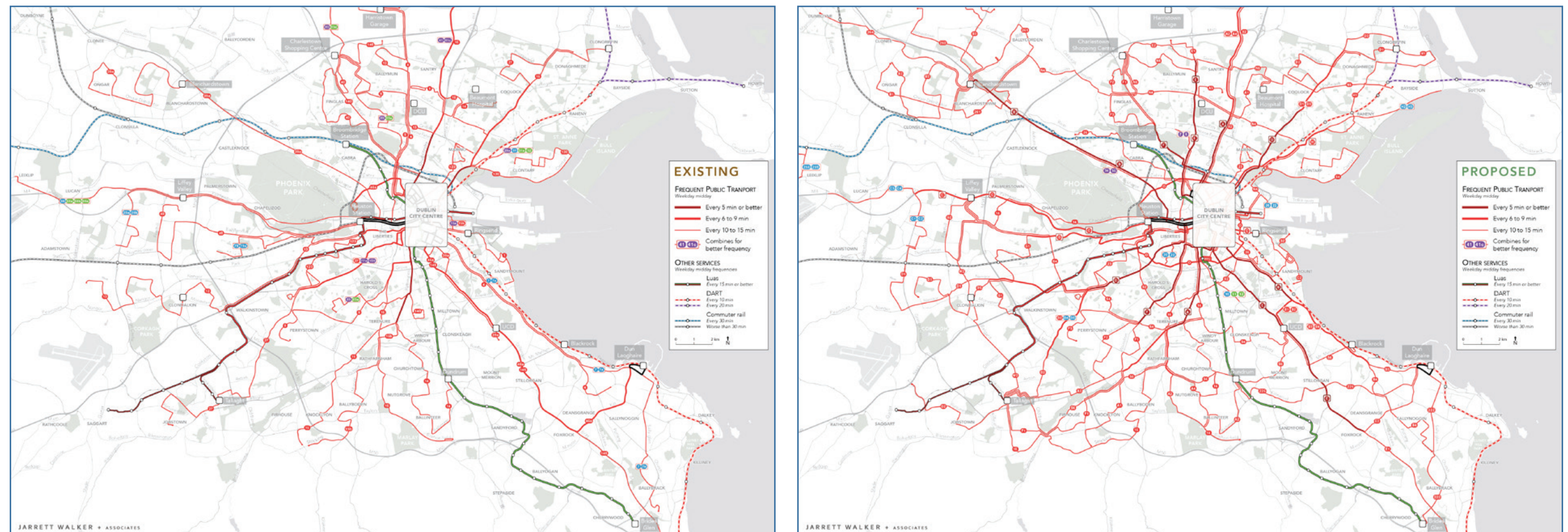
Where frequent lines cross, fast connections are available.

The existing bus network remains overwhelmingly focused on service to and from the City Centre. In contrast, the web-shaped grid of frequent services in the proposed network would also make it easier to travel between places outside the city centre. The many intersections between radial and orbital lines would allow faster and more convenient travel in many different directions.

Fast connections mean that any frequent line is useful to reach places on any other frequent line it meets. These frequent connections are the essence of how the plan expands where people can go in a reasonable amount of time.

- The number of Dublin-area residents within 400m of weekday service every 10 minutes or better would increase by 15%, from 570,000 to 670,000.
- The number of Dublin-area residents within 400m of weekday service every 15 minutes or better would increase by 25%, from 830,000 to over 1 million.

Figure 19: The maps below compare existing frequent routes (i.e. service every 15 minutes or better on weekdays, as of late 2019) to the frequent service in the revised network proposal. The frequent network would be significantly expanded in the revised network proposal.



The Result: More Useful and Liberating Service

Your freedom to pursue life's opportunities depends in large part on your transport options. If you can't go many places in a reasonable amount of time, you can't do many things.

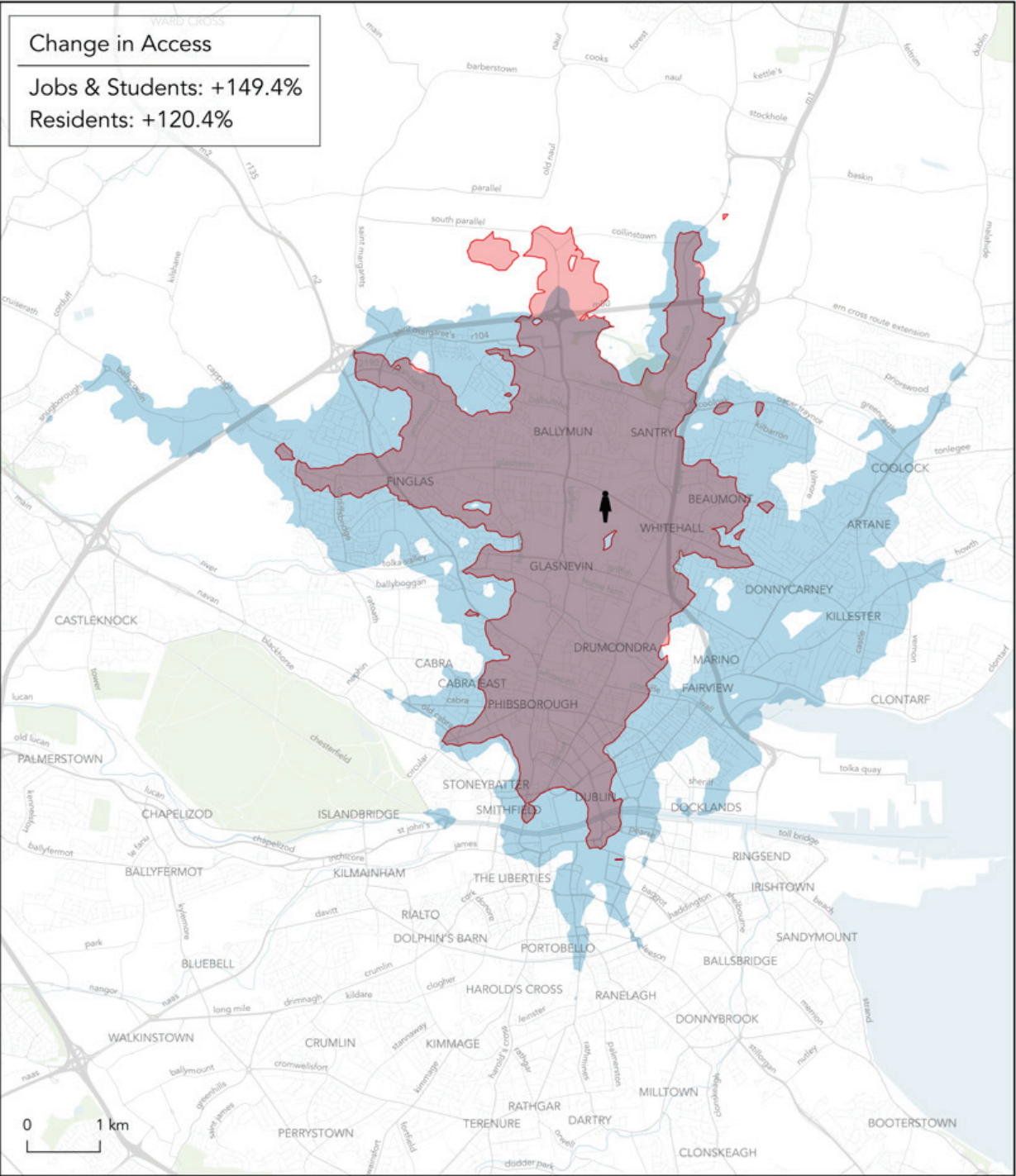
If the goal is for public transport to carry more people – and, implicitly, limiting congestion and enhancing sustainability and prosperity – the best way to do that is to make public transport more useful and therefore more liberating.

The image across shows an example of what this means, from the point of view of someone at Dublin City University (DCU). In this image,:

- **Purple** is the area that **someone can reach today in 45 minutes or less, and could still reach in 45 minutes** under the plan.
- **Red** is the area they **could no longer reach in 45 minutes** in that time.
- **Blue** is the area that they **can't reach now but could reach in the new network**. There is clearly far more blue than red, which is true across almost all of the city.

In the upper left of the image, we quantify this impact: if this network were implemented, more than twice as many residents (+120%) would be located within 45 minutes of DCU by public transport than are today. And the average student at DCU could access over twice as many jobs within 45 minutes than they can now.

How far can I travel in 45 minutes from Dublin City University - Main Campus on weekdays at 12 pm?



- **The average Dublin-area resident could reach 27% more jobs and student enrolments in 30 minutes or less.**
- **Benefits would extend far beyond the urban core. The average residents living beyond the M50 could reach 26% more jobs and student enrolments in 45 minutes or less.**

Figure 20: The map above shows how far one could travel by walking, waiting and public transport in 45 minutes, starting from the middle of the Dublin City University's main campus. It shows that many more places would become reachable if the network proposal were implemented.

How Far Can You Go?

In the course of developing the proposed network, the NTA and consultant team tracked how many jobs and third-level (university) student enrolments could be reached within 30, 45 and 60 minutes of any part of the Dublin metropolitan area.

It's more difficult to measure access to other opportunities, like shopping and socializing, but an improvement in access to jobs and universities is a signal that access to many other activities will improve as well.

The map across shows the change in the number of jobs and student enrolments that could be reached in 45 minutes changes from any part of Dublin. Green means that the number increases, and darker green means a bigger increase. Brown indicates a decrease in the number of jobs that can be reached.

The impact would be overwhelmingly - but not universally - positive. This reflects the impact of adding more service, of making that service more frequent, and ensuring that frequent radial and orbital lines connect in a web-like grid.

The overwhelming majority of trips on public transport in Dublin would take less time. Nonetheless, certain areas would experience a reduction in access, and there will still be examples of trips that would take longer in the proposed network than with existing service.

Overall, we estimate that about:

- 65% of Dublin-area residents will experience a measurable increase¹ in job access within 45 minutes.
- 5% of Dublin-area residents will experience a measurable decrease² in job access within 45 minutes.

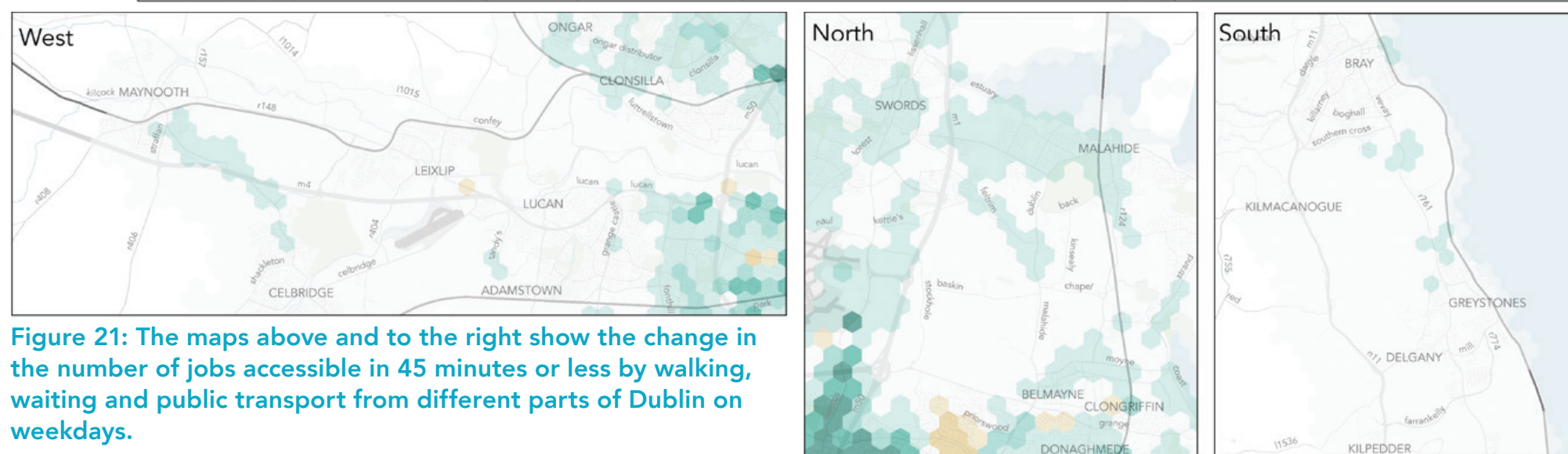
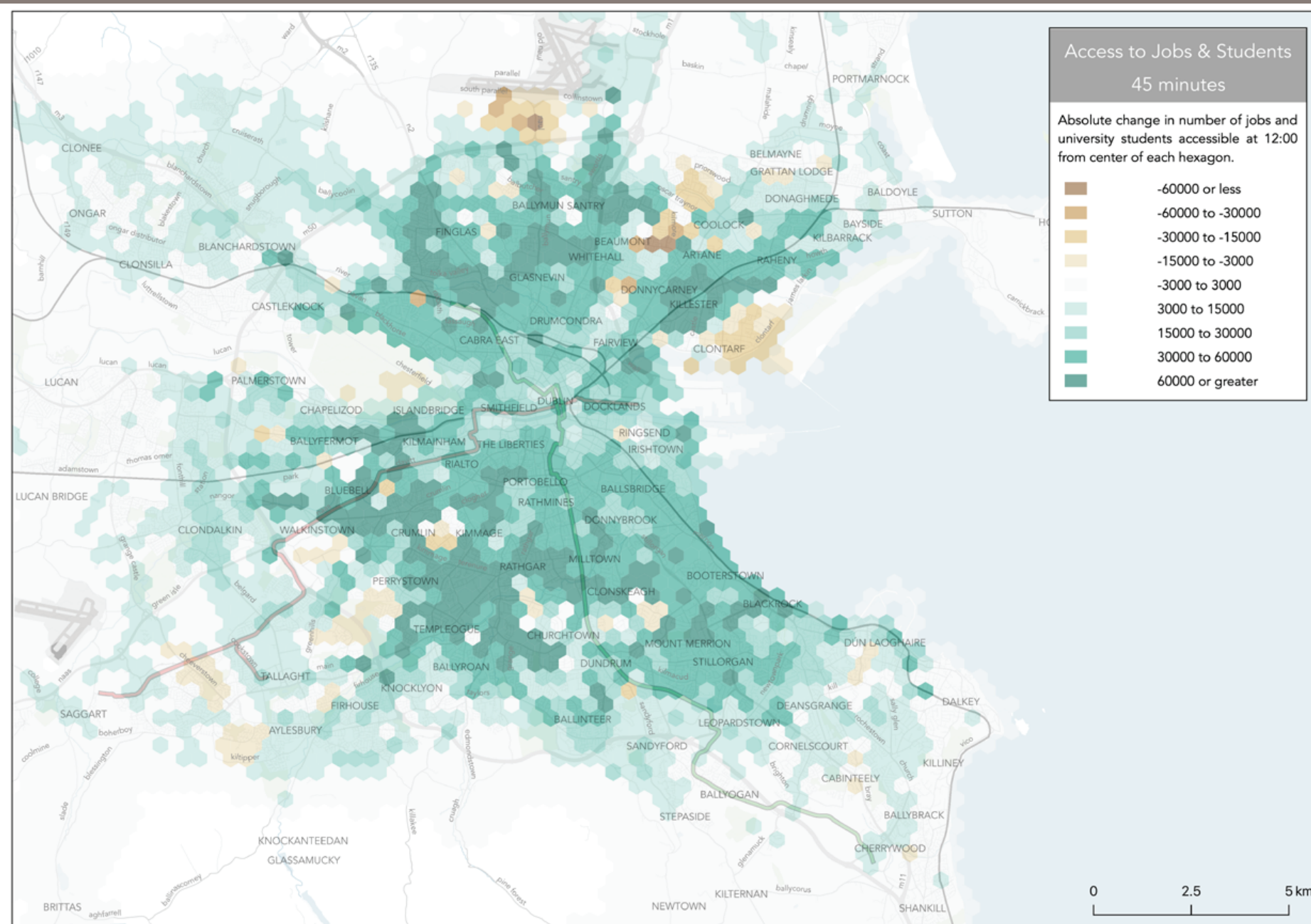


Figure 21: The maps above and to the right show the change in the number of jobs accessible in 45 minutes or less by walking, waiting and public transport from different parts of Dublin on weekdays.

¹ +10% or better.

² -10% or worse.

Public Consultation

This report launches a public consultation starting in October 2019. All residents are encouraged to review the proposed network and submit their comments.

- Further information on the plan, including the complete report and detailed maps and other information, can be found at busconnects.ie
- Let us know what you think! You can also provide a submission online at busconnects.ie.

Submissions and public comment will help guide final decisions about the plan.