



TRANSFORMING CITY BUS SERVICES



Collaborative Planing Process

The initial network proposal was largely developed in intensive design workshops where experts from the NTA, Dublin Bus, local councils and consultant team met all day for multiple days to craft the network together. The consultant team then further refined the plan thorough continuous conversation with NTA staff, and additional workshops with both NTA and Dublin Bus, to yield what was presented in the 2018 public consultation.

Following on the second public consultation in 2018, the network was revised through a series of further design workshops with the NTA and Dublin Bus, as well as a more detailed off-line review of existing peak-hour services and passenger loads.

Throughout the planning process, the impact on access - where people could get to in a given amount of time - served as a guiding indicator. We used this information to revise the network design to ensure the best possible outcomes. Travel time and access outcomes for the new network are explained in Chapter 8.

What's Changed Since Last Year?

This chapter summarizes the guiding principles behind the revised proposed network, how and where those are different from the 2018 network proposal, and what the proposed service is like in each part of Dublin.

- 1. The general principles and Dublin-wide ideas are presented from page 85 to page 108.
- 2. A detailed description of the revised proposed service in each part of Dublin is presented from page 109 to page 165.
- 3. A table listing changes from the initial (2018) proposal to this revised proposal is provided as an Appendix to this report.

Initial Guiding Principles

In descending order of importance, the following principles have guide the revised network design. These are maintained from the initial network proposal, but with a slight shift in emphasis between them:

- Expand people's ability to get more places, sooner. This remains the primary goal of the network redesign and the basis for how it would attract more customers and improve the liveability of Dublin.
- Continue to serve the entire area now served. Everyone who has service nearby now would continue to have service nearby. This principle has been reinforced in the revised network proposal. To the extent gaps existed in the initial proposal, the vast majority have been filled.
- Create a simpler network, that is easier to understand, navigate, explain, and remember. However, a stronger emphasis on the goal of continuing to serve the entire area has somewhat reduced the pre-eminence of this principle.

Together and in this order, these principles imply several others:

- Focus on the network of high frequency lines, and on expanding the hours at which high frequency service is available. By high frequency service, we mean service coming every 10 to 15 minutes or better. Because wait time is such a large component of urban public transport trips, reduced wait times are essential to expanding the range of places people can go using public transport.
- Increased interchange is acceptable if it leads to **improved travel times**. It takes a combination of multiple connecting high frequency lines to turn a pile of bus routes into the City Centre into a comprehensive network that can allow people to efficiently travel throughout Dublin.
- We must be open to change wherever it improves ser**vice**. A route should not be left unchanged purely because it is historic or because some people are used to it. It must make sense as a way to achieve the goals of the network today and in future. The overwhelming majority of street segments that are served today are served in the new network, but that is because they still make sense, not just because they were served before.

Responding to Consultation Feedback

These high-level guiding principles have also been set against some of the key considerations brought up in the second public consultation, with the following results.

- since 2016.



• Direct service to the City Centre. In the interest of minimizing the impacts of interchange on vulnerable populations, the revised proposal sets the principle that 95% of areas with zero-interchange service to the City Centre will maintain this. Nonetheless, there will be many cases where this "direct" service may not be the fastest or straightest path. The priority for investments in frequency will remain on the primary spines and orbital paths as this has the greatest overall impact on overall mobility.

• Avoiding overcrowding at peak travel times. In response to concerns about peak crowding and the difficulty of interchange onto crowded rail and mainline bus services, the revised proposal includes approximately 10% more service and vehicle capacity at peak than in the initial proposal. This amount was determined based on peak-hour passenger counts performed at locations throughout Dublin in November 2018, and a review of patronage trends by route

• Ensuring neighbourhood connections to schools, hospitals and other services. The initial network proposal prioritized expanding the ability to get to the highest number of places above all. In some cases, this led to route designs that would have severed existing direct connections to schools, hospitals and other critical services. Many of these connections have been restored with changes to route design in the revised proposal.

• **Continuing service in semi-rural areas.** The initial network proposal did not include service in certain semi-rural areas that have historically been served by Dublin Bus. The general idea was that these areas would be served by new Local Link services, but the replacement service had not yet been designed. This service is now designed and included for reference in the maps and other materials in this document.

Key Assumptions

In applying the principles laid out on this page, the proposal assumes broader improvements to public transport in Dublin.

No Fare Penalty for Interchange

The proposed network relies on increased interchange to improve access and reduce total travel times. Therefore, it is critical that the fare and ticketing system be revised.

Ideally, a customer's fare for a given trip should be the same regardless of which part of the network is being used (bus, Luas, DART or Commuter Rail), or whether any interchange is required. The NTA is actively working on fare integration strategies to support higher levels of interchange. Therefore, the plan assumes that at minimum:

- The fare schedule will be the same across bus, Luas, DART, and Commuter Rail.
- Customers using the Leap card will not pay a second fare when interchanging between bus, Luas, DART and Commuter Rail.

Improved Commuter Rail Frequency

We assumed that DART will operate every 10 minutes between Howth Junction, Dublin city centre, and Bray (as it has since September 2018), and every 20 minutes on the branches to Howth, Malahide, and Greystones.

We also assumed that Commuter Rail services will operate at improved midday frequencies:

- Maynooth Line: Every 30 minutes between Maynooth and Connolly Station.
- Kildare Line: Every 60 minutes between Kildare and Heuston Station.
- Northern Line: Every 60 minutes between Drogheda and Connolly Station.

Infrastructure Improvements

The vast majority of this network proposal can be operated using current infrastructure. Nonetheless:

- At least one new major interchange facility will be needed (Liffey Valley), and at least 2 others will require expansion in the short term to accommodate significantly higher volumes of terminating and through-running buses (Blanchardstown, Tallaght).
- A number of other locations are operable in the short term, but would benefit from improvements to allow for greater passenger and operator comfort.
 - » An example of one such location would be at Beaumont Hospital, where the number of terminating and through-running buses would also increase, if less dramatically than in the locations above.
- A number of locations on the proposed network are designed with the notion of interchange in mind, in places where existing facilities would not make it comfortable for large numbers of people. These don't prevent the proposed network from operating, but the full benefits of the network will not be realized until interchange conditions at such locations are improved.
 - » An example of one such locations would be the junction of the N11 and Wyattville Road, where a route with service every 10 minutes to City Centre (E1) and another with service every 15 minutes to Dun Laoghaire (222) would intersect. Existing facilities make it possible but relatively difficult to interchange at this location. Both routes can function without the improved interchange, but both would benefit from it as well.
- Improvements in travel time reliability will continue to depend on improvements to bus priority.

Once implemented, the continued high performance of the proposed network will depend in part on continued improvements to interchange stops, and continued bus priority improvements on the Core Bus Corridors.



REVISED NETWORK PROPOSAL

Overview

The proposed network would organize bus routes into six categories according to their role in the network structure. These are:

- Spines.
- Spine Branches.
- Orbitals.
- Other Radials.
- Locals.
- Peak Only Services.

Spines: Simple, Frequent Routes Across the Core

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

Spines are very frequent routes. With a bus coming every 3 to 8 minutes, there is always a bus coming soon. This high frequency makes it very fast to connect from one spine to another, and to other frequent services like DART, Luas, and the frequent orbitals. Most spines would operate cross-city, meaning that buses don't end in City Centre, but continue across the centre and to the other side of Dublin.

Spines are designated by the letters A to H. Each bus would be designated by a letter followed by a digit (e.g. "A1") where the letter indicates the spine and the digit indicates the specific branch the bus follows (see "Spine Branches" below).

A customer would be able to navigate much of inner Dublin by treating the letter as identifying a single line, and ignoring the number. Signage and information in this area should use a term like "all A buses," to reinforce this simplicity.

Spine Branches

A spine is not a route in itself. Rather, it is a combination of two to five bus routes that operate with staggered timetables to provide high frequency on the "spine" segment.

Each of these routes in a spine branch. **No interchange is required where the branches merge to form the spine.** Branches leading to and from the same spine share a letter (e.g. "A") but have different numbers (e.g. "A1", "A2", "A3, "A4").

Most spine branches are proposed with all-day frequencies every 10 to 15 minutes.

Orbitals

Orbitals are routes that connect multiple neighbourhoods and destinations but do not run into the City Centre. They tend to run perpendicular to the spines and other radial routes. Together, orbitals and spines form a web-shaped grid.

- N1-N9 are North Orbitals. These are east-west routes across the northern side of the city, numbered outward from the city centre.
- S1-S9 are South Orbitals. These are east-west routes across the southern side of the city, numbered outward from the city centre.
- W1-W9 are West Orbitals. These are north-south routes across the western side of the city, numbered outward from the city centre.
- O is the innermost orbital route, running near the canals. It is the only one that forms a complete loop around the city.

The O orbital would run every 8 minutes on weekdays. Five other key orbitals would run every 10 to 15 minutes. A further three would run every 20 to 30 minutes all day, but with higher frequencies at peak hours.

Other Categories

There are three other categories of service, which carry numbers without an initial letter:

- **Numbered Radials**. In some areas, main roads run too far apart for radial service to be provided entirely through the spine-and-branch system. In these places, radial routes are numbered between 1 and 99. The frequency on routes 1 to 99 varies by route and anticipated level of demand.
- **Suburban Locals**. These routes cover outer suburban areas and connect them to major suburban centres and interchanges where passengers can connect to spines, orbitals, or rail services. Local routes are numbered from 200 to 299.
- **Peak-only services.** These are routes run only during the peak period. Peak-only routes are numbered from 300 to 399. The design and function of peak-only routes may vary:
 - » In some cases, they provide direct service to City Centre in places where this is not available in the midday.
 - » In some cases, they provide faster or express service to City Centre in places where the journey on a local route would be very long.



Figure 104: The diagram above illustrates the spine, spine branch, orbital, radial and local and peak-only route types, as described on this page.

BUS CONNECTS



Existing Network: Big Picture





EXISTING NETWORK

Dublin Area Bus Network Redesign Revised Proposal - October 2019

Revised Proposed Network: Big Picture



JARRETT WALKER + ASSOCIATES



PROPOSED NETWORK

Dublin Area Bus Network Redesign 89 Revised Proposal - October 2019



A Major Investment in Added Service

The revised network proposal reflects a substantial investment in new public transport service for Dublin by the National Transport Authority.

How do we measure investment in service?

The three operating factors with the most direct impact on the cost of providing service and the level of service visible on the street are:

- Vehicle in-service hours. This is a direct measure of the number of hours that buses are out running on the streets and carrying passengers. The number of in-service hours is perhaps the most direct measure of the level of investment in service. This is because the largest cost of providing public transport service is the cost of labour, which relates to the number of in-service hours on the road. Labour typically accounts for 50 to 70% of the cost of bus operations.
- Vehicle in-service kilometres. This represents the total kilometres driven by buses while they are out running on the streets and carrying passengers. This is perhaps the most direct measure of the level of actual transport service provided to the public. From a cost point of view, maintenance costs are a function of how many kilometres a bus operates. This typically account for 10 to 20% of all operating costs.
- **Peak vehicle requirement.** This measure tells us how much service is being provided during the weekday morning peak only. As such, it is not a very good indicator of the overall level of service. Nonetheless, the number of peak vehicles has a significant influence on service cost, for two main reasons. For one, each additional vehicle requires an initial purchase, and incurs ongoing inventory, maintenance and depreciation costs, even if it is used much less than other vehicles. For another, it's generally more expensive per hour to pay drivers for short, peak-only shifts.

New Service Investment

Based on a detailed accounting of the amount of service intended in the revised network proposal, relative to 2016:

- Annual in-service hours would increase by 52%.
- Annual in-service kilometres would increase by 35%, from 47.6 to 64.3 million kilometres per year.
- The peak vehicle requirement would increase by 15%, from 1014 to 1167.

The NTA has already made significant investments in additional service from 2016 to 2019. So relative to 2019, in-service hours would increase approximately +22%, and in-service kilometres would increase approximately +18%. This is approximately 20% more service than was included in the initial network proposal, largely in response to input from public consultation.

The breakdown of this cost by hours, kilometres and fleet tells us that:

- Overall, larger investments are being made on the busiest routes. This is reflected in the fact that the investment in service hours is not guite matched by the added number of vehicle kilometres. The busiest routes in any bus network tend to be slower for two reasons:
 - » They operate in the areas where more people want to go, so they tend to be on more congested streets.
 - » The higher number of boardings and alightings require more stops, and often longer dwell times at stops.
- Most of the investment in new service is provided off**peak.** This is reflected in the 52% total new service, but only a 15% increase in peak vehicles (relative to 2016).

	Existing	Service	Proposed	Network
	2016	Initial	Revised	
In-Service	17.6 mlm	54.4 mln.	55.1 mln.	64.3 mln.
Kilometres	47.0 min.	+ 14%	+ 16%	+ 35%
In-Service	2.02 mln	3.78 mln.	3.86 mln.	4.61 mln.
Hours	3.03 min.	+ 25%	+ 27%	+ 52%

Major Purposes of New Investment

include:

- ing capacity issues.

table shows existing levels of bus service in Dublin as of 2016 and 2019, and compares those to proposed levels of bus service in the initial and revised network proposals.

Figure 107: This



Relative to 2019 service, the major sources of increased service

• More all-day service on weekdays: +10% annual service hours. Overall, the revised network proposal includes a higher level of baseline weekday radial and suburban local service than the existing network. Far more areas would experience frequency increases than reductions.

• More frequent orbitals: +15% annual service hours. The existing network has only six true orbital route (Routes 17, 17a, 18, 75, 76 and 175), all of which are infrequent. The new network features eleven orbital routes, seven of which would operate every 15 minutes or better.

• Increased peak service: +5% annual service hours. The total level of designed peak-hour service (between 7:00 and 9:00, and 15:00 and 18:00) would increase around 10% from existing levels, in response to comments heard during public consultation. Furthermore, the peak vehicle requirement reflects an additional contingency for emerg-

• Increased weekday evening frequency: +4% annual service hours. In existing services, most routes experience a significant reduction in frequency around 19:00. While the proposed network still provides less service overall in the evenings than at midday, all frequent services would continue at every 15 minutes or better until 23:00.

• Increased weekend frequency: +4% annual service hours. The proposed network increases both Saturday and Sunday service relative to existing levels, though it still features less service on weekends than on weekdays. This partly reflects lower demand and the absence of peak hour conditions, but the larger limiting factor is the much higher hourly cost of Sunday and holiday service.

What is the Frequent Network?

As discussed in Chapter 2, frequency is a dominant factor in determining whether urban public transport is useful. Frequency means that a customer:

- Travels closer to their desired time.
- Can connect easily between routes to reach many destinations
- Experiences less delay when a single bus is disrupted.

We define the Frequent Network as the set of all routes that run every 10 to 15 minutes (or better) all day¹. This includes all the spines, most spine branches and orbitals, and some numbered radials and suburban locals. In all of the maps in this report, bus routes on the Frequent Network are drawn in shades of red, so that it is clearly visible against the background of less frequent services.

Much of the travel time and access benefits of the proposed network arise directly from expanding the Frequent Network. If you look at the red lines on the next two pages, the dramatic expansion of the Frequent Network is obvious.

Start with the Frequent Network, then Plan **Lower Frequencies**

A high frequency route is a big investment, so it must be designed to provide the greatest possible usefulness to the greatest number of people. That means that it needs other routes to connect to it, but not to duplicate it.

When two frequent routes connect to each other in an easy and intuitive way, both are made more useful to more people. This makes both routes stronger: they tend to generate higher patronage relative to what it costs to operate each route.

Conversely, when two frequent routes duplicate each other (such as by running along the same road for several kilometres), many of the same passengers are divided among the two routes. This usually means that the patronage on both routes is weaker, relative to the cost of operating each route.

For these reasons, it was important to design the network in declining order of frequency.

- First, we designed the major routes that would have the highest level of service, generally every 15 minutes or better all day. These frequent routes must make sense by themselves, as an optimally efficient network that will carry the bulk of customers.
- Once the frequent routes were drawn, we designed less frequent routes around them to cover areas that the frequent network did not serve, or to allow direct trips to critical service in areas where nearly all trips would otherwise require an interchange and/or a long walk to service.
- The last services to be designed were those that run only during the peak commute period. These services were added only where added capacity or faster travel times are critical on weekday mornings and evenings.

What is Sufficient Demand?

This chapter often speaks of demand being adequate or sufficient to support a certain frequency of service. How were those judgments made?

- 1. We considered the total resources that we are apportioning. This plan reflects a considerable investment in new added service when compared with what is currently available. Nonetheless, the resources are still finite and must be apportioned appropriately.
- 2. We looked at existing and planned urban form, seeking patterns that are favourable to public transport. These are explained and illustrated in Chapter 2, and include:
 - » Density How many people or activities are around each stop?
 - Walkability Can people near the stop walk to the stop?
 - *Linearity* Can the bus travel in a reasonably straight path?
 - » Proximity Does the bus have to cross long empty gaps with no demand?
- 3. We look at existing patronage by stop. After having considered more broad-based demand through the lens of urban form ("where are there people?"), we sought to continue running service to places with existing patronage ("where are people already riding?").
- 4. We looked at other demographic data, especially to ensure that we are adequately serving places with significant economic deprivation.

Of course, our judgments were not just based on data. Because we worked collaboratively (with NTA, Dublin Bus, and local council staffs all involved) and thanks to the input received in public consultation, we were also planning based on extensive local knowledge.

BUS CONNECTS

¹ In the existing network, "all-day" means roughly from 7:00 to 19:00, and frequencies are lower in the early morning and evening. In the proposed network, "all-day" frequencies on most routes persist from 7:00 to 23:00, with some remaining lower frequencies in the early morning and late evening.

Existing Network: Frequent Service



BUS CONNECTS

SUTTON

EXISTING

FREQUENT PUBLIC TRANPORT Weekday midday

Every 5 min or better Every 6 to 9 min Every 10 to 15 min Combines for 41410better frequency OTHER SERVICES Weekday midday frequencies

Luas

Every 15 min or better DART ---Every 10 min Every 20 min Commuter rail

Every 30 min Worse than 30 min

2 km 1 DALKEY

Figure 108:

This map shows routes that operate every 15 minutes or better all day (from about 7:00 to 19:00) in the existing network.

Frequent services continuing beyond this map include Route 145 to Ballywaltrim, and DART to Bray Daly station.

Routes 41 and 41c to Swords split for service every 20 minutes immediately north of this map extent.

Dublin Area Bus Network Redesign 92 Revised Proposal - October 2019



Revised Proposed Network: Frequent Service



BUS CONNECTS

SUTTON

PROPOSED

FREQUENT PUBLIC TRANPORT Weekday midda

_	Every 5 min or better
_	Every 6 to 9 min
	Every 10 to 15 min
- DT	Combines for better frequency
OTHER SE Weekday mi	RVICES dday frequencies
	luae

Every 15 min or better DART Every 10 min Every 20 min Commuter rail

DALKEY

Every 30 min Worse than 30 mir 2 km 1 N

Figure 109:

This map shows routes that would operate every 15 minutes or better all day (from about 7:00 to 23:00) in the revised proposed network.

Frequent services continuing beyond this map would include Route E1 and DART to Bray Daly station, Route 212 from Bray Daly station to Ballywaltrim, Route A4 to Swords Manor, and Route 82 to Swords - Glen Ellan Road.

PROPOSA NETWORK REVISED

Dublin Area Bus Network Redesign 93 Revised Proposal - October 2019



Designing the Frequent Network: Spines and Orbitals

The proposed Frequent Network is made up of many frequent radial and orbital routes that combine to form a web-shaped grid. Everywhere a radial crosses an orbital, a possible interchange opens up vast possibilities for travel.

Most of the radial routes in this structure are spines and spine branches. The diagram to the right shows a simplified diagram of the spine, branch and orbital structure.

Spines

To locate the spines, we identified the major corridors extending out of City Centre that required very high frequency service. We then paired corridors on either side of the city, based on the following considerations:

- Paired corridors should be on opposite sides of the City Centre, so that a spine combining them will form a reasonably direct line that is likely to be useful for many purposes.
- Paired corridors should support comparable levels of frequency off-peak, since the frequency on the core part of a spine will be the same on both sides of the City Centre.

In practice, each spine is made up of several routes that join to form the spine on one side of the city, and then split up again on the other side. Each of these routes is a "branch" of the spine. The timetables of different spine branches would be staggered to ensure a consistently short time between buses on the main spine segment. We designed the branching structure using the following principles:

- Spines should split where the combined frequency of the spine is no longer justified by demand, preferably not too close to the City Centre to provide a long high-frequency segment.
- Each branch should deliver the right frequency given the demand in the neighbourhoods it serves. In some cases, this means that a spine branches into two and then, further out, branches again.
- The total travel time of a route should not exceed two hours from one end of the route to the other².

² This is considered very long by most standards. Wherever possible, we designed routes not to exceed 90 minutes each way. The size of Dublin and current operating speeds make it impossible to design cross-city service to this standard.



Figure 110: 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.

BUS CONNECTS



Those principles generate the eight spines, as follows.

A SPINE: WHITEHALL TO TERENURE

The A spine would combines the Swords Road corridor on the north side of the city with the Rathmines - Rathgar corridor on the south side. These are Dublin's busiest bus corridors, so service on the A spine would run every 3 minutes on weekdays.

On the north side, the A spine would splits at Whitehall (Collins Avenue) into four branches, each with service every 12 minutes:

- A1 would extend to Beaumont Hospital via Lorcan Avenue. This would add a new radial service to Beaumont Hospital via the Swords Road.
- A2 would extend on Swords Road to the Airport, similar to Route 16 but without a deviation into Beaumont.
- A3 would extend on Collins Avenue, going past DCU and continuing into Santry to the Santry Garda Station. This would provide a new radial service to DCU while also maintaining service currently provided by Route 1 in Santry.
- A4 would extend to Swords Main Street and Swords Manor, combining several existing segments of Routes 41 and 41c³.

In the south, the A spine services remain together to Terenure, then splits into the four 15-minute branches:

- A1 would extend past Templeogue to Knocklyon, similar to existing Route 15.
- A2 would extend past Rathfarnham to Ballinteer and Dundrum, combining elements of existing Routes 16 and 14.
- A3 would extent past Templeogue to Tallaght, providing a new high-frequency service to Tallaght via Rathmines - Rathgar.
- A4 would extent past Rathfarnham to Nutgrove Shopping Centre, allowing direct travel to this centre from far more areas.

On the segment between Terenure and Templeogue, the A1 and A3 would combine to provide a service every 6 minutes. The A2 and A4 do the same on the segment between Terenure and Rathfarnham

• B3 would extend to Tyrrelstown, providing a more frequent route that connects both to the local activity centre and City Centre.

B SPINE: UCD TO BLANCHARDSTOWN

Blanchardstown Shopping Centre:

and 39a.

On the south side, all four branches would continue past St. Vincent's:

The B spine, running every 4 minutes on weekdays, would extend

from Blanchardstown Shopping Centre to St. Vincent's Hospital.

The B spine would be composed of four branches, each with

service every 15 minutes. Three branches would extend past

• B1 would extend to Ongar via the Ongar Distributor Road,

• B2 would extend to Ongar via Hartstown, Huntstown and

providing a more direct path than the existing Routes 39

Clonsilla. This would maintain frequent service on a similar

- B1 and B2 would extend together every 8 minutes to UCD, maintaining the link between the Navan Road corridor and UCD on existing Route 39a.
- B3 and B4 would extent together every 8 minutes to Blackrock, and then split further south:
 - » B3 would extend to Dun Laoghaire via Monkstown Road, similar to part of existing Routes 7 and 7a.
 - » B4 would extend down Stradbrook Road like existing Route 4, and then continue to Sallynoggin via Abbey Road and Rochestown Ave. This would also cover part of the area served by existing Route 7a.

C SPINE: LUCAN TO RINGSEND

The C spine, running every 8 minutes on weekdays, would be the main link between Dublin and its western suburbs.

The spine would extend from the junction of the N4 motorway and Grange Castle Road to Ringsend in the south Docklands. Because the goal is a fast, frequent route into the city that is useful to a vast area, this spine would bypass Chapelizod Village, and serves Palmerstown only via a stop on the N4⁴.

Liffey Valley Shopping Centre emerges as a major node in the proposed network, with a new bus interchange to be placed adjacent to the existing motorway stop on the north side of the $\overline{\mathbf{0}}$ shopping centre. This interchange will provide direct connec- 🛃 tions between the C spine buses on the N4 and various orbital riangleand local services

In the west, the C spine splits at the N4's Ballyowen Road inter- $\overline{0}$ change. At this point:

As with existing service, the C spine would be complemented by numerous additional peak-only services on weekday mornings and evenings. Some of those services would be extra trips on the C1 and C2 branches, and others would be special peak expresses replacing existing routes 66x and 67x.

In the east, the C3 and C4 branches end at Ringsend, but the C1 and C2 continue to Irishtown and Sandymount, replacing existing Route 1 to St. Johns Church in Sandymount, not far from Sydney Parade DART station.

Important Note on How Bus Routes are Described



• The C1 and C2 branches continue south along Grange Castle Road, following a similar path as existing Routes 25a and 25b. This yields service every 15 minutes through Ballyowen. C1 and C2 split to cover both sides of the Griffeen Valley with service every 30 minutes, rejoining at Adamstown Station.

• The C3 and C4 branches continue west every 15 minutes through Lucan Village. They then divide, with service every 30 minutes on the C3 to Leixlip and Maynooth (replacing existing Route 66) and every 30 minutes to Celbridge via Weston (replacing existing Route 67).

In describing bus routes, this document may only refer to one direction of travel. For example, we may say "this route extends along X street and then turns into Y street." In almost all cases, we are describing two-way service. Except as noted, if we say the bus turns left from X street into Y street, then the same bus in the other direction turns right from Y street into X street.

path to existing service in Hartstown and Huntstown, while improving frequency in Clonsilla.

⁴ A numbered radial, the new Route 14 running every 15 minutes (10 peak), is proposed for 3 Other parts of existing Routes 41 and 41c would be picked up by a new numbered radial called Route 82, with service every 15 minutes between Swords and City Centre. Chapelizod Village and Chapelizod Road alongside Phoenix Park.

D SPINE: MALAHIDE ROAD TO CRUMLIN

To build the D spine we combined the Malahide Road corridor in the northeast with the Crumlin Road corridor in the southwest.

The D spine would have service every 4 minutes on weekdays. It would be composed of five branches, three of which would have service every 15 minutes (D1, D2, D3), while the other two would have service every 30 minutes (D4, D5).

On the north side, the spine would split at the Artane Roundabout and replace various segments served by existing routes 15, 27, 27a and 27b.

- D1 and D3 would continue to Clongriffin via the Malahide Road, splitting at Clare Hall so D3 would serve Belmayne and D1 would serve Main Street.
- D2 would serve Darndale and end at Clare Hall.
- D4 would serve various estates in Coolock, Beaumont and Kilmore, as well as Beaumont Hospital.
- D5 would serve Harmonstown, Edenmore and Ard Na Greine.

On the south side, the spine would split after Crumlin Hospital, with branches extending to various parts of Tallaght and Clondalkin:

- D1 and D3 would extend to Clondalkin on the New Nangor Road, splitting at Woodford Walk. They would together replace existing Routes 13 and 151 in Clondalkin.
- D2, D4 and D5 would extend to Tallaght along the Walkinstown Road and Greenhills Road. In Tallaght:
 - » D2 would extend past The Square to Jobstown and Citywest, with some similarity to existing Route 27.
 - » D4 would extent past The Square to Killinarden Heights and Kiltipper Way.
 - » D5 would split off at Castletymon Road to serve Tymon North and Seskin View on the way to The Square.
 - » In this way, D4 and D5 would both cover different parts of existing Route 77a, at slightly lower frequency (every 30 minutes instead of every 20) but with more direct routings.

E SPINE: BALLYMUN TO DEANSGRANGE (STILLORGAN ROAD)

The N11/Stillorgan Road, one of the city's busiest bus corridors, would be paired with the Ballymun Road corridor. This spine would operate every 5 minutes on weekdays , and extend from Ballymun through Phibsborough, City Centre and then out Stillorgan Road, splitting at Kill Lane in Deansgrange. This spine would stop near both Dublin City University and University College Dublin.

The E spine would split into two branches, each of which would operate every 10 minutes. In the north, these branches would be largely replacing existing Routes 4 and 13:

- E1 would extend past Ballymun to IKEA.
- E2 would continue to Charlestown Shopping Centre via Balbutcher Lane (North) and Saint Margaret's Road.

In the south, the two branches are similar to existing Routes 46a and 145:

- E1 would extend to Bray, replicating existing Route 145 but terminating at Bray Daly station⁵. This is necessary because the Service to Ballywaltrim would be on a separate local route (the new Route 211).
- E2 would follow the existing 46a path into Dun Laoghaire.

F SPINE: FINGLAS TO KIMMAGE

This spine, with service every 5 minutes on weekdays, would replace most of the existing Finglas and Harold's Cross services.

In the north, all F1, F2 and F3 service would begin at Charlestown Shopping Centre, with each branches covering different parts of Finglas every 15 minutes:

- The F1 would serve as the "bypass branch", similarly to existing Route 140, taking the Finglas Bypass directly to the Tolka Valley.
- The F2 and F3 would serve as the "local branches", with service to many places currently on existing Route 40.
 - » F2 would serve Finglas Northwest via Barry Road and pass by Finglas Village on the Finglas Bypass.
 - » F3 would serve McKee Avenue, pass by Finglas Village on Collins Avenue, then serve Finglas Southwest

The branches would merge at Tolka Valley Road. From there the spine would flow past Glasnevin Cemetery, and meet the E spine

at Phibsborough. Rather than duplicate the E, the F spine would follow the current Route 40/40b/40d routing, turning east on Whitworth Road to Drumcondra and then south into the centre.

On the south side the spine would extend out Clanbrassil Street to Harold's Cross and then along Kimmage Road as far as Terenure Road. At this point the spine would branch three ways:

- frequency.

G SPINE: BALLYFERMOT TO SPENCER DOCK

The G spine is based on a combination of existing Routes 40 and 79/a in inner West Dublin, with an extension to the North Docklands. This spine would operate every 8 minutes on weekdays between Spencer Dock and Ballyfermot, splitting into two 15-minute branches at Clifden Road:

- Route 40.

H SPINE: HOWTH ROAD TO CITY CENTRE

The H spine is based on a combination of existing Routes 29a, 31 and 32 serving the Howth Road. This spine would operate every 8 minutes on weekdays, splitting at All Saints Road:

- Red Arches Road.
- 30 minutes to Howth.

BUS CONNECTS

• F1 would extend to Tallaght via Templeogue and Firhouse, replacing parts of Routes 49 and 54a at much higher

• F2 would serve parts of Perrystown and Templeogue, terminating at the Spawell Roundabout, similar to parts of Routes 15a, 150 and 54a, but again at higher frequency.

• F3 would follow the Cromwellsfort Road to Greenhills College, similar to existing Route 9.

• G1 would turn southward onto Clifden Road, and then proceed through Cherry Orchard and Park West like existing Route 79. It would extend past Park West rail station to the Red Cow Luas station in Clondalkin.

• G2 would proceed to Neilstown and Fonthill Road, terminating at Liffey Valley Shopping Centre, similar to existing

• H1 would extend to Donaghmede like existing Route 29a but at a higher frequency (every 15 minutes). Instead of terminating at Baldoyle, it would continue to Clongriffin via

• H2 and H3 would run together every 15 minutes until Baldoyle Road, where H2 would continue every 30 minutes to Portmarnock and Malahide, and H3 would continue every

⁵ Service between Bray Daly station and Ballywaltrim would be on a local Route 212, with service every 10 minutes as well.

Revised Proposed Network: Spine and Branch Paths



BUS CONNECTS

	PROPOSED
	PUBLIC TRANSPORT SERVICES Weekday midday frequencies
	Every 5 min or better Every 6 to 7.5 min Every 10 - 15 min Every 10 - 15 min Every 30 min Every 30 min Every 40 min Every 40 min Every 60 min Limited or peak-only Combines for better frequency Multiple lines & frequencies
)	SPINES AND BRANCHES All lines beginning with letters A to H form spines going to City Centre. Each branch (e.g. CI, CI) goes to City Centre Control (C)
	OTHER SERVICES Weekday midday frequencies Luas Dervy 15 min or better DART DART Every 20 min Commuter rail Commuter rail DART Or Morise than 30 min
	0 1 km 1

Figure 111:

This map highlights the paths taken by the spines and their branches.

All the highlighted paths would serve the City Centre.

In addition, all paths on routes numbered 1 to 99 (not highlighted) would also serve the City Centre.

NETWORK PROPOSA REVISED

Orbitals

In the existing network, the only path available for many trips beginning and ending on the same side of Dublin is through the City Centre. In the proposed network, frequent orbital service would allow many such trips to bypass the City Centre, resulting in much faster travel times.

Three primary considerations govern the design of orbitals:

- The most useful orbitals connect a series of major destinations to a large number of residential neighbourhoods.
- Orbitals are more useful when they connect to many other routes. They should run all the way across one side of the city (north, west, or south) and meet all possible spines and numbered radials along the way. For example, one orbital would run from Blanchardstown to Tallaght, and another all the way from Tallaght to Dun Laoghaire⁶.
- There should be as many orbitals as the road network allows, so long as they do not duplicate each other. Across most of the city, especially between the canals and the M50, most people would be located near both a radial and an orbital, so that they can travel in whichever direction they are going.

The following briefly reviews each one of the orbitals included in the revised network proposal.

THE INNER ORBITAL (ROUTE O)

The innermost orbital is Route O, a two-way loop running near the canals, wherever possible on the North or South Circular Road. This is effectively a "Circle line" operated by a bus. The terminus, in both directions, would be at Heuston Station. Service on Route O would operate every 8 minutes on weekdays.

A key function of Route O would be to allow people to reach major destinations on the edge of City Centre more efficiently, including Heuston station, Grand Canal, the North Docklands and Connolly Station.

Unlike most bus routes in Dublin, Route O would need to be run with single-deck buses, so that it could cross under the railway tracks on Macken Street in the Docklands. There is no other way for a bus route to run north-south through this area.

NORTHERN ORBITALS

The revised network proposal includes three orbitals in north Dublin, numbered outward from the centre.

- Route N2 would mostly follow Griffith Avenue between Broombridge Luas and the Clontarf Road DART station, with service every 20 minutes on weekdays (every 15 at peak).
- Route N4 would extend from Blanchardstown to Spencer Dock in the North Docklands, mostly following Glasnevin Avenue and Collins Avenue. It would provide a new direct Docklands service from a much of north Dublin City, and would provide frequent orbital service to Dublin City University. With service every 10 minutes, this would be the busiest of the northern orbitals.
- Route N8 would extends from Finglas Village to Howth Junction DART station, going by Charlestown Shopping Centre, Ballymun, Santry, and Coolock, also with service every 10 minutes.

N4 and N8 together replace different segments of existing Route 17a at much higher frequency. The connection between the two routes at Finglas Village is made to facilitate the continuation of existing 17a trips from Northeast Dublin to Ballycoolin and Blanchardstown.

SOUTHERN ORBITALS

The revised network proposal features four orbitals on the south side of Dublin.

- Route S2 would run every 15 minutes. It would extend from Heuston Station to St. James' Hospital, Rialto, Sundrive Road, Kimmage, Rathmines, Ranelagh, Ballsbridge and Sandymount, ending on Sean Moore Road in Poolbeg.
- Route S4 would run every 10 minutes from Liffey Valley Shopping Centre to UCD. On the way, it would serve Ballyfermot, Kylemore, Crumlin, Terenure, Rathgar, Milltown, and Clonskeagh. S4 would provide frequent connections to every spine, and directly connect a range of useful neighbourhood destinations along the way. S4 would make much more frequent and direct travel to UCD possible from most of the south side and much of the west side.
- Route S6 would run every 15 minutes between Tallaght and Blackrock. It would serve Firhouse, Templeogue, Rathfarnham, Dundrum, Goatstown, and UCD on the way. This would also be a major new link to UCD and between several spines.

Monkstown.

Routes S2 and S4 would together replace different segments of existing Route 18. Although they would not meet, all trips currently performed on Route 18 would remain possible with one interchange.

Routes S6 and S8 (and local Route 225) would together replace different segments of existing Routes 75 and 175, but the intention is to provide more direct and frequent paths between major destinations.

WESTERN ORBITALS

and to link major suburban centres.

- make this crucial link.

BUS CONNECTS

Route S8 would run every 20 minutes (every 15 at peak), between the Citywest Business Campus and Dun Laoghaire. On the way, it would serve Tallaght, Knocklyon, Ballyboden, Ballinteer, Sandyford Business Park, Galloping Green and

The proposed north-south orbitals on the west side of Dublin have been designed to improve access to industrial employment

• W2 would be very similar to existing Route 76, but operating at higher frequency (every 15 minutes). It would extend from Liffey Valley Shopping Centre to Tallaght via Neilstown, Clondalkin Village, Belgard Road and Tallaght.

• W4 would be a new orbital extending from Tallaght to Blanchardstown Shopping Centre. It would follow Grange Castle Road between Tallaght and Lucan, then the N4 and M50 motorways to Blanchardstown. The W4 would serve Liffey Valley Shopping Centre via the motorway stop on the N4, where it would connect to the C spine and many other services. Service is initially proposed every 30 minutes (every 15 at peak). Some reliability problems are likely due to traffic on the M50, but there is no other path available to

• W8 would be a new far western orbital running between Maynooth, Celbridge, Saggart, Citywest, and Tallaght. The W8 is proposed with service every 30 minutes.

⁶ One might ask why there isn't a Blanchardstown to Dun Laoghaire orbital via Tallaght. In practice, this is not achievable at a useful level of frequency, reliability and directness. On surface streets, this route would be so long and unreliable that it may well be inoperable. Running as an express route with these endpoints via the M50 means the route could would only pick passengers up where it gets on and off the motorway. As a result, it would be useful for a relatively limited number of trips, so it would not support high frequency; there would also still need to be long segments getting on and off the motorway, causing delay to through-passengers.

Revised Proposed Network: Orbital Route Paths



BUS CONNECTS

P	ROPOSED
PL	UBLIC TRANSPORT SERVICES
	Every 5 min or better Every 6 to 7.5 min Every 10 - 15 min Every 20 - 25 min Every 30 min Every 30 min Every 40 min Every 60 min Every 60 min
-0	Combines for better frequency Multiple lines & frequencies
SF All for	Inso And BRANCHES Inso beginning with literar A to H machine gains to City Centre Control (1997) (1998) (1997) (
0	THER SERVICES tekday midday frequencies
-	Every 15 min or better
-	DART Every 10 min Every 20 min
-	Commuter rail Every 30 min

Figure 112:

This map highlights the paths taken by the orbital routes in the revised network proposal.

These routes would avoid the City Centre, focusing instead on connecting different areas on the same side of the city.

PROPOSA КX NO Ē Ζ REVISED



Proposed Service Hours and Frequencies: Spines and Orbitals (1/2)



NOTES: 1. No interchange is required from a branch to a spine, or from a spine to a branch. For example, getting on bus A1 at Beaumont Hospital, one could travel to City Centre (or as far south as Knocklyon) without changing buses. 2. "A-Spine" means the areas where A1, A2, A3, and A4 all run on the same path. Departures of A1, A2, A3 and A4 would be staggered to provide a higher combined frequency on the spine. The same observation applies to all other spines and branches (A1 to H3). 3. Where frequencies are marked with an asterisk (*), peak hour frequency would be higher on parts of the route. For example, the Malahide Road portion of the D spine would see extra buses in both the morning and afternoon peak to ensure enough service is available to carry all passengers.

BUS CONNECTS

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Dublin Area Bus Network Redesign Revised Proposal - October 2019

Proposed Service Hours and Frequencies: Spines and Orbitals (2/2)



3. Where frequencies are marked with an asterisk (*), peak hour frequency would be higher on parts of the route. For example, the Finglas Bypass portion of the F spine would see extra buses in both the morning and afternoon peak to ensure enough service is available to carry all passengers.

BUS CONNECTS

4 POS PRO Х Х NETWO EVISED 2

Dublin Area Bus Network Redesign Revised Proposal - October 2019

Numbered Radials

In some areas, main roads run too far apart for radial service to be provided entirely through the spine-and-branch system, or landscape barriers (rivers, rail lines etc.) make it difficult.

The initial network proposal included a small number of additional radials to cover some of these areas, numbered from 1 to 99. Following on the input in the second public consultation, the revised network proposal includes 22 numbered radials.

This category includes routes with several different purposes:

- Some numbered radials serve as the primary public transport route through areas of significant demand. In those cases, the routes are proposed on relatively direct paths with service every 15 to 20 minutes. These include:
 - » Routes 7 and 8, serving different parts of Glasnevin.
 - » Route 14, serving Palmerstown, Chapelizod, Dartry, Churchtown and parts of Nutgrove and Ballinteer.
 - » Route 15, serving parts of Perrystown and Kimmage.
 - » Route 16, serving parts of Knocklyon, Ballyboden, Rathfarnham and Harold's Cross.
 - » Route 23, serving Marino and parts of Drimnagh.
 - » Routes 34 and 35, serving Cabra, Castleknock, Carpenterstown (34), and Corduff (35).
 - » Route 36, serving Cabra, Royal Canal Park and Rathborne.
 - » Route 64, serving Clontarf.
- A few serve as the primary public transport route through areas of relatively low demand. In those cases, service remains on direct paths but may only be proposed every 30 or 60 minutes. These include:
 - » Route 10, serving Clonskeagh, Milltown, Goatstown, Sandyford and Ticknock.
 - » Routes 11 and 12, serving Milltown, Dundrum, Sandyford, and Belarmine (11 and 12), as well as Stepaside, Kilternan and Enniskerry (12 only).
 - » Route 20, serving East Wall, Clogher Road, Crumlin Village, Ballymount, Kingswood and Cookstown.
- A few more serve as "lifeline" routes. These routes provide service to City Centre in areas that would otherwise be served by nearby orbital or suburban local service. In some

cases, the lifeline route is provided for social reasons, to accommodate significant elderly or disabled populations. In others, the lifeline route is a response to neighbourhoods that objected strongly to a lack of direct service in the initial network proposal. The service on lifeline routes would be infrequent, every 30 to 60 minutes. The paths followed by lifeline routes are in some cases relatively windy and long, as the goal is to serve as many areas as possible. These include:

- » Route 20, serving parts of Drimnagh, and East Wall.
- » Route 24, serving parts of Crumlin, Kimmage and Ballyboden.
- » Route 93, serving Rathcoole, parts of Clondalkin and Inchicore, and Dublin Port.
- » Route 94, serving parts of Ballymun, Wadelai and Drumcondra.
- » Route 95, serving Cherry Orchard and Decies Road.
- » Route 96, serving parts of Beaumont, Donnycarney and Clontarf.
- Route 97, serving Ashington Park and parts of Cabra.
- Route 98, serving Loughlinstown Park.

Suburban Locals

There are a number of outer suburban and semi-rural areas served by the public bus network in Dublin where either:

- The sheer distance to City Centre make it impractical to operate direct service to City Centre all day⁷; and/or
- The local demand pattern means many trips are heading toward a local suburban centre; and/or
- The local road network is primarily oriented toward a suburban centre rather than City Centre.

In those places, the proposed service consists of suburban local routes, most of which are numbered 201 to 299. Most of these routes connect suburban or semi-rural residential areas to major suburban centres. One way to think of the suburban locals is as a

series of local mini-networks where:

- Routes in the 200s are centred around Greystones.
- Routes in the 210s are mostly centred around Bray.
- Routes in the 220s and 230s are centred in DLR, around Dun Laoghaire, Dundrum and Blackrock.
- Routes in the 250s focus on western suburbs including Lucan, Leixlip, Celbridge and Newcastle.
- Routes in the 260s are centred around Blanchardstown.
- Routes in the 280s are centred around Swords, Malahide and Dublin Airport.

- Route 197 from Ashbourne to Swords.
- Route 198 from Glencullen to Dundrum.
- Route 244 from Ballymore to Tallaght via Blessington.

Most suburban local routes would operate every 30 to 60 minutes. However, a few would operate every 10 to 15 minutes and are part of the Frequent Network. These include:

- Route 212 from Ballywaltrim to Bray Daly Station.
- Route 261, a circulator to major destinations in the Blanchardstown area.
- Route 263, from Damastown to Blanchardstown Centre.
- Route 264, from Dunboyne to Blanchardstown via Littlepace.
- Routes 283 and 285 would operate on staggered timetables to provide frequent service between Swords Main Street and the Dublin Airport.

BUS CONVECTS

- For those areas that are even further out, the network includes:
- Route 196 from Finglas Village to West Swords via Toberburr.

- A few local routes would operate every 20 or every 40 minutes, in areas where it is important to make timed connections to outer DART branches⁸. This includes Routes 201/202 south of Greystones, Route 280 in parts of Swords and Kinsealy, and
- Route 281 in parts of Swords, Malahide and Portmarnock.



⁷ This is especially true given that we are designing most radial service to operate cross-city. This is why certain outlying areas that have service to City Centre now (e.g. Ballywaltrim on existing Route 145) would no longer have it in the proposed network (it's not possible to operate a bus route from Ballywaltrim to Ballymun in 2 hours or less each way).

Revised Proposed Network: Secondary Radial Paths



BUS CONNECTS

	PROPOSED
	PUBLIC TRANSPORT SERVICE Weekday midday frequencies
	-O- Every 5 min or bette
	-O- Every 6 to 7.5 min
	-0- Every 10 - 15 min
	Every 30 min
	- Every 40 min
	Every 60 min
	- Limited or peak-onl
	Combines for better frequency
	Multiple lines & frequencies
	🙆 📧 End of line
	SPINES AND BRANCHES All lines beginning with letters A to F form spines going to City Centre. Ea branch (e.g. C1, C2) goes to City Cen
	OTHER SERVICES Weekday midday frequencies
	Luas Every 15 min or better
	DART Every 10 min Every 20 min
	Commuter rail
	a sun t

Figure 113:

This map highlights the paths taken by non-spine radial routes in the revised network proposal.

These routes would be numbered from 1 to 99. They would focus on providing direct service to the City Centre to areas that would be relatively far (or across significant landscape barriers) from rail, Luas, spines and spine branches. In many cases, they overlap with the spines for part of their alignments.

Proposed Service Hours and Frequencies: Secondary Radials



PROPOSED NETWORK																			MI	FR	EC	2U	EN	ICY	JSE					
All-Day Routes: Frequencies and Hours of Service									X Minimum intended frequency					Every 5 minutes or less			955	Every 6 t												
			NG 1 1 5 51 7 (5 1 7 51 1 7 51 1 7 7										is indicated for service operat- ing every 15 minutes or better						1	Ev	ery 2	20 m	inuți	es		30 minu		inut		
							W	EEI	KD/	AYS	5 -										-	5	AT	UR	DA	YS	-			
Radia	als 5	6	7	8	× 10	e él	12 m	1 4	2 3	4	s	6	7	8	g 1	0 1)	12 64	6 	7	8 9	10-1	1 12	Ŧ	2 3	4	5 6	7	8 9	10.11	12 #M
7+8	Glasnevin - Merrion Square	0 10	10	10	10	10 1	0 10	10	10	10	10	10	10 10	0 10	10	10	15	12	5 15	15 1	0 10	10 1	0 10	10	10 10	10	10 15	15	5 15	Í.
7 8	Charlestown - Glasnaon Rd - Merrion Square Airport - Charlestown - Ballygall Rd - Merrion Square																													
10+11+1	2 Milltown - Mountjoy Square	5 15	15	15	15	15 1	5 15	15	15	15	15	15	15 1	5 15	15	15				1	5 15	15 1	5 15	15	5 15	15	15			
10 11 12	Ticknock - Goatstown - Mountjoy Square Belarmine - Dundrum - Mountjoy Sq. Enniskerry - Belarmine - Dundrum - Mountjoy Sq.																													
14	Liffey Valley - City Centre - Ballinteer	15	10	10	15	15 1	5 15	15	15	10	10	10	15 1	5 15	15	15				1	5 15	15 1	5 15	15	15 15	15	15			i.
15	Greenhills - Crumlin - Mountjoy Square																													
16	Tallaght - Ballyboden - Harold's Cross - Pamell Sq.	15	10	10	15	15 1	5 15	15	15	10	10	10	15 13	5 15	15	15				1	5 15	15 1	5 15	15	15 15	15	15			
20+22	Warrenmount - City Centre - East Wall	15	15	15	15	15 1	5 15	15	15	15	15	15 1	15 1	5 15	15	15				1	5 15	15 1	5 15	15	15 15	5 15	15 15	15	5 15	
20	Tallaght - Ballymount - Warrenmount - East Wall		*								112																			
22	Drimnagh - Warrenmount - East Wall																													
23	Marino - City Centre - Walkinstown	15	10	15	15	15 1	5 15	1.5	15	15	10	15	15 1	5 15	15	15				1	5 15	15 1	5 15	15	15 15	15	15			
24	Dundrum - Whitechurch - Crumlin - D'Ollier Street																													
34+35	Ashtown - City Centre - Burlington Road	10	8	8	10	10 1	0 10	10	10	8	в	8	10 10	0 10	10	10	15	1	5 15	15 1	0 10	10 1	0 10	10	10 10	10	10 15	15 1	5 15 1	5
34	Blanch. SC - Coolmine - Castleknock - Burlington Rd.		8	15						15	8	15																		
35	Blanch. SC - Corduff - Castleknock - Burlington Rd.		15	15						15	15	15																		
36	Rathborne - City Centre - Ballsbridge	15	15	15	15	15 1	5 15	15	15	15	15	15	15 1	5 15	15	15				1	5 15	15 1	5 15	15	15 15	15	15			
64	Clontarf - Abbey Street	15	6	10	15	15 1	5 15	15	15	10	6	10	15 1!	5 1.5	15	15			\square	1	5 15	15 1	5 15	15 1	15 15	5 15	15			
81	Malahide - Kinsealy - City Centre																													
82	Glen Ellan Rd - River Valley - City Centre	15	15	15	15	15 1	5 15	15	15	15	15	15	15 1	5 15	15	15			Π	1	5 15	15 1	5 15	15	15 15	15	15			
93	Rathcoole - City Centre - Port																													
94	Balbutcher Lane - Wadelai - Pamell Square																													
95	Cherry Orchard - Decies Road - Spencer Dock																													1
96	Beaumont Hospital - Clontarf - Abbey Street																													
97	Ashington Park - Parnell Square																													
98	Loubalinstown Drive - Dun Laaghaire - Mountion Sa							-																						

NOTES: 1. Where frequencies are marked with an asterisk (*), peak hour frequency would be higher on parts of the route. For example, Route 20 would operate every 15 minutes at peak hours from Walkinstown to East Wall, to ensure enough service is available to carry all passengers.

BUS CONNECTS



REVISED NETWORK PROPOSAL

Revised Proposed Network: Suburban Local Paths



BUS CONNECTS

1	PROPOSED											
	PUBLIC TRANSPORT SERVICES Weekday midday frequencies											
	Every 5 min or better Every 6 to 7.5 min Every 10 - 15 min Every 20 - 25 min Every 20 min Every 40 min Every 40 min Every 60 m											
	Multiple lines & frequencies											
5	SPINES AND BRANCHES All lines beginning with letters A to H form spines going to City Centre. Each branch (e.g. C1, C2) goes to City Centre											
	OTHER SERVICES Weekday midday frequencies											
	Every 15 min or better											
	DART Every 10 min Every 20 min											
	Commuter rail Every 30 min Worse than 30 min											
	01 km 1 1 N											

Figure 114:

This map highlights the paths taken by suburban local routes.

These routes would mostly be numbered from 201 to 299. They would focus on providing service from outer suburban areas to major suburban destinations and/or connections to main rail, Luas and bus services.

In addition to the paths highlighted on this map, there would be local routes in Fingal centred around Swords; in northern Wicklow centred around Bray; and in Leixlip and Celbridge.

Proposed Service Hours and Frequencies: Suburban Locals





BUS CONNECTS

Dublin Area Bus Network Redesign Revised Proposal - October 2019

Peak-Only Services

PROPOSED NETWORK FREQUEN						JENCY	r.					
Peak-Only Routes					4 - 6 trips pr	er hour	2 trips per hour					
 Unless otherwise indicated, peak-only services would operate one-way inbound in the AM (to City Centre and/or UCD) and outbound in the PM. Routes marked with an asterisk (*) correspond to extra frequency on parts of all day routes. 		Existing Similar	5 6	7 8	• WEE	KDAYS	3 4 5	6 7	R O			
*49	Whitehall - City Centre	Route	i.i	6		NA C	3 3					
*D9	Clare Hall - City Centre	_		6	6		6 6 6		-			
*E9	Brides Glen - UCD			6	6		6 6					
*F9	Charlestown - City Centre			6			3 3					
*H9	All Saints Road - City Centre	Î		6			3 3					
*20 short	Walkinstown - City Centre			2	2		2 2 2					
301	Kilcoole - Southern Cross - City Centre	84x	2	4			1 5					
302	Newcastle - Kilcoole - Southern Cross - City Centre	84x	1	2			1 2		-	-		
311	Shankill - Ballybrack - City Centre	76	2	4	1		6					
312	Dalkey - City Centre	7d		2			2					
313	Kilteman - Stepaside - UCD			2	2		2 2					
316	Whitechurch - UCD	116		1			1					
318	Whitechurch - City Centre	118		2			2					
321	Adamstown Road - City Centre - Ringsend	25d		4			4					
322	Dodsborough - Lucan Village - City Centre - UCD	25x		4			1 2					
323	Leixlip River Forest - City Centre	66x		3			1 2					
324	Leixlip Castletown - City Centre	66x		2			1 1					
325	Maynooth - Glen Easton - City Centre	66x		2			1 1					
326	Maynooth - City Centre - UCD	66x		3			1 2					
327	Celbridge Aghards Rd - City Centre - UCD	67x		5			2 2	-				
328	Celbridge Main Street - City Centre - UCD	67x		4			2 2					
344	Ballymore Eustace - Blessington - City Centre	65	1				1					
345	Ballyknockan - Blessington - City Centre	65	1				1					
347	Kiltipper - Seskin View - Tymon North - City Centre	77x		1			1					
355	Clondalkin - City Centre - Ringsend	51x		3			2					
356	Newcastle - Peamount - City Centre	68x	_	1			1		-	-		
360	Hartstown - Huntstown - City Centre	39x		4			4					
362	Ongar - Littlepace Distributor - City Centre	39x		4			4		-			
363	Damastown - Corduff - City Centre (two-way)	386		3	3		3 3 3					
364	Dunboyne - City Centre	_		2			2			-		
365	Diswellstown Rd - Clonsilla Rd - City Centre			2			2					
380	Portmarnock - City Centre - UCD	142		6		-	2 3		-			
381	Malahide - Portmarnock - Clontarf - City Centre - UCD	32x		2			1 1					
382	Glen Ellan Rd - River Valley - City Centre - UCD	41x	_	3	_	-	3		-			
383	Portrane - Donabate - City Centre - UCD	33d		1								
384	Knocksedan - Swords Manor - City Centre - UCD	41x	-	3			3	-	-			
385	Skerries - Rush - Lusk - City Centre - UCD	33x	2	3			2 3					
393	Rathcoole - City Centre	69x		2			1					

Peak-Only Routes

As in the existing bus network, additional bus services will be required during weekday morning and evening peak hours. This extra peak service would be provided in three different ways:

- 15 minutes at peak.

Following on feedback in the second public consultation, it is clear that there is significant concern about peak service levels and the continued provision of certain peak express routes. The NTA performed a review of peak loading at key points in Dublin in November 2018, which has informed the network revision.

As a result, the revised proposal, includes 15 more peak-only routes and patterns than were in the initial proposal. The revised proposal has also added more trips to several of these services, matching and in some cases exceeding the number of trips on the equivalent existing service.



• Higher frequency on all-day routes. For example, proposed Route 35 would operate every 20 minutes all day, but every

• Higher frequency on parts of all-day routes. For example, the highest demand part of the D spine system is Malahide Road from Clare Hall to City Centre. Six extra trips per hour would be provided during the peak period as a special service, designated as "D9" on the table to the left.

 Peak-only routes, some of which are to be provided as express services. These are shown on the table to the left, \square along with the most comparable existing peak service 🗠 where applicable. <u>Unless otherwise indicated, all peak-only</u> routes would operate in the inbound direction in the morning and the outbound direction in the evening.

Revised Proposed Network: Peak-Only Paths





	PROPOSED
	PUBLIC TRANSPORT SERVICES Weekday midday frequencies
	-O- Every 5 min or better
	Every 6 to 7.5 min
l	-0- Every 10 - 15 min
l	
l	- Every 30 min
l	
l	- Every 60 min
l	- D Limited or peak-only
I	Combines for
l	better frequency
I	Multiple lines
I	& frequencies
l	End of line
	SPINES AND BRANCHES All lines beginning with letters A to H form spines going to City Centre. Each branch (e.g. C1, C2) goes to City Centre.
l	OTHER SERVICES Weekday midday frequencies
l	Every 15 min or better
l	DART Every 10 min Every 20 min
	Commuter rail Every 30 min Worse than 30 min
	01 km 1 N

Figure 115:

This map highlights the originating areas of peak-only services heading to **City Centre** and (in some cases) UCD.

These routes would be numbered from 301 to 399. They would focus on providing peak-only direct service to the City Centre to areas that may not have all-day direct service, where additional passenger capacity is required to **City Centre** at peak hours, and in some cases where an express service may provide a considerable speed benefit at peak.

Overview

The centre of Dublin (defined for our purposes as the area between the canals, or roughly orbital Route O) was the most difficult part of the plan to develop.

Demand for travel into and within the city centre is extremely high, so every routing decision affects large numbers of people. Yet the obstacles are obvious and extreme: the medieval pattern of streets rarely provides a direct path, so most bus routes must make many turns and fit through tight spaces. This limited space has been managed in part though complex one-way patterns that often form barriers in themselves. Furthermore, any uses of the street must fit into very little space, so every bit of road, kerb and footpath space is precious.

Fortunately, improvements to bus circulation are also underway, particularly in the form of dedicated lanes. The new two-lane bus facilities on the Liffey quays provide an efficient path to bring more buses into and quickly through the city, so that they serve major destinations but do not get stuck.

While it may sometimes seem that there are too many buses in the middle of Dublin, the real problem is just that the buses are often not moving. Buses that are protected from delay flow efficiently through the city and onward, so that they bring great numbers of people to the city centre but do not become obstacles themselves.

Improving the efficient flow of buses by will be crucial to realise the objective of reducing the need to drive cars into or across the core of the city. This will require a combination of infrastructure investments, enforcement of bus-only lanes, and potentially new restrictions on what non-bus vehicles may use bus lanes.

One major City Centre change in the revised network proposal is the rejection of the College Green Plaza plan by An Bord Pleanála. Because of this, it will remain possible for buses to travel across College Green between Dame Street and the O'Connell Bridge.

Nonetheless, clear obstacles remain: the more buses flow out of College Green and in front of Trinity College's front gate, the more difficult it will be to maintain reliable operations on the Luas Green Line. For this reason, and to avoid over-relying on an area that may yet become pedestrianised through future planning efforts, it remains important not to continue routing every major cross-city route across College Green.

The proposed network is expected to slightly reduce the overall volume of buses entering the city at the same time. However, impacts would vary from one location to another. In the interest of preserving reliability on the main paths through the Quays and

As it stands, a preliminary estimate suggests there is room for the proposed number of buses to fit through the streets proposed, though further refinement of these estimates will be done before implementation, in consultation with Dublin City Council. In particular, adjustments may be required to the exact routings of peak-only routes to prevent any specific intersection from becoming a choke-point due to excess peak bus volume.

Finally, it should be noted that the details of the city centre routings are largely separable from the rest of the proposed network. The basic plan design specifies certain frequencies of service flowing into the centre from each major corridor, and (in the case of the spines) flowing across the centre to certain other streets. Discussions about details of routing in the centre can thus proceed on a separate track from those of the plan as a whole.

Goals

In the light of the goals of the entire project, the city centre routings were driven by the following goals.

- Provide high frequency service within a short walk of as much the entire city centre as possible.
- Provide reasonably direct paths across the City Centre for the spines.
- Ensure all spines serve the core area of 24-hour activity, a roughly 800m radius as the crow flies from O'Connell Bridge.
- Maximize interchange opportunity with Luas and DART, and also provide good access to Heuston and Connolly stations.
- Ensure that interchanging between any two spines requires a minimum of walking and street crossing. While the length of interchange walks cannot be measured exactly until bus stops are finalized, the objective is that they should all be under 300m. The details of stop placement - currently in development at NTA – will be critical to this outcome.
- Ensure that connections between any two spines yield a reasonably direct trip.
- Avoid putting more buses down any street than its infrastructure can support. This motivated us to be careful about the number of buses assigned to O'Connell Street, and to the Liffey Quays.

With all the constraints that govern bus routing through the centre, most of these goals had to be compromised to some 👼 degree, and the outcomes are often not ideal, but we believe $\overline{\mathbf{0}}$ that the proposal reflects a reasonable balance among the same competing needs.

In the end, regardless of individual routing details, the proposal would overall represent a dramatic improvement in the usefulness of bus services within and through the City Centre. In particular, the consolidation of all major paths into eight spines and the introduction of orbital Route O would make it possible 5 to present a clear map of proposed all-day bus service across the \prod City Centre, which has not been possible to date.



• Minimize the number of turns that buses need to make. Turns consume more intersection capacity than going straight. For example, the plan eliminates all need for buses to turn at O'Connell Bridge.

Revised Proposed Network: City Centre Map



Figure 116: The map above shows the revised proposed network in the City Centre, including the entire area between the canals and the Docklands.



7 REVISED NETWORK PROPOSAI

Dublin Area Bus Network Redesign Revised Proposal - October 2019

Spines

A SPINE: WHITEHALL TO TERENURE

On the south side, all A spine buses⁹ would approach City Centre from Rathmines through Camden Street, Aungier Street and Great Georges Street, before traversing College Green on the way to O'Connell Street. From O'Connell Street, A spine buses would continue through Parnell Square to Dorset Street and Drumcondra Road.

This routing affords the A spine the most direct north-south path through the City Centre, with connections to frequent bus and Luas routes available at nearly all points between the canals.

B SPINE: BLANCHARDSTOWN TO UCD

Coming from the west, B spine buses would flow from the Navan Road through Stoneybatter onto the Liffey Quays. Heading southeast from the Quays, the B spine would follow the Pearse/ Townsend one-way couplet to Pearse Station, then through Westland Row, Merrion Square, Fitzwilliam Street, Pembroke Street and onward to Ballsbridge.

This routing allows the B spine to serve the area between the canals on a northwest-to-southeast axis. It is also explicitly intended as an improvement to the existing 39a routing, avoiding the long one-way split currently in operation between Trinity College and the Baggot Street Bridge.

C SPINE: LUCAN TO RINGSEND

Coming from the Chapelizod Bypass, C spine buses would pass Heuston Station and follow the Quays to just east of O'Connell Street. They would then transition to Townsend and Pearse Streets, ultimately following Pearse Street through the Grand Canal area to Dublin Bus's operating depot at Ringsend.

This routing has the advantage of serving most of the core parts of the City Centre while also reaching the South Docklands.

D SPINE: MALAHIDE ROAD TO CRUMLIN

Coming from Malahide Road, D spine buses would enter the City Centre via North Strand Road and Amiens Street. At the Custom House gyratory, the spine would turn west along the Quays, following the Quays until Winetavern Street. It would then use Winetavern Street two-way to join Patrick Street, where D spine

buses would also run two-way before heading back out of the City Centre via Cork Street to Dolphin's Barn and Crumlin.

This routing would allow the D spine to serve the area between the canals as the most direct northeast-to-southwest axis. It bears some similarity to the existing 27 routing, but staying on the Quays would allow it to operate with fewer turns.

E SPINE: BALLYMUN TO STILLORGAN ROAD

The E Spine would approach the city centre from Ballymun and Glasnevin via Phibsborough Road. It would then turn east to Parnell Square, then south through O'Connell Street, College Green, Nassau Street, Dawson and Kildare Streets as a one-way couplet, St Stephen's Green East, and Leeson Street and to Stillorgan Road.

This routing arises in part from the need for a direct north-south path, and the desire to avoid conflicts with Luas by routing buses that mostly follow the Luas alignment rather than cross it.

E SPINE: FINGLAS TO KIMMAGE

From Finglas, the F Spine would connect to the E Spine at Prospect Road. But rather than duplicate the E Spine, the F Spine would turn east onto Whitworth Avenue (like existing Route 40), bringing it close to Drumcondra station.

Turning south into Dorset Street, F Spine buses would head to Parnell Square and O'Connell Street. Not wanting to turn at O'Connell Bridge, there is no choice but to continue around the south side of Trinity, and onward through Nassau Street, the Dawson/Kildare couplet, and St. Stephen's Green East. From here, the spine would turn west through Cuffe Street and Kevin Street to Patrick Street, then turns south toward Harold's Cross.

This routing is rather circuitous, but made inevitable by the strong preference for all spines to traverse the core of the City Centre while avoiding turns at the O'Connell Bridge¹⁰.

G SPINE: BALLYFERMOT TO NORTH DOCKLANDS

The G Spine, would approach from the west via James Street and Thomas Street, similar to the existing 40. It would then head up to the Quays at Winetavern Street, continuing on the Quays until

Spencer Dock. Past Custom House, it would operate two-way on North Wall Quay.

As a result, this routing provides a full spine service to the North Docklands, so lots of interchange can be expected to and from the G spine in the core of City Centre.

H SPINE: HOWTH ROAD TO CITY CENTRE

The H spine would have a relatively short path in City Centre, entering via North Strand Road and Amiens Street, and terminating in Abbey Street Lower

This places the H spine as an exception as the only spine that \Box does not operate cross-city. This is considered acceptable in the short term, as it largely reproduces existing service patterns from the Howth Road. If peak-hour capacity and congestion issues > alleviate, future study would logically consider ways to extend the H spine across the centre to serve major destinations more directly.

Route O (Inner Orbital)

Route O is the most frequent orbital route in the whole network, operating every 8 minutes in the middle of the day, similarly to spines G and H.

Line O is intended to surround the inner city along the North and South Circular roads, allowing travel from the very dense and active areas surrounding it to avoid travel directly through the city centre, and allowing connections to and from all radial services. This should help relieve pressure on radial service through the core of City Centre.

Important Note on How Bus Routes are Described



In describing bus routes, this document may only refer to one direction of travel. For example, we may say "this route extends along X street and then turns into Y street." In almost all cases, we are describing two-way service. Except as noted, if we say the bus turns left from X street into Y street, then the same bus in the other direction turns right from Y street into X street.

⁹ In this section as everywhere else in this document, when we refer to "X spine" or "X spine buses" we mean a set of bus routes that would in practice be designated X1, X2, X3 etc. In places where we call this set of routes a "spine", all buses with the same letter designation use the same path, and together operate at very high frequency.

¹⁰ Another idea we studied, which would make the spine much shorter and straighter, would be for the spine to extend south from Dorset Street via North King Street, Church Street, Bridge Street Lower, High Street and into Patrick Street. Two concerns prevailed against this option. First, an interchange with the guay-running services at Father Matthew Bridge would be crucial, and it is very difficult to place Church Street stops close enough to the quays on both sides of the bridge. Second, the routing takes the spine far west of the major centres of demand in the city centre, requiring large numbers of people to interchange.

Secondary Radials

ROUTES 7 AND 8: GLASNEVIN TO MERRION SQUARE

These routes combine to form a 10 minute frequency in the City Centre. Coming from Phibsborough, Routes 7 and 8 would follow Church Street across the bridge to Christ Church Cathedral, then east on Dame Street, south on Great Georges Street and Aungier Street, east on Cuffe Street, north along St. Stephen's Green East on the way to Merrion Street and terminating at Merrion Square.

Although somewhat circuitous, this pattern directly connects many origins and destinations within the City Centre that would otherwise rely on an interchange for a relatively short trip. The primary challenge is the difficulty of placing north-south stops close to the Father Matthew Bridge, to allow for interchange with services on the Liffey quays.

ROUTES 10, 11 AND 12: MOUNTJOY SQUARE TO RANELAGH AND BEYOND

These routes combine to form a 15-minute frequency north of Ranelagh and through the City Centre. Coming from Ranelagh, they would operate via a relatively complex one-way split at Harcourt, then two-way on Earlsfort Terrace to St. Stephen's Green East. From there, Routes 10, 11 and 12 would head to Merrion Street, Westland Row, the Pearse/Townsend one-way couplet, Custom House, and ultimately Gardiner Street and Mountjoy Square.

These and other routes on this path from Gardiner Street to Pearse Station are afforded a relatively direct path in the City Centre serving many destinations, while relieving pressure on the primary routes on the Quays and O'Connell Street.

ROUTE 14 PALMERSTOWN, CHAPELIZOD TO DARTRY, BALLINTEER

This route would run every 15 minutes (every 10 at peak), and would enter the City Centre via Chapelizod Road and Conyngham Road on the south edge of Phoenix Park. Route 14 would then follow the Liffey Quays only until Father Matthew Bridge, turning south on Church Street, east on Lord Edward Street and Dame Street, then south on Great Georges Street, Aungier Street and Camden Street toward Rathmines. This path allows this secondary route to reach points close to the very centre of the city, while also preserving capacity on the Quays for spine services.

ROUTE 15 GREENHILLS, RATHMINES TO MOUNTJOY SQUARE

This route would run every 20 minutes on weekdays, and is primarily intended as a replacement for existing orbital connections between areas in southwest Dublin and Rathmines. Having served this market, it would then enter the City Centre via Richmond Street, and then turn toward Harcourt, ultimately following the same path as Routes 10, 11 and 12 to Mountjoy Square.

ROUTE 16: PARNELL SQUARE TO HAROLD'S CROSS, BALLYBODEN, TALLAGHT

This long route, running every 15 minutes all day (every 10 minutes at peak), would approach the City Centre from the south via Clanbrassil St, continuing north into Patrick Street (the only route going straight at this point), From there it would proceed to Dame Street and through College Green to O'Connell Street, terminating at Parnell Square.

It was considered important to provide Routes 16 and 23 access through College Green, as two of the most important numbered radials, and in response to feedback from public consultation.

ROUTES 20 AND 22: EAST WALL TO SOUTH CIRCULAR ROAD AND BEYOND

These routes would each operate every 30 minutes along their full lengths, although the segment between East Wall and South Circular road would combine with Route 22 for service every 15 minutes.

Coming from East Wall, Routes 20 and 22 would serve North Wall Quay, then turn south via the Tara/Hawkins one-way couplet to reach College Street and College Green. Form there, these routes would take Dame Street to Great George's Street, Aungier Street, Kevin Street, and Saint Luke's Avenue before proceeding through Warrenmount to South Circular Road.

ROUTE 23: MARINO TO DRIMNAGH, CRUMLIN HOSPITAL

Route 23, which would run every 15 minutes, would enter the City Centre via Ballybough Road and Summerhill, before proceeding through Parnell Square, O'Connell Street, College Green, Dame Street/Thomas Street/James' Street to St. James' Hospital, proceeding from there to Drimnagh.

In other words, this route as revised would be very similar to existing Route 123, and it was considered important to maintain a largely similar routing through the core of City Centre.

ROUTE 24: FLEET STREET TO CRUMLIN, BALLYBODEN, WHITECHURCH

Route 24 would primarily serve as a lifeline route to isolated parts of south Dublin and so its routing in City Centre is more incidental than deliberate, following the patterns of available street space. Nonetheless, it does provide direct access to a very central terminus.

Coming from Cork Street, Route 24 would follow the D spine routing onto the Liffey Quays. However, rather than running across City Centre, it would terminate at Fleet Street.

ROUTES 34 AND 35: CASTLEKNOCK (AND BEYOND) TO BURLINGTON ROAD

These routes would combine to form a 10 minute frequency in the City Centre. Coming from the northwest, these routes would approach the City Centre from Cabra Road, joining North Circular Road in Phibsborough. For access to Mater Hospital, they turn south along Berkley Road toward Parnell Square.

From Parnell Square, they would continue to Parnell Street and Gardiner Street, then following the 10/11/12 path to Merrion Square. From Merrion Square, they would follow the B spine path to Baggot Street, but then terminate at Burlington Road like the existing 37.

ROUTES 36: RATHBORNE, CABRA TO BALLSBRIDGE

Route 36 would follow the same routing as Routes 34 and 35 from Cabra Road to Merrion Square. However, instead of proceeding toward Baggot Street, it would then continue on Mount Street to Northumberland Road, terminating at Ballsbridge.

Extending Routes 34, 35 and 36 south of the River Liffey was done in response to input from public consultation.

ROUTE 64: CLONTARF TO ABBEY STREET

Route 64, running every 15 minutes would approach the City Centre along Amiens Street and terminate at Abbey Street Lower, much like the H spine (and the existing 130).

ROUTE 81: MALAHIDE TO ABBEY STREET

Route 81, running every 30 minutes, would also follow the H spine path (and the existing 42) to Abbey Street Lower.

ROUTES 93 TO 98: HOURLY "LIFELINE" SERVICES

Routes 93 to 98 are intended to provide isolated and/or highneed areas direct (in the sense of lacking interchange) but infrequent service to the City Centre.

These routes would not be useful for circulation within the City Centre, and their routing in the City Centre would be largely incidental to the available streets, depending on the side of the Dublin they would arrive from.

Peak-Only Routes

The detailed routings of peak-only routes through the City Centre has not yet been determined. These are likely to reflect existing routings, modified as necessary to fit within City Centre street capacity constraints, given the all-day routes proposed in the same areas.

BUS CONNECTS

Proposed Service by Area: Detailed Atlas and Descriptions

Reading the Maps

A complete network map for Dublin would not be legible on a single page, so we have laid the network out in a series of tiled maps, like a road atlas. When looking at the maps, it is important to start with the legend, which shows that:

- Colours indicate all-day frequency, or the longest scheduled time between two buses from 7:00 to 19:00 on weekdays. Red lines indicates the Frequent Network, where service comes every 15 minutes or better.
- DART and commuter rail services are drawn in the appropriate colour for their frequency.
- Luas lines are drawn according to their marketed colour (Red Line and Green Line). No change in service is assumed.
- Routes sometimes change frequency along their path, which is shown as a change in colour. Do not confuse the change in colour with a change in route; the buses continue through this point. This happens in two situations:
 - » Partway along a route, some buses turn back, leaving a lower frequency further out.
 - » The spines divide into branches, which are less frequent than the spine. There would be no interchange required from the spines to their branches in the proposed network. Each spine (e.g. "A") is made up of several routes called branches (e.g. "A1", "A2", "A3", "A4"). When we refer to "the A spine", "all A buses" or "A spine buses" we are referring collectively to the full set of A routes, including A1, A2, A3, A4. The same observation applies for all spines and branches, from A1 to H3.

In each tile area, the existing and proposed services are presented on consecutive pages. Note the bar on the right side of the page indicating whether the map is existing or proposed. Explanations of the thinking behind the network in each area are on a page directly after each pair of maps.

Important Note on How Bus Routes are Described

In describing bus routes, this document may only refer to one direction of travel. For example, we may say "this route extends along X street and then turns into Y street." In almost all cases, we are describing two-way service. Except as noted, if we say the bus turns left from X street into Y street, then the same bus in the other direction turns right from Y street into X street.

Figure 117: Overview and legend for maps showing the existing and proposed public transport network in each part of Dublin. Each area is numbered, and each map's number is preceded by an "E" (existing) or "P" (proposed).



BUS CONVECTS

NETWORK PROPOSA REVISED





Dublin Area Bus Network Redesign Network Maps - October 2019





Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E1, P1: Skerries

The revised network proposal consists of essentially two routes in northern Fingal:

- Route 285 from Balbriggan to Dublin Airport. All-day service every 30 minutes, replacing existing Routes 33 and 33a. The main differences would be:
 - » Service every 30 minutes consistently to Balbriggan, rather than alternating 30 and 60 minute intervals between buses.
 - » Service would continue from Swords to Dublin Airport every 30 minutes instead of every 90 minutes.
 - » All service would terminate at Dublin Airport, rather than a bus to City Centre every 90 minutes. This leaves passengers the option to connect to frequent services at Swords Main Street or at the Airport.
- Route 385 from Skerries to City Centre. Peak express trips direct to City Centre, similar to existing Route 33x. This route is restored in the revised network proposal in response to public consultation feedback.



7 REVISED NETWORK PROPOSAL



JARRETT WALKER + ASSOCIATES

Dublin Area Bus Network Redesign Network Maps - October 2019



JARRETT WALKER + ASSOCIATES

Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E2, P2: North of Swords

RUSH AND LUSK

Rush and Lusk would continue to be on the same routes as Skerries (see maps E1, P1).

- Route 285 from Balbriggan to Dublin Airport. All-day service every 30 minutes, replacing existing Routes 33 and 33a. The main differences would be:
 - » Service every 30 minutes consistently to Balbriggan, rather than alternating 30 and 60 minute intervals between buses.
 - » Service would continue from Swords to Dublin Airport every 30 minutes instead of every 90 minutes.
 - » All service would terminate at Dublin Airport, rather than a bus to City Centre every 90 minutes. This leaves passengers the option to connect to frequent services at Swords Main Street or at the Airport.
- **Route 385 from Skerries to City Centre.** Peak express trips direct to City Centre, similar to existing Route 33x. This route is restored in the revised network proposal in response to public consultation feedback.

PORTRANE AND DONABATE

Existing routes would be replaced by mostly similar service, including:

- Route 283 from Portrane to Dublin Airport. All-day service, similar to existing Route 33b. The main difference is that service would be extended to continue past Swords to Dublin Airport.
- Route 383 from Portrane to City Centre. Peak express service similar to existing Route 33d.



7 REVISED NETWORK PROPOSAL


Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E3, P3: Swords - Malahide

The focus in this area has largely been on increasing service frequencies and, where possible, reducing the complexity of peak-only express service patterns.

We have assumed that Swords Express continues to exist, providing all-day nonstop service between Swords and the city centre via the M1 tunnel, and that the public bus network will not compete directly for this market. Private Airport Express buses are also assumed to continue to exist, linking the airport nonstop to various parts of Dublin, also outside of the scope of this study.

CENTRAL AND WESTERN SWORDS

The existing routes 41 and 41c, serving the densest and largest neighbourhoods of Swords, are replaced by a branch of the A Spine and a frequent numbered radial.

- Route A4 from Swords Manor to Nutgrove. All-day service, every 12 minutes. Would serve Swords Manor, Rathbeale Road and Main Street before continuing to City Centre via the Dublin Road/Swords Road.
- Route 82 from Glen Ellan Road to City Centre. All-day service, every 15 minutes. Would start near Applewood Community Centre, would serve Glen Ellan Road, North Street, Main Street, River Valley and Boroimhe before continuing to City Centre via the Dublin Road/Swords Road.

Because A4 and 82 would both be oriented to the City Centre, they would bypass the Dublin Airport terminals. Instead, service between north Swords and the airport would be provided by:

- Routes 283 and 285 from Main Street to Dublin Airport. All-day service, two routes coming from Northern Fingal every 30 minutes, with staggered timetables combining to provide a bus every 15 minutes. Passengers seeking to reach the Airport from north Swords would connect to Routes 283/285 on or near Main Street.
- There would also be direct service from River Valley to the Airport via Route 281 (see Airport Area), every 20 minutes.

At peak hours, there would also be express service:

 Routes 382 and 384 from Swords to City Centre and UCD. Peak-only express services, mostly similar to existing Route 41x.

AIRPORT AREA

The Airport terminals would be served by:

- Route A2 from Dublin Airport to Dundrum. All-day service, every 12 minutes. Would travel to City Centre via the Swords Road, mostly similar to existing Route 16.
- Route 8 from Dublin Airport to Merrion Square. All-day service, every 20 minutes. The main purpose of this route here would be to connect the Airport to Northwest Dublin. It would travel via Harristown to Charlestown and Glasnevin on the way to City Centre.
- Route 281 from Dublin Airport to Portmarnock DART. All-day service, every 20 minutes. From Dublin Airport, it would serve Naul Rd, River Valley, Swords Pavilions, Seabury, Malahide Village, Seamount and Portmarnock. This route's purpose would be to connect many residential neighbourhoods to the Airport and central Swords, as well as DART at both Malahide and Portmarnock. Operating every 20 minutes, it could be timed for DART arrivals or departures at either Malahide or Portmarnock station.
- Routes 283 and 285 from Main Street to Dublin Airport, as previously described.

EAST SWORDS, FELTRIM AND KINSEALY

The primary all-day service in this area would be:

• Route 280 from Seatown to DCU. All-day service, every 40 minutes (every 20 minutes at peak). From Swords Business Park, would serve Seatown, Swords Pavilions, Drinan, Feltrim and Kinsealy to Clongrifin station. Peak service every 20 minutes would be timed to DART southbound departures in the morning (and northbound arrivals in the evening) at Clongriffin station. The route would continue from Clongriffin Station to Darndale, Beaumont Hospital, terminating at Dublin City University.

Parts of this area (Drinan, Hollywell) would also be served by:

• Route 380 from Portmarnock to City Centre and UCD. Peak -only express service, similar to existing Route 142. This would be the main peak-hour service between most of Portmarnock and Malahide to City Centre.

MALAHIDE AND PORTMARNOCK

would be:

The local route in this area would be

- Kinsealy).
 - Similar to existing route 32x.

SEMI-RURAL SERVICES

The revised network proposal also includes:

BUS CONNECTS

The primary all-day radial services from Malahide and Portmarnock

• Route H2 from Malahide to City Centre. All-day service, every 30 minutes via Portmarnock. This route would be similar to existing route 32 but at higher frequency. The routing within Portmarnock would change from Strand Road to Wendell Avenue and Carrickhill Road, taking it past a larger share of houses and businesses

• Route 81 from Malahide to City Centre. All-day service, every 30 minutes via Seabury, Feltrim, Kinsealy and the Malahide Road. This would be similar to existing Route 42.

• Route 281 from Dublin Airport to Portmarnock DART, as previously described (see Airport Area).

Two peak express routes would also serve this area:

• Route 380 from Portmarnock to City Centre and UCD, as previously described (see East Swords, Feltrim and

• Route 381 from Malahide to City Centre. Peak-only express service via Portmarnock, Baldoyle and Clontarf.

• Route 196 from Swords to Finglas. All-day service, every 60 to 120 minutes. This route is primarily targeted at providing a minimum level of service to rural areas located between west Swords and Charlestown, including Toberburr.

• Route 197 from Ashbourne to Swords. All day service, every 60 minutes. This would be an outer suburban local route between these two communities, via Rolestown.





Dublin Area Bus Network Redesign Network Maps - October 2019





Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E4, P4: Maynooth and Leixlip

The revised service design in this area seeks to take advantage of plans for increased frequency on the Maynooth and Kildare commuter rail lines, while nonetheless understanding that in the short term bus service remains an extremely important part of how people travel to and from City Centre. In addition, Maynooth would gain a new orbital service to Celbridge, Newcastle, Citywest and Tallaght.

ΜΑΥΝΟΟΤΗ

The revised proposed network provides both radial service to Lucan and Dublin city centre, and orbital service to Celbridge and Tallaght.

- Route C3 from Maynooth to Ringsend. All-day service, every 30 minutes. This would be similar to existing Route 66, except it would reach City Centre faster by making use of the Chapelizod Bypass, and it would continue past Merrion Square to Ringsend.
- Route W8 from Maynooth to Tallaght. All-day service, every 30 minutes. Part of this route replaces the existing segment of Route 67 between Maynooth and Celbridge, but its primary function is as a longer orbital to jobs at Greenogue, Citywest and Tallaght.

As in existing service, there would be peak express service:

• Routes 325 and 326 from Maynooth to City Centre and UCD. Peak-only express service, similar to service patterns on existing Route 66x.

All-day service in Leixlip would come from a combination of radial and local routes:

- Route C3 from Maynooth to Ringsend, as previously described (see Maynooth).
- Route 258 from Castletown to Confey Station. All-day service, every 30 minutes. This route would replace existing Route 66b in south Leixlip, and to some extent Route 66a in River Forest. The main differences would be that Route 258 would operate twice as often, but would not continue to City Centre. Instead, passengers would interchange either at Leixlip Village (C3) or Confey Station (rail).
- Route 259 from Hazelhatch to Confey Station. All-day service, every 30 minutes. This route would be designed to operate in parts of west Celbridge and Leixlip (Glen Easton, River Forest) that would not otherwise receive all-day radial service to City Centre. Instead, passengers would interchange either at Leixlip Village (C3) or Confey Station (rail).

The timetables for Routes 258 and 259 would need to be carefully constructed in the light of potentially contradictory goals:

- Timed connections to either or both of Route C3 and the Kildare Line at Confey Station.
- Staggered timetables to provide high frequency in the common segment between Confey Station and Leixlip Village.

Peak services from or through Leixlip (replacing various patterns of Route 66x) would include:

- Route 323 from River Forest to City Centre.
- Route 324 from Castletown to City Centre.
- Route 325 from Maynooth to City Centre, on the direct path through Leixlip (via Louisa Bridge).
- Route 326 from Maynooth to City Centre, on the path through Glen Easton.



REVISED NETWORK PROPOSAL





Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E5, P5: Blanchardstown and Environs

The main idea of the plan is to use Blanchardstown Shopping Centre as the point where most routes meet. From here, the **B** Spine, every 4 minutes all day would extend directly to the City Centre and UCD. In addition, we have designed peak-hour express services that mostly avoid Blanchardstown Shopping Centre to provide faster trips. Nonetheless, significant bus stop investments will be required at the Shopping Centre and that bus priority into and out of the Shopping Centre will need to improve significantly.

ONGAR, CLONSILLA, HARTSTOWN, HUNTSTOWN

Branches of the B Spine would replace the current 39 and 39a in this area, continuing to offer direct service into the city centre.

- Route B1 from Ongar to City Centre. All-day service, every 15 minutes. This would be the faster and more direct path from Ongar via the Ongar Distributor Road directly to Blanchardstown Shopping Centre on the way to City Centre.
- Route B2 from Ongar to City Centre. All-day service, every 15 minutes. Although this service would start in Ongar, its primary intended service areas would be Clonsilla, Hartstown and Huntstown, on the way to Blanchardstown Shopping Centre and City Centre.

These all-day routes would be complemented by several peakonly routes:

- Route 360 from Ongar Distributor Road to City Centre. Peak-only express, similar to existing Route 39x on the Ongar Distributor Road, and in Hartstown and Huntstown. Would not serve Ongar.
- Route 362 from Ongar to City Centre. Peak-only express. This route would be intended to mainly serve Ongar and Littlepace. It would enter the N3 at the Littlepace Distributor Road, bypassing most of Blanchardstown.

Portions of this area would also be served by:

• Route 252 from Adamstown to Blanchardstown. All-day service, every 60 minutes. Would provide service between Adamstown Station, Lucan Village and Blanchardstown via Clonsilla, similar in many ways to existing Route 238.

DUNBOYNE AND LITTLEPACE

The revised service pattern proposed for Dunboyne and Little pace would be as follows:

- Route 264 from Dunboyne to Blanchardstown. All-day service, every 15 minutes. This route would connect Dunboyne, Clonee, and Littlepace to each other Blanchardstown Shopping Centre. Unlike existing Routes 70 and 270, which back into and then back out of Littlepace, the proposed Route 264 would take advantage of a proposed bus gate at Huntstown Wood to enable a more direct trip.
- Route 362 from Ongar to City Centre, as previously described. This would be the peak express service for western parts of Littlepace.
- Route 364 from Dunboyne to City Centre. Peak-only express service, 2 trips a day per direction. This service would operate faster (fewer stops) but less frequently than existing Route 70. At peak hours, passengers from Dunboyne could choose to time their trip to catch Route 364, or to take the frequent Route 264 connecting to buses every 4 minutes at Blanchardstown Shopping Centre.

This pattern responds to the strong demand for a restored connection between Dunboyne and Littlepace for schools, and for better service to both areas than was initially proposed.

NORTH OF THE N3: DAMASTOWN, TYRELLSTOWN, CORDUFF, BALLYCOOLIN

The revised service pattern proposed would be as follows:

- Route B3 from Tyrrelstown to City Centre. All-day service, every 15 minutes. This would be a new radial route from Tyrrelstown and Castlecurragh to Blanchardstown Shopping Centre and City Centre. It would simultaneously improve travel times for local travel and provide higher frequency for trips into the city.
- Route 35 from Blanchardstown to City Centre. All-day service, every 20 minutes (every 15 minutes at peak). This would be the radial service for Corduff, replacing parts of existing Route 38. Terminating at Blanchardstown Shopping Centre provides a more useful outbound destination.
- Route N4 from Blanchardstown to Spencer Dock. All-day service, every 10 minutes. This route would be the primary orbital route connecting areas across North Dublin, operating every 10 minutes all day. Near Blanchardstown, the new Route N4 would largely replicate the path of existing Route 17a to Finglas and DCU, but at much higher frequency.
- Route 261 East Blanchardstown Circulator. All-day service, every 15 minutes (two-way loop). This route would link a variety of important destinations north and south of the Navan Road like Ballycoolin, TU Dublin-Blanchardstown,

Connolly Hospital, and Blanchardstown Village to frequent connecting service at Blanchardstown Shopping Centre.

- •
- •
- the city to Damastown.

SOUTHEAST: BLANCHARDSTOWN VILLAGE, CARPENTERSTOWN, CASTLEKNOCK

Service in this area would include:

- Village and Castleknock.

NEW ORBITAL TO LUCAN AND TALLAGHT

- - and Cheeverstown Road.

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BUS CONNECTS

Route 262 Blanchardstown to Broombridge. All-day service, every 30 minutes (every 15 at peak). This route would largely replicate service provided by existing route 40e, largely replicate service provided by existing route 40e, adding a connection to Blanchardstown Shopping Centre for a more useful outbound destination.

Route 263 Damastown to Blanchardstown. All-day service, every 15 minutes. This would replace existing Routes 38 and 38a on Damastown Drive and Damastown Road at higher frequency. However, it would terminate at Blanchardstown Shopping Centre rather than City Centre.

• Route 363 Damastown to City Centre. Peak-only service, operating two-way. This is intended to replace some functions of existing Route 38b, providing both a faster peak service into City Centre, and a reverse-peak service from

• Route 34 from Blanchardstown to City Centre. All-day service, every 20 minutes all day (every 8-15 minutes at peak). This would replace existing Route 37 in Carpenterstown and Castleknock. The path into City Centre would change from Blackhorse Avenue to Cabra Road.

Route 35 from Blanchardstown to City Centre. All-day service, every 20 minutes (every 15 minutes at peak). This would replace existing Route 38 through Blanchardstown

• Route 261 East Blanchardstown Circulator, as previously described (see North of the N3).

• Route 365 Diswellstown to City Centre. Peak-only express service. This is added due to the loss of all-day direct service to City Centre on Clonsilla Road in Coolmine.

• Route W4 from Blanchardstown to Tallaght. All-day service, every 30 minutes (every 15 minutes at peak). This would be orbital service linking suburbs to large shopping centres and industrial estates. Route W4 would link Blanchardstown Shopping Centre, Liffey Valley Shopping Centre, Ballyowen Road in Lucan, and Grange Castle Business Park, and extending to Tallaght via Kingswood Road (near Citywest)



Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E6, P6: Inner North

In this area, each main road into the City Centre would be served by a combination of bus routes providing extremely frequent service. The primary innovation of the proposed network is the increased number and frequency of orbital services.

NEW ORBITALS

Three orbital services are proposed in North Dublin.

- Route N2 from Heuston station to Clontarf Road station. All-day service, every 20 minutes (every 15 at peak). This would be an orbital route primarily following Griffith Avenue. Due to a relatively limited number of destinations along the route, it is not proposed at high frequency at this time.
- Route N4 from Blanchardstown to Spencer Dock. All-day service, every 10 minutes. This would be the primary orbital through much of north Dublin. It would operate mostly on Collins Avenue and Glasnevin Avenue, linking major destinations including the North Docklands, DCU, Finglas Village and Blanchardstown Shopping Centre.
- **Route N8 from Howth Junction station to Finglas.** All-day • service, every 10 minutes. This would be the "outer north" orbital, and would also link several important destinations: Beaumont Hospital, Ballymun Civic Centre, Charlestown Shopping Centre and Finglas Village.

In addition to these:

 Route 280 from Seatown to DCU. All-day service, every 40 minutes (every 20 minutes at peak). This would be a less frequent "mini-orbital", linking DCU and Beaumont Hospital to Clongriffin and points north.

RADIAL SERVICES

1. NAVAN ROAD AND CABRA

The primary services in this area to City Centre would be:

- All B spine buses (B1, B2, B3, B4). All-day service, every 4 minutes on the Navan Road to City Centre.
- Routes 34 and 35. All-day service, two routes timetabled to provide combined service every 10 minutes on the Navan Road to Cabra Road, Mater Hospital, and City Centre.
- Route 36. All-day service, every 15 minutes. This would be • the primary service from Rathborne, Royal Canal Park and

Cabra to City Centre.

In addition, parts of this area would be served by:

• Route 97 from Ashington Park to Parnell Square. All-day service, every 60 minutes. This would be a lifeline route, providing service to streets and stops located farther from main roads in Ashington Park and Cabra.

2. FINGLAS

Radial services in Finglas would be on different branches of the F Spine:

- F1 via the Finglas Bypass. All-day service, every 15 minutes (with 3-6 extra trips per hour to City Centre only at peak). This would be the "express" service, with some similarity to existing Route 140.
- F2 via Finglas Northwest. All-day service, every 15 minutes. Would connect Finglas Northwest to Finglas Village, and then City Centre via the Finglas Bypass.
- F3 via McKee Avenue and Finglas Southwest. All-day service, every 15 minutes. Would connect other parts of Finglas to both Finglas Village and City Centre.

From Tolka Valley Road into City Centre, the three routes would operate at a combined frequency of every 5 minutes.

Finglas South would also be served by the local:

• Route 262 from Blanchardstown to Broombridge. Allday service, every 30 minutes. This would be mostly similar to existing Route 40e.

3. GLASNEVIN

Glasnevin would be served by two radial routes, replacing segments of existing routes 9, 83 and 83a:

- Route 7 via Glasnaon Road. All-day service, every 20 minutes. Would serve parts of Poppintree and west Glasnevin, including Tolka Estate.
- Route 8 via Ballygall Road. All-day service, every 20 minutes. Would serve east Glasnevin.

From the Old Finglas Road into City Centre, the two routes would operate at a combined frequency of every 10 minutes.

4. BALLYMUN ROAD

Radial service in the Ballymun Road corridor would include:

- minutes.

In addition, parts of this corridor would be served by:

5. Swords ROAD

The Swords Road would be served by:

- - 12 minutes.

In addition, there would also be:

6. MALAHIDE ROAD

The Malahide Road would be served by:



All E spine buses (E1, E2). All-day service, every 5 minutes from Ballymun to City Centre and points beyond. North of Ballymun Civic Centre, E1 and E2 would separate, with:

» Route E1 continuing to IKEA. All-day service, every 10

» Route E2 continuing to Charlestown Shopping Centre. All-day service, every 10 minutes. Would serve Balbutcher Lane (North) and Saint Margaret's Road.

• Route 94 from IKEA to Parnell Square. All-day service, every 60 minutes. This would be a lifeline route, providing 🔟 infrequent but relatively direct service to City Centre from Balbutcher Lane (South), Wadelai and Home Farm Road.

• All A spine buses (A1, A2, A3, A4). All-day service, every 3 minutes from Whitehall to City Centre and points beyond. North of Whitehall, the branches would separate, with:

Route A1 continuing to Beaumont Hospital via Lorcan Avenue. All-day service, every 12 minutes.

» Route A2 continuing to Dublin Airport via Swords Road. All-day service, every 12 minutes.

» Route A3 continuing to Santry via Collins Avenue/DCU. All-day service, every 12 minutes.

Route A4 continuing to Swords. All-day service, every

• Route 82 from Swords to City Centre. All-day service, every 15 minutes. In north Dublin City, this route would provide additional capacity to City Centre.

• All D spine buses (D1, D2, D3, D4, D5). All-day service, every 4 minutes from the Artane Roundabout to City Centre and points beyond. North of the Artane Roundabout, the branches would separate, with:

Route D1 continuing to Clare Hall and Clongriffin (via Main Street). All-day service, every 15 minutes.



- » **Route D2** continuing to Darndale and Clare Hall. All-day service, every 15 minutes.
- » **Route D3** continuing to Clare Hall and Clongriffin (via Belmayne). All-day service, every 15 minutes.
- » Route D4 continuing to Beaumont Hospital and estates in Kilmore and Coolock. Swords. All-day service, every 30 minutes.
- » **Route D5** continuing to Harmonstown, Edenmore and Ard Na Greine. All-day service, every 30 minutes.

In addition, there would also be:

- Route 81 from Malahide to City Centre. All-day service, every 15 minutes. In north Dublin City, this route would provide additional capacity to City Centre.
- Route 96 from Beaumont Hospital to City Centre. Allday service, every 60 minutes. This would be a lifeline route, providing infrequent service to City Centre from a variety of streets and stops located farther from main roads in Beaumont and Clontarf.

7. HOWTH ROAD AND CLONTARF

The Howth Road would be served by:

• All H spine buses (H1, H2, H3). All-day service, every 8 minutes from All-Saints Road to City Centre. North of the Artane Roundabout, the branches would separate into three branches (see map P7)

Clontarf would be served by:

• Route 64 from Clontarf to City Centre. All-day service, every 15 minutes (every 6 minutes at peak). This route would essentially be the same as existing Route 130, with frequency adjustments matching demand (higher frequency at peak, slightly lower off-peak).



7 REVISED NETWORK PROPOSAL

Existing Network: Howth and Northeast



JARRETT WALKER + ASSOCIATES

Map E6 ^

Continues on

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130



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E7, P7: Howth and Northeast

This area would see relatively little change compared to existing service, except for the southern part of the Howth peninsula.

HOWTH ROAD CORRIDOR

The inner parts of the Howth road would be served by all H spine buses, with a combined frequency of every 8 minutes to City Centre. However, these buses split at All Saints Road:

- H1 from Clongriffin (east side) to City Centre. All-day service, every 15 minutes. This would serve as the primary radial route for Baldoyle and Donaghmede, replacing existing Route 29a at higher frequency.
- **H2 from Malahide to City Centre.** All-day service, every 30 minutes. This would be the primary radial bus service coming from Portmarnock, replacing existing Route 32 at higher frequency.
- **H3 from Howth to City Centre.** All-day service, every 30 minutes. This would be the radial bus service coming from Howth and Sutton, replacing existing Route 31.

Routes H2 and H3 would combine to provide 15 minute frequency on the Howth Road in Bayside and Kilbarrack.

The Howth Road corridor would also be served by:

- Routes 290 from Howth to Sutton. All-day service, every 40 minutes. This would be a local route intended mainly for the southern part of the Howth peninsula, connecting to DART at Sutton Station. The timetable for this route will need to be designed with regard to inbound connections in the morning, and outbound connections in the evening.
- Route 381 from Malahide to City Centre. Peak-only express service via Portmarnock, Baldoyle and Clontarf. Similar to existing route 32x.

Clontarf would be served by:

• Route 64 from Clontarf to City Centre. All-day service, every 15 minutes (every 6 minutes at peak). This route would essentially be the same as existing Route 130, with frequency adjustments matching demand (higher frequency at peak, slightly lower off-peak).

There would be an expansion of service to Clongriffin reflecting its ongoing high-density development. This would include:

- Routes D1 and D3 to the Malahide Road and City Centre. All-day service, every 15 minutes on both routes. D1 would serve Main Street on the way to City Centre, while D3 would serve Belmayne.
- Route H1 to the Howth Road and City Centre. All-day service every 15 minutes, as previously described (see Howth Road Corridor).

ORBITAL SERVICE

Orbital service from Northeast Dublin would include:

- Route N8 from Howth Junction station to Finglas. Allday service, every 10 minutes. This would be the "outer north" orbital, linking this area to destinations like Beaumont Hospital, Ballymun Civic Centre, Charlestown Shopping Centre and Finglas Village.
- Route 280 from Seatown to DCU. All-day service, every 40 minutes (every 20 minutes at peak). This would be a less frequent "mini-orbital", linking DCU and Beaumont Hospital to Clongriffin and points north.



REVISED NETWORK PROPOSAL



Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E8, P8: Celbridge

The primary radial service from Celbridge would be:

• Route C4 from Celbridge to City Centre. All-day service, every 30 minutes. This service would run north-south through Celbridge on Maynooth Road and Main Street, and then follow the R403 to Lucan Village, similar to existing Route 67.

At peak hours, this service would be complemented by:

• Routes 327 and 328 from Celbridge to City Centre. Peak-only express service, replicating different patterns of existing Route 67x.

In response to public consultation feedback, this distribution and routing of peak and all-day service would essentially be unchanged from existing service.

However, it's also worth noting two new orbital and local routes that remain in the revised proposal:

- Route W8 from Maynooth to Tallaght. All-day service, every 30 minutes. Part of this route replaces the existing segment of Route 67 between Maynooth and Celbridge, but its primary function is as a longer orbital to jobs at Greenogue, Citywest and Tallaght.
- Route 259 from Hazelhatch to Confey Station. All-day service, every 30 minutes. This local route would connect neighbourhoods in Celbridge and Leixlip to each other, as well as to Hazelhatch and Confey stations.



7 REVISED NETWORK PROPOSAL



Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

H3: Map E9, P9 Inner West

In this area, we worked to increase the amount of frequent service, and the number of connections between frequent routes, while maintaining coverage and existing local travel patterns.

The proposed interchange on the north side of Liffey Valley Shopping Centre, adjacent to the pedestrian bridge to the bus stops on the N4 motorway, would dramatically expand connection opportunities and thus the destinations that can be reached.

ORBITALS

The most significant changes in this area are to orbital service:

- Route S4 from Liffey Valley to UCD. All-day service, every 10 minutes. This route is designed to create direct service from Liffey Valley and Ballyfermot across the south side of Dublin, including Crumlin, Terenure, and UCD. It would run significantly more frequently than existing Route 18.
- Route W2 from Liffey Valley to Tallaght. All-day service, every 15 minutes. Very similar to the existing 76, but at slightly higher frequency. The new connections at Liffey Valley would make this route useful to reach more places.
- Route W4 from Blanchardstown to Tallaght. All-day service, every 30 minutes (every 15 minutes at peak). This would be orbital service linking suburbs to large shopping centres and industrial estates. Route W4 would link Blanchardstown Shopping Centre, Liffey Valley Shopping Centre, Ballyowen Road in Lucan, and Grange Castle Business Park, and extending to Tallaght via Kingswood Road (near Citywest) and Cheeverstown Road.

LUCAN CORRIDOR

The **C Spine** is the main service from the city centre to Lucan and all points west. It includes:

- All C spine buses (C1, C2, C3, C4). All-day service, every 8 minutes (every 5 minutes at peak) from Liffey Valley to City Centre. One of the primary improvements compared to the existing 25/66/67 services (from the perspective of passengers coming from farther west) would be that all routes would use the Chapelizod Bypass, saving time on the trip into City Centre. West of Liffey Valley, the service splits into separate routes:
 - » Routes C1 and C2 continuing to Ballyowen, Griffeen Valley and Adamstown. All-day service, every 15 minutes (every 4 to 8 minutes at peak) until Griffeen Valley,

splitting there into two route every 30 minutes until Adamstown (each branch every 8 to 15 minutes at peak).

» Routes C3 and C4 continuing to Lucan Village, Leixlip, Maynooth and Celbridge. All-day service, every 15 minutes to Lucan Village.

This corridor would also include several peak express services:

- Route 321 from Adamstown to City Centre. Peak-only express service, similar to existing 25d.
- Route 322 from Adamstown to City Centre and UCD. Peakonly service, similar to existing 25x, but with service through Lucan Village before getting on the N4.
- Routes 323 and 324 from Leixlip to City Centre. Peak-only service, similar to existing 66x but with service through Lucan Village before getting on the N4.

Lucan would also be served by two local routes, replacing different parts of existing Route 238:

- Route 251 from Adamstown to Liffey Valley Shopping Centre. All-day service, every 60 minutes. Primarily connecting suburban residential areas to shopping.
- Route 252 from Adamstown to Blanchardstown Shopping Centre. All-day service, every 60 minutes. Also connecting suburban residential areas to shopping, and providing a low-frequency orbital connection to Blanchardstown.

PALMERSTOWN AND CHAPELIZOD

In the proposed network, Chapelizod Village would no longer be on the main radial paths to Dublin coming from Lucan Village, Maynooth and Celbridge. Instead, Chapelizod would be on:

• Route 14 from Liffey Valley to Ballinteer. All-day service, every 15 minutes (every 10 minutes at peak). Coming from Liffey Valley, this route would serve Kennelsfort Road, Palmerstown, Chapelizod and Islandbridge on its way to City Centre and points beyond.

BALLYFERMOT AND NEILSTOWN

The main radial service in this area would be:

- All G Spine buses (G1, G2). All-day service, every 8 minutes (every 6 minutes at peak) from Ballyfermot to Spencer Dock. West of Clifden Road, this service splits into separate routes:
 - » Route G1 from Red Cow to City Centre. All-day service, every 15 minutes (every 12 at peak). This is the path

of existing Route 79a, but extended past Park West into east Clondalkin and to the Red Cow Luas station.

There would also be a secondary radial service:

estate and Decies Road.

CLONDALKIN

spine, specifically:

- ing the New Nangor Road.

Other all-day routes proposed in Clondalkin would include:

- ing Route 69.
- Clondalkin.

There would also be a peak express service:

BALLYMOUNT



Route G2 from Liffey Valley to City Centre. All-day service, every 15 minutes (every 12 at peak). This is the 置 path of existing Route 40.

 Route 95 from Cherry Orchard to City Centre. All-day service, every 60 minutes. This would be a lifeline route providing infrequent but direct service to stops and streets farther from main roads, in particular the middle of Cherry Orchard

Most radial service in Clondalkin would be on branches of the D

• Route D1 from Foxborough to City Centre. All-day service, every 15 minutes. This path would serve Grange Castle Business Park and the New Nangor Road.

Route D3 from Nangor to City Centre. All-day service, every 15 minutes. This branch would serve Lock View, Bawnogue, Clondalkin Village and Watery Lane before join-

• Route 93 from Rathcoole to City Centre. All-day service, every 60 minutes. This is essentially a replacement for exist-

• Route 256 from Newcastle to Red Cow. All day service, every 60 minutes. This would serve the Old Nangor Road in

• Route 355 from Clondalkin to City Centre. Peak-only express service, similar to existing route 51x.

• Route 20 from Tallaght to City Centre. All-day service,

every **30 minutes.** This route would replace existing Route 56a at much higher frequency.





Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E10, P10: Inner South

Five spines would radiate from the centre into this area, as well as several numbered radials. Orbitals O, S2, and S4 would provide a vast improvement in east-west services. Here are some of the considerations in the design.

NEW ORBITALS

- Route O - Inner Orbital. All-day service, every 8 minutes. This route would run on the North and South circular roads, connecting many destinations at the edge of the centre (e.g. Grand Canal, Docklands, Heuston), and allowing many trips coming from south and north Dublin to bypass the core of the City Centre.
- Route S2 from Heuston station to Poolbeg. All-day service, every 15 minutes. This route would replace the western half of Route 18, at higher frequency and connecting to Heuston. It would serve Heuston station, St. James' Hospital, Rialto, Sundrive Road, Kimmage, Rathmines, Ranelagh, Ballsbridge and Sandymount, ending on Sean Moore Road.
- Route S4 from Liffey Valley to UCD. All-day service, every 10 minutes. This would be a new orbital extending west from UCD, to Milltown, Rathgar, Terenure and Crumlin. The large number of residential areas and villages, combined with major destinations at either end of the route, suggest that it would be useful for many trips that do not need to go through City Centre.

INCHICORE

The primary radial services in and near Inchicore would be:

- The Luas Red Line, continuing to operate as it does today.
- All G spine buses (G1, G2). All-day service, every 8 minutes (every 6 minutes at peak) from Ballyfermot to Spencer Dock.

Furthermore, two secondary radials would cross Inchicore as well:

- Route 93 from Rathcoole to Dublin Port. All-day service, every 60 minutes. Coming from the Naas Road, this route would follow Tyrconnell Road to Emmet Road, Bulfin Road/ Goldenbridge Ave as a one-way couplet, and continue to City Centre via Islandbridge.
- Route 95 from Cherry Orchard to Spencer Dock. All-day service, every 60 minutes. This route would follow the same path as Routes G1 and G2 in this area.

DRIMNAGH AND CRUMLIN

The primary radial services in Drimnagh and Crumlin would be:

- The Luas Red Line, continuing to operate as it does today.
- All D spine buses (D1, D2, D3, D4, D5). All-day service, every 4 minutes from Crumlin Hospital to City Centre and points beyond. South and west of Crumlin Hospital, the branches would separate, with:
 - » Routes D1 and D3 continuing to Clondalkin via Long Mile Road, Kylemore Luas station and the New Nangor Road. All-day service, every 8 minutes until Watery Lane, splitting to every 15 minutes on each branch beyond that point.
 - » Route D2, D4 and D5 continuing to Tallaght via Walkinstown Road and the Greenhills Road. All day service, every 8 minutes, splitting at Castletymon Road. D2 and D4 continue on a direct path to Tallaght Village and The Square, D5 takes a longer path through Tymon North and Seskin View.

In addition, Drimnagh would be served by two numbered radial routes:

- Route 22 from Crumlin Hospital to East Wall. All-day service, every 30 minutes, via Galtymore Road and Keeper Road.
- Route 23 from Crumlin Hospital to Marino. All-day service, every 15 minutes, via Mourne Road and St. James' Hospital.

Crumlin would be served by three numbered radial routes:

- Route 15 from Greenhills College to Mountjoy Square. All-day service, every 20 minutes. This route would start in Greenhills, serving Limekiln Road, Whitehall Road West, St. Agnes Road (Crumlin Village), St. Agnes Park, Stannaway Road, and Sundrive Road, heading to Rathmines, then continuing to City Centre. This route is intended to replace some of the functions of existing routes 15a, 18 and 83.
- Route 20 from Tallaght to East Wall. All-day service, every 30 minutes (every 15 minutes at peak from Walkinstown to City Centre). This route would arrive in Crumlin via Ballymount and Walkinstown. It would run on Cromwellsfort Rd, through Crumlin Village, then onto Kildare Road and Clogher Road to City Centre.
- Route 24 from Dundrum to Fleet Street. All-day service, every 30 minutes. This route would be arriving from

Whitechurch, Ballyboden and Rathfarnham. From Terenure, it would take Terenure Road West to Kimmage Road Lower, 👗 Captain's Way, St. Agnes Park and Clonmacnoise Road to Sundrive Road, then heading to City Centre via the Crumlin Road.

HAROLD'S CROSS, KIMMAGE, PERRYSTOWN, AND GREENHILLS

The primary radial services in these areas would be:

- - everv 15 minutes.

- 15b and 16.

RATHMINES, RATHGAR, TERENURE, DARTRY Rathmines, Rathgar and Terenure would be primarily served by:



• All F spine buses (F1, F2, F3). All-day service, every 5 minutes from the Kimmage Crossroads to City Centre (via Harold's Cross) and points beyond. South and west of the Kimmage Crossroads, the branches would separate, with:

» Routes F1 continuing to Greenhills College via Kimmage Road West, Cromwellsfort Road, St. Peter's Road and St. James' Road, similar to existing route 9. All day-service,

Route F2 continuing to Perrystown and Templeogue via Whitehall Road, Templeville Road and Glendown Avenue. All-day service, every 15 minutes.

Route F3 continuing to Templeogue, Firhouse and Tallaght via Fortfield Rd, Fortfield Park, Templeville Road, Cypress Grove Road and Old Bridge Road. Allday service, every 15 minutes.

In addition, these areas would be served by:

• Route 15 from Greenhills College to Mountjoy Square, as previously described (see Drimnagh and Crumlin).

• Route 16 from Tallaght to Parnell Square. All-day service, every 15 minutes (every 10 minutes at peak). Coming from Rathfarnham, this route would serve Harold's Cross Road, Clanbrassil Street and Patrick Street (two-way) coming into City Centre. It would replicate portions of existing routes

• Route 24 from Dundrum to City Centre, as previously described (see Drimnagh and Crumlin).

• All A spine buses (A1, A2, A3, A4). All-day service, every 3 minutes from Terenure to City Centre and points beyond. South of Terenure, the branches would separate, with:

» Routes A1 and A3 continuing to Templeogue via Templeogue Road. All-day service, every 6 minutes, splitting at Templeogue into service every 12 minutes to Tallaght (A1) and Knocklyon (A3).

» **Routes A2 and A4** continuing to Rathfarnham via Rathfarnham Road. All-day service, every 6 minutes, splitting south of Rathfarnham Village into service every 12 minutes to Ballinteer (A2) and Nutgrove (A4).

These areas would also be served by **Route 15, Route 16** and **Route 24**, as previously described (see above).

Dartry would be served by:

• Route 14 from Ballinteer to Liffey Valley. All-day service, every 15 minutes (every 10 minutes at peak). Coming from Nutgrove, this route would serve Braemor Road, Orwell Road, Highfield Road and Rathmines Road Upper, continuing to City Centre on Rathmines Road.

RANELAGH, MILLTOWN, CLONSKEAGH

Radial service in these areas would follow similar paths to existing service, with:

- Route 10 from Ticknock to Mountjoy Square. All-day service, every 30 minutes. Coming from Sandyford, this route would serve Goatstown, Clonskeagh and Ranelagh.
- Routes 11 and 12 from Belarmine to Mountjoy Square. All-day service, two routes combining for service every 30 minutes. Coming from Dundrum these routes would serve Milltown and Ranelagh.

From Milltown Park, all three routes would combine for service every 15 minutes to City Centre.

STILLORGAN ROAD CORRIDOR AND UCD

The N11/Stillorgan Road corridor would primarily be served by:

- All E spine buses (E1, E2). All-day service, every 5 minutes from Foxrock Church to City Centre and points beyond.
 - » At peak hours, and extra **E9** service would add 6 trips per hour between Brides Glen Luas and UCD, to relieve loads on buses headed to City Centre.

At the same time, the largest destination in this corridor is UCD, which would also be served by:

- **Routes B1 and B2** to City Centre and points beyond via Merrion Road. All-day service, every 8 minutes.
- Route 213 from Kilternan to Ringsend. All-day service,

every 40 minutes (every 20 minutes when combined with Route 313 at peak, from UCD to Kilternan).

In addition to being a prime destination on orbital Routes S4 and S6 (see New Orbitals), UCD would also continue to be a major focal point for peak express routes from many directions. See maps from the origin areas of these routes for further descriptions.

MERRION ROAD CORRIDOR

The Pembroke Road/Merrion Road/Rock Road corridor would be primarily served by

- DART train service, operating every 10 minutes.
- All B spine buses (B1, B2, B3, B4). All-day service, every 4 minutes from St. Vincent's Hospital to City Centre and points beyond. South of St. Vincent's, the branches would separate, with:
 - » **Routes B1 and B2** continuing to UCD via Nutley Lane and Stillorgan Road. All-day service, every 8 minutes.
 - » Routes B3 and B4 continuing to Blackrock. All-day service, every 8 minutes, splitting south of Blackrock into service every 15 minutes to Dun Laoghaire (B3) and Sallynoggin (B4).

A secondary radial service in this area would be:

• Route 98 from Loughlinstown Park to Mountjoy Square. All-day service, every 60 minutes. This is a lifeline radial service targeted at serving more isolated areas further south.

IRISHTOWN AND SANDYMOUNT

Irishtown and Sandymount would be served by:

- **Routes C1 and C2.** All-day service, every 15 minutes to City Centre and points beyond on the same path served by existing Route 1.
- Route 213 from Kilternan to Ringsend. All-day service, every 40 minutes. This route would provide an infrequent but direct connection to St. Vincent's Hospital and UCD, similar to existing Route 47, but coming nearly twice as often. Unlike Route 47, it would not continue into City Centre.



REVISED NETWORK PROPOSAL



Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E11, P11: Newcastle and Rathcoole

RATHCOOLE

Rathcoole would be served by both a peak and all-day radial route, similar to existing Routes 69 and 69x:

- Route 93 from Rathcoole to Dublin Port. All-day service, every 60 minutes. This route would start at the existing 69 terminus in Rathcoole, and head from there to Saggart, Citywest and Clondalkin on the way to City Centre.
- Route 393 from Rathcoole to City Centre. Peak-only express service, similar to Route 69x, but with a second trip added in the morning in response to observed loads.

The eastern half of Rathcoole would also be near the orbital **Route W8**, described below.

NEWCASTLE AND GREENOGUE

Newcastle would be served by two all-day routes and one peakonly express:

- Route W8 from Maynooth to Tallaght. All-day service, every 30 minutes. This route would provide a new regular link to Maynooth, Celbridge and Hazelhatch Station to the north, and to Saggart, Citywest and Tallaght to the south.
- Route 256 from Greenogue Business Park to Red Cow. All-day service, every 60 minutes. This route would replace existing Route 68, but would terminate at Red Cow instead of City Centre.
- Route 356 from Greenogue Business Park to City Centre. Peak-only express service, similar to existing Route 68x, but with a new evening return trip added.



7 REVISED NETWORK PROPOSAL



Dublin Area Bus Network Redesign Network Maps - October 2019



Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E12, P12: Tallaght and Environs

Tallaght is a strong centre with intense demand. It is also the logical hub for numerous routes, because of its position in the southwest corner of the city where many routes logically end.

The revised network proposal seeks to take advantage of the possibility of connections in central Tallaght, while also providing as many direct trips as possible.

EAST OF THE SQUARE - SAGGART, CITYWEST, JOBSTOWN, COOKSTOWN

The radial services in this area would be:

- The Luas Red Line, Saggart branch, which would continue to operate as it does today.
- Route D2 from Citywest to Clare Hall. All-day service, every 15 minutes. From Citywest Business Park, this route would serve Citywest Road, turning onto Citywest Drive to Fortunestown Lane, Fortunestown Way, then Jobstown Road and Fortunestown Road, then continuing to The Square and City Centre via the Blessington Road. This is in some respects similar to Route 27, but the routing has been modified to prioritize the highest boarding points in Jobstown and extend frequent bus service into Citywest.
- Route 20 from Tallaght to City Centre. All-day service, every 30 minutes. This route is similar to existing Route 56a, but at much higher frequency, providing service to Cookstown Road and Kingswood, going to Ballymount Industrial Estate and City Centre.
- Route 93 from Rathcoole to City Centre. All-day service, every 60 minutes. This would be an infrequent all-day service to City Centre from Rathcoole and Saggart, similar to existing Route 69.

This area would be served by three orbital routes:

- Route S8 from Citywest to Dun Laoghaire. All-day service, every 20 minutes (every 15 minutes at peak). From Citywest Business Park, this route would operate on Citywest Road to Blessington Road until The Square. Past The Square it would take Old Bawn Road on the way to Knocklyon, Ballyboden, Ballinteer, Sandyford Business Park and Dun Laoghaire.
- Route W4 from Blanchardstown to Tallaght. All-day ser-• vice, every 30 minutes (every 15 minutes at peak). This would be a new orbital route linking employment and shopping areas in west and southwest Dublin, including Citywest (via Kingswood Road), Grange Castle Business Park, Liffey Valley Shopping Centre and Blanchardstown Shopping Centre.

Route W8 from Maynooth to Tallaght. All-day service, every 30 minutes. This would be a new orbital route with service to Celbridge and Maynooth.

There would also be a peak-only route in part of this area:

• Route 393 from Rathcoole to City Centre. Peak-only, express service similar to existing Route 69x but with an added morning trip due to observed loads.

WEST AND NORTH OF THE SQUARE - KINGSWOOD, TYMON NORTH, TALLAGHT VILLAGE, INDUSTRIAL ESTATES

The primary radial services in this area would be:

- The Luas Red Line, Saggart and Tallaght branches, which would continue to operate as it does today.
- Route A3 from Tallaght to Santry. All-day service, every 12 minutes. This would be a new, more frequent and more direct alternative to Route 54a. From The Square, it would traverse Tallaght Village and then past Balrothery on Main Road, continuing into City Centre via the Templeogue Road, Rathgar and Rathmines.
- Routes D2 and D4. All-day service, every 15 minutes (D2) and every 30 minutes (D4) to City Centre and points beyond, following the same routing as existing Route 27 via Tallaght Village and the Greenhills Road.
- Route D5 from Tallaght to Edenmore. All-day service, every 30 minutes. This route would start at The Square and serve Old Bawn Road, Seskin View, Avonmore Road and Castletymon Road, before taking the Greenhills Road to City Centre, similar to part of existing Route 77a.
- Route 20 from Tallaght to City Centre, as previously described (see East of The Square).

There would be one orbital heading north from The Square:

• Route W2 from Tallaght to Liffey Valley. All-day service, every 15 minutes. This would be orbital service to Clondalkin and Liffey Valley Shopping Centre, similar to existing Route 76 but at higher frequency.

There would also be a peak-only route in part of this area:

• Route 347 from Kiltipper Way to City Centre. Peak-only, express service similar to part of existing Route 77x but starting in Kiltipper rather than Citywest, with an added evening outbound trip.

SOUTH OF THE SQUARE - KILLINARDEN, AYLESBURY, OLD BAWN

The primary radial services in this area would be:

peak-only route:

FAR SOUTH - BLESSINGTON, BALLYMORE EUSTACE AND BALLYKNOCKAN

These would be served by an all-day local and two peak routes:

- •



• Route F1 from Tallaght to Charlestown. All-day service, every 15 minutes. Starting at The Square, this route would take Whitestown Way and Firhouse Road West on the way to Firhouse, Templeogue, Kimmage and City Centre.

• Route 16 from Tallaght to City Centre. All-day service every 15 minutes (every 10 minutes at peak). Starting at The Square, this route would take Whitestown Way, Kiltipper 🛄 Way, Kiltipper Road to Old Bawn Cross. From there it would Z head to Oldcourt Road and Stocking Avenue to Ballyboden, Rathfarnham, Terenure, Harold's Cross and City Centre.

• Route D4 from Tallaght to Kilmore. All-day service, every 30 minutes. Starting on Kiltipper Way, this route would follow Killinarden Link Road to Killinarden Heights, then to 🏼 🗠 Blessington Road on its way to The Square and City Centre.

• Route D5 from Tallaght to Edenmore. All-day service, every 30 minutes, as previously described.

This area would also be served by two orbital routes and one

• Route S6 from Tallaght to Blackrock. All-day service, every 15 minutes. This new frequent orbital would replace Route 75 at higher frequency and with more direct routing to Rathfarnham, Dundrum and points beyond.

• Route S8 from Citywest to Dun Laoghaire. All-day, every 20 minutes (every 15 at peak), as previously described.

• Route 347 from Kiltipper Way to City Centre, as previously described (see West and North of The Square).

• Route 244 from Ballymore Eustace to Tallaght. Allday service, every 60 minutes. This would be the primary replacement to existing Route 65. It would come twice as often, but it would end in Tallaght rather than continue to City Centre. Also, all buses would serve Ballymore Eustace.

Routes 344 and 345 from Ballymore and Ballyknockan to City Centre. Peak-only, express service to City Centre. Each route represents one morning trip and one evening trip (i.e. from Blessington there would be 2 trips in the morning and 2 in the evening). Service to City Centre would involve fewer stops than on existing Route 65.



Dublin Area Bus Network Redesign Network Maps - October 2019





Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E13, P13: Outer South

New Orbitals

This area's transport options are transformed by the new orbitals:

- Route S6 from Tallaght to Blackrock. All-day service, every 15 minutes. This route would replace parts of existing Routes 17, 75 and 175 with higher frequencies and more direct routes, connecting Tallaght, Rathfarnham, Nutgrove, Dundrum, UCD and Blackrock.
- Route S8 from Citywest to Dun Laoghaire. All-day service, every 20 minutes (every 15 minutes at peak). This route is in parts a more frequent replacement for existing Route 175, and in others an entirely new orbital service. It would connect Citywest, Tallaght, Knocklyon, Ballyboden, Ballinteer, Sandyford Business Park, Leopardstown, Galloping Green, Monkstown and Dun Laoghaire.

TEMPLEOGUE, FIRHOUSE AND KNOCKLYON

In addition to the orbitals described above, several radial services would be available in these areas:

- Routes A1 and A3. All-day service, every 6 minutes from Templeogue to City Centre. South of Templeogue, these split into:
 - » Route A1 from Knocklyon to Beaumont Hospital. All-day service, every 12 minutes. This route essentially replaces existing Route 15 on the south side of Dublin.
 - » Route A3 from Tallaght to Santry. All-day service, every 12 minutes. Coming from Tallaght, this route takes the Tallaght Road to the Templeogue Road, joining Route A1 at the junction of Old Bridge Road and Templeogue Road.
- Route F1 from Tallaght to Charlestown. All-day service, every 15 minutes. Coming from Tallaght, this route serves Firhouse on Ballycullen Drive and Ballycullen Road, then continuing north on the Firhouse Road to Old Bridge Road, Templeville Road, Fortfield Road and to City Centre via Kimmage Road Lower.
- Route 16 from Tallaght to City Centre. All-day service, every 15 minutes (every 10 minutes at peak). In this area, the new Route 16 would replace the existing 15b, but at higher frequency and with outbound service continuing to Tallaght. Going to City Centre, this route would use Harold's Cross Road instead of the Rathgar-Rathmines corridor.

RATHFARNHAM AND BALLYBODEN

Radial services available to these areas would include:

- Routes A2 and A4. All-day service, every 6 minutes from Rathfarnham Village to City Centre. South of Rathfarnham Village, these split into:
 - » Route A2 from Dundrum to Dublin Airport. All-day service, every 12 minutes. This route takes the place of parts of Routes 14 and 16 in this area. Service would start in Dundrum, would go through much of Ballinteer similar to existing Route 14, but would take Stonemasons Way (instead of Nutgrove Way) to Grange Road and Rathfarnham, and then head to City Centre via the Rathgar-Rathmines corridor.
 - » Route A4 from Nutgrove to Swords. All-day service, every 12 minutes. This would be a new radial route from Nutgrove Shopping Centre. It would run on Nutgrove Way and Nutgrove Ave to Rathfarnham Village, and then to City Centre via the Rathgar-Rathmines corridor.
- Route 24 from Dundrum to City Centre. All-day service, every 30 minutes. The purpose of this route is largely to prevent the isolation of Ballyboden Road and Whitechurch, providing service every 30 minutes to both the major local centre (Dundrum) and to City Centre in the other direction.

Ballyboden and Whitechurch would also be served by some much less frequent and peak-only routes:

- Route 235 from Edmondstown to Dundrum. Every 2 hours in the day on weekdays. This is a continuation of existing Route 161, providing shopping access to Nutgrove and Dundrum from outer suburban and semi-rural areas.
- Route 316 from Whitechurch to UCD. Peak-only service, similar to existing Route 116.
- Route 318 from Whitechurch to UCD. Peak-only service, similar to existing Route 15d, with an additional morning trip.

NUTGROVE AND BALLINTEER

Radial services available in these areas include:

- The Luas Green Line, operating as it does today.
- Routes A2 and A4, as described previously (see Rathfarnham and Ballyboden).
- Route 14 from Ballinteer to Liffey Valley. All-day service, every 15 minutes (every 10 minutes at peak). Starting on

Brehon Field Road, would take Stonemasons Way, Nutgrove Way, Barton Road, Beaumont Avenue and Braemor Road, continuing to Rathgar, Dartry, Rathmines, City Centre and points beyond.

GOATSTOWN, MOUNT MERRION AND STILLORGAN

- Dundrum and City Centre.

Orbital Route S6 would be important in this area, as would be:

SANDYFORD, BELARMINE, STEPASIDE, KILTERNAN, GLENCULLEN

Radial services available in these areas include:

- does today.

Local routes include:

BUS CONNECTS

 Route 24 from Dundrum to City Centre. All-day service, every 30 minutes, as previously described.

Radial services available in these areas include:

• The Luas Green Line, operating as it does today.

• Route 10 from Ticknock to City Centre. All-day service, every 30 minutes. Coming from Ticknock and Sandyford Village, this route would serve Sandyford Business Park, St. Raphaela's Road, Kilmacud Road Lower, the Drummartin 🛄 Road and Goatstown Road on its way to City Centre.

• Routes 11 and 12 from Enniskerry (12) and Belarmine (11) to City Centre. All-day service, 60-minute frequency south of Belarmine, 30-minute frequency starting at Belarmine to

• Route 225 from Dundrum to Dun Laoghaire. All-day service, every 15 minutes. This would be a mini-orbital, connecting Dundrum, Balally, Kilmacud Road Upper, Stillorgan, Fleurville Road, Monkstown Avenue and Dun Laoghaire.

• The Luas Green Line, which would continue to operate as it

• Route 10 from Ticknock to City Centre. All-day service, every 30 minutes, as previously described.

• Routes 11 and 12 from Enniskerry and Belarmine to City Centre. All-day service, as previously described.

• Route 198 from Glencullen to Dundrum. Mostly peak service, replacing existing Route 44b.

• Route 213 from Kilternan to Ringsend. All-day service, every 40 minutes (with **Route 313**, every 20 minutes at peak between Kilternan and UCD). This would replace existing Routes 47 and 118 to UCD and St. Vincent's Hospital.

Existing Network: Dun Laoghaire and Environs



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Map E14	
	PUBLIC TRANSPORT SERVICES Weekday midday frequencies Every 9 min or better 9 Every 10 - 15 min 9 Every 20 - 25 min 9 Every 30 min 9 Every 60 min 9 Limited or peak-only 1 Combines for 9 End of line 0 Every 15 min or better DART Every 20 min Commuter rail Every 30 min
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Dublin Area Bus Network Redesign Network Maps - October 2019


Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E14, P14: Dun Laoghaire and Environs

The public transport network in this area needs to serve multiple competing objectives: service to City Centre, but also the pull of strong local centres at Blackrock and (especially) Dun Laoghaire.

The DART train service would continue to operate at the centre of this area through Dun Laoghaire, and the Luas Green Line would continue to operate at its edges.

N11 CORRIDOR

Other than DART, the primary radial corridor in this area remains the N11/Stillorgan road, which would be served by:

- All E spine buses (E1, E2). All-day service, every 5 minutes from Foxrock Church to City Centre and points beyond. Beyond Foxrock Church, these would split into:
 - » Route E1, continuing to Bray Daly station via the N11. All-day service every 10 minutes, similar to existing Route 145 but with termination in Bray town rather than Ballywaltrim.
 - Route E2, continuing to Dun Laoghaire via Kill Lane and York Road, similar to existing Route 46a. All-day service every 10 minutes.
 - » At peak hours, and extra E9 service would add 6 trips per hour between Brides Glen Luas and UCD, to relieve loads on buses headed to City Centre.

Several peak-only routes would also feed into the N11, including:

- Routes 301 and 302. Peak-only, express service replacing existing Route 84x from northern Wicklow.
- Route 311 from Shankill to City Centre. Peak-only service replacing existing Route 7b.
- Route 312 from Dalkey to City Centre. Peak-only service replacing existing Route 7d.

ROUTES TO/FROM BLACKROCK

Blackrock's primary radial service would come from DART and:

- Routes B3 and B4. All-day service, every 8 minutes. South of Blackrock, these would split into:
 - » Route B3, continuing to Dun Laoghaire via Monkstown Road. All-day service, every 15 minutes.
 - » Route B4, which would extend down Stradbrook Road like existing Route 4, and then continue to Sallynoggin

via Abbey Road and Rochestown Ave. All-day service, every 15 minutes.

Furthermore, the following routes would start in Blackrock:

- Route S6 from Blackrock to Tallaght. All-day service, every 15 minutes. This new route would replace parts of existing Routes 17, 75 and 175 with higher frequencies and more direct routes, connecting Tallaght, Rathfarnham, Nutgrove, Dundrum, UCD and Blackrock.
- Route 226 from Blackrock to Kilternan. All-day service, • every 30 minutes. This is a new local route replacing the Kilternan branch of existing Route 63 and parts of Route 84. From Blackrock, it would run on Carysfort Avenue, Fleurville Road, Deansgrange Road, Clonkeen Road, Cornellscourt Road and Glenamuck Road past Carrickmines to Kilternan.

ROUTES TO/FROM DUN LAOGHAIRE

Dun Laoghaire would continue to function as the centre of an extensive local network, in addition to having lots of radial service. The primary radial service would come from DART, Route B3 and Route E2, as previously described (see N11 Corridor and Routes to/from Blackrock).

In order of frequency, other service to or through Dun Laoghaire would include:

- Route 222 from Dun Laoghaire to Brides Glen. All-day service, every 15 minutes. This service would take the place of existing Route 7 south of Dun Laoghaire, with service on the Glenageary Road, Sally Glen Road, Churchview Road (Ballybrack) and Wyattville Road.
- Route 225 from Dun Laoghaire to Dundrum. All-day service, every 15 minutes. This would be a mini-orbital, connecting Dundrum, Balally, Kilmacud Road Upper, Stillorgan, Fleurville Road, Monkstown Avenue and Dun Laoghaire.
- Route S8 from Dun Laoghaire to Citywest. All-day service, every 20 minutes (every 15 minutes at peak). In this part of Dublin, this would be an entirely new orbital service. It would connect Citywest, Tallaght, Knocklyon, Ballyboden, Ballinteer, Sandyford Business Park, Leopardstown, Galloping Green, Monkstown and Dun Laoghaire.
- Route 211 from Dun Laoghaire to Kilmacanogue. Allday service, every 20 minutes. This would be mostly similar to existing Route 45a, with a few changes from Sallynoggin to Dun Laoghaire. Coming from Bray, Route 211 would take the Dublin Road to Shankill, then the Shanganagh Road,

Churchview Road and Rochestown Avenue. It would then travel through the centre of Sallynoggin (via Pearse) rather than at the edges, and continue to Dun Laoghaire via Glenageary Road Upper, Mounttown Road Lower and York Road.

- Ballyogan Luas station.
- Laoghaire and City Centre.

BUS CONNECTS

Route 227 from Ballyogan to Dun Laoghaire. All-day service, every 30 minutes. This is a new local route replac- $\overline{\mathbf{0}}$ ing the Ballyogan branch of existing Route 63. From Dun Laoghaire, it would run on York Road, Mounttown Road Lower, Monkstown Farm, Monkstown Avenue, Abbey 🛄 Road, Pottery Road, Old Bray Road, Cornellscourt Hill Road, Glenamuck Road and Ballyogan Road, ending by the 🔼

• Route 98 from Loughlinstown Park to City Centre. Allday service, every 60 minutes. This is a lifeline route to City 🔟 Centre, intended to avoid the isolation of Loughlinstown 🗳 Park by providing an infrequent but direct service to Dun

• Route 221 from Dun Laoghaire to Killiney Hill Park. Allday service, every 60 minutes. This is the continuation of existing local route Route 59, providing infrequent local service to parts of Glasthule, Dalkey and Killiney.



Existing Network: Bray and Shankill



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Map E15		
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Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E15, P15: Bray, Enniskerry and Shankill

The primary radial services to Bray and Shankill would remain:

- DART, continuing to operate as it does today.
- Route E1 from Bray Daly station to Ballymun. All-day service, every 10 minutes. This would be similar in some ways to Route 145, but would cross City Centre to north Dublin instead of heading to Heuston. It would also start at Bray Daly station instead of Ballywaltrim.

Enniskerry Village would also retain a less frequent radial service on:

• Route 12 from Enniskerry to City Centre. All-day service, every 60 minutes, similar to existing Route 44, except it would operate through Belarmine rather than Kilgobbin Road.

Bray would be at the centre of a network of local routes including, in order of frequency:

- Route 212 from Ballywaltrim to Bray. All-day service, every 10 minutes. This would replace the south end of existing Route 145. It may be more reliable due to its shorter routing, but would require interchange with either Route E1 or DART for travel into Dublin.
- Route 211 from Kilmacanogue to Dun Laoghaire. All-day service, every 20 minutes. This would be mostly similar to existing Route 45a, with slight changes in routing between Sallynoggin and Dun Laoghaire.
- **Routes 201 and 202** coming from Greystones and towns to the south of Greystones. All-day service, every 20 minutes.
- Route 214 from Southern Cross Road to Palermo. Allday service, every 30 minutes. This would be a new service, proposed in response to public feedback from Bray. It would combine more frequent service to Palermo (currently a deviation on the existing 185), going through the centre of Bray, then down the beach, and out to Southern Cross Road via Putland Road and Vevay Road.
- Route 215 from Bray to Shop River. All-day service, every 60 minutes. This would be a replacement for existing Route 185 at a more regular 60-minute frequency, without deviations to Palermo.

Furthermore, the Southern Cross Road would continue to have peak service, in the form of:

• **Routes 301 and 302.** Peak-only service, similar to existing Route 84x.



7 REVISED NETWORK PROPOSAL

Existing Network: Greystones

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Dublin Area Bus Network Redesign Network Maps - October 2019

Maps E16, E17, P16, P17: Greystones and South of Greystones

DART would remain the all-day radial public transport service from Greystones.

The proposal described below for Greystones and points south is made under the assumption of DART service every 20 minutes all day to Greystones. However, there are significant infrastructure challenges to improving DART frequency to Greystones. If DART service to Greystones continues to operate only every 30 minutes, then the frequency of Routes 201 and 202 would need to change to make timed connections every 30 minutes with DART.

Greystones and points south would be served by the following local bus routes:

- **Routes 201 and 202.** All-day service, every 20 minutes between Charlesland, Greystones village and Bray. This frequency is proposed with the intention of timed connections with 20-minute DART service. South and west of Charlesland, the service would split into a two-way loop with:
 - » Route 201 continuing on a clockwise loop through Kilcoole, Newcastle, Newtownmountkennedy and Kilpedder, following the paths of existing Routes 84 and 184, but then returning to Charlesland to head north into Greystones and Bray. All-day service, every 40 minutes (one-way).
 - » Route 202 continuing on an anticlockwise loop through Kilpedder, Newtownmountkennedy, Newcastle and Kilcoole, following the parts of existing Routes 84 and 184. All-day service, every 40 minutes (one-way).
- Route 204, the West Greystones circulator. All-day service, every 30 minutes (one-way). This route would be a local route enabling trips between residential areas and Greystones Village.

In addition, there would continue to be peak express service into Dublin City Centre:

• **Routes 301 and 302.** Peak-only service, similar to existing Route 84x, but with one additional morning and evening trip to/from Newcastle, and no midday trips.



7 REVISED NETWORK PROPOSAL

Existing Network: South of Greystones

Map



JARRETT WALKER + ASSOCIATES

PUBLIC TRANSPORT SERVICES Weekday midday frequencies Every 9 min or better Severy 10 - 15 min Severy 20 - 25 min Every 30 min Severy 60 min Combines for better frequency Multiple lines & frequencies Multiple lines & frequencies Multiple lines Every 15 min or better DART Every 15 min or better DART Every 10 min Every 20 min Commuter rail Every 30 min Worse than 30 min
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Dublin Area Bus Network Redesign Network Maps - October 2019



Network Maps - October 2019

Infrastructure Considerations

The proposed network was designed assuming the street and road network available in 2019. Wherever possible, the design avoids relying on the construction of major new public works. Nonetheless, the plan's principles have some consequences for future infrastructure planning. Specifically:

- The increased reliance on interchange will require adjustments to **stop placement**, particularly in places where proposed routes would intersect or overlap.
- The consolidation of primary radial services on a limited number of spines reinforces the importance of achieving consistent **bus priority** on all of Dublin's core radial corridors.
- The development of frequent orbitals suggest that similar priority improvements will be needed along the major orbital corridors.
- The reliance on major suburban centres as hubs for local public transport routes will require **expansion of key sub-urban bus hubs**, and in the case of Liffey Valley Shopping Centre, creation of a new hub.

Stop Placement and Spacing

It is not the purpose of this study to reassess the placement of every bus stop in Dublin. Stop placement requires significant coordination between the NTA, operating companies, and local councils.

However, it's worth noting the basic conflict at play when considering the addition or removal of any bus stops: **is it more important for the bus to proceed quickly along its route with very few stops, or to place a stop as close as possible to everyone's front door?**

If there are too few stops along a route, the bus will be useful to fewer people, as most people are only willing to walk so far to reach public transport. On the other hand, if a bus stops every 100m, it will lurch along at a very slow speed, and lose its utility to most people on board.

It is also impossible to provide adequate stop and shelter infrastructure if the stops are too numerous, and each is lightly patronized. Good stop infrastructure is easier to justify where many people gather, and a wider stop spacing encourages that.

Typical practice in transport planning assumes that a bus stop serves a radius of approximately 400m, though the truth is that the optimal walk distance is very much in the eye of the beholder. A fit and healthy person in a hurry may be happy to walk a kilometre to reach a bus coming every 5 minutes, where a more elderly or physically challenged customer with more time to spare might prefer a much shorter walk, even if it means sitting on the bus stop bench for a while and getting a slower ride.

So a good compromise benchmark for stop spacing is around 400m on services that are meant to be available to everyone along a corridor. When stops are farther apart, some people near the service cannot walk to it. When stops are closer together, the bus ride becomes too slow to be useful to many passengers.

A stop spacing of 400m is only a general guideline. **Other important points to consider in an interchange-based system include**:

- It is important for stops to be located near major road intersections that allow connections with other routes, to reduce the walk distance when changing buses. This is in fundamental conflict with principles of automobile traffic management that have governed stop placement in Dublin until now, whereby it is preferable for stops to be located far from intersections to minimize traffic delay. Stop placement around intersections is usually a clear signal about how much a community values car traffic as opposed to public transport.
- It is usually preferable for stops to be placed on the far side of an intersection (after the light). This ensures outcomes that are to the advantage of both interchanging and through-riding passengers:
 - Interchanging passengers never have to cross more than one street to reach the stop of an intersecting bus route. This is also possible if all stops are placed on the near side, but when stops are on the far side:
 - » The bus sits through fewer red lights after stopping, making everyone's ride faster. This is particularly effective if stop placement is paired with signal priority, where a bus can trigger the delay of a red light, or the early onset of a green light.
- At large roundabouts, it may be necessary to place stops on both sides to maintain acceptable walk distances. Many large intersections in Dublin have been converted to all-way roundabouts (e.g. Artane, Crumlin, Walkinstown and others). Roundabouts are very efficient and safe means to allow many vehicles to pass. However, they are inconvenient for pedestrians and interchanging passengers, requiring longer walks. The wider the roundabout, the more likely it is that stops should be placed on both sides. This is important

both for shortening the walks of interchanging passengers, and for the legibility of the bus network: it's confusing when stops in opposing directions are located several hundred metres apart.

Bus Priority on Spines and Orbitals

The proposed network includes many very frequent routes. Maintaining high service frequencies is expensive, in that it requires paying for more vehicles and more service hours. The cost of maintaining frequencies increases when buses are slower, because it takes more buses to run a slower route, while maintaining the same time interval between vehicles. Slower buses are also much less useful, as passengers can reach fewer places in the same amount of time.

Therefore, a focus on frequent service inevitably increases the need for buses to operate faster and more reliably. In addition to bus stop placement (discussed above), one of the most effective ways to improve the speed and reliability of service is to reconfigure road space with a higher level of priority for buses.

This can include expanding dedicated bus lanes, ensuring that bus lanes are present through major intersections, green-light priority and other measures. Such improvements are not easy: reallocating road space means taking it away from other uses, such as private vehicles and street parking; creating new busonly space can require creating new easements or purchasing private land.

The NTA is currently leading a parallel effort of bus priority on all of Dublin's core radial corridors, which would significantly improve performance on the spines in the proposed network. In the future, NTA may want to undertake a bus priority effort on some of the more frequent orbital routes, particularly Line O (which will operate every 8 minutes on especially congested inner circular roads) and Routes S4, N4 and N8, which are intended to operate every 10 minutes.

BUS CONNECTS

Orbital – Radial Interchange Example

By design, the proposed network includes many locations where very frequent radial spines connect with frequent orbital routes. In most of those cases, the two routes meet on intersecting roads. Prioritizing interchange in such locations will require making a number of local changes to stop placement.

Consider the example of the intersection of the Malahide Road and Collins Avenue at Donnycarney Church. As shown in Figure 118, the existing network includes routes on both roads, but without the intention of interchange. The bus stops are far from the intersection, where a stop can be located to minimize disruption to through-traffic.

In the proposed network, Route S4 on Collins Avenue would operate every 10 minutes, and cover a substantial swath of north Dublin City, including major destinations like the North Docklands and Dublin City University. As a result, we can expect substantial new interchange to take place at this intersection. The current bus stop configuration requires walks longer than 400m to achieve this interchange. Figure 119 shows how, in concept, bus stops on Collins Avenue should be much closer to the Malahide Road to facilitate future patronage.

The exact location of future bus stops in comparable locations would require a detailed study of each orbital - radial intersection, but it would be critical to increase the priority of buses over car traffic in placing stops.



Figure 118: The diagram above shows the existing bus stop configuration at the Intersection of Malahide Road and Collins Avenue. Bus stops are represented by white circles.



network and interchange.



Figure 119: The diagram above shows the recommended concept for bus stop configuration at the Intersection of Malahide Road and Collins Avenue to match the proposed

Suburban Interchange Example

The proposed network relies on a number of major suburban centres to serve as hubs where spines, orbitals and local routes meet. In some cases, these centres already include dedicated bus facilities or significant space allocated for buses. Examples include Blanchardstown Shopping Centre, Charlestown Shopping Centre, Tallaght, and Dun Laoghaire.

The proposed network would route significantly more services to some of these locations, including many terminating services. As a result, we anticipate that, at minimum, expansions of bus facilities will be required in the short term at Blanchardstown Shopping Centre, and The Square in Tallaght.

Furthermore, for service and interchange to be effective in large parts of west Dublin under the proposed network, a significant new public transport hub would be required at Liffey Valley Shopping Centre.

As shown on Figure 120, service to Liffey Valley is currently provided mainly through two bus stop locations:

- The motorway stop on the N4 connects the shopping centre to buses going to Lucan, Leixlip, Maynooth and Celbridge. Neither the stop environment on the side of such a large road or the walking distance between this stop and the shopping centre are ideal, but this configuration does allow service to a very important destination along a very important bus corridor.
- A bus stop on the western peripheral roadway provides access to the shopping centre for buses on local roads coming from Palmerstown, Neilstown and Ballyfermot.

This configuration ensures that passengers coming from local neighbourhoods can get relatively close to a shopping centre entrance, but it also reflects the absence of expectations for interchange, as the two bus stop locations are located approximately 800m apart using the available walking paths. Given that all existing services but Route 76 (which runs only every 20 minutes) are radial, this is a reasonable expectation and a reasonable enough outcome.

However, under the proposed network, Liffey Valley would become a hub for interchange between several radial and orbital services, nearly all of which would be frequent some of the time. Frequent radial services would include the C spine on the N4 and the G2 branch coming from Ballyfermot.

Frequent orbital services would primarily consist of the W2 to Clondalkin and Tallaght; but the W4 on the motorway should not be discounted, as despite its lower frequency it will be very fast, and it is proposed for frequent service during peak hours.

As a result, we would expect significant levels of interchange at this location. Figure 121 illustrates the most obvious way to accommodate this, by bringing all bus routes operating on surface streets to the northern edge of the Shopping Centre parking lot, and by constructing a new hub that would be as close as possible to the N4 motorway stop.

The actual location and design of this interchange remain to be negotiated between the NTA, local council and the local property owner, but something like this is the most likely outcome.







interchange facility.



Figure 121: The diagram above shows the recommended concept for bus stop configuration at Liffey Valley Shopping Centre to match the proposed network, including a new