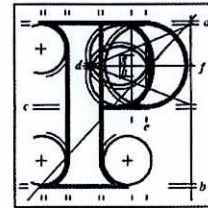


Our Case Number: ABP-316272-23
Planning Authority Reference Number:



**An
Bord
Pleanála**

Orwel Park (Templeogue) Residents Association
c/o Betty Collard
23 Orwell Park View
Templeogue
Dublin 6W

Date: 15 August 2023

Re: Bus Connects Templeogue/Rathfarnham to City Centre Core Bus Corridor Scheme
Templeogue/Rathfarnham to City Centre

Dear Sir / Madam,

An Bord Pleanála has received your recent submission (including your fee of €50) in relation to the above-mentioned proposed road development and will take it into consideration in its determination of the matter.

Please note that the proposed road development shall not be carried out unless the Board has approved it or approved it with modifications.

If you have any queries in the mean time, please contact the undersigned officer of the Board at laps@pleanala.ie

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Eimear Reilly
Executive Officer
Direct Line: 01-8737184

HA02

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Submission to An Bord Pleanála

From

Orwell Park (Templeogue) Residents Association

Regarding

The Templeogue / Rathfarnham to City Centre Bus Corridor

Submitted by

Betty Collard

23 Orwell Park View

Templeogue

Dublin 6W

On behalf of the Orwell Park (Templeogue) Residents Association (OPTRA)

Email [REDACTED]

August 2023

Executive Summary

Current status of the Application

- 1 As the Rathfarnham/Templeogue Application stands, progress of the projected number of buses through Terenure Road East is impossible.
- 2 As the Application stands, there is a significant risk that the progress of the projected number of passengers and buses through the city centre is impossible.
- 3 The Applicant has failed to properly examine the leading alternative proposal, i.e. the continuation of *MetroLink* from St Stephens Green to South West Dublin. This would fundamentally alter the functionality and routing of buses throughout South West Dublin. It would also inform decisions now about “Do we really need to spend enormous sums of money on extravagant construction and land-take for an ineffective outcome, knowing that metro will enable capacity and speed issues to be resolved?”
- 4 The forecast cost of *BusConnects* is comparable to the cost of continuing *MetroLink* to South West Dublin as estimated by NTA/Jacobs – despite the latter project having been given a ‘risk and optimism’ uplift to its cost estimate much greater than *BusConnects*.

Supply of critical information

- 5 In order to evaluate the Templeogue/Rathfarnham Application, An Bord Pleanála should require the Applicant to provide critical information to include the following:
 - How many buses are forecast in the peak hour on each corridor?
 - Explain how these buses will be able to proceed through the city centre and set out the measures that will be required.
 - Explain how these buses will be able to proceed through Terenure Road East and set out the measures that will be required.
 - What will be the impact of these measures?
- 6 This new information will have to be evaluated. As a general approach, given
 - The uncertain and limited benefits for public transport (capacity and time savings)
AND
 - The unspecified (for this corridor) but inevitably high cost
AND
 - The severe disruption for car users
AND
 - The discouragement of travel

We recommend that An Bord Pleanála either:

REFUSE the Application

OR

APPROVE the Application with the following conditions:

- Remove the fares process from all buses.
- Replace bus gates by bus priority.
- Limit construction and land-take to curtail expenditure.
- Preserve existing cycle lanes.
- Reduce penalisation of motorists by reducing bans on right hand turns.
- NTA to immediately initiate a proper and transparent study of continuing *MetroLink* from St Stephens Green to South West Dublin – to resolve capacity and speed for public transport, and provide less penalisation of motorists.

DRAFT

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1. Introduction
2. The failure of the proposal to grasp the needs and demand for public transport
3. The inability of the proposal to supply the forecast demand for public transport
4. The likelihood that many people will be inhibited from moving about
5. The failure to properly examine alternatives
6. Specific suggestions for improving the *BusConnects* proposal
7. Conclusions

DRAFT

Chapter 1 Introduction

- 1.1 The Orwell Park (Templeogue) Residents Association welcomes the opportunity of making its observations on the proposed Templeogue/Rathfarnham proposal under *BusConnects*.

We represent some 600 households in Orwell Park.

- 1.2 We have seen the draft submissions that have been prepared by other representative organisations including:

- St Judes Mens Shed Club
- WORK (Wellington, Willington, Wilderwood, Osprey, Rushbrook & Kennington)
- Templeogue Woods Residents Association
- Terenure West Residents Association
- Recorders Residents Association

and we are generally supportive of what they say.

- 1.3 We would welcome the provision of better bus services in our area. We recognise also that there are many reasons why people will continue to use their cars and note the NTA projection in the *Transport Strategy for the Greater Dublin Area 2022-2042* that, if all of the measures in that *Strategy* are implemented, the number of car trips will decline by only 1.5 per cent in 2042. The ongoing migration to electric vehicles should mitigate the pollution risk arising from general traffic.

- 1.4 There are three proposed corridors that affect our residential area:

- The 'A' Corridor - Templeogue/Rathfarnham to the City Centre.
- The 'D' Corridor - Clondalkin/Tallaght to the City Centre.
- The 'F' Corridor - Kimmage to the City Centre.

All of these corridors have long narrow stretches of road where there is room for only one vehicle in each direction. Unlike other proposed corridors, there is no rail service, which could provide capacity and speed.

- 1.5 We have several concerns about the proposal which are set out in the following chapters.

Chapter 2 The failure of the proposal to grasp the needs and demand for public transport

The inappropriate brief given to Jarret Walker

2.1 The brief that was given to Jarret Walker, the consultant who devised *BusConnects*, was inappropriate, in that:

- There was no demand analysis
- He was not allowed to examine options other than buses.

This brief is inexplicable, given that the Dublin Transportation Office had reported in 2001 that:

“In summary, the analysis of the ‘Comprehensive Bus’ scenario established that buses alone could not address the problem because in many of the main transportation corridors the bus mode cannot provide the necessary capacity to cope with the forecast demand.”¹

That Report went on to recommend that metro would be part of the solution in South West Dublin.

Why dive straight into rearranging buses in the light of this conclusion?

A consequence of the absence of a demand analysis

2.2 The very first thing you need to do when planning a public transport system is to estimate passenger demand, and particularly the demand that will occur if a very good transport system is available. Otherwise, how will you know how many passengers your system will need to carry? But no demand analysis was carried out!

So, Walker fell back on rearranging buses based on current demand². The difficulty with this is that where an existing public transport system is slow, lacks capacity and is unreliable etc, potential passengers will avoid it; hence passenger demand will be low. We know that the existing public transport system in South West Dublin is seriously deficient. Hence, the assignment that was given to Jarret Walker – of rearranging buses to meet current demand – was bound to result in serious under-provision of public transport in South West Dublin.

¹ *A Platform for Change*, Dublin Transportation Office, 2021

² *“It is worth noting that the service frequency proposals in both the 2018 and 2019 proposals are reflecting the current passenger demand level”* (letter Hugh Cregan, NTA to Minister Eoghan Murphy, 2 December 2019)

Table 2.1 Peak hour am in-bound buses in South West Dublin: current vs *BusConnects*

BusConnects for buses by Jarret Walker

Bus corridor	Current	Current	<i>BusConnects</i>	<i>BusConnects</i>
	No. of Buses	Passenger Capacity	No. of Buses	Passenger Capacity
Kimmage-City Centre (at Mount Argus)	9 (3X54a; 6X9)	720	18 (6XF1; 6XF2; 6XF3)	1,440
Templeogue-Terenure (at Terenure College)	19 (12X15; 4X49; 2X65; 1X65b)	1,520	10 (5XA1; 5XA3)	800
Rathfarnham-City Centre (at junction with Rathdown Park)	12 (6X15b; 6X16)	960	18 (5XA2; 5XA4; plus 2X74; 6X85))	1,440
Greenhills-City Centre (at Crumlin Hospital)	23 (6X27; 1X56a; 5X77a; 1X77x; 6X123; 4X151)	1,840	24 (4XD1; 4XD2; 4XD3; 2XD4; 2XD5 plus 2X72; 6X73)	1,920
Totals	63	5,040	70	5,600

2.3 Table 2.1 summarises the final version of *BusConnects* (October 2020) which was traceable to Jarret Walker. The table shows current bus provision in the peak hour in-bound for all of the corridors in South West Dublin. The table shows the trivial number of 7 additional buses being provided. But, even without demand analysis, we know that we need to move thousands of people from their cars!

The underestimation of demand for public transport on the Rathmines corridor

2.4 Subsequent to the design of *BusConnects*, the NTA carried out an analysis of demand in preparation for their *Strategy for the Greater Dublin Area 2022-2042*³. This analysis sought, *inter alia*, to justify the decision to proceed with *BusConnects*, as the preferred solution for meeting the demand for public transport on the Templeogue/Rathfarnham corridor.

2.5 In the *Modelling Report*, which was published alongside the *Strategy*, an idealised public transport network was drawn up. In South West Dublin, Lower Rathmines Road (together with Harolds Cross Road and Crumlin Road) was modelled to have a high quality public transport as follows:

- 1-minute frequency
- Minimum speed of 20km per hour
- Unlimited capacity.

These characteristics approximate to a system of 'metro on the street'.

³ The analysis is contained in the *Strategy Development and Modelling Report*, NTA, November 2021.

- 2.6 Given these characteristics, the following level of demand in the peak hour, in-bound, was estimated for 2042 on Lower Rathmines Road:

Table 2.2 Peak-hour am demand for public transport in 2042

	Rathmines
Model demand, peak hour, in-bound, that could be supplied on Lower Rathmines Road (ACR, p.91)	9,300

- 2.7 It is worth comparing this estimate of potential demand with actual supply in 2022.

Table 2.3 Peak-hour am supply of public transport in 2022^a

	Rathmines
Actual supply of bus places, peak hour, in-bound	2,640

^a Bus timetables collated by MSWG. Assumes 80 passengers per bus. Under *BusConnects*, Rathmines is earmarked for the 'A' Spine

It can be seen that the Modellers' estimate of potential demand was more than three time's current supply. The estimate of potential demand was vastly in excess of both current capacity and the capacity of *BusConnects*. Clearly, something more than buses is required.

- 2.8 Nonetheless, these Modellers' estimate of potential demand should have been increased. No account was taken of the opportunities of cycling to a "metro-like" service. The Metro South West Group (MSWG) carried out an analysis of a hypothetical continuation of *MetroLink* to south west Dublin. The analysis showed that even two hypothetical metro stations – at Spawell and Dodder Valley Park – would provide great opportunities for commuters to cycle to these stations and complete their journeys by metro. Sixty-three locations were sampled throughout south west Dublin and from all of these, substantial time savings would arise compared to driving to the city or taking the bus. The average gross saving over driving into the city would be 18-19 minutes each morning. Allowing five minutes to transfer between modes, would leave a net saving of 13-14 minutes each morning. The MSWG analysis is replicated in Annex A.
- 2.9 No account was taken of the possible opportunities for people in south west Dublin to drive to a metro station and complete the journey by metro. The MSWG analysis showed that gross time savings would be similar to those achieved by cycling to metro stations at Spawell and Dodder Valley Park.
- 2.10 No account was taken of the possible opportunities for people living outside south west Dublin to avail of Park and Ride at two hypothetical metro stations at Spawell and Dodder Valley Park. For in-bound motorists on the N81, they would face a choice: continue driving into the city (40 minutes) or park at Spawell and take the metro (15 minutes). Similarly, for many motorists cruising around the M50, using the Park and Ride at Spawell would be very attractive.

- 2.11 For all of the above reasons, the estimate of potential demand by the modellers was far too low.

How the Modellers should have proceeded from the (corrected) estimate of potential demand for public transport

- 2.12 Starting from an (upwardly corrected) estimate of potential demand, the next step for the modellers should have been to identify alternative ways of meeting *as much as possible* of this potential demand. It may be the case that not all of the potential demand can be met. However, the alternative ways of meeting as much as possible of this demand should have been evaluated to identify the most cost-effective option. This did not happen.

What the Modellers actually did

- 2.13 The Modellers did something else. They operated under the following stricture:

“Objectives are considered achieved in Phase 3 if the lower end of the plausible future demand estimates can be accommodated on the public transport schemes currently in planning, given these schemes must be delivered to meet climate goals to 2030.” (page 89)

- 2.14 Thus, instead of seeking to serve as much as possible of potential demand for public transport in 2042 in a cost-effective manner, it was decided to reduce potential demand to meet the public transport supply proposals which had been pre-decided. Why bother with demand modelling, if you have already decided what public transport you are going to supply?

Operating under the stricture, the Modellers reduced 2042 demand from 9,300 in the peak hour on Lower Rathmines Road to 2,400, which is lower than current supply! (See Table 2.3 above.). Details are in Annex B.

- 2.15 What was the sense of that, given that we are trying to increase the patronage of public transport?

The sense was that, in effect, the *Modelling Report* used a fallacious and circular argument to dismiss the option of continuing *MetroLink* to South West Dublin.

- 2.16 The Modellers' estimate of the demand for public transport in 2042 on the Rathmines corridor makes no sense. Unfortunately, the *Strategy Development and Modelling Report*, November 2021, was not just an academic exercise resulting in an article in a specialist journal. Rather, as the title suggests, it fed directly into the very poor provision for public transport, which the *Strategy for The Greater Dublin Area 2022-2042* has proposed for south west Dublin for the next 20 years. This plan consists of *BusConnects*.

The revised estimate of demand for public transport on the Rathmines corridor

2.17 Evidently, the NTA has had a recent re-think. For the Application to An Bord Pleanála, the modellers re-visited their demand forecast for 20 years' time. The assumptions appear to be the same as before – such as population growth and the complete implementation of all the measures which are included in the *Transport Strategy for the Greater Dublin Area 2022-2042*.

2.18 Here are the results:

Table 2.4 Modelled demand for 2042 in the *Strategy 2022-2042* vs Modelled demand for 2043 in the ABP Application

	Rathmines
Modellers' final demand estimate for 2042 (Preferred <i>Strategy</i> ADF: p106)	2,400
Modellers' demand estimate for 2043 (ABP Application, EIAR, Vol 2 of 4, Main Report, page 120)	4,500

Mysteriously, the forecast demand has almost doubled!!

2.19 Four things are worth noting about the revised demand of 4,500 passengers:

Firstly, this is less than half of the underlying demand of 9,300. Clearly, if metro had been included in the model, demand would have been much closer to 9,300.

Secondly, 4,500 passengers represent the ceiling of what buses could possibly carry. Thus, there is no possibility of carrying more passengers on buses.

Thirdly, the Applicant does not say how many buses would be required to carry 4,500 passengers. (It would appear that numbers of buses are not mentioned anywhere in the Application!) Using 80 passengers per bus implies that a minimum of 57 buses would be required to transport 4,500 passengers. In reality, this is a very minimum estimate and it may be necessary to provide many more buses to carry 4,500 passengers.

Fourthly, in order to get 57++ buses through the Lower Rathmines Road, it is necessary to ban all general traffic. Depending on the required number of buses, this measure may not be adequate.

Conclusion of Chapter 2

2.20 The estimates of passenger demand which have been produced by the Applicant are too low, contradictory and wholly unreliable.

2.21 Some of the implications of relying exclusively on buses can be seen clearly in Terenure Road East, which is 5 km south of the GPO. These are discussed in Chapter 3.

Chapter 3 The inability of the proposal to supply the forecast demand for public transport

How may buses be proposed?

- 3.1 Remarkably, despite the Application to An Bord Pleanála running to over 5,000 pages, there appears to be no information regarding how many buses are being proposed on the various *BusConnects* corridors.
- 3.2 The 'new' demand forecast for the Rathmines corridor, in-bound in the peak hour – 4,500 – would require a considerable supply of buses. Assuming 80 passengers per bus, the implied figure for the minimum number of buses in-bound in the peak hour is 57. In reality, as many buses will not be fully occupied, the true number of buses required to transport 4,500 passengers per hour is likely to be far greater than 57. In order to achieve this large throughput of buses, the submission proposes to eliminate all general traffic from Lower Rathmines Road.

How will the buses get through Terenure Road East?

- 3.3 Let us now examine a road 5 kms from the GPO, Terenure Road East, where the Templeogue and Rathfarnham corridors join up.

Figure 3.1 The southern entrance to Terenure Road East



This road is narrower than Lower Rathmines Road. Currently, 19 buses – all city-bound – enter this road in the peak morning hour, and the road is highly congested.

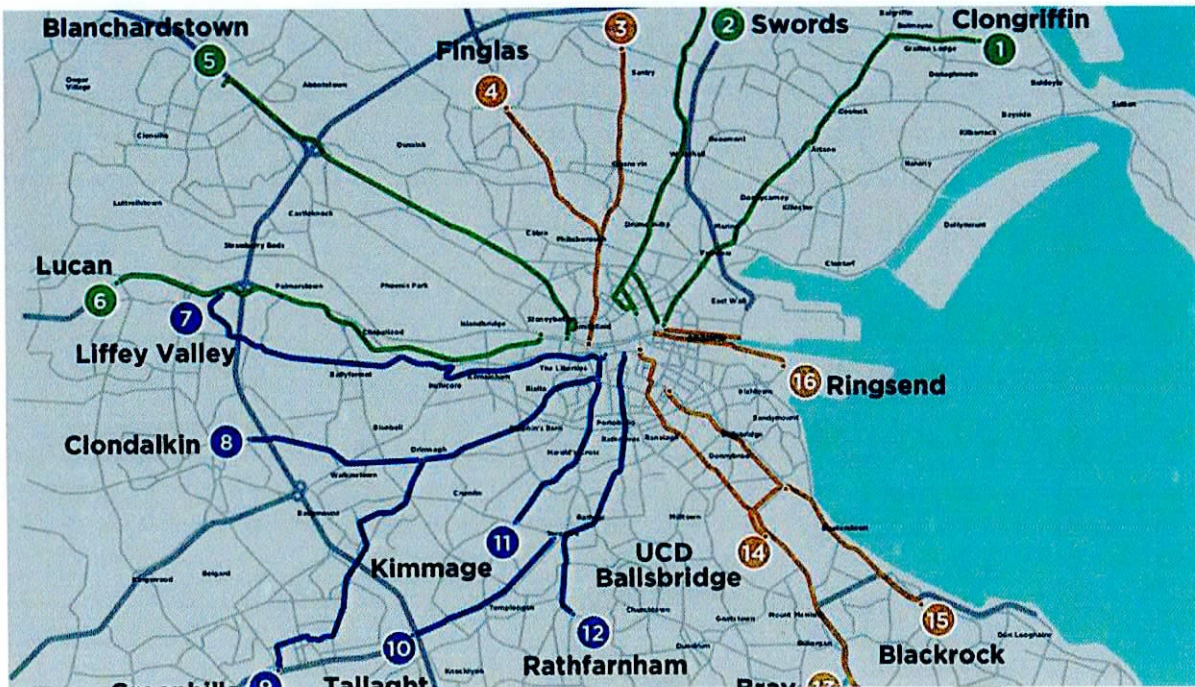
- 3.4 The last time the NTA counted the buses under *BusConnects* was in October 2020. At that time, it was proposed that a total of 30 buses would enter Terenure Road East in the peak morning hour. In addition to receiving 20 'A' buses in the peak hour, Terenure Road East was expected to also receive 6 'S4' orbital buses and 4 '81' buses via Terenure Road West, giving a total of 30 buses per hour. That was a bus every 2 minutes, in addition to cars, vans, taxis, bikes etc. A formidable challenge!
- 3.5 The Metro South West Group (representing 40 residents' associations), several individual residents' associations and political representatives queried the possibility of achieving this. A notable feature of the Walker proposal involved buses from Rathfarnham Road turning right onto Terenure Road East. This would require a dedicated phase for the traffic lights, thus holding up all other users of the road. In addition, this bus manoeuvre would have to be carried out very carefully as the bus driver would have to cut across a line of cars, also on Rathfarnham Road, heading straight on to Terenure Road North.
- 3.6 What is now proposed in the ABP Application? We have a modellers' estimate, that by 2043, there will be 4,250 in-bound passengers on Terenure Road East in the peak hour. Again we have no figure from the Applicant regarding the number of buses. We estimate at least 54 buses will be needed.... and probably many more! How on earth will these buses be able to enter Terenure Road East, in addition to cars, bikes, lorries, vans? The maps included with the Application to An Bord Pleanála show cars, bikes, lorries, vans using the road. But clearly, some radical measures will be needed? What are they? The Applicant's submission is silent on this matter. What have they in mind? What are the implications?

This is key information which must be provided. As the Application stands, progress of the required number of buses through Terenure Road East is impossible.

How is it proposed that the north and south 'A' corridors join up in the city?

- 3.7 All of the *BusConnects* Applications to ABP indicate a large hole in the middle of the city and no detail is given as to how – or even if – it is possible to join the corridors together.

Figure 3.2 The hole in the middle of *BusConnects*



This is a very serious gap in the information provided by the Applicant.

- 3.8 All maps of the *BusConnects* network have a hole in the middle. For example, the 'A' corridor (Rathfarnham/Tempoegue to City Centre) exists also on the North side of Dublin (Swords to City Centre). Buses on this 'A' corridor go right through the centre of the city and out to an extremity (terminus) on the other side. But how do the buses go through the centre?

The Rathfarnham/Tempoegue Application to An Bord Pleanála finishes at the bottom of South Great Georges Street. The Swords Application finishes in Parnell Square. But how do buses go over and back between these two places?

Unfortunately, Jarret Walker went back to the USA without giving us this information for any of the corridors. And the Applications to An Bord Pleanála do not tell us either, as the north side and south side Applications are separate.

As we all know, the city centre is the most congested and contested part of the city. It is not at all clear, that driving unknown numbers of buses on unknown routes is possible or viable in the city centre.

- 3.9 *A Platform for Change* (which was written 22 years ago!) provides a graphic description of the consequences of excessive reliance on buses and concludes with a damning verdict:

- The projected cost of the full project is now known to be enormous. The latest forecast is €4.2bn: the price of two children's hospitals.
 - We have seen that for the Templeogue/Rathfarnham corridor, the projected volume of buses is now twice that envisaged by Jarret Walker when he designed *BusConnects* – see paragraph 3.6 above.
- The urgency of providing this information is now more acute than ever in that:

3.10 Planning for *BusConnects* has been ongoing for several years now. However, thus far, none of this information has been provided.

Otherwise An Bord Pleanála will be unable to evaluate the various *BusConnects* Applications.

- The routes that all buses will take through the city centre;
- The volume of buses that will be involved;
- The measures that will be required to achieve the required throughput of buses;
- The implications of these measures.

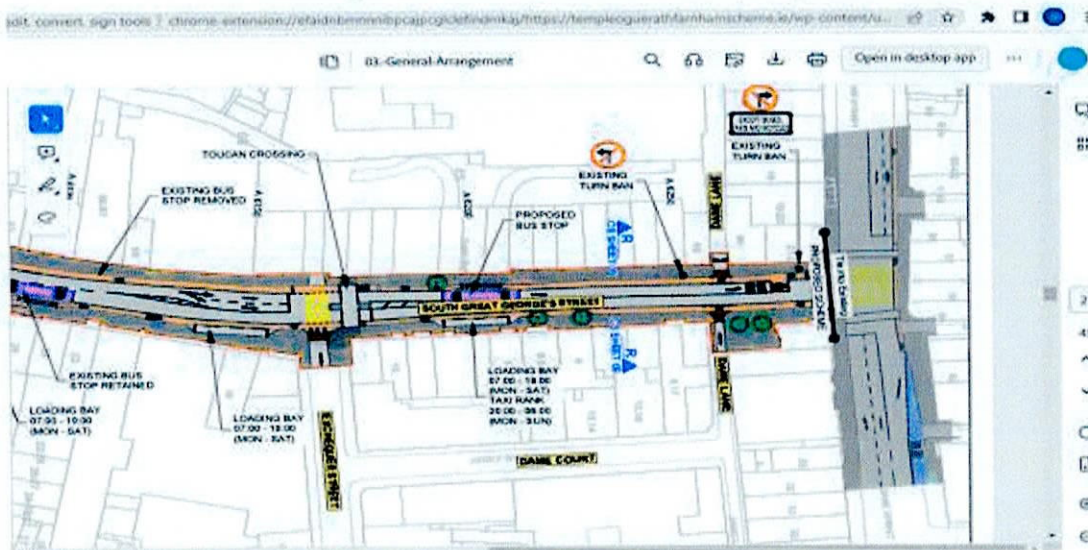
It is vital that the Applicant provides information on:

Clearly, the Applicant has chosen to ignore this cautionary tale. However, it is unacceptable that the Applicant would withhold vital information from their *BusConnects* proposals.

“Examination of the passenger flows on the main orbital and radial bus routes shows that many of the radial bus routes would be well over capacity – particularly as they approach the city centre. To cater for the passenger demand on the main radial routes would require the operation of double deck buses each carrying 80 passengers at 30-second headways. In such a scenario, passenger loading at bus stops would be so heavy that buses would be unable to deal with passengers boarding and preserve the headway of the service between them. In addition, the physical infrastructure required for such a frequency of buses would greatly reduce road capacity for cars and goods vehicles and average radial speeds for these vehicles entering the city would be similar to the Do-minimum situation (8kph)”⁴.

Figure 3.3 The proposed pedestrianisation of part of Dame Street

South Great Georges Street: if Dame St is pedestrianised?



- 3.11 The end point of the Application to An Bord Pleanála for the Templeogue/Rathfarnham corridor is at the bottom of South Great Georges Street. The Applicant has never said where the buses will go from there. However, by looking closely at a map produced by the NTA a couple of years ago, it is possible to surmise that most of the buses would turn right onto Dame Street. Again, guessing, they would probably proceed along Westmoreland Street and O'Connell Street to Parnell Square. However, Dublin City Council wishes to pedestrianise Dame Street from South Great Georges Street to College Green. There is currently underway an international architectural competition to secure the best design. This competition is co-funded by Dublin City Council and the NTA. The very body, which it now appears, will be bringing in approximately 57++ buses down South Great Georges Street.
- 3.12 If this pedestrianisation goes ahead, we know that some 57++ buses will have to turn left at the bottom of the street. Where to then? Will 57++ buses turn right into Parliament Street? Will Parliament Street be able to accommodate an additional 57++ buses? In both directions?
- 3.13 Dublin City Council has decided to trial the pedestrianisation of Parliament Street during the summer. Starting on 8-9 July 2023, the street will be exclusively for pedestrians on Saturdays and Sundays from 11am to 11pm.

If Parliament Street is unavailable or impossible, what other options are there?

Will these additional 57++ buses use the North Quays? And South Quays?

It is remarkable that An Bord Pleanála has been asked to approve the *BusConnects Applications* (estimated cost €4.2bn) without having the answers to some vital questions.

Conclusion of Chapter 3

- 3.14 As the Rathfarnham/Templeogue Application stands, progress of the projected numbers of buses through Terenure Road East is impossible.
- 3.15 As the Rathfarnham/Templeogue Application stands, there is a significant risk that the progress of the projected number of passengers and buses through the city centre is impossible.

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Chapter 4 The likelihood that many people will be inhibited from moving about

Car trips are not going away

- 4.1 Many car trips will continue to be undertaken. The NTA projects that if all of its proposals for the next 20 years are implemented, the number of car trips in the Greater Dublin Area will decline by only 1.5 percent. Of course, the mode share of sustainable modes is projected to increase, but rising population means that car trips will decline only marginally.
- 4.2 Alongside necessary improvement of public transport, an essential part of the solution to the consequent emissions problem will be the large scale replacement of the motorised fleet with electric vehicles.
- 4.3 Our area lies between 3 corridors. We are bounded:
- to the South by the Tallaght to Terenure Section of the A Corridor,
 - on the East by the Rathfarnham Section of the A corridor,
 - to the West by the Tallaght to City Centre, D Corridor and
 - to the North by the Kimmage to City Centre, F Corridor.

All of these corridors impact our area.

A Corridor main impacts:

- The closure of the Templeogue Road 14 hours per day x 365 and the displacement of some 7,000 vehicles a day.
- The Closure of Rathmines Road 14 hours per day x 365 at St. Mary's College and displacement of some 9,000 vehicles a day:
- The resultant need to divert to the heavily congested Castlewood Avenue, which is also an Orbital Route.
- The one-way inbound system on the Rathgar Road necessitating the use of the heavily congested Upper Rathmines and Highfield Roads for all outbound journeys.
- The change to a signalised junction at the Spawell Roundabout.
- The numerous Right Turn Bans.
- The removal of 1 of the outbound bus stops on Georges Street.

D Corridor main impacts:

- Walkinstown Roundabout reduction from 3 lanes to 2.
- Upper Clogher Road closed to General Traffic.
- The creation of Cul-de-Sacs to prevent entry to the Crumlin Road.
- Right Turn Bans.
- Slip road closures.

F Corridor main impacts:

- The closure of Lr. Kimmage Road from 6 am to 8 pm x 365 to General traffic from Ravensdale to Harold's Cross.
- Evening traffic will be impacted between 4 pm to 8 pm.
- The removal of 3 slip roads at the KCR traffic lights.
- Closure of a section of Kenilworth Road to General Traffic.

Examples of dis-benefits for car trips

4.4 There will be many restrictions and more congestion and these can be expected to increase journey times and distances. Here are a couple of typical trips that will continue to be made by car. The starting point is Orwell Park Way. Table 4.1 shows the distance and time required for these trips today and under *BusConnects*.

Table 4.1 Distance and time for typical trips today and under *BusConnects*

	Today	Today	<i>BusConnects</i>	<i>BusConnects</i>
	Kms	Mins	Kms	Mins
Orwell Park Way to Bushy Park	2.9	7	5.1	12
Orwell Park Way to Mount Argus church	4.8	12	8.1	23

It is foolish to imagine that all of these trips can be undertaken on foot, by bike or using public transport.

4.5 An example of the first trip is someone wants to play Boules, also known as Pétanque, in Bushy Park, beside the tennis courts. Most of the people who play Boules are elderly and practically nobody walks or cycles. Going by bus would take forever and would leave you far from the destination. So, practically all of the players drive. Today, it is very simple. You drive to Templeville Road, left onto Templeogue Road, right into Rathdown Avenue and there is the destination on the right. Under *BusConnects*, you drive to Templeville Road, drive along Templeville Road, across Templeogue Road to Pearse Bridge in Rathfarnham; turn left onto Rathfarnham Road, left into Rathdown Park and left onto Rathdown Avenue.

4.6 Another example is you want to go to Mount Argus church on Lower Kimmage Road. You must use the car as you have limited mobility and you are unable to climb the steep hill at Mount Argus. Today, you drive to the KCR, turn left, cross Sundrive Road and the destination is on your left. Under *BusConnects*, you drive to the bottom of Whitehall Road, turn left onto Kimmage Road West, turn right onto Lorcan O'Toole Park, along Stannaway Road, right onto Sundrive Road, along Clareville Road, left onto Westfield Road, and across Lower Kimmage Road to the destination.

4.7 *BusConnects*, as proposed, would add many kilometres and minutes to these typical car trips. Increased emissions for these trips is inevitable. Another unfortunate consequence is that many people may be deterred from moving about.

Increased congestion on Wellington Lane and Whitehall Road

4.8 Congestion on these roads is set to become **much worse** under the proposed *BusConnects* corridors for Rathfarnham/Tempoogue and Kimmage to the city. The forecast for the whole GDA under the *Transport Strategy for the Greater Dublin Area 2022-2042* is that, following the full implementation of the *Strategy*, car trips will decline by only 1.5 per cent by 2042. In South West Dublin, which has no high capacity public transport, it is highly likely that car traffic will increase over the coming years. The highly populated areas of Knocklyon, Firhouse etc. currently have three car routes into the city:

- Via Cypress Grove Road onto Lower Kimmage Road:

Under the *Kimmage to City Centre Bus Corridor* proposal, Lr Kimmage Road would be closed to general traffic by a bus gate at Ravensdale Park.

- Via Tempoogue Road:

Under the *Tempoogue/Rathfarnham to City Centre Bus Corridor* proposal, this would be closed to general traffic by a bus gate at Olney Grove.

- Via Wellington Lane, Whitehall Road, Stannaway Road, Clogher Road:

Under *BusConnects* this is the only one of the three routes that would remain open to general traffic.

The *Part 8 Report on the Wellington Lane Walking and Cycling Scheme* has some interesting statistics in this regard.

- 4.9 According to survey data in the Report, in the morning 8am-9am peak, **1,008** vehicles entered Wellington Lane from the Spawell roundabout. In the same hour, **1,052** vehicles went from the Spawell roundabout towards Tempoogue Village; let us assume that the vast majority of these were city-bound. If the *BusConnects* corridors proceed as planned, very few of the 1,052 vehicles will proceed towards Tempoogue Village as their options will be severely limited as described above. Most of them will enter Wellington Lane. In other words, the volume of traffic on Wellington Lane is likely to double. This would mean that the volume of traffic on Wellington Lane – with one traffic lane in each direction – would match the volume of traffic on the Tallaght Bypass – with two lanes plus a bus lane in each direction!
- 4.10 The inevitable result of the lack of high capacity public transport in South West Dublin between the Red and Green Luas lines (in effect metro) coupled with the funnelling of the general traffic from three routes onto one road under *BusConnects* would be that the volume of traffic along Wellington Lane would be twice its current level or maybe higher. Wellington Lane would become a slow moving car park. The slow moving car park would extend all the way down Whitehall Road.
- 4.11 This would have severe, negative implications for all of the residents of the Orwell Park Estate, who use buses or drive their cars. Wellington Lane services three schools and three large sports clubs. Under the *BusConnects* proposals for Tempoogue/Rathfarnham to the City Centre and Kimmage to the City Centre, Wellington Lane would be expected to also

become the main highway for buses and cars from a very wide area to head towards the city. This would adversely affect:

- The proposed F2, 81 and 82 bus services along Wellington Lane;
- The functioning of the Spawell roundabout / intersection;
- The build-up of traffic on the Tallaght Bypass and on the link road between the Tallaght Bypass and the Firhouse Road.
- Emissions from slow moving 'stop-start' traffic.

4.12 Inexplicably, the Applicant has submitted to you its forecast that the volume of traffic on Wellington lane will reduce if the *BusConnects* proposals go ahead!

Conclusion of Chapter 4

4.13 The proposal will lengthen significantly the distances which many people will have to travel and will inhibit many from moving about. The proposal will increase congestion substantially.

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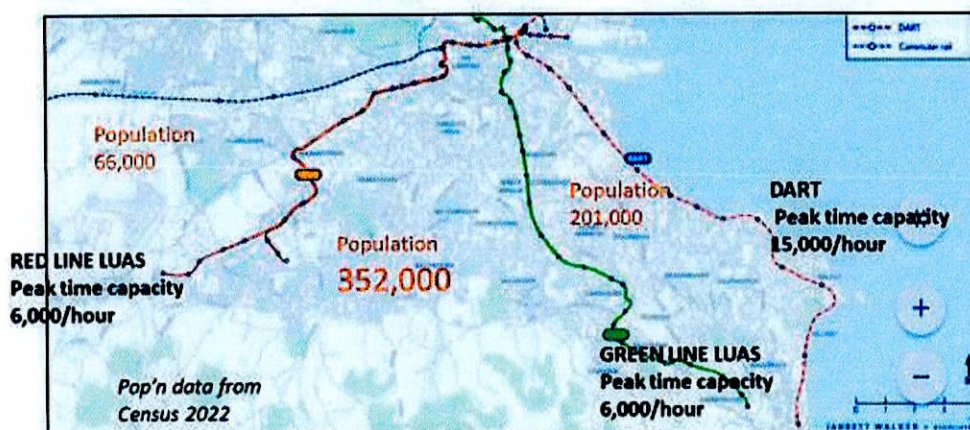
Chapter 5 The failure to properly examine alternatives

- 5.1 In the Application, the treatment of alternatives is trivial and misleading. While the Application contains over 5,000 pages, only 62 pages (one per cent) were devoted to this important topic.
- 5.2 Figure 5.1 shows a map of South West Dublin, between the Red and Green Luas lines. The area has a very large population (estimated at 352,000 from Census 2022) and only narrow streets. As concluded in *A Platform for Change*, 2001, metro must be part of the solution.

Figure 5.1 The area and population between the Red and Green Luas lines

Metro South West

The need for sustainable public transport in SW Dublin



Narrow streets on bus corridors in SW Dublin: only metro can deliver capacity and speed

- 5.3 The Application to An Bord Pleanála includes a volume entitled “Consideration of Reasonable Alternatives”⁵. Under “Strategic Alternatives” and quoting from the previous *Transport Strategy for the Greater Dublin Area 2016-2035*, it states that:

“Likely passenger flows were identified to be within the capacity of bus transport, without reaching the quantum of passenger demand which would support the provision of higher capacity rail solutions....”

Given the consideration of light rail provision, and the level of likely public passenger use along this overall corridor assessed in the transport modelling work, the development of the prior GDA Transport Strategy identified that a metro solution would not be economically justified within the area covered by this corridor. Accordingly, it was concluded that a high-quality bus-based

⁵ *Environmental Impact Assessment Report (EIAR) Volume 2 of 4: Main Report, Jacobs, ARUP, SYSTRA*

transport system would be part of the proposed public transport solution in the corridor of the Proposed Scheme.”

Strangely, the “Consideration of Reasonable Alternatives” contains no mention of a much more recent and relevant study: *The Metro to Knocklyon Feasibility Study*, NTA/Jacobs, 2021.

The Metro to Knocklyon Feasibility Study

- 5.4 Prior to the General Election of 2020, all political parties which are now in Government sought a feasibility study into continuing *MetroLink* to South West Dublin. The *Metro to Knocklyon Feasibility Study*, which was carried out by Jacobs and the NTA, was published alongside the *Draft Strategy for the Greater Dublin Area 2022-2042*. It reported that the continuation of *MetroLink* from Charlemont to Ballycullen would have a Benefit to Cost ratio of 0.8 to 1 and did not recommend it.

Unfortunately, this study was not independent and is not reliable. The prior opposition of the NTA to even study the possible continuation of *MetroLink* to South West Dublin was evident at many public meetings and in correspondence with Government ministers. The “Task Order” to Jacobs for the *Feasibility Study* shows that this was a joint study by the NTA and Jacobs, rather than an independent Jacob’s study (see Annex C). The *Feasibility Study* did not fully or properly examine the continuation of *MetroLink* to South West Dublin. Here are the more significant shortcomings:

The proposal that was made by the Metro South West Group (MSWG) was not examined

- 5.5 The proposal that was made by MSWG envisaged *MetroLink* running from St Stephens Green to a proposed station in Portobello and the Tunnel Boring Machine would be parked under Cathal Brugha Barracks, pending its continuation (as a Phase 2) to South West Dublin.
- 5.6 This option would have ensured that all of Rathmines, Harold’s Cross and Portobello (with their large populations and numerous trip attractors) could have been served by Phase 2 of *MetroLink*. As St Stephens to Portobello / Cathal Brugha Barracks would comprise a tunnel of approximately the same length as the NTA’s proposed tunnel from St Stephens Green to Charlemont / Manders Terrace, the capital costs should be similar. However, the Transport User Benefits would be much higher as new passengers would use the service; the TII proposal to bring *MetroLink* to Charlemont / Manders Terrace would merely duplicate a service which is already available on the Luas Green Line. Neither of the studied alignments dealt with this option.

Tallaght Town Centre

- 5.7 No assessment was carried out of continuing *MetroLink* as far as Tallaght Town Centre (a major attractor). The option of continuing *MetroLink* to Tallaght was disallowed by

the NTA⁶. It is well known that when designing metro systems, it is highly advantageous to have strong attractors at both ends of the line – to maximise patronage and to increase economic and social benefits. Tallaght is a major attractor in that it has a large and growing population; it also has a university, hospital, municipal centre, football stadium, large business district, theatre, library, cinemas and shopping areas.

Figure 5.2 Some trip attractors in Tallaght



Clearly, the consultants should have been allowed to assess the merits of continuing *MetroLink* to Tallaght. The merits of continuing *MetroLink* to Tallaght should have been evaluated by the consultant – after analysis – and not excluded *from the start* by the NTA. In default of considering Tallaght, the consultants had the metro finish up in a housing estate in Ballycullen!

- 5.8 In the case of someone who is living in Swords with a job in the Square, Tallaght, Table 5.1 shows the time taken today by car and public transport. These journey times are compared with metro.

⁶ Email of 19 November 2020 from the NTA to MSWG

Table 5.1 Journey times from Swords to the Square today vs with metro^a

Mode options		Time saving each morning with metro
Today Drive to the Square	50 mins	
Today Public Transport 2 buses and Red Luas	1 hour 8 mins	
With metro:	45 mins	5 mins vs driving 23 mins vs today's public transport

^a Derived from Google Maps with a departure time of 7am and MetroLink documentation

These time savings would be significant.

- 5.9 Social inclusion is another strong reason why Tallaght should have been included in the Feasibility Study. For someone living in Killinardan who wishes to go to work in O'Connell St. using public transport, Table 5.2 shows the time required today (by bike and public transport) vs if *MetroLink* was available in Tallaght: the time saving each morning would be significant.

Table 5.2 Killinardan to the GPO today (by bike, Luas and bus) vs with metro^a

Mode options		Total time	Time saving each morning
Today Cycle to Tallaght Luas to O'Connell St 1 mode change	11 mins 55 mins 5 mins	1 hr 11 mins	
With metro: Cycle to Tallaght Metro to O'Connell St 1 mode change	11 mins 20 mins 5 mins	36 mins	35 mins

^a Derived from Google Maps with a departure time of 7am and MetroLink documentation

Location of stations

- 5.10 The radius around potential stations ("buffer zone") to determine their suitability and from which passengers are to be sourced was too small at 600m. This is just a 'rule of thumb', which may be appropriate in Manhattan! It assumes that all passengers would access the station on foot. However, MSWG carried out research on this matter across the outer suburbs between the Red and Green Luas lines. This research shows that, based on just two potential stations with Park and Ride and Cycle and Ride, substantial time savings could be achieved from a wide area by cycling or driving to a metro station and completing the journey by metro. This research was not even

referred to much less incorporated in the *Feasibility Study*⁷. A copy of this study is in Annex B.

Park and Ride and Cycle and Ride

- 5.11 Consistent with the small catchment radius for passengers around stations and the associated assumption that the only way passengers would access the metro is on foot, there was no provision for Park and Ride nor Cycle and Ride and they are completely absent from the *Feasibility Study*. Nor was there any consideration of orbital feeder buses to the metro.
- 5.12 Copenhagen is often cited as a 'cycling city' as over 40 per cent of commuting trips use bikes. A situation that could be replicated in Dublin. Here is a photo of a metro station in Copenhagen, which is surrounded by bicycles:



MSWG had suggested that stations with Park and Ride and Cycle and Ride should be considered for Spawell and Dodder Valley Park⁸. Surely, consideration should have been given to options such as this? If the northern end of *MetroLink* is to be provided with a Park and Ride facility for 3,000 cars from the M1, why was no Park and Ride projected for the south western continuation of *MetroLink*, to take traffic from the

⁷ <https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:4013503d-9fe7-4f65-b8d1-a380eafdb0c7>

⁸ *ibid.*

M50 and the N81? It is worth noting that the volume of traffic on these roads far exceeds the M1.

Capture of traffic on the N81

5.13 No consideration was given to the opportunities to ‘capture’ motorists on the N81 to leave their cars at a Park and Ride at a location such as Spawell and complete their journey city wide by public transport. MSWG research shows that substantial time savings would accrue. For example, consider a nurse living in Blessington and working in the Mater Hospital. Today, her only option is to drive to work. With a Park and Ride at a metro station in Spawell, she could park there and finish the journey by metro. Table 5.3 shows the time saving.

Table 5.3 Blessington to the Mater Hospital via Spawell: today vs with metro^a

Mode options		Total time	Time saving each morning
Today: Drive all the way	1 hr 15 mins	1 hr 15 mins	
With metro: Drive to Spawell Metro to Mater Mode transfer	35 mins 17 mins 5 mins	57 mins	18 minutes

^a Driving times are taken from Google Maps with a departure time of 7am. Metro times are derived from MetroLink.

Capture of traffic on the M50

5.14 Over 100,000 vehicles pass by the Spawell exit on the M50 every day. Many of these motorists are based in Dublin and they are cruising around the motorway as a way of accessing different destinations in the city. Why was no consideration given to the opportunities to ‘capture’ some of these drivers so that they might leave their cars at a Park and Ride at a location such as Spawell and complete their journey city wide by public transport. MSWG research shows that substantial time savings would accrue. A motorist driving from Spawell to the city in the morning could expect a journey time of c. 40 minutes; the same journey by metro would take 15 minutes.

Transport modelling

5.15 It would appear that the NTA and Jacobs placed excessive reliance on the Eastern Transport Model (ERM). That model is derived from existing supply and demand. However, Dublin currently has no metro, so relative behaviours cannot be simply extrapolated from the existing limited transport options currently available.

For example, the use of existing Park and Ride facilities would give misleading indications of the journey time savings that could be achieved by driving to a metro station and completing the journey by metro. Thus, according to Google Maps, using

the Park and Ride at Sandyford Luas stop might yield little or no time savings vs driving to the city; using the Park and Ride at the Red Cow Luas stop would most likely result in *increased* travel times vs driving into the city. By contrast, MSWG research shows that substantial time savings would accrue by using a Park and Ride at Spawell. The main reason for this disparity is that metro is much faster than Luas.

For the same reason, cycling to a metro station can yield much faster total journey times than cycling to a Luas or bus stop.

Direct use of POWSCAR data

- 5.16 The direct use of POWSCAR, as explained below, is essential for assessing the feasibility of metro. The ERM Transport Model is not sufficient on its own to estimate the patronage of the continuation of *MetroLink* in South West Dublin. POWSCAR⁹ is a rich source of data which needs to be directly analysed to assist in this estimation. For example, if someone is living in Blessington and commutes every day to the Mater Hospital, POWSCAR will show the mode of transport used and the time taken for this commute. Using POWSCAR data and timetables for *MetroLink*, total journey time can then be estimated for the 'metro' scenario where there is a Park and Ride at, say Spawell, with a metro connection to the city. The 'metro' journey time would then be: drive to Spawell and take the metro to the Mater Hospital. Table 5.3 above shows that there be a time saving of 18 minutes. Very importantly, POWSCAR would reveal how many commuters could achieve this and other time savings if metro were available.

Use of POWSCAR would enable options such as these to be explored and Transport User Benefits to be quantified.

Environmental benefits

- 5.17 These were excluded.

The combined effect of the above shortcomings

- 5.18 Remarkably all of the shortcomings in the *City to Knocklyon Feasibility Study*, which are listed above, had a similar effect, viz. to reduce the estimated Transport User Benefit! The combined effect of the shortcomings, was to reduce substantially the estimated Benefit to Cost ratio.

⁹ A CSO dataset "Place of Work School or College" which is derived from the Census of Population. All workers resident in Ireland on Census night were coded to their place of work and all Irish resident students from the age of 5 and upwards were coded to their place of school/college. A detailed file containing the demographic and socio-economic characteristics of these residents along with information on the origin and destination of their journeys has been made available for analysis.

There is little doubt that if these shortcomings were addressed, the Benefit to Cost ratio would increase significantly from 0.8 (as reported by the NTA and Jacobs) and exceed 1 by a substantial amount.

Conclusions of Chapter 5

- 5.19 For South West Dublin, the leading proposed alternative to investing *exclusively* in buses and bus infrastructure is continuing *MetroLink* from the city to South West Dublin. However, the *Feasibility Study*, which was produced by NTA/Jacobs, was entirely inadequate, as described above. The Application to An Bord Pleanála fails utterly to examine the metro alternative.

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Chapter 6 Specific suggestions for improving the *BusConnects* proposal for the corridor Templeogue/Rathfarnham to the City Centre

Can anything be rescued from the BusConnects proposal for this Corridor?

6.1 Our analysis has shown that, as it stands, the *BusConnects* proposal for this corridor:

- Will fail to meet its own passenger demand forecasts.
- Will have severe negative implications for many people.

The question arises: Can anything be suggested to improve the bus service on the corridor pending the introduction of a public transport which will meet demand? OPTRA is not in a position to offer a complete design service for buses; so we outline below a few obvious examples of improvement to the current *BusConnects* proposal.

Moving the fare process from the buses

6.2 The very first thing that should be done to improve bus speeds is to eliminate the practice whereby passengers have to obtain permission to enter the bus by negotiating with the driver and/or paying the driver. Bus speeds are greatly reduced and bus and driver utilisation are adversely affected. These inefficient practice should have been eliminated long ago. For example, the Luas service operates on the basis that passengers do their financial transactions at the tram stop prior to entering the tram. While the *BusConnects* literature appears to advocate a contactless solution, the current position appears to be that, according to the NTA, contactless payments across the public transport system with fares paid using credit, debit cards, or phones, is “years away”¹⁰.

Replacement of bus gates by bus priority

6.3 The Applicant proposes to install a bus gate on Templeogue Road, at Olney Grove, thereby banning all in-bound car/van/lorry traffic. This is unnecessary and will have adverse effects as far back as Wellington Lane (see paragraphs 4.8-4.11 above). Bus priority already operates effectively on Templeogue Road via traffic signals near Lakelands Park. In this regard, it should be noted that:

- The Applicant’s forecast time saving on the Corridor from the M50 to Terenure Cross in-bound in 2043 is only 0.7 minutes.
- The Applicant’s proposal for Templeogue Village is that bus priority be utilised, rather than a bus gate.

The existing bus priority arrangements on Templeogue Road will achieve the same bus speeds without the negative consequences of the proposed bus gate.

¹⁰ Quoted by Jess Kelly on Newstalk, 9 May 2023.

Reduce land-take and construction

- 6.4 Several proposals for land-take and construction are extravagant, expensive and unnecessary. Examples include:

Terenure Road East. All of the proposed land-take on this road is unnecessary. In-bound, there is already a bus lane from Brighton Road to Rathgar Avenue. Out-bound, there is a bus lane on the Northern portion of the road. The existing traffic signals on the Southern end of the bus lane, to give buses priority on the narrow part of Terenure Road East, can allow buses pass through without difficulty.

Spawell Roundabout. The replacement of the roundabout by a 6-phase signalling system can be expected to significantly reduce the throughput of traffic. Safe passage for cyclists is provided for already on each of the four roads which lead onto the roundabout. An example of unnecessary construction.

The *BusConnects* proposal for the F2 route provided that these buses would turn around at the Spawell roundabout. If the roundabout is abolished, where will the turnaround occur?

Preserve existing cycle lanes

- 6.5 The proposal envisages that the existing cycle lanes on Terenure Road East be abolished. This is unnecessary as there is sufficient room for them on the narrow part of Terenure Road East – see Figure 3.1 above.

Remove many bans on right hand turns

- 6.6 Many of these bans will have severe negative effects on people's ability to move about. These include:
- The right turn ban from Templeogue Road to Rathdown Avenue will limit access to Bushy Park, a major recreation and fitness facility.
 - The right turn ban from Templeogue Road to Rathdown Park will impede access to Lidl and the car park at St Joseph' church on Rathfarnham Road.
 - The right turn ban from Fortfield Road to Greenlea Road will impede access to local shops and Terenure village.
- 6.7 For all of these right turn bans, there is likely to be significant disobedience. Motorists will drive beyond the junction and do a U-turn so that they can make a left hand turn instead. (Evidence for this disobedience is to be seen every day at the banned right hand turn from Lower Kimmage Road to Aideen Avenue.)

Conclusion of Chapter 6

6.8 Many improvements and cost reductions are possible and desirable.

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Chapter 7 Conclusions

Current status of the Application

- 7.1 As the Rathfarnham/Tempoogue Application stands, progress of the projected number of buses through Terenure Road East is impossible.

As the Application stands, there is a significant risk that the progress of the projected number of passengers and buses through the city centre is impossible.

The Applicant has failed to properly examine the leading proposal, that would provide adequate capacity and speed in South West Dublin, viz. the continuation of *MetroLink* from St Stephens Green to South West Dublin. This would fundamentally alter the functionality and routing of buses throughout South West Dublin. It would also inform decisions now about “Do we really need to spend enormous sums of money on extravagant construction and land-take for an ineffective outcome, knowing that metro will enable capacity and speed issues to be resolved?”

The forecast cost of *BusConnects* is comparable to the cost of continuing *MetroLink* to South West Dublin as estimated by NTA/Jacobs – despite the latter project having been given a ‘risk and optimism’ uplift to its cost estimate much greater than *BusConnects*.

Supply of critical information

- 7.2 In order to evaluate the Tempoogue/Rathfarnham Application, An Bord Pleanála should require the Applicant to provide critical information to include the following:

- How many buses are forecast in the peak hour on each corridor?
- Explain how these buses will be able to proceed through the city centre and set out the measures that will be required.
- Explain how these buses will be able to proceed through Terenure Road East and set out the measures that will be required.
- What will be the impact of these measures?

Recommendation

- 7.3 This new information will have to be evaluated. As a general approach, given

The uncertain and limited benefits for public transport (capacity and time savings)

AND

The unspecified (for this corridor) but inevitably high cost

AND

The severe disruption for car users

AND

The discouragement of travel

We recommend that An Bord Pleanála either:

REFUSE the Application

OR

APPROVE the Application with the following conditions:

- Remove the fares process from all buses – see paragraph 6.2.
- Replace bus gates by bus priority – see paragraph 6.3.
- Limit construction and land-take to curtail expenditure – for examples see paragraph 6.4.
- Preserve existing cycle lanes – see paragraph 6.5.
- Reduce penalisation of motorists by reducing bans on right hand turns – see paragraph 6.6.
- NTA to immediately initiate a proper and transparent study of continuing *MetroLink* from St Stephens Green to South West Dublin to resolve capacity and speed for public transport, and provide less penalisation of motorists – see Chapter 5.

OK!

Annex A

South West Dublin and the Continuation of MetroLink



IMPROVEMENT IN COMMUTING TIMES



Metro South West

October 2020

SOUTH WEST DUBLIN AND THE CONTINUATION OF METROLINK

IMPROVEMENT IN COMMUTING TIMES

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- 6 Connectivity
- 7 Journey times for long distance car commuters and the M50
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SOUTH WEST DUBLIN AND THE CONTINUATION OF *METROLINK* IMPROVEMENT IN COMMUTING TIMES

1 Introduction

1.1 The South West Dublin Metro Group (SWDMG) has established that buses on their own cannot deliver sufficient capacity to fulfil the public transport needs of the population of South West Dublin¹¹.

1.2 *MetroLink* is to come into the city from Estuary. However, the southern / south western route of *MetroLink* has not been decided¹². The current NTA proposal is to bring *MetroLink* from St Stephens Green to Charlemont with a further tunnel / layby orientated directly towards Beechwood to best enable later conversion of the Green Line Luas to metro standard. The section of tunnel from St Stephens Green to Charlemont would be of no benefit to any passenger¹³ and it would incur a high cost; and the section from Charlemont to near Beechwood would have no passengers either. In the view of SWMG, it would be much more cost-effective instead to continue to bore towards South West Dublin, where there is a real need for high capacity public transport³.

1.3 *The Case for Continuing MetroLink to South West Dublin* requested that an early Feasibility Study be carried out into continuing *MetroLink* to South West Dublin. One of the matters that will be important in the Feasibility Study is estimating the likely patronage of the continuation of *MetroLink*. Patronage will be important in estimating cash flows, the impact on pollution and the benefit-cost ratio.

1.4 The number of passengers availing of the continuation of *MetroLink* would be a function of:

- (i) The population of the catchment area; and
- (ii) The attractiveness of the metro service.

The Case for Continuing MetroLink to South West Dublin contained an analysis of the catchment population and concluded that this population is the same as for the Green Luas catchment¹⁴.

1.5 **This paper is concerned with the attractiveness of the proposed metro service.** A key element of the attractiveness of the continuation of *MetroLink* would be the improvements in commuting times that would arise in South West Dublin, if *MetroLink* were continued to the general Firhouse area. The focus is on morning peak time commuting. The approach used is to:

- a) Estimate journey times to the GPO, O'Connell Street today from different districts within the area to be served by the continuation of *MetroLink* using the following modes of transport: car, bus and bike.

¹¹ *The Case for Continuing MetroLink to South West Dublin*, Dublin South West Metro Group, August 2020 <https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:eb90ca39-fff8-4acd-9fe5-c1e92f4fb93e>

¹² "We should have a discussion about where the tunnel goes. The current proposal, as I understand it, is to leave the machine in the ground somewhere around Ranelagh. We should have that discussion about whether it would make sense to go west or east from there, perhaps to UCD, perhaps to Sandyford." An Taoiseach, Dáil Éireann, 26 March 2019

¹³ The *MetroLink* line from Charlemont would duplicate underground the Green Luas Line to St Stephens Green.

¹⁴ *The Case for Continuing MetroLink to South West Dublin*, Dublin South West Metro Group, August 2020, paragraph 2.3.2.

- b) Assume entirely hypothetically, that the continuation of *MetroLink* would have stations at Spawell and Dodder Valley Park (beside Dodder Avenue).
- c) Estimate journey times from districts in South West Dublin to these metro stations by walking, cycling or driving, and onwards to O'Connell Street by metro.
- d) Compare the journey times today with the journey times which metro would provide.
- e) Consider the particular possibility that a Park and Ride at Spawell could remove many cars from the M50 and N81.
- f) All the estimated travel times by mode are taken from Google Maps and assume a departure time from home of 7.50am. Walking and cycling speeds are also taken from Google Maps.

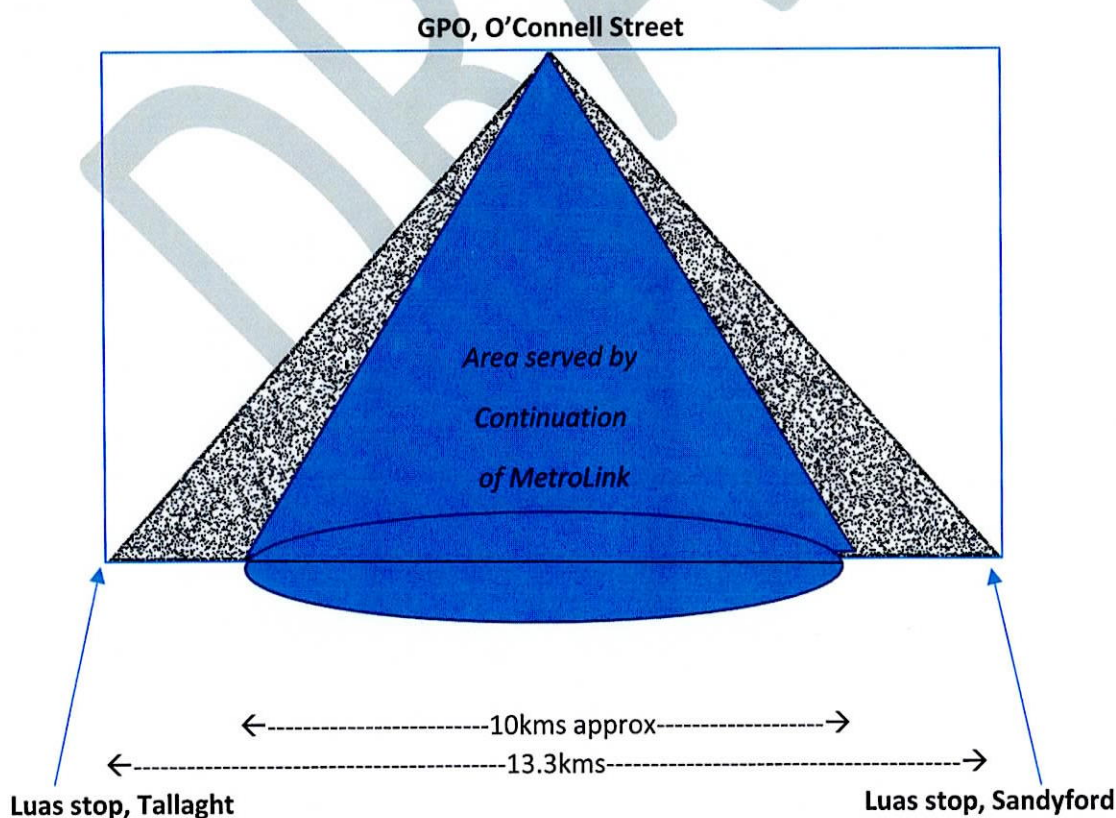
Excluded are areas which are close to the Red or Green Luas lines. The main focus is on 'outer suburbs', i.e. below Walkinstown Avenue – St Peters Road – Templeville Road – Dodder Park Road. This is the most challenging part of the catchment area for the proposed metro. The reason for this is that as you go out further from the city, many more people will not live beside a metro station.

Note that the paper does not analyse the important role that local feeder buses could play in delivering passengers to these metro stations.

2 The area to be served by the continuation of *MetroLink*

2.1 The area served by the proposed continuation of *MetroLink* would lie between the Red and Green Luas lines. This area is shaped roughly like a triangle. The Luas stop in Tallaght is 12.3 kms from the confluence of the two Luas lines near the GPO (walking or by bike) and the Sandyford Luas stop is approximately the same distance from the GPO (11.7 kms). The distance between the Luas stop in Tallaght and the Luas stop in Sandyford is 13.3 kms. Thus, the area between the two Luas lines may be thought of as a rough triangle as follows:

Figure 1: Area served by a continuation of *MetroLink* to South West Dublin



At the base of the triangle, those living near Tallaght or Sandyford would have little need of the proposed metro service. The spotted areas denote places served already by one of the Luas lines. The approximate area served by the continuation of *MetroLink* is coloured blue. Note that this area extends below an imaginary line from Tallaght to Sandyford. The served area would include:

Tymon Heights, Carriglea, Carrigwood, Delaford, Glenvara, Scholarstown, Elkwood, Templeroan, Castlefield Manor, Beverley, Orlagh, Knockcullen, Woodfield, Boden Park, Moyville, Springvale, Dargle Wood, Oldcourt, Woodstown, Old Bawn, Rockbrook, Aylesbury, Seskin View, Cill Cais, Watermeadow, Killinarden, Jobstown, Kiltalown, Ellensborough, Kiltipper, Allenton, Daletree, Ballycullen, Beechdale.

This is not an exhaustive list.

3 Active modes of travel

3.1 Walking and cycling are the most healthy modes of travel and cause least damage to the environment. Following the pandemic, the NTA has advised that commuters should consider using active modes of travel over the following distances:

Table 3.1 NTA: Distances which may be suitable for active modes of travel¹⁵

Travel mode	1km	2kms	5kms	10kms+
Walking	•	•	•	
Cycling	•	•	•	•

3.2 Cycling in Copenhagen is five times more popular than in Dublin¹⁶. In Copenhagen, particular attention is paid to ensuring that cycling trips take as little time as possible and that there is ample provision of cycle parking, including beside metro stations¹⁷. Here is a photo of a metro station, Svanemøllen, which is 6 kms from the centre of Copenhagen.

¹⁵ *Enabling the City to Return to Work: Interim Mobility Intervention Programme for Dublin City*, NTA, May 2020, page 7.

¹⁶ European Cycling Federation <https://ecf.com/resources/cycling-facts-and-figures>

¹⁷ https://use.metropolis.org/system/images/1556/original/Copenhagen_Bicycle_Strategy_2011-2025.pdf

Figure 2: Svanemøllen metro station outside Copenhagen



The photo shows the effective integration of cycling with metro in Copenhagen. People cycle to the metro station, park their bike and complete their journey by metro. They collect the bike on the way home.

4 Commuting times which relate to a hypothetical Metro station at Spawell

4.1 In the following table we show commuting times for a purely hypothetical metro location at Spawell in Templeogue. Both 'Cycle and Ride' and 'Park and Ride' would be available at this station. The assumed destination is the GPO, O'Connell Street, near the intersection of the two Luas lines and the proposed *MetroLink* station at the old Carlton cinema: a distance of 8.7 kms (by bike). According to the NTA, the *MetroLink* journey time from Dublin Airport to the city centre would be 20 minutes for a journey length of 11 kms. It is reasonable to assume (on a *pro rata* basis) that the journey time on the continuation of *MetroLink* from Spawell to the GPO, O'Connell Street would be 15 minutes.

Options shown are car, bus, bike and metro. Departing at 7.50 am, the journey times (per Google Maps) would be:

Table 4.1 Journey Times from Spawell to O'Connell Street, departing at 7.50 am

Transport Mode	Time
Car	Up to 40 mins
Bus	39 mins
Bike	30 mins
Metro	15 mins

As we might expect, cycling is currently the fastest way to the city. However, Spawell is 8.7 kms from the city. Some people living in the general area of Spawell *may* view this cycling commute as being too long. The current alternatives are the car and the bus. Metro, if available, would be twice as quick as the bike.

4.2 Of course, not everyone can live right beside a metro station. Given the dimensions of the area to be served by the new metro (see solid blue area in Figure 1 above), it is unlikely that many people would be more than 5 kms from a hypothetical station. This fits comfortably within the NTA view that distances up to 5 km may be suitable for walking and distances up to 10 kms and more may be suitable for cycling – see Table 3.1 above. In the following paragraphs and tables, the current commuting times (car, bus and bike) are compared to the commuting times that would be available with a metro station in Spawell.

4.3 The NTA is encouraging more people to use the bike to get to work: the target is to treble the number of commuters who cycle into the city¹⁸. However, the combination of a short cycle to a metro station together with a swift trip by metro would add greatly to the appeal of cycling. Table 4.2 shows commuting times today vs using Cycle and Ride to a metro station at Spawell.

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¹⁸ See footnote 1.

Table 4.2 Current commuting times to the GPO compared with Cycle to Spawell plus Metro

←--Current options--→ ←----Cycle to metro option--→

Home Location	Distance (kms) To O'Connell St (by bike)	Car (up to) Mins.	Bus Mins.	Bike Mins.	Cycle +metro Total Mins.	Time saving vs car Mins.	Time saving vs bus Mins.
Anne Devlin Park	8.5	40	39	30	23	17	16
Ashton Close	9.1	45	41	31	22	23	19
Ballyroan Crescent	8.9	45	45	30	23	22	22
Balrothery Estate	9.9	45	50	33	22	23	28
Bancroft Crescent	10.8	50	53	34	24	26	29
Beechfield Road	6.8	35	30	24	27	8	3
Beverley Avenue	9.8	45	39	33	23	22	16
Boden Park	9.2	45	43	32	25	20	18
Brookwood	9	40	44	31	27	13	17
Butterfield Crescent	7.1	35	35	26	26	9	9
Carriglea Drive	11.1	50	44	36	26	24	18
Carrigwood	10.8	45	43	36	26	19	17
Castlefield Manor	10.4	45	52	35	25	20	27
Coolamber Court	8.4	40	37	30	21	19	16
Dargle Wood	9.3	45	39	31	22	23	17
Delaford Drive	9.4	45	42	32	22	23	20
Elkwood	9.1	45	41	31	23	22	18
Glendown Grove	7.6	40	38	26	21	19	17
Glenvara	10.3	45	42	35	21	24	21
Hermitage Drive	8.6	40	40	30	30	10	10
Idrone Drive	9.2	45	43	32	21	24	22
Keadeen Avenue	8.1	40	38	27	25	15	13
Knockcullen Drive	8.9	40	38	31	22	18	16
Marian Park	7.8	40	44	28	24	16	20
Mountdown Avenue	8.1	35	42	28	23	12	19
Moyville	9.2	40	45	31	27	13	18
Orlagh Downs	10.9	45	49	36	26	19	23
Orwell Park Rise	8.2	40	40	27	19	21	21
Scholarstown Park	9.9	45	49	33	24	21	25
Springvale	9.4	45	53	31	27	18	26
Temple Manor Grove	8.8	40	37	29	23	17	14
Templeogue Wood	8	40	43	27	20	20	23
Templeroan Avenue	9.3	45	43	32	23	22	20

Continued...

Home	Kms from Home to O'Connell Street				Cycle plus metro	Time saving vs car	Time saving vs bus
Location		Car	Bus	Bike			
		Mins	Mins.	Mins	Mins	Mins	Mins
Templeville Drive	7.2	40	36	24	23	17	13
Tymon Ville Park	9.6	45	43	31	25	20	18
Washington Grove	8.4	40	47	29	22	18	25
Whitechurch	10.4	45	54	34	30	15	24
Whitecliff	8.5	40	42	30	27	13	15
Whitehall Road	6	30	28	21	24	6	4
Willbrook Estate	7	35	34	25	26	9	8
Willington Crescent	8.8	40	42	29	20	20	22
Woodfield	10.1	45	48	34	26	19	22
Totals		1765	1775	1275	1006	759	769
Average time saving minutes vs car and bus (42 locations)						18.1	18.3
Average time saving %						43.0%	43.3%

Notes:

- Existing car and bus users would have greatly reduced commuting times, if they switched to Cycle and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely, depending on functioning of traffic lights, traffic accidents, schools open, weather etc.;
- With Cycle and Ride journey times would be predictable.
- The cycling times are not onerous; in the above table, they range from 6 - 15 minutes, which would be attractive to many people.

4.4 In considering a Walk plus metro option, we realise that not everyone can live right beside a metro station. However, Walk plus metro could be an attractive option for many people who live nearby, say within a 30 minute walk from Spawell (approximately 2.5kms). Table 4.3 shows commuting times today vs using Walk plus Metro to a metro station at Spawell.

Table 4.3 Current commuting times to the GPO compared with Walk to Spawell plus Metro

←-Current options-→ ←-Walk to metro option-→

Home	Distance (kms)	Car	Bus	Bike	Walk	Time	Time
Location	To O'Connell St				+metro	saving	saving
	(by bike)	(up to)			Total	vs car	vs bus
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
Ashton Close	9.1	45	41	31	39	6	2
Coolamber Court	8.4	40	37	30	31	9	6
Delaforde Drive	9.4	45	42	32	37	8	5
Elkwood	9.1	45	41	31	41	4	0
Glendown Grove	7.6	40	38	26	35	5	3
Glenvara	10.3	45	42	35	33	12	9
Idrone Drive	9.2	45	43	32	35	10	8
Knockcullen Drive	8.9	40	38	31	37	3	1
Orwell Park Rise	8.2	40	40	27	27	13	13
Templeogue Wood	8	40	43	27	40	0	3
Templeroan Avenue	9.3	45	43	32	41	4	2
Willington Crescent	8.8	40	42	29	32	8	10
<i>Totals</i>		510	490	363	428	82	62
Average time saving minutes vs car and bus (12 locations)						6.8	5.2
Average time saving %						16.1%	12.7%

Notes:

- While walking is the slowest mode of travel, metro is very fast. The combination of these two modes yields time savings over a relatively wide area for Walk and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely.
- With Walk and Ride journey times would be predictable.
- The walking times in the table range from 12 - 26 minutes, which would be attractive to many people.

4.5 There would be a 'Park and Ride' at Spawell. As an alternative to driving all the way into the city, would a short drive to Spawell plus a metro ride into the city be an attractive option? Table 4.4 shows commuting times today vs Park and Ride to a metro station at Spawell.

Table 4.4 Current commuting times compared with Drive to Spawell plus Metro

←-Current options-→ ←-Drive to metro option-→

Home	Distance (kms)	Car Bus		Bike	Drive +	Time saving	
		(up to)				Metro	vs car
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
Anne Devlin Park	8.5	40	39	30	21	19	18
Ashton Close	9.1	45	41	31	22	23	19
Ballyroan Crescent	8.9	45	45	30	22	23	23
Balrothery Estate	9.9	45	50	33	22	23	28
Bancroft Crescent	10.8	50	53	34	24	26	29
Beechfield Road	6.8	35	30	24	24	11	6
Beverley Avenue	9.8	45	39	33	22	23	17
Boden Park	9.2	45	43	32	23	22	20
Brookwood	9	40	44	31	24	16	20
Butterfield Crescent	7.1	35	35	26	22	13	13
Carriglea Drive	11.1	50	44	36	25	25	19
Carrigwood	10.8	45	43	36	22	23	21
Castlefield Manor	10.4	45	52	35	22	23	30
Coolamber Court	8.4	40	37	30	19	21	18
Dargle Wood	9.3	45	39	31	22	23	17
Delaford Drive	9.4	45	42	32	21	24	21
Elkwood	9.1	45	41	31	23	22	18
Glendown Grove	7.6	40	38	26	20	20	18
Glenvara	10.3	45	42	35	22	23	20
Hermitage Drive	8.6	40	40	30	27	13	13
Idrone Drive	9.2	45	43	32	24	21	19
Keadeen Avenue	8.1	40	38	27	23	17	15
Knockcullen Drive	8.9	40	38	31	21	19	17
Marian Park	7.8	40	44	28	23	17	21
Mountdown Avenue	8.1	35	42	28	20	15	22
Moyville	9.2	40	45	31	25	15	20
Orlagh Downs	10.9	45	49	36	24	21	25
Orwell Park Rise	8.2	40	40	27	19	21	21
Scholarstown Park	9.9	45	49	33	23	22	26
Springvale	9.4	45	53	31	25	20	28
Temple Manor Grove	8.8	40	37	29	22	18	15
Templeogue Wood	8	40	43	27	19	21	24
Templeroan Avenue	9.3	45	43	32	22	23	21

Continued...

Home	Distance (kms)	Car	Bus	Bike	Drive	Time	Time
Location	To O'Connell St				+metro	saving	saving
	(by bike)	(up to)			Total	vs car	vs bus
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
Templeville Drive	7.2	40	36	24	22	18	14
Tymonville Park	9.6	45	43	31	25	20	18
Washington Grove	8.4	40	47	29	22	18	25
Whitechurch	10.4	45	54	34	29	16	25
Whitecliff	8.5	40	42	30	29	11	13
Whitehall Road	6	30	28	21	21	9	7
Willbrook Estate	7	35	34	25	23	12	11
Willington Crescent	8.8	40	42	29	19	21	23
Woodfield	10.1	45	48	34	33	12	15
<i>Totals</i>		1765	1775	1275	973	792	802
Average time saving minutes vs car and bus (42 locations)						19.1	19.4
Average time saving %						45.5%	45.8%

Notes:

- The very significant time savings that would arise over a wide area for Park and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely.
- With Park and Ride journey times would be more predictable.
- The driving times range from 4 - 18 minutes, which would be more attractive to many people rather than driving all the way into the city. Less driving time means less congestion and less pollution.

5 Commuting times which relate to a hypothetical Metro station at Dodder Valley Park

5.1 In the following table we show commuting times for a purely hypothetical metro station to be located at Dodder Valley Park (beside Dodder Avenue) in Firhouse. Both 'Cycle and Ride' and 'Park and Ride' would be available at this station. The assumed destination is the GPO, O'Connell Street, near the intersection of the two Luas lines: a distance of 11.1 kms (by bike). According to the NTA, the *MetroLink* journey time from Dublin Airport to the city centre would be 20 minutes for a journey length of 11 kms. It is reasonable to assume that the journey time on the continuation of *MetroLink* from Dodder Valley Park to the GPO, O'Connell Street would also be 20 minutes.

Options shown are car, bus, bike and metro. Departing at 7.50 am, the journey times (per Google Maps) would be:

Table 5.1 Journey Times from Dodder Valley Park to O'Connell Street, departing at 7.50 am

Transport Mode	Time
Car	Up to 45 mins
Bus	52 mins
Bike	36 mins
Metro	20 mins

5.2 We now consider the options for those who live in the general Firhouse area. As we might expect, cycling is the fastest way to the city at present. However, Dodder Valley Park is 11 kms from the city; accordingly, people living in the general Firhouse area would face, in the view of many, a long cycling commute. The alternatives are the car and the bus.

5.3 Table 5.2 shows commuting times today vs using Cycle and Ride to a metro station at Dodder Valley Park.

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Table 5.2 Current commuting times compared with Cycle to Dodder Valley Park plus Metro

←-----Current options-----→ ←Cycle to metro option→

Home	Distance (kms)	Car	Bus	Bike	Cycle	Time	Time
Location	To O'Connell St				+metro	saving	saving
	(by bike)	(up to)			Total	vs car	vs bus
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
Allenton Drive	12.3	45	49	40	26	19	23
Aylesbury	12.7	50	55	41	26	24	29
Ballycullen Drive	11.4	45	47	39	29	16	18
Beechdale Place	11.7	45	52	39	28	17	24
Cill Cais, Old Bawn	13.4	50	56	43	28	22	28
Daletree Avenue	11.8	45	48	38	26	19	22
Dodderbrook	13.1	50	58	42	27	23	31
Ellensborough Drive	13.4	50	61	42	28	22	33
Jobstown	14.3	45	57	44	36	9	21
Killinardan Heights	14.4	50	50	44	31	19	19
Kiltalown Way	14.1	50	55	43	34	16	21
Kiltipper	13.7	50	65	43	29	21	36
Old Bawn	12.7	45	51	41	26	19	25
Oldcourt	13.4	45	61	43	29	16	32
Parkwood	12	50	57	39	25	25	32
Prospect	9.8	40	43	32	36	4	7
Rockbrook	11.8	45	64	37	39	6	25
Seskin View	11.7	45	48	37	26	19	22
Stocking Wood	10.9	45	47	38	32	13	15
Watermeadow Park	12.7	45	54	41	27	18	27
Woodstown Heights	11.4	45	48	39	30	15	18
<i>Totals</i>		980	1126	845	618	362	508
Average time saving minutes vs car and bus (21 locations)						17.2	24.2
Average time saving %						36.9%	45.1%

Notes:

- The very significant time savings that would arise over a wide area for Cycle and Ride.
- Existing car and bus users would have greatly reduced commuting times, if they switched to Cycle and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely.
- With Cycle and Ride journey times would be predictable.
- The cycling times range from 6 - 19 minutes, which would be attractive to many people.

5.4 In considering a Walk plus metro option, we realise that not everyone can live right beside a metro station. However, Walk plus metro could be an attractive option for many people who live nearby, say within a 30 minute walk from Dodder Valley Park (approximately 2.5kms). Table 5.3 shows commuting times today vs using Walk plus Metro to a metro station at Dodder Valley Park.

Table 5.3 Current commuting times compared with Walk to Dodder Valley Park plus Metro

←Current options→ ←Walk to metro option→

Home	Kms from				With metro (20 mins)		
Location	Home to	(up to)			plus Walk options		
	O'Connell Street	Car	Bus	Bike	Walk	Time	Time
	(by bike)				+metro	saving	saving
					Total	vs car	vs bus
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
		(up to)					
Allenton Drive	12.3	45	49	40	38	7	11
Aylesbury	12.7	50	55	41	42	8	13
Ballycullen Drive	11.4	45	47	39	31	14	16
Daletree Avenue	11.8	45	48	38	37	8	11
Ellensborough Drive	13.4	50	61	42	50	0	11
Old Bawn	12.7	45	51	41	41	4	10
Seskin View	11.7	45	48	37	42	3	6
Watermeadow Park	12.7	45	54	41	45	0	9
<i>Totals</i>		325	366	280	295	30	71
Average time saving minutes vs car and bus						5.5	10.9
Average time saving %						12%	21%

Notes:

- The time savings that would arise over a wide area for Walk and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely.
- With Walk and Ride journey times would be predictable.
- The walking time ranges from 11 - 30 minutes, which could be attractive to many people.

5.5 There would be a 'Park and Ride' at Dodder Valley Park. As an alternative to driving all the way into the city, would a short drive to Dodder Valley Park plus a metro ride into the city be an attractive option? Table 5.4 shows commuting times today vs Park and Ride to a metro station at Dodder Valley Park.

Table 5.4 Current commuting times compared with Drive to Dodder Valley Park plus Metro

←----Current options--> ←Drive to metro option→

Home	Kms from				With metro (20 mins)		
Location	Home to	(up to)			plus Drive options		
	O'Connell Street	Car	Bus	Bike	Drive	Time	Time
	(by bike)				+metro	saving	saving
					Total	vs car	vs bus
		Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
		(up to)					
Allenton Drive	12.3	45	49	40	24	21	25
Aylesbury	12.7	50	55	41	26	24	29
Ballycullen Drive	11.4	45	47	39	27	18	20
Beechdale Place	11.7	45	52	39	27	18	25
Cill Cais, Old Bawn	13.4	50	56	43	27	23	29
Daletree Avenue	11.8	45	48	38	26	19	22
Dodderbrook	13.1	50	58	42	28	22	30
Ellensborough Drive	13.4	50	61	42	26	24	35
Jobstown	14.3	45	57	44	34	11	23
Killinardan Heights	14.4	50	50	44	29	21	21
Kiltalown Way	14.1	50	55	43	34	16	21
Kiltipper	13.7	50	65	43	28	22	37
Old Bawn	12.7	45	51	41	26	19	25
Oldcourt	13.4	45	61	43	26	19	35
Parkwood	12	50	57	39	25	25	32
Prospect	9.8	40	43	32	32	8	11
Rockbrook	11.8	45	64	37	30	15	34
Seskin View	11.7	45	48	37	26	19	22
Stocking Wood	10.9	45	47	38	29	16	18
Watermeadow Park	12.7	45	54	41	26	19	28
Woodstown Heights	11.4	45	48	39	27	18	21
Totals		980	1126	845	583	397	543
Average time saving minutes vs car and bus (21 locations)						18.9	25.9
Average time saving %						40.5%	48.2%

Notes:

- The very significant time savings that would arise over a wide area for Park and Ride.
- A particular difficulty with car and bus commutes at present is that journey times vary widely.
- With Park and Ride journey times would be more predictable.
- The driving time ranges from 4 - 14 minutes, which would be attractive to many people rather than driving all the way into the city. Less driving time means less congestion and less pollution.

5.6 It might be thought: "Surely driving to a metro station is not to be recommended? Would not this give rise to pollution?" Across 21 locations, the average drive to the Dodder Valley Park metro station would take 8 minutes. Driving all the way into the city would take an average of 47 minutes. Thus, by driving to the metro station rather than driving all the way into the city, there would be a reduction of 83 per cent in driving time...and much less damage to the environment.

6 Connectivity

6.1 Even if one's destination was far from stations on the *MetroLink* line, the continuation of *MetroLink* to the general Firhouse area could provide very important opportunities to use public transport instead of the car. For example,

- At the St Stephens Green *MetroLink* station, you could switch to the Luas Green Line and head towards Sandyford or Cabra (and possibly Finglas?).
- At the Tara Street *MetroLink* station, you could change to the DART and head towards Malahide or Greystones.
- At the *MetroLink* station on O'Connell Street, you could change to the Red Luas Line and head towards St James' Hospital or the IFSC.
- At the Glasnevin *MetroLink* station, you could access the North Western rail line (Sligo/Maynooth) and the South Western commuter line (Newbridge/Hazelhatch)¹⁹.
- There would be numerous opportunities for bus connections.

In summary, the continuation of *MetroLink* to South West Dublin would provide a powerful means for residents to navigate large areas of the city (and beyond) without using the car.

7 Journey times for long distance car commuters and the M50

7.1 Here we look at the Park and Ride at the Spawell metro station and its potential to take cars off the road from the N81 and the M50. Spawell is located at Junction 11 on the M50 at the intersection with the N81. Currently, over 70,000 vehicles pass by Spawell every day on either the N81 or the M50.

7.2 As before, let us assume a purely hypothetical metro station in the general Spawell area (at the Spawell Complex), adjacent to the N81 and the M50. The metro station would have a 'Cycle and Ride' and a 'Park and Ride'. The distance to O'Connell Street is 8.7 kms. The journey time for metro would be 15 mins. The following table shows the travelling time options to O'Connell Street for car commuters from Spawell at 7.50 am.

¹⁹ According to the NTA: "Glasnevin is a key station. This is where MetroLink will interchange with Iarnród Éireann where the north-western line from Sligo/Maynooth to Dublin, and the southwestern commuter line from Newbridge/ Hazelhatch to Grand Canal Dock converge at Whitworth Road increasing demand for both MetroLink and Iarnród Éireann services." *METROLINK: Integrated Transport Integrated Life*, NTA, March 2019

Journey Times from Spawell to O'Connell Street by Car vs Metro, departing at 7.50 am

Transport Mode from Spawell	Time to O'Connell St
Car	Up to 40 mins
Metro	15 mins

7.3 The N81 is a National Primary Route, bringing in motorists from areas including Tallaght, Brittas, Hollywood, Blessington, Donard, Baltinglass, Kiltegan, Rathvilly, Tullow, Hacketstown, Tinahely etc.. Many motorists on the N81 would see:

- o The huge disparity in journey times to the city centre (car vs metro) and
- o The connectivity opportunities, which are listed in paragraph 6.1.

Would not the Spawell Park and Ride be attractive for many of these motorists? Not only would the journey time be much shorter, but it would be much more predictable. Also, for other 'non-N81' long distance motorists approaching the M50, the Park and Ride at Spawell could be an attractive option.

7.3 The original plan for the M50 was that it would enable people from outside Dublin to bypass the city. However, it is increasingly clogged up by motorists from within the M50 using it as a means of navigating within the M50. Would not the Park and Ride at Spawell be attractive for many of these motorists, particularly given its connectivity with DART and Luas as mentioned earlier?

8 Conclusions

8.1 The above analysis examined 63 locations in the outer suburbs of South West Dublin. The analysis shows that the continuation of *MetroLink* to South West Dublin would facilitate considerable time savings for many commuters across these suburbs. Accordingly, patronage of the metro service by commuters from these suburbs is likely to be substantial.

8.2 According to the EU Commission,

"The reliance on private motor vehicles to move people and goods is the main source of growing problems relating to air pollution and congestion. These issues lead to health, accessibility, and quality-of-life concerns for city inhabitants and can negatively impact businesses through increased delays and reduced reliability of the road transport network.

In response to these pressing issues, policy-makers are increasingly looking for ways to develop a more diverse and flexible transport system, and influence behaviours to encourage a shift away from the reliance on private cars. Cycling is increasingly viewed as a key part of a multi-modal and integrated transport system for several reasons:

- *It is a more cost-efficient option compared to other transport modes;*
- *It is a convenient transport mode for the high share of short journeys that dominate urban travel; and*
- *It has multiple co-benefits in terms of health, the environment and city liveability.*²⁰

8.3 A metro to South West Dublin would have positive effects on the environment and the health of residents. It would bring benefits to the community, the city and the country. There would be the saving of car energy and bus energy in the transfer to the more efficient new metro. There would be the benefits of less traffic on the roads making it safer for cyclists and pedestrians. There would be an improvement in health as more people would walk or cycle to the stations rather than using their car door to door.

8.4 An early feasibility study is awaited into continuing *MetroLink* to South West Dublin. This was agreed by all three political parties which form the Government.

South West Dublin Metro Group
September 2020

DRAFT

²⁰ https://ec.europa.eu/transport/themes/urban/cycling/guidance-cycling-projects-eu/cycling-policy-and-background_en

The reduction of potential demand on Lower Rathmines Road to meet the capacity limitations of *BusConnects* in 2042²¹

- B1 The journey started with very high assumptions regarding the capacity of buses. It was assumed that ordinary buses on a *BusConnects* corridor could carry up to 3,500 passengers per direction per hour²². *BusConnects Plus*, i.e. “bendy buses” were assumed to have a capacity of 5,400 passengers per hour. The Modellers made no distinction between different bus corridors, for example between multi-lane roads and simple roads with room for only one carriageway in each direction, such as the Rathmines corridor. (All of the proposed *BusConnects* corridors in South West Dublin have long stretches of the latter type of road and the assumptions of the Modellers have little reality for these roads.)
- B2 These assumptions provided targets for the Modellers: reduce the “*plausible future demand estimates*” to below 3,500 or 5,400 passengers per corridor in the peak hour and *BusConnects* will suffice!
- B3 Armed with these corridor targets, the Modellers’ first step was to reduce potential demand to reflect Covid-19 and the emergence of increased home working and blended working.

Table B1 Alternative future demand in 2042 due to trip reductions

	Rathmines
Initial Model demand, peak hour, in-bound, that could be supplied (ACR, p.91)	9,300
Alternative future demand: Trip Reduction (ACS, page 96)	7,600

However, the Rathmines corridor was still problematic as potential demand exceeded the upper and lower targets (3,500 – 5,400) to fit within *BusConnects*.

- B4 The Modellers’ second step was to factor in several demand reductions resulting from an increased uptake of cycling, the Application of tolls and parking management. The results were as follows:

²¹ From the *Strategy Development and Modelling Report*, NTA, 2021

²² Compare this to the actual capacity of 2,800 today on a very busy Rathmines Road (see Table 2.3).

Table B2 Further demand reductions for 2042

	Rathmines
Initial Model demand, peak hour, in-bound, that could be supplied (p.91)	9,300
Step 1: Alternative future demand: Trip Reduction (ACS, page 96)	7,600
Step 2: Further reductions (cycling, tolls, traffic management: ACW, p96)	5,100

Notice that Step 2 resulted in Rathmines falling within the range 3,500-5,400, between the assumed capacities of ordinary and super buses.

- B5 Up to this, the modelling assumption was that a frequent, light rail, on-street type system would be used on these corridors. Step 3 involved moving away from this assumption and looking “*at the impact of reflecting actual service characteristics similar to those envisaged by BusConnects*”, i.e. a much lower level of service. The results were as follows:

Table B3 Demand reductions in 2042 due to *BusConnects*

	Rathmines
Initial Model demand, peak hour, in-bound, that could be supplied (p.91)	9,300
Step 1: Alternative future demand: Trip Reduction (ACS, page 96)	7,600
Step 2: Further reductions (more cycling, tolls, traffic management: ACW, p96)	5,100
Step 3: Impact of <i>BusConnects</i> , more cycling: (Preferred Strategy ADF: p106)	2,400

Step 3 produced the final demand forecasts for Rathmines in 2042 which are shown in the above table.

- B6 Remember, the objective of the Modellers was as follows:

“Objectives are considered achieved in Phase 3 if the lower end of the plausible future demand estimates can be accommodated on the public transport schemes currently in planning, given these schemes must be delivered to meet climate goals to 2030.” (page 89)

The Modellers took an initial figure for potential demand (9,300) which is far too low (see paragraphs 2.8 – 2.11 above). This was further reduced by 74 per cent to arrive at a 2042 estimate, which “can be accommodated on the public transport schemes currently in planning”.

- B7 We now compare the results for estimated demand in 2042 from the modelling exercise with today’s actual supply of buses on the Rathmines corridor.

Table B4 Today’s supply of public transport vs modelled demand for 2042

	Rathmines
Today’s actual supply of bus places, peak hour, in-bound	2,800
Modellers’ final demand estimates for 2042 Step 3: Impact of <i>BusConnects</i> , more cycling: (Preferred Strategy ADF: p106)	2,400

Clearly, the Modellers were very successful in ‘reducing’ or ignoring demand on the corridors – to fit the pre-decided supply! The estimated demand for public transport in 2042 was reduced to a level that is below today’s actual supply of public transport (2,400 in 2042 vs 2,800 today).

TASK ORDER TO JACOBS: ORIGINAL NTA TERMS OF REFERENCE FOR THE Metro to Knocklyon Feasibility Study

Description of Task

The NTA requires consultant support to undertake a feasibility study for a possible Metro line along the city centre to Knocklyon corridor. This study should include an assessment of an indicative route, including indicative stations, and investigate its feasibility from a technical, environmental, transport planning and economic point of view. This study should culminate in the production of a Feasibility Study Report for the possible Metro scheme.

Proposed Approach.

The purpose of this feasibility study is not to identify the preferred route for a possible Metro line on the corridor nor is it to suggest the preferred design on any section of the alignment considered.

Instead, it is to investigate the technical, environmental, demand, and economic feasibility of a Metro along this corridor. Should the proposed Metro be considered feasible and worthy of advancement, a further route option selection and design process would be required to advance specific proposals.

A feasibility study is the first step in a process of assessing as to whether a Metro type system should be pursued further. This step precedes the identification of an emerging preferred route from a set of feasible route options, as part of a route selection process.

As part of this feasibility study we will identify a workable option within the study corridor based on the proposal put forward during the public consultation on both MetroLink and BusConnects, which would serve Harold's Cross/Rathmines, Terenure, Rathfarnham, and Knocklyon.

Our approach will be based on the following;

Definition/Identification of the study area/corridor;

- The definition of needs and objectives for serving demand for travel on the corridor;
- The determination of a workable option (including indicative stations) for assessment;
- - Identification of the proposed option strengths, weaknesses, opportunities and constraints (SWOC analysis) including how it sits with both transport and planning policy. To include a review of relevant national and regional policies (including the NTA's Transport Strategy 2016-2035, National Planning Framework, National Development Plan etc.);
- A qualitative Multi Criteria Analysis will be carried out under number of criteria that are based on DTTa's Common Appraisal Framework against the defined objectives;
- A high level technical feasibility including an assessment of the high level impacts, the difficult issues to be resolved, including engineering, property, construction, traffic and environmental issues;
- Demand modelling assessment for the South West City quadrant to determine extent of demand to be catered for over the lifetime of the GDA Strategy up to 2040. This will involve using the ERM to test unconstrained PT options to serve the area. Model runs will be undertaken for the following years:
 - Year of opening – assumed to be 2035
 - Forecast year – 2065 (+30 years)
- An estimation of costs (Capital and O&M) and benefits (through Transport Demand modelling using the ERM for the proposed scheme), culminating in a Cost Benefit Analysis of the proposed scheme carried out in compliance with both the current Public spending Code and Common Appraisal Framework; and
- Culminating in a Feasibility Study report for a possible Metro line on this corridor.

Deliverables

Feasibility Study Report for the possible Metro line on this corridor including the following appendices;

- Transport Modelling Report;
- Cost estimate as per the Cost Management Guidelines; and
- Economic Appraisal Report.