Orwell Park (Templeogue) Residents Association

c/o 23 Orwell Park Rise

Templeogue

Dublin 6w

January 2022

Observations by Orwell Park (Templeogue) Residents Association (OPTRA)

on the Wellington Lane Walking and Cycling Scheme

Here are our observations. We have not been able to follow all of the material and would appreciate some clarification and engagement with you on some points.

Yours sincerely

Betty Collard

Secretary

Observations by Orwell Park (Templeogue) Residents Association (OPTRA)

on the Wellington Lane Walking and Cycling Scheme

These observations are set out in two sections. Section 1 deals with design and Section 2 deals with congestion.

1 Design

Two aspects are dealt with here – the roundabouts and the roads.

1.1 The roundabouts

The proposed Orwell roundabout is much improved from the confusing and dangerous temporary layout. We anticipate that the sharp, 'right-angled' entrances and exits for vehicles will slow them down and the Yield signs for vehicles at the entrances and exits makes it clear that bicycles and pedestrians have priority. If our hope is misplaced, perhaps the roundabout would need to be signal-controlled.

The temporary layout of the roundabout at the junction of Whitehall Road and Templeville Road is even more dangerous than the Orwell roundabout and it is welcome that it will be replaced. However, we are unclear as to how the proposed replacement junction is intended to operate. For example, will the traffic signals be directed at motorists, cyclists and/or pedestrians? If a motorist or cyclist wishes to turn right, how will this be facilitated? If a cyclist is going straight ahead, will s/he have priority over a motorist on the roundabout who is turning left?

According to the drone survey, queuing was observed at this roundabout during the am peak. On the Templeville Road arm, the queue extended to 100m at times; on the Wellington Road arm the queue extended to 85m. Are there any estimates of the impact of the proposed design on these queues?

1.2 *The roads*

We welcome the proposed segregation of cyclists from other traffic along Wellington Lane. However, we have a major concern regarding the passage of emergency vehicles. It is a vital function of all roads that they facilitate the passage of emergency vehicles but the proposed layout along much of Wellington Lane would present a major obstacle to this.

The current temporary layout presents a similar difficulty. There have been several instances recently where emergency vehicles have not been able to proceed quickly along Wellington Lane. In one case, of which we are aware, an ambulance was delayed by 20 minutes. In another case, a Garda car had to turn back because it was stuck in traffic. The reason for the difficulty is that the carriageway for vehicles is very narrow and the poles along the edges of the cycle lanes mean that vehicles cannot pull over to the side to allow emergency vehicles to pass by. We have not been able to see the proposed widths of the carriageways. It is vital that the new layout facilitates the swift passage of emergency vehicles.

There may be more than one way of achieving the swift passage of emergency vehicles. On some sections of Wellington Lane, where there is just a low kerb between the cycle path and other traffic, it may be possible for motorists to pull over (carefully) onto the cycle path to allow the ambulance to pass by. However, the safety and feasibility of this option would need to be assessed by the Project Team. Other options which could usefully be evaluated by the Project Team include:

- On some sections, where there is a hard left boundary for motorists, the boundary could be removed so that the cycle path would run alongside the carriageway.
- Alternatively, a painted 'no mans' land', sufficiently wide to accommodate emergency vehicles, could be inserted along the middle of the road.

The key point is that it would be unacceptable for the finished layout to impede emergency vehicles.

On Whitehall Road, the proposed layout with poles along the edges of the cycle lanes presents a similar difficulty for emergency vehicles. The replacement of the poles by a continuous white line, augmented by studs (cats' eyes) and the enforcement of 'no parking' would be one way of addressing this issue along Whitehall Road.

In the medium term, a possible Poddle Cycleway, from Tallaght to the KCR (through Tymon Park crossing Wellington Lane, behind Glendown and Wainsfort Manor, alongside Kimmage Manor and St Annes) would remove many cyclists from Whitehall Road and also the intersection of Whitehall Road and Templeville Road.

On Limekiln Road as far as Riverview N.S. why isn't there a segregated cycle track from Wellington Lane to the school?

We have major concerns about the proposals for Rossmore Road and Orwell Road. These roads were not included in the pilot and we had no opportunity to provide input. On Rossmore Road and Orwell Road, we found it difficult to see what are the proposed cycling arrangements and these roads do not feature in the Landscape Plans. Are the cycle paths to be bounded by poles or kerbs or simply white lines?

It will be important that the passage of emergency vehicles is facilitated on these roads. However, it would appear that, at present, this may not be facilitated by the proposal.

Rossmore Road has two large schools, Bishop Galvin and Bishop Shanahan National Schools. Over 40 per cent of pupils come from outside the parish and many of these are driven to school. Given the distances involved, it is difficult to envisage that all these children will walk or cycle to school. What does the proposal have to say about how these drop offs are to occur?

Orwell Road is complex in that, over its short length, it has several junctions – Orwell Park Heights, Orwell Park Lawns, Glendown Road (wrongly labelled Glendown Avenue on the plan and on Google Maps) and Rossmore Road. It has a busy entrance to the Orwell Shopping Centre. Large numbers of school children and other pedestrians cross the road to go to the shops, school and church. There are two bus stops. How are these complexities to be accommodated? The Design Options Report says that there will be off-road cycle tracks on Orwell Road (paragraph 6.1.11); however, the Design Drawing shows a brown track on one side and a purple lane on the other side?

A doctor's surgery is located on the road (1A Orwell Park Heights) and patients park outside the surgery. How is this to be accommodated?

What provision is proposed for traffic turning right from Orwell Road to Glendown Road?

OPTRA would like to see the extension of a segregated cycle track on Osprey Road from Orwell Roundabout to the entrance gates of Tymon Park - it would encourage more young cyclists to take up the option of cycling to and from St. Mac Dara's and Bishop Galvin NS and also facilitate/ encourage cycling to and from Tymon Park and through the park to Greenhills Road.

2 Congestion

Despite the positive features of the proposed design, congestion on Wellington Lane / Whitehall Road is a major problem, which is set to become much worse under the *Draft Transport Strategy for the Greater Dublin Area 2022-2042*. Essentially, the forecast for the whole GDA under the *Strategy* 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 next few years. The highly populated areas of Knocklyon, Firhouse etc. currently have three car routes into the city:

- Via Cypress Grove Road Road onto Lower Kimmage Road:

  Under *BusConnects* this would be closed to general traffic.

- Via Templeogue Road:

  Under *BusConnects* this would be closed to general traffic.

- 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 inevitable result of the lack of high capacity public transport in South West Dublin between the Red and Green Luas lines, coupled with the funnelling of the general traffic from three routes onto one road would be that the volume of traffic along Wellington Lane would be a multiple of its current level. Wellington Lane would turn quickly into an all-day car park.

This would have implications for:

- 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.

Our recent submission to the NTA on the *Draft Strategy*, which provides more details, including the need to continue *MetroLink* from St Stephens Green to South West Dublin, is attached as an Appendix.

We look forward to hearing from you regarding these observations and, in particular, those parts of the proposed layout which we do not understand**.**

As detailed above, we have major safety concerns, permanent disruption to residents and their environment and lack of a proper public transport system regarding the current proposals, which look like they could exacerbate safety and traffic management in our area. The proposed cycle lanes must be fit for purpose through our area. It is imperative that engagement with us takes place.

Thank you.

Orwell Park (Templeogue) Residents Association

January 2022

APPENDIX

Orwell Park (Templeogue) Residents Association
c/o 23 Orwell Park Rise
Templeogue
Dublin 6W

January 2022

Submission by Orwell Park (Templeogue) Residents Association on the Draft *Greater Dublin Area Transport Strategy 2022-2042*

Our view is that the *Draft Strategy* does not address the transport deficiencies in the area of Dublin in which we live.

The only public transport measure which is proposed is *BusConnects,* which has been shown to have inadequate capacity to cater for population growth and the required modal shift to public transport in South West Dublin.

The increased emphasis on cycling is welcome.

However, the combined effect of *BusConnects* and new cycling infrastructure would be to take road space from cars and other vehicles. This could only lead to worse traffic congestion in our immediate area and in South West Dublin generally.

We fully support the analysis of the Metro South West Group of which we are a member.

Surely, a 20-year Strategy can do better than this?

Our detailed submission is attached.

Yours sincerely

Betty Collard
Secretary
Orwell Park (Templeogue) Residents Association

Detailed Submission by Orwell Park (Templeogue) Residents Association on the Draft *Greater Dublin Area Transport Strategy 2022-2042*

1 In this submission, we consider

- *BusConnects*,
- The proposal to build two Luas lines in South West Dublin in 20+ years' time,
- Cycling infrastructure,
- There will still be cars,
- Increasing congestion and
- Continuing *MetroLink* to South West Dublin.

2 BusConnects

The *Draft Strategy* provides a general endorsement of *BusConnects* as though it could be sufficient to meet the public transport needs for the next 20 years.

According to the NTA,

> *"The aim of BusConnects Core Bus Corridors is to provide enhanced walking, cycling and bus infrastructure on key access corridors in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along these corridors."*

However, for the next 20 years, the *Draft Strategy* takes no account of the lack of adequate capacity of *BusConnects*, which has been clearly demonstrated.

Capacity of the proposed bus corridors

- Between the Red and Green Luas lines, it is clear from the current *Transport Strategy 2016-2035* that a trebling of public transport trips will be required by 2035[1].

- Between these Luas lines, the National Transport Authority has identified 4 bus corridors. However, under *BusConnects*, the projected increase in the number of buses going into the city in the peak morning hour is very small.

- 20 years ago, the Dublin Transportation Office conducted a lot of research and published *A Platform for Change*. The DTO carried out comprehensive transport modelling (which has not yet been done for *BusConnects*); it found that a 'bus only' solution would not be sufficient in South West Dublin and that a metro would be required. Yet 'bus only' is the 'solution' which the NTA continues to propose, without any explanation as to how the *Platform for Change* analysis has been superseded.

- The *Metro South West* Group has carried out a lot of research into continuing *MetroLink* to South West Dublin. Echoing *A Platform for Change*, this shows that buses alone would

[1] *The Case for Continuing MetroLink to South West Dublin*, Metro South West, August 2020.

https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:eb90ca39-fff8-4acd-9fe5-c1e92f4fb93e

not be sufficient to serve the transport needs of South West Dublin[2]. Following are the details:

Summary of Four Bus Corridors identified by the NTA
Number of Buses and Passenger Capacity in-bound to the City in the 7am to 8am Peak Hour from Specific Locations on the Corridors

Bus corridor	**Current**	**Current**	***BusConnects***	***BusConnects***
	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**
Tallaght-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**

The *Draft Strategy* has no proposal to deal with this major shortfall in public transport provision vs the trebling of public transport in South West Dublin, which is indicated in the current *Strategy*.

3 The proposal to build two Luas lines in South West Dublin in 20+ years' time

Having produced no effective proposals for public transport over the next 20 years, the *Draft Strategy* proposes two Luas lines for consideration post-2042 as follows:

1) City – Harolds Cross – Kimmage – Kilnamanagh and onto Tallaght via Red Luas
2) Charlemont – Terenure – Rathfarnham – Knocklyon – Tallaght.

However, there is a major difficulty with this far-off proposal.

in 2008, the Railway Procurement Agency carried out a feasibility study for a Luas in South West Dublin. The proposed Luas line from Dundrum would have proceeded west via Churchtown and Nutgrove to Willbrook, turning north via Rathfarnham, Terenure and Harolds Cross to Christchurch. The study found that:

- Many streets were too narrow to accommodate a Luas
- There would not be enough passengers to justify it.

[2] *ibid.*

More recently, in 2016, in regard to "Corridor E – N81 Settlements – South Tallaght – Rathfarnham – to Dublin City Centre", the current *Transport Strategy for the Greater Dublin Area 2016 to 2035* states:

> *"As such, a number of options, including Light Rail, have been examined. However, due to the land use constraints in the corridor and owing to the pressure on the existing road network, a Luas line was not deemed feasible."* (emphasis added, page 56)

Accordingly, if

- the Railway Procurement Agency found that the streets in South West Dublin were too narrow for one Luas in 2008, and

- the NTA found that the streets were still too narrow in 2016,

what are the chances that these streets will be wide enough to accommodate two Luases post-2042?

4 Cycling infrastructure

We generally support the improvement in cycling facilities which is featured in the *Draft Strategy.* Dublin falls far short from cities such as Copenhagen, where up to 50 per cent of commuting trips are by bike. Naturally, we will have particular ideas and concerns about individual projects which we will raise at the appropriate time.

5 There will still be cars

The *Strategy Development and Modelling Report* contains a comparison between the number of trips by mode in 2016 (the base year) and 2042 if all of the proposals of the "preferred Strategy" in the *Strategy* are implemented. These proposals include:

- *MetroLink* to Charlemont (Manders Terrace)
- Navan Rail and Dart+
- Luas to Lucan, Finglas, Bray and Poolbeg
- Full implementation of *BusConnects* (routes and corridors)
- Some buses to be articulated (with passenger capacity of 150) on key corridors
- Buses can travel as quickly as Luas on-street
- Mode Prioritisation at signals
- Improvement in cycling speeds
- Range of car demand management measures
- Parking management measures (e.g. remove half of free workplace parking; charges of €2.50 per hour inside M50)
- Carbon targets
- EV fleet proliferation
- Increased tolling
- Various strategic road network improvements (none in SW Dublin)
- Reduced trip rates (post-pandemic): -7%
- Trebling of cycling rates.

The following table shows the expected outcome:

Trips (Persons) and Mode shares in the Greater Dublin Area: 2016 vs Preferred Strategy

	Base year 2016	**Projected 2042 Preferred Strategy**	**Percent change**
Car	2,649,100	2,600,400	-1.8%
Public Transport	672,200	936,300	+39%
Walk	1,098,000	1,199,300	+9.2%
Cycle	169,400	616,900	+264%
Total trips	4,588,600	5,353,000	+16.7%

As can be seen in the table, the outcome of the *Strategy* as presented by the NTA is that the number of car trips is projected to fall by only a small amount (-1.8%) across the Greater Dublin Area. South West Dublin has poor public transport and the *Strategy* has no effective solutions. Accordingly, the predominance of cars can only persist and it is more likely than not that the number of car trips in South West Dublin is set to *increase* over the lifetime of the *Strategy*. But where will the cars go?

6 Increasing congestion

The combined effect of *BusConnects* and improved cycling infrastructure involves a diminution of road space for cars and other vehicles. It is worth noting that many car trips cannot be avoided. The reasons are varied: journeys not possible by bus, age, disability, large amounts of shopping etc.

However, In the absence of adequate public transport, the number of people in South West Dublin who use their cars will remain very high and could well increase. As much of the existing road space is to be appropriated by *BusConnects* and cycling infrastructure, congestion can only get worse.

The general areas of Firhouse, Knocklyon, Ballycullen and Tallaght are highly populated and the population is growing. These areas have no boulevards or continuous wide streets linking them to the city. Instead, there are three low capacity routes:

- **Templeogue Road**
  - Templeogue Road is due to be closed to general traffic under *BusConnects*.

- **Cypress Grove Road** and its continuation via Fortfield Road, KCR and Lower Kimmage Road.
  - Lower Kimmage Road is due to be closed to general traffic under *BusConnects*[3].

[3] Some traffic might turn right at the KCR onto Terenure Road West. However, this road leads onto Terenure Cross which is extremely busy. Under *BusConnects*, it is intended that Terenure Cross would become much busier, for 10 buses per hour would carry out the difficult manoeuvre of turning right from Rathfarnham Road onto Terenure Road East (a manoeuvre which is currently prohibited).

- **Wellington Lane** and its continuation via Whitehall Road, left-right manoeuvre onto Stannaway Road and left-right manoeuvre onto Clogher Road.
    - Under *BusConnects*, this is the only one of these three routes that is proposed to be open to general traffic[4].

Given these restrictions and the gross under-capacity of public transport (only buses), the inevitable result for people living in South West Dublin is that their difficulty in moving about can only get much worse.

For the immediate area around Wellington Lane, that road would be turned into a noisy, polluted parking lot, where neither buses nor cars would be able to move freely as motorists from Tallaght, Knocklyon etc., having no alternative means of moving about, would use Wellington Lane.

Where have the additional fumes generated by all of these slow-moving vehicles been quantified? Where have the dis-benefits, such as time lost, fuel costs etc. been quantified?

7 Continuing *MetroLink* to South West Dublin

The provision of adequate public transport should be a top priority for the 20-year *Strategy*. Instead, for South West Dublin, apart from cycling infrastructure, the focus is on expensive but insignificant proposals – which look like they will worsen the ability of people to move about – at the expense of a real improvement in public transport capacity.

In South West Dublin, a step change in public transport capacity can only be achieved by metro. There is now a unique opportunity to take the first steps towards continuing *MetroLink* from St Stephens Green to South West Dublin.

The analysis of the Metro South West Group lists several weaknesses in the *Metro to Knocklyon Feasibility Study*. These include:

- The *Study* was not independent;
- Continuing *MetroLink* directly from St Stephens Green to South West Dublin was excluded from the analysis;
- Continuing *MetroLink* to Tallaght was excluded from the analysis;
- The radius around stations assumes that only walkers would use the metro;
- There is no provision for Park and Ride, Cycle and Ride nor feeder buses;
- There is no provision for capturing traffic from the N81 and the M50;
- Direct use should have been made of POWSCAR data;
- Environmental benefits were excluded from the analysis.

The analysis of the Metro South West Group is attached as an Annex.

One of the roots of the problem is the NTA approach to modelling in the *Transport Strategy for the Greater Dublin Area 2022 – 2042 Strategy Development and Modelling Report*, November 2021. This modelling report assumes an idealistic capacity for the bus corridors. It is assumed that:

[4] Ibid.

- A corridor with conventional buses (80 passengers) and priority bus infrastructure can carry 3,600 passengers per direction per hour;
- A corridor with articulated 'bendy' buses (capacity 150 passengers) can carry 5,400 passengers per direction per hour.

Nowhere are these basic assumptions tested against the real world in South West Dublin. All four of the proposed *BusConnects* corridors in South West Dublin have pinch points. For example, Terenure Road East, where two corridors would meet, is very narrow. Currently, in the peak morning hour 19 in-bound buses enter this street and it is highly congested[5]. Under *BusConnects*, it is projected that 30 buses would pass through[6], including 10 buses per hour making the difficult (and currently prohibited) right hand turn from Rathfarnham Road: the number of passengers would be around 2,400. Thirty buses per hour equates to a headway of 2 minutes between buses. This is a very small headway, which would be achievable for a metro having no obstacles to impede it. However, there are numerous impediments around Terenure Road East, including:

- Pedestrian crossings at Terenure Cross
- Pedestrian crossing at St Joseph's Church / school / Aldi
- Two supermarket car parks
- All four roads at Terenure Cross are multi-modal.

Accordingly, it would be challenging to achieve 30 in-bound buses per hour on Terenure Road East. It would be unrealistic to expect that Terenure Road East could accommodate more than 30 buses or 2,400 passengers per hour.

In the *Modelling Report*, an idealised scenario is presented to estimate underlying demand for public transport "*if an extremely quick and efficient network (i.e. metro level capacity and frequencies as standard) could be provided across the Greater Dublin Area*". (*Modelling Report*, Table 3.5). For South West Dublin, it is reported that:

- For Rathmines/Terenure, public transport demand would be greater than 7,000 passengers per direction per hour.
- For Crumlin Road, public transport demand would exceed 3,000 passengers per direction per hour.

(It is worth noting that these are most likely underestimates, given the absence of Park and Ride, Cycle and Ride etc. between the Red and Green Luas lines -- see paragraph 7 above.)

Clearly, buses on their own would be unable to meet this underlying demand.

However, rather than supplying public transport to meet as much as possible of underlying demand, the rest of the *Modelling Report* seeks largely to mitigate this demand. Mitigation is achieved by a variety of means, including discounting metro and assuming that reduced trip rates (-7 per cent) will

[5] 12X15; 3X65; 4X15a
[6] 20Xa; 6X54; 4X81

apply. For the "Preferred Strategy", the result of these measures is that the underlying demand in Terenure/Rathmines is reduced from greater than 7,000 passengers per hour to just 2,400.

8 Conclusions

The *Draft Strategy* fails to address the real deficits of public transport in South West Dublin. Instead, it seeks to squeeze demand onto buses.

We ask that the next version of the *Draft Strategy* address the concerns which are outlined in this submission.

Orwell Park (Templeogue) Residents Association

January 2022

Annex

Analysis by the Metro South West Group (MSWG) of the *Greater Dublin Area Transport Strategy 2022-2042* And the *Metro to Knocklyon Feasibility Study*

The Metro South West Group (MSWG), having considered the recent *Draft Review of the Strategy* and the *Metro to Knocklyon Feasibility Study* feel compelled to outline our analysis. We are very disappointed at the dismissal of continuing *MetroLink* to the south west of the city, which we believe is incorrect. We ask that the revised *Strategy* to be presented to the Minister include a proposal to extend *MetroLink* to South West Dublin. (The 39 member organisations on MSWG are listed in Appendix A and the background to the approach of MSWG in considering the continuation of *MetroLink* to South West Dublin is contained in Appendix B.)

1 Contents of the *Strategy* which are relevant to continuing *MetroLink* to South West Dublin

1.1 Generally, metros do not finish in a city centre: they go right through to suburbs on the other side. The reason is to maximise patronage in both directions at all times.

1.2 Three options had been identified for continuing *MetroLink* in South Dublin. These are:

1) St Stephens Green – Charlemont (where you could transfer between Luas and *MetroLink*) – Beechwood (where the Tunnel Boring Machine would be parked) with a view to converting the Luas Green Line to metro in 20 years' time.

2) City to Sandyford via UCD.

3) St Stephens Green to South West Dublin via Portobello (where there would be a station) – Cathal Brugha Barracks (where the TBM would be parked) pending continuation of *MetroLink* to SW Dublin). The locations of Portobello and Cathal Brugha Barracks were posited subject to the possibility that consultants might identify better locations.

These options are considered in turn.

2 Option (i) St Stephens Green – Charlemont (where you could transfer between Luas and *MetroLink*) – Beechwood (where the Tunnel Boring Machine would be parked) with a view to converting the Luas Green Line to metro in 20 years' time.

2.1 In the current *Greater Dublin Area Transport Strategy 2016-2035,* it was proposed that the Green Luas Line would be converted to Metro as far as Sandyford. Subsequently, in 2019, it was proposed to defer for around 20 years the conversion of the Green Luas Line to metro; in the meantime, transfers between the Luas line and *MetroLink* would take place

between the Luas and metro stations at Charlemont and the Tunnel Boring Machine would be parked underground just north of Beechwood[7].

2.2 **According to the *Draft Strategy*, the conversion of the Luas Green Line to metro is no longer being pursued**. For the next 20 years, the capacity of the Green Line can be enhanced without upgrading to metro. After 2042, the capacity issues which will then arise can best be met by building a second Luas Line to meet travel demand arising south of Sandyford. According to the *Draft Strategy*:

> *"The challenges associated with the upgrading of the Luas Green Line to a metro standard of service have led to the emergence of an alternative proposal which seeks to meet travel demand from south of Sandyford along a new light rail corridor which serves UCD post-2042. As such, the upgrading of the Green Line to metro standard is not required as part of this strategy. Instead, for this strategy period, the capacity and frequency on the current Green Line from Sandyford northwards to the city centre will be incrementally increased through the provision of additional tram fleet and services and associated turnback arrangements to meet forecast passenger demand."* (page 140)

2.3 **It is welcome that the NTA has finally decided not to convert the Luas Green Line to metro** beyond Charlemont, either in the period up to 2042 or thereafter. When the Luas Green Line runs out of capacity, the NTA intends that a new Luas corridor will be created from Sandyford into the city via UCD.

2.4 However, despite its abandonment of upgrading the Luas Green Line to metro, the NTA has not yet let go of some of its legacy thinking, in particular, its proposal to run *MetroLink* underground from St Stephens to Charlemont, and to continue tunnelling towards the Luas Green Line and finally to entomb the Tunnel Boring Machine (TBM) beyond Charlemont (at Manders Terrace). The total length of the tunnel from St Stephens Green to Manders Terrace would be approximately 1.3 kms and there would be a very difficult and expensive *MetroLink* station to be built at Charlemont. The NTA proposes to have the transfers of passengers between the Luas Green Line and *MetroLink* to take place at Charlemont.[8] But how could this proposed configuration be cost effective?

2.5 The Luas Green Line has a station in St Stephens Green and *MetroLink* will also have a station in St Stephens Green. Surely, this will be the obvious place to have passengers transfer between the two modes? In addition to Luas (and unlike Charlemont) St Stephens Green is served by many buses and taxis and has an adjacent car park.

2.6 Let's look at this from a passenger perspective. At Charlemont, the Luas Green Line station is some 10 metres above the ground on a bridge over the canal. It is proposed that the *MetroLink* station would be 24 metres below ground, underneath an office block which is currently being built.

As proposed by the NTA, passengers would transfer from Luas to Ground level as shown in Figure 2.1.

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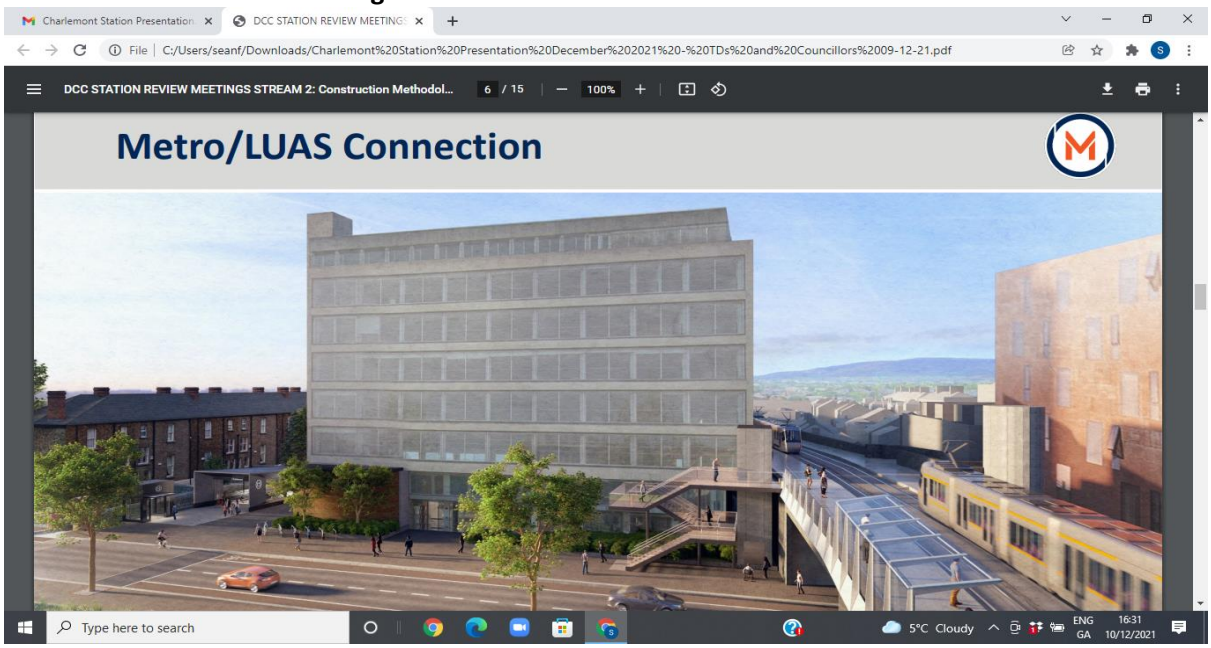
[7] *MetroLink Integrated Transport. Integrated Life*, NTA/TII, March 2019, page 24

[8] *It is also noted that proposed Luas lines ex Sandyford and ex Tallaght considered by the NTA as being "likely" to be needed post 2042 would terminate at Charlemont (see map at page 138) making a very complex interchange of three Luas lines and a metro in the confined space between the Canal and the former Carrolls building.*

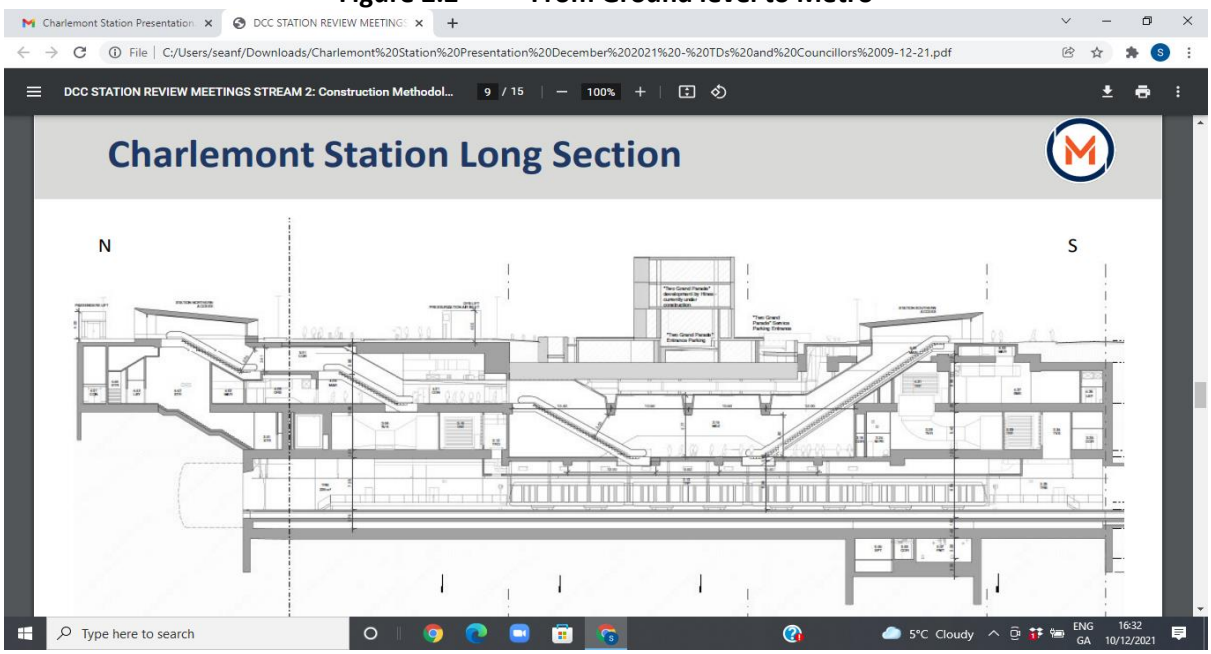
Figure 2.1 From Luas to Ground level



As the drawing shows, passengers would descend three flights of steps to reach ground level.

They would still have to descend a further 24 vertical metres to reach the metro at this difficult site. This would be accomplished as shown in Figure 2.2.

Figure 2.2 From Ground level to Metro



On entering the metro station (shown at the top left of the drawing) passengers would have to descend three escalators to reach the trains.

Thus, for passengers to switch from one mode to the other, they would have to traverse three flights of steps and three escalators. How could this improve the passenger experience, including for those who have difficulties moving about? Indeed, many incoming Luas passengers might forego transferring at Charlemont; they might rather stay on the Green Line and transfer to *MetroLink* at St Stephens Green.

2.7 Not only does this proposal lack merit from a passenger perspective, the cost of this proposed configuration would be very high: up to around €700m[9].

2.8 The right hand side of Figure 2.2 above shows that passengers could access the metro quite easily from street level on the southern side of the proposed metro station. On entering the station, one escalator would bring the passengers to the trains**. If the interchange was located at St Stephens Green, such easy access could be made available to all passengers wishing to transfer from Luas to metro and vice versa.**

3 Option (ii) City to Sandyford via UCD

3.1 According to the *Draft Strategy*, Option (ii) would not be appropriate. The *Metro UCD to Sandyford Feasibility Report* states that this option would have a very low benefit to cost ratio (0.13 to 0.6).

3.2 According to the *Draft Strategy*,

> *"…the analysis undertaken for the Transport Strategy indicates that a number of corridors in the GDA will, in the longer term, generate travel demand above that which can be catered for by higher capacity bus systems and are likely to require upgrading to light rail in the period after 2042. The NTA is of the view that it is prudent to identify these corridors in this Transport Strategy in order to set out a longer term framework for transport investment in the GDA and to ensure that planning and design work can commence during the strategy period. The detailed alignments and locations to be served will be subject to these assessments. It is likely, however, that due to capacity constraints on the existing Luas lines, a reconfiguration of both lines will be required to meet additional demand arising from development in locations such as the Naas Road, Cherrywood, and sites to the west of the N/M11."* (page 137)

3.3 Thus, as indicated in paragraph 2.2 above, a possible new Luas line to UCD, Stillorgan and Sandyford is being held in reserve so that when the Luas Green Line no longer has sufficient capacity – perhaps in 20 years' time – the Luas Green Line will be complemented by another Luas Line originating in Sandyford.

4 Option (iii) St Stephens Green to South West Dublin via Portobello (where there could be a station) – Cathal Brugha Barracks (where the TBM would be parked) pending continuation of *MetroLink* to SW Dublin)

[9] The *Metro to Knocklyon Feasibility Study*, Jacobs, July 2021, provides estimates of the capital cost of metro as at the 4th quarter of 2019, having been uplifted by 65% to cater for promoter optimism bias and project risk.

4.1 Having discounted two of the three options for continuing *MetroLink* to the south of Dublin, what has the *Draft Strategy* to say about the remaining option, i.e. continuing *MetroLink* to South West Dublin? The answer is nothing!

4.2 The *Draft Strategy* states that:

> *"There will be a number of corridors where the level of demand for travel will grow to higher levels than can be catered for by bus at some point beyond 2042".* (page 134)

The *Draft Strategy* goes on to indicate that two Luas (on street) lines might be delivered in South West Dublin after 2042:

> *"The NTA will undertake detailed appraisal, planning and design work for the following Luas lines, with a view to their delivery in the period after 2042:*
>
> *….*
>
> *5. Red Line Reconfiguration to provide the following lines:*
> *a. Clondalkin-City Centre; and b. Tallaght-Kimmage-City Centre.*
> *6. Tallaght to City Centre via Knocklyon; …"* (page 137)

4.3 Three points are worth making with regard to this proposal to possibly introduce two Luas line post-2042.

4.4 *Firstly*, with regard to bus capacity, this is the first time that the NTA has shown agreement with MSWG that the capacity of bus corridors and *BusConnects* in South West Dublin may be limited. MSWG analysis had shown that the current *Transport Strategy* requires public transport capacity to be trebled in South West Dublin and that the peak hour capacity under *BusConnects* would be little different from current capacity[10]. This echoed previous analysis in *A Platform for Change* which was published by the Dublin Transportation Office in 2001. The NTA had previously rejected these analyses, stating that:

> *"It is worth being aware that a well-planned bus system can carry multiples of the number of passengers identified"*[11]

but without providing any analysis to underpin this assertion. It is welcome that the NTA now accepts that buses alone are not sufficient to provide sufficient public transport in South West Dublin.

4.5 *Secondly*, with regard to on-street Luas, in 2008, the Railway Procurement Agency carried out a feasibility study for a Luas in South West Dublin. The proposed Luas line from Dundrum would have proceeded west via Churchtown and Nutgrove to Willbrook, turning north via Rathfarnham, Terenure and Harolds Cross to Christchurch. The study found that:

- Many streets were too narrow to accommodate a Luas

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

[11] For a full discussion, see ibid., Section 4.

- There would not be enough passengers to justify it.

More recently, in regard to "Corridor E – N81 Settlements – South Tallaght – Rathfarnham – to Dublin City Centre", the current *Transport Strategy for the Greater Dublin Area 2016 to 2035* states:

> *"As such, a number of options, including Light Rail, have been examined. However, due to the land use constraints in the corridor and owing to the pressure on the existing road network, a Luas line was not deemed feasible."* (page 56)

As the streets in South West Dublin were too narrow for one Luas in 2008 and 2016, what are the chances that they will be wide enough to accommodate two Luases post 2042?

4.6 *Thirdly*, with regard to public transport in South West Dublin, for the next 20 years, the only concrete public transport proposal from the NTA for South West Dublin is *BusConnects*, which cannot provide sufficient capacity to provide the required modal shift from cars to public transport.

5 The *Metro to Knocklyon Feasibility Study*

5.1 The *Metro to Knocklyon Feasibility Study*, which was carried out by Jacobs, was published alongside the *Draft Strategy.* Unfortunately, this study was not independent; rather it was a joint effort by the Jacobs and the NTA. 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. Appendix D contains the Task Order to Jacobs for the *Feasibility Study.* The *Feasibility Study* did not fully or properly examine the continuation of *MetroLink* to South West Dublin.

5.2 The *Metro to Knocklyon Feasibility Study* examined the following two alignments:

A Charlemont-Rathmines-Terenure-Rathfarnham Castle-Ballyboden-Knocklyon-Ballycullen ("Through running").

B St Stephens Green-Iveagh-Rathmines-Terenure-Rathfarnham Castle-Ballyboden-Knocklyon-Ballycullen ("Stand alone").

Note that Alignment A involves "Through running" of *MetroLink* from Charlemont to Rathmines, which would allow the highly populated area of Rathmines to be served. Whereas, if *MetroLink* were to go further – which is the current *MetroLink* proposal – this would not be possible.

5.3 The main difference between the alignments is that Alignment A involves "Through running" of *MetroLink* from Charlemont to Rathmines. Alignment B would preserve a stump (or cul de sac) of *MetroLink* from St Stephens Green to Manders Terrace. Paragraphs 2.4-2.6 above explain why this stump is unnecessary.

5.4 It is no surprise that Alignment B would cost more than Alignment A. This is because, being standalone, Alignment B would require its own Tunnel Boring Machine (TBM) and launch site in South West Dublin; it would also require a separate station in St Stephens Green, and an underground cavern near St Stephens Green to store the mothballed TBM and to facilitate parking of trains and turnbacks; Alignment B would also duplicate the *MetroLink* stump from St Stephens Green to Manders Terrace by requiring additional tunnelling from Rathmines to St Stephens Green. However, if the St Stephens Green to Manders Terrace stump were removed, the capital cost of Alignment B would be reduced substantially by this offset.

If the interchange of *MetroLink* with the Luas line was in St. Stephen's Green, rather than Charlemont, the continuation of *Metrolink* to South-West Dublin could be achieved at a much lower cost. A better, less constrained, route-alignment could then be facilitated to serve South-West Dublin.

5.5 Following is a map showing Alignment A.

Figure 5.1 Alignment A

5.6 The *Feasibility Study* confirms that the continuation of *MetroLink* to South West Dublin is technically feasible. Here are some metrics from the *Feasibility Study*:

Metric	Alignment A	Alignment B
Capital cost (Q4 2019)	€4.1bn	€5.6bn
Benefit to cost ratio	0.8	0.5

The *Feasibility Study* concludes that:

> *"Subsequent analysis of the benefits and costs of the proposals show that both have a benefit cost ratio of below 1.0. Whilst the options are considered broadly feasible, this provides an initial indication that a Metro option is unlikely to be a cost-effective approach to enhancing public transport in this area of Dublin."*
>
> *"More positively however is the relative success of the Charlemont alignment in enabling access to the southern suburbs of Rathmines, Terenure and Knocklyon from the north. Although still modest relative to station usage levels for the existing MetroLink proposals, demand levels may be sufficient to support higher quality public transport proposals of a more modest character."*

5.7 However, the approach used in the *Feasibility Study* was not independent and was much too narrow. Our analysis shows the following:

5.7.1 The proposal that was examined is not the proposal that was made by MSWG

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 to South West Dublin. Neither of the studied alignments deals with this option.

5.7.2 Tallaght Town Centre

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 NTA[12]. MSWG does not have a fixed view on the merits of continuing *MetroLink* to Tallaght Town Centre; however, we are clear that this judgement should be made by the consultant – after analysis – and not excluded *from the start* by the NTA.

5.7.3 Alignments

No details are given regarding the following:

> *"Proposed station locations analysed in this section are based on the Assessment of Alternative Alignments that was undertaken for MetroLink, prepared by the National Transport Authority."*

[12] Email of 19 December 2020 from the NTA to MSWG

It is understandable that the consultants wished to make it known that it was the NTA and not the consultants that identified and assessed different alignments. Of course, independent consultants should have themselves considered and selected the best alignments.

5.7.4 Location of stations

The radius around potential stations ("buffer zone") to determine their suitability and from which passengers are to be sourced is 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 is not even referred to much less incorporated in the *Feasibility Study*[13].

5.7.5 Park and Ride and Cycle and Ride

Consistent with the small catchment radius for passengers around stations and the associated assumption that the only way passengers will access the metro is on foot, there is no provision for Park and Ride nor Cycle and Ride and they are completely absent from the *Feasibility Study.* Nor is there any consideration of orbital feeder buses to the metro.

Copenhagen is often cited as a 'cycling city' as around half 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:

[13] *South West Dublin and the Continuation of MetroLink: Improvement in Commuting Times*, Metro South West Group, September 2020

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

MSWG had suggested that stations with Park and Ride and Cycle and Ride should be considered for Spawell and Dodder Valley Park[14]. Surely, consideration should have been given to options such as this?

5.7.6 Capture of traffic on the M50

Around 70,000 motorists 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.

5.7.7 Capture of traffic on the N81

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.

[14] *South West Dublin and the Continuation of MetroLink: Improvement in Commuting Times*, Metro South West Group, September 2020

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

5.7.8 Transport modelling

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, existing Park and Ride facilities would give misleading indications of the time savings that could be achieved by driving to a metro station. Thus, according to Google Maps, using the Park and Ride at Sandyford Luas stop might yield little or no time savings; using the Park and Ride at the Red Cow Luas stop would most likely result in *increased* travel times. 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.

5.7.9 Direct use of POWSCAR data

The ERM Transport Model is not sufficient on its own to estimate the patronage of the continuation of *MetroLink* in South West Dublin. POWSCAR[15] 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. Would there be a time saving?

Table 5.1 Blesssington to the Mater Hospital via Spawell[a]

Mode options				**Total time**
Drive all the way	1 hr 15 mins			1 hr 15 mins
Drive + metro	35 mins drive to Spawell	17 mins metro to Mater	Add 5 mins mode transfer	57 mins

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

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

[15] 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.

5.7.10 The combined effect of the above shortcomings

The combined effect of the shortcomings, which are listed above, would be to reduce substantially the estimated Transport User Benefits, which are reported in the *Feasibility Study*; the estimated Benefit to Cost ratio would also be reduced. **There is little doubt that if these shortcomings were addressed, the Benefit to Cost ratio would increase significantly from 0.8 and exceed 1 by a substantial amount.**

5.7.11 Environmental benefits

In addition to the above shortcomings, another significant factor is relevant to this *Feasibility Study* and some other economic appraisals of transport projects carried out in Ireland, where environmental benefits are not directly incorporated in economic appraisals. This deficiency was articulated recently by Peter Walsh, Chief Executive of Transport Infrastructure Ireland, who said:

> Deputy Verona Murphy earlier referred to congestion as a significant contributor to carbon emissions. Where congestion can be addressed, the benefit of removing that congestion should be considered. The benefits available by creating an environment within an urban area that can accommodate active travel measures should also be looked at. That is not being appraised at the moment. The focus is very much on the time savings associated with a project and the valuation of time really swamps everything else over the lifetime of a project.
>
> (Joint Committee on Transport and Communications, 3 November 2021)

In 2019, the Department of Public Expenditure and Reform issued guidelines regarding the valuation of carbon in the cost benefit analysis of public projects[16]. Shadow prices of carbon were included in the Report to be used in these analyses: for example, a tonne of CO_2 was valued at €100 in 2030 and €265 in 2050.

What Peter Walsh has pointed out is that this approach has not yet been firmly embedded in the current practice with regard to transport projects. The *Metro to Knocklyon Feasibility Study*, reflects this out-dated practice. Thus, the reductions in carbon emissions (tonnes) are not quantified; they are not monetised; they are not included in the estimation of benefits and they are absent from the benefit to cost ratio.

Including the benefits of reduced carbon emissions would further increase the Benefit to Cost ratio.

Consideration by the MSWG of the environmental aspects of the *Draft Review of the* ***Greater Dublin Area*** *Transport Strategy* and the *Metro to Knocklyon Feasibility Study* are contained in Appendix C.

[16] *Valuing Greenhouse Gas Emissions in the Public Spending Code*, Climate Change Unit, Department of Public Expenditure and Reform, July 2019

6 Conclusions

6.1 The *Feasibility Study,* which was produced by NTA/Jacobs, needs significant further work as indicated above. MSWG had offered in the past to assist with the Terms of Reference for this study; however, this offer was not accepted. MSWG is still prepared to provide assistance.

6.2 This further work should be carried out under the aegis of a Monitoring Committee, comprising the NTA and public and community representatives. The draft findings should be discussed with this Committee and the consultants should be solely responsible for the content of the final report.

6.3 In the *Draft Strategy*, the fact that not one but two Luas lines are considered as "likely" to be required beyond 2042 (subject to analysis) surely arises from the tacit acceptance by the NTA that buses alone do not have the necessary capacity in South West Dublin.

6.4 However, the only public transport proposal in the *Draft Strategy* for South West Dublin for the next 20+ years is *BusConnects*. MSWG has already shown that buses do not have the capacity to deliver the modal shift that is required[17].

6.5 Beyond the next 20 years, the possibility of two Luas lines is mooted. However, these are subject to "*detailed appraisal, planning and design work".* Given the narrow streets in South West Dublin and the previous negative conclusions on Luas for South West Dublin, this proposal has no substance, lacking evidence.

6.6 The current *MetroLink* proposal provides that it proceeds south from St Stephens Green to Charlemont and that the Tunnel Boring Machine is parked beyond Charlemont at Manders Terrace. This only made any sense if the Luas Green line was going to be converted to metro.

6.7 It is now apparent that the interchange between the Green Luas line and *MetroLink* should be located at St Stephens Green rather than at Charlemont.

6.8 As the conversion of Luas to metro has been abandoned, and Charlemont would not be suitable as the interchange between Luas and *MetroLink,* there is no remaining reason to point *MetroLink* at the Luas Green Line. Accordingly, *MetroLink* should go no further south than St Stephens Green.

6.9 Delivery of *MetroLink* should proceed on this basis as quickly as possible, to An Bord Pleanála and on to construction.

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[17] *The case for Continuing MetroLink to South West Dublin*, Metro South West Group, August 2020

https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:eb90ca39-fff8-4acd-9fe5-c1e92f4fb93e

6.10 While *MetroLink* is proceeding rapidly, the following tasks should take place well before the Tunnel Boring Machine approaches St Stephens Green:

- The Feasibility Study should be revised and developed as described above;
- Further design work should occur as appropriate regarding where *MetroLink* should go for 1-2 kms south of St Stephens Green;
- This stump of *MetroLink* beyond St Stephens Green should be agreed by Government and submitted to An Bord Pleanála.
- The revised stump is built as approved.

6.11 Completion of the continuation of *MetroLink* to South West Dublin would occur as a follow on project.

Appendix A

Residents Associations and Groups which are members of the Metro South West Group

1. Association of Residents of Terenure. - ART
2. Butterfield Residents Association.
3. Fortfield and Templeville Residents Association.
4. Hermitage Residents Association.
5. Kimmage Road West Residents Association.
6. Knocklyon Network.
7. Lr. Kimmage Road Residents Association. LOKRA
8. Mount Argus and Church Park Residents Association.
9. Harold's Cross Vision 2025 Team.
10. Orwell Park Residents Association, Templeogue. OPTRA
11. Perrystown Manor Estates Residents Association
12. Rathfarnham Road Residents Association.
13. Rathgar Residents Association.
14. Rathgar Road Residents Group.
15. Recorders Residents Association.
16. St. Anne's Residents Association.
17. Shanid Road Residents.
18. Temple Manor and Wilkins Residents Association.
19. Templeogue Tidy Towns Group.
20. Templeogue Wood Residents Association.
21. Terenure Residents Association.
22. Terenure Road East Residents Group.
23. Terenure West Residents Association.
24. WORK Residents Association.
25. Woodstown Residents Association. *
26. Firhouse Bohernabreena Residents Group.
27. Beechdale Residents Association.
28. Lansdowne Park & District Residents Association.
29. Woodfield Residents Association.
30. Dodderbrook Residents Association.
31. Boden Park Residents Association.
32. Parkwood Residents Association.
33. Scholarstown Wood Residents Association.
34. Oakdale Residents Association.
35. Knocklyon Woods Residents Association.
36. Knockfield, Orlagh, Beverly Residemts Association KOBRA
37. Moyville Residents Association
38. Glendown Residents Association.
39. HellfireMassey's Residents Asociation

Appendix B

Background to the approach of MSWG to the continuation of *MetroLink* to South West Dublin

B Small increase in public transport

B1.1 Between the Red and Green Luas lines, the National Transport Authority has identified four bus corridors. However, under the current *BusConnects* proposals, the projected increase in the number of buses going into the city in the peak morning hour is very small.

Inability of buses alone to provide the required modal shift from cars to public transport

B1.2 20 years ago, the Dublin Transportation Authority conducted a lot of research and published *A Platform for Change*. This found that a 'bus only' solution would not be sufficient to meet passenger demand for public transport on the narrow streets of South West Dublin and that a metro would be required. Yet 'buses only' is the 'solution' which the NTA had proposed.

Unsuitability of on-street Luas

B1.3 In 2008, the Railway Procurement Agency produced a feasibility study for an on-street Luas on the following route: Dundrum-Willbrook-Rathfarnham-Terenure-Harolds Cross-Christchurch. This proposal was rejected on the ground *inter alia* that there would be insufficient space on roads to facilitate this.

Metro is not unusual

B1.4 Metro is the backbone of virtually every other public transport system in European cities – some of which date back to Phoenician times and many with populations similar to Dublin.

- Underground Metro offers the only infrastructural solution to remove congestion (public and private) on the medieval road structure in Dublin city and the narrow, winding inner suburban roads, which are a feature of South West Dublin.
- In freeing up surface road space, significant flexibility is possible in the provision of safer walking / cycling options.
- In freeing up surface road space, significant improvements can be made to Urban Realm and Greening Strategies that can greatly enhance the health and living environment for citizens and support climate action goals.
- "Increased congestion also exacerbates emissions and air quality problems. A reduction in speeds due to congestion results in longer travel times and resultant increase in emissions per kilometre travelled. Congestion can also lead to a disruptive driving style. Driving with more accelerations, decelerations, stops and

starts increases exhaust emissions and contributes to wear on brakes and tyres, which in turn produces more particulate emissions."[18]

B2 The analysis of the Metro South West Group

B2.1 The *Metro South West Group* (MSWG) has carried out a lot of research into public transport requirements in South West Dublin. Unsurprisingly, given the findings in *A Platform for Change*, this analysis showed that buses alone would not be sufficient to serve the public transport needs of South West Dublin[19]. It found that the current *Transport Strategy for the Greater Dublin Area 2016-2035* would require a trebling of public transport provision in South West Dublin by 2035 to meet its own objectives.

B2.2 MSWG recommended that a feasibility study be carried out into continuing *MetroLink* to South West Dublin. Further analysis was carried out into savings in commuter time if metro stations were located at Spawell and Dodder Valley Park. This analysis showed that significant time savings could be achieved throughout the outer suburbs by cycling or driving to these metro stations. The Group also said that the location of stations is best left to consultants[20]. The likely costs and benefits were also explored and it was concluded that the benefit-cost ratio would most likely be strongly positive[21]. The proposed feasibility study was supported by all three political parties at the last General Election.

B2.3 The continuation of *MetroLink* to South West Dublin would be of great benefit to everyone in the area and for people visiting the area. Metro would not only give access to the city centre. For example, at St Stephens Green, you could transfer to Cross City Luas and go to TUD in Grangegorman; or the Green Luas Line and go to Sandyford. At Tara Street, you could transfer to DART and go to Malahide or Bray. At O'Connell St., you could transfer to the Red Luas Line and go west to St James Hospital or East to the IFSC. Or you could stay on board and go the Mater Hospital, DCU, the Airport or Swords. The connectivity options of Metro South West are numerous.

B2.4 MSWG propose that *MetroLink* proceed from St Stephens Green to a new metro station at Portobello Harbour and park the TBM under Cathal Brugha Barracks in Rathmines, pending its continuation to South West Dublin. This option should be evaluated by a feasibility study.

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[18] *Five Cities Demand Management Study, Recommendations Report. Phase Two Updates.* Government of Ireland, November 2021.

[19] https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:eb90ca39-fff8-4acd-9fe5-c1e92f4fb93e

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

[21] https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:4fd7a227-2e08-4c40-94ba-272842eb1aca

Appendix C

Metro Southwest Group Analysis of Environmental Impacts

C1 The NTA are obliged under Government Policy to include in all proposals their plans to reduce Carbon emissions The positive environmental benefits that would follow as a direct result of bringing a metro to South West Dublin were not included in the *Metro to Knocklyon Feasibility Study.* These positive cost-effective environmental results were not considered or outlined in the feasibility study.

A metro link system provides efficient, low carbon public transport and improves quality of life for all our citizens. It is the most efficient means of transport with regard to Carbon Emissions.

C2 Background

C2.1 Since 2000 the number of cars in Ireland has increased by more than 33% and continues to grow. Between 2008 to 2019 the number of Diesel Cars purchased has increased from 20% to 50% of all cars. Under the current government policy trajectory, **passenger activity will increase 2.3-fold up** to 2050. CO2 Emissions are set to rise based on current conditions. With ambitious policies and leveraged recovery, CO2 emissions could be reduced by 70% of 2015 figures by 2050.[22] Urban travel has the greatest demand management potential to reduce journeys by 22%. Technology and infrastructure help define the scope for behavioural change.[23]

C2.2 Transport accounts for 20% of our Carbon Emissions nationally. Of that 20%, cars account for 53% of the emissions. Due to COVID, emissions were reduced by 14% between 2019 to 2020, because people were not using their cars. South West Dublin has one of the highest level of car usage in the City at 73% and one of the lowest level of Public transport usage at 9%

C3 Climate Commitments

C3.1 **International:** UN Paris Agreement. EU Green Deal/Fit for 55. COP 26
National: Programme for Government, Climate Action Plan, Climate Act 2021

All committing to an ultimate objective of Carbon Neutrality by 2050, together with 51% carbon reduction by 2030.

Climate Act 2021: Makes this a legally binding pathway-requiring carbon budgets, sectoral emissions ceilings, climate action plans, and national climate action strategy and adaptation framework.

[22] International Transport Forum
[23] Imperial College London Transport Report.

In order to get the Modal Shift and Behaviour Change we need better Public Transport. and demand management to move to better Active travel.

C3.2 NTA Policy is to Appraise projects based on these five elements

1 Environment
2 Safety
3 Health
4 Accessibility& Social Inclusion,
5 Economic.[24]

C3.3 The Transport Strategy in the GDA Draft Plan, in combination with other Government policies and programmes is forecast to lead to a reduction in carbon emissions from transport in the GDA from 3.2 MtCO2eq in 2018 to c.1.0 MtCO2eq in 2042 [25]. The Government is calling for a 42-50% reduction in Carbon Emissions from Transport by 2030, equating to a reduction of 500,000 journeys per day[26]. There is a failure to indicate whether Government Targets for 2030 will be met.

C4 Environmental and Societal Benefits of Metro

C4.1 By bringing a Metro through Southwest Dublin linking with the Red Luas in Tallaght, and the Green Luas at Stephens Green, these benefits will lead to a major reduction of car journeys, less cars, lower carbon emissions and a better Community Environment, in line with National Development Plans.

1. **Reduce the number of Car Journeys** throughout the city as people access Metro Underground and use its connectivity to access the whole city.

2. The EPA with very few **Air Quality** monitoring stations throughout Dublin has already **reported** Exceedance of the EU levels of NO2 in Dublin in 2020. Climate conditions and the expected increase in congestion, especially in South West Dublin will lead to more Exceedances. Metro South West will reduce this risk.

3. **Noise pollution** is a major consideration within the Greater Dublin Area. The return of Construction Traffic, increase in Car numbers, necessity of using cars, because of poor public transport, has led to a sizeable increase in Noise Pollution. Metro will take a large number of cars off all roads in the area.

4. Proper Park and Ride facilities for cars, bikes, ebikes, escooters etc., will encourage more use of **active travel** by commuters.

[24] Greater Dublin Area Draft Transport Plan Review

[25] Greater Dublin Area Draft Transport Plan Review
[26] 5 Cities Report

5. The population and density in this area is increasing rapidly with the building of large-scale apartment development and this is set to continue. This will result in further traffic congestion in areas already congested and poorly served by public transport. A metro in this area would reduce car journeys with **a positive impact on congestion** throughout the region and therefore carbon emissions.

6. Suitable **Park & Ride** at key stations will give options for people using N81 and M50, again reducing the number of car journeys. This will reduce the congestion on the M50. Commuters will not have to face hours in their cars to get to their key destinations (work, study, family, social, commercial).

7. The Metro if properly planned, serving the right areas with stations strategically located, will free up valuable road space on key corridors throughout the Urban area of Dublin Southwest.

8. Freeing up precious road space:

- will allow for **better on-street Bus, Cycle, and Pedestrian infrastructures**, resulting in an overall cleaner, safer environment for all including school going children and vulnerable road users.

- will allow for the achievement of **Placemaking objectives** and support the development of 15 minute neighbourhoods, which will enhance local living and working environments, in line with Development Plan goals.

- **Improve local commerce:** By releasing precious road space, improved local environments can be created, where businesses and community facilities evolve within thriving urban spaces.

- **Improved connectivity:** At local community levels, Metro stations will act as a hub for local as well as commuting transport with buses connecting communities to the stations to provide local transport, reducing shorter car journeys.

- **Will** support **community integration rather than community severance** by avoiding the erosion of available on-street space.

- Will allow more surface area to be re-configured in favour of increasing **mitigating environmental infrastructures** such as pocket parks, pocket forests, green dwell zones.

- With the provision of more green areas in place of existing hard landscapes, will also help **increase bio-**diversity in line with climate goals.

C5 Park and Ride (P&R)

C5.1 A core focus in the GDTA Strategy Document (Strategic Challenges – Part A) is to reduce car trips with an additional 500,000 non-car journeys targeted by 2035 – NO Park and Ride facilities planned for 'Corridor E', which serves the M50 / N81 – the area targeted by MSWG as long term neglected with no light rail provision

- As expressed in the document: *Park & Ride can intercept car trips where people are reliant on private car at an early point in their journey… and Reduces carbon emissions and congestion*
- The NTA's P&R Development Office was established in 2020 and tasked with the job of progressing P&R for the Greater Dublin Area (GDA). MSWG would like to know what was the analytical basis for recommended sites as the document states they should be *where the national road network meets, or is in close proximity to, high capacity bus and rail services* – does this not include Core Bus Corridors?
- While a transport hub is planned for the main commercial centre of Tallaght, MSWG believes this will be over-subscribed with existing / future commuters using the already over-subscribed RED LUAS line.

C5.2 The N81 is characterised as:

- Serving longer distance bus from south-west Wicklow and east Carlow.
- Serving regional bus from Blessington and Baltinglass plus other locations. Regional Bus Corridors Finishes at Tallaght.
- This is a glaring omission in Mobility Hub / P&R provision for N81 private car users who could complete journeys by public transport with appropriate P&R facilities.

C5.3 The M50:

Functions as a GDA commuting orbital for private car traffic (70,000 per day) and should be serviced by a P&R interchange hub / facilities at e.g. Spawell – No provision is made or even considered for any such P&R in the Strategy document.

C6 Summary

- If we are serious about getting people out of their cars, and reducing our carbon emissions, we must take account of the environmental benefits that will follow and provide a metro for Dublin South West. The positive benefits to the environment or society were not addressed in the feasibility study.

- This current strategy displays a total lack of value based analysis, which in the context of climate change and forward looking urban renewal should be core elements of any cost / benefit exercise on decision making in relation to Public Transport mode provision in the future.

- It should be the goal of this Strategy, given the lead time to delivery of Metro, to take a more strategic mid to long term view by including a Metro solution for Dublin South West.

Appendix D

Task Order to Jacobs Engineering Ireland Limited

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 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 slection 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 DTTaS'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 prosed 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.