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The Utility of Public Transport in Ireland: Post COVID-19 Lockdown and Beyond

Mike Hynes^a and Patrick Malone^b

Abstract:

Moves towards decarbonising the Irish economy must focus strongly on reducing car dependence, particularly in our cities and towns. Car dependence is also costly in terms of social and economic externalities. Public transport is a system that allows groups of individuals travel together on designed routes, often for a charge or fee. By transporting large numbers of people more efficiently, public transport plays a major role in alleviating traffic congestion and air pollution and is one of the key elements in making our cities and towns both environmentally sustainable and economically competitive. Factoring in these costs it becomes clear that investing in public transport is a public good and represents value for money for states facing the climate challenges of the early 21st century. Public transport in Ireland exists mainly in urban centres and takes the form of buses, trains and a light rail tram system. Faced with the impacts and consequences of the COVID-19 pandemic, public transport in Ireland now faces new challenges in the immediate future in terms of reduced capacity, social distancing rules, and a significant economic downturn. It is imperative that policy and decision-makers take a long-term view of the utility of public transport and endeavour to safeguard and, indeed, increase expenditure to protect a transport system that will be needed on the resumption of full economic activity in the near future. The alternative is to take regressive steps that will see a return to chronic car dependence and its resulting social, economic and environmental harm.

Key words:

Public Transport; COVID-19; Coronavirus; Ireland; Climate Change.

Introduction

As urbanisation intensifies worldwide (UN, 2019), the need to better manage, organise and connect towns and cities continues to be a firm objective for many municipalities. The built environment, as well as the social fabric of urban communities, are critical determinants of health and well-being for individuals (see Mark J. Nieuwenhuijsen & Khreis, 2019). A significant element in improving towns and cities is (re)considering how people travel through often scarce urban space in an efficient, effective and safe manner. Public transport is a system of conveying groups of passengers, typically managed on a timetable or schedule, operating on established routes by means of bus, tram or train, and where passengers are charged a defined fee for such service. Effective and well-resourced public transport networks are legible, coordinated and frequent, and utilise transfers to service a diverse range of trips across urban areas (McLeod, Scheurer, & Curtis, 2017) and exist for a range of purposes, including environmental, economic, and social reasons (Givoni, Macmillen, Banister, & Feitelson, 2013). Public transport in Ireland exists in and between many of the state's urban centres, and takes a number of forms. Bus transport is the main method of public transport common in all cities and large towns, and the cities of Dublin, Cork, Limerick and Galway all have their own suburban rail networks. The Irish population currently stands at just under 5 million people (Central Statistics Office, 2019). Transport for Ireland^c is a public information body set up by the National Transport Authority (NTA)^d as a single point of reference for all public transport in Ireland. This review seeks to assess public transport in Ireland before and during the COVID-19 global pandemic and argues that the long-term need for a well-resourced efficient public transport network outweighs any short-term difficulties necessitated by the need to limit or eliminate the spread of the virus as we exit the pandemic shutdown.

Previous Research

Research has shown the positive impacts and utility of public transport. Economic benefits of an efficient public transport system include the potential to reduce traffic congestion (Anderson, 2014; Weisbrod, Mulley, & Hensher, 2016), while proximity to public transport can have impacts on land-use and land values, with higher housing prices and higher density around stops and stations (Kay, Noland, & DiPetrillo, 2014; Yu, Pang, & Zhang, 2018). Investment in public transportation has positive direct and indirect induced effects on job creation and retention, business output, GDP and increased tax returns (Weisbrod & Reno, 2009). Social benefits include improved communal cohesion with public transport often serving peripheral, isolated and deprived communities thus reducing the effect on social fragmentation and social exclusion (Li & Deng, 2016; Lucas, 2012). It also offers opportunities for developing and enhancing social capital (Hall, 2010; Mattisson, Håkansson, & Jakobsson, 2015). Public transport can aid public health as it complements the use of active travel modes as walking to and from stops and stations helps physically inactive populations attain some necessary daily physical activity (Le & Dannenberg, 2020; Patterson, Webb, Millett, & Laverty, 2019; van Soest, Tight, & Rogers, 2020). A good public transport system can also help improve air quality and, thus, general health. During a recent public transport strike in Barcelona increased car use led to a rise in levels of

pollutants between 4.4% and 7.7%, and similar increases were detected for black carbon in the air (Basagaña et al., 2018).

Public transport also has some significant environmental and sustainability benefits. Worldwide, the transport sector accounts for one fourth of total emissions, with the road sub-sector being the largest contributor in terms of volume (IEA, 2018). Towns and cities across the world are now shifting away from enabling private car use towards more sustainable, healthy, just and inclusive mobilities (Mark J Nieuwenhuijsen & Khreis, 2016) and improvements in public transport to promote such a modal shift away from private car use is critical (Banister, 2008). Transport in Ireland continues to be a significant contributor to carbon emissions, being the second largest emitter behind agriculture at 19.8% of the national total emissions in 2017. Developing cost effective and carbon efficient mobility options for passengers requires the provision of accessible, affordable and reliable public transport options as an alternative to private car use (Climate Change Advisory Council, 2019).

Transitioning to a low-carbon and climate-resilient society and achieving sustainable mobility are vital strategic objectives identified in Project Ireland 2040 (Government of Ireland, 2019). As part of the overall strategy, a public transport investment programme was set out in *The National Development Plan* (NDP) which acknowledged that ‘achieving this long-term vision will require fundamental societal transformation and, more immediately, the allocation of resources and sustained policy and behavioural change’ (Government of Ireland, 2018, p. 9). Pledging a sum of €8.6 billion for public transport, the NDP is focussed on a number of major projects including the Metro Link North in Dublin, BusConnects programmes in Dublin, Cork and Galway, prioritising elements of the DART Expansion and Park-and-Ride programmes in all the major cities in Ireland (pp. 53-54). These public transport infrastructural projects are protected in the draft agreement for the formation of a new government announced in June 2020.^e

Quality of Public Transport in Ireland

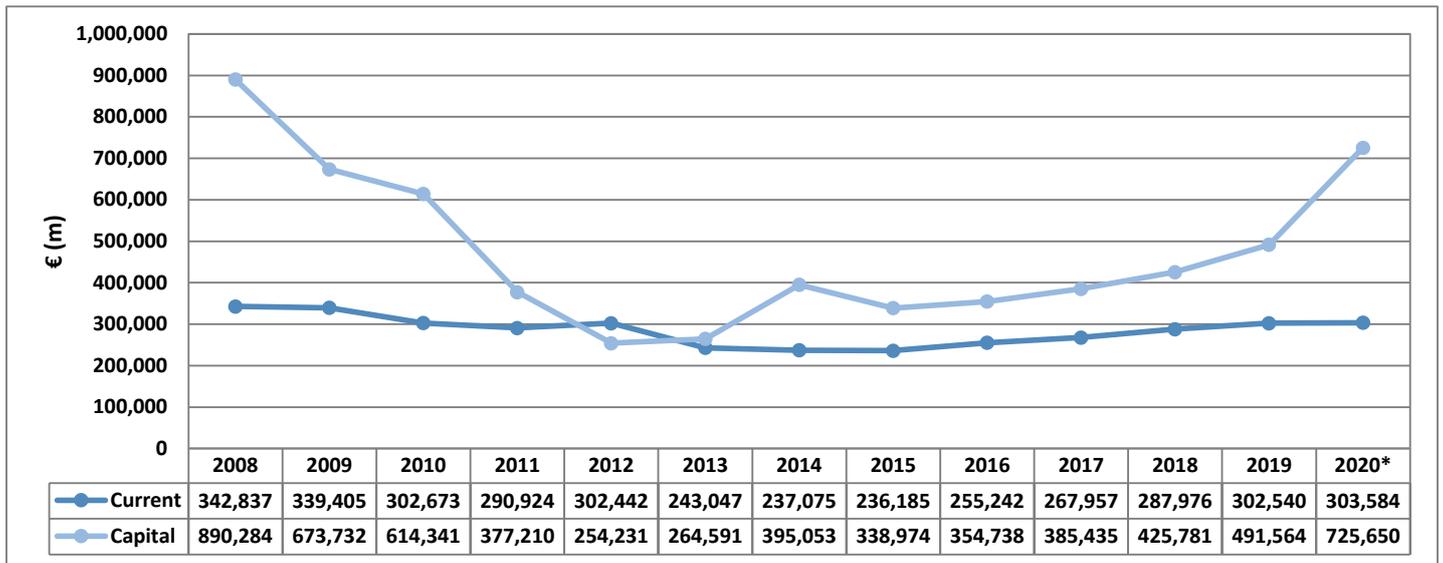
There is limited research available on the quality of the public transport system in Ireland. Nine out of ten passengers expressed satisfaction with public transport services, according to research undertaken on behalf of the National Transport Authority, although this figure varies depending on service provider (Kantar MillwardBrown, 2018). Research examining the level of stress caused by commuting into and out of Dublin city centre suggested satisfaction levels among public transport users tended to decrease for those who travel on crowded or unreliable services and those who have long wait-times (Cantwell, Caulfield, & O’Mahony, 2009). The provision of public transport infrastructure in and around Dublin has not kept pace with the increase in housing stock, it is argued, leading to high levels of car dependency in many peripheral suburban areas outside the city (Caulfield & Ahern, 2014). Results from a survey undertaken in 2014 points to considerable problems that impact on population groups typically vulnerable to transport disadvantage, such as low income earners and car-less households (Rock, Ahern, & Caulfield, 2016). Researchers seeking to obtain essential baseline information on service user satisfaction levels with the existing public bus services in Galway revealed poor

punctuality as a key concern for passengers (Hynes et al., 2018). In 2009, it was argued that a coherent national policy for community and non-conventional transport services outside urban areas was critical for the sustainability of rural communities right across Ireland (Rau & Hennessy, 2009). In other research, a model was developed for operational integration of suburban trains and public buses in Dublin which generated a feeder route network and coordinated services of feeder buses for the Dun Laoghaire DART station (Shrivastava & O'Mahony, 2005). More relevant to this current COVID-19 crisis, it is argued that short-term reactions to an economic crisis, especially cost-cutting measures and an over-emphasis on low-cost and no-cost transport solutions, are unlikely to produce a fully functioning, future-proof sustainable transport system in Ireland (Rau, Hynes, & Heisserer, 2016).

Overview of Trends in Public Transport Expenditure and Utilisation

In the long-term, maintaining and increasing the current levels of investment in public transport is essential in terms of reducing traffic congestion in towns and cities and preventing a return to chronic car dependencies that ultimately results in greater social, economic and environmental harm. Figure 1 shows the capital and current expenditure on public transport between 2008 and 2012. During the Great Recession (2008-12), capital expenditure on public transport fell from almost €900m in 2008 to a low point of €254m in 2012, representing an overall decrease of €646m or 72% on 2008. Since then, capital investment in public transport infrastructure has risen substantially to almost €726m in 2020. The sharp rise in public transport capital expenditure between 2019 and 2020 is due to increased capital investment in a range of transport projects such as: progressing major infrastructure investments as part of the BusConnects, Metrolink and DART expansion programme; investment in PSO bus fleets and supporting the phased transition to more environmentally friendly fuel types; and continuing service improvements nationwide (Department of Transport Tourism and Sport, 2019a). By comparison, current expenditure on public transport (e.g. recurring annual operating costs) has remained relatively flat during these years: with a decrease of €39m or 11% from €343m in 2008 to €304m in 2020.

Figure 1: Trends in Public Transport Capital and Current Expenditure, 2008-20



Source: DPER Databank (2020). Note Capital and Current Expenditure on Public Transport are identified under the Transport vote subheads of: Public Service Provision Payments; Public and Sustainable Transport Investment Programme; and Public Transport Agencies and Expenses. *Note figures 2020 are based on Revised Estimate Volumes (REV) figures.

In 2018, almost 269 million passenger journeys were carried on Public Service Obligation Services (PSO). These are bus and rail services that are socially necessary and are provided as a public good heavily subsidised by exchequer funding. The three main objectives of the PSO programme are to:

- Provide transport services which are socially beneficial but financially unviable;
- Encourage modal shift and public transport use through higher service provision and lower fares;
- Increase accessibility and social equity (Department of Transport Tourism and Sport, 2019b, p. 10).

Figure 2 shows the breakdown of passenger journeys by PSO service providers. Dublin Bus carried the largest share of PSO passengers at 52%. This PSO service was followed by Iarnróid Éireann (18%) and Luas (16%). Bus Éireann’s market share of PSO passengers is at 13%, while LocalLink and other services represent 1.3% of total PSO passenger journeys. Figure 3 shows the PSO passenger journeys broken down into three regions. In 2018, Dublin had the highest proportion of PSO public transport passengers at 83%, the Cork region accounted for just 6%, while the rest of Ireland accounted for 11% of all passengers.

Figure 2: PSO Passenger Journeys by Operator, 2018

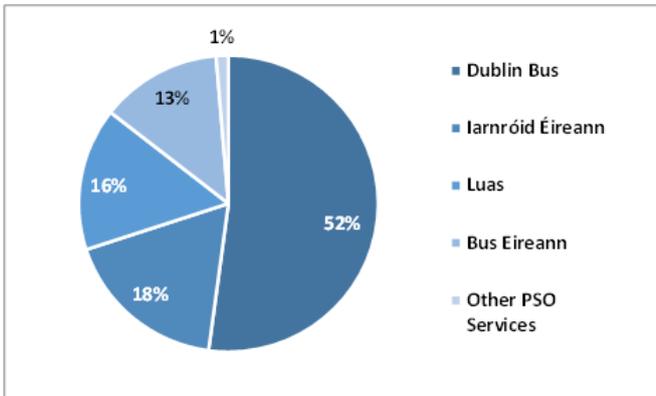
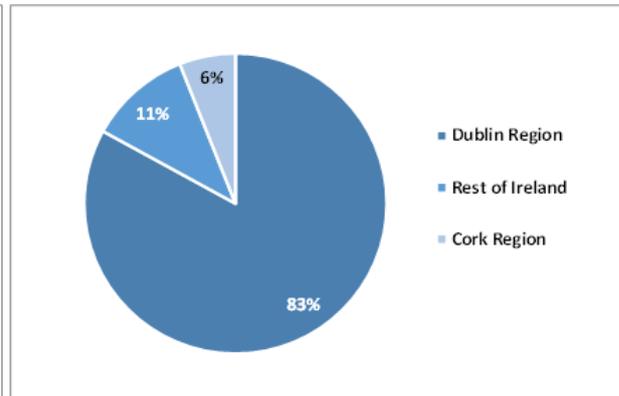


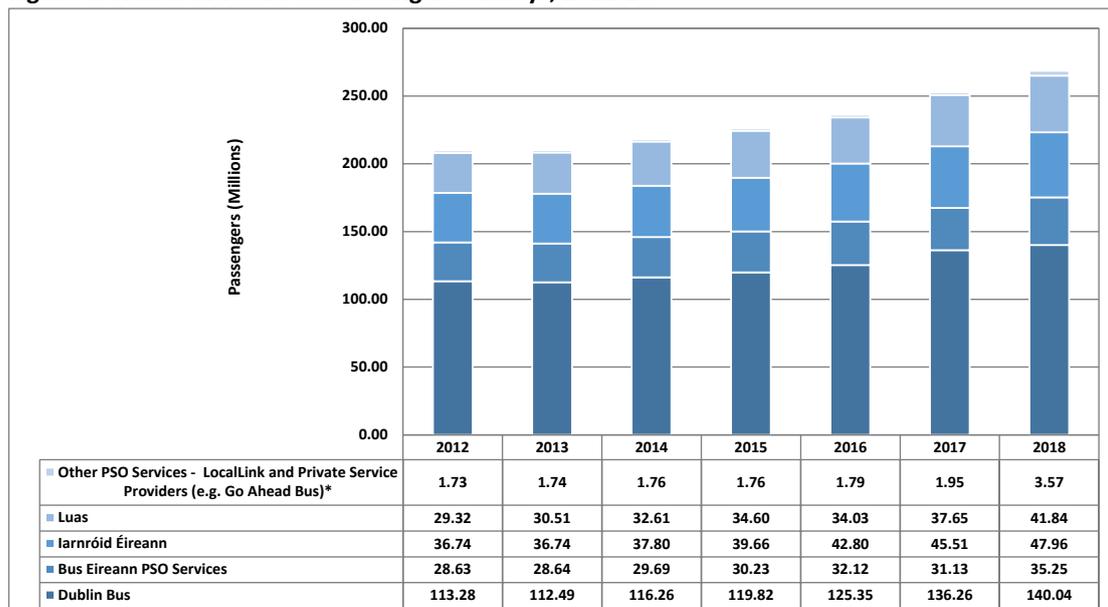
Figure 3: PSO Passenger Journeys by Region, 2018



Source: National Transport Authority (2019)

During the economic recovery (2012-18), demand for public transport increased substantially. Figure 4 shows the number of passenger journeys carried by individual operators. Since 2012, the total number of PSO passenger journeys increased substantially from 210m in 2012 to 269m in 2018, representing an increase of almost 60m or 28% on 2012. Dublin Bus experienced the biggest rise in total PSO passenger numbers at over 140m in 2018, increasing by almost 27m from 113m in 2012. In terms of light and heavy rail services, Luas Passenger journeys increased by 12.5m, while Iarnróid Éireann PSO passenger journeys rose by 11m during these years. Of all the main PSO service operators, Bus Éireann had the lowest increase in total passenger journeys at almost 7m, increasing from 28.6m in 2012 to 35.2m in 2018. Other PSO services (i.e. LocalLink and Private operators) increased by almost 2m during these years.

Figure 4: Trends in Total PSO Passenger Journeys, 2012-18

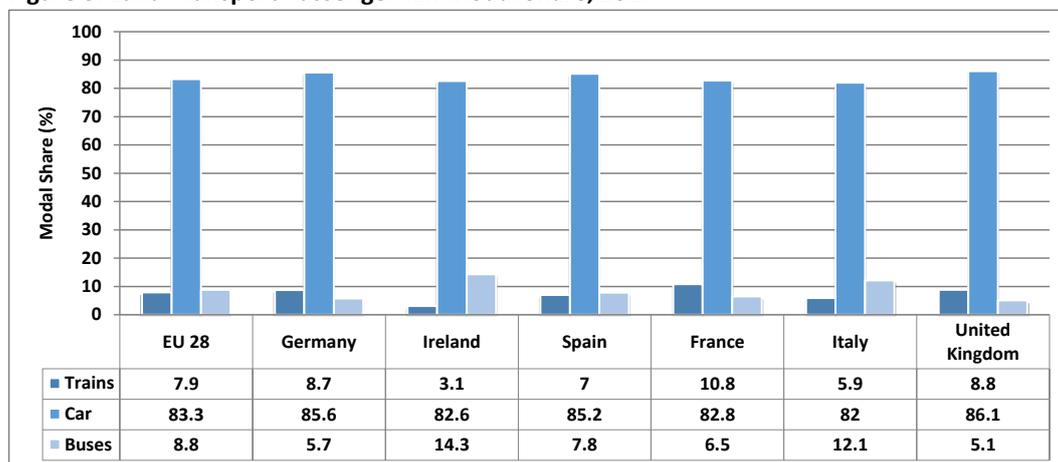


Source: National Transport Authority (2019) *Note figures for private service providers is included in Other PSO Services from 2017 onwards.

Climate Change and Travel Patterns

In Ireland, transport is the biggest emitter of energy-related carbon emissions, with the private cars transport mode being the largest energy use accounting for 40% of transport final energy demand (SEAI, 2020). Government commitments in the *Smarter Travel* transport policy initiative (Department of Transport, 2009) set a target of 20% reduction in work-related commuting by private cars by 2020 (from 65% to 45%). Yet, 61% of working commuters drove to work in 2016 with less than 10% taking some form of public transport (Central Statistics Office, 2017). As shown in figure 5, on the European stage Ireland is broadly in-line with other EU Member States (MS) in that private cars are the dominant mode of transport for all forms of travel at almost 83% in 2017. The modal share of rail in Ireland is lower than in other EU MS at 3%, compared to the EU-28 average of almost 8%. Conversely, the share of passenger km by bus is 14%, significantly above the EU-28 average of 9%.

Figure 5: Land Transport Passenger-km Modal Share, 2017



Source: Eurostat (2020)

Public Transport Utilisation: During and after the Lockdown

The National Transport Authority reported a reduction of between 15-20% in passenger numbers on public transport by the 13th March 2020.^f By the 29th March daily passenger numbers on public transport had fallen to between 25% and 30% of the equivalent levels in 2019.^g LocalLink evening services on Door to Door routes (DRT) were suspended on the 26th March,^h and on the 27th March it was announced that operators of most subsidised public transport services were to move to a new schedule of services on a phased basis from Monday March 30th.ⁱ Revised timetables for Iarnród Éireann also came into effect on Monday March 30th, while those for Dublin Bus, Go-Ahead Ireland and Bus Éireann, took effect on Wednesday April 1st. As part of Phase One of the *Roadmap for Reopening Society and Business*, on Monday 18th May, public transport continued to operate the revised timetables to match demand while maintaining social distancing, and the NTA advised all passengers to wear face coverings when on busy public transportation.^j

Under ‘phase two plus’, which commenced on Monday 8th June, people were allowed to travel within their own county, and some retail businesses reopened. While the public health advice continued to call on people to avoid unnecessary journeys and to work from home where possible, as businesses re-opened and some workers returned to work an increase in public transport was expected. During this phase some public transport timetables returned to pre-pandemic levels of frequency. In terms of rail services, DART operated on a full timetable during the weekdays, with revised and reduced services operating at weekends. The revised Iarnród Éireann intercity timetable introduced during phase one remained in place, with extra capacity on some services.^k

Nevertheless, the introduction of social distancing restrictions has resulted in a substantial reduction in the passenger carrying capacity of public transport service providers. Appendix 1 shows the vehicle capacities of public transport operators prior to and during the COVID-19 pandemic with social distancing. During phases one and two, the passenger carrying capacity for buses remained at between 20-25%, and between 10-20% for heavy and light rail services. However, with the ceasing of the two-metre social distancing restrictions and mandatory wearing of masks coming into effect under phase three which commenced on 29 June, public transport services will now be allowed to run at 50% of pre-COVID capacity. This means that a double decker bus, that could carry up to 95 passengers prior to the pandemic, will now be allowed to carry 48 passengers. For a seven carriage inter-city Iarnród Éireann train that usually carries 660 passengers, the number of seats available will be reduced to 330. In terms of light rail services, an eight carriage DART service that usually carries 1,570 passengers, will now be reduced to 785 passengers.

The Challenges Facing Public Transport After the Lockdown

Public transport in Ireland faces some significant challenges in the near future. As the country exits the COVID-19 pandemic lockdown and businesses gradually reopen, the demand for public transport will increase but the restrictions imposed on the service to limit the spread of the virus will remain a challenge. For passengers to safely use public transport, this requires the mandatory wearing of masks and a 50% reduction in service capacity. Overall, these measures have led to diminishing confidence in the service as the notion of sharing confined public spaces for potentially extended periods of time plays heavily on the minds of a public learning to maintain social distancing. Other threats to public transport are more direct. Recently, Nissan Ireland began pitching their sales offers at commuters uncomfortable with using public transport in the wake of the pandemic after they announced the introduction of a car scrappage scheme. ‘COVID-19 has changed attitudes to public transport in favour of private car use and consumers who have cancelled holidays and saved money during the crisis are now thinking of using that money to buy a new car’ said James McCarthy, CEO of Nissan (Heneghan, 2020). An online car trader’s report of 1,432 surveyed motorists suggest over 50% of those who currently don’t own a car are considering purchasing one due to the ongoing concerns over COVID-19 (Carzone, 2020). In addition, the shift to alternatives to public transport may have fuelled the recent surge in e-scooter sales in Ireland (O’Brien, 2020), and moves towards

substitute modes of transport may also have contributed to an over 80% increase in bike sales (Ó Scannáil, Riegel, & Bray, 2020; O’Sullivan, 2020).

In the short to medium term, preventing a return to chronic levels of car dependency and congestion may mean encouraging people to walk or use bicycles for short trips of under two miles.¹ Transforming urban space will also allow individuals adopt positive behavioural change around active travel such as walking and cycling, which are an integral part of an effective overall urban transport system. That would allow public transport service providers concentrate on the longer trips where this is the only alternative to driving a car. The key should be for service providers to focus their limited resources on that particular role in the short term. The long-term challenges to public transport must be viewed in the context of the state’s climate change obligations and goals and any return to the overuse of private cars in our towns and cities will have significant negative social, economic and environmental impacts and consequences. Traffic congestion in our towns and cities is not an indication of economic growth rather it reflects a transport policy immaturity that inhibits real economic development and impacts upon quality of life.

Policy Rationale and Commitment to Public Transport Capital Investment

Investment in public transport must be maintained and, indeed, increased as we endeavour to reduce the damaging effects of car dependences in our cities and town post-lockdown. It is crucial that public transport in Ireland is protected and supported from the economic aftereffects of the COVID-19 pandemic and that we view the value and utility of such a service as positively contributing to the long-term sustainability goals of the country. Continued capital investment in public transport is required to facilitate a modal shift towards environmentally sustainable and reliable forms of transport. According to the Climate Action Advisory Council (2019), a significant factor increasing the costs of public transport provision in Ireland is low population density. In most European countries and cities, integrated policy responses have been introduced to meet these challenges through incentivising high-density development within planning regulations. This has facilitated the development of cost-effective and profitable public transport systems based on fixed lines of light rail and metro. By comparison, Ireland’s low-density development has impeded the development of high quality transportation networks based on active modes and mass transit rail and bus. This has deepened the ‘lock-in’ to high-carbon private car transport and an increase in congestion, greenhouse gas emissions and air pollution. The transition to more sustainable modes of transport thus requires integrated long-term spatial, economic, infrastructure and investment plans through the National Development Plan and National Planning Framework (Climate Change Advisory Council, 2019).

As the economy and society continue to reopen after lockdown, a window of opportunity has opened with regards to the development of our urban environments and the promotion of health and well-being among citizens. Public transport has a significant role to play now and into the future. Professor Frank Kelly^m believes that if we invest more in the greening and de-carbonisation of public transport, that it will have a bigger effect than

on changing over private cars to electric power (Briscoe, 2020). In an interview with the Irish Times he suggested providing clean, efficient public transport would allow for the curtailment of private vehicles from our city and town centres, with resulting positive environment effects from fewer cars. He also called for the introduction of modern tram systems in our cities as these are more effective ways of moving people around the urban landscape. Therefore, the levels of capital investment need to be contextualised in terms of the wide-ranging benefits such as low-carbon transition, decreased congestion, social inclusion and road safety.

In terms of current policy commitments to capital investment in transport, the Minister for Transport, Tourism and Sport outlined in a written reply to a question from Deputy Jonathan O'Brien his Department's capital allocation and stated that Budget 2018 provided a four-year enhanced capital envelope for public transport of over €2.7 billion to 2021 (Houses of the Oireachtas, 2018). This increased funding would allow rollout of a number of key programmes to address congestion and emerging capacity constraints on our public transport system across our cities. These included; more than €750m for the BusConnects programme, over €220 million capital investment in additional heavy rail infrastructure, almost €460 million investment in light rail for additional Luas capacity, €30 million to continue the programme of retro-fitting older, existing public transport facilities to improve their accessibility features, €130 million for traffic management, bus priority and other smarter travel projects in our cities, and €35 million to back new ideas to help decarbonise the transport sector, including pilot initiatives for low emission technologies. While the NDP commits to a full mid-term review of the Plan in 2022, there is a danger that if the public finances are not in good shape and fiscal stringency is introduced in response many of these commitments may be paused or, indeed, abandoned.

The commitments made by government prior to the pandemic and in the negotiations for the formation of a new government would strongly indicate a willingness to accept the importance of accessible, reliable and sustainable public transport. In a recent Dáil debate during the COVID-19 crisis, the then Minister for Transport, Tourism and Sport, Shane Ross, maintained that public transport remains a critical part of the plan for the reopening of the economy. The Minister confirmed that the Government was providing the necessary additional funding to continue services despite the drop in fare income (Houses of the Oireachtas, 2020). Moreover, the negotiations and signing of the recent draft programme for government demonstrates a strong commitment to supporting and improving public transport in Ireland. Some of the key policy commitments agreed to in this area of public transport include:

- A review of fare structures to ensure that public transport is as accessible as possible, supports the delivery of services and incentivises off-peak travel;
- Development of a park and ride implementation plan for each of the five cities to help reduce congestion and journey times;
- Establishment of a National Public Transport Forum involving all stakeholders;

- Development and implementation of a sustainable rural mobility plan and support public transport projects that enhance regional and rural connectivity;
- Further integration of Local Link services with other existing public transport services (e.g. the National Transport Authority) and build on exemplar models of integrated rural transport, improve connectivity and access for rural dwellers to work, study, social activities and public services while reducing car dependence;
- In line with the commitment in the National Planning Framework to balance regional development, priority is to be granted to rail projects in Cork, Galway, Limerick and Waterford on existing and unused lines;
- Accelerated electrification of the transport system including electric bikes, electric vehicles and electric public transport alongside a ban on new registrations of petrol and diesel cars from 2030. (Programme for Government – Our Shared Future, 2020).ⁿ

While these are positive commitments at this time, no doubt pressure will begin to build once the economic realities of our post-pandemic world become more apparent. But we must continue to appreciate public transport as a long-term public good and a key instrument in our goal of reducing our carbon emissions over the coming decades, as well as building more health and sustainable cities and towns into the future. The biggest risk lies in the failure of policy- and decision-makers to fully appreciate that we are all dependent on an effective and efficient public transport system; whether we chose to take the bus or not.

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Appendix One: Vehicle Capacities of Public Transport Operators Pre-COVID and Currently with Social Distancing

	Vehicle Type	Pre-COVID	Social Distancing Restrictions (Phases 1-2)	% of Pre-COVID Capacity	Social Distancing Restrictions (Phase 3)*	% of Pre-COVID Capacity
Bus	Double Deck B5	95	17	18%	48	50%
	Double Deck B9	83	18	22%	42	50%
	Single Deck (typical)	67	10	15%	34	50%
Coach	Single Deck Coach	53	12	23%	27	50%
	Double Deck Coach	75	20	27%	38	50%
Train	DART (8 car)	1,570	150	10%	785	50%
	Inter City (7 car)	662	81	12%	331	50%
	Commuter (8 car)	1,570	150	10%	785	50%
Luas	Luas 401	264	50	19%	132	50%
	Luas 402	340	62	18%	170	50%
	Luas 500s	327	61	19%	164	50%

Source: Correspondence with the National Transport Authority. *Note figures for Phase 3 are based on authors own calculations.

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^c See <https://www.transportforireland.ie/>

^d See <https://www.nationaltransport.ie/>

^e A copy of this draft agreement is available at <https://bizplus.ie/wp-content/uploads/2020/06/Programme-for-Government.pdf>

^f See <https://www.transportforireland.ie/news/covid-19-information-update/>

^g See <https://www.transportforireland.ie/news/covid-19-passenger-numbers-on-public-transport-services/>

^h See <https://www.transportforireland.ie/news/local-link-evening-services-on-door-to-door-routes-drt-suspended/>

ⁱ See <https://www.transportforireland.ie/news/new-public-transport-timetables-to-take-effect-starting-monday/>

^j See <https://www.transportforireland.ie/news/covid-19-public-transport-to-continue-to-follow-government-and-health-guidelines-in-phase-one-of-reopening/>

^k See <https://www.irishrail.ie/news/covid-19-update>

^l This is also in line with advice from the NTA; a spokesman told *TheJournal.ie* that commuters should consider cycling or walking as alternatives to using public transport (see <https://www.thejournal.ie/public-transport-cycling-walking-covid-19-phase-three-5130795-Jun2020/>)

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ⁿ See <https://bizplus.ie/wp-content/uploads/2020/06/Programme-for-Government.pdf>