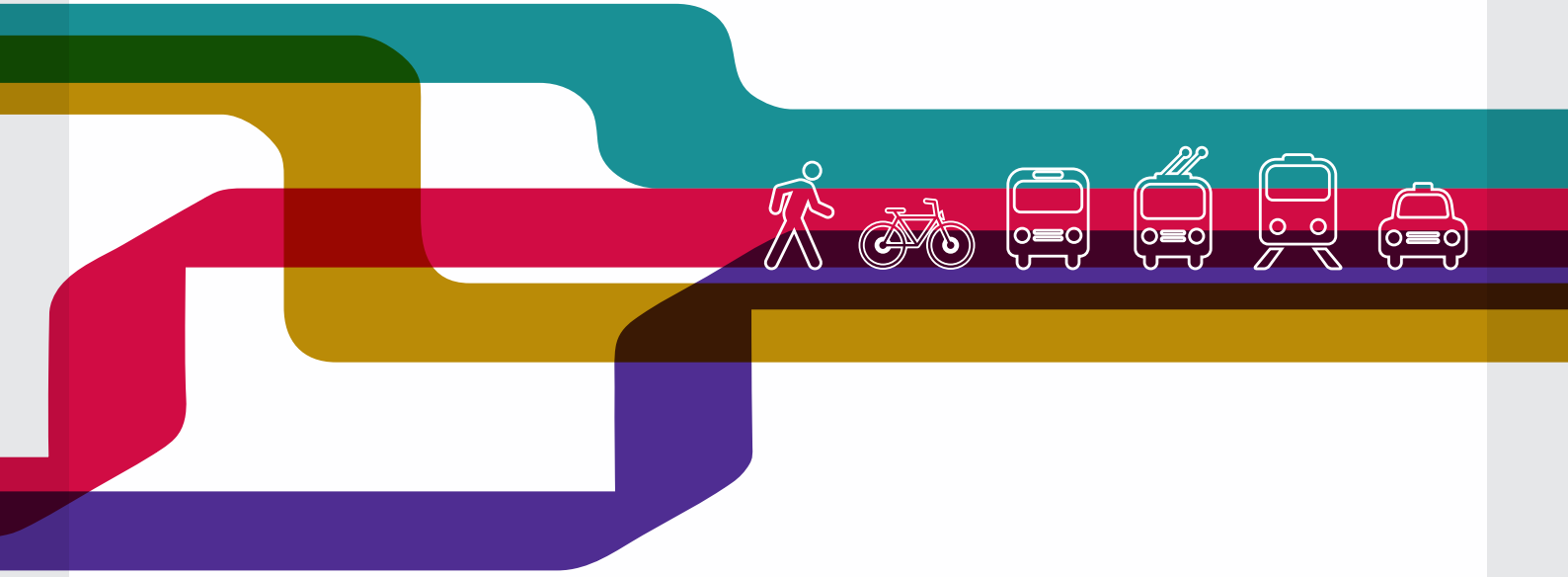
Údarás
Náisiúnta Iompair
National Transport Authority

Integrated Implementation Plan 2013-2018



National Transport Authority
Dún Scéine,
Harcourt Lane,
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42 City Centre Due
27 Talbot Street 2min
128 Rathmines 2min
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20B Eden Quay 5min
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1. Introduction and Background

1.1 Introduction

The National Transport Authority (the "Authority") is a statutory body established by the Minister for Transport on 1 December 2009.

The Authority was set up under the Dublin Transport Authority Act 2008. Its roles and functions are set out in that Act, the Public Transport Regulation Act 2009 and, also, the Taxi Regulation Act 2003.

At national level, the Authority has responsibility for securing the provision of public passenger land transport services. This includes the provision of subsidised bus and rail services through contracts with Bus Éireann, Dublin Bus and Irish Rail, and with private bus operators; and the provision of light rail services directly itself or through assignment to the Railway Procurement Agency (RPA). The Authority has national responsibility for the State's rural transport programme and also licenses public bus passenger services delivered by private operators. Regulation of the national taxi industry falls also to the Authority. Other areas of national responsibility include integrated information systems for public transport customers and management of the Integrated Ticketing Scheme for Ireland (the Leap Card system). Allied with these national functions, the Authority is the enforcement body for passenger rights in relation to rail, buses and coaches, and ferries.

Within the Greater Dublin Area (GDA) the Authority carries additional responsibilities including:

- strategic planning of transport;
- development of an integrated, accessible public transport network;
- promoting cycling and walking;
- provision of public transport infrastructure generally including light rail, metro and heavy rail; and
- effective management of traffic and transport demand.

The GDA includes the local authority areas of Dublin City, Fingal, Dún Laoghaire-Rathdown, South Dublin, Kildare, Meath and Wicklow.

On behalf of the Department of Transport, Tourism and Sport, the Authority also manages the following programmes:

- Regional Cities Public Transport Programme;
- Accessibility Programme;
- Smarter Workplaces and Smarter Travel Campus travel programme;
- Green Schools travel programme; and
- Initiatives to integrate rural, health and school transport services.

1.2 Content of an Implementation Plan

The Authority is required to prepare an integrated implementation plan (the "Plan") in accordance with Section 13 of the Dublin Transport Authority Act 2008 (the "Act"). This Plan is required to comprise the following:

- an infrastructure investment programme, identifying the key objectives and outputs to be pursued by the Authority over the period of the Plan;
- the actions to be taken by the Authority to ensure the effective integration of public transport infrastructure over the period of the Plan;
- an integrated service plan, identifying the key objectives and outputs to be pursued by the Authority in relation to the procurement of public passenger transport services over the period of the Plan;
- the actions to be taken by the Authority to ensure the effective integration of public passenger transport services over the period of the Plan; and
- such other matters as the Authority considers appropriate or as may be prescribed by the Minister for Transport, Tourism and Sport (the "Minister").

1.3 Plan Process

The following process is outlined in the Act for the preparation of a Plan:

- Taking direction from the Minister, the Plan should have regard to any proposals received from public transport authorities and operators and the need to ensure the most beneficial, effective and efficient use of Exchequer resources;
- The Authority is required to have regard to written guidance on multi-annual funding from the Minister;
- During the preparation of the integrated implementation plan, the Authority is required to consult with and consider the views of stakeholders and invite public submissions on the Plan; and
- The Authority is required to submit a draft Plan to the Minister for approval. The Minister may approve the draft, approve with modifications, require resubmission in a modified form or refuse to approve it.

2 Travel in the Greater Dublin Area

2.1 Greater Dublin Area

The Greater Dublin Area (GDA) comprises the counties of Meath, Wicklow, Kildare, South Dublin, Dún Laoghaire Rathdown, Fingal and Dublin City.

National strategic policy on land use, settlement, economic development and sustainability over the past decade or more, has consistently identified the GDA as a driver of national economic development. This is even more relevant in the context of the current challenging financial and economic circumstances and the capacity of the GDA's economy to adapt and develop will be crucial to restoring Ireland's economic wellbeing in the coming years.

2.2 Population

Between 2006 and 2011, the population of the Greater Dublin Area grew by 9% from 1.66 million to 1.8 million, as compared to a slightly lower growth rate of 8% for the State as a whole. The GDA can be broken down by constituent county, as set down in Table 1.

Table 1 - Changes in population by GDA County and nationally since 2006

County	2006	2011	% Change
Dublin City	506,211	527,612	4%
South Dublin	246,941	265,205	7%
Fingal	239,995	273,991	14%
DLR	194,039	206,261	6%
Kildare	186,336	210,312	13%
Meath	162,831	184,135	13%
Wicklow	126,194	136,640	8%
GDA	**1,662,547**	**1,804,156**	**9%**
State	**4,239,848**	**4,588,252**	**8%**

Table 1 shows that the growth in population was far from uniform within the GDA, with the largest growth shown in Fingal (14%), and Kildare and Meath (13%). In contrast, the population of Dublin City grew by a more modest 4% between the 2006 and 2011 census. This represents a continuation of a longer term trend, where the highest rates of population growth have been progressively cascading outwards from Dublin, reflecting the dispersal of City Region population growth across an extending commuter belt.

The distribution of population is a critical determinant of travel behaviour. In particular, the location of population relative to key services such as work, education, retail and leisure determines the demand for travel and distances travelled. In

turn this has a critical impact on people's choice of mode - i.e. the more remote people live from public transport and destinations served by public transport the more likely they are to drive.

Even within the more localised area of Dublin City and suburbs, substantial changes in the distribution of population occurred between 2006 and 2011. Whilst the highest rates of population growth in Dublin has occurred in the northern fringe of the Metropolitan Area and in the Docklands and Heuston areas, population declines were recorded across many of the more mature suburban areas and parts of the Inner City. This pattern broadly reflects the 'empty nest' scenario and associated declining household size, characteristic of many older residential areas.

2.3 Employment

The numbers of people in employment has a strong bearing on the number of trips generated, particularly during the peak demand periods in the morning and evening. Between 2006 and 2011, the number of persons in employment in the Greater Dublin Area declined by 6% from 800,000 to 754,000. A comparable level of decline occurred in the State as a whole (6%). The GDA can be broken down by constituent county, as set down in Table 2:

Table 2 - Changes in number of persons in employment by GDA County and nationally since 2006

County	2006	2011	% Change
Dublin City	245,007	227,429	-7%
South Dublin	119,280	106,534	-11%
Fingal	120,794	119,276	-1%
DLR	87,815	87,490	0%
Kildare	91,581	85,587	-7%
Meath	78,437	74,342	-5%
Wicklow	57,326	52,907	-8%
GDA	**800,240**	**753,565**	**-6%**
State	**1,930,042**	**1,807,360**	**-6%**

The distribution of people's places of employment is also an important determinant of travel patterns - particularly in the morning peak period when most people travel to work. Census 2006 was undertaken as Ireland was coming to the end of a long period of sustained economic growth, while the 2011 census is the first census in over 15 years to have been undertaken in the midst of an economic downturn.

The changes in the number of jobs and the distribution of employment between the two census years is an important indicator of both the impacts of the economic downturn and of land use planning policies relating to the location of employment. One important feature of this has been the substantial increase in employment in certain suburban located industrial estates and office parks in the Dublin Metropolitan Area. In particular, these relate to lands beyond the M50 to the north west of the city including Ballycoolin, the Maynooth and Swords areas, Sandyford and Cherrywood, and lands to the north of the N7 including Grange Castle and Greenogue. Within the inner city, substantial employment growth occurred in the Docklands and Heuston areas. The largest declines occurred in the Leixlip and Park West areas and a number of locations in the south eastern quadrant of the inner city.

These patterns are described on the basis of trips to work data from POWCAR 2006 and POWSCAR 2011, derived from Census 2006 and Census 2011. (POWCAR means "Place of Work – Census of Anonymised Records" and POWSCAR means "Place of Work, School or College – Census of Anonymised Records"). POWCAR and POWSCAR illustrate the changes in employment destinations within each Electoral Division (ED) in Dublin City / environs between 2006 and 2011. It should be noted however, that this data excludes mobile employment where work destinations are variable and hence not included in either dataset.

In summary, an examination of the changes in employment destination in this area illustrates the increasing trend of suburbanisation of employment in the main urban centres. While employment has dropped in many areas of the city, Sandyford, Cherrywood and Blanchardstown all emerge as significant employment growth areas for Dublin in the period 2006-2011. Some central areas such as Docklands, Heuston and some locations in the South East Inner City have also shown job growth.

2.4 Means of Travel

While the distribution of population and employment are critical determinants of overall travel demand, the means of travel people choose is an important measure of travel behaviour. Means of travel is affected by a number of factors, including the location of development, general economic conditions, availability of public transport, changes in fuel costs and public transport fares and other transport policy interventions. An analysis of the means of travel to work and education in the 2011 Census and comparison with equivalent data from earlier census years gives a good indication of the impacts of the recent economic downturn and other factors on people's travel behaviour.

Means of travel to Work

Tables 3 and 4 below, shows the change in trips by mode and mode share percentages between 2006 and 2011 for people travelling to work, nationally and in the GDA.

Tables 3 and 4 show an increase in mode share for car and bicycle and reductions in walking and travel by bus. Against a background of a general decrease in trips to work of 6% in the GDA and 7% nationally, the only mode to increase in absolute terms was cycling. There was an increase of 23% in cycling trips to work in the GDA and an increase of 10% nationally. Further analysis of cycling reveals that there was a 40% increase in cycling trips within the city centre of Dublin (within the canals) between 2006 and 2011. This increase in cycling has been influenced by a number of factors in recent years, including the increases in fuel costs and in public transport fares and investment in cycle networks in urban centres. The success of the Dublin bikes scheme also appears to have had a major impact on attitudes to cycling - particularly in Dublin city centre.

Of note are the trends in mode share for car drivers and car passengers. While the mode share for car as driver has increased nationally and in the GDA, the mode share for car as passenger has declined. This reflects a general decline in car occupancy levels for trips to work, with the occupancy level in 2011 close to 1. There was a decline in the mode shares of both walking and bus nationally and in the GDA.

Car as the dominant mode

Analysis of means of travel to work from Census data going back to 1996 shows a growing reliance on the private car. However, this overall trend masks significant spatial variations in this trend that are revealed in analysing the mode share for car at an Electoral Division level.

In regards to the percentage of people driving to work by origin, data from the 2011 Census shows shows that in the GDA, the highest levels of car dependency apply around the outer edge of the Metropolitan area and in peri-urban fringes where more than 7 in 10 people drive to work. This is in contrast to the situation in the commercial core of the city where less than one in 4 people drive to work. Car dependency levels are also lower in areas where agriculture plays a greater role in the local economy.

Table 3 - % Mode Share comparison for trips to work, nationally, 2006 and 2011

Persons travelling to work by mode nationally	2006 Trips	2006 % Mode Share	2011 Trips	2011 % Mode Share	Change in Mode Share	% Change in Trips
On foot	205,688	11.7%	170,510	10.5%	-1.2%	-17%
Bicycle	36,306	2.1%	39,803	2.4%	0.4%	10%
Bus, minibus or coach	114,956	6.5%	91,676	5.6%	-0.9%	-20%
Train, DART or LUAS	54,942	3.1%	52,749	3.2%	0.1%	-4%
Motorcycle or scooter	13,049	0.7%	8,443	0.5%	-0.2%	-35%
Motor car: Driver	1,080,446	61.5%	1,067,451	65.5%	4.0%	-1%
Motor car: Passenger	104,861	6.0%	69,164	4.2%	-1.7%	-34%
Other, incl. lorry	147,035	8.4%	131,018	8.0%	-0.3%	-11%
Total	**1,757,283**	**100%**	**1,630,814**	**100%**	**0%**	**-7%**

Table 4 - % Mode Share comparison for trips to work in the GDA, 2006 and 2011

Persons travelling to work by mode in the GDA	2006 Trips	2006 % Mode Share	2011 Trips	2011 % Mode Share	Change in Mode Share	% Change in Trips
On foot	90,423	12.2%	81,886	11.8%	-0.5%	-9%
Bicycle	23,282	3.2%	28,544	4.1%	0.9%	23%
Bus, minibus or coach	88,573	12.0%	73,956	10.6%	-1.4%	-17%
Train, DART or LUAS	49,471	6.7%	47,922	6.9%	0.2%	-3%
Motorcycle or scooter	8,386	1.1%	5,831	0.8%	-0.3%	-30%
Motor car: Driver	406,327	55.0%	399,381	57.3%	2.3%	-2%
Motor car: Passenger	32,929	4.5%	24,107	3.5%	-1.0%	-27%
Other, incl. lorry	39,463	5.3%	34,843	5.0%	-0.3%	-12%
Total	**738,854**	**100%**	**696,470**	**100%**	**0%**	**-6%**

Means of travel to Education

Tables 5 and 6 show the mode share comparison for trips to education in the GDA and nationally. These show a reduction in mode share for walking and bus, in contrast to increases in mode share for car, both as driver and as passenger. The increase in cycling trips that was evident for work trips is also evident for trips to education.

It should be noted that in contrast to the overall reduction in trips to work, the opposite trend is evident with regard to trips to education between 2006 and 2011 - with a 14% increase in the GDA and 13%, nationally. The increased numbers of people in full time education is most evident in the Primary and Tertiary sectors - with a 29% increase in third level students nationally, between 2006 and 2011. Hence, the increases in overall population and in the pupil / student population in particular, have served to largely counter balance (nationally) and more than counter balance (in the GDA) the impact of reduced employment on overall levels of travel demand in the past 5 years.

2.5 Journey time

The economic boom between the mid-1990's and 2006 had the characteristic impact of increasing overall travel demand and traffic congestion levels – in particular in urban areas. This in turn had an impact on journey times to work in particular. An analysis of journey to work times from Census 2011 is useful to reveal if the trend up to 2006 has been halted or reversed in response to the economic downturn.

Figure 1 gives the profile of journey times for people travelling to work in the GDA and nationally for 2011. 51% of all trips to work in the GDA take 30 minutes or less as against over 70%, nationally. 11% of trips to work in the GDA take longer than an hour. The biggest differences between the GDA and national level occur between the trips under 15 minutes (19% vs. 33%) and trips between 30 and 45 minutes (9% vs. 27%).

Figure 2 compares journey times to work between 2006 and 2011, which shows an increase in the percentage of trip taking between 15 and 30 minutes and between 30 and 45 minutes. The greatest reduction relates to trips in excess of 1 hour and with a reduction also, in the percentage of journeys taking between 45 minutes and 1 hour. These trends may reflect the on-going effects of dispersed residential development on journey to work distances (as reflected in journey times), but with the counter-balancing effects of reductions in congestion levels.

Figure 1 – Comparison of journey times, National vs. GDA, 2011

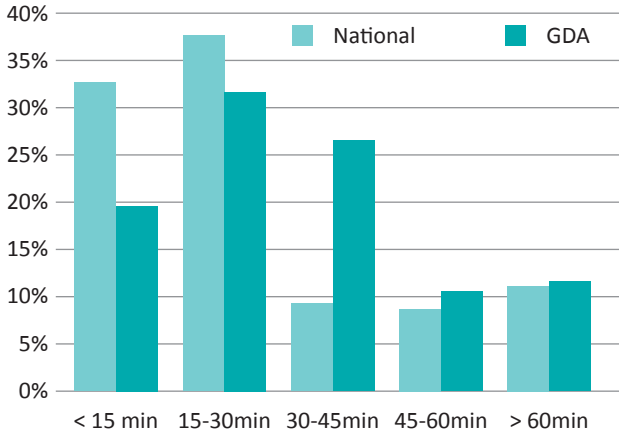


Figure 2 - Comparison of journey times in the GDA - 2006 and 2011

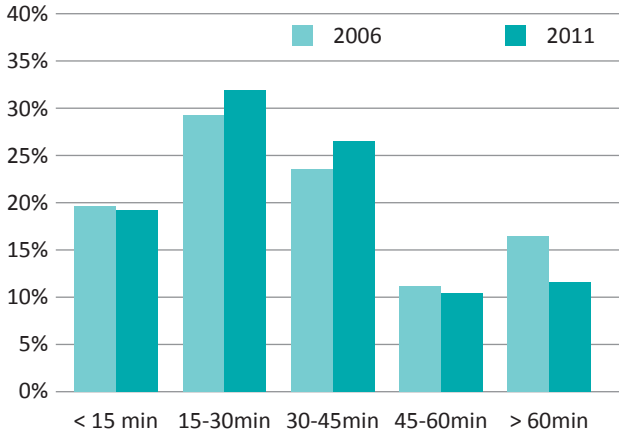


Table 5 - % Mode Share comparison for trips to education, nationally 2006 and 2011

Persons travelling to education by mode nationally	2006		2011		Change in Mode Share	% Change in Trips
	Trips	% Mode Share	Trips	% Mode Share		
On foot	227,422	26.1%	244,428	24.8%	-1.3%	7%
Bicycle	17,654	2.0%	21,374	2.2%	0.1%	21%
Bus, minibus or coach	211,993	24.4%	196,886	20.0%	-4.3%	-7%
Train, DART or LUAS	16,716	1.9%	18,227	1.9%	-0.1%	9%
Motorcycle or scooter	1,289	0.1%	869	0.1%	-0.1%	-33%
Motor car: Driver	37,866	4.4%	59,945	6.1%	1.7%	58%
Motor car: Passenger	354,636	40.7%	439,174	44.6%	3.9%	24%
Other , incl. lorry	2,893	0.3%	3,097	0.3%	0.0%	7%
Total	**870,469**	**100%**	984,000	**100%**	**0%**	**13%**

Table 6 - % Mode Share comparison for trips to education in the GDA 2006 and 2011

Persons travelling to education by mode in the GDA	2006		2011		Change in Mode Share	% Change in Trips
	Trips	% Mode Share	Trips	% Mode Share		
On foot	113,591	34.4%	123,943	32.9%	-1.5%	9%
Bicycle	11,196	3.4%	14,198	3.8%	0.4%	27%
Bus, minibus or coach	70,326	21.3%	70,272	18.7%	-2.6%	0%
Train, DART or LUAS	14,332	4.3%	15,293	4.1%	-0.3%	7%
Motorcycle or scooter	636	0.2%	435	0.1%	-0.1%	-32%
Motor car: Driver	12,104	3.7%	18,423	4.9%	1.2%	52%
Motor car: Passenger	106,934	32.4%	133,048	35.4%	2.9%	24%
Other , incl. lorry	763	0.2%	684	0.2%	0.0%	-10%
Total	**329,882**	**100%**	**376,296**	**100%**	**0%**	**14%**

2.6 Departure time

Increased traffic congestion during the economic boom years made for longer journey times and caused commuters in the GDA and nationally to depart earlier, to be more certain of arriving on time for work. The phenomenon of peak spreading was particularly evident in the GDA as revealed by comparison of travel to work departure times in the 2002 and 2006 census years. Analysis of departure times for travel to work form Census 2011 is useful to reveal if the trends in peak spreading have altered or reversed in the past five years.

Figure 3 gives the profile of departure times for journeys to work and compares the national profile with the equivalent profile in the GDA. The profiles are very similar, with a greater percentage of GDA commuters leaving for work before 7:30am than is the case nationally. One third of GDA commuters leave for work before 7:30 in the morning, whereas nationally this percentage is 28%.

Figure 4 compares the departure time profile of trips to work in the GDA for 2011 and 2006. This comparison shows that the reduction in congestion levels means that fewer commuters are now departing for work before 7:30am (32% in 2011 as against 36% in 2006), while more are departing for work after 8:00am (50% in 2011 as against 45% in 2006). In summary, the AM peak within the GDA has contracted over the last 5 years.

Figure 3 - Profile of departure times for trips to work, Nationally vs. GDA, 2011

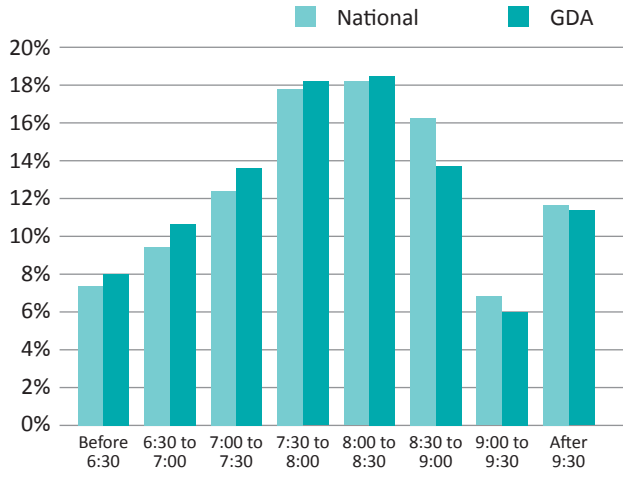
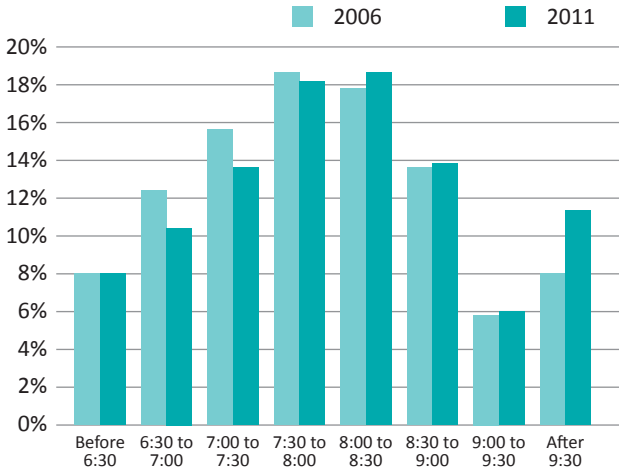


Figure 4 - Profile of departure times for trips to work in the GDA - 2006 and 2011



2.7 Car ownership

Levels of car ownership have a critical impact on people's travel behaviour - in particular on the number of trips they will make and the means of travel they will choose. The economic boom in Ireland led to huge increases in car ownership to levels that are now on a par with many of our EU partners, a trend that was also reflected in the GDA. There are, however, significant spatial variations in this trend, with relatively low levels of car ownership in central Dublin in particular. This is in contrast to car ownership levels of over 500 cars per 1,000 population in many counties, and particularly high levels of ownership in counties within the commuting catchment of the GDA.

Of particular interest in analysis of the 2011 Census is to determine whether or not the economic downturn has impacted on the general trend of growth in car ownership up to 2006. Rather than comparing the 2011 data with 2006, it is more instructive to examine trends in car ownership since 1991. Figure 5 shows the trends in car ownership in the GDA counties since 1991 and compares the GDA trend with the trend nationally. The car ownership figures are presented as total cars and vans (owned for private use) per 1,000 of population.

Figure 5 - Car ownership trends in GDA counties compared with the national trend

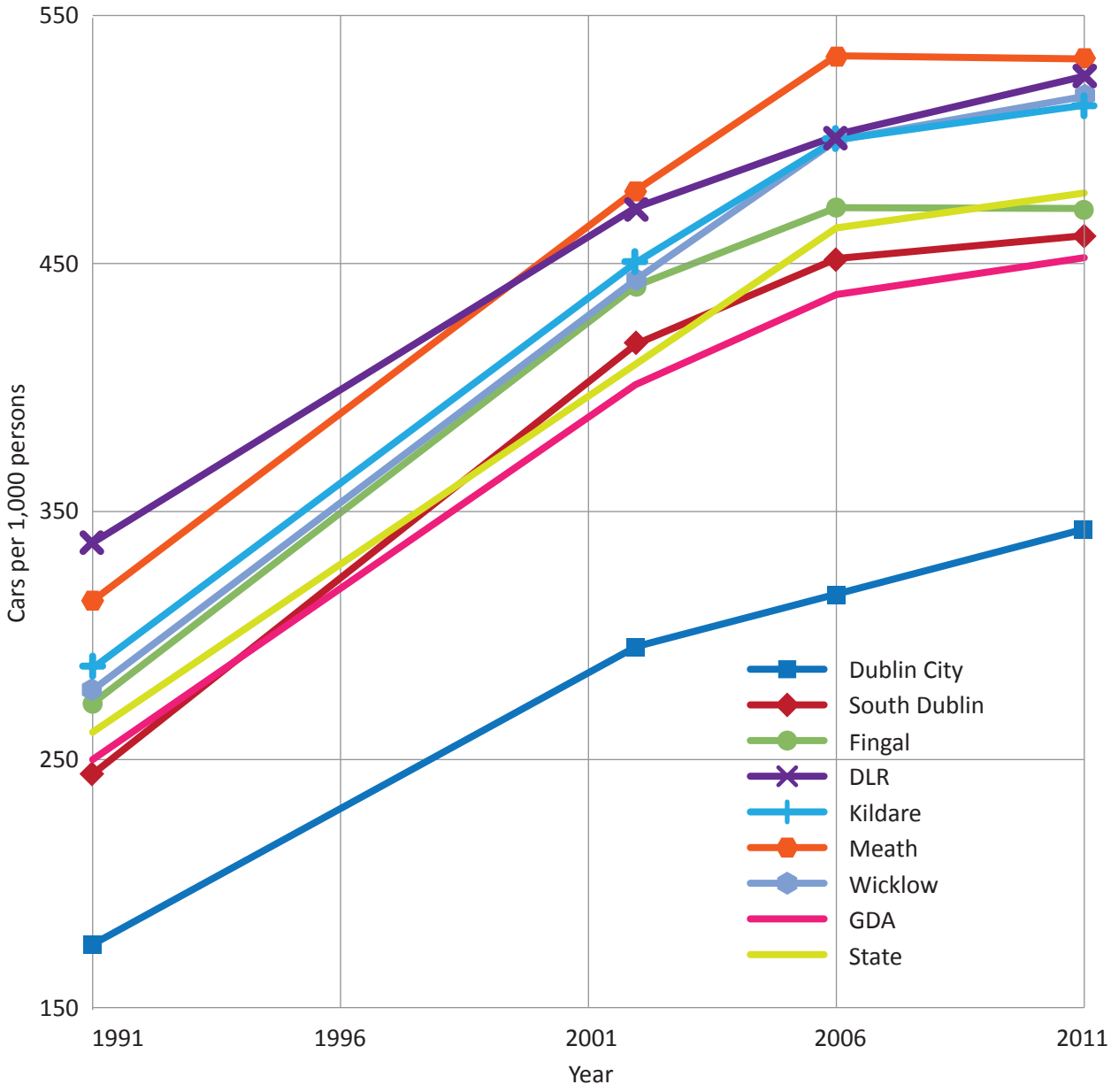


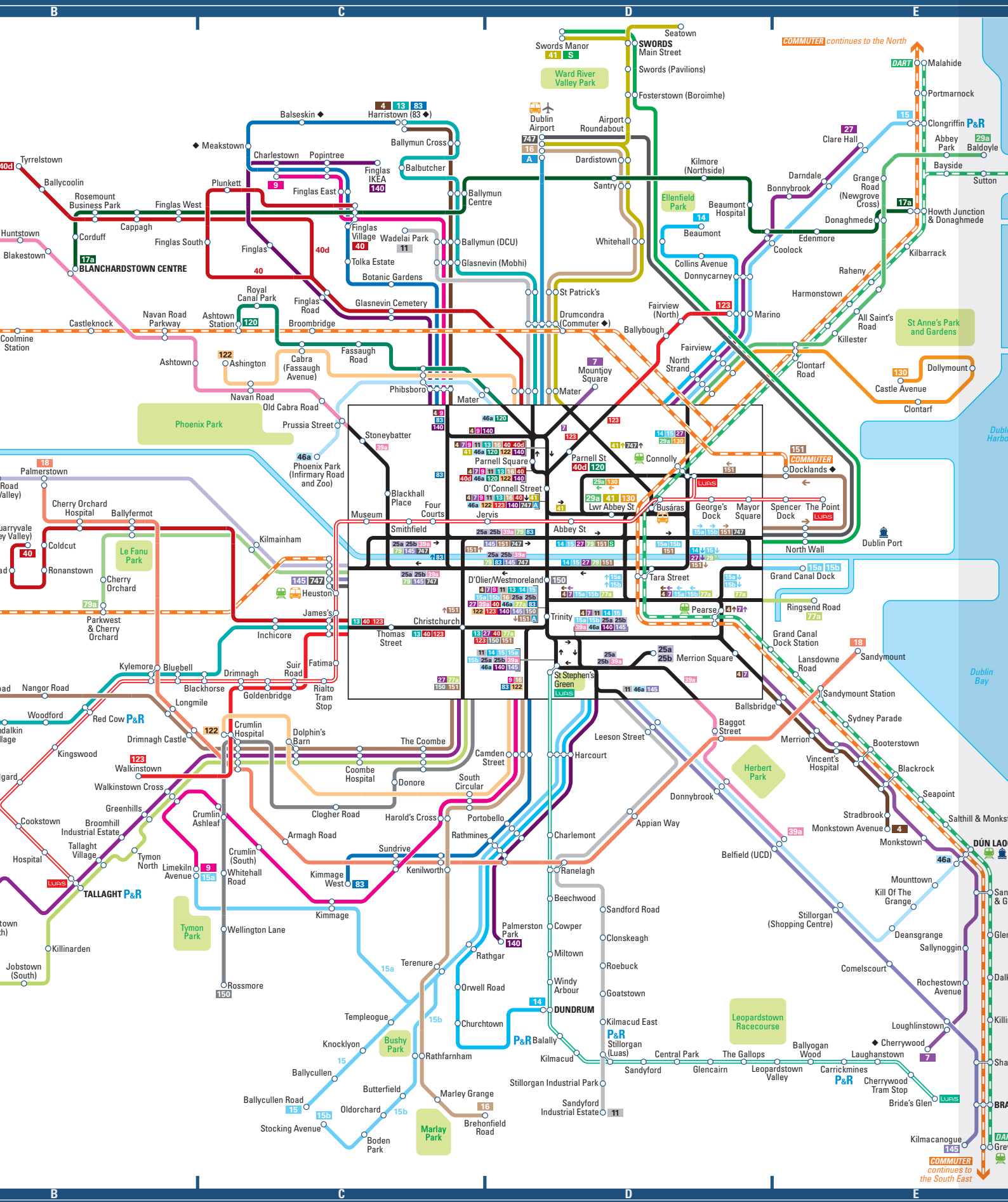
Figure 5 shows the characteristic historic trend in car ownership (i.e. S-Curve) for all GDA counties and nationally. Within the GDA, Meath has the highest levels of car ownership with rates that are well ahead of the national average. However it is clear from the graph that levels of car ownership in Meath are now approaching saturation levels (i.e. where every person legally entitled to drive owns a car), and the period 2006 to 2011 showed only a small increase in ownership levels in this county. Though levels of car ownership in Dublin City are much lower than in any other part of the country, there was a significant jump in ownership between 2006 and 2011. The impact of the economic boom between the mid-1990's and 2006 is clearly evident in the car ownership trends. It is also clear that despite the economic downturn since 2006, car ownership levels have continued to rise and are only levelling off where they are reaching saturation levels. The increases in car ownership despite recent economic conditions may also be indicative of the reduced cost of owning a car in Ireland – in particular the cost of second hand cars that has fallen significantly over the past 5 years.

2.8 Summary and Main Conclusions

Some of the main findings from Census 2011 travel datasets pertaining to the GDA are as follows:

- The economic downturn and the corresponding reduction in employment has resulted in a reduction (6%) in the numbers of people in employment in the GDA, between 2006 and 2011;
- In contrast to the drop in trips to work, there have been significant increases in trips to education in the GDA (14%);
- In the case of both trips to work and education, there have been reductions in mode share for walking and travel by bus and increases in the mode share for car and cycling. For travel to work, cycling has been the only mode to show an increase in absolute terms. This increase has been particularly significant (40% increase) in Dublin city centre;
- The economic downturn and corresponding reduction in employment and journey to work has had the effect of reducing congestion levels in the GDA, and this has led in turn to a reduction in travel times and a contraction of the morning peak; and
- Between 2006 and 2011, car ownership rates showed another increase despite the economic downturn, but some counties are now approaching saturation levels and these counties have shown only a small increase in ownership levels since 2006.

Transport **Frequent Services**



3 Transport Challenges and Objectives

3.1 Transport and the Economy

The economic wellbeing of the GDA is of vital importance to the wider Irish economy. A significant proportion of population, employment and retail growth in the GDA in the last decade has taken place away from high capacity, public transport network. As a result, a large share of the associated growth in travel has been by car. This, in combination with increased car ownership and use, has led to a substantial increase in road congestion in much of the GDA when compared with prior years.

Recent public transport improvements, major road construction and investment in cycle and pedestrian facilities, in combination with the economic downturn, has temporarily alleviated congestion in the Greater Dublin Area. However, as economic activity and employment increase, it is inevitable that, in the absence of targeted transport infrastructural investment, traffic conditions can be expected to deteriorate throughout much of the Dublin region. This would have serious implications for businesses and the wider GDA economy.

General transport challenges include:

- how to appropriately allocate financial resources to achieve economically efficient solutions in the transport area;
- how to lock in the economic benefits of new transport infrastructure;
- the identification and delivery of network improvements to minimise road congestion, maximise the use of public transport services and facilitate a greater uptake of walking and cycling;
- how to encourage some of those using the network at busy times to use more appropriate means of travel or to travel at less congested times;
- how to free up road space for economically essential traffic by further increasing the share of travel by means other than the car, particularly to the city centre and other employment centres; and
- how to target public transport improvements to areas where access is currently poor, increasing the amount of people that can access jobs in Dublin city centre and other employment centres.

3.2 Public Transport and Society

Public transport brings a range of economic, social and environmental benefits. A number of these are outlined below at broad level:

First it brings economic benefits by reducing congestion, offering affordable mobility and freeing resources for use in other productive activities. The benefits associated with reduced congestion can be substantial. Evidence from the UK suggests that buses carry more than a quarter of all motorised trips into city centres in most large cities (Abrantes, P., Fuller, R. and Bray, J. (2013) The Case for Urban Bus). If all, or even half, those bus trips were instead made by car, congestion in city centres would be increased significantly with subsequent impacts on productivity and competitiveness. In turn this would also give rise

to an increased cost of doing business. A systemic delay in getting goods to market would result in increased costs for business, which would likely have an impact on final prices paid by consumers.

Second, it brings social benefits by facilitating mobility, offering affordable alternatives to lower income groups and other vulnerable cohorts. Vulnerable and socially disadvantaged groups are most reliant on bus networks. In this sense public transport plays an important role in tackling social isolation and promoting independent living.

Third, public transport plays a vital role in enabling economic activity. Public transport aids in the functioning of the economy by contributing to more flexible labour markets and enabling other economic activities such as retail and leisure. Public transport allows individuals to travel across a wide geographical area. In doing so it increases the number and range of jobs accessible to workers. This can be especially important for low income or less skilled workers who are less likely to have access to a car and may also qualify for a narrower range of jobs which are more likely to be scattered across a larger area. For employers, public transport extends the available labour supply, which can be an important element in a firm's location decision.

Finally, it brings environmental benefits by reducing traffic volumes and thereby cutting associated emissions levels. In Ireland alone, emissions from the transport sector constitute nearly 20% of all greenhouse gas emissions (Environmental Protection Agency (2013) Ireland's Greenhouse Gas Inventory 1990 – 2011).

The challenges for public transport in serving society effectively include:

- how to improve connectivity for those living in disadvantaged areas to employment and essential services;
- how to ensure that transport facilities are designed to address the needs of people with mobility impairments and people with disabilities;
- how ensure that public transport is easy to understand, encouraging new users and improving the experience of existing customers, through simplifying fares and ticketing and improving access to travel information;
- how to make the public transport network easier to use;
- how to improve safety, and perceptions of safety, for those who walk and cycle; and
- how to encourage walking and cycling, including for leisure and recreational purposes, which can contribute to the health and wellbeing of GDA residents.

3.3 Transport and the Environment

The environmental challenges associated with transport are significant. Overall, Ireland's greenhouse gas (GHG) emissions in 2010 were 9.3% above 1990 levels (Ireland's Environment 2012, EPA).

Environmental challenges include:

- how to identify the means to stabilise or reduce transport related GHG emissions and the use of fossil fuels to power transport in the GDA;
- how to minimise the impact on natural amenities; and
- how to facilitate improvements to air quality, reduce noise pollution and minimise the visual impact of transport.

3.4 General Objectives

The general objectives of the integrated implementation plan can be categorised under economic, social and environmental headings.

3.4.1 Economic Objectives

- Improve travel time and reliability for the movement of people and goods;
- Facilitate businesses by the efficient movement of people in the region seeking employment opportunities;
- Support businesses through the facilitation of the efficient distribution of goods and materials and servicing of premises;
- Appropriately allocate financial resources to achieve economically efficient sustainable transport solutions; and
- Improve access to key regional destinations, such as the ports, Dublin Airport, hospitals and colleges.

3.4.2 Social Objectives

- Enhance accessibility to jobs, schools, shops, local services, leisure facilities and other destinations;
- Enable access across the region to large educational institutions, in particular third level colleges;
- Improve access for all people, including physical access for people with mobility impairments;
- Improve internal connections between communities and external links to/from areas outside the GDA;
- Provide for an improved quality of public realm for the movement of people;
- Improve the quality of travel information and access to this information;
- Advance the user-friendliness of the public transport system including easy transfer across the various modes and operators; and
- Improve personal security and provide a more comfortable travel experience.

3.4.3 Environmental Objectives

- Reduce the impact of transport on air and water quality;
- Reduce transport related greenhouse gas emissions;
- Reduce the impact of noise and vibration;
- Promote energy efficiency and focus on reducing dependence on non-renewable resources; and
- Reduce impact on biodiversity and natural amenities.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4 Scope of the Implementation Plan

4.1 Approach

The earlier sections of this document set out the background and context to this Plan. The remaining sections set out the key elements relating to land use and transport integration, infrastructure, service, and integration/accessibility aspects of the Plan. The structure of the subsequent sections is set out below.

4.2 Structure

4.2.1 Integration of Land Use and Transport

The first chapter of this Plan addresses the relationship between land use and transport provision and the essential need for an integrated approach between both. It sets out a number of principles that support that alignment and which reflect a coordinated approach between the planning and delivery of development and the planning and delivery of supporting transport provision.

4.2.2 Infrastructure Investment Programme

Chapter 6 sets out the central Infrastructure Investment Programme. This provides the overall funding provision over the six year period of the Plan. It identifies the four key investment areas, being:

1. Bus;
2. Light Rail;
3. Heavy Rail; and
4. Integration Measures and Sustainable Transport.

The subsequent chapters 7 to 10 detail the investment proposals under each of these respective areas, including identifying key objectives and outputs, as well as certain measures for the effective integration of public transport infrastructure.

4.2.3 Integrated Service Plan

Chapter 11 details the integrated service plan provisions including the key objectives and outputs to be pursued by the Authority in relation to the procurement of public passenger transport services over the period of the Plan. It addresses bus and rail services as well as small public service vehicles.

4.2.4 Integration and Accessibility

Chapter 12 identifies various measures proposed in relation to the integration of public passenger transport services and the ease and convenience of use of those services. It deals with integrated ticketing, real time passenger information, journey planning, fares, branding and optimising interchange. In addition, it sets out proposals in the area of accessibility and passenger rights.


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5 Integration of Land Use and Transport

5.1 Background

Section 13 of the Dublin Transport Authority Act 2008 states that an integrated implementation plan shall comprise the actions to be taken by the Authority to ensure the effective integration of public transport infrastructure, the effective integration of public passenger transport services and shall have regard to the need to ensure the most beneficial, effective and efficient use of Exchequer resources. In order to meet these requirements, and considering the Authority's statutory role as set out in the Planning and Development Act of 2010 in providing for the effective integration of transport and land use planning, the Authority considers it appropriate and necessary to address the inter-related roles of land use planning and transport provision as part of this Plan.

5.2 Need for Land Use and Transport Integration

The purpose of transport provision and transport investment is to serve and support land uses. Accordingly, the decisions made in relation to land use ultimately determine the associated transport patterns that subsequently develop.

Transport planning can only be successful, therefore, if it is integrated with land use planning. Transport policies aimed at reducing both the need to travel and distances travelled can only be delivered if there are complementary spatial policies locating future populations closer to their employment and the services that support them, including education, retail and leisure opportunities. The location of schools, jobs, shops, local services and other land uses relative to the location of residential development, is a critical determinant of the need to travel, the distances to be travelled and the modes of transport chosen.

Additionally, provision of high capacity public transport and walking and cycling infrastructure can only be effective if matched with complementary development patterns which support and facilitate their use. It is vital, therefore, that land use planning and transport planning are fully aligned, both spatially and temporally. Land use policy, as such, is a key determinant in transport investment decisions at both the strategic and local level.

This position is consistent with, and reflected in, national planning and transport policy objectives and guidelines and, through their application, the Authority seeks, in combination with other agencies and authorities, to ensure that the greatest possible benefit is derived from transport investment over the lifetime of this Plan. These national policies include, inter alia, those set out in the following documents:

- Sustainable Residential Development in Urban Areas (DoECLG);
- Spatial Planning and National Roads Guidelines (DoECLG);
- Design Manual for Urban Roads and Streets (DoECLG); and
- National Cycle Manual (NTA).

The particular planning principles that will give expression to these policies on the ground, and which the Authority will promote and seek to implement, are set out below.

5.3 Key Principles for the Integration of Land Use and Transport

In order to give clarity to those principles underpinning the integration of land use and transport, they have been split into:

i. those which apply at trip destinations, e.g. workplaces, schools, retail; and

ii. those which apply at trip origins, i.e. residential areas.

These principles may be regarded as strategic in nature in that they relate primarily to the principal determinant of travel demand - the location of development. In addition to this distinction, a further set of principles which apply primarily at the local level are also set out. While the principles in the first two sections predominantly govern where development occurs, this latter category relates to site layouts and urban form considerations and outline how public transport, walking and cycling can be served at these development locations.

5.3.1 Trip Destination Principles

The key trip destination-focussed principles related to optimising the integration of land use and transport provision include the following:

- High volume, trip intensive developments, such as offices and retail, should primarily be focussed into Dublin City Centre and the larger Regional Planning Guidelines (RPG) higher order centres within the GDA;
- The role and function of district centres and neighbourhood centres should be supported and promoted in order to exploit the levels of accessibility offered by public transport, walking and cycling at these locations. This relates to providing for an appropriate scale of development in these centres which would not undermine development potential in Dublin City Centre or the larger RPG higher order centres;
- Except in limited circumstances such as where specific physical requirements exist for the siting and operation of a particular land use, trip intensive developments or significant levels of development should not occur in locations not well served by existing or committed high quality public transport;
- The strategic transport function of national roads, including motorways, should be maintained by limiting the extent of development that would give rise to the generation of local car-based traffic on the national road network. This principle also applies to trip origins such as residential development;
- All non-residential development proposals in the GDA should be subject to maximum parking standards. These should be set by the local authorities in the GDA in consultation with the Authority and should vary spatially on the basis of centrality and the level of public transport provision;
- In locations where the highest intensity of development occurs, an approach that caps car parking on an area-wide basis should be applied; and
- For all major employment developments and all schools, travel plans should be conditioned as part of planning permissions and be carried out in a manner consistent with existing guidance.

5.3.2 Trip Origin Principles

The key origin focussed principles related to optimising the integration of land use and transport provision include the following:

- Residential development located proximate to high capacity public transport should be prioritised over development in less accessible locations in the GDA; and
- To the extent practicable, residential development should be carried out sequentially, whereby lands which are, or will be, most accessible by walking, cycling and public transport - including infill and brownfield sites - are prioritised.

5.3.3 Local Development Principles

In relation to development of identified locations, key principles to be considered from the perspective of integrated land use and transport provision include:

- Planning at the local level should promote walking, cycling and public transport by maximising the number of people living within walking and cycling distance of their neighbourhood or district centres, public transport services and other services at the local level such as schools;
- New development areas should be fully permeable for walking and cycling and the retrospective implementation of walking and cycling facilities should be undertaken where practicable in existing neighbourhoods, in order to a give competitive advantage to these modes;
- Development proposals should exploit opportunities to enhance the effectiveness of transport investment;
- The density and location of employment development should maximise the potential for the use of walking, cycling and public transport;
- Where possible, developments should provide for filtered permeability. This would provide for walking, cycling, public transport and private vehicle access but at the same time would restrict or discourage private car through trips; and
- To the extent practicable, proposals for right of way extinguishments should only be considered where these do not result in more circuitous trips for local residents accessing public transport, or local destinations.

5.4 Summary

The application of the principles set out in these sections will assist significantly in ensuring an appropriate level of alignment between land use and transport provision. Over time, the operation of those principles will contribute to an increase in mode choice for all trip purposes and, as a result, help engender a shift towards walking, cycling and public transport over the period of this Plan.


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Drogheda
Laytown
Navan
Meath County
Balbriggan
Skerries
Trim
Mullingar
Fingal
Lusk
Rush
Donabate
Ratoath
Swords
Malahide
Kinsealy
Portmarnock
Dunboyne
Kilcock
Maynooth
Leixlip
Dublin City
Edenderry
Celbridge
Dublin City
Clane
South Dublin
Dún Laoghaire-Rathdown
Sallins
Naas
Bray
Kildare County
Newbridge
Blessington
Portarlington
Kildare
Greystones
Portlaoise
Athy
Wicklow
Wicklow County
Carlow
Arklow
Greater Dublin Area
Gorey

6 Overall Infrastructure Investment Programme

6.1 Introduction

The Government published its capital programme in November 2011 titled "Infrastructure and Capital Investment 2012 – 16: Medium Term Exchequer Framework". That programme set out the Government's capital investment priorities over the five years of the programme. The total public transport investment set out in the programme is €1,428 million over the period 2012 to 2016.

Under that capital investment framework, the amount allocated to public transport infrastructure in the GDA is €715 million to the end of 2016. Within this plan there may be yearly adjustments to reflect Government decisions, particular expenditure timings and other factors. Arising from such changes the Authority's allocation for 2012 was increased to €130.85 million and its allocation for 2013 is adjusted to €140.6 million.

While the Government's "Infrastructure and Capital Investment 2012 – 16" sets out investment for the years to the end of 2016, it is required that this Plan will extend to a six year period, to the end of 2018. In line with the provisions of Section 11 of the Dublin Transport Authority Act 2018, guidance has been obtained from the Department of Transport, Tourism and Sport indicating that projected figures may be used for proposed capital expenditure for 2017 and 2018. While no commitment has been given in relation to funding in those later years, the Plan has assumed a similar level of funding for those years to that proposed for 2016.

Table 7 – Infrastructure and Capital Investment 2012-16
Public Transport Investment 2012-16 (€ million)

	2012	2013	2014	2015	2016	Total
Public Transport Infrastructure - GDA	111	158	150	145	150	715
Public Transport Safety and Development	111	114	120	115	111	571
Public Transport Projects / Accessibility	16	16	15	15	15	77
Smarter Travel	17	15	11	11	11	65
Total	256	304	296	289	287	1,428

Accordingly, the Authority has prepared this Plan on the basis of the following funding profile:

Table 8 – Funding Profile for the Integrated Implementation Plan

	2013	2014	2015	2016	2017	2018	Total
Funding (€ m)	140.6	149.2	145	150	150	150	884.8

6.2 Overall Programme Approach

The Infrastructure Investment Programme forms an integral and central part of the Plan. Over the six year period of the Plan, close to €900 million will be invested in public transport infrastructure and related cycling/walking infrastructure under this Plan. A well planned investment framework is essential to ensure that the optimal outcomes will be achieved for this investment.

The overall Infrastructure Investment Programme is divided into four sub-programmes. These are:

1. Bus;
2. Light Rail;
3. Heavy Rail; and
4. Integration Measures and Sustainable Transport.

The table below indicates the total Infrastructure Investment Programme sub-divided into its constituent sub-programmes.

Table 9 – Funding Profile for the Integrated Implementation Plan by Sub-Programme

Sub-Programme	2013 (€m)	2014 (€m)	2015 (€m)	2016 (€m)	2017 (€m)	2018 (€m)
Bus	33.9	41.0	35.0	35.8	35.0	35.0
Light Rail	25.5	29.5	36	64.5	65.0	65.0
Heavy Rail	33.4	30.4	32.5	10.5	15.0	15.0
Integration Measures & Sustainable Transport	47.80	48.3	41.5	39.2	35.0	35.0
Yearly Totals	140.6	149.2	145	150	150	150

Each of these sub-programmes is addressed in turn in the following sections, with details provided on the objectives of the particular sub-programme and projects intended for delivery under that sub-programme.

The sub-programme amounts in the table above are subject to adjustments during the period of the Plan in line with prioritisation and progress of projects.

6.3 Environmental considerations

The development of the Plan has been accompanied by consideration of environmental issues through, in particular, the Strategic Environmental Assessment process and the Habitats Directive Assessment process. These processes have fed back into the making of the Plan, in particular in relation to those locations where impacts have been identified as a result of the proposed development of transport infrastructure. Details of the environmental analysis and mitigation measures identified are presented in the accompanying Environmental Report and Natura Impact Statement.

The assessments identified a number of schemes which may have potential negative impacts on the environment. These mainly relate to the BRT and Cycle networks and the electrification of the Northern Rail line. Potential impacts identified include land-take, habitat loss and disturbance. The risk of flooding as a result of new infrastructure is also a key consideration and ongoing studies in this regard will be taken into account as the Plan is implemented. Mitigation measures such as choosing alignments of least impact, minimising land-take, best practice construction methods and timing, replacement of lost habitats etc. will all be examined as projects progress. In the case of the Northern Rail line, this is dealt with in section 9.10 and in the Natura Impact Statement.

Notwithstanding the above, it must also be borne in mind that the Plan is likely to have significant positive impacts on the environment as a result of the anticipated mode shift away from the private car to public transport, walking and cycling. Positive impacts identified include reduction in greenhouse gas emissions, improved air quality and health, and enhancements to the public realm. As such, a view of the Plan which takes both positive and negative impacts of the proposed schemes and policies into account in a balanced manner is appropriate.

In general, the process of environmental assessment will continue through the project development stage for individual schemes forming part of the Plan. In delivering the Plan, the Authority will, in collaboration with the relevant agencies, actively address the protection and enhancement, where practicable, of the natural, built and historic environment associated with these schemes. Projects which are taken forward to development consent stage will be supported by environmental appraisal, Habitats Directive Assessment and Environmental Impact Assessment (EIA) where appropriate. All transport projects will be constructed in accordance with applicable design standards and environmental regulations and mitigation measures in accordance with good practice will be incorporated into the design and construction of these schemes.


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7 Bus Investment

7.1 Background

Today, the bus already carries 60% of all city-bound public transport trips and is the dominant transport mode in the Greater Dublin Area (GDA). Dublin Bus currently operates a network catering for c.115 million passenger journeys per annum and Bus Éireann's network of commuter services in the GDA carries c.10 million passengers per annum. There are also an increasing number of routes and services operated by the private sector meeting transport needs throughout the region.

Given the geographic nature of the region and the low density dispersed development pattern that has occurred over recent decades, it is clear that the bus will continue to play this central role in the expanded market for transport well into the future. Investment in the development of bus-based public transport is, therefore, not just for the short term but also for the medium and long term.

Various actions and investments are required to improve the attractiveness of the bus system in the GDA. This will require a network-wide approach addressing network and fleet enhancement, increased bus priority and focusing on customer facilities such as information provision (including Real Time Passenger Information), good quality bus stop and shelter facilities, optimised service routings and convenient interchange facilities with other transport modes.

7.2 Objectives of Bus Investment

The objectives of this sub-programme are to:

- Support the continued use of the bus as the primary public transport mode in the GDA;
- Invest in the provision of an attractive, modern bus fleet on publicly subsidised routes;
- Improve bus priority for bus transport to ensure that the bus has the journey time advantages that it needs to compete effectively with the private car;
- Enhance roadside facilities for bus transport;
- Develop key interchange locations between services and between modes; and
- Further develop the bus mode by introducing Bus Rapid Transit on appropriate corridors.

7.3 Proposed Investment Areas

The proposals in relation to Bus investment are encompassed in four investment areas:

- Bus Fleet Investment;
- Bus Stop and Shelter Provision;
- General Bus Network Improvements; and
- Bus Rapid Transit Schemes.

The proposals under each of these areas are elaborated on in the following sections.

7.4 Bus Fleet

7.4.1 Current Status

In terms of bus fleet, while there was significant investment in the bus fleet in the early years of the last decade, the economic downturn meant that investment in fleet renewal was limited in the latter period of the last decade. As a result, the age of the Dublin Bus fleet has dis-improved, with a considerable portion of buses now dating back to the 2000 to 2002 period. In addition to not offering the same level of passenger comfort as more modern buses, these older vehicles have higher operating and maintenance costs, placing further pressures on the limited public service subsidy amounts.

The appropriate approach to bus fleet management revolves around a continuous programme of bus replacement. An ad hoc approach with some funding in some years and none in others is simply not conductive to the efficient and effective management of the fleet.

The desirable maximum age of a standard double deck bus operating at optimal use with minimal service disruption is about 14 years, with maintenance and running costs increasing significantly after that point. In general, 12 years is a better target as manufacturers are prepared to offer warranties on the bus chassis and certain other elements up to a limit of 12 years.

7.4.2 Proposal

Given the importance of the bus fleet quality in the provision of an attractive public transport services, it is proposed to invest in a fleet renewal programme that seeks to ensure that the average bus fleet age for publicly subsidised services does not exceed 7 years. This will require a continuous level of investment which will allow a consistent level of vehicle replacement each year, avoiding the peaks and troughs that characterised previous approaches.

Recent bus fleet investment has seen the procurement of an enhanced standard of vehicle. These improvements have included:

- Second door provision on buses to speed up boarding and alighting. The benefits of this will be more fully realised as additional buses of this type are deployed and customers become acquainted with entry and exit options;
- Improved seating in the form of individual seating rather than standard bench type seating;
- Better identification of wheelchair spaces;
- Improvements in legroom spacing;
- Straight access stairs to upper deck;
- Audio announcements and visual displays facilitating next-stop identifications; and
- Enabling for Wi-Fi provision.

It is intended that similar specifications will apply to future vehicle acquisitions under this Plan, with the accessibility features and environmental performance of the vehicle being a key consideration also for new fleet.

7.5 Bus Stops and Shelters

7.5.1 Current Status

Ensuring the quality of the bus vehicles addresses one component of the customer experience. Another important component is the level of quality of roadside provision of bus shelters and bus stops. This is currently significantly less than it could be, partially because of limited investment.

The types of deficiencies that currently exist include:

- Poor standard of many older bus stops – corroded poles, limited or no information;
- In rural areas, frequently no hard standing of any type – bus stops poles set in grass verge;
- Poor road surfaces at stops;
- Poor design and construction of bus bays;
- Poor quality route and fare information at many stops;
- Unreliable information on arrivals, pending further roll out of Real Time Passenger Information signs;
- Lack of appropriate footpath connections to many bus stops, particularly in rural areas;
- Lack of bus shelters in locations where they should be provided;

- Poor standard of many older bus shelters;
- Advertising considerations compromising bus shelter layouts and provision;
- Poor quality of seating in bus shelters in general;
- Lack of bus-bays or indentations to facilitate other vehicles passing the stopping bus;
- Lack of stop sharing between operators;
- Lack of conformity in bus stop infrastructure types;
- Inadequate or no cycle parking facilities at many stops which are appropriate for their provision;
- Lack of litter bins at most bus stops and bus shelters; and
- Graffiti present at many locations.

7.5.2 Proposal

It is the objective of this Plan to put in place a programme to improve the quality of roadside facilities for bus services, to include:

- An improved quality of bus stop provision, incorporating a common design approach, uniform styling and standardised information formats;
- Improved information provision at bus stops;
- Bus shelter provision at appropriate locations; and
- Sharing of bus stop facilities between operators and services where appropriate.

The Authority will coordinate the provision of bus stop facilities for publicly subsidised bus services and will also prescribe standards of bus stop facilities, layouts and information provision for privately operated services.

7.6 General Bus Network Improvements

7.6.1 Current Status

The benefits that have accrued from the roll-out of the Quality Bus Network throughout the Greater Dublin Area in recent years are well documented. Quality bus corridors, totalling over two hundred kilometres in length, have been developed since the start of the last decade, providing vastly improved bus performance from what existed previously.

However, various deficiencies currently exist on individual sections of that bus network with lane constraints at individual locations causing significant delays to bus movement. This compromises the performance of the bus system, reducing bus speeds and precluding reliable journey times, which is a vital component of a public transport system.

Up until recently, there was a large amount of bus layover and parking in Dublin City Centre, utilising scarce kerbside space. Following work undertaken over recent years in redesigning bus services, the scale of this issue has been significantly reduced. However, some potential still remains for further relocation of layover and bus parking away from central areas.

Separately, there is, at present, only a limited level of bus prioritisation at signalised traffic junctions in the GDA. The use of prioritisation technology at signalised junctions has the potential to further improve bus performance while still retaining general network performance for other traffic.

7.6.2 Proposals

While much has already been achieved in catering for bus movement in the GDA, it is proposed to build on that work by:

- Further development of a quality bus network appropriate to serve the needs of the GDA;
- Seeking to achieve, as far as practicable, continuous inbound priority and the maximum possible outbound priority on key bus routes into Dublin City Centre;
- Enhancing bus priority at other urban locations in the GDA;
- Seeking enhanced bus prioritisation at signalised traffic junctions in the GDA;
- Improving the level of interchange facilities between services and with other transport modes;
- Creation of bus hubs or bus focal points in key urban locations in the GDA; and
- Reducing the level of bus layover and parking in central urban areas.

As part of the further development of the bus network, additional bus lanes will be implemented

by reassigning road space from private vehicles, converting hard shoulders, or road widening on sections to create an additional lane. Where road cross sections are too narrow to accommodate additional lanes, a virtual bus lane may be provided. This is accomplished using signalling arrangements to relocate queuing from an area of the route to an area where bus lanes exist, thus allowing the bus to bypass the queue.

Other measures that will be implemented in applicable locations to improve on-street priority are likely to include contra-flow bus lanes, first priority bus lanes, turning bans, bus gates and straight-through lanes for buses at roundabouts.

Consideration will be given to a dedicated public transport corridor along Westland Row, which would provide improved interchange arrangements with DART and rail services at Pearse Station. In addition, more traffic signal prioritisation to favour non-car transport modes, will be required in numerous locations throughout the city area.

A fundamental feature of a bus corridor is the road pavement that the bus operates on. The quality of the road pavement dictates to a significant degree the passenger's perspective of the comfort of the overall journey. Uneven road surface makes it difficult for passengers to easily move to and from seats while the bus is travelling, and makes movement to the upper deck particularly difficult. Accordingly, it is proposed that pavement renewal works will be undertaken on certain corridors to resolve current pavement deficiencies.

In addition, the development of a coach parking facility close to Dublin City Centre is proposed to be progressed during the Plan period, to provide facilities for longer layover by buses and coaches, provided that the Authority is assured that the many private bus operators will avail of the facility. This will facilitate a review of, and consequential changes to, the on-street coach parking arrangements in the City Centre area.

7.7 Bus Rapid Transit

7.7.1 Description

Bus Rapid Transit (BRT) is a high-quality bus based transit system that delivers fast, comfortable, and cost-effective urban mobility through the provision of segregated right-of-way infrastructure, rapid and frequent operations and excellence in marketing and customer service. It applies to public transportation systems that use buses to provide a service with higher speeds and quality of service than traditional bus services, and is achieved by making improvements to the existing road infrastructure, the vehicles and the scheduling. Aspects such as vehicle, station layout, ticketing, branding and intelligent transport systems are all integrated to deliver an attractive and modern transport system.

A successful BRT scheme has a number of essential components which, taken together, form a system that offers passengers a high level of service. The key elements of a BRT system are:

- Vehicle;
- Branding;
- Ticketing;
- Station stops;
- Passenger Facilities; and
- Segregation (where possible) and Priority (where full segregation is not possible).

This high quality integrated public transport mode uses buses on roadways or dedicated lanes to transport passengers quickly and efficiently to their destinations, while offering the flexibility and adaptability to meet transport demands. The goal is to approach the service quality of light rail transit while still enjoying the very significant saving in investment costs that bus transit is capable of delivering. Generally, BRT infrastructure costs are in the order of one third to one quarter of that of light rail schemes.

Ideally, BRT operates with full segregation from other traffic, but a key benefit is its flexibility to mix with other traffic on existing roads where full segregation is not readily achievable. BRT systems also allow the option for other buses to benefit from using sections of the BRT route.

BRT schemes are being successfully developed and operated as part of integrated public transport solutions in an increasing number of cities across the world. In Europe, there are BRT schemes

running in several countries, with France having lines in Nantes and Rouen, while in the UK BRT services are operating in Swansea and Cambridge. In South America and the United States, BRT is well established while it is becoming the public transport mode of choice in numerous cities in Asia and Africa.

7.7.2 Analysis

The Authority published a report in October 2012, "Bus Rapid Transit - Core Dublin Network", setting out two cross city routes for development as BRT schemes. These are:

- Blanchardstown to UCD; and
- Clongriffin to Tallaght.

The report recommended the progression of these two routes with further work being required to establish the exact routes and terminal points.

In addition, that report also examined the potential for BRT to serve the Swords / Airport to City Centre corridor. It identified that while BRT does not have sufficient capacity to serve this link over the longer term, it would provide an interim transport solution in the shorter term, pending the development of a higher capacity rail solution, such as a metro, on this corridor. It would complement any rail based solution in the long term, and continue to perform strongly in terms of passenger usage. Further work carried out since the publication of that report has confirmed the feasibility and likely usage of a BRT from Swords / Airport to City Centre.

7.7.3 Proposals

It is proposed to progress the development of three BRT routes as part of this Plan. These are:

- Swords / Airport to City Centre;
- Blanchardstown to UCD; and
- Clongriffin to Tallaght.

It is envisaged that planning consent will be achieved for each of these projects in the early years of the Plan.

Subsequent implementation of these schemes will be progressed on an incremental basis in accordance with available funding.

8 Light Rail Investment

8.1 Background

The first light rail lines in Dublin – St. Stephen's Green to Sandyford and Tallaght to Connolly – began operating in 2004. In the subsequent years, the Red Line was extended to Docklands, opening in December 2009, and a spur to Citywest/Saggart was opened in July 2011. Similarly, the Green Line was extended to Cherrywood/Bride's Glen, with services commencing in October 2010.

Under the Government's "Infrastructure and Capital Investment 2012 – 16: Medium Term Exchequer Framework", Luas Cross City (previously referred to as Luas Broombridge) was selected as the main public transport project to be funded under that plan. The scheme received planning approval from An Bord Pleanála on 2nd August 2012.

With a cost of €368 million, Luas Cross City is the largest single project of the Infrastructure Investment Programme of this Plan. Construction commenced in June 2013 and will continue until the end of 2017 when the new line is expected to become operational.

The Government's "Infrastructure and Capital Investment 2012 – 16: Medium Term Exchequer Framework" also identified that reduced funding resources and Ireland's economic conditions meant that other light rail and Metro projects which were in planning, design or tendering could not proceed. Separately the Authority has identified in its Draft Transport Strategy for the region that any consideration in the future of light rail projects would involve careful assessment as to whether the substantially lower cost Bus Rapid Transit option would be more appropriate.

8.2 Objectives

The main objective of the investment programme in light rail (Luas) and metro infrastructure is to provide additional, high capacity, public transport services in the GDA where demand on prospective routes is in excess of what can reasonably be provided by bus based transport but less than the capacity of heavy rail. Allied to this is the objective of securing a substantially greater modal shift from private car use to public transport and, in this regard, the reliability, speed and frequency of light rail/metro (which derive, in part, from a high degree of segregated running) makes this mode an attractive means of transport.

The objectives of this sub-programme are to:

- Complete the construction of the Luas Cross City project;
- Preserve and enhance the performance of the existing light rail network through investment in fleet capacity, ticketing systems, customer information improvements and enhanced access and facilities at Luas stops;
- Review priority given to Luas and its interaction with other transport modes at certain junctions;
- Improve interchange arrangements with other transport modes; and

- In line with the Government's decision on the next capital plan examine and protect, as required, a light rail/metro component for serving the public transport needs of Swords and Dublin Airport.

8.3 Proposed Investment Areas

The proposals in relation to light rail investment are encompassed in two investment areas:

- Luas Cross City; and
- Fleet and Network Enhancement.

The proposals are elaborated on in the following sections.

8.4 Luas Cross City

The Luas Cross City scheme is the largest public transport project to be constructed during the period of this Plan. This scheme comprises a broadly north / south Luas line extending from St. Stephen's Green in the south to connect to the Maynooth Rail line at Broombridge in Cabra at its northern end. With an overall length of approximately 5.6km, it will have thirteen stops along its route, including serving the major new DIT campus at Grangegorman.

Luas Cross City will provide an interchange link between the two existing Red and Green Luas lines, with the O'Connell GPO stop allowing convenient change with the Red Line at the Abbey Street stop. In addition, it will significantly enhance accessibility to and within the core of the city centre area.

When operational the scheme is estimated to add approximately 10 million additional passengers to the Luas network each year. From an economic perspective the scheme delivers a robust economic performance, with a benefit to cost ratio of over two identified in the base case scenario of the business case. The Authority has examined and approved the business case, inclusive of its cost benefit analysis, for the scheme.

The project is being delivered through a series of construction contracts. Work on the first of these contracts, relating to the infilling of cellars along the route, commenced in June 2013. Following final testing and commissioning, the line is expected to go into service in late 2017.

8.5 Fleet and Network Enhancement

Like any network with increasing passenger numbers, further investment will be required to ensure that the Luas system retains the carrying capacity to deliver the number of passengers seeking to use the service. This will require investment in longer vehicles and additional rolling stock. Capacity constraints are already in evidence in the city centre areas of both the Red Line and the Green Line at some peak time periods and it is likely that some additional investment in increasing the carrying capacity of these lines will be required over the period of the Plan.

As well as increasing overall carrying capacity, it is intended to continue investment in measures to improve accessibility to Luas stations and to further improve facilities at these stops. These works will include such items as provision of cycle parking, better footpath connections to certain stops, and additional parking and drop-off facilities at some locations.

There will also be investment in improving interchange facilities with other transport modes. This will include more integration between bus and Luas services with convenient interchange facilities between these modes, as well as measures such as increased cycle parking at Luas stops. Additional information provision for transport interchange will also feature at Luas stops.

9 Heavy Rail Investment

9.1 Background

Heavy rail represents the high capacity end of the public transport spectrum. It is targeted to be provided on corridors that are predicted to have in excess of about 7,500 passenger movements in the peak hour. It provides the core high capacity network that is central to the Greater Dublin Area's mass transit system.

The rail system currently comprises a number of individual rail lines:

i. The Northern line, extending northwards from Connolly Station, providing an electrified DART service from Malahide and Howth (Howth is served by a branch line from Howth Junction), diesel commuter services from Drogheda/ Dundalk and an Intercity service linking to Belfast;

ii. The South-Eastern line, extending southwards from the city centre, providing an electrified DART service as far south as Greystones and a diesel service further southwards, serving towns such as Arklow, Gorey, Enniscorthy, Wexford and Rosslare. This line is significantly constrained south of Bray, being a single track with limited passing capacity;

iii. The Kildare line, providing diesel commuter services as far southwards as Portlaoise and Carlow plus Intercity services to Waterford, Cork, Limerick and Galway;

iv. The Maynooth line, providing diesel commuter services from Maynooth, with a lower frequency service extending to Longford and also providing Intercity services to Sligo. Through a newly constructed branch line, commuter services are now provided to Hansfield, Dunboyne and M3 Parkway.

Arising from the nature of historic rail development in Ireland, the level of integration between these various lines is limited. For instance, Heuston station, as the key terminal point of several commuter and Intercity services, is remote from the Northern and South-Eastern lines and the overall DART system, requiring, at present, a bus or Luas journey to achieve that connection.

There has been significant investment in rail over recent years, with the rail fleet in particular benefiting from modernisation and renewal. Additional rail stations have been added; there has been additional track provided on the Kildare line; the newly constructed line from Clonsilla to the M3 Parkway has opened; major safety improvement works have been undertaken on the various lines.

Significant work still remains to be done on the network. The most fundamental issue to be addressed is the inability of the lines linked to Heuston station to bring people directly into the heart of the city and into the key business districts and the inability to move easily between lines which service Connolly station and those which serve Heuston station.

Also there are significant constraints on the DART

line in the city centre area, where the line capacity is limited to twelve trains per hour (each direction) in the central area through Connolly station, thereby limiting the service capabilities. While still being maintained in a safe operating condition, significant sections of the signalling and control systems are reaching the end of their useful lives and require upgrading from a capacity and a safety enhancement perspective.

9.2 Objectives

The objectives of rail investment are to:

- Develop the Phoenix Park Tunnel Link to bring commuter train services directly from the Kildare line into the heart of Dublin City Centre;
- Eliminate the current train restrictions in the city centre through the completion of the City Centre Re-signalling project;
- Protect the safety and reliability of the GDA railway system through investment in upgrading of train control and monitoring systems;
- Continue investment in a level crossing closure programme;
- Enhance customer information systems and ticketing systems;
- Continue the upgrading and enhancement of train stations in the GDA;
- Continue development work on the extension of DART services north of Malahide and westwards to Maynooth; and
- Protect or progress DART Underground in line with the Government's decision on the next national capital plan.

9.3 Proposed Investment Areas

The proposals in relation to heavy rail investment are encompassed in seven investment areas:

- City Centre Re-signalling Project;
- Phoenix Park Tunnel Link;
- Level Crossing Programme;
- Ticketing / Revenue Systems;
- Central Traffic Control;
- Station Improvement / Other Enhancements Programme; and
- Network Development.

The proposals under each of these areas are elaborated on below.

9.4 City Centre Re-signalling Project

One of the key constraints existing on the rail network is the limitations on train paths through the city centre section, between Connolly and Grand Canal Dock stations. The City Centre Re-signalling project will provide for significant capacity enhancement through this section by upgrading signalling and turn-back facilities to accommodate up to a potential 8 additional train paths per direction per hour (up from 12 at present) in the critical city centre area. It is a key project aimed at unlocking the existing major bottleneck in the city centre, which will have positive spin-off effects for DART, Commuter and Intercity passengers.

It will provide the necessary capacity through the city centre to cater for other projects within the greater Dublin area, including in particular, the Phoenix Park Tunnel Link.

The project extends from Howth in the north to Grand Canal Dock in the south. It is being delivered in a series of interlinked phases, with significant elements of the northern sections completed prior to this Plan. During the early period of the Plan, the focus will be on the critical Connolly to Grand Canal Dock section, which will see the installation of a state of the art signalling system along this section together with the construction of required turn-back facilities, where trains can be turned around, at Grand Canal Dock.

9.5 Phoenix Park Tunnel Link

Under the current configuration of the Irish Rail network, rail services entering Dublin City on the Kildare line terminate in Heuston Station. These services include a mix of Intercity trains from Cork, Waterford, Limerick and Galway, as well as commuter services from Kildare, Carlow, Newbridge and Portlaoise. Heuston station lies some 3km from the commercial core of the city and in excess of 3km from the area of highest density employment in the south eastern quadrant of the city. Hence,

passengers currently using the Kildare line and wishing to access the commercial core of the city by public transport must transfer to bus or to the Luas Red line at Heuston station.

A rail connection between Heuston and Connolly stations currently exists. This connector runs from Islandbridge junction, just west of Heuston Station (Platform 10), to Connolly Station and the North Wall, via the Phoenix Park Tunnel. From Platform 10 west of Heuston Station, it crosses over the River Liffey and passes under the Phoenix Park in a 692 metre long tunnel which was constructed in 1877. Continuing northwards through Cabra in cutting, it then runs under the Royal Canal and the Maynooth line before heading eastwards around the north side of Glasnevin cemetery to Glasnevin Junction, where the Maynooth line joins it. The line then continues eastwards through Drumcondra Station and onwards to Connolly Station or towards North Wall via North Strand Junction.

The completion of the City Centre Re-signalling project will provide extra train paths through Connolly Station. It is intended to utilise a portion of these additional train paths to facilitate the use of the Phoenix Park Tunnel for the running of through services from the Kildare line to Connolly and through to Grand Canal Dock. The completion of those major signalling works, together with other engineering works, is anticipated to allow commuter services to commence using the Phoenix Park Tunnel Link in late 2015 or early 2016.

9.6 Level Crossing Programme

Since the end of the 1990s significant progress has been made in closing level crossings on the rail network. All level crossings represent a safety concern with the potential for serious incidents to occur. Good control systems and monitoring arrangements reduce and manage the level of risk, but it remains a core safety objective to remove level crossings to the maximum extent practicable. There are a number of level crossings on the rail system in the Greater Dublin Area that warrant assessment of their potential for closure.

In particular, level crossings remain on the DART line, which is the most heavily used section of the rail network. While it may not be feasible to close all of the crossings on this line, designs have been developed for a number of locations which would enable the removal of individual crossing points. Accordingly, it is intended to further progress these proposals as part of a programme of level crossing closures, seeking such closures wherever realistically feasible and where funding permits.

At a more specific level, there are a series of seven level crossings along the Maynooth rail line between Connolly and Maynooth. Four of these crossings are automated at Blakestown, Barberstown, Porterstown and Coolmine and controlled from the Central Traffic Control Centre. The remaining three at Clonsilla, Ashtown and Reilly's crossing are manned wooden gates. As well as representing potential safety conflicts, these level crossings also are a source of journey time delay on this line.

It is proposed to close all seven level crossings on this line, thereby removing the safety conflicts that arise at these crossing points. Bridges over or under the rail line together with road diversions and road closures will be required to deliver the closure programme. A road diversion complete with a new bridge over the rail line is currently under construction at one of the crossings - Reilly's Crossing. Planning and design work is being advanced on the remaining level crossings with a view to seeking statutory planning consent and progression to construction in line with available funding.

9.7 Ticketing and Revenue Systems

Ticketing systems and systems for revenue collection, control and management are essential to the operation of a modern railway. In recent years there has been significant investment in automated ticketing, with exit validation machines and ticket vending machines installed at most stations throughout the Dublin commuter region and the busy Intercity stations.

The inclusion of exit validation at gates has provided significantly enhanced revenue protection, and has reduced the incidence of ticketless travel in addition to providing 'smartcard' readers for the use of the integrated ticket Leap cards.

It is proposed to continue this investment programme to complete the roll-out of ticket

vending machines and entry/exit validation gates at the remaining station in the Dublin region. In addition, additional Leap card validators will be provided in various stations where sufficient demand for additional validators is evident.

In addition to platform level systems, it is intended to further enhance other areas of ticketing and revenue management associated with railway operations. Online ticketing systems, seat reservation systems as well as revenue control systems will be further developed to provide more responsive customer interfaces with improved capabilities and better customer-facing performance.

9.8 Central Traffic Control (CTC)

Much of the rail network in Ireland is controlled and managed from the 'Central Traffic Control' (CTC) centre located at Connolly Station in Dublin.

The existing CTC facility is approaching the limit of its capacity with systems and equipment nearing the end of their useful lives. While various parts of the CTC systems have been replaced over the years, much of the technology and systems date back over 20 years. Accordingly, while operating safely, these systems are far less effective and efficient when compared with more modern technology. This has resulted in increasing operational inefficiencies with an increased risk of service non-availability.

This project will provide an upgraded 'Central Traffic Control' (CTC) centre to cater for immediate and future rail control requirements. It is proposed to either upgrade the existing facility or provide a new facility in an alternative location. While some planning and development work has been carried out, further work is required to identify the optimal arrangement within the funding available. Following that analysis it is proposed to progress the design of the proposals and proceed with their implementation over the period of the Plan.

9.9 Station Improvement and Other Enhancements

Central to a passenger's satisfaction with rail transport is the overall quality of the experience at the stations on the network. While much has been done over recent years to develop new stations and refurbish some existing stations, more still needs to be done in this area.

By way of example, Pearse Station, one of the most important stations on the network, requires major roof renewal works. While a major upgrade of the station has already taken place, the renewal of the station roof remains to be completed.

Other stations throughout the region also require significant works to bring them up to a modern attractive standard. Recent works have been carried out to improve the appearance of many stations, but it is necessary that a continuous programme is put in place to carry out the appropriate station improvements that can contribute so much to enhancing the overall image and attractiveness of the service.

In addition to the improvement of the station environs, investment will be undertaken to improve information provision, through the use of upgraded passenger information systems and communications channels.

Other rail investments will be undertaken in the safety area and in on-board communications systems. In addition, line protection and renewal works, including items such as embankment strengthening works and similar items may be carried out during the Plan period.

A key element to customer satisfaction with public transport services is the provision of up to date arrival/departure information and on-train information systems. The DART system is equipped with real time arrival information that is displayed on platform signs and available through the internet. In addition, the DART fleet has been equipped with on-board information systems, providing audible and visual information on the train destination and the next stop.

However, due to the fact that there are multiple systems in operation across the DART fleet, largely dependent on the particular carriage type involved, there is not an equivalent level of performance across the system. In addition, some elements of the system are life-expired or obsolete and require replacement.

It is proposed to update the passenger information systems on the commuter lines to provide fully automated timetable information to modern standards. It is also proposed to retrofit the DART network to similar modern standards and to update the visual displays and audible systems on board the individual carriages as necessary.

9.10 Network Development

The relevant projects are:

- Electrification and Re-signalling from Malahide to Balbriggan; and
- Maynooth Line Electrification and Re-signalling.

The electrification and re-signalling of the northern line between Malahide and Balbriggan, together with a turn-back facility at Balbriggan, would enable DART services to be extended northwards to Balbriggan. This is an integral project of the overall DART Underground programme.

The Appropriate Assessment of the Plan identified the possibility of potential significant effects on the conservation objectives of Malahide and Rogerstown Estuaries due to the electrification of the rail line north of Malahide. The potential for in-combination effects have also been identified related to Fingal County Development Plan's identification of a cycle and walking route across the estuaries and a proposed marina at Rogerstown in addition to other rail proposals.

When the impact of the above proposals are viewed in their totality as a number of schemes, the application of the precautionary principle necessitates that their potential impacts are highlighted at this stage. While there is currently insufficient project design detail available to assess potential impacts with certainty, the likely impacts and potential mitigation measures are highlighted in the accompanying Natura Impact Statement and an approach to its progress set out.

In relation to the Maynooth Line Electrification and Re-signalling project, this is a scheme which is also associated with the DART Underground programme. It would see the electrification of the Maynooth line from Connolly to Maynooth and the replacement of life-expired wayside signalling equipment with modern technology. Taken together, these improvements would allow through running of DART trains from Maynooth to Greystones on the South-Eastern Line, which is a fundamental feature of the revised DART service following the completion of DART Underground.

It may be over the period of the Plan that other schemes emerge which should be progressed as rail network development projects. The inclusion of such projects for design development or progression to procurement and construction will be considered where appropriate.

The largest proposed rail project ever in the State, the DART Underground project, was particularly addressed in the Government's "Infrastructure and Capital Investment 2012 – 16: Medium Term Exchequer Framework". Given that the overall cost of the full DART Underground programme would exceed €4 billion, although incorporating a significant quotient of private financing, the Government identified that reduced funding resources and financial conditions meant that this project could not proceed during the period covered by that investment framework. It is conceived as a project with an overall length of 8.6km, and would involve the construction and operation of approximately 7.6 km of new rail in twin bore tunnels from the CIÉ Inchicore Works to tie into the Northern mainline south of East Wall Road and north of the Docklands area

A Railway Order application for the tunnel element of the project was submitted to An Bord Pleanála in June 2010. Following an Oral Hearing which concluded in April 2011, planning approval was granted by An Bord Pleanála in December 2011. Subsequent to this determination judicial review proceedings were initiated in the High Court against the scheme decision. The High Court ruled in December 2013 that the legislative scheme governing procedures for CPOs meant a seven-year period for a land acquisition "notice to treat" was beyond Bord Pleanála's powers. The court is to hear submissions in early 2014 as to what orders should be made to reflect this decision. The consequences of the High Court's decision will be assessed; it is currently intended that the opportunity for delivering this project in the future will be protected.


NAVIGATION CHANNEL
NO ENTRY

10 Integration Measures and Sustainable Transport Investment

10.1 Background

This investment sub-programme spans the provision of walking, bus and cycling infrastructure to safety improvements and sophisticated traffic control systems. It also includes supporting initiatives for public transport customers such as travel information provision. Through all its elements it supports the use of the overall public transport system and enhances the accessibility, convenience, and attractiveness of the public transport offering as well as directly providing for the cycling and walking modes of travel.

10.2 Objectives

The main objective is to encourage the continuation of modal shift to cycling, walking and public transport. Within that overall objective, key priorities include:

Cycling/Walking, including:

- Development of regional cycle network, including both commuting and recreational routes;
- Provision of cycle parking facilities, including at public transport interchange points;
- Expansion of bike sharing schemes;
- Pedestrianisation and pedestrian improvement schemes; and
- Pedestrian / cycle / tourist signage.

Traffic Management, including:

- Traffic management schemes;
- Development of bus/cycling/walking transport corridors;
- Traffic re-routing projects in urban areas, to enhance facilities for shoppers, pedestrians and cyclists;
- Traffic control and information schemes, including public transport prioritisation systems; and
- Development of parking facilities.

Safety, including;

- Removal of accident black spots;
- Implementation of lower speed limits where appropriate;
- Provision of pedestrian crossings; and
- Junction safety improvement schemes.

Integration Projects, including:

- Real Time Passenger Information;
- Integrated Ticketing;
- Integrated Journey Planner; and
- Other transport Information systems.

10.3 Proposed Investment Areas

The investment will be across four key areas which are:

- Cycling / Walking;
- Traffic Management;
- Safety; and
- Integration.

Given the nature of this programme, involving numerous projects with many of low capital cost, it is not proposed to provide a full listing of all of the projects that are envisaged to receive investment. Accordingly, the following sections set out some of the key projects or groups of projects envisaged to be delivered.

In progressing the various proposals in these investment areas over the Plan period, the Authority will be assisted by the Sustainable Transport Investment Frameworks developed in conjunction with the relevant local authorities for a number of the counties in the GDA.

9.4 Cycling / Walking

Cycling Network

The delivery of sufficient mode share for cycling to meet the National Cycle Policy Framework/ Smarter Travel targets depends on the creation of an integrated cycle network for the GDA. Links between key nodes, such as residential, employment, educational and retail areas, are critical elements of a successful utility cycling network. The GDA cycle network, planned in conjunction with local authorities, will comprise cycle-friendly routes in urban areas and a series of high quality inter-urban cycle routes, the latter also supporting leisure and recreational cycling.

This network will incorporate a variety of routes including two-way segregated cycle tracks, off-road greenways, contra-flow lanes and locations where cyclists will share with general traffic. It will also necessitate traffic management changes, in particular, enhancements to junctions which are hostile to cycling and it may also incorporate some reallocation of road-space to cycling, particularly on-street parking at certain locations. While delivery of the network will take place over a number of years, it is intended that significant sections of the network will be developed during the period of the Plan.

Public Cycle Parking

In recent years there has been a significant increase in cycling numbers in the region, particularly in Dublin City Centre, for a range of journey purposes. This has led to a clear shortage of bicycle parking spaces emerging at peak times at many locations throughout the region. The Authority will assess the need for more public bicycle parking in conjunction with local authorities and relevant stakeholders. This assessment will have, as its core objective, the provision of high quality cycle parking as close as possible to the main destinations in the relevant area, while continuing to facilitate pedestrian movements and accessibility for those with mobility impairments.

Walking Facilities

All trips include an element of walking, and in central urban areas walking represents the most significant mode of transport overall. To support existing walking trips and to promote an increase in its mode share, improvements to walking facilities are a key focus of this sub-programme. Such improvements take the form of more direct linkages with new pedestrian links and footpaths provided where none currently exist, better surface quality, reduced waiting times at road crossings, safer routes for all pedestrians including children and people with mobility impairments, pavement widening, longer pedestrian phases at signals, shared space where appropriate and the provision of an enhanced overall pedestrian environment.

Public Bike Sharing Schemes

The “dublinbikes” scheme has been phenomenally successful since its launch in September 2009. Currently it is confined to the central core area of the city. Arising from its success, there is substantial demand for its expansion to serve a wider area of the city as well as its introduction to other urban centres in the region. Over the period of the Plan it is intended to facilitate the expansion of the “dublinbikes” scheme in addition to introducing public bike sharing schemes to other appropriate areas of the GDA.

10.5 Traffic Management

Traffic Re-routing Schemes

There are a number of areas in Dublin City Centre and elsewhere in the region, where traffic routing changes would provide required space for the introduction, or improvement, of public transport, including Luas, Quality Bus Corridors and BRT. Each of these schemes will require extensive consultation and negotiation to resolve competing demands for the available road space. However, the objective of implementing these schemes is to enhance the public transport provision, improve pedestrian and cyclist access and enhance the overall urban environment for shoppers, visitors and residents, while still providing appropriate capacity for car based transport.

Multi-modal Transport Corridors

In tandem with the development of Quality Bus Corridors and BRT schemes, it will be necessary to ensure that the needs of the other road modes, including cyclists and general traffic, are carefully considered in the development process. Accordingly, it is likely that many corridors will be developed on a multi-modal basis, providing enhanced provision not just for the proposed public transport scheme but also for other transport modes. It is envisaged that an integrated approach to such provision will be a core part of the scheme development process in the relevant cases.

Development of Parking Facilities

Park and ride operates successfully at several locations in the GDA, usually linked to a rail or Luas station. It is intended to further supplement such park and ride provision at appropriate locations, where there is sufficient demand. In addition, it is proposed to assess the potential for bus based park and ride facilities in a number of locations not served by rail. Should that assessment indicate a suitable case for the development of such facilities, this will be progressed.

In urban locations, while parking measures will seek to limit the number of private car parking spaces, the need to obtain road space for items such as cycle lanes, bus lanes, taxi ranks and similar is likely to place additional pressure on the availability of on-street parking. In tandem with enhancement of park and ride provision, the necessity for additional off-street public car parking will be assessed. Where justified, consideration will be given to advancing the development of such facilities for retail and other non-commuter trips.

General Traffic Management Schemes

Traffic management schemes take a multitude of forms, from junction upgrades to assist traffic flow to traffic signalisation projects to the introduction of speed restraints, including new 30 kph zones. These projects deliver significant benefits, predominately on a localised basis, at relatively low costs. It is intended to deliver a programme of such projects each year of the Plan period, with the details of the individual projects being determined on an annual basis in line with identified needs and priorities.

Traffic Control and Information Schemes

Somewhat related to traffic management schemes, traffic control and information schemes refer to traffic monitoring and control systems and intelligent transport systems. Areas of concentrated population density rely upon complex traffic control systems to optimise transport movement. Linked to the whole area of traffic control the area of intelligent transport systems has grown in significance in recent years, reflecting the growing capability and deployment of technology in the transport sector.

Over the period of the Plan it is intended to continue to invest in the development of traffic control systems, including the further expansion of coordinated traffic signal control in the GDA, as well as focussing on elements of intelligent transport systems providing tangible transport user benefits.

An important part of this investment will be the provision of bus priority at appropriate signal control junctions.

10.6 Safety

Much has been accomplished in recent years in reducing injuries and fatalities from traffic accidents. While several factors contribute to this reduction one of the key reasons relates to investment in safer roads and streets and the associated focus on safer junctions.

It is intended to continue this focus on safety related improvements throughout the GDA. This will seek to address issues at high accident frequency locations, where feasible infrastructure solutions are available. In addition, investment will be used to increase pedestrian and cyclist safety at junctions where current arrangements may not adequately facilitate those transport modes. Finally, investment will be provided for increased provision of pedestrian and cyclist crossing facilities where none may currently exist.

It is intended to deliver a programme of such projects each year of the Plan period, with the details of the individual projects being determined on an annual basis, in consultation with local authorities, An Garda Síochána and other relevant bodies, in line with identified needs and priorities.

10.7 Integration Measures

Various integration measures will be supported by capital investment. Such measures are particularly oriented to the customer experience, including travel information online, integrated ticketing, and information at public transport stops and stations.

These measures are described more fully in Chapter 11 given that they are best explained within the context of service delivery to public transport customers.

11 An Integrated Service Plan

11.1 Introduction

Over time and as the impacts of investment in the transport system are felt, the aim is that less people will use private motorised transport to access goods, services and amenity and more people will use public transport. An integrated service plan, identifying the key objectives and outputs to be pursued by the Authority in relation to public passenger transport services, is essential to influence decision-making and secure this modal shift.

An integrated network of public transport services needs to provide:

- Appropriate coverage of the area by the public transport network, so that an increasing proportion of the conurbation lives within a reasonable walking distance of public transport;
- Frequent, direct, easily understood and comfortable services to major travel destinations throughout the region, offering predictability to users throughout their daily activities; and
- Easy to use payment systems and information systems both to plan and to react en-route to unforeseen events.

To achieve this network, a portfolio of mode-specific services and supporting systems to aid their integration with each other is required.

The service outputs that the Authority will pursue and integrate over the period of the Plan are described in this Chapter under the following categories:

- Bus Service Network;
- High Capacity Public Transport;
- Taxis; and
- Local and Rural Transport.

Chapter 11 sets out supporting programmes in Integration and Accessibility which will enhance service delivery across all the modes of public transport.

11.2 Bus Service Network

11.2.1 Introduction

Bus networks continually evolve and change in tandem with changes in population and employment patterns. In the case of the GDA, the on-going development of rail, light rail and Bus Rapid Transit over the period of this Plan will also lead to a reconfiguration of sections of the bus network to reflect those changes and to seek to optimise the efficiency and attractiveness of the overall network. Some key changes will include:

- The building of Luas Cross City will require temporary diversions of bus routes during the construction period up to the end of 2017. These will be implemented in a manner that seeks to protect the overall performance of the bus system;
- Following the completion of Luas Cross City the successful integration of this new light rail link will require changes to the bus network to fully coordinate bus and light rail services along this corridor;

- The increased capacity of the existing heavy rail network in the GDA will create the potential for bus to play an enhanced feeder role with an associated increase in interchange between these modes;
- As the overall public transport network develops, there will be an increasing need to facilitate convenient and attractive interchange between the various transport modes; and
- Finally, the implementation of BRT will require bus network alterations along the relevant BRT corridor to optimise the combined BRT/bus offering to the public.

11.2.2 Key Objectives

Over the period of the Plan, bus will provide for the majority of public transport trips throughout the GDA. It is important that bus services continually improve and that new and existing unmet demand is provided for in an efficient manner.

The following outlines the high level key objectives for the bus network.

- Provide for a well-designed and effective bus network that optimises routes to meet passenger demand, commensurate with the resources allocated;
- Ensure the efficient use of resources in delivering bus services;
- Improve overall journey times and reliability for buses in the GDA;
- Develop greater interchange with other transport modes;
- Improve the quality of passenger experiences;
- Provide for an attractive, comfortable, clean, accessible and modern bus fleet;
- Ensure value for money for bus passengers;
- Improve the environmental performance of the bus fleet;
- Provide BRT services along designated cross city routes;
- Assess and progress the appropriate delivery model for subsidised bus services in the general economic interest.

11.2.3 Bus Services Reviews

In order to implement the above high level objectives, the bus network will continue to be reviewed on an on-going basis over the Plan period. The following considerations will form a central part of service reviews of publicly subsidised services in the Greater Dublin Area:

- Changes to bus services focussed on passenger needs;
- Amendment of bus frequencies and operating times to appropriately match demand;
- Improvements to bus service coverage in built-up areas that are not well served by rail and to disadvantaged areas, where appropriate;
- More direct and reliable access to significant destinations including local town centres, workplaces, health facilities, educational facilities, retail areas, etc.;
- Services that cater for growth in population and employment; and
- Greater public transport integration, by providing good interchange opportunities with other services, as the public transport network evolves.

The service measures that the Authority will focus on in such reviews will incorporate the following:

- Examination of potential for further improvement of the bus network, achieving greater bus network efficiencies and facilitating the introduction of BRT;
- Introduction of changes that need to be made as a result of traffic management changes/public realm initiatives in the city centre;
- Investigation of further potential for cross city routes;
- Assessment of scope for further reductions in terminating buses in the City Centre;
- Provision for alternative bus routings through Dublin City Centre;
- The rationalisation of underperforming routes and amalgamation of services;
- Review of the orbital bus network, to achieve more reliable and frequent services;
- Extension of bus routes to areas where there is

new passenger demand; and

- More focus on major destinations outside Dublin City Centre, where there is potential that existing patronage could be raised substantially.

11.2.4 Bus Licensing

The Authority licences all commercial public bus passenger services operating within the State. In 2010, the Authority published "Guidelines for the Licensing of Public Bus Passenger Services", which provides advice and guidance to potential licence applicants about the processes and principles of the commercial public bus licensing system.

During the Plan period, the Authority will review the effectiveness of the statutory Guidelines and, as part of this review, will engage with and seek the views of bus operators and other stakeholders. In operating the licensing system the Authority will maintain its strong record of timely bus licence decisions.

Better integration of private and public services will be pursued including national bus route numbering, equal availability of travel information, and the publication of wider data and statistics relating to bus services, both publicly subsidised and commercially licensed. Also the Authority will develop quality standards to be achieved by licensed services.

To support more efficient processing of bus licenses the Authority will develop its Information Technology systems for faster data retrieval and for more sophisticated route analysis where the need to assess demand and public needs arise in cases of competing licence decisions.

11.2.5 Appropriate Delivery Model

The subsidised funding of Public Service Obligation services is governed by Public Transport Contracts between the Authority and relevant operators. In the case of subsidised bus services in the GDA, Dublin Bus and Bus Éireann currently operate these services, with payments being made by the Authority for the provision of the contracted services. The current contracts were signed in December 2009 and are for a period of 5 years, to December 2014. The contracts meet the current criteria set down in EU law, setting standards of operational performance and customer service and contain penalties for non-performance.

The applicable legislation empowers the Authority to enter into subsequent direct award contracts with Dublin Bus and Bus Éireann, or the Authority may competitively tender some or all of these services. It is intended that the Authority will determine in the early period of the Plan whether to enter into subsequent Direct Award contracts and/or whether certain or all of these subsidised services will be competitively tendered during the period of the Plan.

11.2.6 Local and Rural Transport

Responsibility for the Rural Transport Programme was given to the Authority in 2012 and the Authority chairs the National Integrated Rural Transport (NIRT) Committee, a stakeholder group that is responsible for looking at opportunities for streamlining and integrating of services to improve coverage and efficiency.

In 2013 there are five Rural Transport Programme (RTP) groups that operate in the Greater Dublin Area including, Meath Accessible Transport (Flexibus), North Fingal Rural Transport, Offaly and Kildare Rural Transport, South Kildare Rural Transport and Wicklow Rural Transport. There will be a continuing need for rural transport over the Plan period, to provide services to link people to jobs, education, and retail centres and, in particular, to reduce the isolation of the elderly and people with mobility impairments.

The delivery mechanism for rural transport has been comprehensively reviewed by the Authority and proposals for its re-structuring have been announced. During the Plan period, the Authority will implement the re-structuring arrangements and, thereby, will protect vital services in rural Ireland through difficult economic times.

This programme of restructuring will involve:

- Consolidating and bringing the current groups into an appropriate regulatory framework;
- Reducing the administrative costs of the programme through a more streamlined structure;
- Creating better links between these local rural

services and longer distance scheduled bus and rail services;

- Maintaining the focus on social inclusion; and
- Finding means to integrate certain Health Service Executive services and usage of fleet involved in school transport.

The Authority's vision for rural transport is that as budgets allow, rural transport services will grow and will be provided consistently across the country to the extent that all isolated communities will have an opportunity to access services on public transport at a reasonable frequency.

11.3 Rail Services

The rail network in the GDA consists of heavy rail operated by Irish Rail including DART, commuter and Intercity services along four lines emanating from Dublin city centre, and light rail operated by a contracted operator, Transdev, along two lines from the city centre to the south and southwest suburbs.

The role of the rail network is to provide a high capacity, high speed public transport spine for the GDA. The stations and stops provide local hubs for walking, cycling, feeder bus and park and ride journeys, as well as playing a role in land-use development. It is the intention of the Authority, over the lifetime of this Plan, to enhance the rail network in order that it continues to play a critical role in the movement of people and the promotion of economic activity in the region.

In terms of the management of the rail services themselves, the funding of Public Service Obligation services is governed by a Public Transport Contract between the Authority and Irish Rail in the case of heavy rail. This contract extends to 2019, past the period of the Plan.

In relation to the Luas services, the Authority has currently assigned its management responsibilities for the provision of light rail services to the Railway Procurement Agency. In turn they have engaged the contractor Transdev (previously named Veolia) to operate the Luas services. This contract expires in September 2014 and the Authority has commenced procurement of an Operator for the period 2014 to 2019. The Authority will be a contracting party with the new Operator, but will assign management functions of the contract to the Railway Procurement Agency.

Over the period of the Plan, and similar to that set out above in relation to the bus system, the Authority's broad objectives for rail services are as follows:

- To optimise services in order to meet passenger demand;
- To maximise connectivity by rail between the main centres of economic activity in the GDA and Dublin City Centre;
- To improve overall journey times and reliability for trains and trams in the Greater Dublin Area;
- To enter into a new operating contract for Luas services; and
- To improve the quality of passenger experiences.

11.3.1 Heavy Rail

The Irish Rail contract with the Authority involves payments being made by the Authority for the provision of the contracted services on the rail network. The current agreement with Irish Rail was signed in December 2009 for a period of 10 years, to December 2019 - beyond the horizon year of this Plan.

Similar to the bus service agreements, the contract addresses the current criteria set down in legislation, which requires the setting of standards of operational performance and customer service, and the inclusion of penalties for non-performance. The Authority monitors the contracted performance of Irish Rail on a quarterly basis and publishes the outcomes on the website www.nationaltransport.ie.

Since the signing of the contract on 3rd December 2009, the Authority has strengthened the performance provisions and has also dis-aggregated performance indicators so that a more forensic focus can be applied to service performance. The Authority will continue this process throughout the Plan period.

As with bus, rail services will be reviewed on an on-going basis over the period of this Plan. Each year the frequency and timing of will be reviewed in the light of recent demand and passenger feedback.

Completion of the City Centre Re-signalling Project

will unlock opportunities for additional train paths through Connolly Station. This will allow for new configurations for Intercity and commuter services. For example, services will be reinstated through the Phoenix Park Tunnel. This will facilitate the running of commuter rail services from Kildare, Newbridge, Naas (Sallins), Celbridge (Hazelhatch), Adamstown, Clondalkin Fonthill and Park West and Cherry Orchard to Heuston, Drumcondra, Connolly, Tara Street, Pearse and Grand Canal Dock.

11.3.2 Light Rail

The timeline for a new Luas operations contract have been described above.

To complement the significant capital investment in light rail, the following actions are proposed:

- In advance of operations on Luas Cross-City, a revised service schedule will be developed reflecting the network changes;
- In order to meet anticipated demand, the capacity of railcars on the Luas Green Line will be increased through the lengthening of the existing trams;
- Where interacting with on-street traffic, priority for Luas will be enhanced with longer green-time at junctions given to trams; and
- Services will be subject to on-going review over the period of the Plan.

11.3.3 Rail Stations and Stops

The passenger experience at rail stations and stops will be enhanced in order that the following objectives are met:

- Stops, stations and trains are fully accessible by people with mobility impairments and people with disabilities;
- Improved access by foot or on cycle from the surrounding area;
- Provision, where appropriate, for associated bus stopping areas, taxi ranks and passenger drop off facilities;
- Provision of shelters, well maintained, well lit and with seating, where space permits;
- Improved security features for waiting passengers, where deemed necessary;
- Display of stop/station specific timetables and real time train or tram arrival information;
- Display of other travel information including local area maps and maps of connecting bus and rail services;
- Sufficient and secure cycle parking;
- Station car parking in outer areas, where appropriate and not already present; and
- Ancillary facilities (toilets, refreshments etc.) at larger stations/stops.

11.4 Taxis and Hackneys

The objectives of the Authority in relation to small public service vehicles (SPSV), comprising taxis, hackneys and limousines, over the period of the Plan, are as follows:

- To increase the level of wheelchair accessible vehicles in the SPSV fleet;
- To achieve qualitative improvements in SPSV services for the benefit of both the service providers and the general public;
- To increase the level of regulatory enforcement; and
- To support the provision of additional taxi ranks in appropriate locations.

In addressing the above objectives, the Authority will implement the following strategic actions:

- The Authority will continue to implement the provisions of the Taxi Regulation Review Report published by the Government in 2012 and will engage with the industry and other stakeholders in that implementation;
- The monitoring and legal enforcement of appropriate vehicle and driver standards will be increased further over the period of the Plan;
- Taxis will continue to be permitted to use with-flow bus lanes when carrying passengers, unless there are special bus service or tram service requirements along the corridor which preclude taxi usage. This would relate to bus and/or tram passenger demand and journey-time objectives;
- The Authority will support the provision of taxi ranks at appropriate locations within Dublin City and other centres of activity within the GDA where demand exists;
- Some changes to the ranks will be necessary in Dublin City Centre associated with the construction of Luas Cross City. The Authority will liaise with, and provide funding to, the local authority in relation to the provision of appropriate replacement taxi ranks at alternative locations in consultation with the industry and stakeholders;
- Taxi fares will be reviewed at approximately two year intervals or such other period as considered appropriate by the Authority; and
- The Authority will seek an appropriate quality taxi vehicle fleet, with a defined level of the fleet being wheelchair accessible to serve established needs.


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12 Integration and Accessibility

12.1 Leap card

The Leap card scheme was launched to the general public in December 2011.

Initially Leap was launched on the services of Dublin Bus, LUAS, Irish Rail DART/Commuter Rail and Matthews Bettystown route with a "Pay-As-You-Go" electronic purse using reloadable contactless chip cards. Further roll-out of the scheme continued in 2012 with the launch of the Student Travel Card. As of June 2013 there were over 270,000 cards sold which are being used for 1.7 million journeys per month.

The Leap card continues to be rolled out in a progressive manner. Pilot operations are currently in place with Bus Éireann and with four private operators to extend Leap geographically. Bus Éireann has introduced the Leap card scheme onto all Eastern region services and certain private bus operators are doing so on services within or coming into the GDA.

Another progressive aspect of the scheme is to incorporate ticket products on the card thereby dispensing with the need for transport users to carry separate smartcard tickets. Such time based and journey products include Rambler and Taxsaver. During 2013 most ticket products of Dublin Bus, Irish Rail, Luas and Bus Éireann within the regions will be available on the Leap card along with the electronic purse.

The Leap card offers unique smart ticketing opportunities including fare capping (daily and weekly), discounting for through journeys by card and instant auto-top-up of the purse value on the card. Fare capping is where a customer can use their Leap card for as many services as they like either daily or weekly and they will be assured that their costs will be fixed or 'capped' at a certain cost. It was introduced on Luas services late in 2012 as an early lead in to other operators; it was followed on Irish Rail in mid-2013.

During 2013 capping was introduced on Dublin Bus services and the opportunity was taken by the Authority to define a price cap for use of services across all the operators within Dublin city - Dublin Bus, Irish Rail, and Luas.

In addition, the Authority will introduce a pilot discounting scheme for through journeys, and based on the analysis of the performance of the pilot will develop a region-wide discounting plan to encourage people to make more public transport journeys and to facilitate transfer between operators and modes.

Within the period of the Plan the Authority will evaluate other potential enhancements including:

- Inter-operating with the Dublin Bikes scheme to improve convenience to users;
- Extension of the Leap card scheme to neighbouring regions particularly the commuter areas along public transport corridors;
- Use of the Leap card scheme to pay for car parking at park and ride sites; and

- Developing the potential to exploit new payment technologies including direct use of contactless bank cards and/or mobile phones for payment of public transport journeys.

12.2 Real Time Passenger Information

The Authority has implemented a comprehensive suite of industry leading Real Time Passenger Information (RTPI) systems based on Automatic Vehicle Location (AVL) data provided by transport operators to a central control server.

The central system receives data from all Dublin Bus and Bus Éireann vehicles which is processed by a prediction engine providing frequent and accurate predictions directly to customers in five forms:

- Over 500 on-street signs at bus stops and in key locations;
- Through a "state-of-the-art" mobile App available to mobile smart phones (Apple iPhones and Google Android devices). This also includes Luas and Irish Rail information;
- On-line through the Authority's customer facing website www.transportforireland.ie;
- In key transport hubs on modern flat screen displays along with other pertinent local public transport information; and
- Using mobile SMS messaging.

The accuracy of the system at over 96% for Dublin Bus services in the GDA is well above industry norms. Bus Éireann are working with the Authority to achieve similar level of accuracy.

The Authority is working with the private bus sector to develop means by which data from their services can be displayed on the RTPI system with an initial objective of displaying scheduled times for the largest private operators in the GDA.

It is intended to roll-out other locations for RTPI displays and to assess other arrangements for wider provision of arrival time information.

The Authority is undertaking a detailed market consultation to advise a future procurement of bus equipment that will provide RTPI data in a suitable format from all operators. It is the intention to have all bus operations covered by RTPI during the period of the Plan, subject to cost benefit justification.

12.3 Journey Planning

The Authority has developed a web-based public transport National Journey Planner to enable advance planning of any public transport journey on the island of Ireland, including the GDA, from door to door, incorporating walking and cycling options. The Planner is available:

- Through a "state-of-the-art" mobile App - Real Time Ireland (Apple iPhones and Google Android devices);
- On-line through the Authority's customer facing website www.transportforireland.ie.

The Authority will develop a cycle planner to be made available for the Greater Dublin Area in 2013. The Authority will also integrate real time information into the Planner and will improve information on services and stations that offer accessible journeys. The 'look and feel' of the Planner will be continually improved based on feedback and the potential for other further enhancements will be explored.

12.4 Fares

Easily understandable and attractive fares are extremely important in making public transport attractive. Each year the various operators (Dublin Bus, Bus Éireann, Irish Rail and Luas) apply to the Authority for fares adjustments and approvals for promotional discounting. The Authority publishes formal determinations setting out the fare levels approved and the reasons for any increases or decreases. In addition to only granting fares increases that are absolutely necessary to protect services, the Authority has sought, through each fares determination, to simplify the complex fares offerings and to bring in consistency across services.

Over the period of the Plan, the Authority will:

- Simplify Dublin Bus and Luas fares by reducing the variety of products on offer;
- Continue to increase the differential between Leap card fares and cash fares to increase use of the smartcard, thereby reducing the dwell time for buses at stops and generally reducing cash

handling costs for operators;

- Continue to simplify Irish Rail's commuter fares by gradually moving them to fully distance based;
- Determine the best means to set fares at the boundary between the Irish Rail Short Hop Zone and their outer commuter pricing;
- Develop the fare structure for the Luas network incorporating Luas Cross City;
- Develop multi-journey and interchange price incentives through the Leap card;
- Gradually remove anomalies in Bus Éireann's distance based pricing; and
- Develop more consistency across operators in terms of distance/zone pricing, returns pricing, child/scholar and student pricing.

12.5 Optimising Interchange

One of the features of a successful public transport network is how effectively and attractively the opportunities for interchange between various operators and modes are presented.

During the period of the Plan, the Authority will seek:

- The provision of high quality passenger interchange points between public transport services in various town centres throughout the region;
- Alteration of bus and rail service schedules or stop locations, where appropriate and feasible, so that ease of interchange is improved and passengers are not obliged to wait unnecessarily long periods for connecting services;
- Reductions in walk times between connecting services, by providing safe and direct routes which do not require long waiting times to cross streets; and
- Provision of a high standard of direction signs to connecting services at interchange points.

12.6 Public Transport Brand

The remit of the Authority in relation to the development of a public transport brand is set out in Section 57(2) of the Dublin Transport Authority Act 2008 which states "The Authority shall, for the purposes of promoting public transport, design, develop and secure the implementation of a single transport brand to be used by all public transport operators providing services in accordance with a public transport services contract with the Authority in the GDA".

On its establishment, the Authority identified the need to streamline the information flow for public transport consumers. There was no single point or portal where a person could easily plan a trip between any two points in Ireland using:

- Journey planning;
- Real Time Passenger Information;
- Maps; and
- Timetables.

A unified brand, Transport for Ireland, was created to provide a 'one entity - one stop shop' solution encompassing all the different transport providers.

The objective of the brand is to make it easier for consumers including visitors to Ireland, to recognise and interact more effectively with the transport system and to have easy access to information on all aspects of travel such as timetables etc. It supports and enhances the service provision of private and public bus companies and provides reassurance to the public that they are travelling within a national and regulated public transport framework.

The brand has its own website which provides a gateway to services such as the National Journey Planner, Real Time Information, Leap, taxi consumer information, and passenger rights. It is deployed on the increasing number of apps that the Authority has launched and operates as co-branding with contracted operators' brands on fleet, their websites, and information leaflets.

The brands of individual operators are strong and contribute well to the promotion of public transport in Ireland but they only present a portion of the offering to the public. The sense of integration, multi-mode opportunities to make a particular journey and easy access to information must be increased over the period of the Plan.

During the period of the Plan, the Authority will:

- Continue to promote the single unifying public transport brand for all scheduled public transport vehicles serving the GDA, to assist people in understanding the public transport network as a single entity. The Transport for Ireland brand will be clearly visible on travel information media, on all tickets and at all stops and stations and, in time, on all scheduled public transport vehicles.
- Branding will be incorporated on direction signs to and from public transport stops and stations in all town centres, supplemented where appropriate with local maps indicating bus stops and rail stations, located prominently in town centres;
- Branding will be used on service specific maps, supplemented with public transport network maps where appropriate, at bus stops, rail stations and in public transport vehicles; and
- The website www.transportforireland.ie will be enhanced and developed in line with best international examples.

12.7 Accessibility

Accessibility improvements to public transport services throughout the country are being advanced in the context of Transport Access for All, the Department of Transport, Tourism and Sports Sectoral Plan under the Disability Act 2005. The Department's plan sets out a series of policy objectives and targets for accessible public transport across all modes and significant progress has already been achieved in recent years.

Transport Access for All was first published in 2006 and reviewed in 2008. A further review has recently been completed and an updated Plan is to be published during 2013. Accessibility improvements to the public transport system for people with disabilities are being delivered as extensively as possible having regard to the availability of resources.

Over recent years there has been a significant increase in the numbers of accessible public transport vehicles together with improved access to much of the public transport infrastructure. Changes have occurred in the ways transport services are delivered as well as in the research and consultation necessary to provide the groundwork for further accessibility measures to be planned and progressed in the coming years.

Many targets have already been achieved and significant progress has been made towards the realisation of several others. Work on the remaining targets is on-going even allowing for the significant economic challenges and much reduced funding for transport infrastructure.

The Authority will ensure that its investment programme and service plans continue to deliver on the Department's national objectives for accessibility.

12.7.1 Accessibility for Buses

The Authority's objective is that bus services should be available to all users and that investment plans and service practices should ensure that those with disabilities are particularly addressed.

The Dublin Bus fleet is now 100% low-floor wheelchair accessible and will be maintained so by means of the infrastructure investment programme. This will ensure that all scheduled buses on Dublin Bus services subsidised by the Authority will continue to be fully wheelchair accessible, with boarding arrangements, seating and internal layout addressing the needs of all passengers

An enhancement programme has commenced to install audio and visual next stop announcements on the Dublin Bus fleet to assist those with hearing and visual impairments. This will continue with the objective that all buses will be enabled in this fashion in the period of the Plan.

Bus Éireann operates a coach fleet for commuter services in the GDA. Overall, close to 60% of their coach fleet is wheelchair accessible. These accessible coaches have one wheelchair space, and wheelchair users make a reservation 24 hours in advance. All new coaches are also fitted with public address systems. The investment programme will increase this percentage over the period of the Plan. To complement the allocation of wheelchair accessible coaches to a route, appropriately sited and designed bus stop locations need to be provided. These will be delivered on a route basis, matching the fully accessible fleet.

Many Bus Éireann bus stations throughout the country have received accessibility upgrades in recent years. Busáras station is fully accessible and will be audited again in 2013. Bus Éireann is carrying out a full accessibility audit on all their bus stations in 2013 and any findings in relation to Busáras will be implemented via the infrastructure investment programme.

A number of private operators utilise wheelchair accessible vehicles. Measures will be put in place through the licensing system to increase the level of accessible services available on commercially licensed bus passenger services.

12.7.2 Accessibility for rail

All operational rolling stock (DART, Commuter & InterCity) is accessible for those with reduced mobility. Since 2000 all new railway stations have been designed and constructed in accordance with accessibility standards/best international practice.

A major accessibility survey is currently underway to identify further Irish Rail stations for upgrading prioritisation using funding from the infrastructure programme.

The Luas system was designed from the beginning to be accessible for all. Accessible features of trams include anti-slip floor coating, wide doors, high visibility handrails, two designated areas for wheelchairs, four priority seats for those with special mobility requirements, on-board digital displays for stop names and other information, automatic audio announcements on board and induction loops for passengers using hearing aids. Stops can be accessed by lifts where required, with ramps at one or both ends of the platforms allowing passengers to cross the tram tracks at track level. These features will be replicated in the construction of Luas Cross City.

12.7.3 Passenger Rights and Accessibility

Rail

EU Regulation 1371/2007 on rail passenger rights and obligations has specific provisions relating to the rights of disabled persons and persons with reduced mobility. The Authority was designated as the national enforcement body in December 2010.

The EU rail passenger rights legislation is to ensure that passengers with reduced mobility can travel in a way that is comparable to other citizens. Railway companies and station managers have to establish nondiscriminatory access rules for the transport of disabled persons and persons of reduced mobility, including for example the elderly.

Railway companies are required to provide disabled persons and persons with reduced mobility with assistance on board a train and during boarding and disembarking from a train free of charge. Assistance is provided on condition that the railway company, the station manager, the ticket vendor or the tour operator with which the ticket was purchased is notified of the person's need for such assistance at least 48 hours before the assistance is needed.

Ferries

EU Regulation 1177/2010 created rights for passenger when travelling by sea and inland waterway. The Regulation became effective from 18 December 2012 and the Authority was designated as the responsible national enforcement body for the purposes of the Regulation in Ireland. The Regulation is similar to those in the aviation and rail sectors. The rights include nondiscrimination and assistance for disabled persons and persons with reduced mobility.

Bus/Coach

Finally, the rights of passengers travelling on long distance buses/coaches sector are covered by EU Regulation 181/2011 for which the Authority assumed the national enforcement body role in May 2013.

Subject to certain exceptions, this regulation applies to passengers travelling with regular services where either the boarding or the alighting point is within the European Union and where the scheduled distance of the service is 250 km or more. Some of its provisions apply to all services, including those of shorter distance.

The new rights applicable to long distance services (i.e. of more than 250 km) include, amongst others:

- specific assistance free of charge for disabled persons and persons with reduced mobility both at terminals and on board and, where necessary, transport free of charge for accompanying people.

Additionally, there are rights applicable to all services (including those below 250 km) including:

- nondiscriminatory treatment of disabled persons and persons with reduced mobility as well as financial compensation for loss or damage of their mobility equipment in case of accident; and
- minimum rules on travel information for all passengers before and during their journey as well as general information about their rights in terminals and online; where feasible, this information shall be provided in accessible formats upon request.

The Authority will expeditiously handle all complaints regarding passenger rights on trains, buses, coaches, and ferries and will mandate changes to operating practices, where so required to support accessibility rights.

12.8 Safety and Personal Security

One of the primary objectives of this plan is to increase the use of public transport. In order to achieve this objective, trains, trams and buses in the Greater Dublin Area must be safe and must be perceived as safe at all times, in all locations. The Authority will liaise with transport operators, local authorities and An Garda Síochána in order to safeguard the welfare, safety and personal security of the travelling public, and invest in improved infrastructure where deemed necessary.