



Údarás Náisiúnta Iompair
National Transport Authority

Commercial Bus Services

in Ireland (Overview of 2023)

Bulletin Topics:

- Overview of Commercial Bus Services
- Number of Operators and Licences
- Passenger Journeys
- Scheduled Vehicle Kilometres
- Revenue and Ticketing including Leap and Young Adult and Student Card information
- Fleet Size and Age
- Accessibility
- Emissions



Introduction

Introduction to the Commercial Bus Services in Ireland Statistical Bulletin

This statistical bulletin is a publication of the National Transport Authority of Ireland (the “Authority”). It focuses on public bus transport provided by licensed public bus passenger services operating to a regular schedule in Ireland. The Authority was established under the Dublin Transport Authority Act, 2008 (as amended) and the Public Transport Regulation Act, 2009 (as amended) and is required¹ to “*collect, compile, analyse and prepare information, data or statistics*” regarding public transport services in Ireland.

The data in this bulletin covers statistical information for all regular public bus passenger services across the entire State for the years 2013 to 2023 and for the Greater Dublin Area (the “GDA”) for the years 2012 to 2023.

High level information on State funded services which are provided under contract to the Authority referred to as Public Service Obligation (“PSO”) services, have also been included for comparative purposes. The Authority publishes a separate bulletin on State funded services “Bus and Rail Statistics for Ireland – State Funded Services” which can be found on the Authority’s website at: <https://www.nationaltransport.ie/publications/statistics/bulletins/>

Return to Full Bulletin for the Year 2023 and Abridged Bulletins Published for the years 2020 to 2022 Inclusive.

Due to the devastating impact of the COVID-19 crisis on the public transport market, the Authority provided funding to and allowed for partial or complete suspensions of commercial bus services. These supports were withdrawn in 2022. Consequently, abridged versions of the annual bulletin were published for the years covering 2020, 2021 and 2022. These highlighted the differences between 2019, the last full year of normal operations, and the years 2020 to 2022, to demonstrate the recovery since the outbreak of the pandemic. Comparisons were also drawn between 2013, the first-year data was collected across the entire State, and the relevant year.

The 2024 bulletin, covering the data year 2023, is a return to the full version of the statistical bulletin. Comparisons between 2023 and 2019 will be made where full

information for the years 2020 through to 2022 is not available.

Note for 2023 figures

Some licence holders have updated their previously submitted data from their previous year’s submissions. This bulletin represents the most up to date information.

What are the Regular Public Bus Passenger Services covered in this Statistical Bulletin

Licensed public bus passenger services are often called “commercial” bus services because they are operated without any public subsidy from the Authority. This has changed: firstly, temporary funding was made available to regular commercial bus service operators from mid-2020 to 2022 and secondly, in 2022 the Authority launched the Young Adult and Student Card (“YASC”) Fares Scheme and 42 commercial bus operators opted into the Fares Scheme. Commercial bus operators receive compensation for the fare forgone for offering the 50% discount to 19-25 year olds, 19-23 year olds between 2022 and 2023, and to full-time third-level students. As the the Yasc Fares Scheme is voluntary and as commercial bus services are individually licensed by the Authority, a single commercial bus operator may have some regular licences in the the Yasc Fares Scheme and others that are not. Some commercial bus services also receive payments from the Department of Social Protection’s Free Travel Scheme, in compensation for the revenue foregone from carrying those passengers entitled to free travel.

The commercial bus services covered by this bulletin are any licensed regular bus service with an origin, intermediate point, or a destination within the Republic of Ireland. Bus services which were subject to an international authorisation under international law and were travelling to, from, or through Northern Ireland and this State are also included in the bulletin. References to commercial bus services therefore include services operating wholly within the State and commercial bus services which cross the border into Northern Ireland.

The figures for commercial bus services provided in 2023 by the two principal contracted State-funded bus operators, Bus Éireann (under the brand name of “Expressway”) and Dublin Bus, are included in this bulletin.

1 Section 73 (Information, data and statistics) of the Dublin Transport Authority Act 2008 (as amended)

References to Greater Dublin Area (“GDA”) services and Non-GDA (“Non-GDA”) services

‘GDA services’ refer to any commercial bus service travelling to, from, or through any of the GDA counties of Dublin, Meath, Wicklow, or Kildare. This includes commercial bus services that travel wholly within the GDA and services which include stops both inside and outside of the GDA.

Commercial bus services travelling wholly outside of the GDA counties are referred to as ‘Non-GDA services’ and ‘Nationally’ refers to the combined figures for all the commercial bus services running to, from, or through the State. These are the meanings assigned throughout the document, unless otherwise stated. GDA and Non-GDA services include both licensed and authorised services.

Licence Categories not included in this Statistical Bulletin

Certain categories of commercial public bus passenger service licence are not included in this bulletin. These are:

- Event and Venue licences, which cover public bus passenger services for concerts and other events;
- Specific Targeted licences, which cover public bus passenger services such as tours;
- Temporary licences; and
- Demand Responsive licences.

Complete details of each category of public bus passenger service licence can be found in the ‘Guidelines for the Licensing of Public Bus Passenger Services’ available to download from <https://www.nationaltransport.ie/bus-licensing/>

Inclusion and Exclusions of certain types of Public Transport in the Comparisons

Information on the Stated Funded Bus and Rail services has been included for comparative purposes only. These services consist of the Public Service Obligation (“PSO”) services provided by Iarnród Éireann (Irish Rail), LUAS, Dublin Bus, Bus Éireann, Go-Ahead Ireland, Local Link, and private operators under contract to the Authority. Full details can be found in the Authority’s Statistical Bulletin September 2024. Comparisons do not include information on services provided under the School Bus Transport Schemes or Taxis. The former are provided under the auspices of the Department of Education and

information on the latter can be found in the Authority’s SPSV Bulletin 2023. All of the Authority’s Bulletins can be viewed and downloaded here: <https://www.nationaltransport.ie/publications/>

Level of Data Collected

Three operators did not supply returns for commercial bus services provided in 2023. This represented 1% of all licences in 2023 and both the combined passenger journeys and vehicle kilometres operated last submitted for these licences account for less than 1% of overall totals for 2023. Due to the rounding used in this bulletin the figures would have a low statistical impact on the percentages stated however, the actual figures for 2023 could be higher than recorded.

Authority Obligations in Relation to Commercially Sensitive Information

In publishing this data, the Authority has been fully aware of its obligations regarding commercially sensitive information and has therefore ensured that patronage and revenue data have been presented in a consolidated and anonymised fashion. All of the Authority’s Bulletins can be viewed and downloaded here: <https://www.nationaltransport.ie/publications/>

Statistical Qualification

It is important to know that the figures used in this bulletin are provided by the operators and are not independently verified by the Authority.

Some figures have been estimated by operators. The figures are intended to illustrate general features and broad trends for commercial bus services in Ireland. They are not meant to be read as precise calculations. Rounding has been used which could affect overall percentages. Please also be aware that some figures from previous years’ may have been subsequently revised by the operators. The data expressed in this bulletin utilises the most up to date information provided by the operators and updates all previous bulletins.

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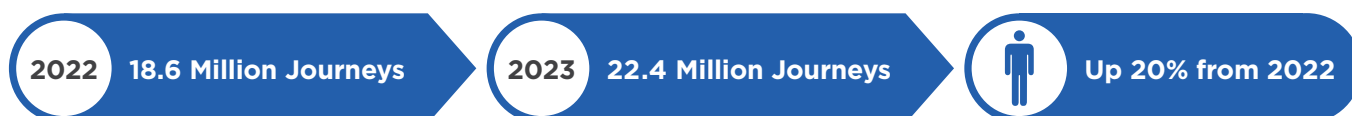
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Acknowledgement

The National Transport Authority would like to extend its appreciation to the licensed and authorised commercial bus operators for their co-operation and assistance in contributing to this bulletin.

Overview of Figures for Commercial Bus Services in 2023

Total Passenger Journeys (Nationally)



Total Scheduled Vehicle Kilometres (Nationally)



Total Revenue (Nationally)



Number of Active Licences (Nationally)



Overview of Commercial Bus Services in 2023

There is a large variability and diversity in the scale, frequency, and type of commercial bus services provided by operators. Types of commercial bus services include large scale inter-city and interurban services, which provide connections to and from the country's main towns, cities, and airports; commuter services that bring passengers to employment and education; urban and suburban services; as well as rural services that generally link small towns and villages in rural areas.

There is no restriction to the number of services that may be provided by a single licence or the number of licences that a single operator may hold, once approved as licensed services by the Authority under the Public Transport Regulation Act, 2009 (as amended). A single licence may provide for a number of services, with

current licences ranging from one service per month to numerous services per hour, using several vehicles with large passenger capacities. One bus operator can also hold several licences, each of which may have a small number of services per week or per month and provide all of these services using one vehicle.

Data was first gathered on the commercial bus sector in 2013, reporting on services operated within the GDA in 2012. Due to the COVID-19 pandemic there was a restriction to 25% capacity in place on public transport at the start of 2020. Gradually the restriction on capacity was eased and public transport services returned to 100% capacity on 1st of September 2021. However, the demand for travel still rendered many services commercially unviable to operate. The impact of the COVID-19 pandemic on commercial bus services is clearly illustrated in Table A and Figures A and B.

Table A: Overview of the Commercial Bus Passenger Sector (in millions)

Year	Total Passenger Journeys	Free Travel Journeys (Estimated)	Scheduled Vehicle KM	Total Annual Ticket Revenue
2013	20.1	4.8	80.1	€135.9
2019	30.5	6	101.2	€220.0
2020	9.4	2.2	67.2	€99.5
2023	22.4	4.1	89.4	€210.5
Change: 2013-2019	52%	24%	26%	126%
Change: 2019-2023	-26%	-32%	-12%	-4%

Change in Travel during COVID-19

The public health measures introduced due to COVID-19 meant that both passenger demand and bus capacity were curtailed. As a result, many commercial bus operators ceased to provide services or reduced their service levels due to the financial losses that would be incurred by continuing to operate in full.

There are many areas where commercial bus operators provide most, and in some locations all, regular public bus services. Therefore, it was essential for both social and economic reasons that some commercial bus services recommenced during the COVID-19 pandemic. In June 2020, the Government announced temporary funding supports for the licensed regular bus sector, in accordance with EU and national legislation to support economically necessary services that were determined as services of general economic interest or Public Service Obligation by the Authority on an emergency basis. Due to this financial support, the impact of the COVID-19 crisis on the licensed regular bus sector was mitigated and many commercial bus services resumed in full or in part in July/ August 2020. The supports continued throughout 2021 and ceased in June 2022.

To allow commercial bus operators maximum agility to respond to the changing passenger demand and to enable the fastest possible return of services, the Authority also permitted commercial bus operators to partially or fully suspend their licensed regular services from March 2020. While demand for travel in 2022 was above 2021 levels and there were no capacity restrictions on public transport in 2022, it remained unviable for some services to operate or operate in full. Suspensions of services due to COVID-19, in whole or in part, were permitted until 7th November 2022.

During the periods in 2020 and 2021 when capacity restrictions were in place on public transport, additional vehicles had to be deployed by operators. This was to ensure that capacity restrictions were adhered to and that passengers were able to board services. Therefore, some individual services were operated by two or three vehicles. As a result, while there was a large reduction in the total passenger journeys, there was not a corresponding consistent reduction in the kilometres operated or the number of vehicles utilised. For this reason, operators were asked to provide the actual operated vehicle kilometres for each licence for the years 2020 and 2021. Due to complete or partial suspensions of licensed regular services being allowed

in 2022, the Authority again asked operators to provide actual operated vehicle kilometres. The operated vehicle kilometres figure incorporates the additional kilometres provided when more than one vehicle was deployed. Capacity restrictions on vehicles decreased throughout 2021, and the number of vehicles used to provide the services decreased while at the same time the number of vehicle kilometres increased.

Current Trends

The year 2023 saw a continued trend of strong growth in passenger journeys on regular public bus passenger services. The overall passenger journeys increased by over 3.7 million when compared to 2022, which represents a 20% increase, going to 22.4 million passenger journeys. This represented the second highest increase since data was first collected in 2013. The highest increase was between 2021 and 2022 with an 83% increase passenger journeys. Total passenger journeys in 2023 had grown by 13 million from the 9.4 million low of 2020.

Despite the continued trend of strong growth, overall passenger journeys were still approximately 8 million passenger journeys or 19% below the peak of 30.5 million in 2019. Passenger journeys on commercial bus services in 2023 represented 7% of all public transport journeys, down from 9.4% in 2019. The number of active regular licences continued to fall and was at 77% of the 2019 peak. The greatest decrease was of those licences operating wholly outside of the GDA. There was also a slight drop in the number of operators. Overall, the total number of operators was down by a quarter on the 2019 peak. The majority of the decrease in operators occurred in those operators holding one licence.

2019 was the peak of both passenger journeys and scheduled kilometres for commercial bus services. In that year there were 30.5 million passenger journeys made and 101.2 million kilometres scheduled. Passenger journeys dropped by 69% from 2019 to 2020. This 69% decline for commercial bus services was the largest decline in passenger journeys of all public transport services². The next steepest decline was on Heavy Rail services which dropped by 64%. Passenger journeys on the commercial bus services outside of the Greater Dublin Area ("GDA") fell by less than the journeys on services stopping in the GDA. However, these services operating outside of the GDA have seen a slower growth since 2020.

2 Taxi and School Bus Transport Schemes services are not included in these figures.

From the outset COVID-19 brought about changes to travel demand, which continued to impact travel and travel patterns in 2023. This is especially evident in the different levels of change between kilometres operated and passenger journeys from 2020 to 2023, also shown in Figures A to B and Table A.

Passenger journeys on the commercial bus services have increased more since 2020 than on contracted public bus services. Overall commercial bus passenger journeys have increased by 137% with contracted bus service passenger journeys increasing by 122%. Both Heavy and Light Rail services passenger journeys increased at a greater rate than the bus services. However, as the commercial bus passenger journeys had decreased to a greater extent than the other modes of public transport during the pandemic, in 2023 they were at 73% of the 2019 peak. The contracted bus services passenger journeys were over 10% higher in 2023 than in 2019, with Luas Light Rail services 0.3% below the 2019.

Scheduled vehicle kilometres, vehicle age, emissions, and accessibility information are indicators for trends in the availability of and investment in public transport provided by commercial bus services. In 2024, a new method of gathering data was used. More detail per vehicle was sought in relation to accessible features. Previously the data was sought on an overall operator

fleet basis. Comparison with previous years would be open to inaccuracies. Trends on the previous years, where the data was comparable, will be retained for reference. In 2024, emissions data was sought for the first time on an individual vehicle level. Therefore, the data on emissions in this bulletin will be provided solely for the year 2023.

The high ratio of scheduled vehicle kilometres for commercial bus service when compared with all other public transport vehicle kilometres is due to the large variation in the nature of the bus service types provided. These include high frequency urban services and long-distance intercity services, as well as college, commuter, and rural services.

2023 was the second year operators were asked to report on a per licence basis the number of vehicles and accessible vehicles used. This provides for more accuracy in calculating not just the number of accessible vehicles, but also the volume of the overall kilometres provided by such vehicles. 56% of all kilometres operated in 2023 were by accessible vehicles. In 2019, when operators reported on the overall fleet accessibility rather than licence accessibility, they reported that 59% of the scheduled vehicle kilometres were provided by accessible vehicles.

Figure A: Overview of Figures for Commercial Bus Services in 2023 and 2020 Compared to 2019

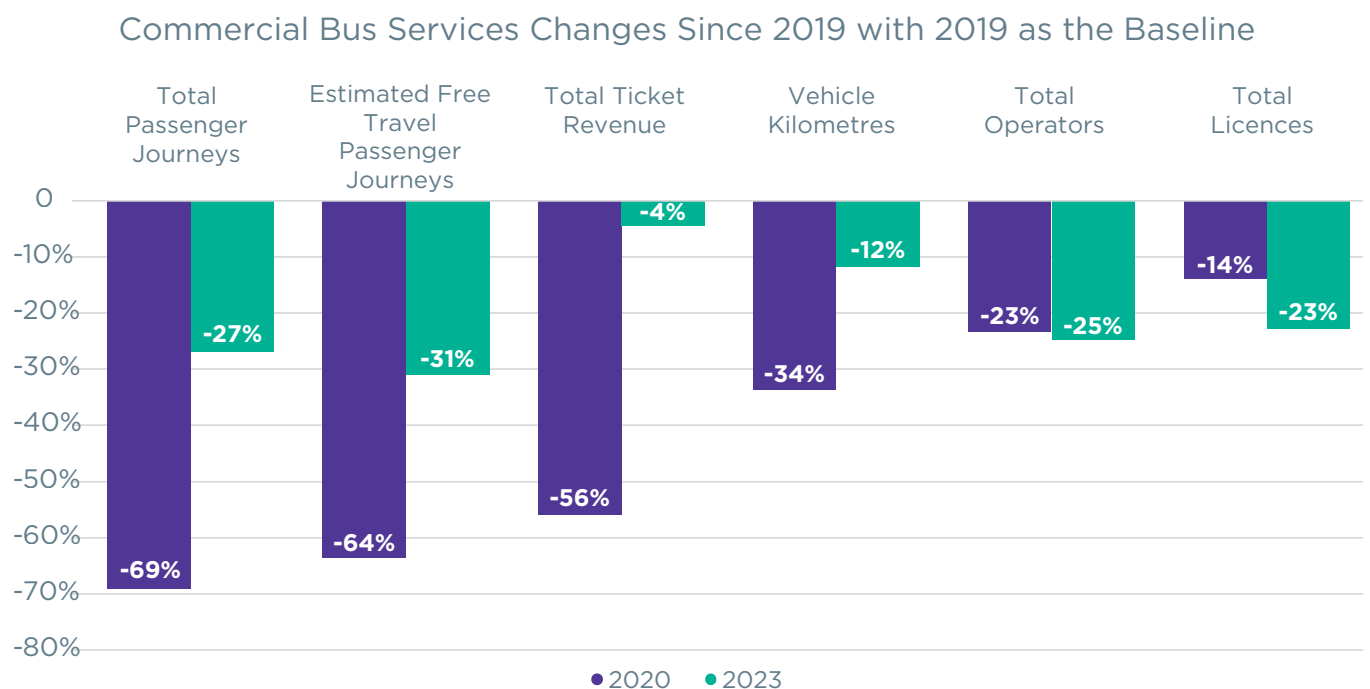
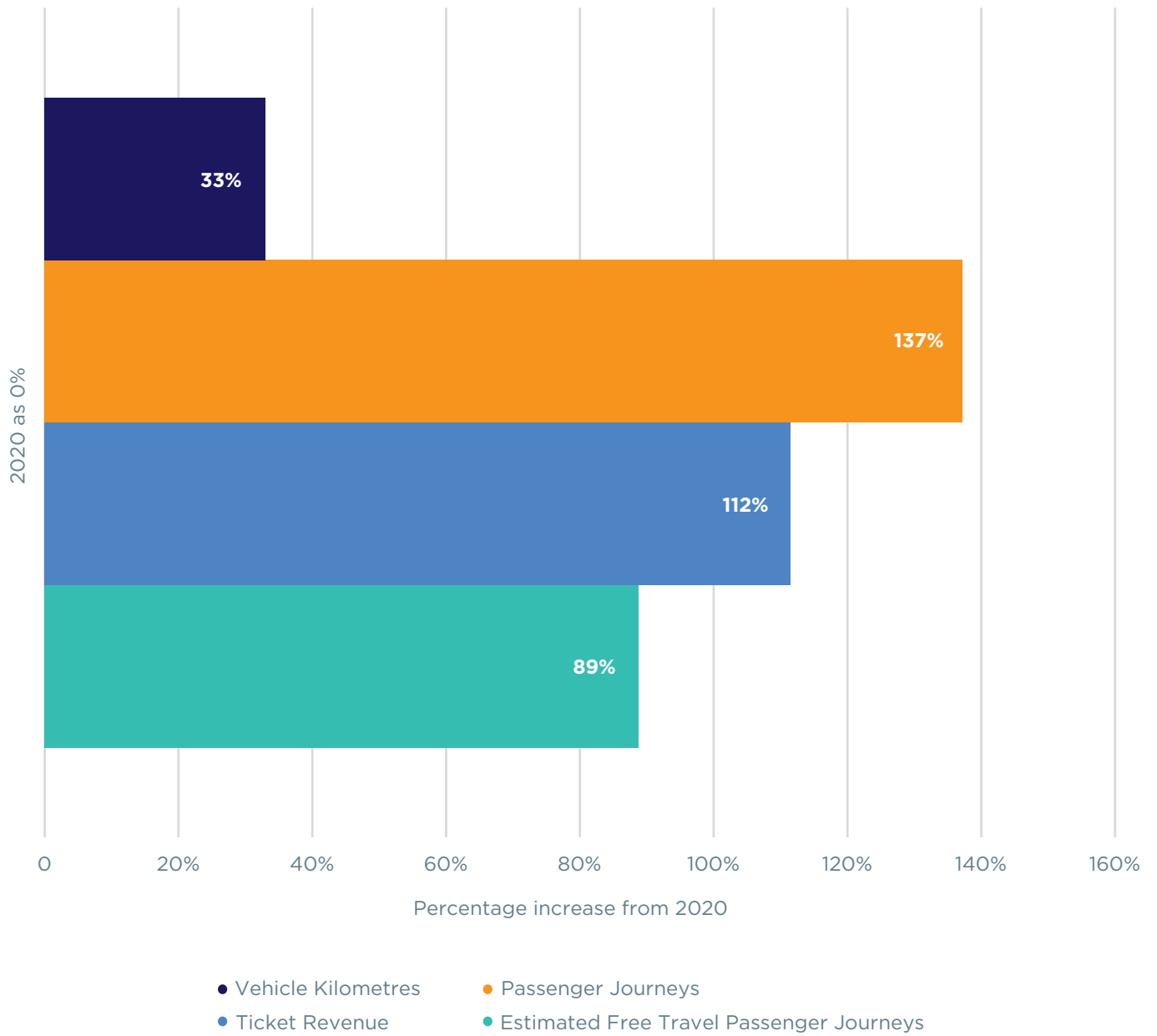


Figure B: Overview of Figures for Commercial Bus Services in 2023 Increases Shown Compared to 2020

2023 Commercial Bus Figures Increases on the Year 2020 (where 2020 is 0%)



1



Number of Operators and Licences

It is important to highlight that there is a large variability and diversity in the scale, frequency, and type of commercial bus services provided by operators.

Commercial bus services cover large scale inter-city and interurban bus services which provide connections to and from the country's main towns, cities and airports; commuter services that bring passengers to employment and education; urban and suburban services; and rural services that generally link small towns and villages in rural areas.

There is no restriction to the number of services that may be provided by a single licence or the number of licences that a single operator may hold, once approved as licensed services by the Authority under the Public Transport Regulation Act, 2009 (as amended). A single licence may provide for a number of services, with current licences ranging from one service per month to numerous services per hour, using several vehicles with large passenger capacities. One bus operator can also hold several licences, each of which may have a small number of services per week or per month and provide all of these services using one vehicle.

Figures 1.1 and 1.2 show the number of active operators and the number of active licences/ authorisations per year. These figures show the decline in the number of licences and operators since 2019, with a greater percentage decrease in licences than in operators. Where a licence and an authorisation are operated in conjunction with each other, this has been counted as one service. Table 1A shows the number of new licences granted for regular commercial bus services. Regular licences are valid for three years and expire if not renewed. Licences may also be revoked, either by the Authority or at the request of the operator.

The overall number of operators remained relatively static between 2013 and 2019. There was a significant drop in operators providing active licensed services as well as in licences themselves between 2019 and 2020, due to the suspensions permitted during the pandemic. The number of operators from 2020 onwards, though reduced, has again remained relatively static through to 2023. The number of licences continued to drop between 2020 and 2022, with a marginal increase in 2023 of one licence. Figure 1.3 shows that the reduction in operators providing regular bus services happened in the greatest amount to operators with only one licensed service. This group had a 29% reduction in total operators between 2019 and 2023, which was more than 50% higher than the reduction in the other groups. Operators with more than one licence may have seen some licensed services cease, but there was only a 19% reduction in operators in both the groups with two to three licences and those with four or more licences.

The reduction in licensed services was most noticeable in Non-GDA licences, where there has been a continued decline since 2019. There was no decline of GDA licences between 2019 and 2020 and there was an increase in these licences between 2022 and 2023, going from 89 to 99 licences.

It must be noted that these figures are overall volumes and individual operators have entered and left the market. As with previous years, operators with a higher number of licences carried the greater number of passengers but represented a small proportion of all operators.

Figure 1.1: Number of Operators with Active Regular Licences

2013- 2023 Number of Operators with Active Licences (Regular Services)

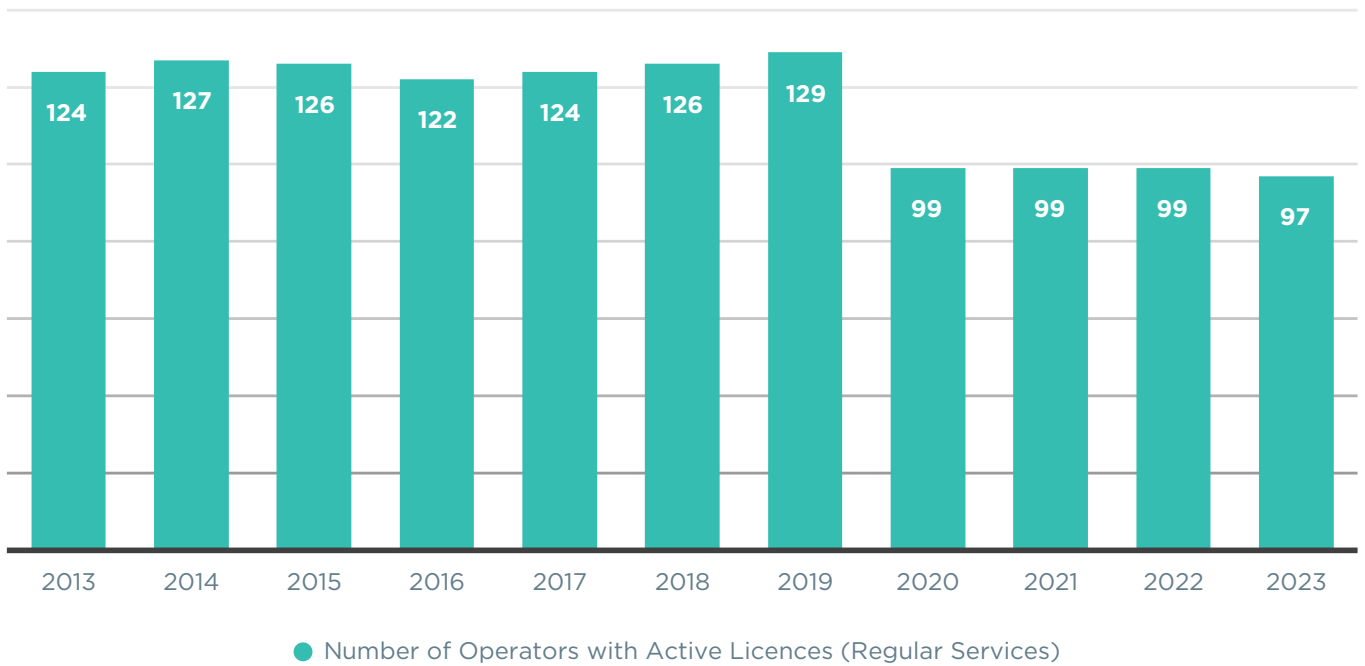


Figure 1.2: Breakdown by Area of Total Active Regular Licences

2015 - 2023 Active Regular Licences

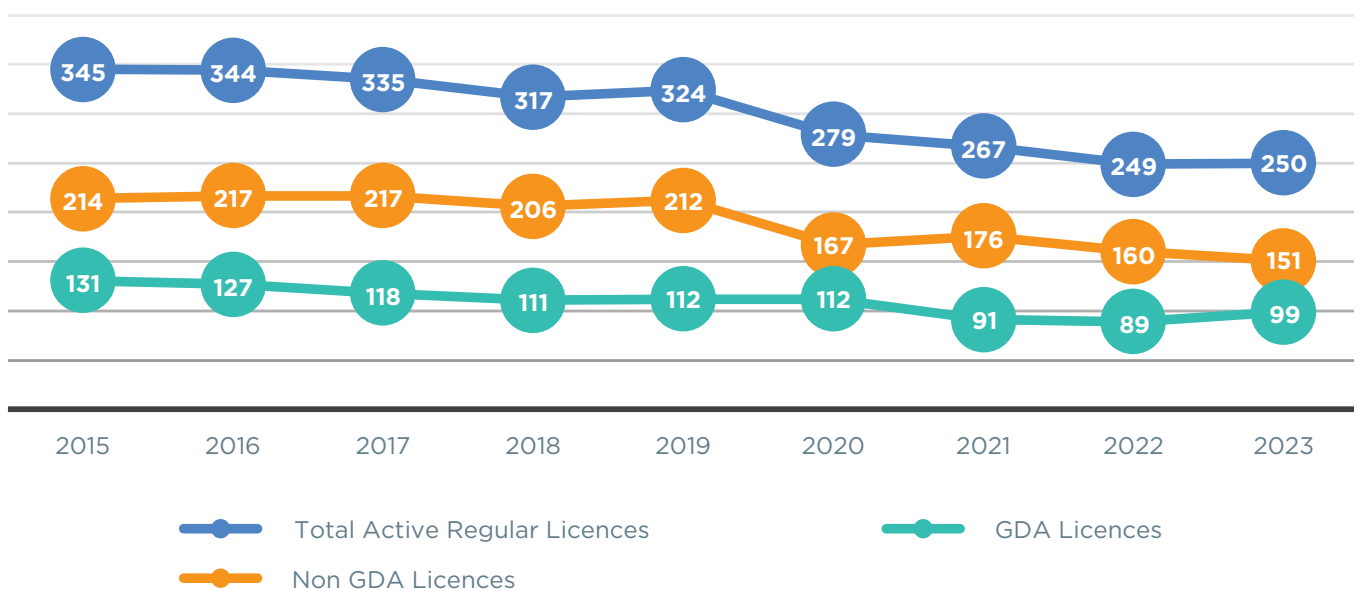


Table 1A: Number of New Licences (Excludes Licences granted where a previous Licence expired)

Year	Non-GDA services	GDA services	Total New Regular Licences Granted	New Licences which Commenced in year granted
2014	25	7	32	-
2015	20	15	35	33
2016	12	11	23	17
2017	12	6	18	13
2018	6	4	10	6
2019	7	8	15	14
2023	2	6	8	2

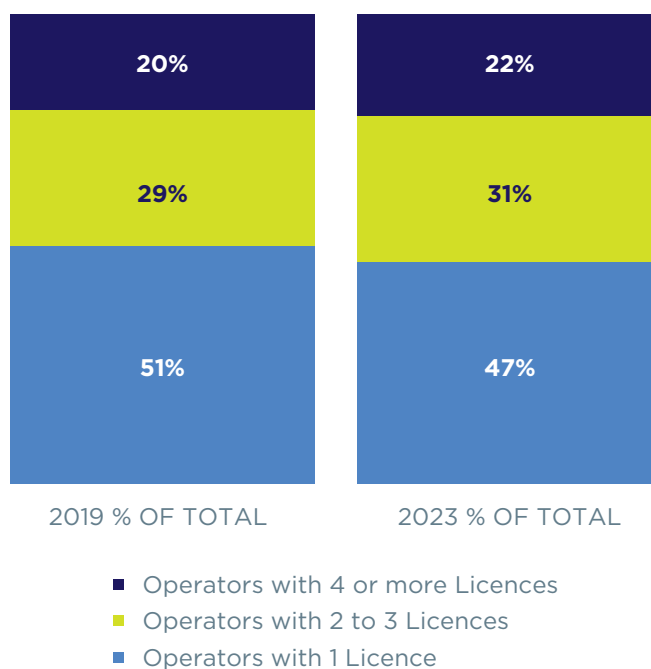
Figures 1.3 and 1.4 set out the percentages of operators by the number of licences held and compare national totals against the GDA and Non-GDA only operators. Figure 1.5 compares the number of licences held by operators and the percentage of the passenger journeys taken on those services.

In 2023, 47% of all operators held a single licence. This was down from 2019 where over half of all the operators (51%) held a single licence. Operators with only one licensed service have seen the greatest reduction in numbers, with a drop of 29% between 2019 and 2023. Figure 1.3 shows that operators with more than one licence increased as a share of the total number of operators. While the number of operators in all categories has decreased, the decrease is greatest where the operator held a single licence.

As can be seen from Figure 1.2, the number of active regular licences has also decreased. There has been a continued decrease in Non-GDA services. In 2023 there was an increase of licences operating in the GDA.

Figure 1.3: Percentage of Operators by Number of Licences held

2019 V 2023 Number of Licences Held by Operators



Licences have three Bands depending on the number of services on the licence. Band A licences are for up to 624 services per year, Band B for 625 to 3,000 and Band C for over 3,000, services per year. Figure 1.4 shows the breakdown of these licences by area. Viewed with Figure 1.3 this shows that while there are more Non-GDA licences in volume operating, there are less services per licence.

Figure 1.4: Percentage Breakdown of Active Licences Held by Number of Services Per Licence

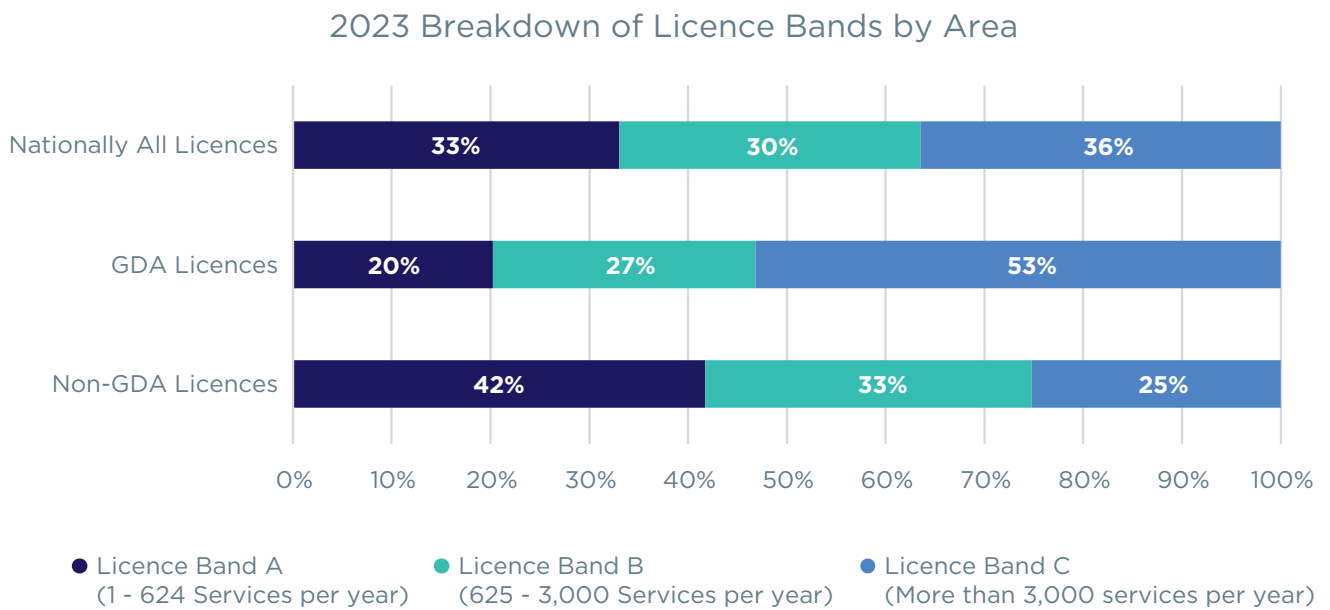
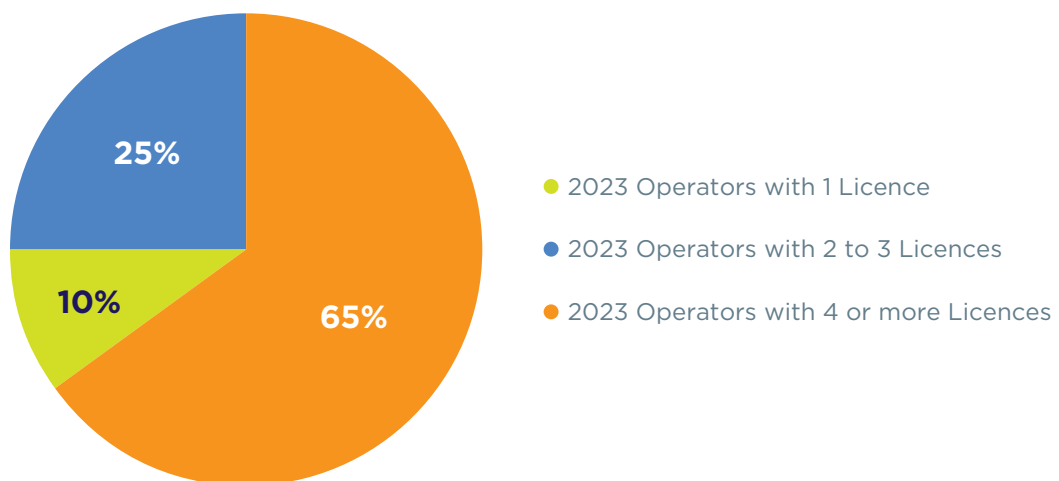


Figure 1.5: Percentage of Passenger Journeys based on Number of Licences held (Nationally)

2023 Percentage of Total Passenger Journeys by Number of Licences Held



The percentage of passenger journeys provided by operators with one licence has increased from 6% in 2019 to 10% in 2023. This is in part due to this group of operators having exited from the market in the greatest volume.

2

Total Number of Passenger Journeys



Demand for public transport services is strongly related to economic activity. Economic growth increases employment, disposable income, and consumer spend, all of which lead to greater demand for travel. Economic decline produces the opposite effect.

Passenger journeys on the commercial bus services had seen an increase of 11.2 million journeys or 158% in the six years between the first-year data was collected in 2013 to the peak of 2019. The impact of COVID-19 in 2020 saw journeys decline by 21 million, or 69%, in the years between 2019 and 2020 as travel restrictions came into place in March of 2020. There was little growth between 2020 and 2021 when travel restrictions remained in place. Post COVID-19 there was a spike in growth. The level of increase was driven by significant increases on GDA services, which in both 2022 and 2023 were over double that of the Non-GDA services. See Figure 2.1 and Table 2A.

There were 22.4 million passenger journeys in 2023. This shows strong overall growth in passenger journeys continued on commercial bus services between 2022 and 2023, with an increase of 3.7 million passenger journeys, or 20% on the previous year. This was the second highest increase since 2013. Following the removal of travel restrictions there was an 83% spike in growth between 2021 and 2022. Overall passenger journey numbers for 2023 on commercial bus services were up 12.9 million, or 137%, from the low of 9 million journeys in 2020. Overall journeys were at approximately 73% of the peak figures of 2019. Compared to previous years this was just under the 24 million passenger journeys reported for 2016.

Changes to passenger journeys have been different depending on the area the services have operated. Non-GDA services had seen a decrease in overall share of passenger journeys each year since 2013. Their share

changed from 37% of all passenger journeys to 29% between 2013 and 2019, as the GDA passenger journey increases surpassed those of the Non-GDA services. During COVID-19 Non-GDA services saw less of a decline, at 58%, and an increase in the total share of passenger journeys compared to GDA services, which saw a 73% decline in passenger journeys. This share of all passenger journeys on Non-GDA services increased during the pandemic years to 39% of all journeys in 2020 and then to 42% in 2021. This represented the highest share of all passenger journeys for Non-GDA services since data was collected.

Due to there being less of a decline in passenger journeys on Non-GDA services between 2019 and 2020, figures have returned to 79% of the 2019 peak. This is despite growth being half that of GDA services which were at 71% of the 2019 peak in 2023. Table 2B gives a breakdown of the market share of passenger journeys between Non-GDA services and GDA services.

For a broader view, passenger journeys on commercial bus services and PSO bus and rail services are compared in Figures 2.5 to 2.9. As can be seen, there was a greater impact and decline in passengers on commercial services due to COVID-19. Overall, when restrictions were removed commercial bus services saw a greater spike in passenger journeys than the combined PSO services in 2022. In 2023, the overall PSO passenger journey increases surpassed those of the commercial bus services and in some instances patronage was above the peak of 2019 depending on the transport type. Despite the increase in 2023 commercial bus passenger journeys were 7% of the overall passenger journeys on public transport in 2023 falling from over 9% in 2023.

Figure 2.1: Commercial Bus Services Total Passenger Journeys by Year 2013-2023 (in millions)

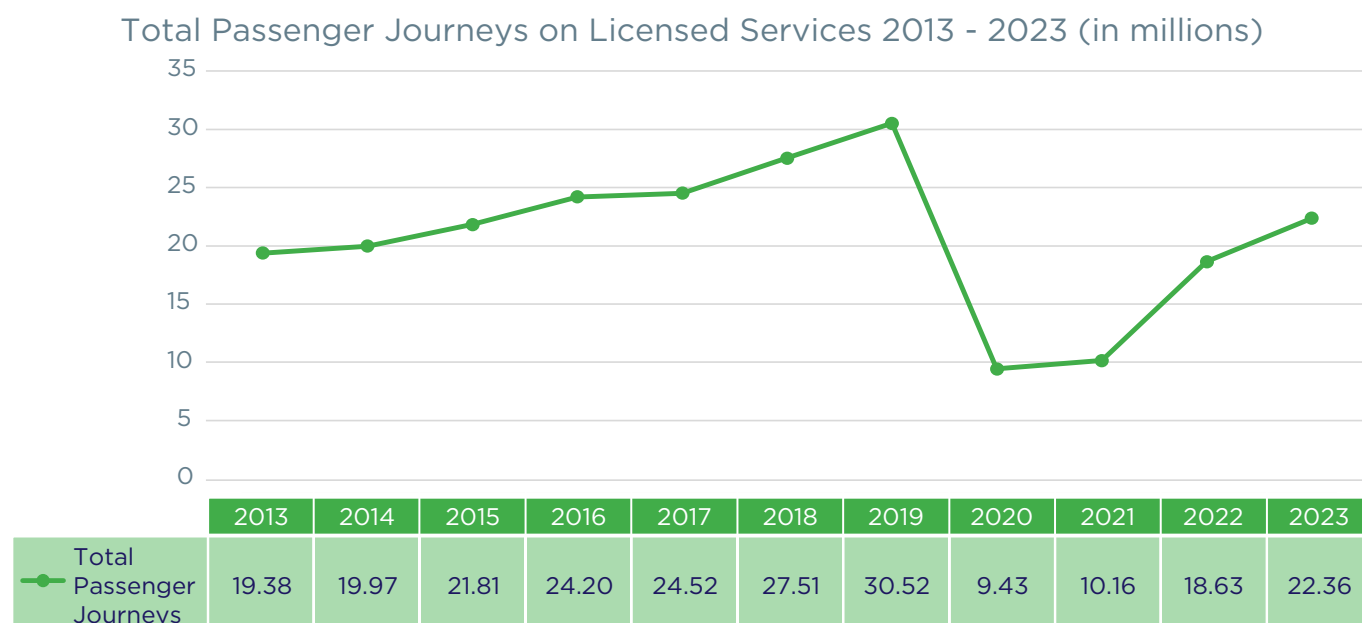


Table 2A: Percentage Change from 2013 Annual Commercial Bus Passenger Journeys

Year/ Licensed & Authorised Services	Total Passenger Journeys	Total Change	% Change From Previous Year	% Change with 2013 as 100%
2013	19.38	0.00	-	100%
2014	19.97	0.60	3.1%	103%
2015	21.81	1.84	9.2%	113%
2016	24.20	2.38	10.9%	125%
2017	24.52	0.32	1.3%	127%
2018	27.51	2.99	12.2%	142%
2019	30.52	3.01	10.9%	158%
2020	9.43	-21.09	-69.1%	49%
2021	10.16	0.73	7.7%	52%
2022	18.63	8.47	83.4%	96%
2023	22.36	3.73	20.0%	115%

Figure 2.2: Percentage of Total Annual Commercial Bus Passenger Journeys by Service Type

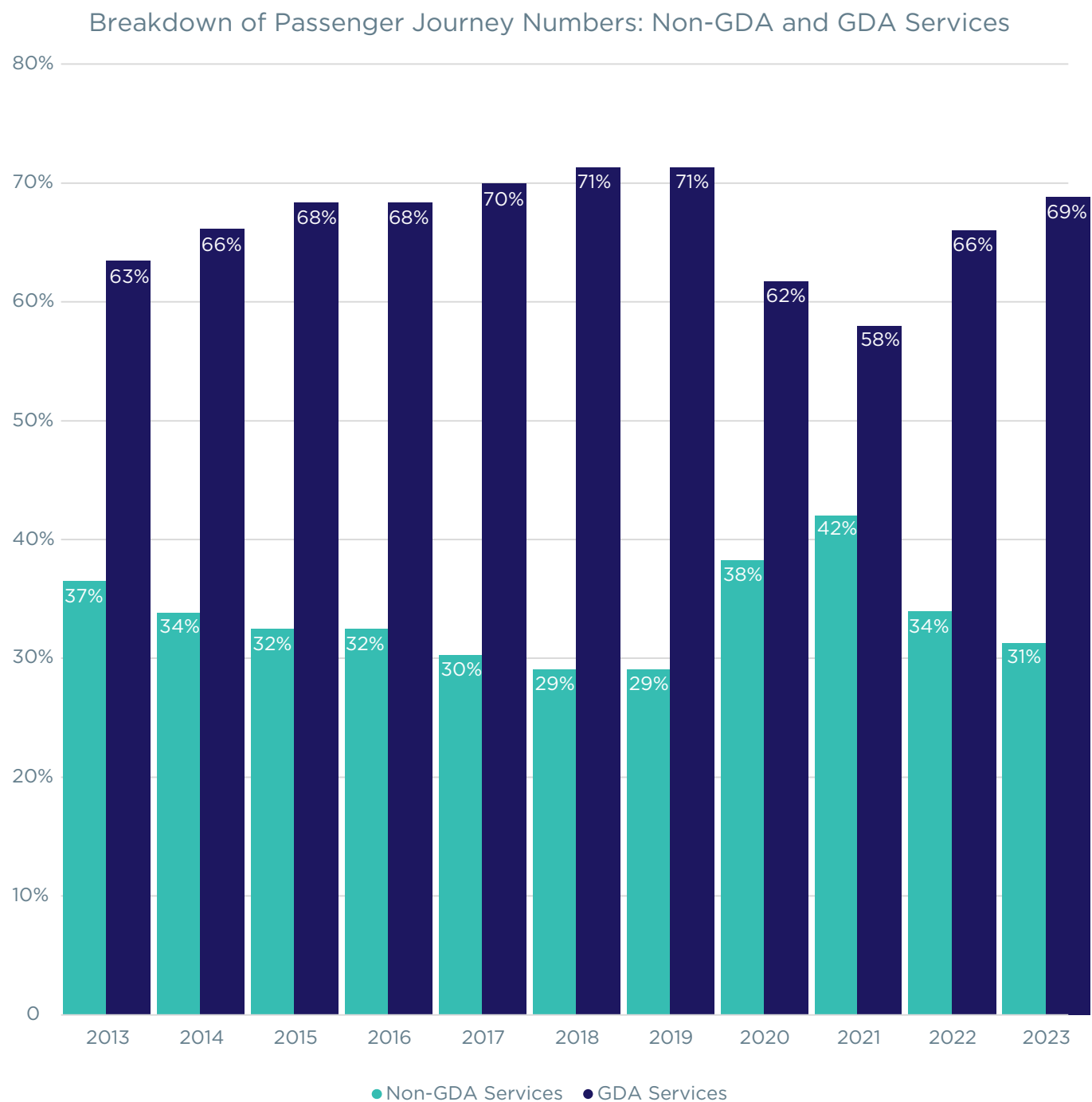
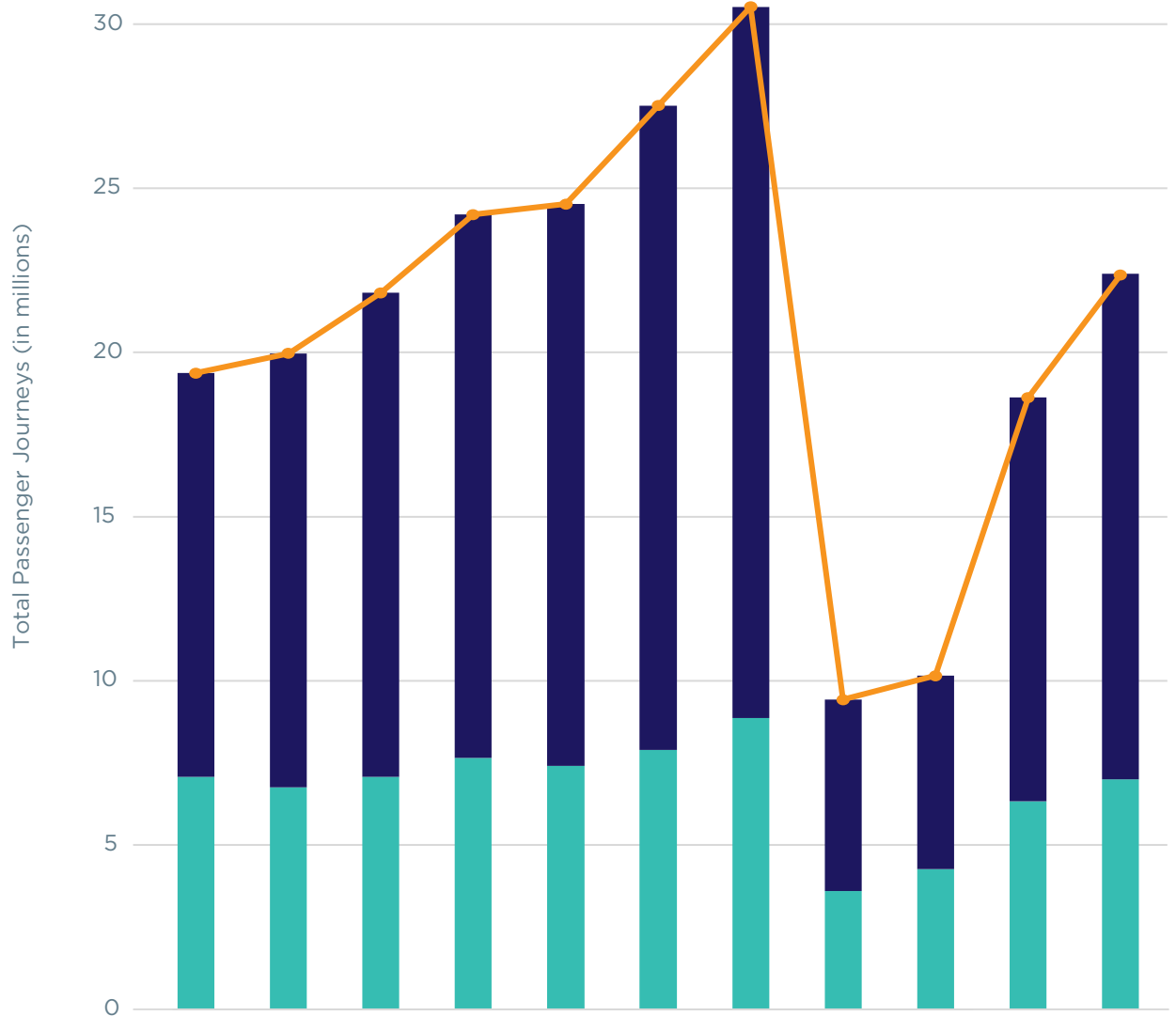


Figure 2.3: Comparison of Commercial Bus Services Total Passenger Journeys by Area by Year 2013-2023 (in millions)

Total Annual Passenger Journeys on Commercial Bus Services (in millions)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
GDA Services	12.29	13.21	14.73	16.54	17.10	19.62	21.65	5.82	5.89	12.30	15.38
Non-GDA Services	7.08	6.76	7.08	7.66	7.42	7.90	8.87	3.61	4.27	6.33	6.99
Total Passenger Journeys	19.38	19.97	21.81	24.20	24.52	27.51	30.52	9.43	10.16	18.63	22.36

Figure 2.4: Annual Passenger Journeys and Percentage Change by Area by Year

Breakdown of Total Passenger Journeys on Commercial Bus Services
2013 - 2023 (in millions)

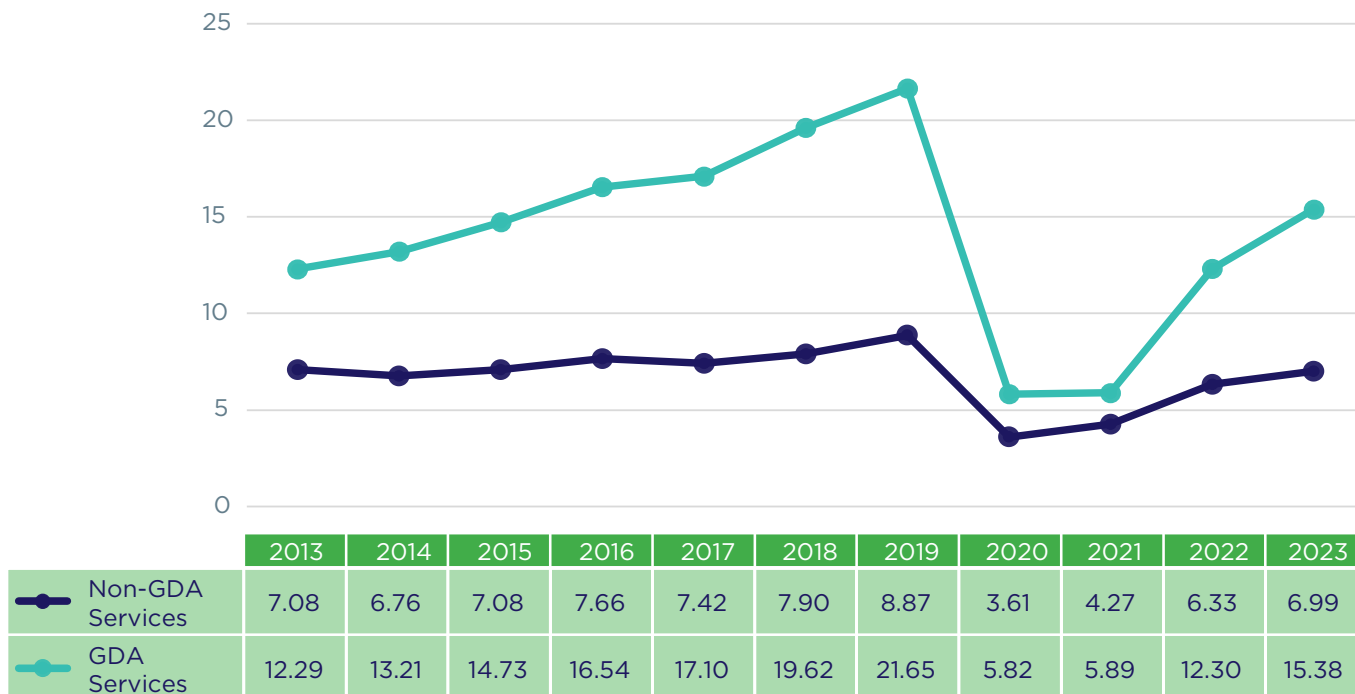


Table 2B: Change per Year in Commercial Passenger Journeys by Area

Change from previous Year	Non-GDA services	GDA services
2013	-	0.0%
2014	-4.6%	7.5%
2015	4.8%	11.5%
2016	8.1%	12.3%
2017	-3.1%	3.4%
2018	6.4%	14.7%
2019	12.4%	10.3%
2020	-59.4%	-73.1%
2021	18.4%	1.1%
2022	48.3%	109.0%
2023	10.3%	25.0%

Figure 2.5: Comparison of PSO³ and Commercial Bus Service Total Annual Passenger Journeys by Year 2013-2023 (in millions)

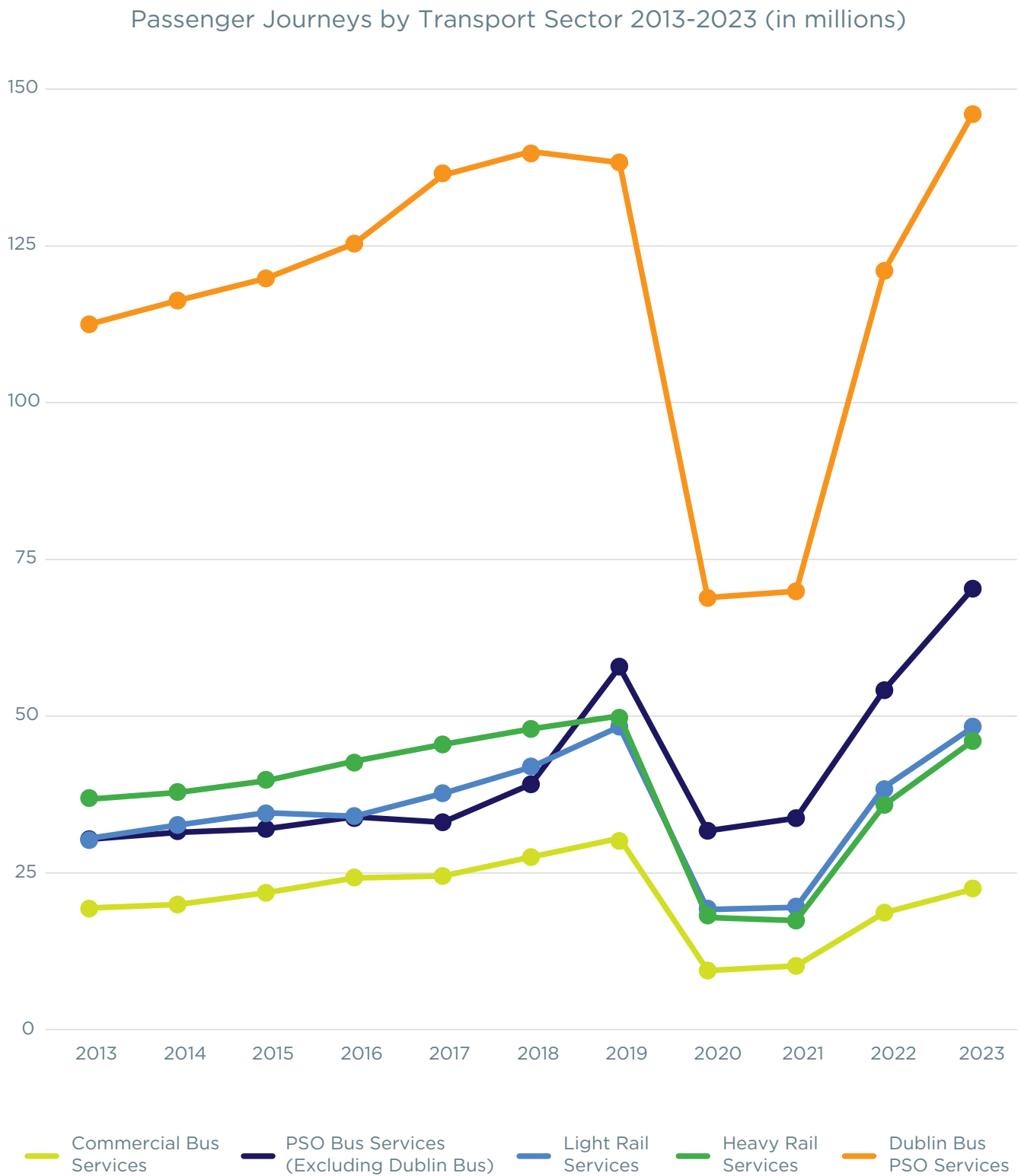


Figure 2.6: Comparison of Change in Passenger Journeys by Transport Sector by Year 2013-2023

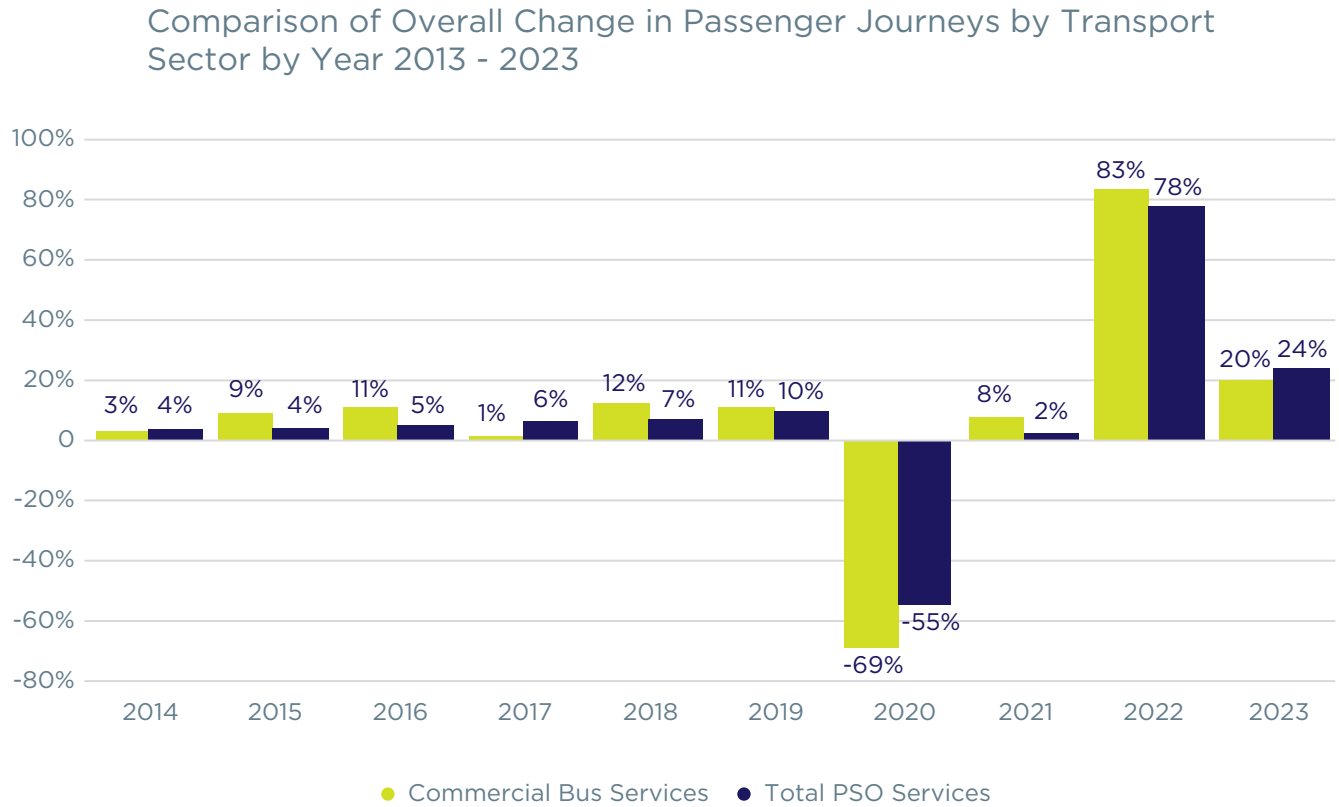


Figure 2.7: Comparison of the Percentage Increase in Total Passenger Journeys by Transport Sector 2013 - 2023

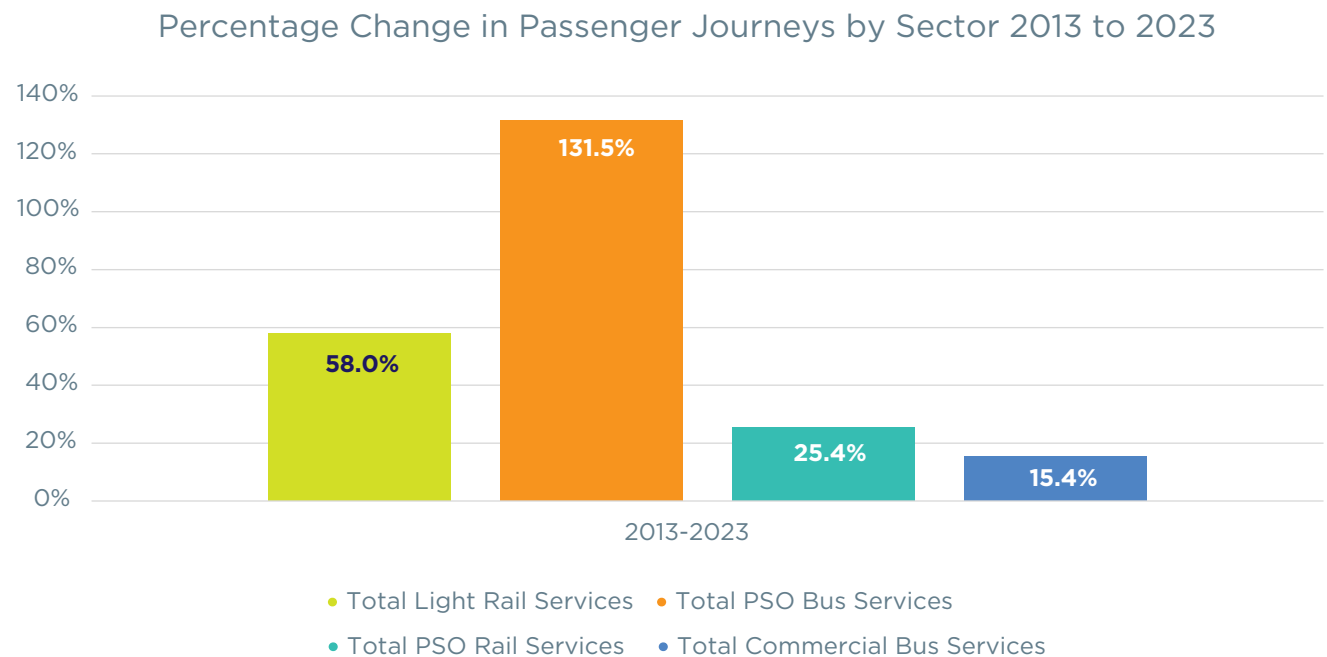


Figure 2.8: Comparison of the Changes since COVID-19 in Total Passenger Journeys by Transport Sector (2020 - 2023)

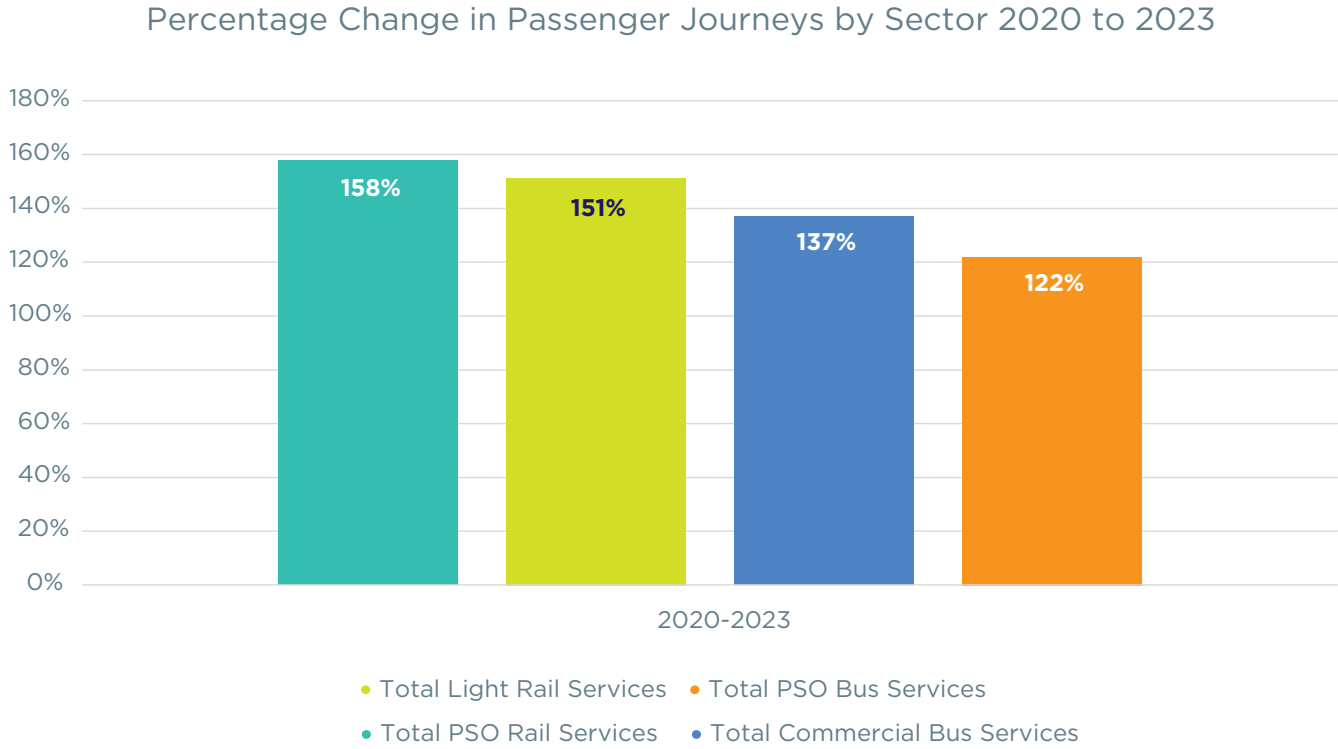
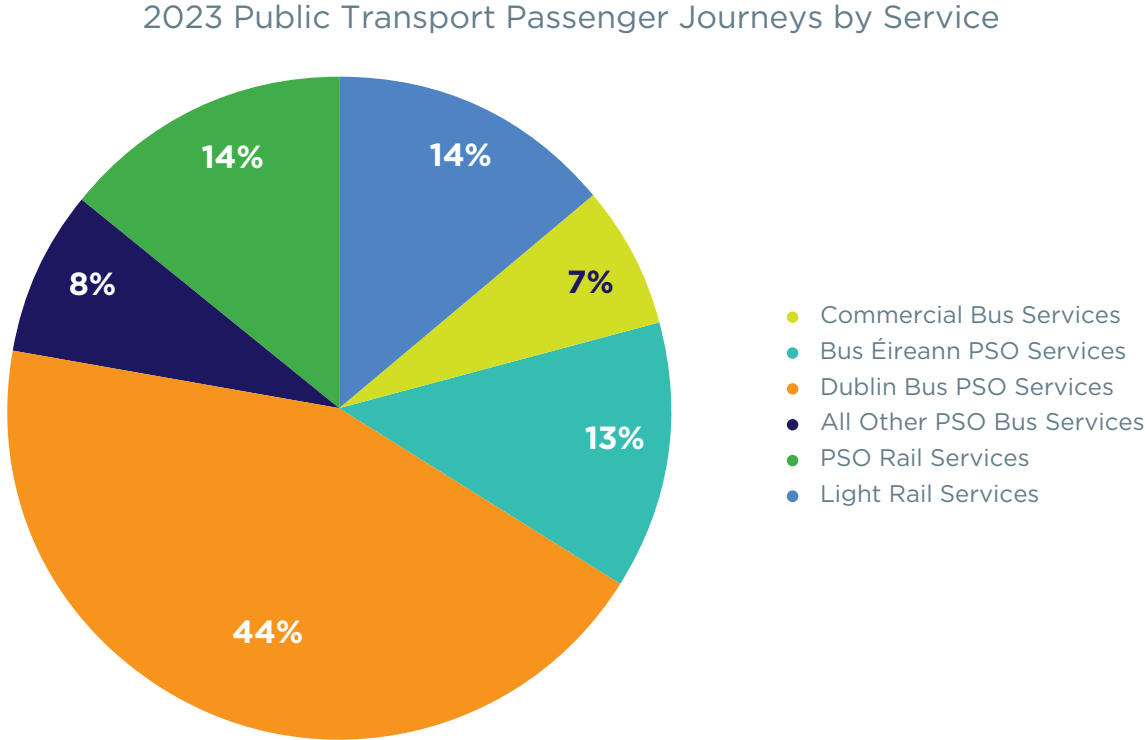


Figure 2.9: Comparison of the Percentage Share of Total Passenger Journeys by Transport Sector 2023



Free Travel Passenger Journeys

The Department of Social Protection's Free Travel Scheme is available to all persons aged 66 and over living permanently in the State. Some people under 66 may also qualify, such as carers in receipt of a Carer's Allowance and certain other persons in receipt of a Disability Allowance or an Invalidity Pension.

Since 1995, Northern Ireland Senior Citizens aged 65+ have been eligible for restricted cross border free travel from any point in Northern Ireland to any destination within the Republic of Ireland. This provision was further expanded in 2007, to allow eligible Northern Ireland 65+ Senior Smart Pass holders to travel for free, not only to a destination across the border but also on internal public transport services within the Republic of Ireland.

Free travel is available on State funded bus and rail transport including Dublin Bus, Bus Éireann, Go-Ahead Ireland, Local Link, Iarnród Éireann, Luas services, and private operators under contract to the Authority. Free travel is also available on a number of commercial bus services. Operators that are part of the Free Travel Scheme receive payments for the fare forgone for carrying passengers entitled to free travel.

As part of the Annual Bus Operator Returns, commercial bus operators estimate the number of free travel passenger journeys ('estimated FTP journeys') as a percentage of all journeys for each licence and authorisation.

Figures 2.10 and 2.12 show the trend and breakdown in estimated FTP journeys. For 2023, the estimated FTP journeys were reported as much reduced, dropping from 26% of all journeys in 2022 to 18% in 2023. This decrease was driven by a drop in estimated FTP journeys solely on Non-GDA services. There was an increase in the volume of estimated FTP journeys on GDA services in 2023, continuing the trend of increase since 2020. In 2023 approximately 37% of all journeys on Non-GDA services were estimated FTP journeys, down from 56% in 2022. Estimated FTP journeys were 40% of all journeys in 2019. On GDA services, estimated FTP journeys remained at approximately 10% of all journeys. This was despite a large increase in overall passenger journeys.

Between 2019 and 2020, the 64% decrease in estimated FTP journeys nationally was less than the decrease in total passenger journeys, which dropped by 69%. During COVID-19 the number of estimated FTP journeys increased to 23% of all journeys in 2020 and increased again up to 26% in 2022. This increase was due to a less severe drop in estimated FTP journeys on commercial bus services compared to the drop in fare paying journeys. See Figure 2.10. There was a drop of the total share of journeys in 2023 to 18% with the total estimated FTP journeys being reported at its lowest level since data was collected, outside of the COVID-19 period, with 4.1 million journeys. This drop was solely on Non-GDA services and estimated FTP journeys actually increased for a second year in succession on GDA services. See Figure 2.12.

A significant divide between estimated FTP journeys on Non-GDA and GDA services is evident. Save for a spike during 2019-2020, estimated FTP journeys on GDA services have seen continued decline as a percentage of the total journeys despite the increase in estimated FTP journeys, while there has been more fluctuation both upwards and downwards on Non-GDA services.

Table 2C shows the percentage share of all passenger journeys which were estimated FTP journeys in that area. Figure 2.13 shows the divide of estimated FTP journeys between GDA and Non-GDA services. It should be noted that the free travel figures have been calculated by multiplying the percentage of estimated FTP journeys by the total passenger journeys on the respective routes. The figures should therefore be taken as indicative of trends only, rather than as precise calculations. The percentage of free travel passengers is estimated by the operators.

Figure 2.10: Comparison of Estimated FTP Journeys and Total Passenger Journeys (in millions) 2013-2023

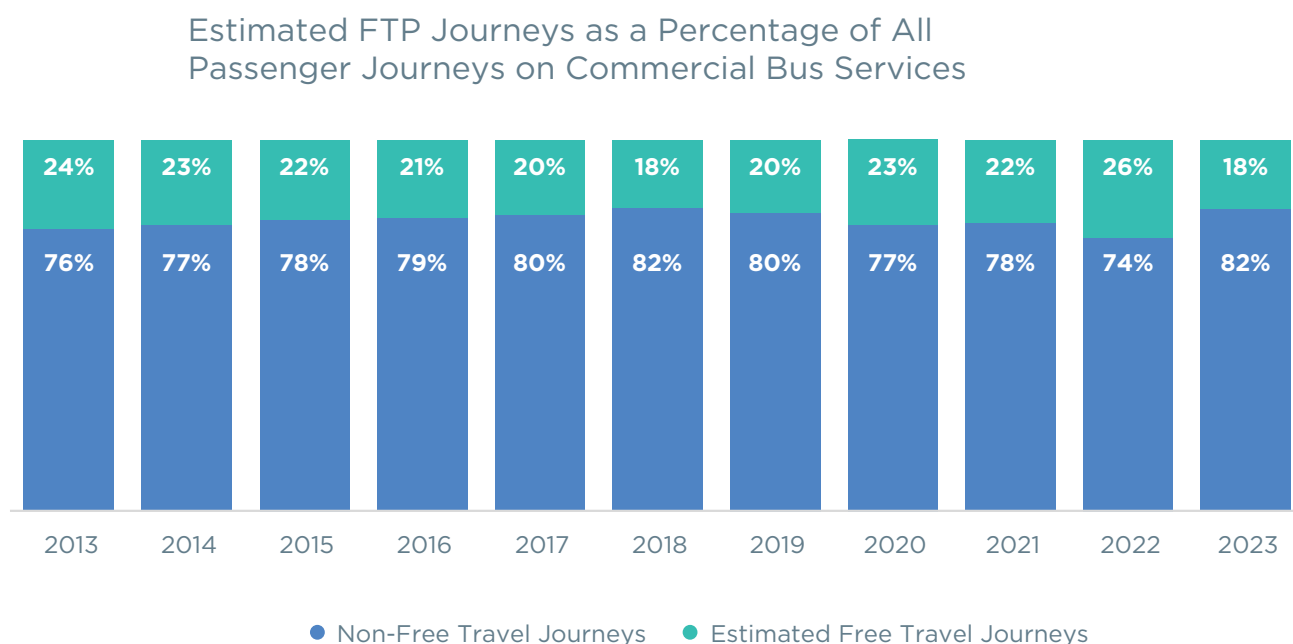
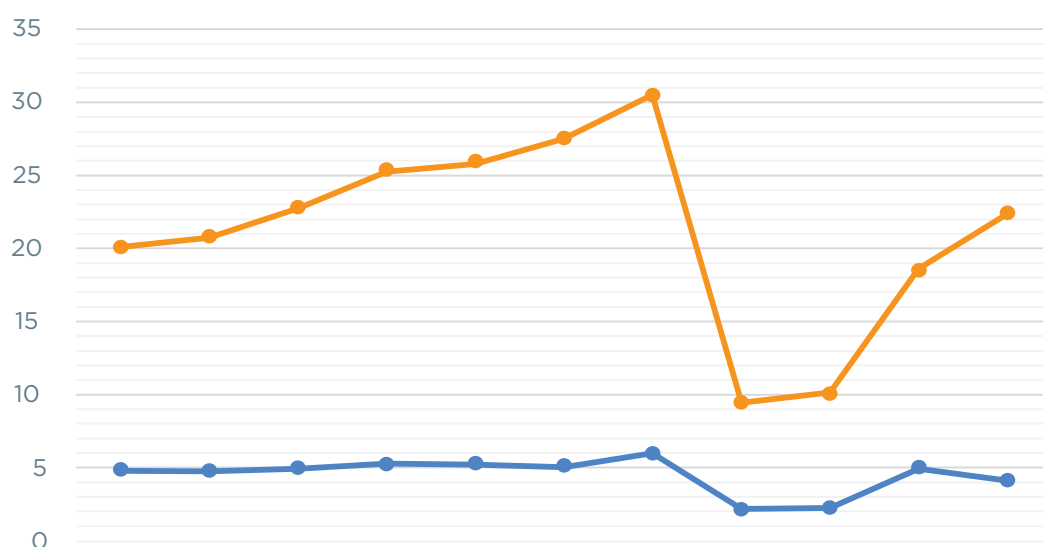


Figure 2.11: Comparison of Estimated FTP Journeys and Total Passenger Journeys (in millions) 2013-2023

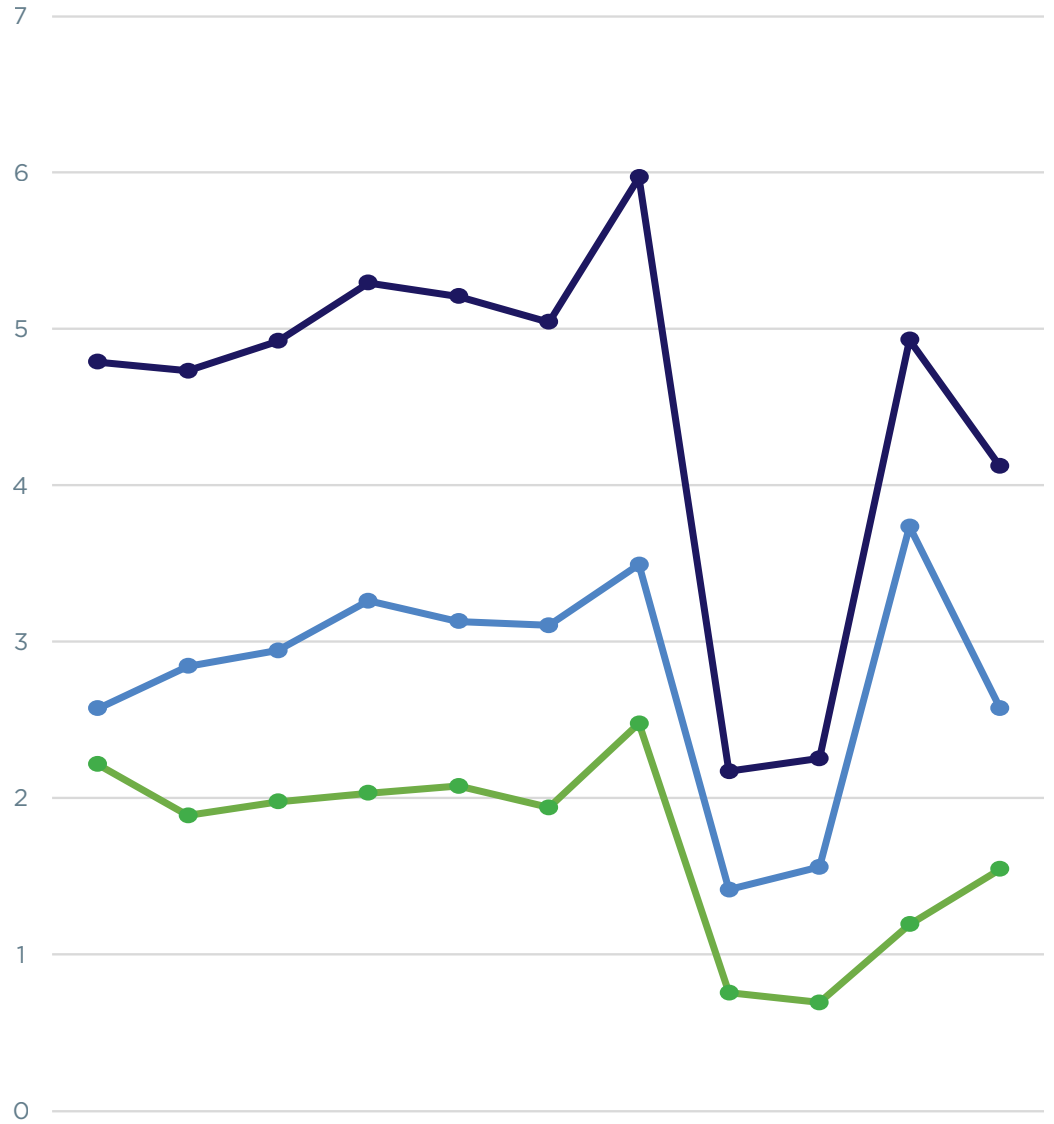
Comparison of Estimated FTP Journeys and Total Passenger Journeys (in millions) 2013 - 2023



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
● Total Estimated FTP Journeys	4.79	4.73	4.92	5.29	5.21	5.04	5.97	2.17	2.25	4.93	4.12
● Total Passenger Journeys	20.10	20.75	22.73	25.25	25.78	27.51	30.52	9.43	10.14	18.63	22.36

Figure 2.12: Estimated Number of FTP Journeys on Commercial Bus Services (in millions)

Breakdown by Service Type of Total Estimated FTP Journeys
(in millions) 2013 - 2023



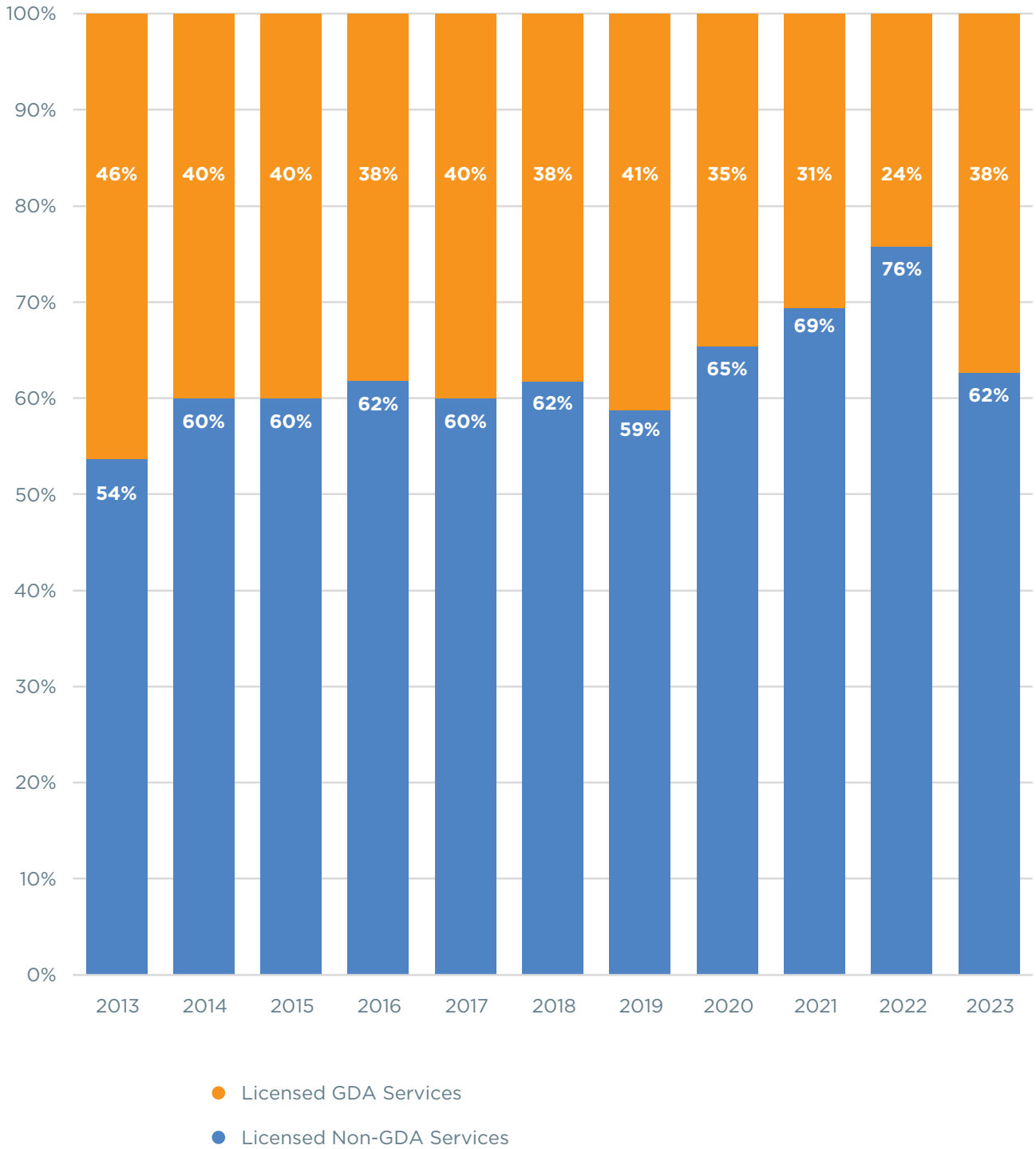
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Estimated FTP on Non-GDA Services	2.57	2.84	2.94	3.26	3.13	3.10	3.49	1.42	1.56	3.74	2.58
Estimated FTP on GDA Services	2.22	1.89	1.98	2.03	2.08	1.94	2.48	0.76	0.69	1.19	1.55
Total Estimated FTP Journeys	4.79	4.73	4.92	5.29	5.21	5.04	5.97	2.17	2.25	4.93	4.12

Table 2C: Percent of All Passenger Journeys in an Area which are Estimated Free Travel Passenger Journeys

Year	Non-GDA Services (% of All Passenger Journeys which are FTP Journeys)	GDA Services (% of All Passenger Journeys which are FTP Journeys)
2013	36%	17%
2014	42%	13%
2015	42%	13%
2016	43%	12%
2017	42%	11%
2018	39%	10%
2019	40%	11%
2020	39%	13%
2021	37%	12%
2022	59%	10%
2023	37%	10%
Change in Total 2013-2019	35.7%	11.8%
Change in Total 2019-2023	-26.3%	-37.6%
Change in Total 2013-2023	0.1%	-30.2%

Figure 2.13: Overall Split of the Total Estimated FTP Journeys on Commercial Bus Services between Non-GDA and GDA Services

Overall Split Of All Free Travel Passenger Journey Between Non-GDA and GDA Services 2013-2023





Scheduled Vehicle Kilometres

'Scheduled vehicle kilometres' indicate the total number of vehicle kilometres intended to be operated based on the licensed timetables. For 2020 to 2023, operators were asked to provide the actual number of vehicle kilometres operated. This was due to some services being partly or completely suspended up to and including in 2022, as well as to account for additional vehicles used due to the restrictions on public transport capacity between 2020 and 2022. This was continued in 2023 to compare with the COVID-19 years which immediately proceeded. Therefore, all references below are to vehicle kilometres, to allow for both metrics.

In 2023, vehicle kilometres increased by 8.6% to 89 million kilometres or 88% of the 2019 peak. The greatest increases in vehicle kilometres came from GDA services. These services also represented 75% of all commercial bus vehicle kilometres. Overall, the commercial bus vehicle kilometres accounted for 39% of all public transport vehicle kilometres including Light and Heavy Rail. This was second to PSO bus services which accounted for 51%. However, in the same year commercial bus services accounted for 7% of the overall passenger journeys. Combined totals for 2023 show public transport vehicle kilometres have increased 30% since 2013.

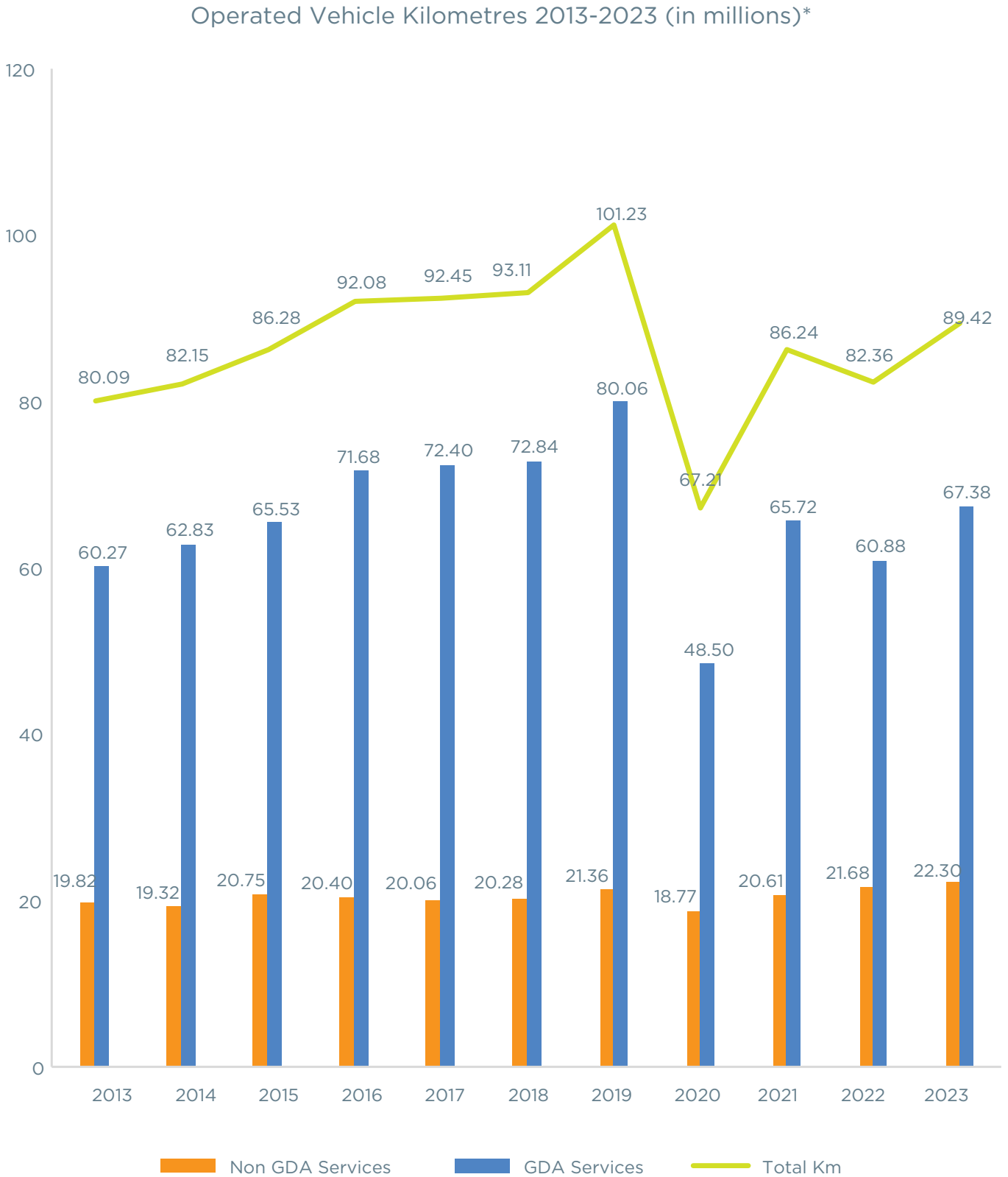
Between 2013 and 2019, commercial bus services provided the greatest number of public transport service vehicle kilometres⁴ across all public transport. PSO bus vehicle kilometres have increased every year since 2013, when data was first recorded for commercial bus services. In 2020, the number of vehicle kilometres provided by commercial bus services dropped to 67% of 2019 levels. Since then, PSO bus services have overtaken commercial bus services in providing the

greatest number of public transport vehicle kilometres. While the commercial bus service vehicle kilometres have increased at the greatest rate since 2020, PSO bus services were the only public transport sector that had no decrease in vehicle kilometres between 2019 and 2020. In fact, PSO bus vehicle kilometres increased by 4% between those years. See Figures 3.3 and 3.4. All PSO data is available can be found on the Authority's website at: <https://www.nationaltransport.ie/publications/statistics/bulletins/>

Overall, commercial bus vehicle kilometres have increased by 12% between 2013 and 2023. This increase is less than the 15% increase in passenger journeys over the same period. Non-GDA services even through COVID-19 to 2023 have seen much less change year on year for vehicle kilometres. 2023 saw the greatest number of Non-GDA vehicle kilometres provided, with the second highest year being 2022. Despite growth in 2023, GDA vehicle kilometres are still below the 2019 peak. Overall, since 2020 vehicle kilometres have increased 33%. Passenger journeys increased 137%. This gives an indication that increases in vehicle kilometres have been driven by demand in the market. The increase in vehicle kilometres is not evenly distributed, with GDA services having increased by 32% during this period while Non-GDA services increased by 7%. Figure 3.1 provides the trend in vehicle kilometres provided by all commercial bus services, as well as separately by GDA and Non-GDA services from 2013 to 2023. Table 3A shows the overall change per year and the breakdown between GDA and Non-GDA services. Table 3B compares the overall total change for all transport sectors in vehicle kilometres.

4 Taxi services and School Bus Transport Schemes services are not included here.

Figure 3.1: Comparison of Vehicle Kilometres for GDA and Non-GDA services by Year 2013-2023 (in millions)



*Scheduled vehicles kilometres were returned for the years 2013 - 2019 and actual vehicle kilometres were returned for the years 2020 - 2023

Table 3A: Percentage Breakdown of Total Vehicle Kilometres (in millions)

Year	Total KM	Overall Change from Previous Year	Non-GDA Services	GDA Services	% of Total KM: Non-GDA Services	% of Total KM: GDA Services
2013	80.09	0%	19.82	60.27	25%	75%
2014	82.15	3%	19.32	62.83	24%	76%
2015	86.28	5%	20.75	65.53	24%	76%
2016	92.08	7%	20.40	71.68	22%	78%
2017	92.45	0%	20.06	72.40	22%	78%
2018	93.11	1%	20.28	72.84	22%	78%
2019	101.23	8.7%	21.36	80.06	21%	79%
2020	67.21	-33.6%	18.77	48.50	28%	72%
2021	86.24	28.3%	20.61	65.72	24%	76%
2022	82.36	-4.5%	21.68	60.88	26%	74%
2023	89.42	8.6%	22.30	67.38	25%	75%

Figure 3.2: Comparison of Vehicle Kilometres by Transport Sector as a Percentage of the Total Kilometres for 2013 and 2023

Comparison of All Public Transport Vehicle KM by Transport Sector 2013 & 2023

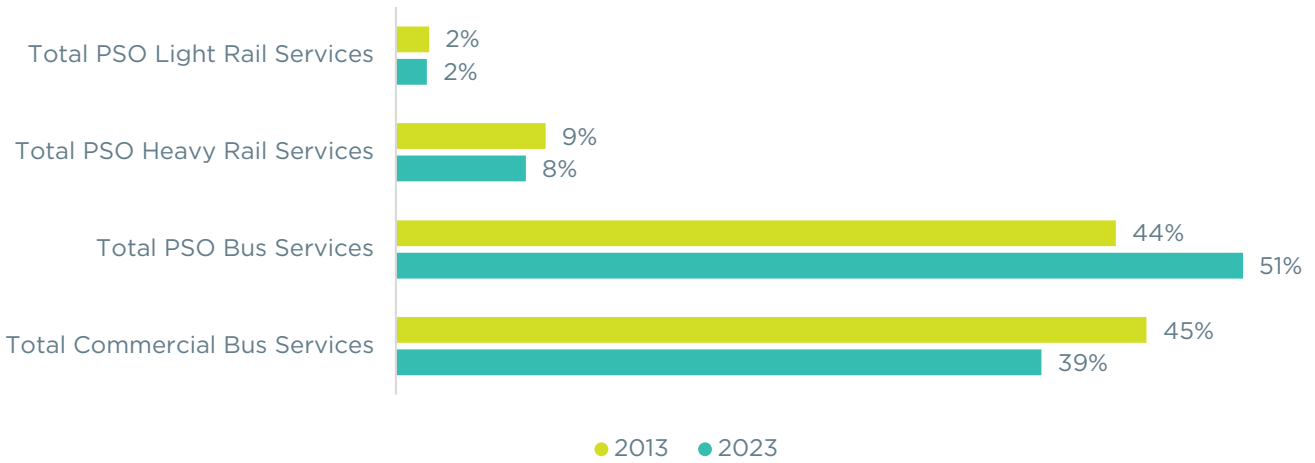


Figure 3.3: Comparison of Total Vehicle Kilometres by Transport Sector 2013-2023 (in millions)

PSO and Commercial Bus Vehicle Kilometres 2013 - 2023

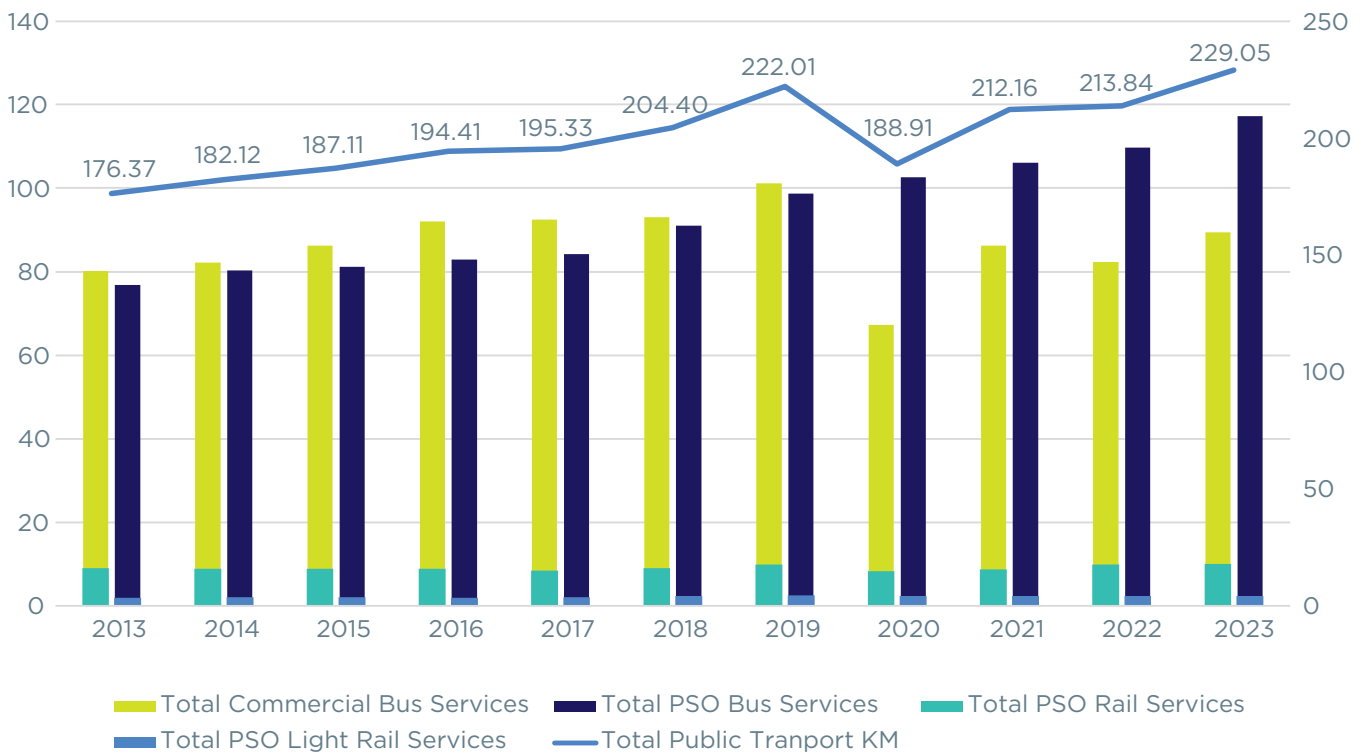
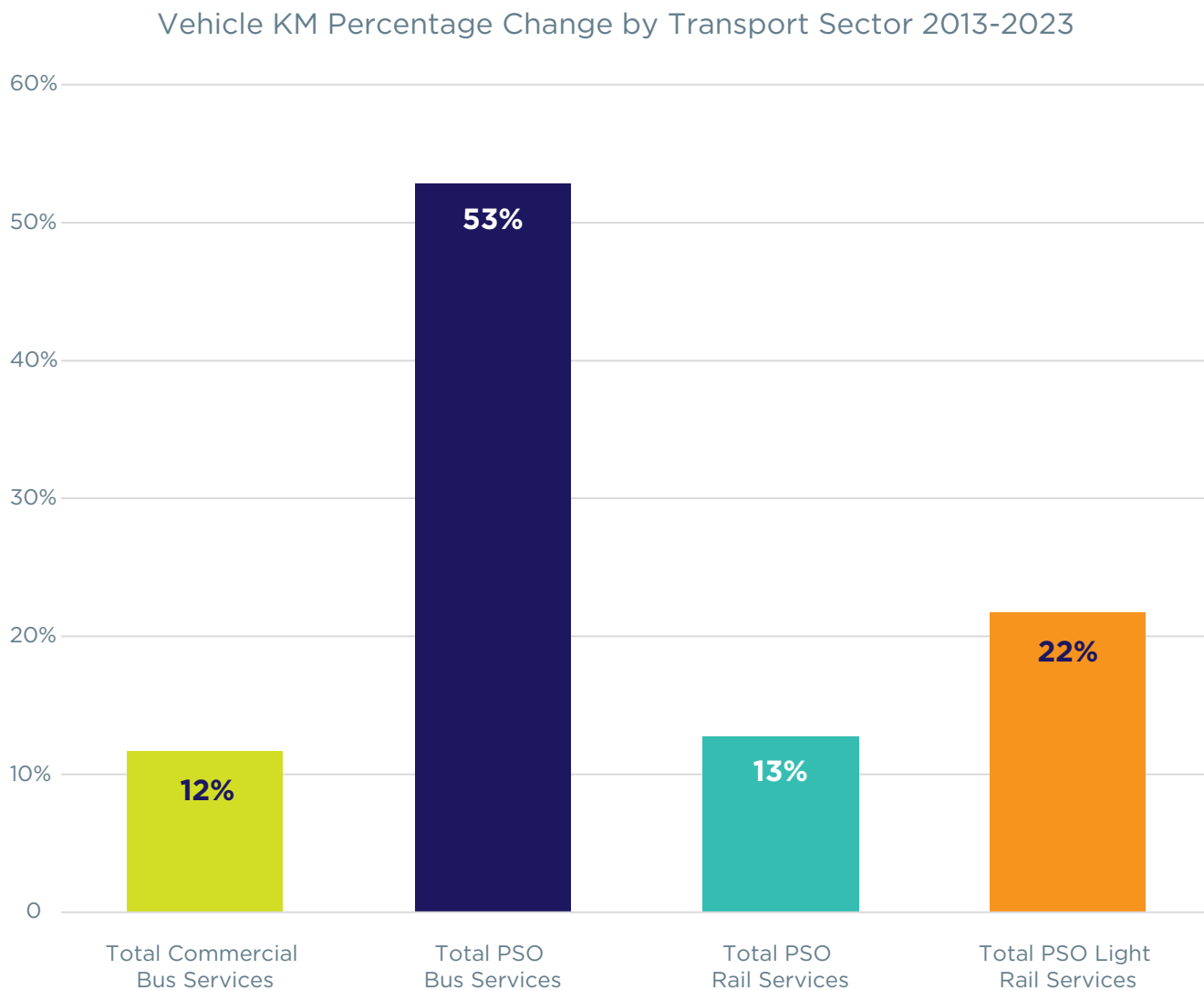


Table 3B: Comparison of the Overall Total Change in Vehicle Kilometres by Year 2013-2023

Year	Total KM All Services (in millions)	Change in KM between Years (in millions)	Percentage Change Per Year	Increase in KM since 2013 (in millions)	Percentage Change Since 2013
2013	176.37	-	-	-	-
2014	182.12	5.75	3%	5.75	3%
2015	187.11	4.99	3%	10.74	6%
2016	194.41	7.30	4%	18.04	10%
2017	195.33	0.91	0%	18.96	11%
2018	204.40	9.08	5%	28.03	16%
2019	222.01	17.61	9%	45.64	26%
2020	188.91	-33.10	-15%	12.54	7%
2021	212.16	23.25	12%	35.78	20%
2022	213.84	1.69	1%	37.47	21%
2023	229.05	15.20	7%	52.68	30%

Figure 3.4: Comparison of Change in Total Vehicle Kilometres by Transport Sector 2013-2023



4



Commercial Bus Services Revenue and Ticketing

Commercial bus service revenue consists of all revenue from ticket sales, including cash, TaxSaver, Leap Card, TFI GO app, online, and prepaid tickets, as well as payments to operators participating in the Authority's YASC Fares Scheme and Department of Social Protection's Free Travel Scheme.

TaxSaver Ticketing

The TaxSaver Commuter Ticket Scheme allows employees to avail of public transport commuter tickets if they are travelling to work by public transport. The scheme involves employers providing employees with public transport commuter tickets, while saving on employer PRSI payments. Employees participating in the scheme benefit from reduced tax and PRSI payments. The scheme is generally known as the TaxSaver scheme, but other names can be used by individual public transport operators.

Leap Card

The Leap Card was introduced in late 2011 and is an integrated smart card which is available for both PSO services and commercial bus services. By 2019, there were 13 operators accepting Leap Card. There were 38 commercial operators in 2023 who accepted Leap Card on their commercial bus services. These included, Aircoach, Ashbourne Connect, Bus Éireann, City Direct Galway, Citylink, Collins Coaches, Dave Long Coach Travel, Dualway Coaches, Express Bus, JJ Kavanagh, Matthews Coaches, Mortons Coaches, Dublin Express, Swords Express, St. Kevin's Bus and Wexford Bus.

Free Travel Revenue

Operators that are part of the Department of Social Protection's Free Travel Scheme receive payments for the fare forgone for carrying passengers entitled to free travel.

Overall Free Travel Scheme payments to commercial bus operators are set out below. These include payments for free travel within the State for both Irish and Northern Irish passengers, as well as payments for cross border free travel. Total revenue is provided both inclusive and exclusive of Free Travel Payments.

Grant Aid 2020-2022

Temporary funding was made available to regular commercial bus service operators between June 2020 and June 2022, as they were determined by the Authority as being economically necessary to continue through the COVID-19 pandemic. Grant Aid is not included in the overall ticket revenue set out below.

Young Adult and Student Card Fares Scheme

In 2022, the Authority launched the YASC Fares Scheme. Participation in the YASC Fares Scheme is on a voluntary basis. 42 commercial bus operators opted in to participate in 2022. This had increased to 46 operators in 2023. As part of the YASC Fares Scheme, commercial bus operators received compensation for the fare forgone for offering the 50% discount for 19-23 year-olds, between 2022 and 2023, and to full-time third level students. Commercial bus operators may have more than one regular licence in the YASC Fares Scheme as well as having licences which are not in the YASC Fares Scheme. Operator revenue includes payments as part of the YASC Fares Scheme.

The TFI GO app

This app allows passengers to buy tickets for various bus services around Ireland directly from their phone. The ticket is downloaded to the app and can be used to travel straight away. 26 operators were providing ticketing through the TFI GO app in 2023.

Passenger Ticket Revenue and Ticketing Types

In 2023, overall ticket revenue nationally increased by 22% when compared to 2022, bringing it to 96% of the total revenue in 2019. See Table A. The 2023 total ticket revenue was 154% of that reported for 2013. This followed a 56% decrease in revenue between 2019 and 2020. Passenger journeys nationally increased by 137% between 2020 and 2023.

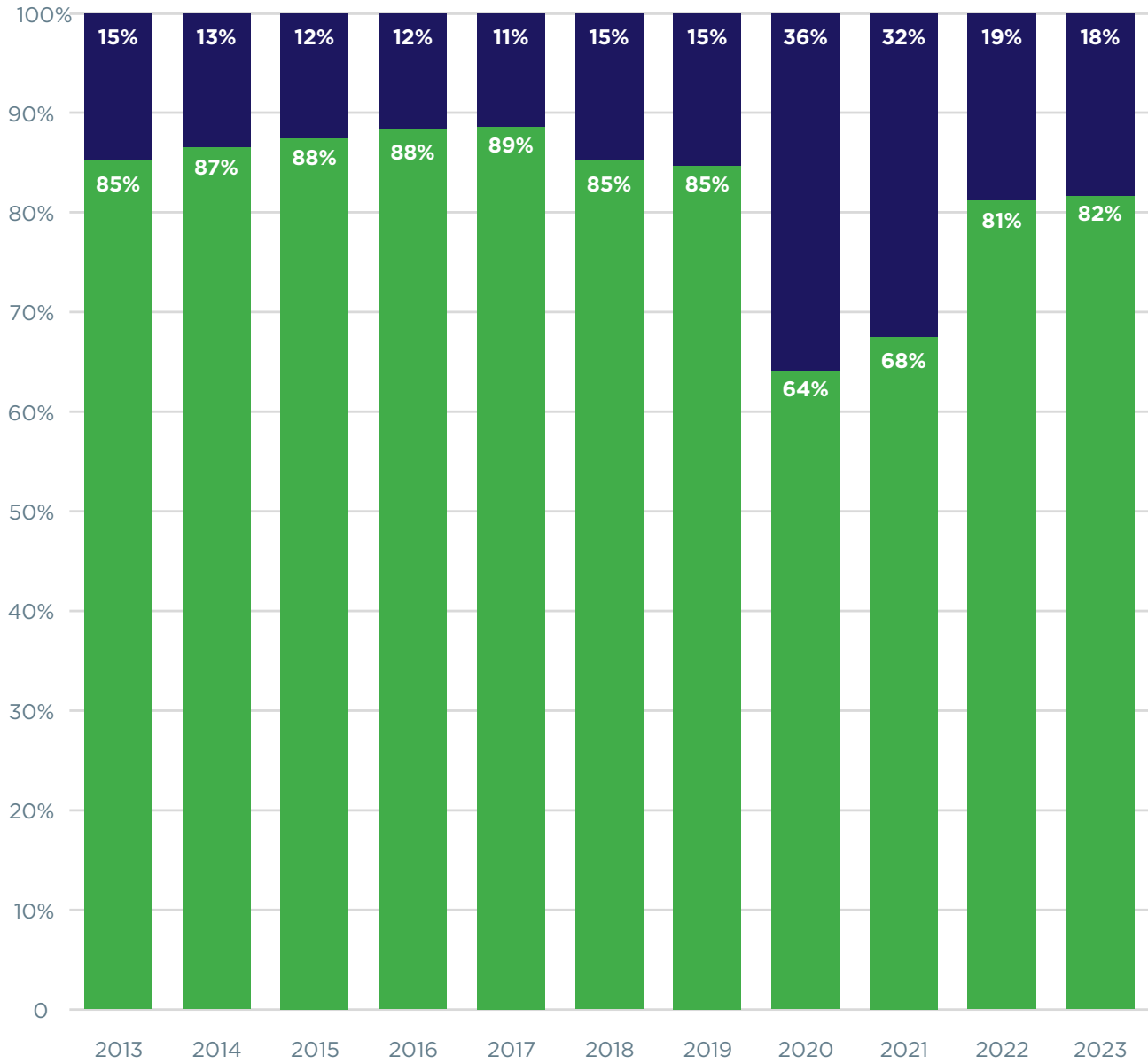
Table 4A shows the total ticket revenue and Free Travel Scheme payments for the commercial bus services sector between 2013 and 2023. Figure 4.1 shows the payments as a percentage of the total revenue. The Free Travel Scheme payments are inclusive of payments for cross border travel and international foreign free travel payments.

Table 4A: Commercial Bus Services Annual Passenger Revenue (in millions)

Year	Total Annual Ticket Revenue	Total Annual Free Travel Payments	Total Revenue	Change in Total Revenue per Year
2013	€115.89	€20.05	€135.94	-
2014	€129.55	€20.10	€149.65	10%
2015	€143.19	€20.42	€163.61	9%
2016	€155.62	€20.49	€176.11	8%
2017	€157.69	€20.10	€177.78	1%
2018	€173.88	€29.79	€203.67	15%
2019	€186.56	€33.42	€219.99	8%
2020	€62.25	€34.69	€96.94	-56%
2021	€67.21	€32.31	€99.52	3%
2022	€140.11	€32.06	€172.16	73%
2023	€177.99	€32.46	€210.45	22%

Figure 4.1: Commercial Bus Services Comparison of Revenue Types by Year 2013-2023

Percentage Breakdown Between Tickets



- FTP Payments as a Percentage of All Passenger Revenue
- Ticket Revenue as a Percentage of All Passenger Revenue

5



Commercial Operator Fleet Size

The commercial fleet referred to below is set out in terms of the total number of vehicles used and the number of vehicles used on a full-time basis to provide commercial bus services. These figures were obtained by asking commercial bus operators what percentage a particular vehicle was used per licensed service. This shows not only how many vehicles overall operators used to provide their commercial bus services, but also how much these vehicles were used solely for operating these services.

The vehicles referred to include a broad variety of vehicles, such as inter-city coaches, low-floor urban double and single decker buses, and midi and mini buses. These vehicles have a wide range of passenger seat capacities.

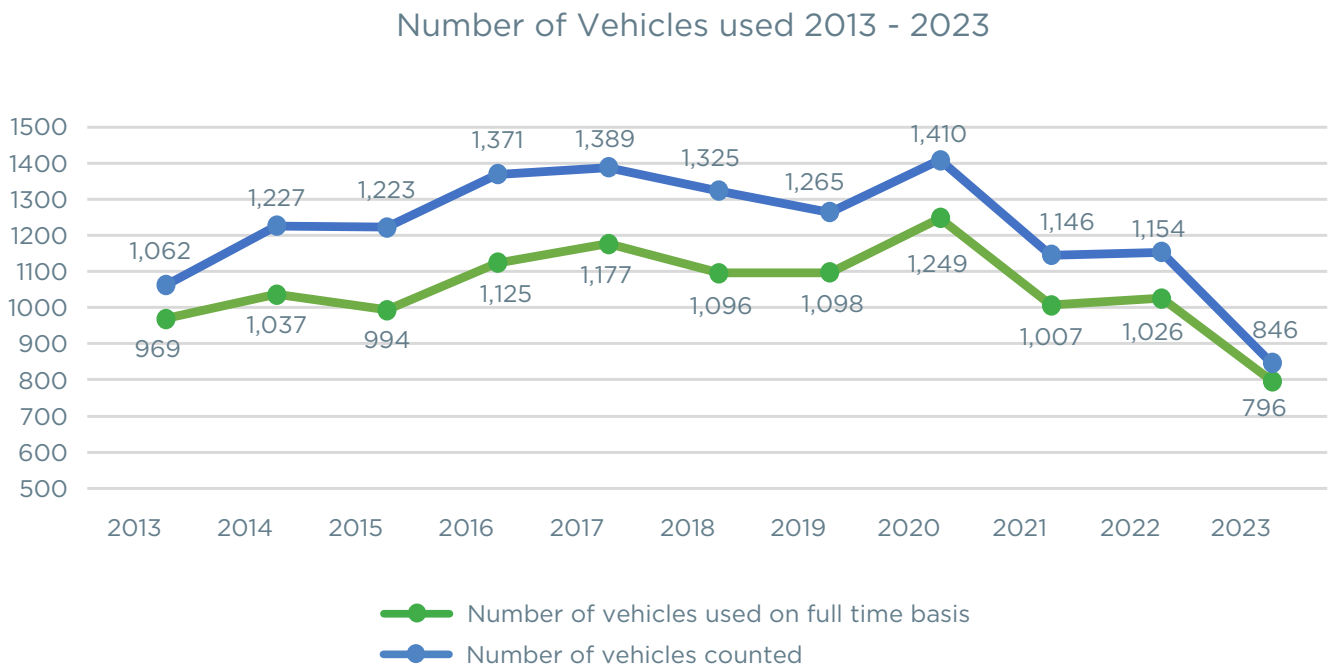
For 2023, operators were asked for the first time to provide information on a vehicle-by-vehicle basis to detail the percentage use of each particular vehicle for each particular licence held. Previously the data was not gathered by individual vehicle. For this reason, the 2023 data provides more accuracy than previous years. The peak vehicle requirement (“PVR”) or the maximum number of vehicles needed to provide the timetables for all the licensed services was used in 2023 to calculate the total number of full-time vehicles

needed. This measure was used as it was provided on a licence-by-licence basis for 2023. Due to this difference, the number of full-time vehicles would tend to be lower than previously provided by operators and therefore comparison of the 2023 data with trends for previous years data will be less robust. However, into the future, the accuracy will be greater than previously.

The data shows that in 2023 the lowest number of vehicles were used to provide commercial bus services, with the average age also at the highest since 2013. The PVR was 796 vehicles. This is a decrease of 230 vehicles or 22% since 2022 in the number vehicles providing these services on a full-time basis. Please be aware this may be from a combination of factors such as the new method of data collection as well as the number of licences which ceased. The total number of vehicles used dropped by 27% or by 308 vehicles in the same period. See Figure 5.1 below.

It is important to bear in mind that there was a more detailed data gathering for 2023 and that the PVR of 796 vehicles would not be a year-round total, with less vehicles being used at certain times of the year as some commercial bus services do not operate on a daily or year-round basis, e.g. college term only services.

Figure 5.1: Comparison of Operator’s Total Number of Vehicles used by Year 2013-2023



Operators have been broken down by fleet size to give an indication of the scale and size of operators in the market. This also allows analysis and comparison between operators in terms of scale. Small operators are designated as those using 1 to 10 vehicles, medium operators are those using 11 to 40 vehicles, and large operators are those using more than 40 vehicles.

Figure 5.2: Operator Fleet Size Category by Number of Vehicles Used for Commercial Services in 2023

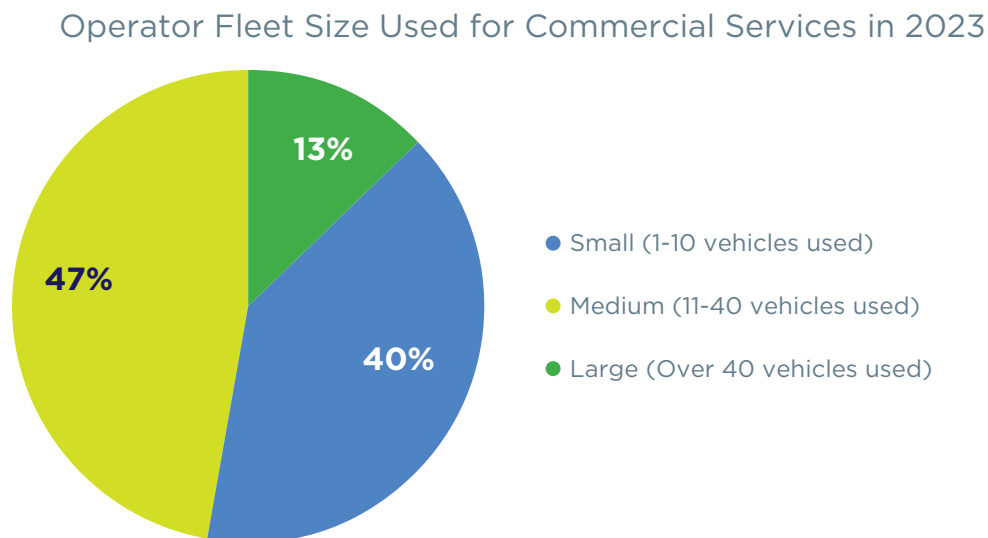


Figure 5.3: Comparison of Average Age of All Vehicles used 2013-2023

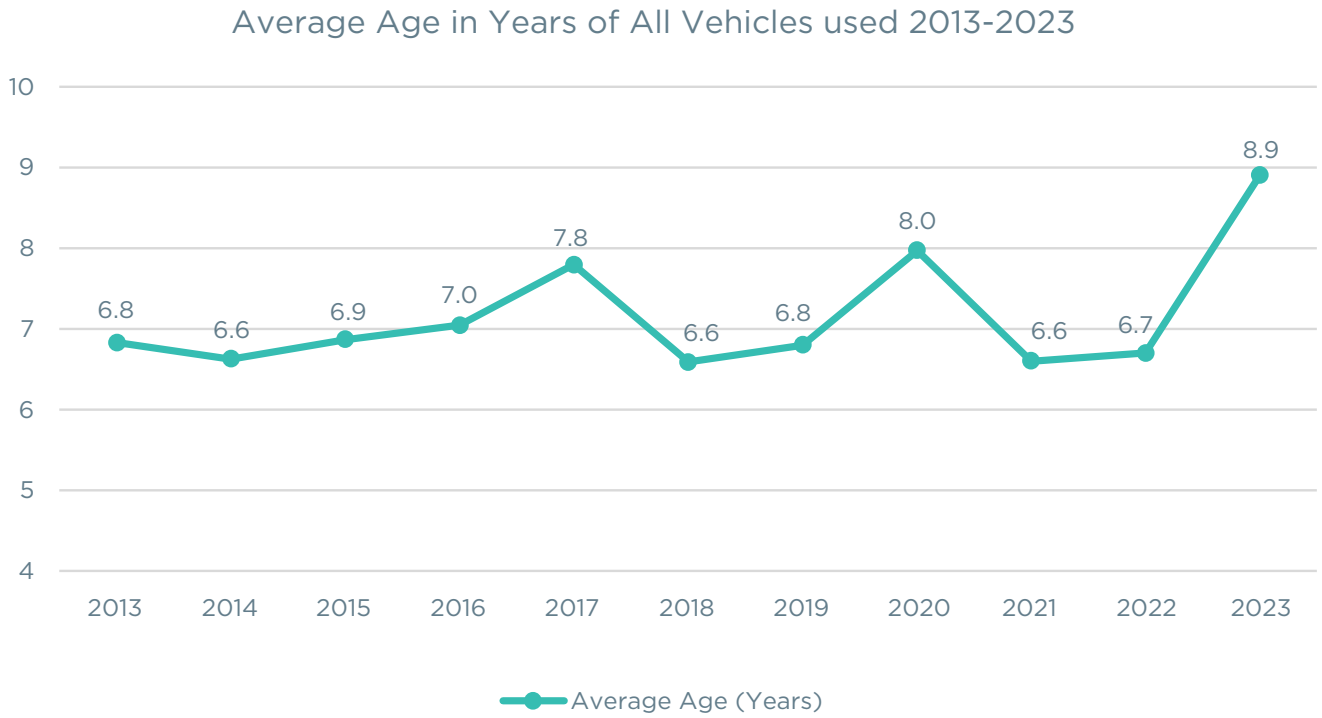
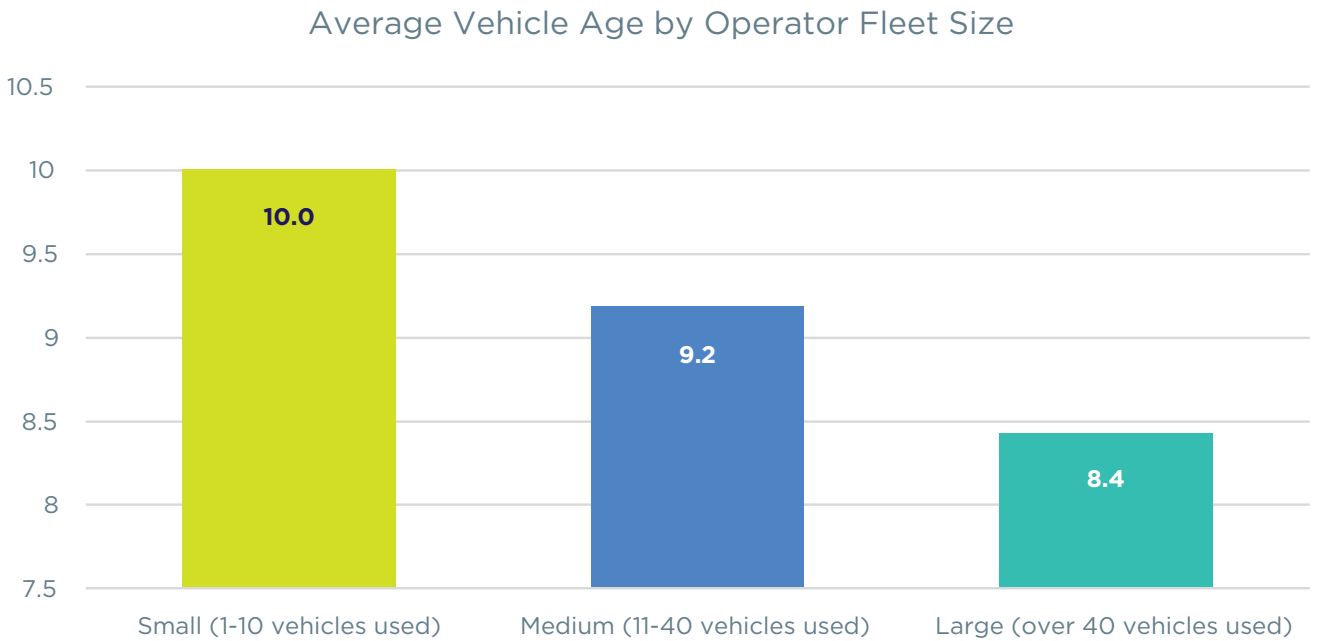


Figure 5.4: Comparison of Average Age by Operator Fleet Size in 2023



6



Accessibility of Operating Fleet and Vehicle Kilometres Provided

There are two key indicators of the accessibility of a fleet. These are the percentage of vehicles in a fleet which are accessible and the proportion of all the vehicle kilometres these vehicles are used to provide. In 2019, the percentage of vehicle kilometres provided by accessible vehicles was requested on a per licence basis. This was done again for 2023, therefore these two years are compared for the vehicle kilometres operated by accessible vehicles. This provided for a more detailed view of the proportion of vehicle kilometres provided by accessible vehicles. Accessible vehicles provided approximately 56% of all vehicle kilometres in 2023, down from 59% in 2019. The greatest decrease was on Non-GDA services. See Figure 6.1

Vehicle Kilometres Operated by Wheelchair Accessible Vehicles

More than half of all vehicle kilometres in 2023 were provided by wheelchair accessible vehicles, this includes operated vehicle kilometres on both GDA and Non-GDA services. Figure 6.1 compares the percentage of vehicle kilometres operated by wheelchair accessible vehicles for the years 2023 and 2019.

Wheelchair Accessibility

The wheelchair accessibility of the commercial bus services fleet is examined below. It is important to highlight that a vehicle can be either low-floor wheelchair accessible or wheelchair accessible using a lift. There are differences in the accessibility standard of a vehicle for users depending on whether the vehicle is a low-floor vehicle or has a wheelchair lift. There are a small number of vehicles within the fleet that are accessible to wheelchairs by being both low-floor and having the use of a lift. Such vehicles have been counted as one accessible vehicle. Operators reported on the percentage of each commercial bus service which was

provided by vehicles which were wheelchair accessible either by a low-floor or by having the use of a lift.

41% of all the vehicles used were listed as wheelchair accessible. However, as seen from Figure 6.1, these vehicles were used to provide more than half of the vehicle kilometres. This is down from the peak level in 2019 where there were more accessible vehicles used and more of the vehicle kilometres operated were provided by wheelchair accessible vehicles. Wheelchair lifts represent the dominant type of accessible vehicles being used to provide commercial bus services, at 67% of the accessible vehicles. Another 30% were low-floor vehicles. See Figure 6.2 and 6.3

Low-Floor Vehicles Suitable for Wheelchair Access

Low-floor wheelchair accessible vehicles are vehicles where access from the bus stop to part or all the on-board passenger area is direct from the bus stop apron. There are no steps involved and a wheelchair lift is not used.

Alternatively, the vehicle may lower to kerb level and there may be an entry and exit access ramp for quick and safe wheelchair access. This enables easier access for wheelchair users and those with limited mobility. Accessing low-floor vehicles may also require that appropriate bus stop infrastructure, for instance kerbing of a specific height, is in place.

Vehicles with Lifts Suitable for Wheelchair Access

Vehicles with wheelchair lifts raise the individual and wheelchair above the steps of the vehicle and into the coach corridor area. This feature requires a deep space at the footpath which may not always be available. The use of wheelchair lifts increases the dwell time at bus stops and may not be as preferable for the passenger

as the low-floor, roll-on, roll-off option. Vehicles with wheelchair lifts are often only able to carry one passenger using a wheelchair at any given time as only one designated wheelchair space may be available. It can also be the case that the customer using a

wheelchair may need to inform the operator in advance that they wish to use the service, as vehicle seating may need to be removed to provide for a designated wheelchair space.

Figure 6.1: Comparison of Total Vehicle Kilometres Operated by Accessible Vehicles 2019 and 2023

Percentage of Vehicle KM Operated by Accessible Vehicles 2019 and 2023

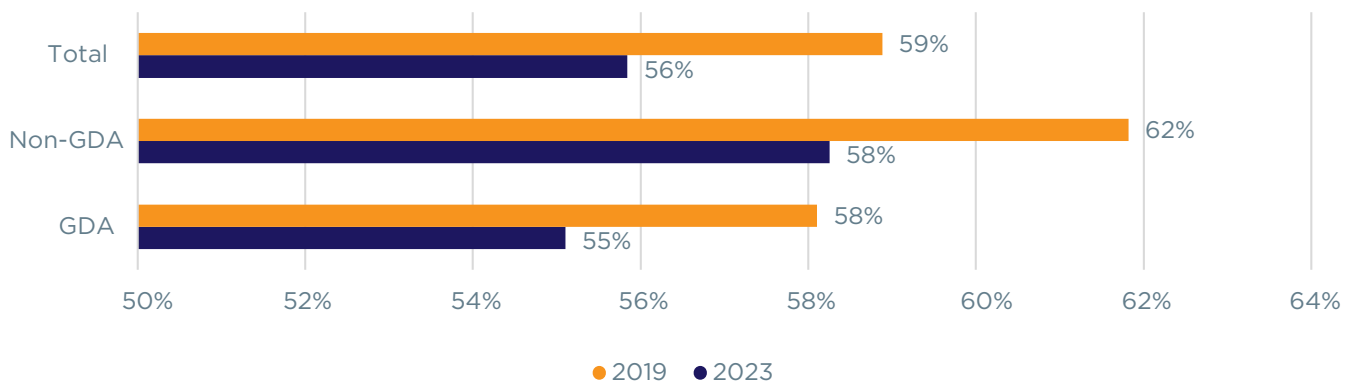
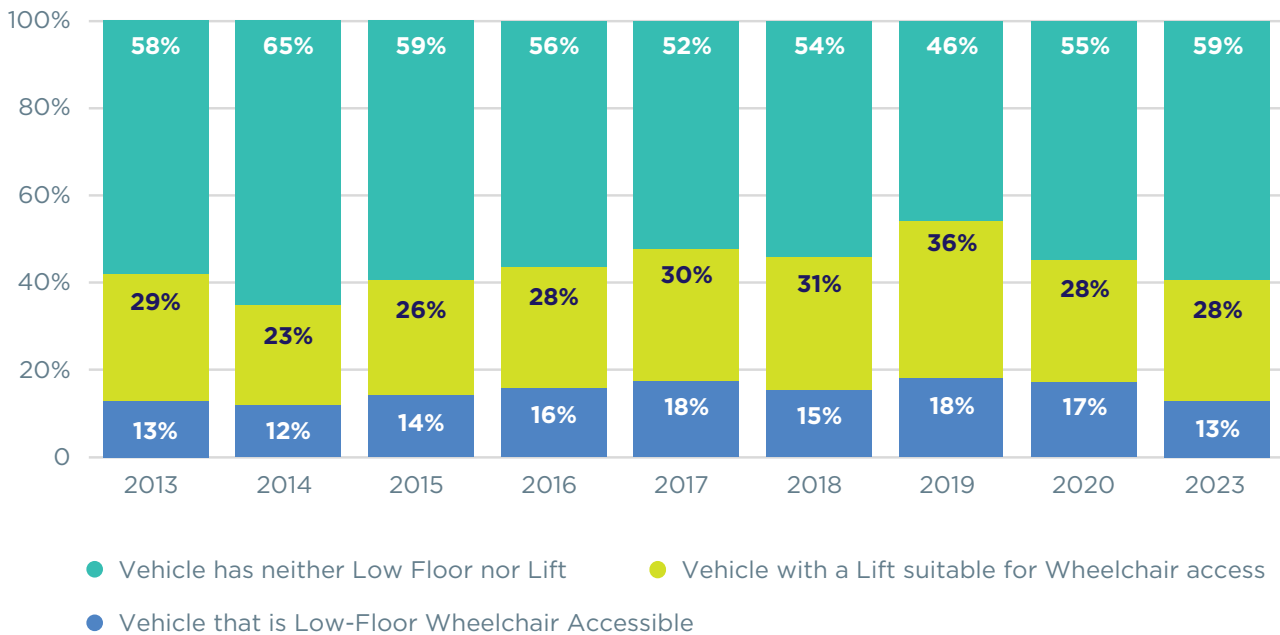


Figure 6.2: Comparison of Accessibility Level Vehicles used by Year 2013-2023⁵

Percentage of the Total Vehicles Used that are Wheelchair Accessible 2013-2023



⁵ Not Calculated for 2021 or 2022

Figure 6.3: Comparison of Accessibility Level of Access Type 2023

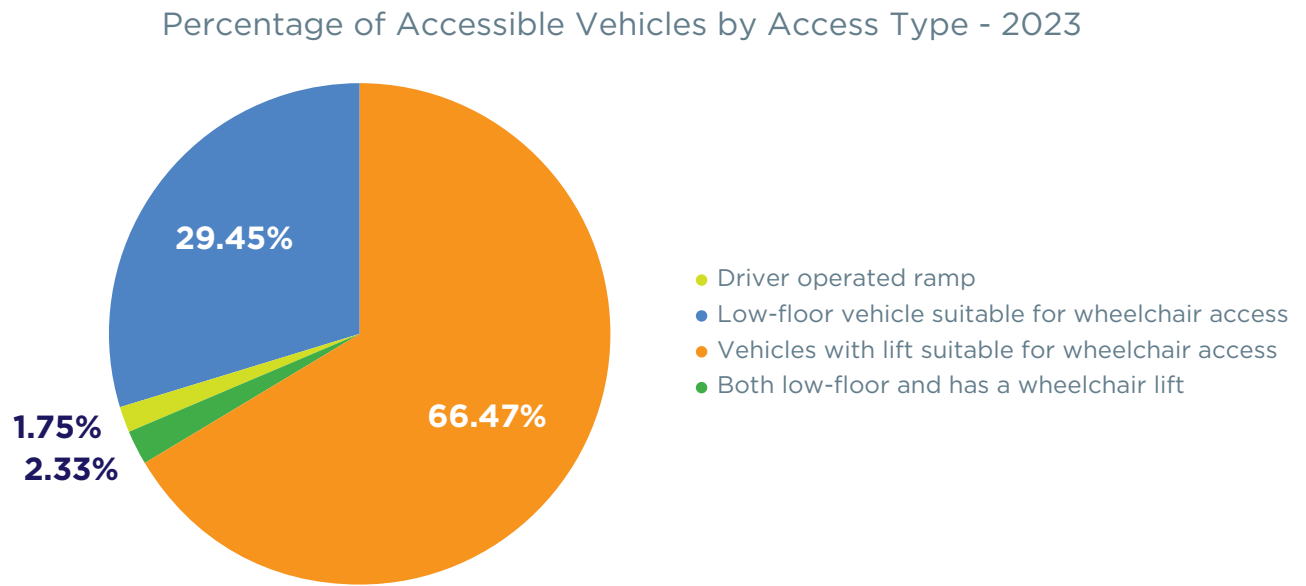
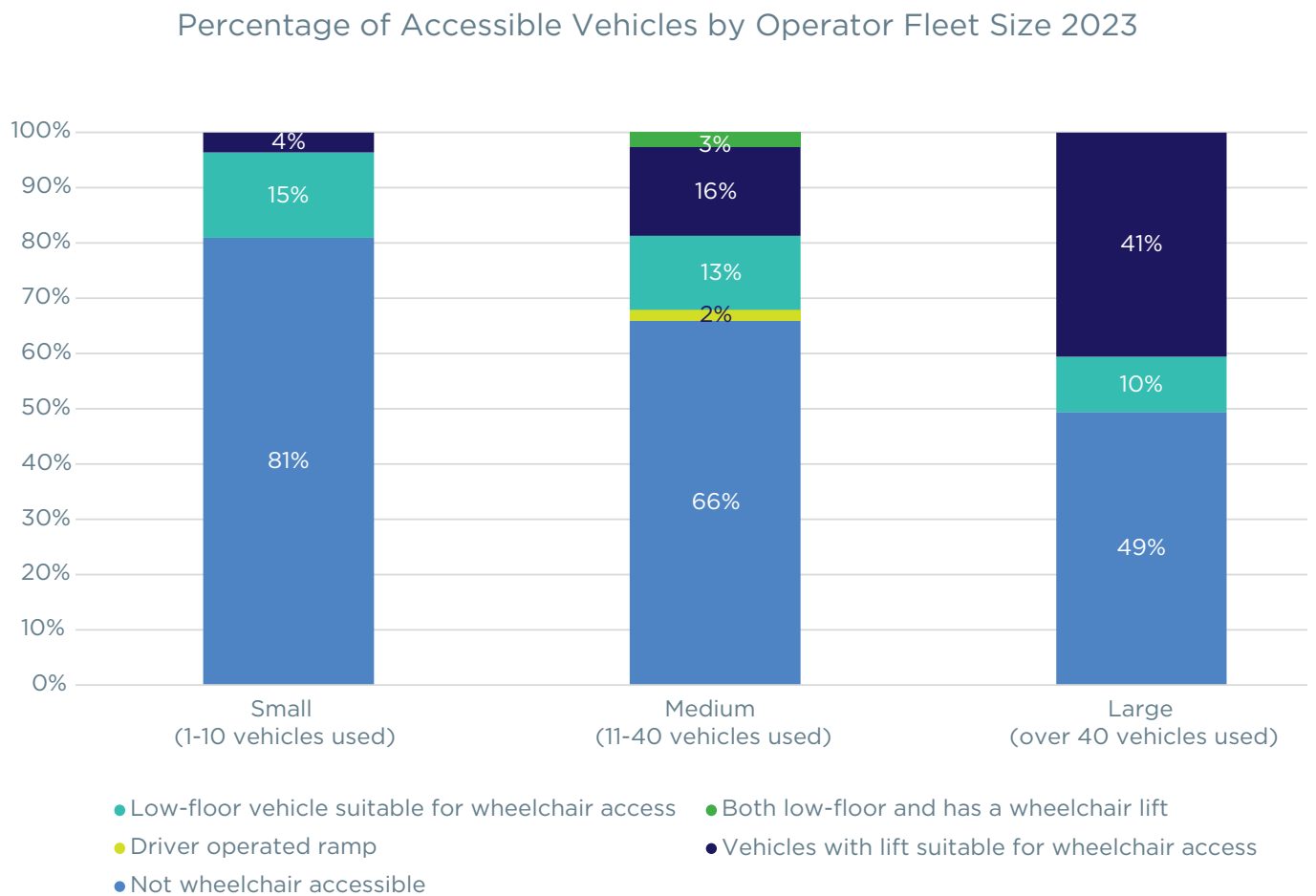


Figure 6.4: Breakdown of Accessibility Level by Operator Fleet Size 2023





Emissions

Detailed questions were asked for the first time on the vehicle registration year, make, model, and engine type of the vehicles used for 2023 on a licence-by-licence basis. This allowed calculation of emissions estimates of grams per KM based on vehicle Euro Class. Figure 7.1 shows that at 72% of all vehicles Euro VI vehicles were the most used in 2023.

Below is a calculation of the average CO₂ emissions per route and by operator fleet size. See Table 7A and Figure 7.2 The calculation is based on the percentage use of each particular vehicle and the vehicle kilometres

operated per route provided by operators. Vehicle Euro Classes were used to calculate the total emissions from the vehicles. The Euro Class gives emissions in grams per kilowatt-hour (g/kWh) see Table A. This was converted to grams per kilometre (g/Km) by using the multipliers in Table B. This was then multiplied by the percentage use of a vehicle and the vehicle kilometres provided in the Annual Return. The Euro Class of each vehicle was determined by comparing the bus registration with the implementation of the various Euro standards.

Emissions Description Table

Emissions	Description
CO g/KM	Carbon Monoxide
HC + NOx g/KM	Hydrocarbons + Nitrogen Oxides (Mainly Nitrogen Dioxide - NO ₂)
NOx g/KM	Nitrogen Oxides (Mainly Nitrogen Dioxide - NO ₂)
PM g/KM	Particulate Matter
CO ₂ g/KM	Carbon Dioxide

Reference Table A⁶

Euro Class	Year of Implementation	Test	CO	HC	NOx	PM	
			(g/kWh)	(g/kWh)	(g/kWh)	(mg/kWh)	
Euro I	1992 (< 85 kW)	R-49	4.5	1.1	8	612	
	1992 (> 85 kW)		4.5	1.1	8	360	
Euro II	01/10/1996		4	1.1	7	250	
	01/10/1998		4	1.1	7	150	
Euro III	Voluntary EEV (October 1999 to January 2013)		ESC & ELR	1.5	0.25	2	20
	01/10/2000		ESC & ELR	2.1	0.66	5	100
Euro IV	01/10/2005		ESC & ELR	1.5	0.46	3.5	20
Euro V	01/10/2008			1.5	0.46	2	20
Euro VI	01/01/2013	WHSC	1.5	0.13	0.4	10	

Reference Table B

Conversion Table used to Convert g/kWh to g/KM		
MJ to kWh Conversion Factor	MJ/KM Value ⁷	kWh/KM Value
0.277777778	14.3	3.972222225

⁶ EU: Heavy-duty: Emissions. <https://www.transportpolicy.net/standard/eu-heavy-duty-emissions/>

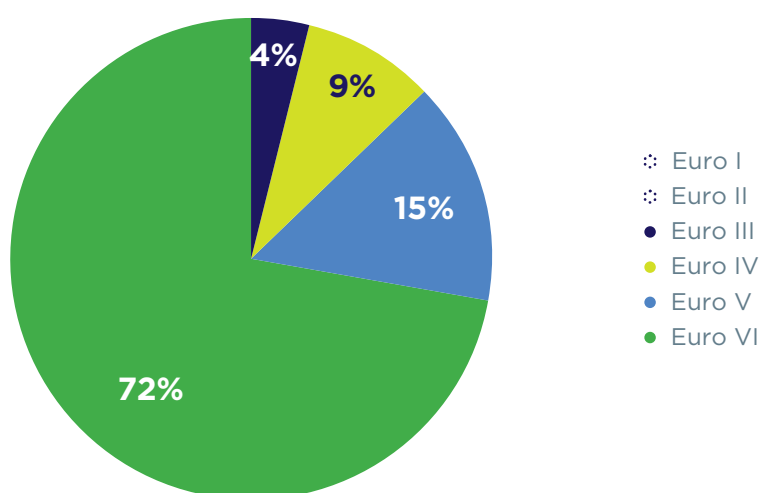
⁷ Department of Transport, Tourism and Sport - Report on Diesel-and Alternative-Fuel Bus Trials December 2019. <https://assets.gov.ie/69312/eadd09d7dd5a49f698dbb4a77db4c78c.pdf>

Reference Table C

Class	Year	CO g/KM	HC g/KM	NOx g/KM	PM g/KM	CO ₂ g/KM ⁸
Euro I	1992	17.88	4.37	31.78	1.43	13080
Euro II	01/10/1998	15.89	4.37	27.81	0.60	8720
Euro III	01/10/2000	8.34	2.62	19.86	0.40	2065
Euro IV	01/10/2005	5.96	1.83	13.90	0.08	1825
Euro V	01/10/2008	5.96	1.83	7.94	0.08	1744
Euro VI	01/01/2013	5.96	0.52	1.59	0.04	1356
ELECTRIC	-	0	0	0	0	0

Figure 7.1: 2023 Percentage of Vehicles Used by Euro Class

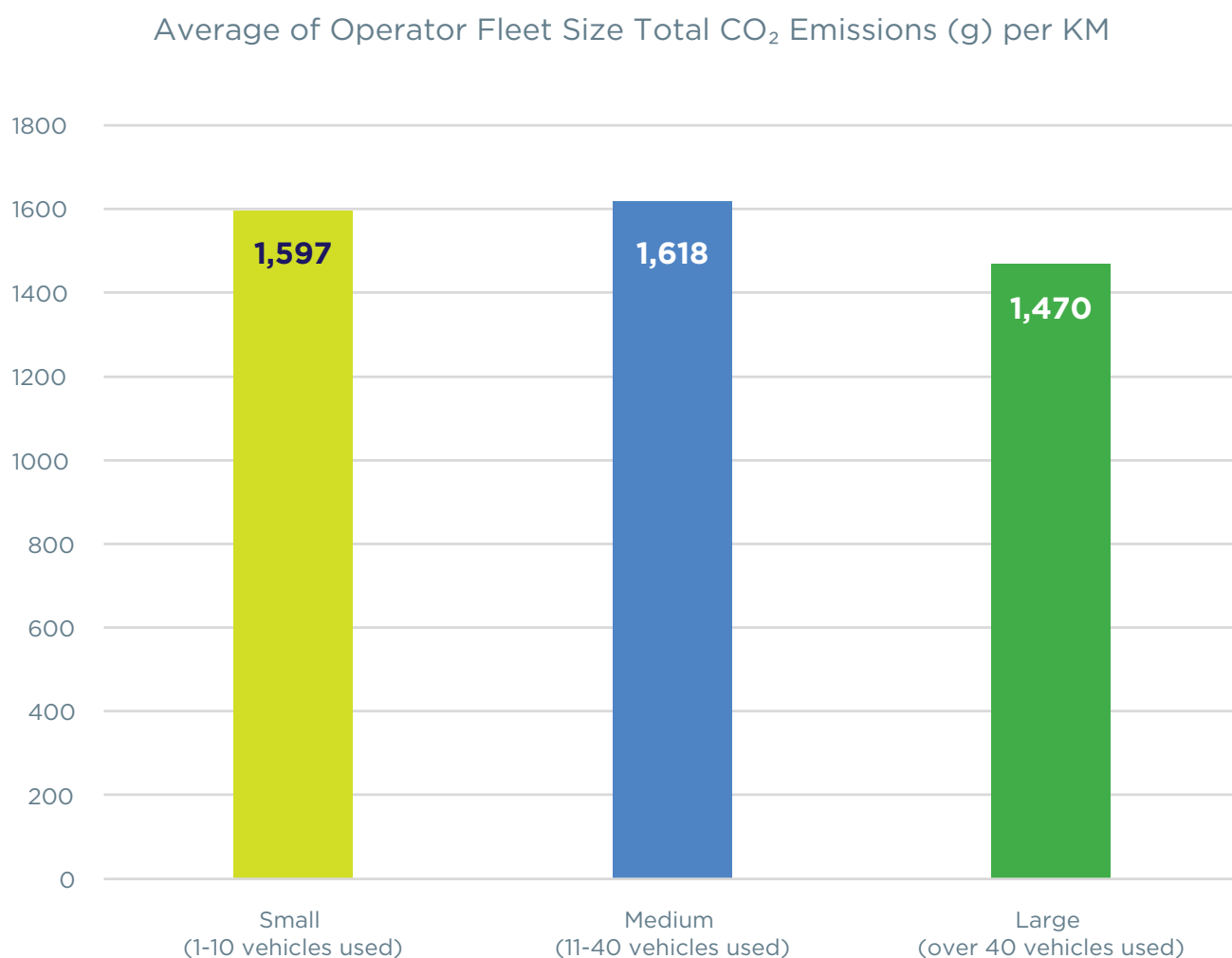
Percentage of Vehicles Used by Euro Class



8 Department of Transport, Tourism and Sport - Report on Diesel-and Alternative-Fuel Bus Trials December 2019. <https://assets.gov.ie/69312/eadd09d7dd5a49f698dbb4a77db4c78c.pdf>

Table 7A: 2023 Average CO₂ Emissions Per Route in Grams (g) per Kilometre by Area

CO ₂ (g)/Km Per Route	National Level CO ₂ (g) Per Km	GDA CO ₂ (g) Per Km	Non-GDA CO ₂ (g) Per Km
Minimum	-	1,356	-
Maximum	8,720	2,065	8,720
Average Emissions Per Route (g)	1,572	1,498	1,621

Figure 7.2: 2023 Average Emissions in Grams (g) per Kilometre By Operator Fleet Size



Further Information:

Media enquiries:

Dermot O’Gara
T: +353 (01) 879 8346

Statistical enquiries:

Ciarán O’Gorman
T: +353 (01) 879 8363