Local Development Plan

2021 > 2036

Cardiff Council - January 2025

Background Technical Paper Number 4

Deposit Plan

Transportation

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INTRODUCTION

1.1. Overview

1.1.1. This paper provides a summary of the background transport evidence base to support the Cardiff Local Development Plan (LDP) 2021-2036: Deposit Plan. The trends presented in this paper, demonstrate that the transport policies and targets are appropriate for the development plan and in line with Cardiff's Transport White Paper.

1.2. Transport Challenges

1.2.1. Cardiff's Transport White Paper: Transport Vision to 2030 was published in January 2020. The White Paper sets out a vision for a new transport system in Cardiff in response to key challenges such as:

1.2.1.1. Health

- Air Quality: Road traffic and congestion is the main cause of air pollution in Cardiff. Poor air quality affects the health of all residents, especially the most vulnerable.
- Active Travel: Many people perceive walking and cycling in Cardiff to be unsafe, combined with an infrastructure which is often fragmented. However, active travel helps reduce the risk of chronic diseases, and contributes to good mental health.

1.2.1.2. Wellbeing

- Access to Opportunities: Traveling around Cardiff is not always easy, especially for people with reduced mobility, older people, and children. Ensuring that all parts of the city are accessible to everyone is a significant challenge.
- Security & Road Safety: The most common cause of death for children between the ages of five and 14 years is being hit by a vehicle. Reducing traffic collisions and making streets safer for children and all residents is one of the key priorities.

1.2.1.3. Climate Change

- Sustainable Development: Addressing climate change and improving air quality are urgent priorities. However, Cardiff's growing population will put additional pressure on an already strained transport network.
- Resilience: Cardiff's public transport system has been chronically underfunded, and struggles to adequately serve

the growing population, with bus and train services being too infrequent.

1.3. Cardiff's Transport Vision

1.3.1. In addressing the above challenges, the Cardiff Transport White Paper sets out the ambitious targets to double both the number of people cycling and travelling by bus between 2018 and 2030, and to achieve 75% of all trips to be made by sustainable modes (25% by car) also by 2030.

1.3.2. In order to achieve these goals, the White Paper outlines an ambitious vision for transforming Cardiff's transport system by 2030, the key elements of which include (please refer to the paper for further detail):

1.3.2.1. The Cardiff Metro

- Introducing new tram-train routes and stations to improve connectivity and reduce congestion, includes Cardiff Crossrail and the Cardiff Circle tram-train line, which will connect new and existing communities with the city centre and key business hubs, and enhanced regional connectivity.

1.3.2.2. Bus Growth

- Implementing new bus rapid transit services and park & ride sites, and making bus travel cheaper. This aims to provide regular, rapid bus services that link to the region and provide connectivity to other sustainable modes.

1.3.2.3. Active Travel and Streets for People

- Prioritizing walking and cycling by investing in a network of high-quality, safe, and fully-segregated cycleways across the city; rolling out a 'streets for health initiative'; and developing Active Travel Plans and accessible walking and cycling routes for all schools.

1.3.2.4. The Future of Car

- Supporting the transition to cleaner vehicles and introducing a comprehensive approach to parking. The vision includes encouraging the uptake of electric vehicles; reducing the need to own private cars and the introduction of SMART technology to manage traffic.

2. EXISTING TRANSPORT TRENDS & KEY DATA

2.1. Background Growth

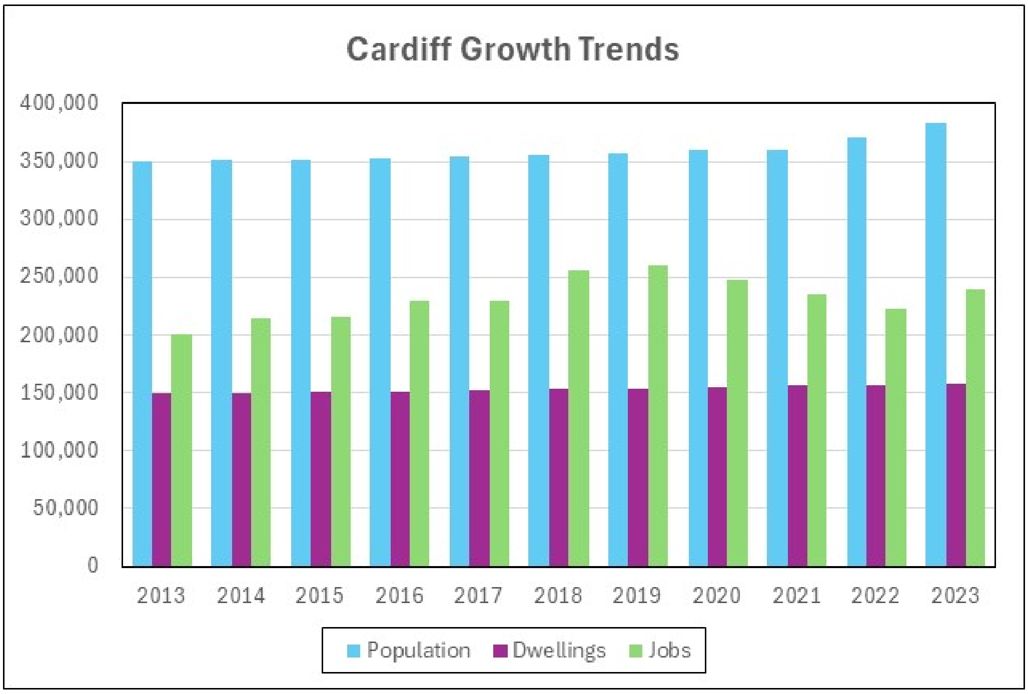
2.1.1. The trends in population, number of dwellings and jobs in Cardiff are illustrated in figures 2.1A and 2.1B below. As can be seen, the population in Cardiff has grown by 10% since 2013; the dwellings by 5%; and the jobs by 20%.

Figure 2.1A: *Table of Cardiff Trends in Population, Dwellings and Jobs*

Year	Population	Dwellings	Jobs
2013	349,982	149,500	200,500
2014	350,949	150,100	215,000
2015	351,600	150,700	215,600
2016	352,982	151,500	229,800
2017	354,348	152,300	229,800
2018	355,125	153,000	255,700
2019	357,137	153,900	260,200
2020	360,287	155,000	247,400
2021	359,824	155,900	234,700
2022	371,104	156,700	223,500
2023	383,536	157,600	239,600
Change (2013-2023)	**10%**	**5%**	**20%**

Data Source: *StatsWales*

Figure 2.1B: *Chart of Cardiff Trends in Population, Dwellings and Jobs*



Data Source: *StatsWales*

2.1.2. It is also evident that the rate of population growth has increased significantly since 2021 and yet this same growth has not been reflected in recent trends in the dwellings stock.

2.1.3. The trends in Cardiff's population growth are shown in context of the Capital Region and Core Cities in figures 2.1C and 2.1D below.

Figure 2.1C: *Table of Population Growth by Regional Authority and Core Cities*

	2013	2023	Change
Cardiff	349,982	383,536	10%
Region	1,488,627	1,560,195	5%
Blaenau Gwent	69,186	67,356	-3%
Bridgend	140,579	146,743	4%
Caerphilly	178,236	176,437	-1%
Merthyr Tydfil	58,791	58,593	0%
Monmouthshire	91,822	94,572	3%
Newport	147,586	163,628	11%
Rhondda Cynon Taf	235,145	241,178	3%
Torfaen	90,842	93,419	3%
Vale of Glamorgan	126,458	134,733	7%
Core Cities	5,708,300	6,140,132	8%
Belfast	335,881	348,005 (2022)	4%
Birmingham	1,094,531	1,166,049	7%
Bristol	438,984	482,998	10%
Glasgow	599,650	631,970	5%
Leeds	764,369	829,413	9%
Liverpool	465,815	503,740	8%
Manchester	510,783	579,917	14%
Newcastle	284,371	311,976	10%
Nottingham	308,681	329,276	7%
Sheffield	555,253	573,252	3%

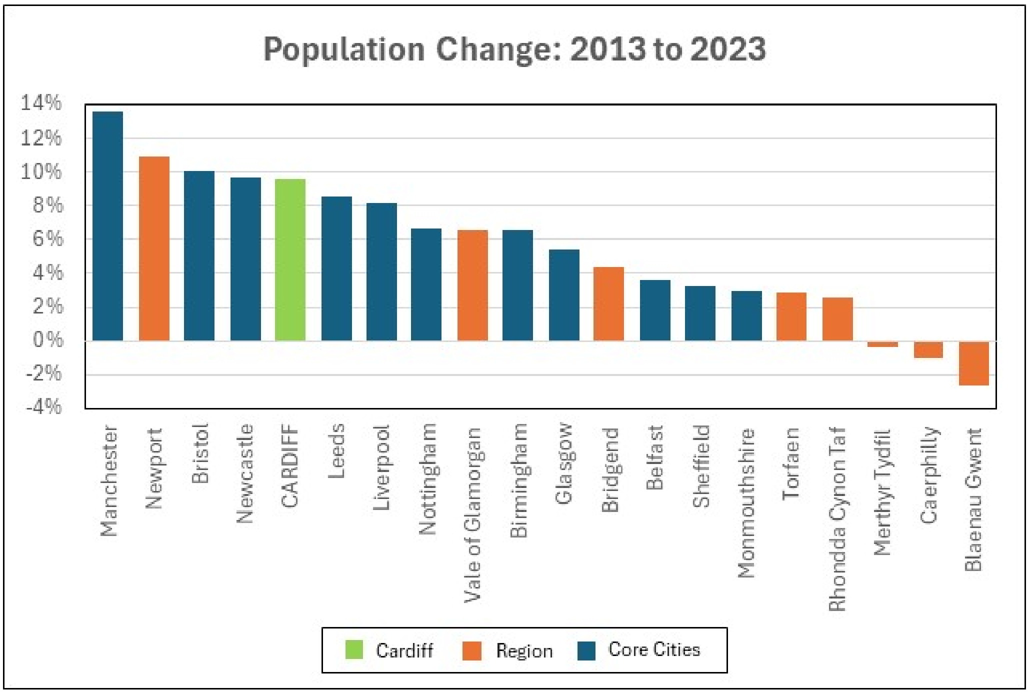
Data Source: *StatsWales, ONS, NRS, NISRA*

2.1.4. From the above it can be seen that over the past 10 years (2013 to 2023), Cardiff's population has grown faster than any other regional authority, with the exception of Newport (11%), and represents double the average rate of population growth (5%) for the region as a whole over this same period.

2.1.5. Cardiff's rate of population growth over the past 10 years is higher than the average (8%) for the Core Cities as a whole, but is the same as that for Bristol and Newcastle, and less than the increase for Manchester (14%).

2.1.6. Increased population invariably leads to higher car ownership, increased vehicular road traffic, and the pressures this brings to bear on the transport network. The impacts are highlighted further below.

Figure 2.1D: *Chart of Population Growth by Regional Authority and Core Cities*



Data Source: *StatsWales, ONS, NRS, NISRA*

2.2. Car Ownership

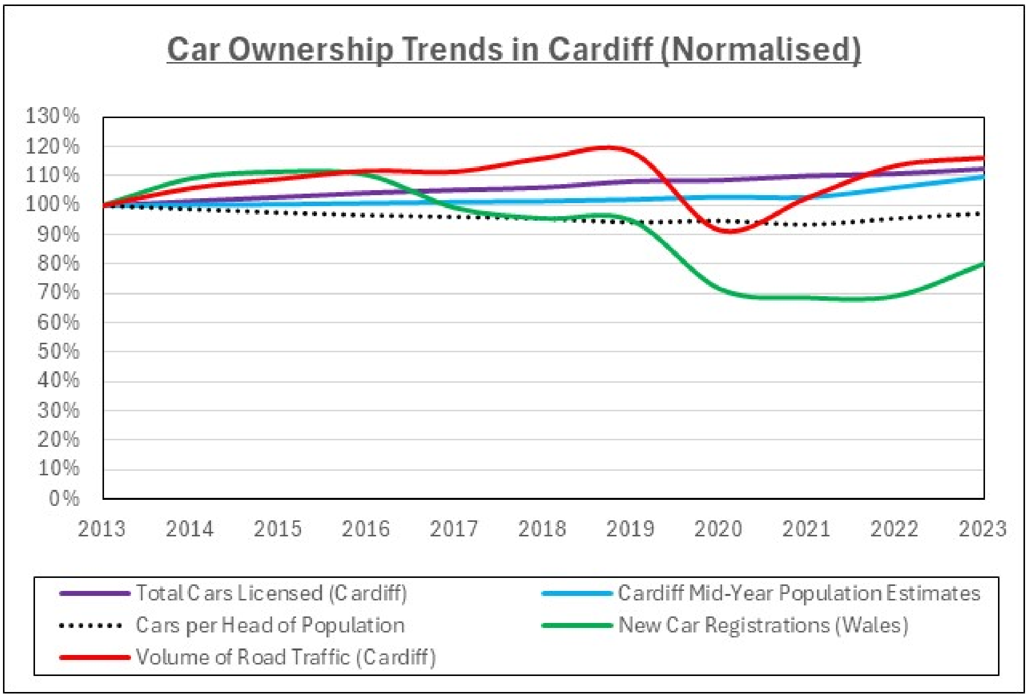
2.2.1. The following figures 2.2A and 2.2B illustrate how car ownership has changed relative to population growth along with new car registration trends in Wales.

Figure 2.2A: *Table of Car Ownership Trends in Cardiff*

	Total Private Cars Licensed (Cardiff)	New Car Registrations (Wales)	Cardiff Population
2013	126,689.00	84,600.00	349,982.00
2014	128,640.00	92,300.00	350,949.00
2015	130,415.00	94,200.00	351,600.00
2016	132,226.00	93,300.00	352,982.00
2017	133,510.00	83,800.00	354,348.00
2018	134,611.00	80,800.00	355,125.00
2019	137,315.00	80,200.00	357,137.00
2020	137,737.00	60,500.00	360,287.00
2021	139,596.00	58,000.00	359,824.00
2022	140,602.00	58,500.00	371,104.00
2023	142,663.00	67,800.00	383,536.00
Change	**13%**	**-20%**	**10%**

Data Source: *StatsWales*

Figure 2.2B: *Chart of Car Ownership Trends in Cardiff*



Data Source: *StatsWales, DfT*

2.2.2. Interestingly from the above, it is apparent that the total number of cars registered in Cardiff continues to rise and at a rate slightly faster than for the increase in population (13% vs 10%). However, this is in stark contrast to the trends in new car registrations in Wales, which has decreased by -20% over the past 10 years, suggesting people outside of Cardiff are more inclined to hold on to their car for longer, or to buy a used car rather than new.

2.2.3. It is apparent that prior to the pandemic, the volume of road traffic had been growing faster than car ownership in Cardiff, suggesting that people had increasingly been making more and/or longer journeys by car.

2.2.4. Also of interest, the current fuel composition of licensed cars in Cardiff is around 85,700 of type petrol; 49,100 for diesel; and 7,900 of hybrid/electric/ other. This represent a change of -4% for petrol while surprisingly an increase of 34% for diesel since 2013 [Source: DfT].

2.2.5. The increase in car licensing is partly linked with the significant rise in the number of driving test taken by those aged 22+, which has increased by 87% over the past decade, in contrast with those aged 17-21 which has decreased by -21% over the same period [Source: DfT].

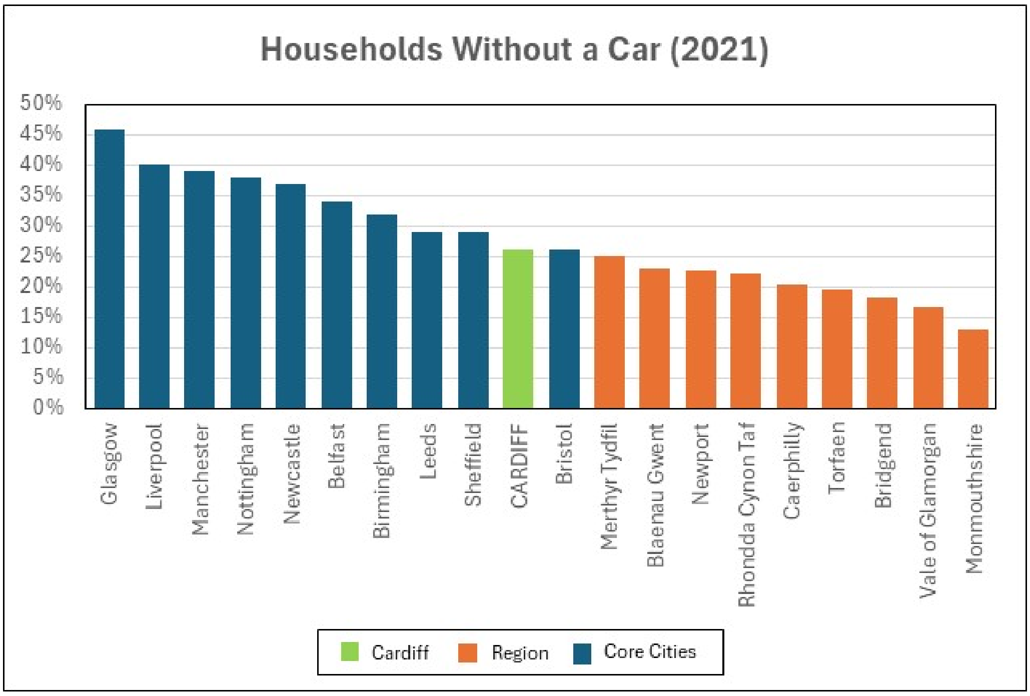
2.2.6. Car ownership in Cardiff is compared and contrasted in figures 2.2C and 2.2D overleaf.

Figure 2.2C: *Table of percentage of households that do not own a car*

	2011	2021	Change
Cardiff	29%	26%	-3%
Region			
Blaenau Gwent	29%	23%	-6%
Bridgend	22%	18%	-4%
Caerphilly	24%	20%	-4%
Merthyr Tydfil	30%	25%	-5%
Monmouthshire	15%	13%	-2%
Newport	28%	23%	-5%
Rhondda Cynon Taf	27%	22%	-5%
Torfaen	24%	20%	-4%
Vale of Glamorgan	19%	17%	-3%
Core Cities			
Belfast	40%	34%	-6%
Birmingham	36%	32%	-4%
Bristol	29%	26%	-3%
Glasgow	51%	46%	-5%
Leeds	32%	29%	-3%
Liverpool	46%	40%	-6%
Manchester	45%	39%	-6%
Newcastle	42%	37%	-5%
Nottingham	44%	38%	-6%
Sheffield	33%	29%	-4%

Data Source: *Census*

Figure 2.2D: *Chart of percentage of households that do not own a car*



Data Source: *Census*

2.2.7. The above demonstrate that as of 2023, Cardiff has the lowest proportion of households without a car (26%) joint with Bristol, of any of the Core Cities.

In other words, the average rate of car ownership per household is highest in Cardiff and Bristol, of any of the other Core Cities and by some margin.

2.2.8. Nevertheless, Cardiff has the highest proportion of households not owning a car (i.e. lowest rate of car ownership) of any of the regional local authorities, likely due to the city's urban nature and declining access to public transport.

2.3. Mode-Split

2.3.1. The trends in the proportion of journeys to work being made by sustainable modes vs. car (excluding working from home, which is currently calculated to be equivalent to around 35% of the workforce), are presented in figures 2.3A, 2.3B and 2.3C below.

2.3.2. These show that prior to the pandemic between 2009 and 2019, there was a mode shift of 10% away from car towards sustainable modes (walking/ cycling/bus/rail).

2.3.3. As of 2024, the mode-split for journeys by car (drivers + passengers) vs. sustainable modes, is calculated to be 49:51 respectively.

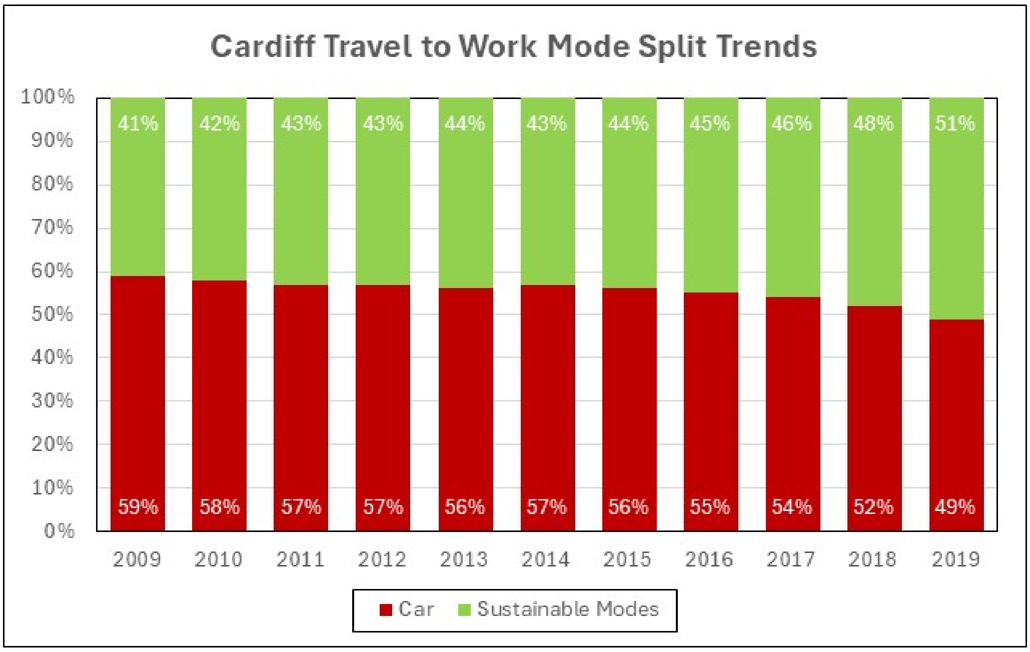
Figure 2.3A: *Table of Cardiff Travel to Work Mode-Split (5yr rolling averages)*

Year	Car	Sustainable Modes
2009	59%	41%
2010	58%	42%
2011	57%	43%
2012	57%	43%
2013	56%	44%
2014	57%	43%
2015	56%	44%
2016	55%	45%
2017	54%	46%
2018	52%	48%
2019	49%	51%
2023 (absolute)	*48%*	*52%*
2024 (absolute)	*49%*	*51%*
2009-2019 Mode-Shift	**-10%**	**10%**

Data Source: *Annual Transport Survey*

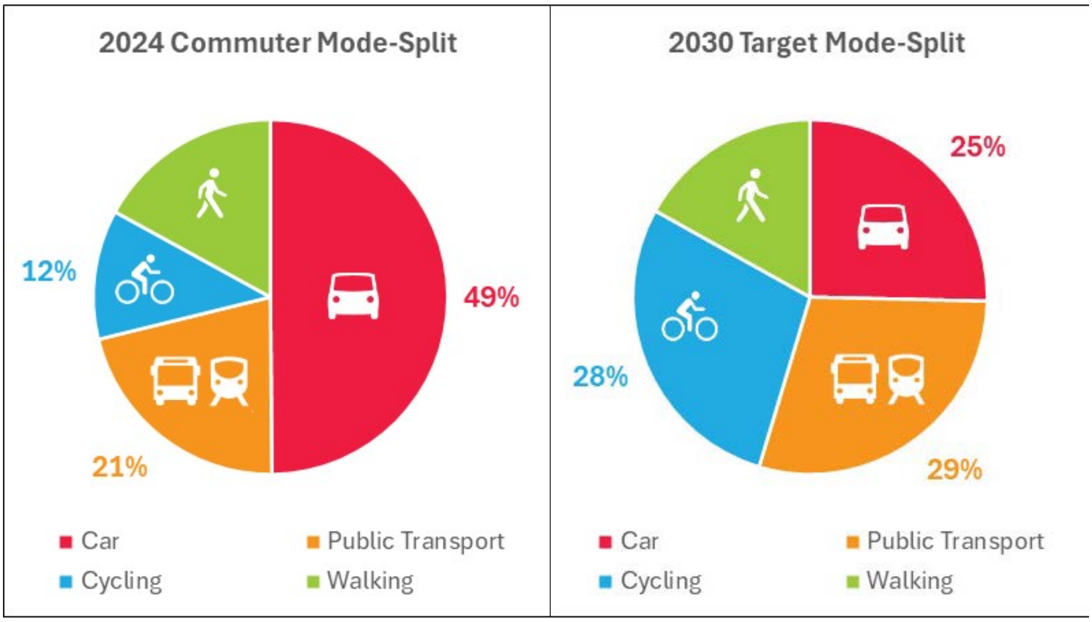
2.3.4. Also as of 2023, currently of those working in Cardiff, 27% commute in from outside, and 73% both live and work in Cardiff (internal). This represents a significant change from 2013 when 39% commuted in from outside, and 61% was internal to Cardiff. Over this period there have been large decreases in particular in the proportions travelling in to Cardiff from Rhondda Cynon Taf (-42%) and The Vale of Glamorgan (-38%).

Figure 2.3B: *Chart of Cardiff Travel to Work Mode-Split (5yr rolling averages)*



Data Source: *Annual Transport Survey*

Figure 2.3C: *Current Cardiff Mode-Split vs. Transport White Paper 2030 Target for Journeys to Work.*



Data Source: *Annual Transport Survey*

2.3.5. Figure 2.3C above, demonstrates the challenge ahead in order to achieve the White Paper 2030 mode-split targets.

2.4. Trends by Mode

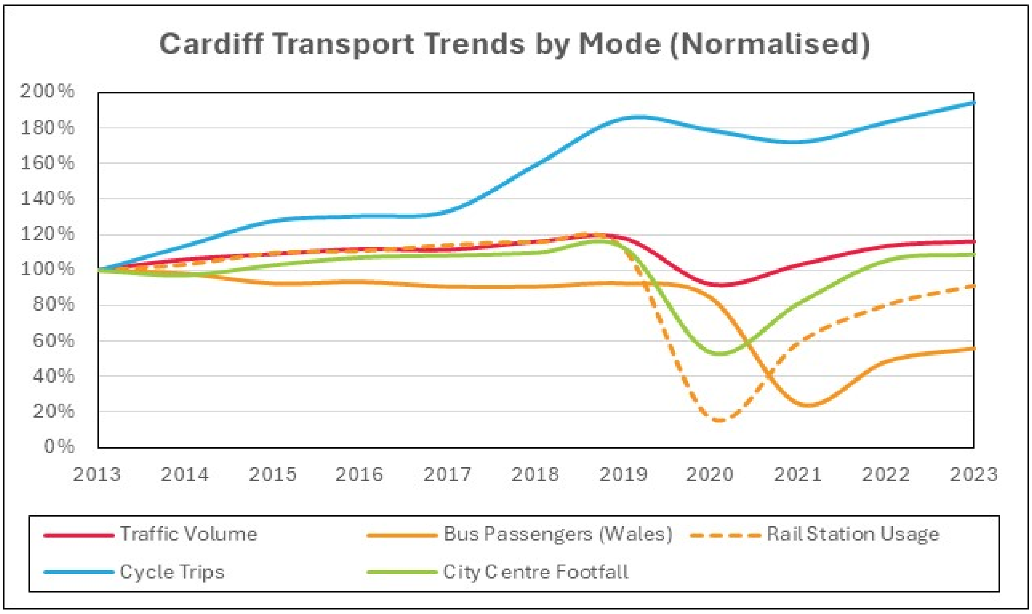
2.4.1. The relative change in use of each of the main modes for all journey purposes is presented in figures 2.4A and 2.4B below. In particular, these show a continued growth in cycle trips according to the Sustrans Walking and Cycling Index (previously Bike Life Report). The level of cycling is shown to have almost doubled in the period 2013-2023.

Figure 2.4A: *Table of Transport Trends in Cardiff by Mode for All Journey Purposes (Normalised relative to 2013)*

Year	Traffic Volume	Bus Passengers (Wales)	Rail Station Usage	Cycle Trips	City Centre Footfall
2013	100%	100%	100%	100%	100%
2014	106%	98%	103%	114%	97%
2015	109%	93%	110%	128%	103%
2016	112%	94%	111%	131%	107%
2017	111%	91%	114%	133%	108%
2018	116%	91%	116%	159%	110%
2019	118%	93%	112%	186%	113%
2020	92%	84%	17%	179%	54%
2021	103%	25%	59%	172%	81%
2022	113%	49%	80%	183%	106%
2023	116%	56%	91%	194%	109%

Data Source: DfT, *StatsWales, ORR, Sustrans, Cardiff Council*

Figure 2.4B: *Chart of Transport Trends in Cardiff by Mode for All Journey Purposes (Normalised relative to 2013)*



Data Source: DfT, *StatsWales, ORR, Sustrans, Cardiff Council*

2.4.2. It is evident from the above that use of the other modes dipped during the Covid-19 pandemic between 2020-2022, with bus and rail in particular at historic low levels during this period, although by 2024 both bus and rail passenger numbers have recovered to around 80% of their pre-pandemic levels. Nevertheless, there are significant challenges ahead if to meet the Transport White Paper Target of doubling bus use by 2030 from its 2018 baseline.

2.4.3. Following the pandemic, traffic overall has once again risen each year, and is now near the historic high levels seen in 2019. However, traffic patterns have changed since the pandemic with 35% of the workforce still working from home and the traffic on some routes remaining much lower.

2.4.4. Traffic volumes across the region and Core Cities, is presented in figures 2.4C and 2.4D. These demonstrate that Cardiff has experienced by far the biggest increase in traffic (16%) of any of the Core Cities between 2013 and 2023, and is second only to Torfaen across the region.

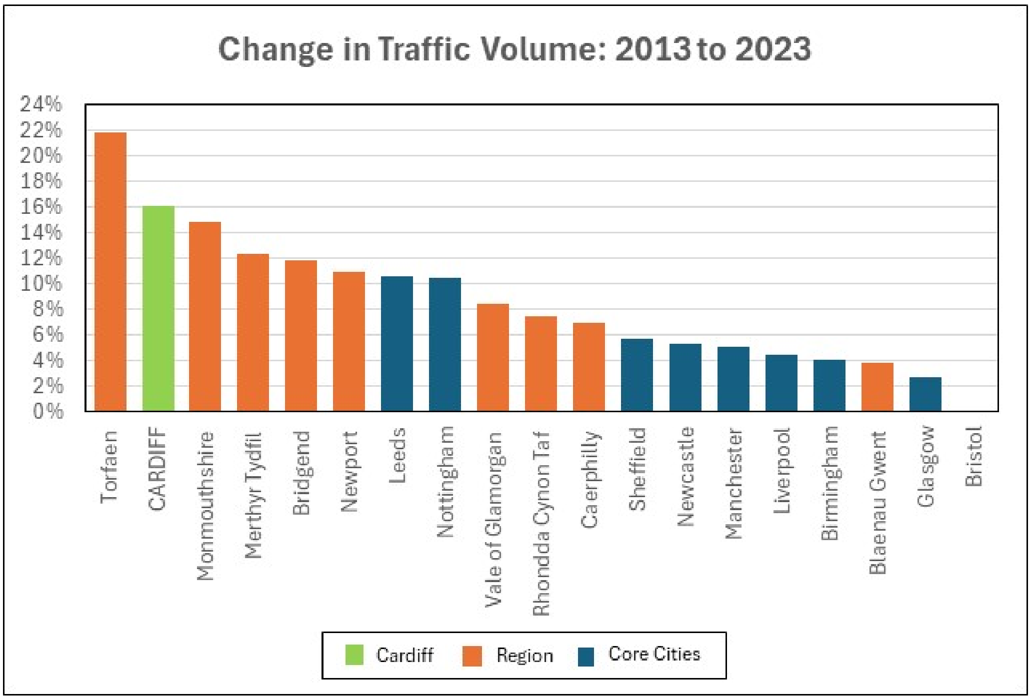
2.4.5. Of note, the regional authorities have generally seen far bigger rises in traffic levels than the Core Cities, also Bristol appears not to have changed.

Figure 2.4C: *Table of Traffic Volumes (million vehicle km) by Authority / Core City*

	2013	**2023**	**Change**
Cardiff	2,720	3,157	16%
Region	12,550	14,022	12%
Blaenau Gwent	396	411	4%
Bridgend	1,239	1,385	12%
Caerphilly	1,099	1,175	7%
Merthyr Tydfil	397	446	12%
Monmouthshire	1,327	1,524	15%
Newport	1,770	1,963	11%
Rhondda Cynon Taf	2,032	2,183	7%
Torfaen	569	693	22%
Vale of Glamorgan	1,001	1,085	8%
Core Cities			
Belfast	-	-	-
Birmingham	5,593	5,822	4%
Bristol	2,290	2,287	0%
Glasgow	3,478	3,571	3%
Leeds	6,056	6,699	11%
Liverpool	2,077	2,168	4%
Manchester	2,570	2,700	5%
Newcastle	1,652	1,739	5%
Nottingham	1,531	1,691	10%
Sheffield	2,652	2,803	6%

Data Source: DfT, *StatsWales*

Figure 2.4D: *Chart of Traffic Volumes (million vehicle km) by Authority / Core City*



Data Source: DfT, *StatsWales*

2.5. Road Safety

2.5.1. The change in road collisions in Cardiff is illustrated in figures 2.5A and 2.5B below. As can be seen, total casualties have been decreasing year-on-year, including child casualties. However, KSI casualties have only been decreasing since 2019.

2.5.2. Comparing the 5-year totals for 2015-2019 and 2019-2023, it is evident that all casualties have reduced by -40% over this period; fatalities by -26%; KSI casualties by -38%; all child casualties (age 0-15) by -35%; and child KSI casualties by -50%. However, the number of child fatalities although low has remained the same.

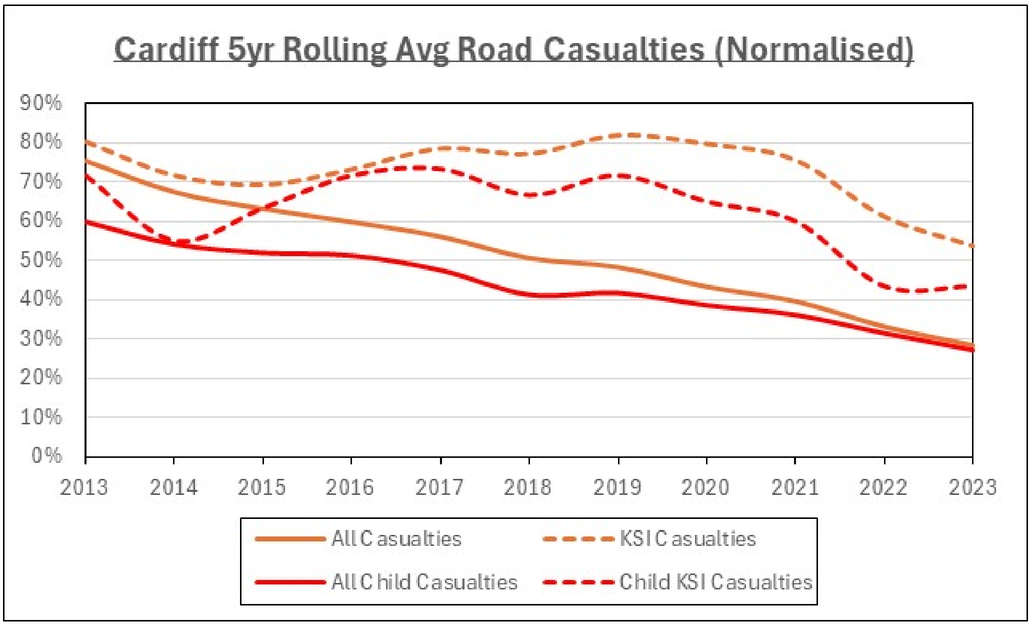
Figure 2.5A: *Table of Cardiff Road Casualties by Severity*

	2015-2019 (5yr Total)	**2019-2023 (5yr Total)**	**Change**
All Casualties	3,165	1,908	-40%
Fatalities	31	23	-26%
KSI Casualties	386	240	-38%
All Child Casualties	310	201	-35%
Child Fatalities	2	2	0%
Child KSI Casualties	36	18	-50%

Data Source: *STATS19*, *StatsWales*

2.5.3. Of note, the Welsh Government introduced the 20mph default speed limit across Wales on 17th September 2023. However, there is insufficient data at this stage in order to determine to what extent this may have had an impact on road collisions and casualties within Cardiff since this time.

Figure 2.5B: *Chart of Cardiff Road Casualties by Severity*



Data Source: *STATS19*, *StatsWales*

2.5.4. The change in road collisions compared across regional local authorities and the Core Cities is illustrated in figures 2.5A and 2.5B. From these it can be seen that Cardiff has experienced the joint (with Glasgow) most significant decrease amongst the Core Cities, and in the region only Bridgend and Merthyr Tydfil have seen bigger changes between 2015-2019 and 2019-2023.

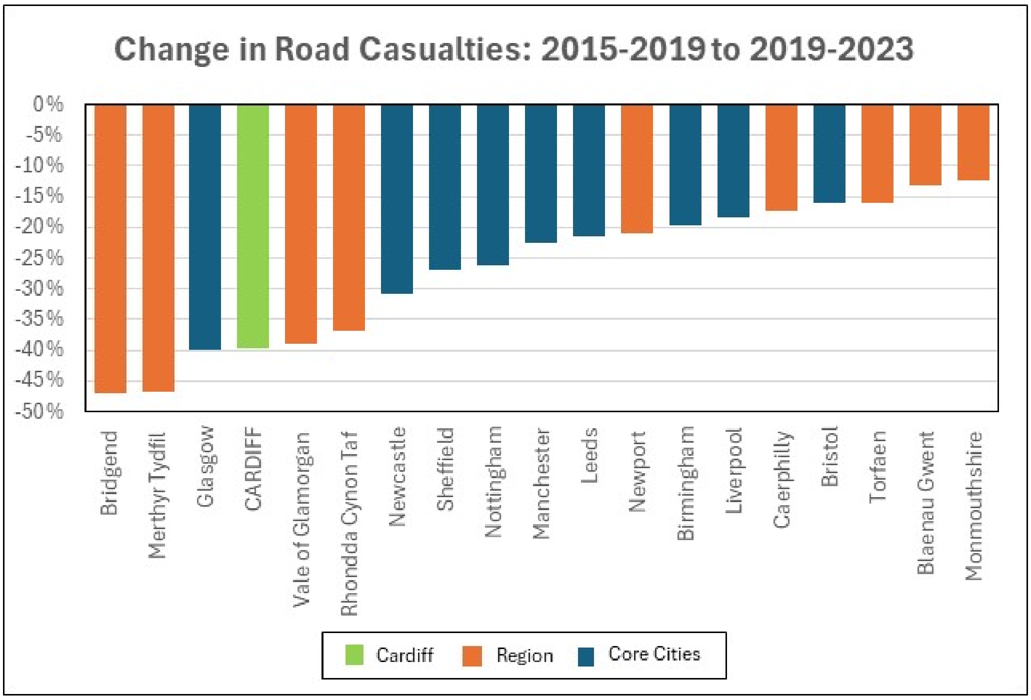
Figure 2.5C: *Table of 5-year Total Road Casualties by Local Authority / Core City*

	2015-2019 5yr Total	**2019-2023 5yr Total**	**Change**
Cardiff	3,165	1,908	-40%
Region	13,233	8,954	-32%
Blaenau Gwent	475	413	-13%
Bridgend	1,382	734	-47%
Caerphilly	1,274	1,054	-17%
Merthyr Tydfil	669	357	-47%
Monmouthshire	793	696	-12%
Newport	1,492	1,179	-21%
Rhondda Cynon Taf	2,310	1,456	-37%
Torfaen	583	490	-16%
Vale of Glamorgan	1,090	667	-39%
Core Cities			
Belfast	-	-	-
Birmingham	18,674	14,990	-20%
Bristol	5,643	4,741	-16%

Glasgow	6,628	3,978	-40%
Leeds	11,319	8,883	-22%
Liverpool	6,616	5,402	-18%
Manchester	5,841	4,521	-23%
Newcastle	3,946	2,727	-31%
Nottingham	5,584	4,129	-26%
Sheffield	7,055	5,161	-27%

Data Source: *STATS19, DfT*

Figure 2.5D: *Chart of 5-year Total Road Casualties by Local Authority / Core City*



Data Source: *STATS19, DfT*

3. CONCLUSION

3.1.1. This paper has provided an in-depth analysis of key transport trends in Cardiff, and has illustrated the challenges in seeking to achieve its White Paper targets, to double levels of cycling and bus use, while achieving 75% of all trips to be made by sustainable modes (25% by car) by 2030.

3.1.2. The data presented, demonstrates that the transport policies and targets are appropriate for the Cardiff LDP 2021-2036, in addressing the city's transport challenges and enhancing its transport system, by emphasising the importance of sustainable development.