CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

Title	Cycling in Cork City – informing policies for improvement of transport infrastructure
Authors	Madden, Ross
Publication date	2022
Original Citation	Madden, R. (2022) Cycling in Cork City – informing policies for improvement of transport infrastructure. Cork: Community-Academic Research Links, University College Cork.
Type of publication	Report
Link to publisher's version	https://www.ucc.ie/en/scishop/rr/
Rights	©2022, Ross Madden.
Download date	2026-11-06 06:11:18
Item downloaded from	https://hdl.handle.net/10468/15583



UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Cycling in Cork City – informing policies for improvement of transport infrastructure

Ross Madden

CARL Research Project
in collaboration with
Cork Cycling Campaign

Name of student(s):	Ross Madden
Name of community group:	Cork Cycling Campaign
Name of community group liaison person:	Conn Donovan
Academic supervisor(s):	Dr Niall Duggan
Name and year of course:	GV3102: BSc Government Consultancy Project
Date completed:	September 2022

What is Community-Academic Research Links?
Community Academic Research Links (CARL) is a community engagement initiative provided by University College Cork to support the research needs of community and voluntary groups/ Civil Society Organisations (CSOs). These groups can be grassroots groups, single-issue temporary groups, but also structured community and voluntary organisations. Research for the CSO is carried out free of financial cost by student researchers.

CARL seeks to:

- provide civil society with knowledge and skills through research and education;
- provide their services on an affordable basis;
- promote and support public access to and influence on science and technology;
- create equitable and supportive partnerships with civil society organisations;
- enhance understanding among policymakers and education and research institutions of the research and education needs of civil society, and
- enhance the transferrable skills and knowledge of students, community representatives and researchers (Living Knowledge Network).

What is a CSO?
We define CSOs as groups who are non-governmental, non-profit, not representing commercial interests, and/or pursuing a common purpose in the public interest. These groups include: trade unions, NGOs, professional associations, charities, grass-roots organisations, organisations that involve citizens in local and municipal life, churches and religious committees, and so on.

Why is this report on the UCC website?
The research agreement between the CSO, student and CARL/University states that the results of the study must be made public through the publication of the final research report on the CARL (UCC) website. CARL is committed to open access, and the free and public dissemination of research results.

How do I reference this report?
Author (year) *Dissertation/Project Title*, [online], Community-Academic Research Links/University College Cork, Ireland, Available from: https://www.ucc.ie/en/scishop/rr/ [Accessed: date].

How can I find out more about the Community-Academic Research Links and the Living Knowledge Network?
The UCC CARL website has further information on the background and operation of Community-Academic Research Links at University College Cork, Ireland,

http://carl.ucc.ie. You can follow CARL on Twitter at @UCC_CARL. All of our research reports are accessible free online here.

CARL is part of an international network of Science Shops called the Living Knowledge Network – website and on Twitter @ScienceShops. CARL is also a contributor to Campus Engage, which is the Irish Universities Association engagement initiative to promote community-based research, community-based learning and volunteering amongst Higher Education students and staff.

Are you a member of a community project and have an idea for a research project?
We would love to hear from you! Read the background information here and contact us by email at carl@ucc.ie.

Disclaimer
Notwithstanding the contributions by the University and its staff, the University gives no warranty as to the accuracy of the project report or the suitability of any material contained in it for either general or specific purposes. It will be for the Client Group, or users, to ensure that any outcome from the project meets safety and other requirements. The Client Group agrees not to hold the University responsible in respect of any use of the project results. Notwithstanding this disclaimer, it is a matter of record that many student projects have been completed to a very high standard and to the satisfaction of the Client Group.

Abstract:

Around Europe, there has been a conscientious effort on behalf of urban municipalities to expand cycling infrastructure. While these policies in favour of cycling have been established in major cities in the Netherlands since the 1970s, nascent promotional campaigns in Lille, Bordeaux, Coventry and Leuven within the last ten years have yielded successful results in increasing participation among marginalised segments of society. These especially include children and women. Irish cities that roughly share the same population size as these cities, should take inspiration and consider introducing these initiatives to further increase rates of cycling.

Contents:

This report will be divided up into four major sections. These include:

1. Lille, France;
2. Coventry, UK;
3. Leuven, Belgium;
4. Bordeaux, France.
5. Conclusion

1. Lille, France:

Background:

Cycling is undergoing a 'revolution' in France where more cycle paths are being built and bicycles sales are rapidly increasing. With the proper city consisting of more than 230,000 inhabitants, this makes it the most populous urban centre in the **Lille Metropole**, a network that encompasses several smaller rural and urban areas. The Metropole has invested a lot of money and attention into improving the share of those who cycle in the city. For instance, the organisation ***Droit au vélo*** *('Right to cycle')* established from its humble beginnings in 1999, analysed the volume of those cycling constituted the traffic from the intersection at ***rue Nationale*** (National Road) to the ***Boulevard de la Liberté*** (Liberty Boulevard) over a 15-year period. During this research, it was estimated that the share of those cycling on these busy streets had 'tripled' over this period (ADAV 2015) [1]. Meanwhile, from 1998 to 2006, there was a recorded increase of over 39% in the number of cycling trips (LMCU Travel 2006) [2].

However, despite this positive growth, trips by bicycle only represented just a mere 2.3% of total trips in 2006 [2]. Many challenges do remain especially as certain demographics in Lille society have felt that in recent years that there has not been sufficient protection in regards to cycling safety. For instance, women are still on average more likely to be reluctant towards cycling. In 2011, the metropole vowed to increase the share of cycling to 10% in the urban area by 2020 (20minf 2021) [3]. However, there was little success as it continued to stabilise at around the 1-2% mark.

Plan:

Despite this setback, Lille Metropole is still determined that making active transport accessible as possible to all segments of the population, especially women and children, is paramount to increasing the rate of cycling.

Women:

Copenhagenize, an urban design project that has been based in Europe since 2007, has conducted valuable research into the preferences of women and what urban designers should understand about their needs and what steps should be undertaken to be able to achieve a wider cycling vision across society. According to a 2015 government survey, it was found that all 300 women surveyed reported to be victims of sexual harassment on public transportation at least once, thus making it an unreliable mode of transport (France24 2015) [4]. Therefore, many women have started to embrace the bicycle as a mode of freedom, thus inviting the metropole administration and interest groups to invest in infrastructure that would benefit female bicycle users. Alas, a sum of 100 million euros has been allocated towards cycling infrastructure safety for the next five years.

The Copenhagenize team organised a focus study consisting of 20 women in Lille who cycle, with their level ranging from beginner (less than 6 months of cycling) to experienced (more than 3 years of cycling). A multitude of questions were asked, however one question asked multiple cycling infrastructure scenarios and which one would be the most comfortable for them. The most favourable scenario with a 100% rating of comfortability was the **one-way cycle track** (as pictured below in **Fig. 1.1.**) Meanwhile, they discovered that the **contra-flow cycle lane on a traffic-calmed street** (as depicted in **Fig. 1.2**) was the least comfortable, with up to 23% of women stating that they would avoid cycling on this type of infrastructure. A contra-flow cycle lane is defined as cycling that '**can occur in both directions**' while being '**one-way for motor vehicles**' (Tait et al. 2023: 1-10) [5]. Although recent research from the UK has shown that these contraflow cycle tracks have fewer costs in respect to other forms of cycling infrastructure and '**no increase in crash risk**', one could also argue that perceived safety matters to a great degree for those who intend on cycling [5]. For both males and females living in urban areas, 43% of 3,000 surveyed agreed that '**feeling safer**' while cycling would help them increase their mode of cycling (YouGov & VanMoof 2021) [6].



Fig. 1.1. One-way cycle track (as shaded in bright green) as pictured in Emeryville, CA, USA. (Psa1966 2018). [7].



Fig. 1.2. Contra-flow cycle lane on a traffic-calmed street as pictured in Belfast, Northern Ireland. (Albert Bridge 2015). Geograph.ie. [8].

Also, on behalf of the women who have children, special care is taken to planning trips (referred to in the study as “care trips”). This is because there a lack of facilities that cater to women who are bringing their children out on the bike. Nearly 3 in 4 mothers admit to having one “care trip” daily. As 39% of mothers are satisfied with travelling more than 5km daily, it should be the priority of the local administration to ensure that more facilities such as parking for bicycle trailers and cargo-bike rental schemes are readily available outside important functions such as schools, shopping centres and transit routes (Copenhagenize 2021) [9].

Another conundrum that diverts women’s attention from cycling on the road is poorly lit cycle lanes. In the same survey, both beginner and experienced female bicycle users reported that they would either ‘always’ or ‘often’ avoid routes that had little to no lighting as they felt that it was too dangerous and fear-inducing during the late night and winter periods.

Children:

Akin to Coventry, there has also been an attempt to educate children from 6 to 10 years old on the rules of cycling through school guides. Through eco-friendly active modes of transport such as cycling and walking, children learn how to engage in critical mobility issues with the aid of fun activities such as arts and crafts and games.

Conclusion:

Unfortunately, the cycling promotional campaign in Lille has proven little success in hitting its targets so far. Nevertheless, the campaign does look exciting with a lot of research conducted by Copenhagenize France on the mobility patterns of women and understanding their needs. With 100 million euros being invested in cycling infrastructure for the next 10 to 15 years, Copenhagenize has co-operated with the Lille Metropole administration to implement solutions such as choosing the quality of the one-way cycle tracks instead of the ’simple’ contra-flow cycle lanes, providing adequate lighting (especially in the case of

women who are commuting during the long, dark winter months and taking up night time activities) and increased services for mothers and fathers such as cargo-bike rental schemes and cargo-bike parking.

Similarly, action has been taken on instilling an education that would help increase the cycling rates among the youth and which could subsequently produce more bicycle users for the next generation.

2. Bordeaux, France:

Background:

Located on the Garonne River, lies France's sixth-largest city, Bordeaux. Since 2017, Bordeaux has found its way and established itself as the "***sixth most cycling-friendly city in the world***" according to the annual Copenhagenize report (Jahns 2022) [10]. In the space of a decade, the Metropolitan area have succeeded in '***doubling the number of bicycle trips***', with the cycling modal share almost exceeding 20% in certain districts (Marrec 2019) [11]. An INSEE publication released in 2017 showed that Bordeaux had the third biggest daily cycling share in France with 11.8%, with just a few percentage points below Strasbourg (16%) and Grenoble (15.2%) [11].

The progress Bordeaux has made in the past fifteen years has been considered to be nothing short of impressive. In the early 2000s, the share of those cycling was marginal compared to the results nowadays. While the French city has been one of the frontrunners when it comes to cycling, problems still exist on the surface in regards to protection for all. This especially applies to vulnerable segments of the population such as children and adolescents.

Pont de Pierre:

One of the most recognisable policies that enabled the flourishment of cycling as a daily means of transport was the closure of the iconic ***pont de pierre*** (stone bridge that stretches across the Garonne in **Fig 2.1**) to motorised traffic in 2017. The action was taken by the long-standing mayor of the city, Alain Juppé. This meant that it would be bicycles and pedestrians who would now be able to fill up this colossal space. The results have produced a drastic outcome for the modal composition of the city.

On an average day in 2018, it was estimated that approximately 9,000 bicycles crossed the bridge. On some particularly busy days, that number had risen to 12,000. It was only just a short time in retrospect that only around 5,000 of those who were cycling across the stone bridge. That is an 80% increase in just six years. Simultaneously, during those years, the vast space had successfully convinced 16% former motor drivers to transform themselves into avid bicycle users. Subsequently, the proportion of cars on the road has rapidly decreased from 59% in 2009 to under the 50% mark in 2017. Car activity is now concentrated in the ring road area to the city, and not in the centre [11].



Fig. 2.1 Close-up view of the **Pont de Pierre** bridge that crosses the Garonne. Since its closure to motorised traffic in 2017, there has been an 80% increase in bicycle traffic (Vélo-Cité 2019) [12].

Future-oriented policies:

With the ambitious outreach of the "***Pour une ville apaisée***" ("For a soothed city") for the next five years (2021-2026), the city is keen on maximising the percentage of those cycling across all inhabitants of the Metropole, with special interest being directed towards women, children and adolescents.

Women:

Also similar to the situation in Lille, women are underrepresented in bicycle traffic as they feel that there are many barriers to their access. Despite a 40% increase in bicycle traffic in between 2013 and 2018, women still only represent just 38% of those who cycle. This gap between male and female bicycle users further widens when it darkens in the evenings, as men make up 78% of all traffic during night time (Raibaud 2020) [13]. Much of the research on women's complicated attitudes towards cycling stems from two main factors: **maternity (and transporting children around the city)** and **safety (including bad weather conditions)**.

Traditional roles still play a vital role in contemporary Bordeaux society. As in Lille, it is predominantly women (more than 70%) who carry out the most caregiving tasks such as shopping and dropping and collecting children to and from school [13].

The local authorities have co-operated with road system engineers to create wider double-lane segregated bicycle lanes and minimise the width of lanes for motor traffic. At the same time, the Metropole has advocated for well-lit bicycle paths, increased presence of signage and more cargo bike facilities at schools and shopping centres to be offered to create an upturn in the number of women cycling.

La rue aux enfants:

Throughout the past decades, the modes of transport that children and adolescents use to commute to school on a daily basis has altered significantly in favour of the motor transport. This has caused a rapid reduction in the number of pedestrians and bicycle users among students. All across France, the car reigns supreme as a mode of transport to school, representing 30% of all trips (Ifop 2020) [14]. For pre-school children, this figure is elevated to as high as 45% [12]. This trend is not just unique to France. In Australia's most populous city, Sydney, the percentage of those who travelled to school as vehicle passengers rose from 41% to 51%, from 1990 to 1999 (Transport Data Centre 2001) [15]. In the UK, there was a similar increase in the proportion of primary schoolchildren who relied on a car to get to school, from 29% to 41% from 1991/93 to 2002 (National Travel Survey 2004) [16]. What is being witnessed today is an unforeseen scenario where children are heavily reliant on their parents for transportation.

Under the new program for schoolchildren, the "**la rue aux enfants**" ("*street for children*") was introduced. The solid objective of this initiative is to '***pedestrianize … the spaces around schools***' 45 minutes before and after the respective opening and closing hours. Using removable barriers that block motor vehicles from entering during these times, ***la reux aux enfants*** essentially prioritises the independent travel of schoolchildren to their school through cycling/walking. Didier Jeanjean, deputy mayor for nature in Bordeaux, said the goal was to gain courage at an early age and eventually adopt this '***habit of virtuous behaviour***' (Berthet 2021) [17]. There were 16 primary schools that adopted this program when it first commenced in May 2021. 2 schools are expected to join the program in 2022, with 9 more will be experimenting with it. Bordeaux Metropole authorities predict that 15-20 schools will continue to join the program in every year after. This is a positive development for cycling in the Metropole and could potentially reverse the proliferation in children relying on their parents for transport.

3. Coventry, UK:

Background:

Since early times, the manufacturing industry has always played a role in the development of Coventry. With the emergence of the woollen trade during the Medieval era, the city prospered to become what is one of the biggest cities in England today. Coventry became renowned for being the "***centre of bicycle making***" during the industrial revolution of the 19th and 20th centuries, according to transport historian Carlton Reid (Castle 2020) [18]. Ultimately, as time went on however, the fate of the bicycle on the roads of Coventry would become more marginalised as had happened in other cities in the industrialised world. According to a 2019 survey conducted by the Mayor for the West Midlands (WM), Andy Street, found that 41% of journeys reached by car are under two miles (WMCA Board 2019) [19].

Plan:

According to the Active Lives Survey published in 2017, it was discovered that for the city of Coventry, only 10.6% of inhabitants cycled at least once per week [19]. While it may be higher than all other major urban areas in the WM such as Birmingham and Wolverhampton,

it still threaded below the national average of England (11.9%). This is despite 52% of residents throughout WM who would like to see more funding allocated towards cycling policies (Transport for West Midlands 2022) [20]. Barriers to cycling include the safety concerns involved in travelling, the lack of adequate infrastructure and bike ownership. According to the Coventry City Council, '***more than three out of four people***' believe the level of safety when cycling in Coventry is unsatisfactory, with especially more people claiming it for their children (Coventry City Council 2022) [21].

Upon the advent of the coronavirus pandemic in the beginning of 2020, now former Mayor Adam Tranter undertook a plan that would try to increase the number of people cycling on the roads. On his new vision, Tranter wanted to expand the "appeal" of cycling from the "***the middle-aged man in Lycra***" to equally vital segments of society such as women and children.

1. The most crucial step that was carried out was the construction of the Coundon Cycleway. This scheme outlines the two-way segregated bicycle lane that stretches 2.75 km along the city centre in Barkers' Butts Lane/Coundon Road. The planned construction of the Binley cycleway will proceed after the Coundon Cycleway finished. This is a 3.75km dual cycleway that is segregated from vehicular traffic and pedestrian-based footpath. The goal of the cycleway is that it would be separated from vehicular traffic and footpath for regular pedestrians. This would enhance the experience for very nervous children and adults who are cycling and never have been cycling on the road before.

   As mentioned above, one of the biggest concerns for people is safety when cycling. In relation to cycling research in Lille, vulnerable bicycle users such as children and women are more positively receptive to cycling when the cycle tracks are separated from the motorised traffic. These facilities are the predominant design in most Dutch municipalities, where 27% of all trips are conducted by cycling, of which 55% of them are women (Lusk, Furth, Morency, Miranda-Moreno, Willett & Dennerlein 2011: 131) [22]. Past research has shown that in Montreal (Canada) shows that two-way cycle paths on one side of the road '***have either lower or similar injury rates***' compared with roads that did not have those provisions (Lusk et al. 2011: 133). There is much benefit to constructing two-way contraflow bicycle lanes.
2. Another integral part of the cycling regime in Coventry was the provision of cycle training sessions free of charge for residents. While the cycleways were being put under construction, both adult and children were allowed to develop their skills and build their confidence while riding bikes. All people engaged within this program can learn to cycle in a traffic-free environment or on the road. Most importantly, many different levels of ability were offered when it came to the lessons. For instance, for the children and adults who had very little to no experience of cycling, they were able to start training off the road. As they further progressed in their ability, they were able to attend on-the-road cycling lessons.
3. Allowed the residents of Coventry to have a say in the construction of these cycleways through consultation processes on the website of the City Council. It is really encouraging when the public is engaged in infrastructure-building and with public initiatives.



Fig. 3.1 Coundon Cycleway – As we can witness here, there is an equal distribution of transport modes one can use – walking, cycling and driving (Johnson 2020) [23].

Result:

While the policies have made a continuous impact on Coventry as a whole, there has been limited information on the extent of these enacted policies as of yet. Through mass public consultation and best practices research that has shown that there are many benefits to two-way segregated cycle tracks, there is still a lot of potential to be reached when these cycleways will be fully opened. The addition of free-of-charge cycling lessons for those who have an interest in cycling with different abilities is also very encouraging.

4. Leuven, Belgium

Background:

A city of approximately 100,000 residents that is home to the oldest university in the Benelux countries, Leuven is located in the northern Belgian region of Flanders where it is just 20km east of the capital and fast-moving metropolis, Brussels. As a result, Leuven is a young, dynamic city that sees a lot of people commute through the city daily. While being extremely beneficial towards the local economy, this has prompted some such as POLIS representative, Niklas Schmalholz, to describe the traffic congestion there as a '***big headache***' (Schmalholz 2021) [24].

Traditionally since the end of the Second World War, Leuven along with other Flemish cities have always pursued an urban mobility agenda that has almost been geared towards the car. The period from the 1950s to the early 21st century saw the great proliferation in the construction of '***motorways, ring roads … and large car parks near the city centres***' (Vandenberghe 2019) [25]. Previously, Flemish cities such as Antwerp were renowned for their huge interest in cycling and were according to some, was a '***more important cycling city than Copenhagen***' [24]. In turn, Vandenberghe (2019) writes how this excessive promotion of car use hampered on the quality of life for the inhabitants of Leuven, who started to migrate en masse to the rural countryside due to unsafe urban conditions arising from car use.

It was not until the turn of the century that awareness of implementing cycling-friendly initiatives came at the forefront of public policy. The policies towards cycling in Flanders has been held in contrast to its northern, more cycling-active Dutch neighbours. For instance, Flanders comes in second with 15% to the Netherlands (27%) in the percentage of daily trips made using bicycles. The city has come up with initiatives that have begun attracting children, adolescents, young adults and parents alike. These radical transformations include the ***velo op school*** program that aims to familiarise the art of cycling to adolescents and the implementation of the ***circulatieplan***, the successful policy that saw the increase in the percentage of those cycling in the city centre and ring road.

Velo op School:



Figure 4.1 *Velo op school*. Veloopschool.be. https://www.veloopschool.be/veilig-en-actief-verplaatsen [26]

Unique to Leuven and other municipalities in the Flemish Brabant region is the ***velo op school*** (English: '*bike at school*'); a programme that has been incorporated into the school curriculum for secondary school students. This is a mobility-sharing scheme that involves secondary schools mass buying a fleet of gender-neutral, fitting bicycles for their students for school trips to the swimming pool, sports halls, museums or libraries. All of these trips are to be mandated and supervised by their respective teachers and each request of a bike is €495 for the whole school year. Initially focused on secondary school students, the program has branched out to primary school students.

While it is seen as a huge potential for adolescents to get their recommended daily amount of exercise for the day, it also helps them to develop their confidence and street awareness when it comes to cycling in a cohesive and circular fashion. As observed in academic literature on cycling, '**individual**' and '**environmental**' factors play a strategic role in the encouragement of this mode of transport among a '**greater percentage of the underactive population**' (De Geus et al. 2008: 698) [27]. De Geus' research on 343 adults in Flanders wanted to '**investigate the difference in perception between cyclists and non-cyclists**.' It was founding in those who cycle on a regular basis '**have more often a cycling partner (social influence) who cycles with them**' than the person who does not cycle. Thus, it is vital that social bonding could play an essential role in boosting the cycling participation rate among adolescents. However, this would require local and government authorities to provide adequate infrastructure in order to ensure that this program runs smoothly. Equally as important is that this program has also been a very beneficial cost-saving function for the municipal authorities in Leuven, who fund a great proportion of these schools. For instance, since the beginning of the program, there has been a '***cancellation of two buses***' and thus

reducing the cost for the school and offering an improved air quality for the ever-increasing number of cycling students (Mourey 2019) [28]. Thus, the upward trend in cycling also spells the end of subsiding school transport by local authorities.

Circulatieplan:

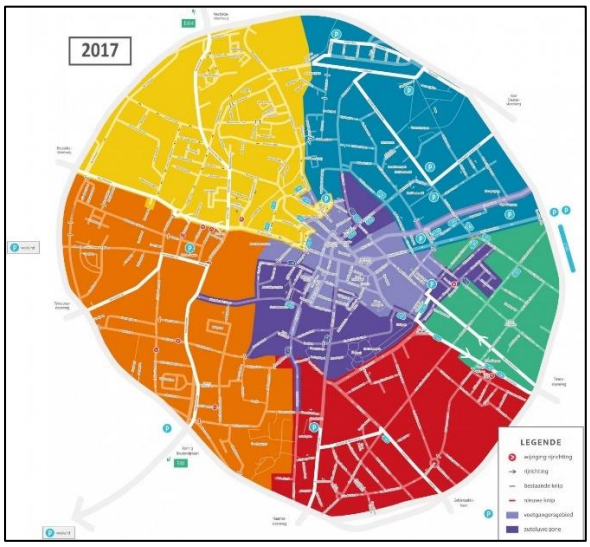


Figure 4.2 The traffic circulation plan that was introduced in Leuven in 2016. As one can see, five different zones were designated with a car-free cycling and pedestrian zone (coloured in **purple**) being created in the centre of the city. (Buczynski 2019). European Cyclists' Federation [29].

Largely inspired by the legacy of local politician Max van den Berg's plan to expel cars from Groningen city centre and therefore making it '*impenetrable*' to enter, Leuven proceeded to implement a similar plan in 2016 (van der Zee 2015) [30]. In **Figure 4.2** above, cars would still be granted access to the city centre, however this would mean driving using the external ring road. They were not allowed to access one zone from another, while buses and bicycles were. There were two policies enacted that facilitated this increasingly ubiquitous design. These included (Buczynski 2019) [29]:

- Shutting off motorised traffic '***entirely***' on some particularly short and narrow streets, including buses.
- Allowing for the introduction of a '***one-way traffic***' system for cars on selected areas of the streets, i.e. alternating direction at crossings. Only a contraflow system would be in place for bicycles and buses.

Much progress was recorded in the three years after these policies were enacted. While the total number of trips in the city has remained on par to those recorded prior to 2016, there has been a transformation in the bicycle-car traffic ratio. On average across 2019, it was discovered that the percentage of bicycle users and car users amounted to 48% and 49%, respectively. Before the circulation plan was implemented, the figure for trips made by bicycle users was at 34%, while it was 62% for car users. In both the city centre and on the ring road, a respective 44% and 32% increase was found among those who cycled (Desserts & Asparagus 2019) [31].

It has made Leuven a safer place for children to start cycling to school. Katrien Rycken, director of Leuven2030, an organisation that seeks to make Leuven a carbon-neutral yet

efficient economy by 2030, claims that the circulation plan has already received a lot of affirmation from parents, whose children "***were allowed … to go on their own by bike to school***" (Daunton 2022) [32].

5. Conclusion:

As we have seen above in the four cities with their promising and successful mobility plans for bicycle users, there are a multitude of opportunities for Cork and other Irish cities to implement.

The **provision of two-way bicycle tracks** (Coundon Cycleway and Binley Cycleway) that run through kilometres of the Coventry city centre is really encouraging. As we discussed earlier, two-way bicycle tracks that are segregated from vehicular traffic by kerbs has shown in other countries (most notably Montreal in Canada and municipalities in the Netherlands) to be very effective in providing safe conditions. Safety on the road is the top concern for the inhabitants of Coventry, as they feel that it hinders their chance of cycling. While there are some examples of this model in Cork (Merchant's Quay and Penrose Wharf – both in the heart of the city centre), it unfortunately is not continuous. This subsequently results in potential danger of those who cycle colliding with pedestrians at the traffic lights. In Figure 3.1 above, they have effectively highlighted the different modes that are apparent in society with space for those who wish to walk, cycle or drive [23]. It is very disorganised, on behalf of the Cork City Council, to just place cycling infrastructure on roads without considering the consequences of not covering all of the path above.

Traditionally, in both Cork and the rest of Ireland, there is a **striking imbalance** in the social demographic of those who cycle. It is paramount for the local authorities to make cycling an easier and enticing experience for more vulnerable groups such as women and children. We have seen from research proposals in Lille that surveyed the opinions and observations of women when it comes to cycling. For women, one-way cycle tracks are extremely preferential for women, while contraflow cycle tracks on traffic-calmed streets were the least preferential, with up to 23% of Lille women avoiding this type of infrastructure. It is especially advisory for municipalities to understand the importance of mothers when cycling. Therefore, it would be significantly advantageous if the city council would implement facilities that benefit mothers such as the provision of more bicycle trailer parking (especially near schools and supermarkets) and cargo-bike rental schemes that cater to mothers with two or more children. When it darkens quickly in the winter months, serious attention needs to be paid to the lighting of the cycle tracks, as most women find it dangerous and fear-inducing.

Cork City Council need to consider the results of successful initiatives for children's/adolescents' cycling such as ***velo op school*** and ***la rue aux enfants*** in Leuven and Bordeaux. It is critical to engage children in cycling to install 'good habits' and to reverse the unforeseen trend where more children are taking the car to school. On an anecdotal note, I remember taking cycling lessons in primary school and remember them taking place on an AstroTurf and footpaths. Learning to cycle off the road on a sports pitch is not productive to their mental awareness when it comes to observing traffic and their interconnectedness as a group. The City Council need to invest more in durable, long-length and protected infrastructure that would enable children to become more confident as they cycle into their adult years.

Shutting off motor traffic in all or some of the districts in the city centre (as shown in Bordeaux and Leuven) may just show the high potential cycling has in an urban setting. We have witnessed how many former drivers have now developed a more positive inclination towards cycling. As recorded in Leuven, the proportion of bicycle traffic in the three years after the implementation of the ***circulatieplan*** in the city centre almost doubled. They are now on the verge of surpassing the proportion of car traffic in the city. Similarly in Bordeaux, the crossings by bicycle over the bridge have increased by 80%. Radical action can be taken if it is carefully monitored. I suggest there would be no harm if the Cork City Council perhaps considered an initiative such as **motor-free Sundays**, where cars would be banned from the city and encourage pro-cycling and pro-pedestrian activities.

Bibliography:

[1] ADAV droit au vélo (May 2015). Dossier: Le vélo en chiffres (pg. 4). https://droitauvelo.org/IMG/pdf/heurovelo78.pdf

[2] LMCU Travel Survey (2006). The obsolete bike in Lille? ADAV – Droit au Vélo. https://droitauvelo.org/Le-velo-desuet-a-Lille

[3] 20minf (30th June 2021). How Lille wants to develop cycling with 100 million euros. Teller Report. https://www.tellerreport.com/news/2021-06-30-how-lille-wants-to-develop-cycling-with-100-million-euros.r1zfVEkcn_.html

[4] France24 (16th April 2015). '100% of French women' sexually harassed at least once on public transport. France24.com. https://www.france24.com/en/mediawatch/20150416-100-french-women-sexually-harassed-least-once-public-transport

[5] Tait et al. (2023). Contraflows and cycling safety: Evidence from 22 years of data involving 508 one-way streets. ScienceDirect. https://www.sciencedirect.com/science/article/pii/S000145752200330X

[6] YouGov & VanMoof (2021). 43% badge safety a priority to stimulate ridership, says YouGov study. Cyclingindustry.news. https://cyclingindustry.news/cycling-safety-priority-says-yougov-study/

[7] Psa1966 (8th October 2018). One way, raised Stormwater Cycletrack in Emeryville, CA. Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Shellmound_Stormwater_Cycletrack.jpg

[8]. Bridge, A. (2015). Contra-flow cycle lane sign, University Square, Belfast. Geograph.ie. https://www.geograph.ie/photo/4758627

[9] Anon (9th February 2021). Women & Cycling: Lille Case Study (France). Copenhagenize.eu. https://copenhagenize.eu/news-archive/2021/2/8/women-amp-cycling-lille-study-case-france

[10] Jahns, M. (28th June 2022). 10 Best Cities for Cyclists in the World. ISPO.com. https://www.ispo.com/en/markets/these-are-10-best-cities-cyclists

[11] Marrec, S. (7th August 2019). Bordeaux, the spectacular triumph of cycling in figures. Weelz! https://www.weelz.fr/fr/bordeaux-spectaculaire-triomphe-velo-chiffres/

[12] Vélo-Cité (11th January 2019). Vélo-Cité reacts to the decree of the Stone Bridge which was attacked. https://velo-cite.org/2019/01/11/velo-cite-continue-de-defendre-le-pont-de-pierre-apaise/

[13] Raibaud, Y. (25th May 2020). Are women and men equal on the bike? CNRS – Le Journal. https://lejournal.cnrs.fr/billets/femmes-et-hommes-sont-ils-egaux-a-velo

[14] Ifop (2020). PARENTS AND TRANSPORT BETWEEN HOME AND SCHOOL. IFOP. https://www.ifop.com/publication/les-parents-et-les-transports-domicile-etablissement-scolaire/

[15] Transport Data Centre, Household Travel Survey, Summary Report 2001, 2001Sydney, Australia Sydney Statistical Division, NSW Department of Transport. https://academic.oup.com/her/article/23/2/325/631732

[16] Department for Transport (2004). National Travel Survey: 2004, Transport Statistics Bulletin., 2005 London, UK Department for Transport. https://academic.oup.com/her/article/23/2/325/631732

[17] Berthet, V. (18th June 2021. In Bordeaux, the "children's streets" sound the end of recess for motorists. Rue89Bordeaux. https://rue89bordeaux.com/2021/06/a-bordeaux-les-rues-aux-enfants-sonnent-la-fin-de-la-recre-pour-les-automobilistes/

[18] Castle, Stephen (10th August 2020). A Push to Return U.K.'s 'Motor City' to Its Cycling Roots. The New York Times. https://www.nytimes.com/2020/08/10/world/europe/uk-coventry-cycling.html

[19] Lawrence, R., Shoaf, L. & Williams C. (8th February 2019). A Common Approach to Cycling and Walking in the West Midlands. West Midlands Combined Authority. https://governance.wmca.org.uk/documents/s2574/Report.pdf

[20] Transport for West Midlands (May 2022). West Midlands: Walking and Cycling Index 2021. https://www.sustrans.org.uk/media/10493/west-midlands-walking-and-cycling-index-2021.pdf

[21] Coventry City Council (2022). Coundon Cycleway. https://www.coventry.gov.uk/pollution-1/air-quality/5

[22] Lusk AC, Furth PG, Morency P, Miranda-Moreno LF, Willett WC, Dennerlein JT. Risk of injury for bicycling on cycle tracks versus in the street. Inj Prev. 2011 Apr;17(2):131-5. doi: 10.1136/ip.2010.028696. Epub 2011 Feb 9. PMID: 21307080; PMCID: PMC3064866.

[23] Johnson, M. (25th March 2022). Coundon cycleway still being built despite plans to open last December. Coventry Telegraph. https://www.coventrytelegraph.net/news/coventry-news/coundon-cycleway-still-being-built-23480211

[24] Schmalholz, N. (17th February 2021). That Leuven Feeling. POLIS – Cities and Regions for Transport Innovation. https://www.polisnetwork.eu/article/that-leuven-feeling/

[25] Vandenberghe, D. (3rd June 2019). The Rediscovery of the Bicycle. The Low Countries. https://www.the-low-countries.com/article/the-rediscovery-of-the-bicycle

[26] Velo op school. Veloopschool.be. https://www.veloopschool.be/veilig-en-actief-verplaatsen

[27] De Geus, Bas & Bourdeaudhuij, Ilse & Jannes, Caroline & Meeusen, Romain. (2008). Psychosocial and environmental factors associated with cycling for transport among a working population. Health education research. 23. 697-708. 10.1093/her/cym055.

[28] Mourey, T. (1st September 2019). Family Values. POLIS – Cities and Regions for Transport Innovation. https://www.polisnetwork.eu/article/family-values/

[29] Buczynski, A. (24th July 2019). 32% more Cycling in one Year after Eliminating through Car Traffic from the Centre of Leuven. European Cyclists' Federation (ECF). https://ecf.com/news-and-events/news/32-more-cycling-one-year-after-eliminating-through-car-traffic-centre-leuven

[30] Van der Zee, R. (29th July 2015). How Groningen invented a cycling template for cities all over the world. The Guardian. https://www.theguardian.com/cities/2015/jul/29/how-groningen-invented-a-cycling-template-for-cities-all-over-the-world

[31] Desserts, D. & Asparagus T. (27th September 2019). 44% more cyclists in Leuven city center. Pers Leuven. https://pers.leuven.be/44-meer-fietsers-in-leuvense-binnenstad

[32] Daunton, N. (17th June 2022). Leuven: This forward-thinking city has banned cars from its centre. Euronews.com. https://www.euronews.com/green/2022/06/16/leuven-this-forward-thinking-city-has-banned-cars-from-its-centre