

**‘Petal to the metal’: Exploring the use of bikes as a method of delivery for Greater Manchester’s florists**



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Author declaration:

I 9109392 confirm that this report is based on my own work and that I am happy with both my own and my partner's (8986672) contribution to the final submitted version.

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## **List of Abbreviations**

**CCLEIP** - Climate Change and Low Emissions Implementation Plan

**DW** - David Wayman

**FF** - Frog Flowers

**FS** - Flower Style

**GM** - Greater Manchester

**GMCA** - Greater Manchester Combined Authority

**NF** - Northern Flower

**TMF** - The Manchester Florist

**V** - Venus

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## **Executive Summary**

Greater Manchester has a plan to reduce carbon emissions and develop a low carbon economy. Transitioning to a more sustainable form of inner city logistics is one option to realise this potential. The economic and environmental benefits of switching to bikes as a mode of logistics is well documented. However, many barriers have been addressed as to why this is still a niche. This report provides a platform and a voice from Manchester's floristry sector for GMCA to utilise. Six semi-structured interviews with owners of florists in Manchester's city centre were conducted. A market for switching to bikes as a form of delivery in Greater Manchester's florists has been found. However, a poor road and cycling infrastructure, no access to a bespoke bike, a lack of trust outsourcing to logistics firms, and security concerns are barriers to this switch. This report suggests that for cycle couriership to expand in GM, a better integration with cargo bike schemes, a more thorough network of cycling infrastructure, and a greater collaboration with other stakeholders is needed. Prompts for further research are two-fold. This report suggests a need for a greater understanding of needs of other industries in GM and a greater understanding into the practicalities of integrating cargo bikes into the urban and digital infrastructure.

## 1.0 Introduction

The Greater Manchester Combined Authority (GMCA) has created the Climate Change and Low Emissions Implementation Plan (CCLEIP) and has devised a low carbon plan for Greater Manchester (GM). This plan's objectives are to improve air quality through reduced carbon emissions and promote low carbon economic growth opportunities. Transport contributes to 37% of CO<sub>2</sub> emissions savings between 2014-2020 (GMCA, 2016). Urban freight and inner city logistics are central to the UK economy (Schliwa *et al.*, 2015). Therefore, developing a sustainable low carbon city logistics network presents an opportunity to both catalyse vital emissions savings and to encourage a low carbon economy. This report addresses the barriers to potential growth of cycle logistics in GM.

The scope of sustainable city logistics has been well documented and positively discussed; between 25-51% of all motorised logistical trips in European cities could be completed by bike (Schilwa *et al.*, 2015). There are strong economic incentives for cycle couriering, for example delivering by bike is said to be 98% cheaper per km than by van (De Decker, 2012). Currently the EU economy loses roughly 1% of GDP to congestion (European Commission, 2011). As urban freight vehicles account for 6-18% of total urban travel (Figliozzi, 2010), switching to sustainable transport modes of inner city logistics can address this economic loss.

Despite these benefits and a growing momentum of interest, cycle logistics is currently a niche industry which has limited research into its utility (De Decker, 2012). Of the research that has been done, several barriers have been addressed. A recent European study found that security of bikes, equipment and cargo is considered a major risk. In addition, the capacities of the bike to carry the size of the cargo it requires is perceived as a barrier. Another barrier of paramount importance is the access to cargo bikes for businesses. The EU funded Triangulum project loans out electric cargo bikes to businesses to address this barrier. Manchester is one of their 'lighthouse cities' and hence this report will discuss the scheme's integration in Manchester. Unfavourable traffic conditions was also said to be a barrier, with busy, fast moving traffic causing cyclist safety to be minimal. In sum, the

combination of the barriers discussed helps illustrate why cycle logistics is minimally prevalent.

Floristry is the production, commerce and trade in flowers and is a typical example of the delivery of goods in a regional economy. This report, which focuses on both cargo bikes and bicycles, will address the potential for Manchester's florists to switch to bicycles as a form of delivery and provide insight into cycle logistics in GM. Addressing the barriers in Manchester's floristry sector may help to expand the cycle logistic market within the city-region. One potential way of expanding the market could be businesses in GM specifically outsourcing to cycle logistics firms. Knowledge of the range of bikes that are available, the range of best practices for carrying capacities and a specific focus on the floristry will also be required to expand the sector.

This report will provide a platform and a voice from Manchester's florists in GMCA. Insight can help GMCA to make a case for greater investment in the resources and infrastructure required to expand cycle logistics. This could help GM to achieve its potential as a low carbon innovator and leader in cycle logistics in the UK. This report also illustrates and will provide substance to other challenges that GMCA and other stakeholders in GM face. This includes reducing congestion in the city centre, growing the size and presence of companies in the low carbon sector and increasing public awareness of climate change. It is important to note that the sector specifics for floristry means that not all the findings can be extrapolated to all sectors, however it does provide useful insight.

Three research questions will determine the exact areas that need greater resources, investment, and attention.

#### Research Questions:

- Is there a market for local flower delivery by bicycle in Manchester?
- What are the main barriers faced by floristry cycle couriers in Manchester?
- What insight does this provide for cycle couriers in Manchester?

## **2.0 Methodology**

### *2.1 Semi-structured interviews*

To collect data that understands the specific barriers faced by florists in GM, a primary quantitative data method was chosen. Collecting primary data ensures that there is a high relevance between the data collected and the question being answered (Ghauri and Gronhaug, 2010). Six face-to-face interviews were conducted. They took a semi-structured style, which allowed for elaboration (Gill et al., 2008) and offered participants the opportunity to explore issues they felt most important (Longhurst, 2010). The interview questions were constructed around the main aims of both expected and unexpected barriers. All interviews were transcribed and coded to highlight key themes and dominant responses. These have been briefly discussed in 1.0. The open-ended questions asked are stated below:

### *2.2 Example of interview questions*

1. How do you deliver your flowers?
2. Would you consider using cycle couriering?
3. Where do you deliver your flowers?
4. How do you think the road infrastructure affects delivering by bike?
5. Would you consider outsourcing to a cycle logistics firm?
6. Is security of the flowers being transported of concern to you?

### *2.3 Sample selection*

A Google search was conducted to locate and determine all florists in Manchester city centre. Independent florists were favoured over national chains as it meant that the interview was conducted with the owner of the shop. This gave more insight into specific barriers as owners are the key decision makers, and have full autonomy over switching to a different transport logistic method.

## 2.4 Map of participants

Figure 1 shows the location of the six florists that participated in the study. This map demonstrates their close location to the city centre and geographical proof of the potential market for inner city deliveries.

### Map of participants

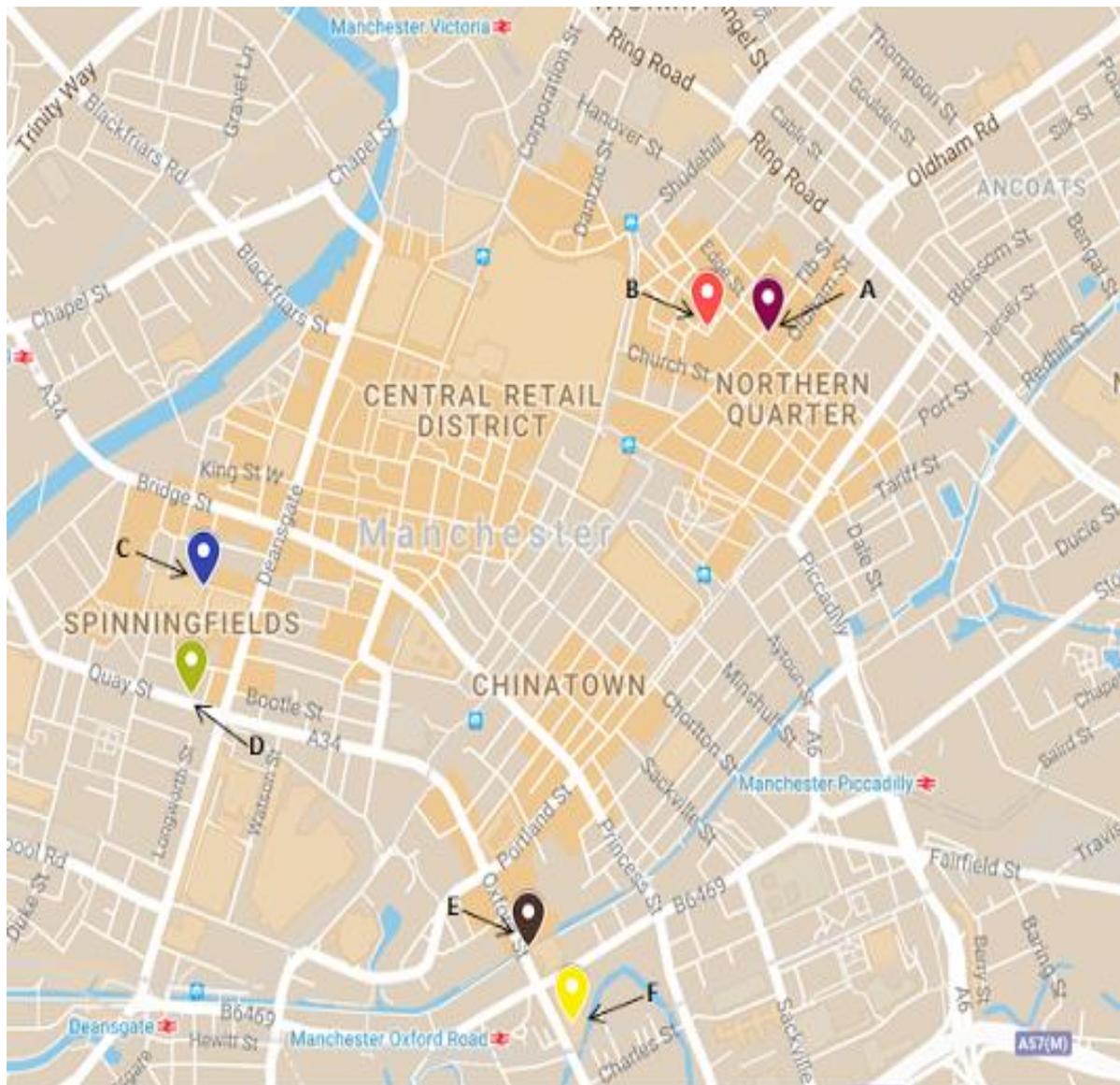


Figure 1. Source: Google Maps

## 2.5 Table of participants

The six florists that were interviewed are stated in the table below (figure 2). All interviews were held in the respective florists. They will continually be referred to by their abbreviations (figure 2) in the results section.

<b>Florist</b>	<b>Interview Date</b>
David Wayman (DW). Location: D	25/04/2017
Frog Flowers (FF). Location A	25/04/2017
Northern Flower (NF). Location B	26/04/2017
Venus (V). Location E	26/04/2017
The Manchester Florist (TMF). Location F	26/04/2017
Flower Style (FS). Location C	26/04/2017

Figure 2. Table of participants

### 3.0 Results and Discussion

Section 3.0 will discuss the responses to the six semi-structured interviews that were conducted and provide an in-depth analysis of the findings. This section will be structured around the key themes that were visible in the data.

#### 3.1 Proximity in deliveries

The initial questions illustrate a market for cycle logistics in the floristry sector. The proximity of deliveries appeared to be a main driver for this need. For FlowerStyle “most of (their) delivery is for the city centre so a bike would be good” (FS), as they “deliver to shops, restaurants and businesses” (FS). For David Wayman, they “deliver every day in the Greater Manchester area” (DW) and they “go around on a bike sometimes, literally putting flowers on handlebars” (DW). Venus currently utilise GIIN, which is a cycle couriership service. Finally, Northern Flower (NF) sometimes walk to deliver flowers due to the locality of deliveries. The florist's clientele is usually within a close distance. Therefore, there is the potential to shift towards cycle couriers as a form of delivery.

#### 3.2 Efficiency

Evidence from the literature has shown that cycle couriers can make more drops in a shorter period (European Commission, 2015). FF epitomised the consensus that delivering by bike is more time efficient within the city centre, opposed to delivery by van. This is due to ‘one way streets’ (FF), a ‘greater amount of bus lanes’ (TMF), and general overall congestion. Additionally, parking a van close to where flowers are being delivered was another issue. Cycle couriership was therefore cited for its time efficient benefits.

#### 3.3 Image

Delivery via bike was viewed as fitting well with the image of each of the participants’ shops. Being eco-friendly and sustainable is currently very fashionable and can act as a unique

selling point for businesses. This is true for with florists that sell Fair Trade and eco-friendly flowers such as NF. Both FF and NF specifically discussed how a bicycle can be used as an accessory to help brand their shop. Other florists such as FS and DW mentioned the potential benefits of a branded bike cycling around Manchester, helping to advertise their company as being environmentally friendly. Figure 3 demonstrates the design of four of the participant’s shops. This supports the idea that a bicycle with a delivery box attached to it would fit with the image of the shop.



Figure 3: Image of florists.(Top left: David Wayman. Top right: Northern Flower. Bottom left: Frog Flowers. Bottom Right: The Manchester Florist)

Evidently, there is a definite scope for florists to switch to a cycle form of logistics, due to close delivery locations, efficiency in drop offs, and improving the image of their shop. This answers sub-research aim one.

### *3.4 Infrastructure*

#### *3.41 Pothole problems*

Poor road infrastructure in the city centre emerged as a significant barrier for cycle couriers as a method of delivery. Uneven road surfaces, with specific reference to potholes, was a recurrent theme. NF said potholes has a potential to *'bruise flowers'* (NF). A significant amount of road works currently being undertaken within the city centre meant that FF and NF feared that soot could contaminate flowers being delivered. Similarly, the *"excess"* (DW) of road works appeared to increase time of drop offs, and *"heighten risk for riders"* (FS) when delivering.

#### *3.42 Cycling infrastructure*

Poor cycling infrastructure throughout the city centre has caused significant barriers to emerge. A lack of thorough infrastructure caused a poor transition from cycle lanes to the road which appeared to put off some cyclists. For FS, *"no bike lock ups"* (FS) meant a feeling of insecurity and fears that extra bouquets or the bike itself could be vulnerable to theft. It should be noted that the recent improved cycle infrastructure was discussed in a positive light by many of the florists and will hopefully aid the cycling couriers scene in Greater Manchester.

### *3.5 No access to a bespoke delivery bike*

All participants did not currently have a bike that could be used to deliver flowers. Additionally, several participants (V, FS) did not want to take the risk of buying and developing their own bike at the moment. This was due to the uncertainty associated with

altering their business models, and the current lack of cycle couriership. Developing a bespoke bike formed part of this conversation and would help to combat barriers associated with poor road infrastructure and weather. The high asking price for arranged flowers relies on the overall presentation. An enclosed box with several compartments was a novel idea that would help to maintain overall presentation. As such, a lack of bike and a requirement to develop a sufficient carrying capacity of a bike caused participants to be deterred.

### 3.6 Trust

Recent research has cited the need to create conditions to incentivise large logistic companies to integrate cargo cycles specifically into their supply chain (Schilwa et al., 2015). The maintenance of image is in the hands of the cycle courier which relies heavily on trust. Outsourcing to a cycle logistics firm is considered an option for florists to do deliveries, however trust in such firms was an underlying theme. NF shows uncertainty in their response; *'you don't know whether they are going to arrive or how careful the rider will be'* (NF). This shows a lack of trust and levels of uncertainty regarding the presentation of the flowers at the end of the journey. V agrees with NF stating that *'it would be a case of using the bike ourselves because the worry they would treat the flowers poorly'* (V). Similarly, for FF, they said they would be *'scared'* (FF) if the goods arrived damaged with their name on it. As such, this presents a gap in the market for a cycle couriership service that focuses specifically on flower deliveries.

### 3.7 Regulation

As a response to a lack of trust when outsourcing to a cycle logistics firm, many florists considered using their own riders to deliver flowers. This ensured the image of the shop and quality of the final product was in the hands of the florist. However, an issue that arose with FF was whether the business had an obligation if an employed rider was to get injured. As cycle logistics is yet to be fully utilised in Manchester, there is an apparent lack of regulatory understanding about rights and expectations of employers to bike riders.

## 4.0 Next Steps

Following from the data found in 3.0, there is evidently a desire for Manchester's florists to switch to bikes as a method of local delivery. However, significant barriers have emerged. This includes having no bike that has been specifically made to transport flowers, a poor road and cycling infrastructure, a lack of trust when outsourcing, and poor regulatory incentives.

### *4.1 Utilising the Triangulum scheme*

As previously discussed, the EU funded Triangulum project loans out electric cargo bikes to businesses. With Manchester as its 'lighthouse city', this scheme could result in florists initially gaining access to a free bike e.g. they could sign up through the Twitter app. They could then devise a business model that uses bicycle delivery, before buying and developing their own bike at a later date. This addresses the need for a bespoke delivery bike as discussed in 3.4. Schemes such as these can provide additional opportunities for different sectors and stakeholder groups.

### *4.2 Regulatory clarity from GMCA*

This study suggests that Greater Manchester needs to provide greater clarity towards a cycling regulatory framework regarding rider safety. The rider's safety is of utmost importance and creating a framework that supports this will incentivise cycle couriership. Overall, this presents a fantastic opportunity for GM to be a UK role model for cycling safety policy. In reference to planning decisions, increasing the costs of driving and parking can disincentivize motorised courier delivery and promote cycle couriership (Schilwa et al., 2015). Therefore, it could act as an enabler to achieve a cycle dominated 'last leg of logistics' economy.

### *4.3 Further research*

This qualitative research, although unique in its nature, has taken a sole focus on florist owners. The University of Manchester should have a role to ensure that expert knowledge and robust evidence is collected to expand understanding beyond floristry. Further research could be focused on the practicalities of integrating loaned cargo bikes into the urban and digital infrastructure of GM.

### *4.4 Influencing other stakeholders in GM*

GMCA can use this insight to influence other key governance stakeholders in GM's low carbon aim. For instance, improving the road and cycling infrastructure is a suggestion that can be made to Manchester City Council, who are currently attempting to increase their understanding of the new cycling infrastructure being built. Additionally, Arup are attempting to build digital infrastructure in GM. The cycle logistics market could be expanded through greater integration of a cargo bike loaning scheme with Arup's digital infrastructure which could be monitored by data collection. It is important to note that cross collaboration by GMCA with key stakeholders can increase support for cycle logistics.

## **5.0 Conclusion**

The low carbon plan has been formulated in GM and the benefit of integrating a more sustainable urban logistics network has been made obvious. Evidently there is a market and the willingness to switch to a sustainable form of logistics in GM's floristry sector. However, this will struggle to be achieved without improvements to road and cycle infrastructure and better access to bikes that are made specifically for the cargo they are delivering. Greater collaboration with bike schemes and further research of the practicalities of their implementation is also required. This could make GM a leader in cycle logistics in the UK and help it achieve its low carbon potential.

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