

FOOD FOR THOUGHT:

THE RISE OF ON-DEMAND FOOD DELIVERY SERVICES AND GROWING NEED TO SWITCH THESE JOURNEYS FROM MOTORS TO MUSCLE, A CASE STUDY OF LONDON

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‘Climate Crisis - what more can Transport Planners do to address the climate emergency?’

INTRODUCTION

Unpicking London's Context

London, like most global cities, has seen an unprecedented increase in the past five years of on-demand food delivery services such as Deliveroo, UberEATS and Just Eat. While takeaways have been a popular form of dining in Britain for the past few decades, the rise of digital technology is dramatically reshaping the food delivery market.

The emergence of technology has led to a change in consumer preference all around with customers now choosing to shop online through apps or websites due to it offering maximum convenience and transparency (Hirschberg et al, 2016). Increasingly consumers are expecting this same experience when it comes to ordering food.

The Takeaway Economy Report in 2017 revealed London as the UK's takeaway capital with an impressive £1.4 billion spent on takeaways in 2016 alone, which translates to an average household takeaway expenditure of £36 per month. The report anticipates that the UK's market is expected to continue its high growth trajectory, increasing in value from £9.9 billion in 2016 to £11.2 billion by 2021.

However, while the market's growth is widely reported, the means of how these deliveries are fulfilled in London is underreported and poorly understood. The only research that has sought to quantify and reveal how London's food deliveries are transported was conducted by Transport for London in 2007. The report revealed that 92% of London's 13,000 food riders used motorcycles to make their deliveries, while only a small proportion of food delivery companies (16%) had cycle riders. Although this information is useful, it is difficult to draw inferences from on how operations are currently run, as since 2013 a new business model of food delivery emerged.

Traditionally, food delivery companies gave consumers the option to compare menus from a range of restaurants and order their meal with a single click. New delivery players such as Deliveroo not only allow their consumers to do this, but unlike traditional food delivery companies like Just Eat, they build their own logistics network to provide delivery for restaurants that do not have their own riders. In contrast, pioneer businesses simply take orders from customers and send this to the restaurant who handles the delivery themselves (Hirschberg et al, 2016).

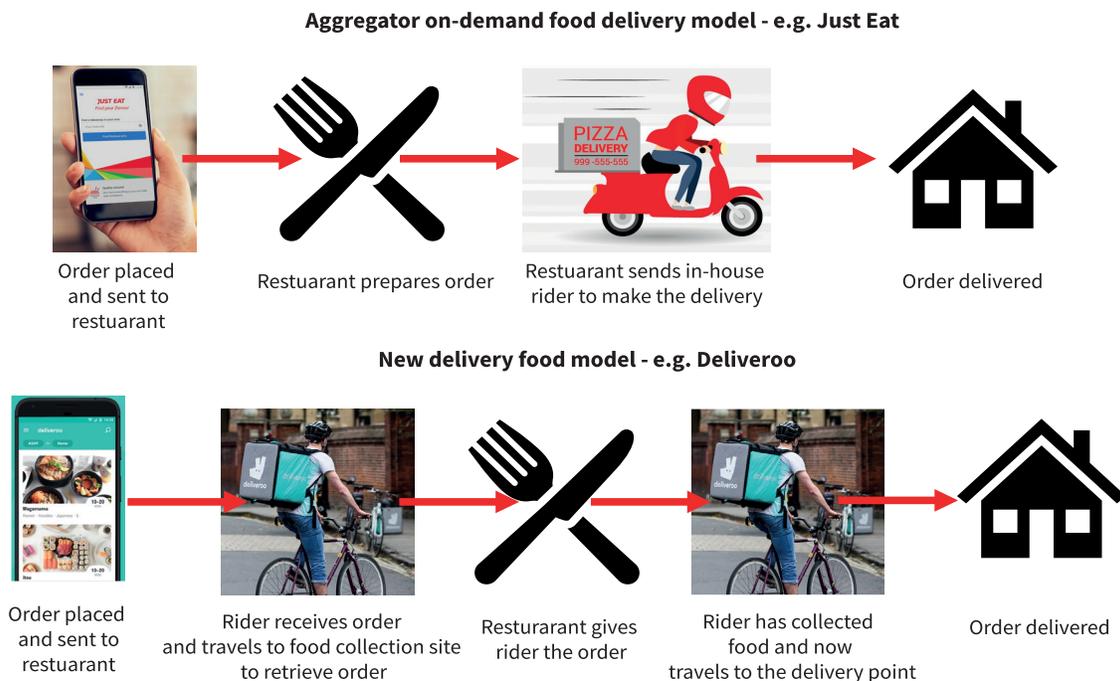


Figure 1: Two types of on-demand food delivery business models.

Figure 2: Profile of London's primary on-demand food delivery companies.



Daughter company of Uber, started operating in London from 2016 (Allen et al, 2018).

The company's close affiliation with Uber has resulted in many of their marketing campaigns for food delivery featuring Prius' – Uber's signature vehicle.



Founded in 2013, one of the new food delivery players in London.

Self-identifies as socially responsible by using a fleet of environmentally friendly vehicles, namely bicycles and scooters.

Issued a statement declaring "other services should follow its lead, and regulators should encourage the use of environmentally friendly vehicles for on-demand delivery" (Deliveroo, 2016, pg 2).



Largest platform food provider in the UK, founded in 2001.

Traditionally used an aggregator business model. In 2018 announced £50 million to launch their own fleet to provide a staffed delivery service.

Most of the investment has been put towards providing scooters for riders.

If the market grows in line with expectations, and these journeys continue to be delivered predominantly by motorcycles, there will be huge environmental ramifications for London. A powered-two-wheeler (P2W), also known as a motorcycle or moped emits between 82 – 133g of CO₂ every kilometre (Allen et al, 2018), adding to London's growing poor air quality and the global climate crisis. Therefore, further research into how food deliveries are made in London must be conducted to identify policies and interventions to encourage riders and food delivery companies to switch these journeys from motors to muscles.

This paper will seek to plug this research void by firstly conducting a literature review that will situate riders' rights within London, the transportation aspirations of Central and Local government and unpick the factors riders will have to consider before deciding on their transport choice. Findings from surveys and interviews with delivery riders will then be presented alongside evidence from a desk-based review of the actions London's key food delivery companies have or are taking, to encourage their riders to use sustainable transport. To conclude, a series of recommendations will be suggested showcasing a range of interventions and policies that food delivery companies and policymakers could enact to encourage active transport for food deliveries in London.

LITERATURE REVIEW

Riders Rights in the Gig Economy

Britain has a booming gig economy, with over 4.7 million workers (Partington, 2019). The gig economy describes the proliferation of digital platform-based companies such as Uber and Deliveroo that hire independent contractors and freelancers instead of full-time employees. This new way of working has flexibility at its core, where workers are paid for each 'gig' they complete such as a food delivery drop (Bristow, 2018).

Under the current government, this type of labour market has flourished. However, despite the flexible work this offers, riders who deliver on behalf of big companies such as Deliveroo and UberEATS are currently excluded from accessing workers' rights like sick leave and notably in the context of transport, access to benefits aimed at encouraging sustainable transport like the cycle to work scheme due to their employment status.

Whether gig economy workers should be classified as self-employed has been the subject of great scrutiny; with riders and unions taking legal proceedings against food delivery companies and carrying out strikes over their lack of employment rights and pay (Tobin, 2018).

Riders current employment status and the benefits available will likely affect how they choose to make deliveries. As shown in Figure 3 the range of benefits that concern active travel is limited.

BENEFITS RIDERS HAVE ACCESS TO

- Motorcycle/moped fuel allowance.
- Cycle mileage at 20p per mile, although it is believed that many riders do not claim this (Allen et al, 2018).
- Insurance and medical treatment (up to £7500).
- Up to £1million cyclist liability cover.

BENEFITS RIDERS LACK ACCESS TO

- Sick pay.
- Cycle to work scheme - tax incentive scheme where employees can benefit from purchasing a bicycle and accessories VAT free.
- Vehicle provided e.g. bicycle or moped.
- Vehicle insurance and MOT.

Figure 3: Overview of benefits riders working for on-demand food delivery companies have, and do not have access to.

Vehicle type	Approx. purchase cost (£)	CO ₂ per km at point of use
Manual bicycle	£100-£2,000	0 ^a
Cargo cycle	£2-2,500	0 ^a
Electrically-assisted cargo cycle	£2-4,500	0 ^a
Moped	£1-5,000	82 g / km ^b
Motorbike	£5-15,000	82-133 g / km ^c
Car	£10-15,000	118 g / km ^d
Small van	£10-15,000	148 g / km ^e
Medium van	£15-20,000	233 g / km ^e
Large van	£15-25,000	274 g / km ^e

Figure 4: Approximate cost and CO₂ released per km per vehicle type. (Allen et al, 2018. *An Analysis of the same-day delivery market and operations in the UK*. Pg 91).

Deliveroo reports that students are the largest demographic of rider, accounting for 50%. The inherent cost-sensitivity of this group, combined with the low initial and running costs of a bicycle would intuitively lead to high popularity - the fact it does not signifies that there are other factors at play when riders choose their mode (Allen et al, 2018).

Transport for London's Attitudes Towards Cycling (2016) survey revealed the greatest barrier preventing Londoners from starting cycling is the fear of it not being safe, with 55% of participants stating that they are worried they will be involved in a collision.

Taking into consideration the lack of available benefits to incentivise riders to choose cycling, compounding this against a culture of motorised vehicles and the absence of sick pay, it is anticipated that this will be a key trade-off the riders will have to negotiate when picking a vehicle. For riders that resonate with the aforementioned 55%, the lack of incentives and sick pay will likely prevent individuals from even considering cycling.

Rider vehicle choice

Allen et al (2018) note that several factors influence the transport choice of a same-day delivery rider. These include the distance of which goods are to be transported, the size/weight of the items, existing traffic regulations, congestion, and who is responsible for providing the vehicle.

In terms of the distance range of a vehicle, e-bikes are revolutionising last-mile deliveries with their added ability to travel further than a normal bicycle, but with less physical exertion required. There has been a plethora of research investigating the benefits of e-bikes in logistics and the potential they could bring to change deliveries.

Reid (2019) highlights that one courier firm in London compared the efficiency of an e-cargo bike versus a van to make a series of deliveries. They found that a van made 10 - 12 deliveries a day on average, while the e-cargo bike achieved more than 30. Low traffic speeds caused by congestion, in addition to the problem of having to find a parking or loading bay added crucial minutes to the van's journey, giving the e-cargo bike the competitive edge.

Similar findings were echoed by Deliveroo who revealed that cyclists make their deliveries faster than cars and P2Ws in cities, thanks to the smartphone journey data of their riders. They attributed this to the time drivers take to find a parking space; time cyclists use to pedal to their destination (Reid, 2018).

While the range of a van and P2W is greater than a bicycle, the distance from a food order site to a consumer's home is usually relatively short, typically less than 2-3 miles. Therefore, the distance that a motorised vehicle can cover is not as important of a factor (Allen et al, 2018).

However, while this research points to the answer that the future of on-demand food delivery services should be made by active travel, as Allen et al (2018) highlight P2Ws do have a higher maximum speed than a bicycle (see Figure 5), particularly when factoring the sustained physical exertion of using a manual bicycle for multiple hours causing a reduction in sustained speed.

Figure 5: Comparison of same-day delivery vehicle speeds (Allen et al, 2018. *An Analysis of the same day-delivery market and operations in the UK*. Page 90).

	Typical day time speed in central London / other major urban area	Maximum speed permissible in urban area	Maximum speed permissible on non-urban major road
Manual bicycle / cargo cycle	10-15 mph	Technically unlimited	Technically unlimited but limited by human capability to approx.30-50 mph (and not allowed on motorways)*
Electrically-assisted cargo cycle	10-15 mph	15.5 mph	15.5 mph (and not allowed on motorways)**
Moped	10-15 mph	30 mph	31 mph (and not allowed on motorways)
Motorbike	10-15 mph	30 mph	70 mph
Car	8 mph	30 mph	70 mph
Van	8 mph	30 mph	70 mph

Additionally, while e-bikes are an efficient vehicle choice, it is important to recognise that their cost can be equal, and in some cases, greater than a P2W, preventing riders from adopting this choice. Therefore, government interventions and policies are needed to help shape a rider's choice in favour of sustainable transport.

The Mayor of London's ambitious Transport Strategy sets out a vision to increase the number of journeys made by active and sustainable transport to 80% by 2041. To achieve this there has been great investment improving and installing segregated cycling infrastructure throughout London, in addition to local authorities (LA) and TfL working on innovative neighbourhood changes through Liveable Neighbourhood Programmes to make these choices as attractive as possible.

Accompanying physical changes to the city, TfL has also tightened regulations to discourage polluting vehicles to address London's growing air quality issues through the implementation of an emission-based charging scheme known as the Ultra-Low Emission Zone (ULEZ) in April 2019.

The scheme charges vehicles that do not meet strict emission standards a daily rate to enter Central London and is expected to extend to cover areas that fall within the North/South

Circular Boundary in 2021. The implementation of this policy prioritises active and sustainable transport, with all types of bicycle exempt from the charge.

Arguably, unlike other same-day freight deliveries such as online shopping, takeaway food orders are time-critical. A study across sixteen European countries revealed that 60% of consumers view speed as the most important factor in their customer satisfaction, with 60 minutes being the optimal time to wait from placing to receiving their food order (Hirschberg et al, 2016).

Subsequently, the vehicle choice of a food delivery rider is multifaceted. A food-delivery rider's transport choice is more than a simple reflection of their beliefs; but influenced by wider societal transport norms, the affordability and practicalities of vehicles, their employment status and benefits available, government policies, and expectations of customers.

METHODOLOGY

Primary research with former and current food delivery riders in London was conducted through an online survey composed of both closed and open questions which were posted to several online food delivery rider forums and groups. This was opted for as these channels provide the “potential to access geographically distributed populations” (Madge, 2012, pp.176), making it the most appropriate method to overcome the impracticalities of collecting a large dataset on site. Supplementing this, 57 in-person on-street surveys were conducted with riders to mitigate any sample bias, particularly as using online forums and groups may indirectly promote selective participation with only active community members contributing (Wright, 2005). The survey aimed to understand how riders currently make their journeys, the motivations behind their transport choice, understand what companies are currently doing to encourage sustainable transport and identify opportunities to further this.

In total 103 surveys were collected in October and November 2019. See Appendix A and B for the survey used and the list of forums and groups this was posted to.

Complimenting this, 15 semi-structured interviews with current London delivery riders took place in November. Interview participants were recruited by leaving their contact details on the survey form. The interviews sought to build on the information collected in the surveys but expand on possible interventions that could be adopted.

While the research sought to understand the ‘behind the scenes’ actions and views of the food companies through interviews, unfortunately, all companies that were contacted¹ did not respond to participate in this research. Despite this setback, a comprehensive desk-based literature review of published articles has been used in replacement to help inform what the companies are, and are not doing, to encourage their riders to use sustainable travel choices.

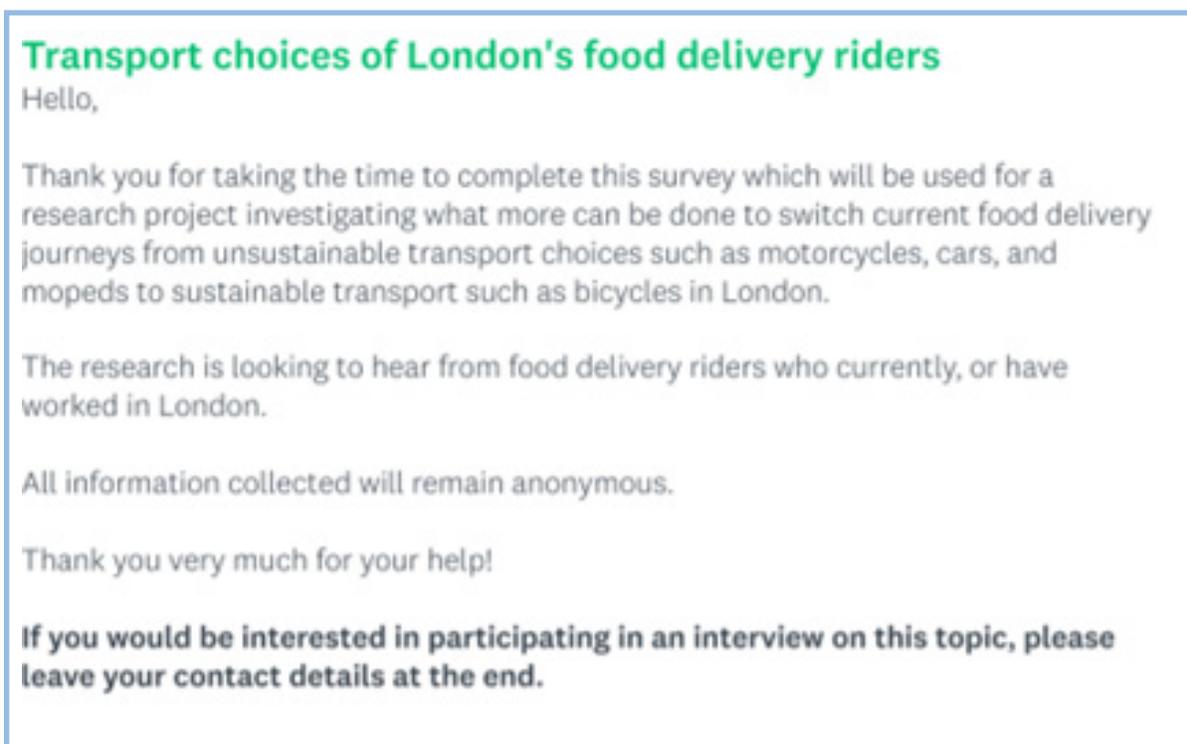


Figure 6: Screenshot of the introduction page of the online survey used in this paper.

¹ Deliveroo, UberEATS, Just Eat and Stuart.

DATA ANALYSIS

Rider Profiles

A series of demographic questions were asked to understand who the delivery drivers are, whom they work for, what vehicle they use and why. The demographics of a rider is important to consider as with the nature of the labour market, rider's beliefs will influence what vehicle they use (Allen et al, 2018).

Corroborating Allen et al's (2018) findings that state the majority of food couriers are men, 100% of the riders that participated in the survey were male, with 81% of respondents being between

18 – 34 years old. When asked why they choose to deliver, the primary reason was to earn extra money with 54%, while 52% noted that the flexible hours were attractive and 29% said that it provided a good opportunity to get fit.

When asked what companies a rider has worked or works for, 30% stated they have worked solely for Deliveroo, 24% have worked for Deliveroo and UberEATS while 21% have worked for Deliveroo, UberEATS and Just Eat.

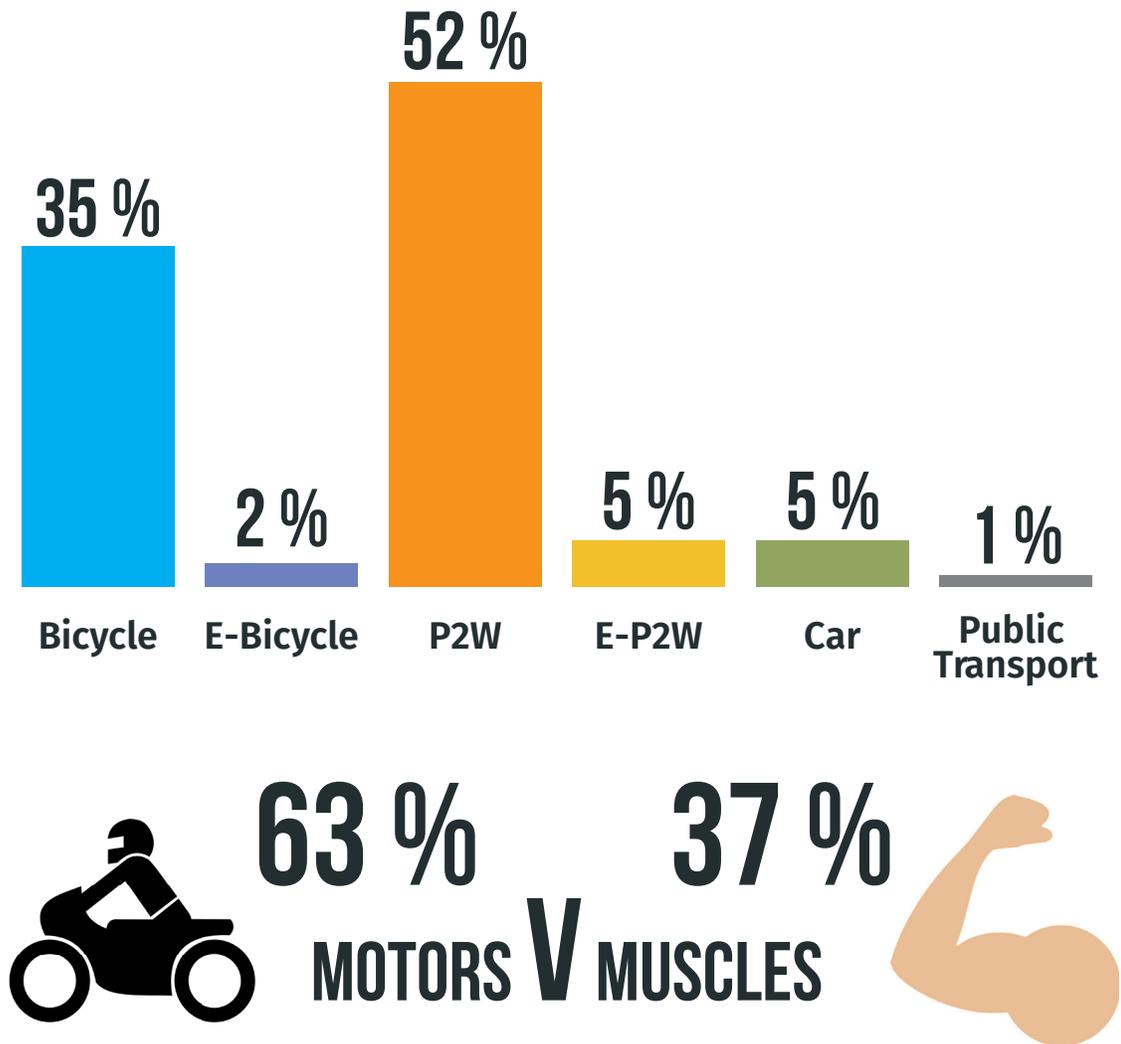


Figure 7: Modal split of on-demand food delivery riders.

Figure 8: Percentage of riders that make their deliveries using sustainable transport per company.



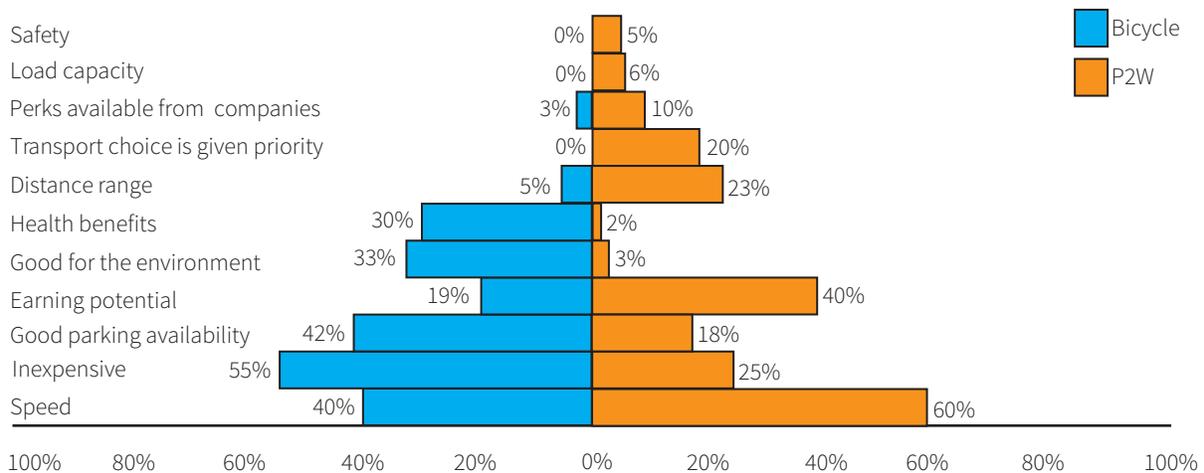
Interestingly 57% of riders that participated in this research claimed to use non-sustainable vehicles to make their deliveries, versus 43% of riders that use sustainable transport². Disaggregating the data further reveals that only 37% of riders travel actively.

Petrol- or diesel-powered P2Ws was the most popular vehicle accounting for 52% of journeys, followed by bicycles with 35%.

The rationale behind rider's transport choice varied per mode as depicted in Figure 9. The primary reason rider's cycle is due to the low cost, with 55% stating that cycling is inexpensive. The age of an average rider is likely to influence this, with many riders delivering part-time while studying therefore cycling keeps costs down to maximise their potential earnings.

In line with Reid's (2018, 2019) findings that reveal cycling as the most efficient food delivery vehicle in cities, as P2Ws may have to circle to find a parking space, the survey results highlight that 'good parking availability at sites' was the second most popular choice amongst cyclists (42%) when asked what motivated riders to pick their transport choice. Conclusions can be drawn when correlating this against 'speeds' popularity amongst mopeded drivers with 60% of riders noting this as a key motivator. Allen et al (2018) explain that while the average speed of a manual bicycle and moped in Central London is between 10 – 15mph, the maximum permissible speed for a moped is 30mph, an unsustainable number for a cyclist courier to achieve over a prolonged period. Therefore, despite the misconception that mopeds are quicker, the provision of good parking facilities is favoured by cyclists as it enables them to get a head start to deliver their order as quickly as possible.

Figure 9: Reasons riders choose to cycle and ride a P2W.



² Sustainable transport here refers to public transport, walking, cycling, e-bikes, and electric-vehicles.

Are companies doing enough?

To understand the benefits riders have access to, the survey asked whether riders feel that the companies they work, or have worked for, encourage them to use bicycles for their deliveries. Figure 10 reveals that 55% of riders do not feel that they are encouraged to cycle, in contrast to 20% that feel that they are.

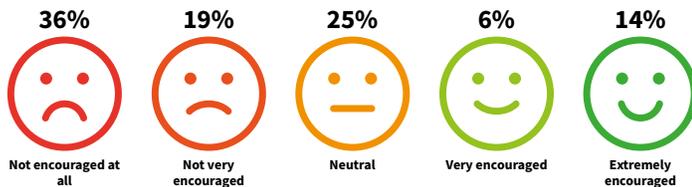


Figure 10: How encouraged riders feel to cycle.

When asked what more could companies do to encourage riders to make their journeys by bicycle a mixture of responses were recorded.

The most popular answer, selected by 50% of riders, was to make cycling safer. While this isn't something company's themselves can achieve alone, it does highlight that for many riders the perception of cycling's safety is a key barrier to adoption in line with TfL's research (2016). This suggests that more work needs to be done to help normalise cycling, as without dedicated cycling infrastructure and initiatives that strive to increase cycling's modal share, and in doing so, improve the perception of cycling's safety, many riders are unlikely to cycle as the possibility of an accident is too great of a risk to take as this will mean they will be off work, without pay.

Meanwhile, 29% of riders noted that they would cycle if the companies they work for provided e-bikes. This demonstrates the connection that riders make with their earning potential and a vehicle's speed/coverage as touched on previously, with respondents stating:

'offer electric-bikes to hire which will increase potential earnings per delivery', and 'in outer London, you have to travel more for it to be sustainable to use a bike.'

It is useful to note that these responses came from riders that worked for the big three companies, indicating that it is a problem across the board. The results reveal that the status of the workers and their responsibility to provide their own vehicle does influence their outcome, despite rider's

motivations.

Given the relative emergence of e-bikes and their high starting price of around £650, for many riders and particularly those that are students, this is likely too high of a price point to enable their adoption. This was reflected in the results with only 2 riders using an e-bike in addition to 70% of interviewees mentioning that their cost is inhibitive to their use.

The suggestion of providing e-bikes to hire may increase cycling's modal share, as an e-bike can overcome the barriers cited by non-sustainable transport riders of bicycles not providing a sufficient range, and subsequent earning potential of a motorcycle (Allen et al, 2018). However, while the companies have historically used the regulations surrounding the labour market to justify their lack of investment into sustainable transport for their riders, this is not to say that they couldn't. In 2018 Deliveroo piloted a scheme in Camden and Islington providing subsidised electric scooters for riders, showcasing that subsidisation could be an alternative to out-right provision (Volpe, 2018).

Turning the direction of focus, an undercurrent throughout the interviews was the role of the consumer in changing rider behaviour. Due to the nature of the market, consumers hold a great deal of power in their choices, as one interviewee stated:

"Customers should be given the choice as to whether they want their orders delivered through scooter or bicycle. I reckon most eco-conscious customers would prefer cyclists to deliver their food. It all starts with enabling the customer to drive the market forces."

Currently, all suppliers do not share this information with consumers, despite their knowledge of who will be making the delivery and what mode they will be using.

Vehicle Priority

One of the emerging discoveries from the data collection is that Deliveroo has been actively prioritising motorised vehicles over cycling.

As one interviewee went onto explain,

“Deliveroo started to prioritise mopeds over bikes by introducing vehicle priority in the shift booking system. They claim it’s based on the speed of a delivery, with faster vehicles given priority but I don’t believe that. Moped riders get first choice on their shifts for the upcoming week, with cyclists getting the leftovers”.

This same response was echoed by 76% of riders who identify as cyclists and work for Deliveroo, who stated the following in response to how they think their transport choice affects the number of orders they would be offered, and why;

“I believe there is a tiered system that is based on the speed of delivery where faster vehicles are given priority.”; and, “Get fewer orders”.

Grant (2019) explains riders with strong statistics are permitted to choose their shifts six hours before those with low scores. Since July, vehicle priority has been added as one of the considerations that Deliveroo’s algorithm FRANK takes into consideration when allocating when riders can book upcoming shifts. Interestingly the text that accompanies this states that priority is given to ‘more efficient vehicles’, whereby riders who use motorbikes or cars are given earlier shift booking access.

Relating to Deliveroo’s own findings that bicycles are the most efficient vehicle in cities (Reid, 2018) it indicates the company has a hidden bias favouring motorised vehicles over active transport.

Moreover, because of the vehicle hierarchy, 18% of cyclists that work for Deliveroo have suggested they are considering switching to a moped to increase their pay and remain a Deliveroo rider, stating:

“After 9pm especially with Deliveroo, I notice that I get very few orders while mopeds don’t seem to have the same decrease in workload. To keep my job, I’m thinking about buying a moped”; and,

“I was earning two times more this time last year on my bike

before vehicle priority. I’m planning on buying an electric moped to get around this.”

The introduction of the vehicle priority system actively discourages and discriminates against cyclists – a vehicle Deliveroo has previously highlighted is the most efficient delivery option in cities and something that they have stated they seek to champion. In comparison, participants who also, or solely deliver for UberEATS, Just Eat and Stuart did not express that riders who used mopeds or cars were given priority of shifts over bicycles.

Accounting for the different identities of the two big new-delivery model companies, Deliveroo and UberEATS, the lack of response regarding UberEATS in part can be attributed to the different expectations riders have of each company. Deliveroo’s founding image has likely influenced the type of rider the company attracts and therefore the expectations they have of working for Deliveroo. Whereas given UberEATS affiliation with its parent company Uber, it is assumed that there is less of an expectation for the company to promote sustainability as it was not marketed as part of its ethos.

The introduction of Deliveroo’s vehicle priority booking system reiterates the complexity of a rider’s transport decision-making process. Despite the right motivations, the prioritisation of motorised vehicles that directly influences how many deliveries a rider gets will likely take precedence over good intentions.

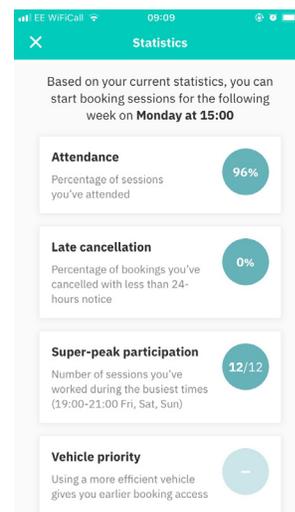


Figure 11: Screenshot of Deliveroo’s vehicle priority system
(Reddit, 2019. available at: https://www.reddit.com/r/deliveroos/comments/c8lgkv/anyone_know_whats_up_with_vehicle_priority/)

RECOMMENDATIONS

Operators

■ ■ ■ ■ 1. PROVIDE SUBSIDISED BICYCLES

One of the key barriers preventing riders from using an e-bike is their initial cost. As rider's employment status prevents them from benefiting from the cycle to work scheme, new delivery operators such as Deliveroo and UberEATS could set up a fleet bicycle system loaning bicycles out to riders to use for their journeys. As the operators know where and how journeys are currently made, they could initially offer e-bikes to riders whose journeys could be made quicker by bicycle focusing on areas with the greatest potential of cyclable trips.

An alternative to this is offering discounted or subsidised e-bikes. Deliveroo has shown their willingness to trial discounted e-scooters in Islington and Camden to increase their affordability and get drivers to switch to greener transport. It is expected that the ULEZ will force operators to start exploring such avenues or risk losing riders as the emission-based charging scheme extends across London.

■ ■ ■ ■ 2. IMPLEMENT AN ECO-TAX

Learning from UberEATS parent company Uber, an eco-tax could be implemented charging the end-user a set fee per mile when a rider uses unsustainable transport. In 2019 Uber introduced a clean air fee-charging 15p per mile for every Uber trip in London. Uber claims that all proceeds go towards helping drivers to upgrade to electric-vehicles along with other clean air initiatives, with an average fee per trip totaling to 45p (Uber, 2018). A similar tax could be adopted by food-delivery companies, with the money generated going towards purchasing an e-bike fleet and trialing initiatives to build confidence cycling in line with the Mayor's Transport Strategy.

To see the greatest results from an eco-tax, there would need to be a coordinated approach across platforms as there is potential that users would then simply switch from UberEATS to Deliveroo, and similarly, riders would simply stop working for that company, limiting the tax's effectiveness.

Policymakers

■ ■ ■ ■ 1. PRIORITISE CYCLE PARKING

Feeding the problem of motorcycle use is the provision of parking within takeaway hotspot areas. Highway authorities have the power to redefine their streets transport hierarchy. A quick win would be to remove or set a limit on the number of motorcycle parking bays within close proximity to restaurants and takeaways, ensuring that cycle parking is favoured over P2W provision.

■ ■ ■ ■ 2. COLLABORATE ACROSS BOROUGHS

Currently, food companies are not required to notify LA of riders' trips and modal choice. To identify hotspots, proactively install parking and ensure companies are encouraging active transport, LA's could look to set up a pan-London byelaw that requires this.

CASE STUDY: LONDON'S DOCKLESS BYELAW

A pan London byelaw for dockless bike operators is currently being drawn up between LA's, London Councils and TfL. The byelaw will set out minimum safety requirements for bicycles, require all bicycles to be chipped to understand their whereabouts and identify agreed locations where bikes are to be left, making it an offence for operators to place, or allow their bikes to be parked anywhere other than the designated areas.

The law is in response to the lack of power and accountability highway authorities had over the operator's actions under a memorandum of understanding, as they are unactionable. Operators will be required to provide LA's with a summary of trips for their borough, namely trip numbers, users and trip journeys amongst other figures (Vecia, 2019).

■ ■ ■ ■ 3. STRENGTHEN PUBLIC-PRIVATE PARTNERSHIPS

Moreover, strengthened public and private sector relationships would help link riders with free services such as cycle training and Dr Bike that LA's are required to deliver in London. Bridging this gap with riders will help reduce maintenance costs while also increase the confidence of riders who may not currently cycle. However, these measures alone would not lead to a significant modal shift and would need to be accompanied by several of the recommendations put forward in this paper.

Policymakers

■ ■ ■ ■ 4. REVIEW PLANNING PROCESS

In the immediate future, another approach for local policymakers is to leverage the planning process to encourage food companies to limit the number of P2Ws visiting pick up sites and encourage cycling as Westminster City Council has done.

CASE STUDY: WESTMINSTER CITY COUNCIL (WCC)

WCC received more than 25 complaints from residents living close to Nando's in Westbourne Grove who said that they were repeatedly disturbed by large groups of moped drivers congregating waiting for their orders.

Following no improvement despite Enforcement Officers being sent to the site who noted drivers parked inappropriately, made noise and caused congestion (Makortoff, 2017), the Council issued a notice preventing Nando's from offering deliveries. They noted that the site was only licensed for A3 use (restaurant) and not A5 (takeaways).

In response to sudden emergence of on-demand food delivery, WCC's City Plan includes a new policy where they will look to control numbers and hours of operation of food deliveries through planning conditions and will seek to promote sustainable delivery choices (Westminster City Council, 2019).

While the adoption of this policy is a step in the right direction, it will only affect new developments and establishments that are flagged as problematic to the Council.

■ ■ ■ ■ 5. PROTECT RIDER'S EMPLOYMENT RIGHTS

The key recommendation of this paper is to ensure all riders have unrestricted access to jobs regardless of their transport mode. The uncertainty of rider's employment status influences whether they have autonomy in their transport choice. The vehicle prioritisation that Deliveroo has exhibited restricts and controls which riders get allocated jobs, favouring those in motorised, unsustainable transport choices ultimately treating riders more like employees than contractors. Central government intervention is needed here to settle the debate and either correctly reassign rider's employment status, or mandate companies to follow through with allowing riders to choose their own modal choice without being discriminated against. Adopting a policy like so would act as a catalyst for change.

CONCLUSION

To conclude, this research is the first of its kind in trying to understand the transport choice of food delivery riders since the emergence of new delivery players in London. The sudden change in how society orders takeaway food has taken policymakers by surprise, resulting in policies and actions that are reactive instead of proactive.

The data collected revealed almost 60% of riders use unsustainable transport for their journeys, with petrol/diesel P2Ws the most popular transport choice, followed by bicycles. A myriad of factors influenced this outcome, ranging from the price and speed of a vehicle, existing transport culture, available transport benefits, employment status and food companies' stance to encouraging sustainable transport.

The most striking finding of this study is that Deliveroo has been actively prioritising P2Ws and cars over bicycles, influencing riders to choose motors over muscles. Compounding this, across all food delivery companies, it was discovered that rider's employment status and the lack of active travel benefits accompanying this encourages unsustainable transport.

A range of recommendations have been put forward to address this trend for companies and practitioners. With the markets expected growth, action must be taken now, to start shifting these journeys from motors to muscles to mitigate the damaging environmental and health impacts on-demand food delivery journeys have.

Although the results of this paper are indicative of a wider trend, it is important to note that there are limitations to this study. With a larger rider sample size and cooperation from the food delivery companies, a more representative picture of the current situation in terms of rider numbers, modes and company plans and offerings could be understood.

Looking to the future, the analysis revealed the importance of consumers in instigating behaviour change. Further research could look to explore the power of the consumer and the persuasiveness of different interventions to encourage riders, and food delivery companies to favour muscles over motors.

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APPENDICES

Appendix A: Online Survey

Please note the screenshots below showcase the questions asked for current and former delivery riders. A logic jump was added to the first question to help cater the questions wording to the rider heron, however all of the same questions were asked.

Transport choices of London's food delivery riders

Hello,

Thank you for taking the time to complete this survey which will be used for a research project investigating what more can be done to switch current food delivery journeys from unsustainable transport choices such as motorcycles, cars, and mopeds to sustainable transport such as bicycles in London.

The research is looking to hear from food delivery riders who currently, or have worked in London.

All information collected will remain anonymous.

Thank you very much for your help!

If you would be interested in participating in an interview on this topic, please leave your contact details at the end.

Transport choices of London's food delivery riders

About you

The first set of questions aim to understand the types of deliveries you make and what kind of rider you are.

* 1. Are you currently a food delivery driver in London?

Yes

No

* 2. Which company do you currently work for? Please tick all that apply.

- Deliveroo
- UberEats
- JustEat
- Other (please specify)

* 3. How old are you?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

* 4. What gender do you identify as?

- Male
- Female
- Other (please specify)

* 5. How long have you been a food delivery driver for?

- Less than 6 months
- 6 months - 1 year
- 1 - 2 years
- 2 - 4 years
- More than 4 years

* 6. What is the average distance you travel for a single trip? Please count from accepting an order, to collecting the order and delivering the order as a single trip.

- Less than 1 km
- 1km - 2km
- 2km - 3km
- 3km - 4km
- 4km - 5km
- More than 5km

* 7. On average, how many hours a week do you spend making food deliveries?

- Less than 10 hours
- 10 hours - 20 hours
- 20 hours - 30 hours
- 30 hours - 40 hours
- More than 40 hours

* 8. Which London borough do you make the most deliveries to?

- Barking and Dagenham
- Barnet
- Bexley
- Brent
- Bromley
- Camden
- City of London
- Croydon
- Ealing
- Enfield
- Greenwich
- Hackney
- Hammersmith and Fulham
- Haringey
- Harrow
- Havering
- Hillingdon
- Hounslow
- Islington
- Kensington and Chelsea
- Kingston upon Thames
- Lambeth
- Lewisham
- Merton
- Newham
- Rebridge
- Richmond upon Thames
- Southwark
- Sutton
- Tower Hamlets
- Waltham Forest
- Wandsworth
- Westminster
- I don't know

* 9. Why did you decide to become a food delivery rider? Please select all that apply.

- To earn some money while studying
- It looked fun
- To earn some extra money
- Flexible hours
- To get fit
- Other (please specify)

Transport choices of London's food delivery riders

About you

* 10. When did you stop delivering?

* 11. How long was you a food delivery rider for?

- Less than 6 months
- 2 - 4 years
- 6 months to 1 year
- More than 4 years
- 1 - 2 years

* 12. Which company did you deliver on behalf of? Please tick all that apply.

- UberEats
- Deliveroo
- JustEat
- Other (please specify)

* 13. How old are you?

- Under 18
- 45-54
- 18-24
- 55-64
- 25-34
- 65+
- 35-44

* 14. On average, what was the distance you travelled for a single trip? Please note a single trip is counted from accepting an order, collecting the order and delivering this.

- Less than 1km
- 4km - 5km
- 1km - 2km
- More than 5km
- 2km - 3km

* 15. On average, how many hours per week did you spend making food deliveries?

- Less than 10 hours
- 30 hours - 40 hours
- 10 hours - 20 hours
- More than 40 hours
- 20 hours - 30 hours

* 16. Which London borough did you make the most deliveries to?

- Barking and Dagenham
- Hounslow
- Barnet
- Islington
- Bexley
- Kensington and Chelsea
- Brent
- Kingston upon Thames
- Bromley
- Lambeth
- Camden
- Lewisham
- City of London
- Merton
- Croydon
- Newham
- Ealing
- Redbridge
- Enfield
- Richmond upon Thames
- Greenwich
- Southwark
- Hackney
- Sutton
- Hammersmith and Fulham
- Tower Hamlets
- Haringey
- Waltham Forest
- Harrow
- Wandsworth
- Havering
- Westminster
- Hillingdon
- I don't know

* 17. **Why did you decide to become a food delivery rider?** Please select all that apply.

- To earn some money while studying
- To earn some extra money
- To get fit
- Other (please specify)
- It looked fun
- Flexible hours

Transport choices of London's food delivery riders

About the deliveries you made

These next set of questions aim to understand what transport choice you used to carry out your deliveries.

* 18. **What method of transport did you use to make your food delivery journeys?**

- Motorcycle / moped (petrol/diesel powered)
- Electric motorcycle / moped
- Bicycle
- Electric bicycle
- Cargo bike
- Walk
- Public transport (Bus, London Underground, London Overground)
- Car

* 19. **What motivated you to pick this transport choice?** Please select all options below that apply.

- Speed
- Inexpensive
- Good for the environment
- Health benefits
- Earning potential
- Safety
- Other (please specify)
- Distance range
- Load capacity
- Good parking availability at food collection sites
- Transport choice is given priority by food companies
- Perks available from the food companies to use this choice

Transport choices of London's food delivery riders

About your delivery journey

These next set of questions aim to understand what transport choice you use to carry out your deliveries.

* 20. **What method of transport do you use to deliver food orders?** Please pick the transport option you use the most.

- Motorcycle / moped (petrol/diesel powered)
- Electric motorcycle / moped
- Bicycle
- Electric bicycle
- Cargo bike
- Walk
- Public transport (Bus, London Underground, London Overground)
- Car

* 21. **What motivates you to pick this transport choice?** Please select all options below that apply.

- | | |
|---|---|
| <input type="checkbox"/> Speed | <input type="checkbox"/> Distance range |
| <input type="checkbox"/> Inexpensive | <input type="checkbox"/> Load capacity |
| <input type="checkbox"/> Good for the environment | <input type="checkbox"/> Good parking availability at food collection sites |
| <input type="checkbox"/> Health benefits | <input type="checkbox"/> Transport choice is given priority by food companies |
| <input type="checkbox"/> Earning potential | <input type="checkbox"/> Perks available from the food companies to use this choice |
| <input type="checkbox"/> Safety | |
| <input type="checkbox"/> Other (please specify) | |

Transport choices of London's food delivery riders

What more can companies like Deliveroo and UberEats do to encourage sustainable transport choices?

This section invites you to make suggestions of what incentives, offers and actions food delivery companies could make to encourage riders to use bicycles and other sustainable modes when making your deliveries.

* 22. **How encouraged are you by the company/companies you work to use a bicycle for your deliveries?**

- | | |
|--|---|
| <input type="radio"/> Extremely encouraged | <input type="radio"/> Not very encouraged |
| <input type="radio"/> Very encouraged | <input type="radio"/> Not encouraged at all |
| <input type="radio"/> Neither encouraged nor discouraged | |

Transport choices of London's food delivery riders

* 23. **How do they encourage you to make your deliveries by bicycle?** For instance, do they offer any perks or incentives such as free or discounted insurance?

* 24. **What more could companies like Deliveroo and UberEats do to encourage riders to use sustainable transport choices like bicycles for their deliveries?** For example provide insurance, offer electric bikes to hire and encourage cycle training.

* 25. **Do you think the mode you use affects the number of orders you are offered by the company?**

- Yes
 No

Transport choices of London's food delivery riders

What more can companies like Deliveroo and UberEats do to encourage sustainable transport choices?

This section invites you to make suggestions of what incentives, offers and actions food delivery companies could make to encourage riders to use bicycles and other sustainable modes when making their deliveries.

* 26. **How encouraged were you by the company/companies you worked for to make your deliveries by bicycle?**

- | | |
|--|---|
| <input type="radio"/> Extremely encouraged | <input type="radio"/> Not very encouraged |
| <input type="radio"/> Very encouraged | <input type="radio"/> Not encouraged at all |
| <input type="radio"/> Neither encouraged nor discouraged | |

Transport choices of London's food delivery riders

* 27. **How did they encourage you to make your deliveries by bicycle?** For instance did they offer any incentives such as free or cheap bicycle insurance?

28. What more could companies like Deliveroo and UberEats do to encourage riders to use sustainable transport choices like bicycles for their deliveries? For example provide insurance, offer electric bikes to hire and encourage cycle training.

29. Do you think the mode you used affected the number of orders you were offered?

- Yes
 No

Transport choices of London's food delivery riders

30. How do you think the transport choice affects the number of orders a rider would be offered, and why?

Transport choices of London's food delivery riders

Thank you!

Thank you for taking the time to fill out this survey!

31. If you would like to be interviewed on your experience of being a food delivery driver in London, please leave your contact details below.

Name

Email Address

Phone Number

Appendix B: List of locations where the online survey for food delivery riders was posted

- <https://www.reddit.com/r/deliveroos/>
- <https://www.reddit.com/r/UberEATS/>
- https://www.facebook.com/pg/bikelifeuk1/posts/?ref=page_internal – London Deliveroo Riders Facebook Page
- <https://www.reddit.com/r/JustEatUK/>
- <https://www.reddit.com/r/london/>
- [Facebook group 'UberEats & Deliveroo UK Partners'](#)
- [Facebook page 'Deliveroo Riders UK' -](#)
https://www.facebook.com/pg/deliverooridersUK/posts/?ref=page_internal
- <https://www.thestudentroom.co.uk/showthread.php?t=6234892>

Appendix C: Interview guide

Two interview guides were developed for cyclists and P2W riders.

Cyclist guide:

1. When you became a rider did you consider any other transport choices like a P2W?
2. Why did you decide on using a bike?
 - a. Were there any benefits available as a rider that sold cycling to you?
3. You currently use a standard manual bicycle, why did you choose this over an e-bike?
4. Would you consider replacing your bike with an e-bike?
 - a. Why?
5. When thinking about food delivery riders that currently do not cycle, what do you think is the **biggest** barrier preventing them from cycling?
6. What policies, schemes or initiatives could be taken to address this? *(In case they are stuck suggest pointers such as, cycle training, Dr bike, more segregated infrastructure, government subsidies for bikes, better marketing campaigns to normalise cycling, greater abundance of cycle parking?)*
7. What initiatives/changes do you think **food delivery companies** specifically could run/make to encourage food delivery riders that do not currently cycle to take up cycling?
 - a. Do you think the company('s) you work for **currently** embrace encouraging cycling?
 - b. Do you feel that being a cyclist influences how many jobs you get? If so, why? *(May need to provide background on vehicle priority system to ask whether other companies do anything similar).*
 - i. Has this made you reconsider using a bicycle?
 - c. Is there a standout company you work for that is better at promoting cycling than the others?
 - d. Do you think the company('s) you work for **would** embrace encouraging cycling?
8. What initiatives/changes do you think policymakers like **local authority and central government officers** specifically could run/make to encourage more food delivery riders that do not currently cycle to take up cycling?
9. If you had to decide on a 'magic bullet' policy, intervention or scheme that you think would bring about the greatest behaviour change what would this be?

P2W guide:

1. When you became a rider did you consider any other transport choices like a bicycle?
2. Why did you decide on using a P2W?
 - a. Were there any benefits available as a rider, that sold a P2W to you?
3. E-bikes provide an opportunity to deliver orders faster, would you ever consider using an e-bike instead of a P2W?
 - a. Why?
 - b. What would make you swap your P2W for an e-bike?

4. What would you say is the **main reason** why you don't cycle?
5. What policies, schemes or initiatives could be taken to address this? *(In case they are stuck suggest pointers such as, cycle training, Dr bike, more segregated infrastructure, government subsidies for bikes, better marketing campaigns to normalise cycling, greater abundance of cycle parking?)*
6. What initiatives/changes do you think **food delivery companies** could run to encourage you to take up cycling?
 - a. Do you think the company('s) you work for **currently** embrace encouraging cycling?
 - b. Do you feel that being a P2W rider influences how many jobs you get? If so, why? *(May need to provide background on vehicle priority system to ask whether other companies do anything similar.)*
 - i. Has this made you reconsider using a P2W?
 - c. Is there a standout company you work for that is better at promoting cycling than the others?
 - d. Do you think the company('s) you work for **would** embrace encouraging cycling?
7. What initiatives/changes do you think policymakers like **local authority and central government officers** specifically could run/make to encourage more food delivery riders that do not currently cycle to take up cycling?
8. If you had to decide on a 'magic bullet' policy, intervention or scheme that you think would bring about the greatest behaviour change what would this be?