



H
U
B

Designing for micromobility

Opportunities for commercial developments



Introduction

In December 2020 Momentum published a technical guidance note which looked at accommodating micromobility within office developments. By micromobility we then aimed to encompass e-bikes and e-scooters as rising transport modes, sometimes provided as a shared service and sometimes privately owned.

We recognised at the time the need for further monitoring to check on their popularity and how to best plan and design for them in commercial developments.

Today, e-scooter trials are currently live in 31 regions across England, with the London trial providing over one million journeys so far since its launch in June 2021. In May 2022, the Government announced that the Transport Bill will introduce a new category for low-speed, zero-emission vehicles, as well as e-scooter legislation to bring in regulatory standards for private e-scooters.

Whilst private e-scooter ownership rates are unknown, in Europe 520,000 shared e-scooters are available currently, up from 400,000 in February 2022¹. Numbers are expected to rise up to 600,000 vehicles according to Zag. These figures confirm that these relatively new transport modes seem to be here for longer than some would have predicted. In fact, micromobility contributed to 16% of the total revenue of cycling in London in 2020².

In 2020, Momentum released its 'Designing for micromobility: Parking in offices' guidance. In this note, we revisit some of the principles for micromobility parking (section 1), we explore how existing commercial assets can be repurposed for micromobility (section 2) and we set out the wider opportunities micromobility represents for the commercial sector (section 3).

01.

Micromobility parking guidance update

Diverse to accommodate different vehicle types and sizes

02.

Repurposing commercial assets

03.

Wider benefits of adopting micromobility for commercial

Meeting corporate objectives and achieving sustainable travel targets

Early adopter advantages for commercial developers

Unlocking new development locations

04.

Conclusion

¹ E-Scooters on Europe's streets

² Micromobility worth £25 million in London

01.

Micromobility parking guidance update

Our guide 'Designing for micromobility: Parking in offices' (2020) sought to address the gap in guidance related to e-scooter and e-bike parking, and charging infrastructure. It outlined ten key principles for micromobility parking in the workspace.

01.



Secure

02.



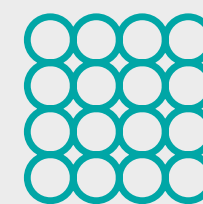
Convenient

03.



Weatherproof

04.



Supplied in sufficient quantity

05.



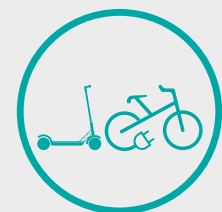
Clear of all obstacles

06.



Easily accessed for users of the development

07.



Diverse to accommodate different vehicle types and sizes

08.



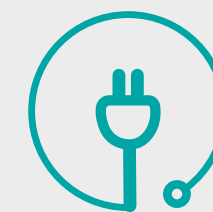
High quality

09.



Complemented by lockers, showers and changing spaces

10.



Provided with electrical charging points

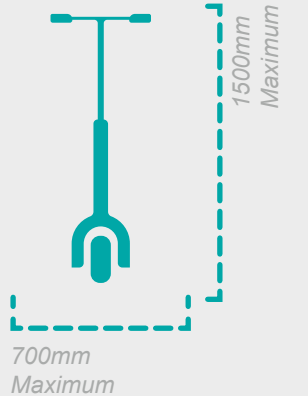
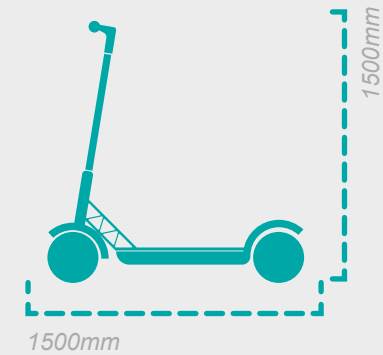
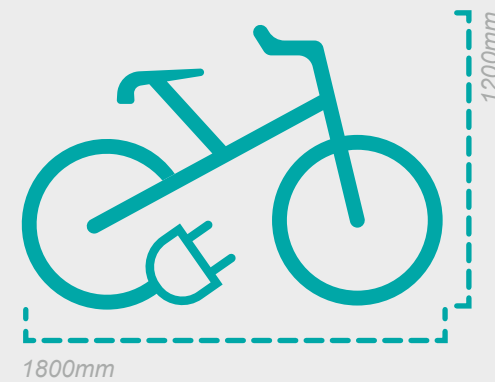
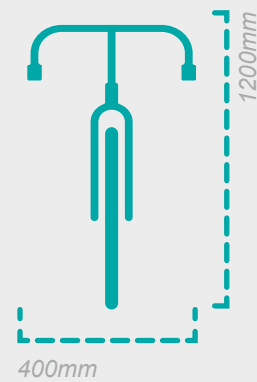
While micromobility technology has continued to evolve, there still remains a lack of published policy related to parking. Our ten key principles outlined in 2020 remain consistent, however we have provided an update below:

Diverse to accommodate different vehicle types and sizes

There has been a particular focus on the design of shared e-scooters to maximise safety which has led to increased size specifications. The Department for Transport's minimum technical requirements for e-scooter operators are a maximum length and height of 1.5m and a maximum width of 0.7m. E-scooter wheels have also become larger for safety purposes. E-scooter parking therefore needs to accommodate these changes in size.



Micromobility incorporates not only e-scooters but also e-bikes and other adapted cycles. It is important to ensure parking provision for non-standard cycles, such as cargo bikes. The City of London's 2019 Transport Strategy outlines this requirement in order to improve the experience of cycling in the City. It includes the provision of off-street storage for cargo bikes and hand carts in developments that include ground floor retail and takeaway outlets.



02.

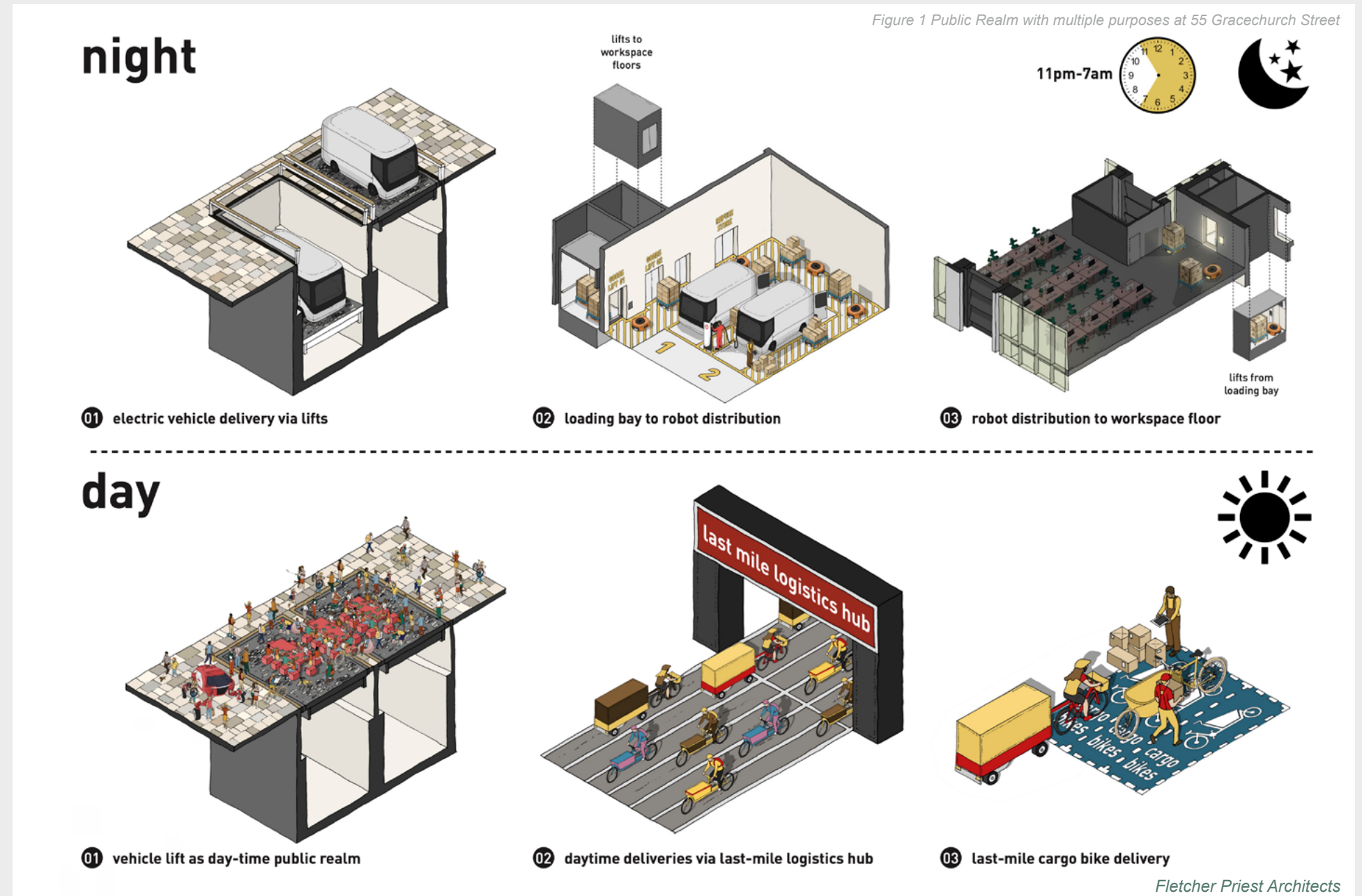
Repurposing commercial assets

As the demand for micromobility rises, other modes are in decline. It is well known for instance that younger generations are moving away from privately owned cars³, and London has even witnessed a 5% decrease in the number of cars per household since 2003 (from 0.82 cars to 0.78 cars per household). Currently 4 out of 10 London households don't own a car⁴.

Many have commented on this and correlated it to a number of factors including the digital transition, the climate emergency and rising fuel prices. Electric vehicles are perceived by many as a viable solution to a number of overlapping issues and 36 million electric vehicles are expected to be on UK roads by 2040⁵.

These different trends will inevitably lead to questioning existing commercial assets such as the 8,000 or so petrol stations in the UK and some of the 200,000 non-residential car parks. There is an opportunity for commercial developers to retrofit these spaces, particularly in dense urban areas, to accommodate micromobility modes. These spaces are well suited to micromobility because:

- They are in prominent and central locations
- They already have vehicular access off the roads and sometimes even ramps
- They can easily connect to existing electricity supply
- They can be combined with other services including car clubs, cargo bikes and e-cargo bikes, delivery lockers and mini-consolidation. Mini-consolidation is a small scale site for urban freight aimed at rationalising and minimising trips in dense environments. Some of these services can generate revenue, as well as generally supporting a reduction of motorised traffic on the roads



In our work for 55 Gracechurch Street in London we have contributed to providing highly innovative and flexible spaces which maximise uses throughout the day and night. Deliveries would be made overnight via vehicle lifts, the top of which would sit flush with a newly created public realm. During the day, the public realm would accommodate other uses, as well as cargo-bikes deliveries.

Commercial developers looking to accommodate micromobility modes, or more generally mobility hubs, should be mindful of providing safe connections and routes for sustainable travel; easily reachable and visible locations for parking (see section 1) and promotion and incentives to encourage high levels of usage (see section 3).

3 Young People's Travel – What's Changed and Why?

4 Number of Cars in the UK 2022

5 Keeping 36 million electric vehicles on the move

03.

Wider benefits of adopting micromobility for commercial developers

Meeting corporate objectives and achieving sustainable travel targets

Tools and strategies related to Travel Demand Management (TDM) and Travel Planning seek to encourage, enforce and achieve modal shift away from unsustainable modes, with a particular focus on reducing private car trips. Micromobility can assist organisations and commercial space providers by both encouraging staff to come and work within the office, while also helping them work towards sustainability targets, such as ESG objectives and Net Carbon Zero targets.

In recent years, measures to achieve a carbon reduction in travel to work have been bolstered by a new wave of micromobility offerings that present opportunities for commercial spaces to provide alternative modes of transport to staff. According to one study, if an employee were to replace just one trip each day taken by a car with a bike or scooter, they could reduce their personal carbon emissions footprint by 67%⁶.

Micromobility operator Spin already operates a long-term hire scheme in Braintree and Brentwood, Essex by offering their employees a Spin+ monthly e-scooter subscription. Firms using this service have reported that integrating micromobility solutions into staff journeys to the workplace can substantially improve their experience as well as save them time and money⁷.

The adoption of such policies (similar in nature to the Santander Cycle Business Key Fob), or car club schemes for businesses, would see micromobility access provided to an office building, company or business once a critical mass is established. The shared users would then utilise the service by booking out the vehicle to use when required.

If delivered appropriately, e-bikes and e-scooters can help support the Transport Decarbonisation Plan by helping to achieve the government’s vision, in which half of all journeys in towns and cities will be cycled or walked by 2030 - acting as a step change away from private vehicle use and making sustainable mobility more accessible and easier to use, particularly for commuters⁸.

Early adopter advantages for commercial developers

From a planning policy perspective, requirements for cycle parking provision, alongside ancillary spaces, have gradually seen both a quantitative and qualitative shift over the past twenty years. The passing of a new transport bill legalising e-scooters is expected to result in a similar process of promotion through policy in the years to come.

There is a growing desire within businesses to offer opportunities to travel by micromobility modes, with a recent survey by the Smart Mobility Institute finding that 45 per cent of firms polled plan to offer micromobility solutions as a perk for employees within three years⁹.

As a result, beginning to consider how TDM / Travel Planning can incorporate micromobility into both strategy and design will be a key differentiator for early adopters, assisting in attracting desirable tenants, particularly for inner-city locations where traffic reduction measures are already in place, facilitating journeys via micromobility modes. Enhancing first and last mile facilities will result in capacity creation, with incentives and opportunities to use these modes helping to create behaviour change, as presented below.

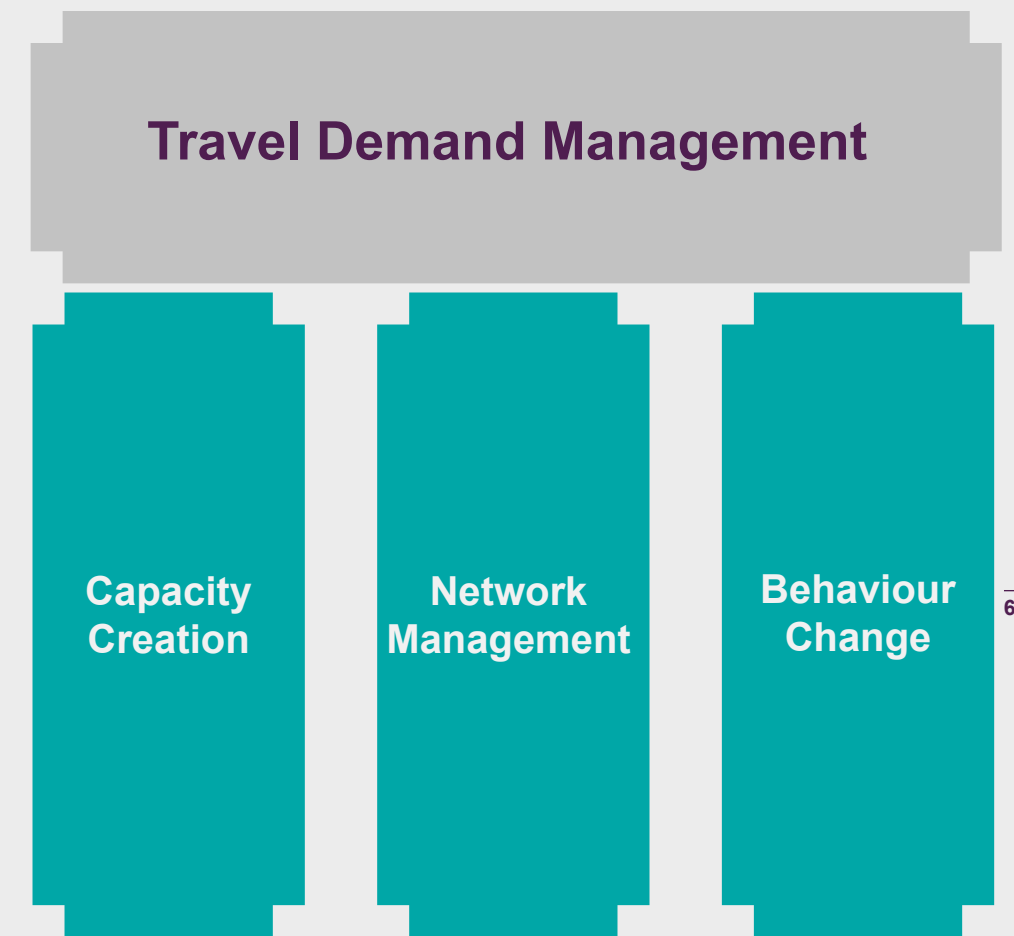


Figure 2: The Three Pillars of TDM¹⁰

6 The climate change mitigation effects of daily active travel in cities
 7 More than 600,000 rides
 8 Net Zero Strategy: Build Back Greener
 9 Micromobility solutions to employees
 10 Travel Demand Management Toolkit

Unlocking new development locations

Finally, micromobility modes can unlock new development locations or assist with relocation planning by providing first and last mile connections.

For example, Momentum has assisted GSK in developing a transport strategy to support the closure of a satellite, edge-of-London office, with ~2,000 staff decanted into the already-operational global corporate HQ site in Brentford. This amounted to an intensification of the site by approximately 40%, with no opportunity or appetite to further intensify the car parking capacity. A very significant real-terms modal shift was therefore required for the HQ site. This transport strategy needed to be green, fair and applicable to thousands of employees.

Of particular value was a significant GIS exercise, which centred on postcode analysis to understand where employees lived, and the impacts of the office move on their car and non-car travel times. At this point our team was well placed to explore how micromobility could be presented as an alternative to car borne modes, and in doing so act as the first step in creating behaviour change in favour of more sustainable modes.

When working on the GSK site, Momentum developed a wide-ranging and open options assessment with GSK, which resulted in a set of parameters by which to assess the transport and non-transport options for reducing the car mode share at GSK House. Each option was modelled by forecasting the effect of the option on existing demand, to provide further information to GSK's Steering Committee of senior leaders.

We recommend that as micromobility usage grows, the inclusion of this mode - for its opportunities to increase inclusive sustainable travel – should become a key consideration for employers when developing a comprehensive transport strategy for its workforce.



Artist impression by Momentum.

04.

Conclusion

Whilst little has changed since 2020 in terms of the functional requirements related to micromobility parking, the popularity of these modes, both as shared and privately-owned devices, has allowed us to identify a wider range of benefits for commercial tenants. From re-using existing assets which are no longer fit for purpose, through to achieving corporate objectives or unlocking new areas of cities, micromobility continues to support healthier and more sustainable lifestyles when appropriately planned and designed into commercial developments.

Authors



Mailys Garden

Mailys Garden is a driven project and team leader who has been working in the urban planning and transport industry for over ten years. Across that decade she has developed bespoke and unique approaches to solving development and transport challenges including tailored made modelling techniques and stakeholder engagement. Her experience includes the mixed-use £1bn Olympia masterplan in London, the Pinebanks residential masterplan in Norwich as well as several town centre masterplans in Ireland.

Based in Edinburgh, Mailys' remit includes Momentum's portfolio of activities in Scotland Ireland, and in the smart mobility sector which she co-created several years ago. Mailys is a keen advocate of inclusive transport and gender balance and is a board member of Women in Transport.



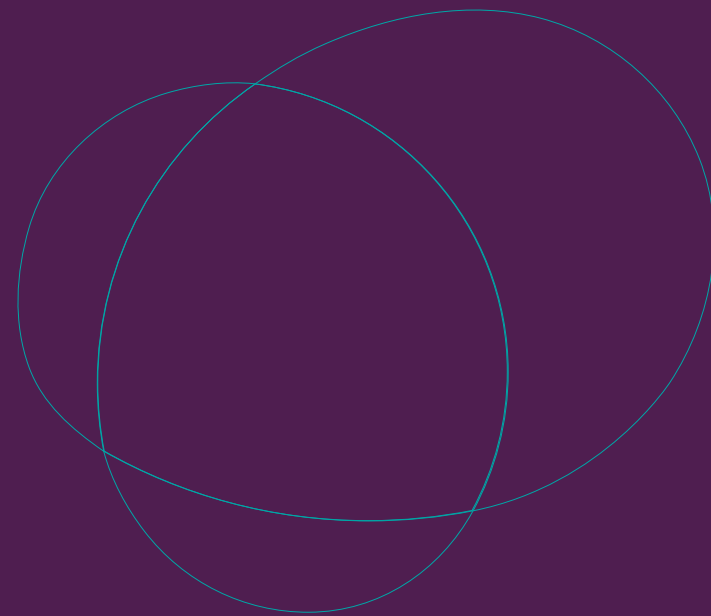
Alex Henderson

Alex loves innovation, and is always on the lookout for new, pioneering transport solutions. His passion for sport is reflected in his drive to promote active travel and micromobility. Alex has worked at a global level and has developed a broad range of masterplanning and development planning project experience, with particular specialisms in London based development planning, and global masterplan and design competitions with internationally acclaimed architects.



Katie Lewin

Katie is a Consultant, having joined Momentum after completing an MSc in Transport and City Planning at the Bartlett, University College London. She has previous experience in research, report writing and GIS. Katie is passionate about making transport and our cities more equitable and sustainable.



Momentum Transport Consultancy

Clerkenwell House, 23 Hatton Wall, London, EC1N 8JJ
t. +44 (0)20 7242 0228 | e. info@momentum-transport.com | w. www.momentum-transport.com
Momentum® is the registered trademark of Momentum Transport Consultancy Limited.
Copyright © 2022 Momentum Transport Consultancy Ltd