

Sustainability Delivery Plan: Travel and Transport

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1. Introduction

1.1 Purpose

This document sets out the University's Delivery Plan for travel and transport for the five-year period from **2021/2022 to 2025/2026**.

The Delivery Plan seeks to achieve the goal for travel and transport set out in the current draft Sustainability Strategy *'to minimise the environmental impact from all types of transport activity undertaken by the University and its communities, including commuting, operational transport and business travel'*.

The plan aligns with the mission of Campus Division to *'make, manage and maintain our welcoming University; caring for our students, staff and the campus whilst minding the impact we have on our environment.'*

This plan supersedes the University's Sustainable Transport Strategy (2017 – 2023), the Combined Staff and Student Travel Plan (2018 – 2023), and the Emergency Covid-19 Travel Plan (2020 – 2022).

1.1.1 Key challenges

Transport is at the same time both essential for successful delivery of the University's mission and responsible for some of its most significant negative impacts.

As shown in Figure 1 below, this Delivery Plan exists within (and must respond to) a web of both external and internal policies, each driving transport demand in different ways and providing a range of opportunities and constraints on delivery.

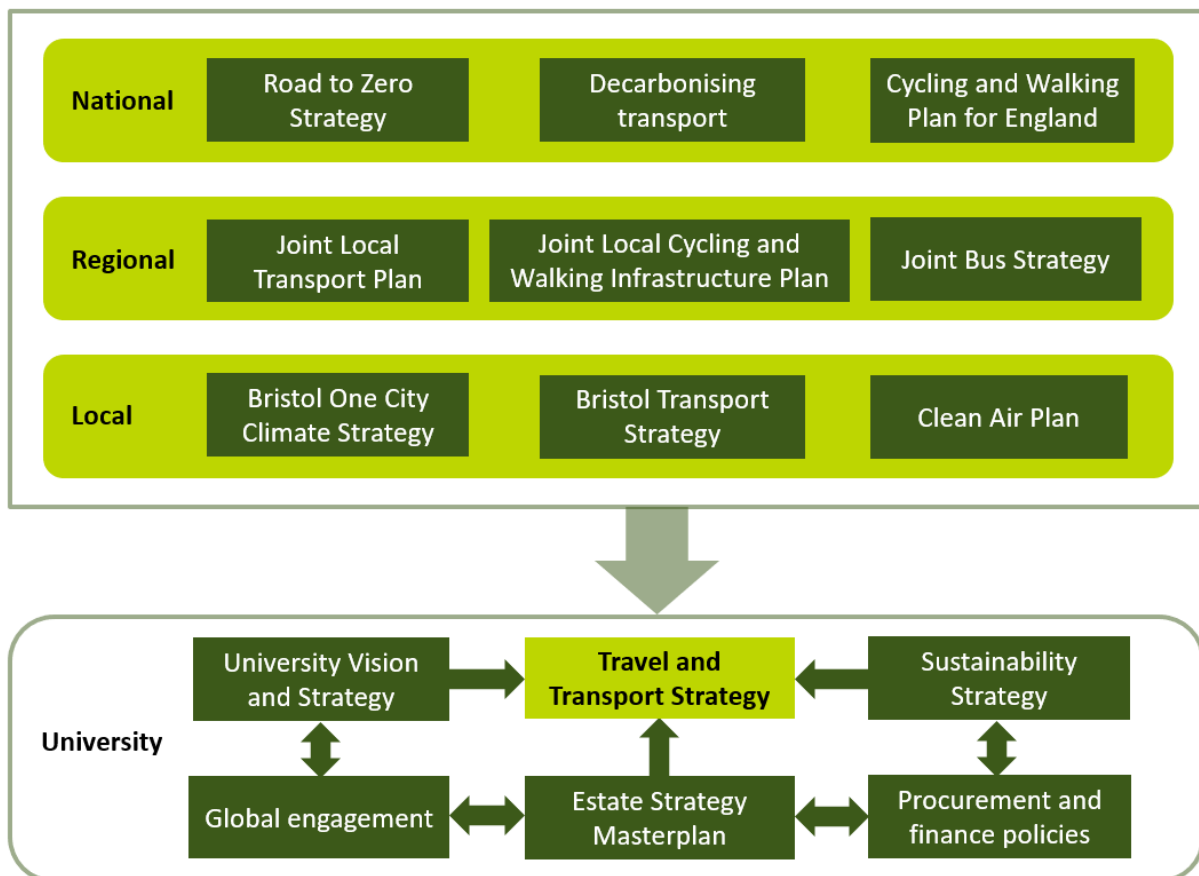


Figure 1: Strategic policy landscape

1.1.1 Drivers for change

There are many drivers for change, from overarching issues and reason to improve sustainable travel options, through to specific policy change and interventions by Bristol Council.

- Climate change
- Local environmental concerns
- The need to accommodate University growth and demand
- The need to improve the access to transport
- The need to respond to policy and design interventions that have been identified, proposed or to be implemented by Bristol City Council
 - Clean Air Zone – to be implemented 2022
 - Workplace Parking Levy – proposed for delivery between 2023 and 2028
 - Various transport schemes, including the closure of Park Street and changes to Park Row/Upper Maudlin Street – both proposed for delivery 2022/2023

1.1.2 Baseline situation

Within this broader context, the baseline situation for this Plan is characterised by the following:

- the range of existing University policies with a direct impact on transport;
- existing levels of University-funded transport provision;
- current patterns of movement of people and goods at the University; and
- a 'return to work' after the coronavirus pandemic that will change the pattern of working to more home based.

These conditions are summarised in Figure 2. Each of the inputs has evolved over time in response to the broader policy context and external challenges (as summarised above), contributing to changing patterns of travel and transport (outputs). Appendix A provides a more detailed analysis of baseline travel and transport data.

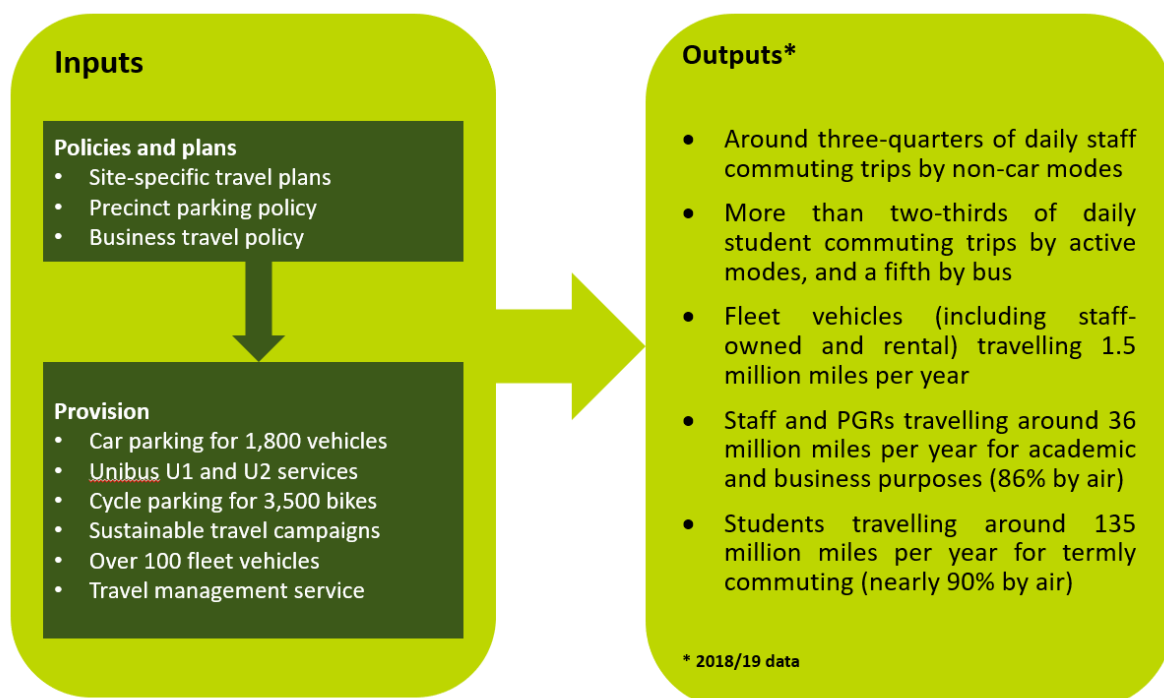


Figure 2: Baseline travel and transport situation

1.1.3 Operating challenges

The Delivery Plan must also respond to a range of issues inherent in the University's operating environment with implications for transport, as shown in Figure 3 below. These include:

- the increasingly urgent need to limit the greenhouse gas emissions and other environmental and health impacts of travel and transport, particularly personal car use, air travel and road transport of goods;
- a diverse and growing University estate dispersed across a city and wider region with variable levels of accessibility and public transport provision, challenging topography and a generally high premium on space, e.g., for facilities to support sustainable travel;
- a competitive and increasingly globalised HE (Higher Education) sector generating high levels of international mobility among both staff and students;
- the emergence of new mobility and logistics solutions (e.g., car clubs, on-demand transport services, micro-freight consolidation) and a rapid growth, accelerated by the coronavirus pandemic, in the use of remote working technologies; and
- unprecedented social upheaval and economic uncertainty as a result of the coronavirus pandemic, causing extraordinary pressures on University and public finances and widespread structural and behavioural changes affecting the demand for transport.



Figure 3: Issues in the University's operating environment with implications for transport

1.1.4 Climate impacts

As noted above, the urgent need to manage the carbon footprint of University travel and transport use is one of the key drivers for this Delivery Plan.

Based on a range of datasets, current transport-related carbon emissions have been estimated at around 48,000 tCO₂e, i.e., around 35% higher than emissions due to energy use in buildings across the University estate (see Figure 4).

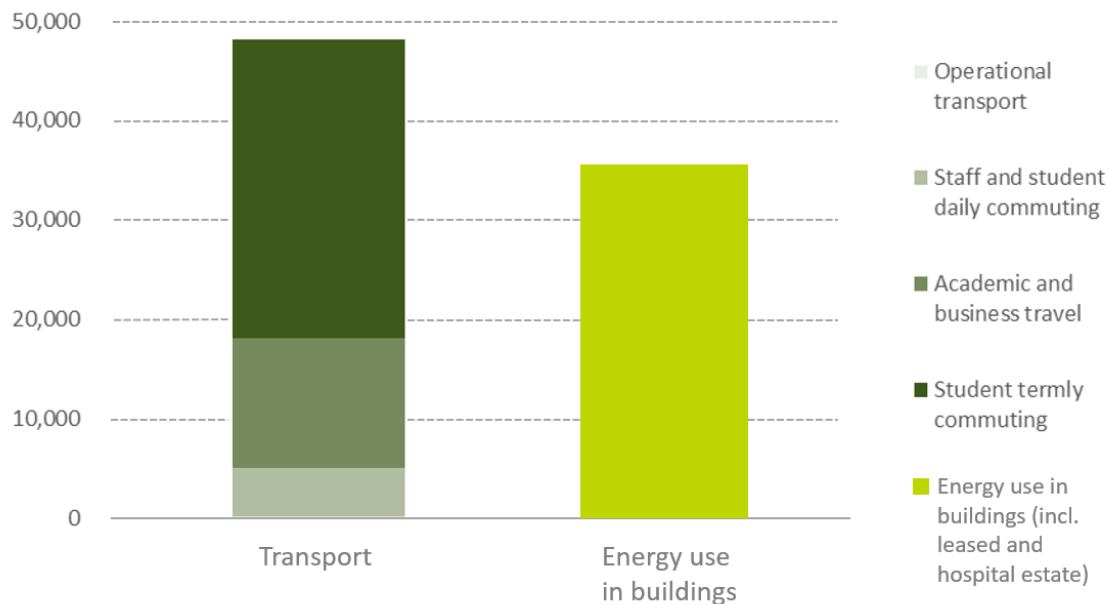


Figure 4: Estimated transport-related carbon emissions, 2018/19

1.2 Scope

This delivery plan covers all movements of people (staff, students and visitors) and goods to, from and within the University, i.e., including daily commuting, business and academic travel, campus transport operations and termly student travel.

It addresses travel and transport needs as they currently exist, and as they are likely to evolve over the next five years with the University's growth strategy and supporting capital development programme and in response to further structural and behavioural changes resulting from the coronavirus pandemic.

1.3 Ownership

The University's Sustainability Team (Campus Development, Campus Division) has led the development of this Delivery Plan and will ensure co-ordination for many areas of delivery, e.g., supporting sustainable daily travel choices by staff and students, and for overall monitoring and review.

Delivery in other specific areas (e.g., on business and academic travel) will be a shared responsibility across the University. Success in all areas will depend on joint working with a range of internal and external partners, for example Bristol City Council, the West of England Combined Authority (WECA), Network Rail and other third parties.

Ownership of the plan is University wide with all student, staff and other key stakeholders responsible for achieving its targets.

2. Aims, Activities and Targets

2.1 Aims

To achieve this vision of the Sustainability Strategy, our Travel and Transport Aims over the next five years are to:

- DPA.O.T.1:
 - Reduce demand for travel and transport and reliance on motorised modes through smart working practices and campus development
- DPA.O.T.2:
 - Make sustainable travel the first choice for all essential commuting and business journeys
- DPA.O.T.3:
 - Improving the efficiency of operational and supply chain transport by reducing journeys and shifting to zero-emission technologies
- DPA.O.T.4:
 - Build a robust and transparent governance framework, working with strategic partners to integrate a planning, delivery and review process

2.2 Activities and Targets

Activity ID	Activity	Activity target	Start (mm/yy or FY)	End (mm/yy or FY)	Priority (H, M, L)	Lead	Funding in place (Y/N/Part/NA)
DPA.O.T.1.1	Support greater use of digital technologies to reduce the need for travel associated with teaching, research, external engagement and operations	Engage with relevant internal stakeholders as opportunities arise	2021/2022	2025/2026	L	Sustainability Manager (Transport, Special Projects)	N/A
DPA.O.T.1.2	Ensure access and University connectivity requirements are considered with all newly purchased or leased property assets.	Engage with relevant internal stakeholders as opportunities arise	2021/2022	2025/2026	M	Sustainability Manager (Transport)	N/A
DPA.O.T.1.3	Support development of sustainable access strategies or transport statements for all major capital developments, as required by local planning authorities	Access strategies / transport statements complete for all major capital developments	2021/2022	2025/2026	H	Sustainability Manager (Transport)	No
DPA.O.T.1.4	Ensure all capital development projects meet the adopted BREEAM standards for provision of sustainable transport facilities	Transport criteria aligned with the adopted BREEAM standard is achieved for all capital developments	2021/2022	2025/2026	M	Sustainability Manager (Transport)	No
DPA.O.T.1.5	Implement a revised parking policy for staff and students, limiting vehicle parking across the University estate to people with site-specific access requirements and generating revenue for investment in sustainable travel options	Revised policy adopted and in operation	2022/2023	2025/2026	H	Sustainability Manager (Transport)	No
DPA.O.T.2.1	Support development of attractive, safe and legible environments for walking, cycling and wheelchair use across the existing University estate and neighbouring public highway	Engage with relevant internal and external stakeholders as opportunities arise	2021/2022	2025/2026	M	Sustainability Manager (Transport)	N/A
DPA.O.T.2.2	Expand provision and maintain high-quality trip-end cycling facilities (bike parking, showers, lockers etc) across the University estate	Target agreed, met and reported on	2021/2022	2025/2026	H	Sustainability Manager (Transport)	Part
DPA.O.T.2.3	Develop and manage contracts for University bus services including Unibus	Services provided in line with defined KPIs	2021/2022	2025/2026	H	Sustainability Manager (Transport)	Yes

Activity ID	Activity	Activity target	Start (mm/yy or FY)	End (mm/yy or FY)	Priority (H, M, L)	Lead	Funding in place (Y/N/Part /NA)
DPA.O.T.2.4	Partner with commercial operators to provide staff and students with access to other high-quality public/shared transport services for commuting and other daily journeys	Financial assistance and other support available to staff and students	2021/2022	2025/2026	M	Sustainability Manager (Transport)	N/A
DPA.O.T.2.5	Offer advice, practical support and incentives to encourage and continue the use of all sustainable travel modes for commuting and other daily journeys, e.g. through behaviour change campaigns, volunteer champions training and free cycle clinics	Communications plan implemented and reviewed annually as part of wider sustainability plan	2021/2022	2025/2026	M	Sustainability Manager (Transport)	Yes
DPA.O.T.2.6	Support academic faculties and professional services divisions to reduce the impacts of commuter and business travel through the Climate Action Plan (CAP) process	100% of CAPs to include strategies for reducing travel and transport impacts	2021/2022	2025/2026	L	Sustainability Manager (Transport)	N/A
DPA.O.T.2.7	Embed the sustainable travel hierarchy outlined in the business travel toolkit in all University policy and practice	Consideration of climate risk included in Global Travel Approval System	2021/2022	2022/2023	M	Sustainability Manager (Transport, Special Projects)	N/A
DPA.O.T.2.8	Strengthen management controls to reduce compliance risk and improve environmental performance in the University's use of grey fleet vehicles for business travel	Fleet management system and supporting policies adopted and in operation	2021/2022	2022/2023	H	Sustainability Manager (Transport, Special Projects)	Part
DPA.O.T.2.9	Develop cost-effective alternatives to grey fleet use for staff business travel, e.g. e-bikes, public transport offers, rental vehicles, car clubs etc.	Pool electric bike scheme implemented E-cargo bikes operational Enhanced access to pool cars, rental and car club vehicles Enhanced public transport offers for staff	2021/2022	2024/2025	H	Sustainability Manager (Transport, Special Projects)	Part
DPA.O.T.2.10	Develop and deliver a plan in line with wider Scope 3 carbon targets for reducing air travel by staff and students for business (including academic) purposes	Plan adopted and in operation	2021/2022	2025/2026	H	Sustainability Manager (Transport, Special Projects)	No
DPA.O.T.2.11	Support University initiatives (other than expansion of remote teaching and learning, as above) to reduce air travel by students for termly international commuting	Engage with relevant internal and external stakeholders as opportunities arise	2021/2022	2025/2026	L	Sustainability Manager (Transport, Special Projects)	No
DPA.O.T.2.12	Collaborate with academic colleagues and external partners to develop opportunities for applying innovative personal mobility solutions to private car use, e.g. mobility as a service, e-bike rental, shared driverless pods.	Engage with relevant internal and external stakeholders as opportunities arise	2023/2024	2025/2026	L	Sustainability Manager (Transport)	No
DPA.O.T.3.1	Develop and implement a coherent approach to fleet management (including University-owned, leased, rental and staff-owned vehicles) to improve efficiency, environmental performance and compliance, including with CAZ	Fleet management system and supporting policies adopted and in operation Driving licence and grey fleet vehicle checking system in operation 100% ZEVs in University owned and leased fleet	2021/2022	2025/2026	H	Sustainability Manager (Transport, Special Projects)	Part
DPA.O.T.3.3	Include low carbon / zero emissions criteria in the specification for all University contracts for the supply of transport services and/or goods delivered to campus	Emissions criteria included in specification for all new University contracts for the supply of transport services and/or goods delivered to campus	2021/2022	2025/2026	M	Sustainability Manager (Transport, Special Projects)	N/A

DPA.O.T.3.4	Implement a revised parking policy for departmental, contractor and visitor vehicles to limit vehicle movements and parking across the Estate to essential business users only, and generate revenue for investment in sustainable travel options	Revised policy adopted and in operation	2021/2022	2024/2025	H	Sustainability Manager (Transport)	No
DPA.O.T.4.1	Establish a governance framework integrated with that for the wider sustainability strategy to oversee delivery and review of the transport plan	Framework adopted, monitored and reported on	2021/2022	2021/2022	H	Sustainability Manager (Transport)	N/A
DPA.O.T.4.2	Build partnerships with key city transport planning actors (BCC, WECA, First etc) to influence policy and investment in major transport scheme, e.g. CAZ, and collaborate on joint initiatives	Engage with relevant external stakeholders as opportunities arise	2021/2022	2025/2026	M	Sustainability Manager (Transport)	N/A
DPA.O.T.4.3	Develop and implement site-specific travel and transport plans for the main Clifton campus, Langford Campus and the student residential estate to support delivery of this strategy	Site-specific - major campus travel and transport plans adopted by the University and implemented as appropriate	2022/2023	2023/2024	H	Sustainability Manager (Transport)	Part
DPA.O.T.4.4	Develop and implement an ambitious travel and transport plan for TQEC, integrated with neighbouring developments and the city's aspirations for the wider Enterprise Zone	Site specific travel and transport plan for TQEC in place for opening of Cattle Market site	2021/2022	2025/2026	M	Sustainability Manager (Transport, Special Projects)	Part
DPA.O.T.4.5	Set an aggregate target for % reduction in total annual transport-related carbon emissions to align with University-wide emissions reduction target, with separate declining target for the balance of unavoidable emissions to be offset	Target agreed and reported on	2021/2022	2022/2023	M	Sustainability Manager (Transport, Special Projects)	N/A
DPA.O.T.4.6	Develop a comprehensive framework for monitoring and reporting on the delivery and outcomes of this strategy, establishing the baseline and setting targets for the KPIs shown and developing further supporting targets in each of the site-specific delivery plans	A comprehensive framework adopted by Sustainability and outcomes reported as appropriate	2021/2022	2023/2024	H	Sustainability Manager (Transport)	N/A
DPA.O.T.4.7	Collate and analyse monitoring data, other management information and feedback from ongoing stakeholder engagement and deploy the findings to inform the further development of this strategy	Communicate data and feedback as appropriate	2021/2022	2025/2026	H	Sustainability Manager (Transport)	N/A
DPA.O.T.4.8	Monitor developments in the transport policy and practice to ensure this Delivery Plan responds to changing priorities, emerging risks, opportunities for innovation and stakeholder expectations.	Annual review of the Transport Delivery Plan	2021/2022	2025/2026	M	Sustainability Manager (Transport)	N/A
DPA.O.T.4.9	Ensure the delivery and outcomes of this strategy are effectively communicated to staff, students and other key stakeholders, e.g. through an annual report	Contribute to the delivery of the Sustainability strategy and University annual reports	2021/2022	2025/2026	H	Sustainability Manager (Transport)	N/A

3. Delivery

3.1 Governance

This Delivery Plan implementation will be managed by Sustainability, working with key internal and external stakeholders, and staff/students across the University.

This Plan will be implemented through a hierarchy of plans, policies and standards (as illustrated in Figure 5 below):

- (i) A series of site-specific travel and transport delivery plans for each of our three campuses (Clifton, Langford and Temple Quarter) and the student residential estate. These plans will be developed according to a common framework (see Appendix B) while recognising local constraints and opportunities for contributing towards the overall strategy. There will also be delivery plans for addressing the cross-cutting transport challenges identified in this Delivery Plan such as fleet management and air travel.
- (ii) A range of other University policies and strategies providing the framework for transport-related investment, management decision-making and working practices.
- (iii) A suite of technical standards to ensure campus development and operations deliver transport outcomes consistent with the aims of this Delivery Plan, e.g., Generic Project Requirements; BREEAM sustainable construction standards for new and refurbished buildings; and emissions standards for University fleet vehicles. Where required, new bespoke standards will be developed to complement existing industry / sector-specific ones.

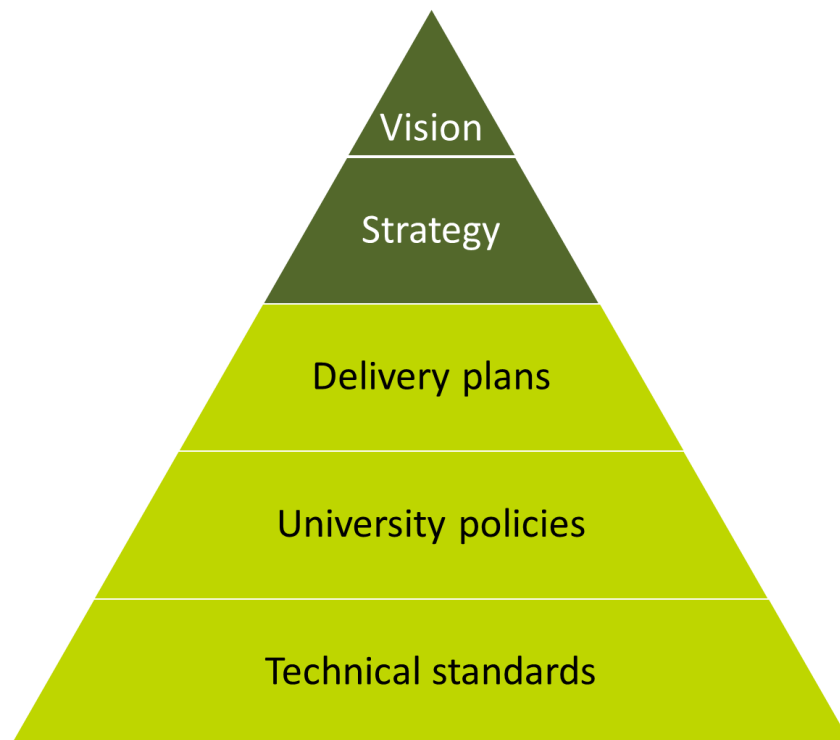


Figure 5: Travel and transport Delivery Plan hierarchy

3.1.1 Approach – the tools we will use

As listed above, the actions required to achieve the aims of the Delivery Plan fall into three categories:

- Building and infrastructure design – the planning and construction of buildings, public realm etc. in ways that reduce the need to travel and embed sustainable transport behaviours for the long term.
- Delivery of transport services – the development and implementation of facilities and services providing options for sustainable travel and transport within an emerging or existing infrastructure context.
- Policy and communications – a framework of policies, regulations and standards governing day-to-day and operational transport choices by staff and students, supported by marketing and engagement to maximise use of sustainable options.

In practice, the interventions used will depend on the constraints and opportunities presented by the context in which we are working, as illustrated in Figure 6 below.

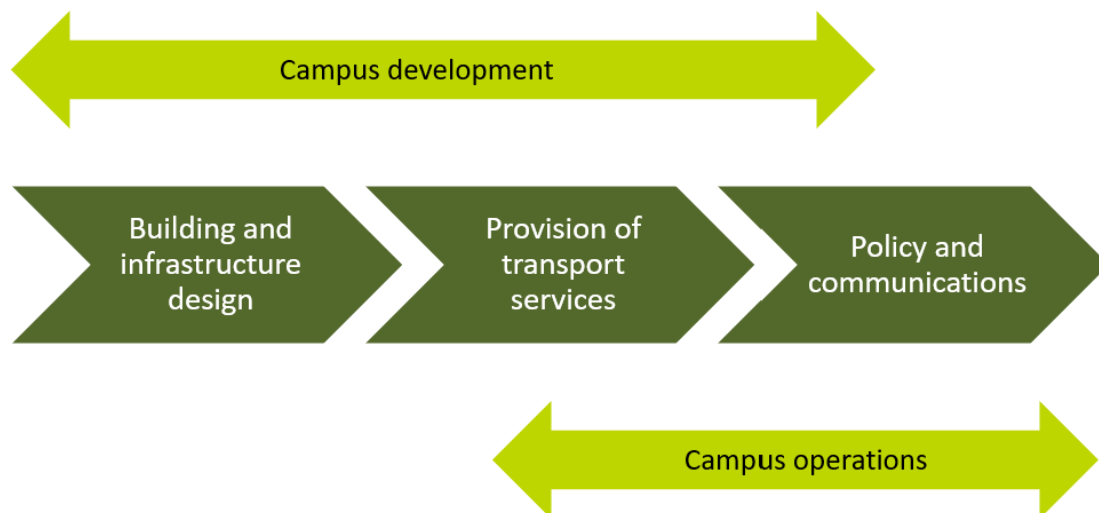


Figure 6: Transport measures in the campus lifecycle

Major campus development projects, e.g., Temple Quarter Enterprise Campus, the new library, will have a major influence on the success of the Delivery Plan. They provide key opportunities to influence the design of buildings and infrastructure in a way that reduces movement and prioritises active low-carbon transport; to deliver services to meet the demand for travel and transport (e.g., new scheduled bus service, car club); and to undertake communications campaigns to shape day-to-day transport choices of new building occupants (after which this becomes a campus operations activity).

In other contexts, a more limited range of interventions will be available to influence transport outcomes. For example, in day-to-day campus operations, transport activity will be focused mainly on the delivery of 'soft' transport services (e.g., ticketing for University bus services and behavioural campaigns) and monitoring and development of travel-related policy.

Working with others to provide a joined-up solutions across and beyond the University is critical to the success of this Delivery Plan, for example amongst others, working with the City Council to enhance its Spatial Framework and with Network Rail to realise the ambition for a new 'Eastern Entrance' at Temple Meads train station, bringing students, staff and visitors right into the heart of TQEC.

3.1.2 Principles - the way we aspire to work

The following ACTIVE principles describe the way we aspire to work on delivery of the transport Delivery Plan

- **Ambitious:** taking an ambitious approach to minimising carbon emissions and other environmental impacts of the travel and transport generated by the University
- **Collaborative:** maximising shared value through open communication and joint working with staff and students, neighbours, partners and other stakeholders
- **Transparent:** embedding transparent plans to ensure sustainable transport provision at each campus / site within the network of services is available across the University and neighbouring areas
- **Innovative:** developing and applying the most effective new solutions in personal mobility and logistics management to meet changing operational requirements
- **Verifiable:** providing a robust, measurable and challenging management framework, integrating site-specific delivery plans with over-arching transport and sustainability strategies, to ensure alignment and continuous improvement
- **Engaging:** proposing explicit, engaging, public-facing plans to enhance travel and transport to and across the University, improving the travel experience whilst achieving low-carbon targets

3.2 Resources

Significant levels of both capital and revenue funding will be required to deliver this Plan over the next five years, with increased staffing levels within the Sustainability Team. These funding requirements will be kept under constant review.

It is anticipated that funding will come from a range of sources including:

- university resources including car parking income;
- student rent contributions;
- bids for grants from Bristol City Council and other third parties;
- s106 contributions; and
- private investment – in addition to the above capital and revenue funding.

3.3 Engagement

Successful delivery of this plan will rely on effective, timely engagement with a range of internal and external stakeholders.

Within the University, senior level buy-in to the aims of the plan will be essential to secure the resources and other support required for implementation. To ensure effective delivery of the activities set out in the plan, the Sustainability team will need to work with colleagues within Campus Division, other professional services divisions and academic faculties, as well as student representatives.

With its main campus woven into Bristol's urban fabric, the University relies to a large extent on transport infrastructure and services provided by the city and wider region for thousands of

day-to-day movements of both people and goods. As such, close working with local and combined authorities will be essential for successful delivery of this plan.

3.4 Risk

The key risks to delivery of this Plan include:

- lack of staff and funding resource to deliver the activities shown;
- failure of policy and investment decisions within the wider University to account for transport-related impacts;
- changes in the external (local or national) policy environment;
- unintended consequences of major external transport schemes;
- deterioration or other adverse changes to local transport infrastructure and services; and
- failure to secure support of other divisions and faculties for changes to university transport-related policy.

A dynamic risk register encompassing the above and other emerging risks will be developed to support delivery of this plan.

4. Monitoring and reporting

4.1 Monitoring

Delivery plan aim ID	Aim Target (s)	Delivery date (FY)
DPA.O.T.1	% ratio of cycle parking spaces per total staff and student FTE across the estate	2025/2026
DPA.O.T.1	Collect and analyse cycle parking baseline data by end 2022/2023 to set the above cycle parking target aim	2022/2023
DPA.O.T.1	100% new campus developments exceeding BREEAM Excellent for sustainable transport provision	2025/2026
DPA.O.T.2	96% of daily student journeys to study to be made by walking, cycling and public transport modes of transport	2025/2026
DPA.O.T.2	85% of daily staff journeys to work to be made by walking, cycling and public transport modes of transport	2025/2026
DPA.O.T.2	% reduction in annual carbon emissions from daily staff and student commuting	2025/2026
DPA.O.T.2	% reduction in annual carbon emissions from staff business travel	2025/2026
DPA.O.T.2	Collect and analyse carbon emission baseline data by end 2022/2023 to set the above carbon target aims	2022/2023
DPA.O.T.3	100% of ZEVs in University owned or leased road vehicle fleet	2025/2026
DPA.O.T.3	% reduction in annual carbon emissions of University self-drive road vehicle fleet (owned/leased, rental and staff-owned vehicles)	2025/2026
DPA.O.T.3	Collect and analyse carbon emission baseline data by end 2022/2023 to set the above carbon target aim	2022/2023
DPA.O.T.4	100% major University campuses covered by travel and transport plans aligned with the strategy	2025/2026
DPA.O.T.4	100% delivery plan Aim targets defined with monitoring in place	2022/2023
DPA.O.T.4	100% of site -specific delivery plan Aim targets defined with monitoring in place	2023/2024

4.2 Reporting and review

This Delivery Plan will be reviewed annual under the oversight of the Travel and Transport sub-group. If required, a mid-term review will be undertaken in agreement with the Travel and Transport sub-group.

Appendix A: Analysis of baseline travel and transport data

Daily travel¹

With over 27,000 students and around 7,000 staff, the University generates many thousands of daily journeys to, from and between its main Clifton campus and other sites within Bristol and North Somerset including several Trust hospitals, Bristol Veterinary School, the National Composites Centre and a diverse student residential estate.

(i) Students

Daily commuting journeys are defined for students principally by the locations of their University-allocated or private accommodation and their main place of study:

- More than a quarter of all students enrolled at the University live in student residences provided by the University or one of its accommodation partners².
- A cluster of residences at Stoke Bishop around two miles north of the main Clifton campus (North Village) accounts for nearly a third of University-allocated student beds.
- Further University-allocated accommodation is provided for both undergraduate and postgraduate students in residences in Clifton (West Village) and in and around the city centre (East Village).
- According to the 2020 student travel survey³, around 70% of student private accommodation is located in one of five Bristol postcode areas covering Clifton, Redland, Bishopston, Easton, Bedminster, and the city centre, i.e., roughly within a two-mile radius of the main campus.

Since 2012, student residences at Stoke Bishop have been connected to the Clifton campus by a bus service provided under contract to the University by a commercial operator and funded through student rental income (supplemented with on board fare revenue from members of the public). Although their need for bus travel to and from the main campus is less because of their proximity, this service is also available (via a bus pass provided with their accommodation) to students living in University-allocated residences in Clifton and the city centre.

A second University bus service (Unibus U2) launched in 2018/19 to connect the main Clifton campus with the Bristol Veterinary School at Langford, North Somerset. Students living in private accommodation in Bristol rely mainly on walking, cycling or the city's bus network to access the campus on a daily basis.

Travel survey data shows generally high levels of daily mobility among students with walking, cycling and public transport accounting for most day-to-day journeys, for example in 2019/20:

- Nearly two-thirds of all students travelled to and from their main place of study on at least five days of each week during term time;
- More than a quarter of students made multiple return journeys between their accommodation and main place of study on a daily basis; and

¹ This section uses annual data for the most recent complete year available prior to the start of COVID-19 travel restrictions in March 2020

² The student residential estate is expected to grow significantly over the strategy period with a further 2,250 beds being added in mainly leased accommodation provided by 11 proposed schemes of which seven (with a total of around 1,650 beds) are located in or close to Temple Quarter.

³ Survey conducted in February and March 2020 prior to the start of COVID-19 travel restrictions

- More than 60% of these daily journeys were on foot, 9% by bike and 20% by bus – see Figure A1 below.

In addition to commuting to and from campus, student daily travel typically consists of multiple other journeys between University buildings for study purposes and to and from campus (or their accommodation) for shopping, leisure, sport, work, or other personal purposes.

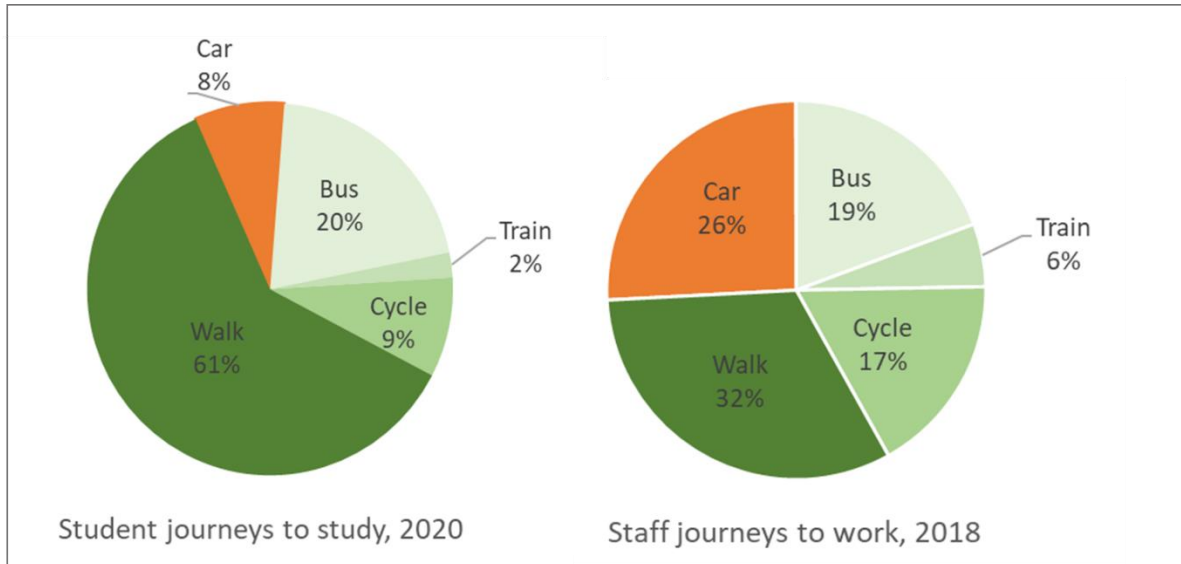


Figure A1: Travel mode share for daily commuting

For more occasional group travel (e.g., for field trips or sporting events), the University frequently provides transport in the form of contract coach hire.

(ii) Staff

The daily commuting patterns of University staff depend to a large extent on their home location, working hours and the relative costs and benefits of different travel modes.

According to the 2018 staff travel survey, the majority of University staff live within a 5km radius (as the crow flies) of the main Clifton campus. This proximity helps explain why walking and cycling represent around half of all staff daily commuting journeys. The remainder are evenly split between car use and public transport (see Figure A1).

The University provides staff car parking on a permit and voucher system on its main Clifton campus. In 2018/2019 (the last complete pre-covid year) a total of 785 staff permits were issued permits based on an assessment of need, including availability of public transport and caring responsibilities. No formal staff parking policy is in place for Langford campus or at Stoke Bishop.

Although generally less mobile than students during the working day, staff may also move between University buildings to fulfil routine work responsibilities, e.g. teaching, maintenance, or for less regular commitments such as meetings or site visits. Although detailed data are not available, the local spread of many University buildings in Clifton and the city centre suggests potential for much of this 'internal' business travel to be undertaken on foot, by bike or by University bus service. Other business travel during the day to and from satellite sites such as Stoke Bishop, Langford, NHS hospitals (other than the BRI (Bristol Royal Infirmary)) and the National Composites Centre is more likely to be undertaken by car, either a University pool vehicle or staff-owned.

Operational and supply chain transport

The University relies heavily on road transport for its own operational requirements and in its supply chain.

It operates a fleet of around 100 road vehicles for a range of activities such as deliveries, building and grounds maintenance, student transport, specialist research activity and staff business travel. Two thirds of the University's Road vehicle fleet is operated by Campus Division for maintenance, security, deliveries, and servicing of student residences.

Nearly 80% of the University's Road vehicle fleet is diesel or petrol-powered. Accurate fleet utilisation data is not available but based on an analysis of fuel costs, the total mileage of the University fleet in 2018/19 (including non-road vehicles such as tractors) was estimated at around 600,000 miles.

The University also generates many thousands of road vehicle movements each year through purchasing of goods and services. These include:

- regular deliveries of consumables for academic and professional services departments;
- less frequent deliveries of special-order items such as furniture, IT equipment etc;
- regular/ongoing servicing of buildings, e.g., recycling collections, electrical contractors;
- deliveries of heavy plant and materials plus daily site contractor movements for capital development projects; and
- online deliveries to student residences.

In addition to the local impacts of congestion, noise and air pollution caused by vehicle movements to and from the campus, transport in the supply chain adds to the University's wider carbon footprint through emissions from road and air freight of goods from all over the world.

Long-distance travel

Driven by internationalisation across the higher education sector, long distance travel by staff and postgraduate researchers for business and academic purposes has grown significantly over the past ten years with air travel accounting for most of the growth.

It is estimated that in 2018/19 staff and PGRs (Postgraduate researchers) travelled a total of around 36 million miles on academic and other University business, of which distance more than 85% was covered by air. Although greater distances are travelled by rail (around 3.5 million miles in 2018/19), car remains an important mode for mainly domestic business travel with over 700,000 miles travelled by staff in their own vehicles (with mileage claimed back through the expenses system) and a further 180,000 miles in rental vehicles.

In addition to this direct travel footprint, the University currently hosts more than 6,500 international students, most of whom travel to and from their home country at least once a year, predominantly by air.

Environmental impacts

The key environmental impacts of University travel and transport are:

- greenhouse gas (GHG) emissions, mainly from air travel;
- local air pollution (and noise) from road vehicles; and
- land use and loss of potential biodiversity from transport infrastructure, e.g. car parks.

Of these, greenhouse gas emissions and local air pollution present the most urgent challenges owing to external policy pressure aimed at mitigating their far-reaching impacts on human health, nature, and the economy.

(i) Greenhouse gas emissions

Transport is the single biggest source of the domestic GHG emissions driving the UK's contribution to global climate change. Excluding international aviation, the sector is responsible for 28% of the UK's domestic GHG emissions with two-thirds of transport emissions coming from cars and vans⁴.

Decarbonising transport is recognised as one of the most significant challenges to the UK's goal of achieving net zero emissions by 2050. Domestic transport emissions have declined by just 3% since 1990 (compared with a 68% reduction in the power sector⁵). While sales of new petrol and diesel cars will be banned from 2030, at present less than 0.1% of the 32 million cars on our roads are electric⁶.

Globally, air travel has been one of the fastest growing sources of GHG emissions and remains the most carbon-intensive mode of transport. Before the coronavirus pandemic, it was anticipated that aviation emissions would grow to consume up to one-quarter of the global carbon budget by 2050, undermining the Paris Agreement efforts to keep global temperature rises to 1.5°C⁷.

Excluding the wider supply chain which cannot be estimated with any degree of certainty, the University's total transport-related carbon footprint consists of four main categories of emissions. These have been estimated for 2018/19 as follows:

Emissions category	Description	tCO₂e	Source
Staff and student daily commuting	Indirect emissions from road and rail transport used by staff and students for daily commuting	4,800	Analysis of University staff and student travel surveys (2018)
Academic and business travel	Indirect emissions from all forms of air and surface transport used by staff and students for in the course of work and study (business and academic travel)	13,000	University carbon emissions reporting (Scope 3)
Termly commuting	Indirect emissions from all forms of air and surface transport used by students for termly commuting.	30,000	Preliminary analysis of the 2020 student travel survey
Operational transport	Direct emissions from use of University-owned and leased vehicles for operational purposes	200	University carbon emissions reporting (Scope 1)

⁴ <https://www.gov.uk/government/publications/creating-the-transport-decarbonisation-plan>

⁵ <https://www.theccc.org.uk/our-impact/reducing-the-uks-emissions/>

⁶ <https://energysavingtrust.org.uk/blog/path-net-zero-transport>

⁷ <https://www.transportenvironment.org/publications/roadmap-decarbonising-european-aviation>

Totalling around 48,000 tCO₂e, these transport-related emissions are more than a third higher than total emissions associated with energy use across the University estate (35,400tCO₂e in 2018/19) – see Figure A2 below. As might be expected, owing to the dominance of international journeys, air travel is responsible for the majority of transport-related emissions, with an estimated share of around 85% in 2018/19.

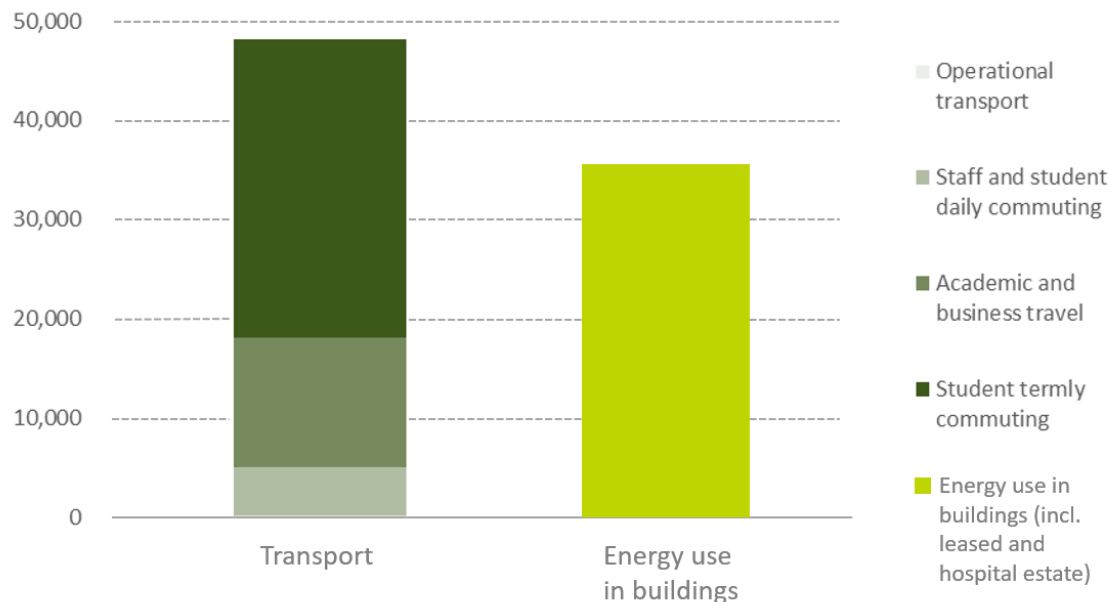


Figure A2: UoB carbon emissions by source, tCO₂e (estimated), 2018/19

(ii) Air quality

Air pollution caused by road vehicles – in particular, emissions of nitrogen oxides (NO_x) and particulate matter – has major impacts on human health and the environment.

In Bristol, where NO_x levels frequently breach legal limits, it has been estimated that as many as 300 people die prematurely each year due to exposure to these pollutants.

In response to a deadline set by government, Bristol City Council is implementing a Clean Air Zone (CAZ) starting in November 2022.

This will introduce daily charges for older, more polluting vehicles across the city centre and harbourside areas.

The most significant direct impact of the scheme will be on the University’s own fleet transport operations for deliveries, building and grounds maintenance, student transport, research, outreach and business travel.

To improve compliance with the CAZ (and support the University’s net zero ambition) the University has launched a Cleaner Fleet Programme including investment in new electric vehicles and e-cargo-bikes and introduction of a fleet management system.

Appendix B: Template for Site-specific travel and transport delivery plans

1. **Introduction**

1.1. Purpose

- Local delivery of key transport and sustainability strategy commitments
- Support site-specific academic, operational, and business objectives

1.2. Background to the plan

- Previous travel plans
- Overview of University Transport and Transport Delivery Plan, including Vision and Aims
- How the plan has been developed – consultation etc

1.3. Structure on the plan

2. **Scope**

2.1. What this plan covers

3. **Ownership**

3.1. Accountability for the delivery of this plan

4. **Key challenges**

4.1. Site specific challenges facing delivery of this plan

- Funding
- University growth
- Teaching practices
- Geographical location
- Estates space utilisation
- City transport infrastructure
- Other

5. **Baseline**

5.1. Site location and context

- Existing buildings, function and occupancy
- Existing transport infrastructure and services
 - Local highway network
 - Pedestrian facilities, public realm
 - Cycle routes, parking
 - Bus services, facilities
 - Car and motorcycle parking, including electric vehicle charging facilities
 - Other UoB support for sustainable travel (tickets, promotions)

5.2. Current travel and transport patterns (with reference to Delivery Plan KPIs (Key Performance Indicators))

- Staff and student daily travel
- Academic and business travel
- Operational transport
- Other transport impacts (e.g., termly commuting, visitor travel)

5.3. Local policy context

- Local transport plan
- Spatial strategies

6. **Site development plans**

6.1. Summary of capital development programme

7. **Objectives and targets**

7.1. To deliver the aims of the University Travel and Transport Delivery Plan, through targets for relevant Transport Delivery Plan KPIs

- **Aim 1:** Reduce demand for travel and transport and reliance on motorised modes through smart working practices and campus development
 - Local targets for relevant KPIs
- **Aim 2:** Make sustainable travel the first choice for essential commuting and business journeys
 - Local targets for relevant KPIs
- **Aim 3:** Minimise the environmental footprint of operational and supply chain transport by reducing journeys and shifting to zero-emission technologies
 - Local targets for relevant KPIs
- **Aim 4:** Other locally specific objective(s)
 - Local targets for relevant KPIs

8. **Action Plan**

8.1. Measures to be taken at site level to implement Delivery Plan actions under each aim (as above) with responsibility and timescale attached to each

9. **Governance, monitoring and review**

9.1. Local governance structure to oversee delivery

9.2. Monitoring and review

- Surveys
- Reporting