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LEICESTER CITY COUNCIL

Workplace Parking Levy: An evidence-based review of policy and prospects for Leicester

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EXECUTIVE SUMMARY

Travel behaviour, public transport provision, accessibility, road traffic congestion, and local air quality are central to debates surrounding sustainability, urban living, individual health and wellbeing, environmental justice and social mobility.

The City of Leicester has a long history of pioneering urban sustainability and regeneration through carefully-targeted transport interventions and policy innovation. This legacy gives the City a strong foundation from which to respond to the contemporary challenges of population growth, demographic change, the climate emergency and health inequalities. In common with other cities worldwide, the COVID-19 pandemic has significantly impacted Leicester-based businesses and residents by affecting how and where people work and how they access basic provisions, medical care and leisure facilities in the city. As Leicester looks to the future, the role of transport will be key to delivering new opportunities and unlocking additional economic potential.

The purpose of this Report is to provide an objective and academic evidence-based review to help inform Leicester City Council's proposal to introduce a Workplace Parking Levy (WPL) in the City. It reviews the background to transport demand management options, offers case study examples of existing and proposed WPL schemes in the UK, and provides current best practice advice to Leicester City Council. The Report demonstrates that Leicester is not alone in considering a WPL and that, with careful consultation, communication and management, a WPL scheme could deliver a valuable hypothecated revenue stream which could be used to invest in strategically significant improvements in public and active transport networks in the City and leverage additional matched funding.

There are a number of key conclusions that can be drawn from this evidence review relating to a WPL in the context of the City of Leicester:

- Leicester continues to devise and deliver ambitious new plans for tackling the climate emergency, traffic congestion, urban air quality, and population growth while ensuring the city remains a vibrant city in which to live, work and invest.
- In light of the current economic situation and challenging funding environment, lessons from Nottingham suggest that Leicester could use a WPL to raise direct funds to support transport infrastructure improvements and leverage additional match funding.
- Other Local Authorities, London Boroughs and major cities are considering a WPL and so it could be considered both timely and politic for Leicester to be investigating a WPL scheme for the city.
- A WPL is quicker and easier to implement than a road user charge and is generally more publicly acceptable.
- A stable political environment has proved to be conducive to the introduction of a WPL in Nottingham and the same is likely to be true in Leicester.
- Consideration needs to be given to complementary measures such as Controlled Parking Zones (CPZs) and on street charging to counter any potential 'displaced parking' effect of commuters parking in adjacent streets and residential areas.
- Businesses need to be consulted and their input can help shape the nature of the Levy and inform priorities for investment.

Based on the experience of WPLs in other cities and the findings from peer-reviewed

academic research relating to the WPL, the following recommendations are proposed:

- The need for a WPL in Leicester, and its benefits to the city, will need to be clearly explained to all affected businesses and related stakeholders.
- WPL objective/s must be clearly stated and readily quantifiable.
- The geographic boundary of the Levy must be appropriate, clearly defined, deliverable and enforceable.
- Exemptions, discounts, and the rationale for them, must be clearly stated and justified.
- The Council will need to clearly state how the hypothecated revenue from the WPL will be utilised.
- There will be a need for clear and consistent communication and consultation between the Council and all affected businesses.
- A Leicester WPL policy champion, who acts as a focal point of the policy, is important.

1. INTRODUCTION

1.1 Purpose of the Report

The purpose of this Report is to provide an objective and academic evidence-based review of relevant demand management measures and, specifically, the role of the price mechanism, that underpin Leicester City Council's proposal for the possible introduction of a Workplace Parking Levy (WPL) in the City of Leicester. It reviews the background to transport demand management options, offers case study examples of existing and proposed WPL schemes, and provides current best practice advice to Leicester City Council.

This Report has been commissioned by Leicester City Council and prepared by Leicester Castle Business School, De Montfort University.

1.1.1 Background to the WPL

The Transport Act (2000), amended by the Local Transport Act 2008, enables Local Authorities in England (excluding London) and Wales to implement a Workplace Parking Levy (hereafter WPL). In London it is the Greater London Authority Act (1999). A WPL imposes a charge on employers providing liable car parking spaces at the workplace. The legislation stipulates that the net revenue generated by a WPL is hypothecated (ring-fenced) to fund transport improvements that facilitate the achievement of 'local transport policies'. These could include investment in walking and cycling infrastructure, enhancements to public transport provision, improvements to the urban realm and schemes to reduce reliance on the private car. To date, only one English city (Nottingham), has introduced a WPL although a number of English local authorities, UK cities, and London Boroughs (as detailed in Section 3.1 of this Report) are considering introducing one. Although a WPL scheme offers a number of potential benefits, its introduction requires careful and considered consultation, communication and management.

1.2 Structure of the Report

This Report is divided into three principal sections. Following this brief introduction, Section 2 presents a detailed evidence-based review of the extant academic literature pertaining to transport in Leicester and the options for demand management. Section 3 specifically addresses the proposed WPL in Leicester, while Section 4 presents the conclusions and recommendations.

2. BACKGROUND AND CONTEXT

2.1 Transport in Leicester

The provision of a safe, affordable, accessible and environmentally sustainable integrated urban transport network is a prerequisite for economic growth, social equity and citizen wellbeing. Leicester, a city of 28.31sq miles and approximately 360,000 residents, is the 10th most populous city in the UK. According to the United Nations Population Division (2018), the Leicester Urban Agglomeration, which includes the Leicester City Council Area and contiguous suburbs, will have a population of 552,000 in 2020, making it the 14th most populous urban agglomeration in the UK. Leicester's population is forecast to increase to 596,000 people by 2030 (United Nations, 2018) and this will inevitably place new demands on the provision of sustainable housing and transport. As a result, the City will need to introduce transport and planning policies which seek to reconcile economic development and environmental protection (c.f. Bulkeley and Rayner, 2003), not least given the challenges presented by the Climate Emergency.

Leicester has a sustained history of leadership in this area. The City Council has championed sustainable living and urban renewal for well over 30 years. Leicester was awarded Britain's first 'Environment City' status in 1990 in recognition of its efforts to enhance the City's natural environment. This was followed by European Sustainable City status in 1996 (see Roberts, 2000). In the late 1990s, the city became a demonstration site for two innovative transport research projects.

MOMENTUM (MObility manageMENT for the Urban environMENT) was an EC funded R&D project (1996-98) that involved Leicester City Council, the City's two Universities and one of its hospitals. Collectively, these organisations generated c.50,000 daily trips to the city centre, 60% of which were undertaken in private cars. The research focused on what these organisations could do to counteract growing car use and car dependency among workers and visitors. The findings revealed considerable potential for modal shift and identified a need for better co-ordination, enhanced service information and 'adequate incentives' to encourage people to use alternative modes for commuting and business trips (Camara, 1999). At around the same time, the Leicester Environmental Road Tolling Scheme (LERTS) trial (August 1997-May 1998) explored the potential for electronic road tolling in an urban area. LERTS assessed the extent to which road user charging could contribute to enhanced traffic management (Wright and Burton, 1999). However, the scheme was only ever envisaged as a trial and so was not extended beyond the planned demonstration phase.

The City Council continued its long-standing programme of making strategic investments in transport infrastructure to improve transport provision and mode choice within the City into the 2000s. Major new retail and industrial developments, including the opening of the Highcross shopping complex and new Curve Theatre in 2008 and developments including Colton Square and Abbey Meadows, accelerated the urban renewal and regeneration of former manufacturing sites in the city.

The economic regeneration of these areas resulted in greater transport pressures but also created opportunities to improve the transport network. The Highcross shopping centre

development, for example, was accompanied by the pedestrianisation of High Street and the repaving of much of the central shopping area. The car-free spaces made walking and cycling safer and more attractive options. Evidence from studies of commercial footfall show that there was an increase in pedestrian activity in these designated areas (Leicester City Council, 2011a). Other redevelopments in Jubilee Square and the provision of dedicated cycle lanes on Welford Road and Oxford Street for example, quickly followed.

The City Council's 'Connecting Leicester' vision and associated development programme has invested over £100m in public and sustainable transport since 2011. The programme has included the provision of new high-quality cycling and walking infrastructure in and around the city centre, and improvements in the public realm through revitalised streets and the creation of award-winning public squares and spaces. The City Council and its strategic partners are taking a lead in tackling the climate emergency by resolving to become carbon neutral by 2030. At the same time, the Council has committed to improving air quality and the health of citizens while delivering a sustainable programme of new houses and jobs.

Although Leicester supports a diverse and multicultural local economy, the City has high levels of deprivation. Despite small areas of relative affluence in areas including parts of Stoneygate and Knighton, Leicester was ranked the 22nd most deprived area in England out of 317 Local Authority areas according to the 2019 ONS indices of multiple deprivation (ONS, 2019). Some of these poorer wards and neighbourhoods are not well connected with the rest of the City and experience disproportionately higher levels of air pollution than more affluent areas (an issue discussed in Section 2.1.0).

In addition to the challenges presented by COVID-19, a growing, ageing, and ethnically diverse population of residents, who are experiencing rising levels of infirmity and disability, are placing additional pressures on the City's transport network and new solutions are required. Although the prospects of increased automation and electrification may offer new opportunities for decarbonising the city's transport system in the medium to longer term, more immediate policy interventions, that can be enacted relatively quickly and at low cost, are needed. In the sections and sub-sections that follow, the Report examines the current transport challenges in Leicester and examines how they might be addressed using different Transport Demand Management interventions, including a Workplace Parking Levy (WPL).

2.1.1 Traffic, air quality and congestion in Leicester

'Traffic congestion in the city is a waste of business money, time, efficiency and productivity.'
(Leicester City Council, 2020a)

Leicester's historical development, from its origins as an ancient settlement at a crossing point of the River Soar to a 21st century city, has resulted in a legacy of Roman, Medieval, Victorian, Edwardian, and post-war street layouts and infrastructure networks which collectively present a challenge to contemporary transport and communications. The City currently experiences high levels of road traffic congestion in parts of its highway network and its physical location, on low-lying land and adjacent terraces of the Soar, means it has some areas of poor local air quality. Three sites in the city (the A594 at Vaughan Way and St Matthews' and the A563 Soar Valley Way/Glenhills Way) breached the European guideline of 40µg/m3 for nitrogen dioxide (NO_2) in 2017. Air pollution and areas of poor air quality tend to be concentrated in less affluent areas. Research by Jephcote and Chen (2012) in Leicester discovered that although affluent intra-urban communities tended to contribute the highest levels of emissions from private transport, they experienced lower levels of exposure to transport emissions than poorer neighbourhoods and so the issue is not only a public health concern but also one of environmental justice.

As much as 80% of urban NO_2 derives from petrol and diesel vehicles and so alleviating road traffic congestion (in conjunction with the introduction of progressively stricter vehicle emissions standards including Euro V and Euro VI and the promotion of more sustainable public and active transport modes) offer a way to improve local air quality. Leicester City Council was included in the third wave of Local authorities directed by the Secretary of State for the Environment to address nitrogen dioxide air quality levels in the shortest possible time. An agreed scheme design is expected by the end of 2020 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/746119/air-quality-no2-plan-direction-2018-implement-measures.pdf.)

High levels of peak time urban traffic congestion and pollution in Leicester are not a new phenomenon and while multiple interventions over many years have sought to improve traffic flow, increased demand has in some areas has overtaken the benefits derived from incremental improvements to the road network.

According to location technology specialist TomTom, as of 2019, Leicester was the 11th most congested city in the UK and the 98th most congested in the world in their database, with a level of traffic congestion comparable to the cities of Naples, Berlin and Zurich (TomTom, 2020). According to GPS data from journeys undertaken by TomTom users in the city, an urban journey in Leicester takes, on average, 32% longer than it would if the roads were uncongested, a rise of 2% on the 2018 figure. This level of congestion rises to 62% in the morning peak and 68% in the evening peak (equivalent to an additional 19 minutes journey time on a 30-minute trip in the morning and an additional 20 minutes on an equivalent 30-minute journey in the evening). In total, TomTom (2020) calculate that Leicester drivers spend an additional 149 hours (or 6 days 5 hours) a year driving during peak periods. Given that, in

2010, 70,800 people commuted into Leicester each day, compared to 27,600 commuting out (a net in balance of 43,200), the additional time and lost productivity caused by congestion is considerable.

These statistics are comparable to those reported by the global Mobility Analytics company, Inrix. According to their 2019 Traffic Scorecard, Leicester ranks as the 14th most congested city in the UK and the 92nd most congested (of over 975 cities) in the world, with congestion costing drivers in the City an average of £569 a year (Inrix, 2020). This figure, however, did represent an improvement on 2018 when Leicester was ranked the 8th most congested city in the UK with costs per driver estimated at £1,145 and a last mile speed of only 11mph (Inrix, 2019).

The UK National Infrastructure Commission's (NIC) first National infrastructure Assessment, written in response to a 2018 report that suggested road traffic congestion was costing the UK economy almost £8 billion a year, advocated local solutions to congestion management and suggested that 'the solution needs to be found in City Halls, not Whitehall' (NIC, 2019). Certainly, congestion issues in Leicester have been known locally for many years. The 2014 Strategic Economic Plan for Leicester and Leicestershire, for example, recognised that 'inadequate transport infrastructure' was causing congestion and resulting in 'increased business costs' to the city and county. However, although the existing road network is at or near capacity in peak periods, many Leicester residents and workers feel compelled to use their cars because alternative transport modes are not available, inconvenient, unsatisfactory, considered unsafe or too expensive. This means there is considerable potential for increasing the use of cleaner and healthier public and active transport modes as well as optimising the impact of technological innovations.

2.1.2 Leicester's road network, car ownership levels and parking

The city's geographic location in central England means it is well connected to major road networks. The M1 runs to the west of the city, the M69 starts near the Fosse Park shopping complex in the District of Blaby while the A46 dual carriageway provides quick access to the north and east of the city. Unlike cities of comparable size, Leicester has no urban motorways and few dual carriageway A-roads within the city boundary. The city's road network is estimated to cover 788 km. Private vehicle (car and van) registrations in Leicester are reported to be 111,148 vehicles, giving an average of over 3 residents per vehicle. 38.3% of city households had no vehicle registered at their address (Civitas, 2020). This figure compares with a national average of around 23% and demonstrates a need for residents to access employment opportunities through improved public transport provision.

Rates of car ownership are, however, higher in some of Leicester's more affluent contiguous suburbs and surrounding villages and as many as 41% of the residents of Oadby and Wigston commute (the majority by car) into Leicester. The concentration of commuters on such radial routes provides an opportunity for targeted intervention to promote mode shift. In addition to the congestion caused by high vehicle use in the peak, drivers must locate a suitable space in which to park their vehicles during the working day or course of their shift which places pressure on land in the City.

Information on the number of parking spaces in Leicester indicates there are 8,500 designated public use car parking spaces available in the city (Leicester City Council, 2020b). Of these, approximately 1,300 are on street (and directly managed by the City Council) and 7,200 are in multi-storey car parks. A further 1,500 spaces are provided at the City's three Park & Ride sites. There are as yet, no reliable figures for the number of spaces provided by businesses for employee use at the workplace.

A 2009 survey by the City Council indicated that additional 'informal' car parking spaces were poor quality, temporary or 'grey' provision on the site of derelict land or abandoned industrial buildings that were awaiting redevelopment. Since then, the City Council has stopped some of the temporary sites using enforcement powers and a number of sites have been redeveloped. These spaces contrast with the higher quality multi-storey facilities available at the Highcross/John Lewis car park (Leicester City Car Parking Strategy, 2011b). Most car parking spaces attract a charge which is calculated according to the duration of stay (as well as time of entry/exit and the day of the week) although some spaces are free at evenings, weekends, Sundays and/or Bank Holidays.

In addition to formal, managed, car parking spaces there is some evidence that parking marketplace websites are being used by a small number of Leicester residents and businesses to rent out their driveways, reserved parking places and private land to private car users. Typically, these spaces can accommodate one or two standard-sized vehicles and are rented out at a flat daily or hourly rate. These private (often residential) parking sites tend to be located near major employers and generators of traffic which have constrained (paid for) parking. Sites which fall into this category within the city of Leicester include the Royal Infirmary, Leicester General Hospital, Leicester Tigers RFC and Leicester City Football Club, and De Montfort University.

Evidence from surveys of local companies suggests that parking is a major transport issue for the City's business community with some businesses believing there is insufficient car parking provision within the City. However, the provision is not evenly distributed as the 2009 Leicester parking study indicated that the northern part of the city centre had a surplus of spaces. Nevertheless, 31% of Leicester city-based companies who responded to the Winter 2011 Leicester and Leicestershire Business Survey, said that car parking for employees was a concern while 33% said that car parking for their customers was a concern. However, parking was less of a concern than energy and fuel costs, competition, generating new business and traffic congestion. Six years later, the 2017 Leicester and Leicestershire Business Survey reported that 88% of staff working for the surveyed companies were most likely to travel to work by private car. As a percentage of the total workforce, employers estimated that 70% of their staff use a motor vehicle to travel to work, with a further 6% using a work-owned van or car to travel from their home to an off-site location. 7% used public transport (a figure which drops to 1% for staff living in rural locations). In terms of the local transport interventions that were considered to bring most benefit to businesses, 28% said reducing traffic congestion and 25% wanted more access to car parking. Improving access for customers or employees travelling by sustainable modes of transport was perceived to offer relatively little benefit to businesses (Leicester and Leicestershire Business Survey, 2017).

2.1.3 Rail services

Leicester was one of the first UK cities to be connected to the national rail network (in 1832) and once boasted six railway stations and an urban tram network. Only the old Midland Railway station on London Road remains and in July 1973, its porte cochere, pedestrian loggia and octagonal turret were listed Grade II for their architectural interest, intactness and prominence (Historic England, 2020). It was last partially restored and upgraded in 2012. The station is situated on the Midland Mainline, 99 miles (approximately 160km) north of London St Pancras International. Pre-COVID, over a million rail journeys were made between Leicester and London each year. The station is owned by Network Rail but managed by East Midlands Railway (EMR), the current franchise holder.

The fastest non-stop journey time to London St Pancras is just over an hour on EMR's diesel-powered HST125 and Meridian Class 222 stock. Owing to a mandatory 15mph speed restriction on the lines immediately south of the station, all publicly available timetabled passenger services stop at Leicester. In 2018-2019, Leicester station was the 2nd busiest in the East Midlands, with 5,582,286 entries and exits (ORR, 2020). In comparison, Nottingham station (also on the Midland Mainline and served by EMR) recorded just over 8 million entries and exits (61st in the UK) while the station at the former Midland railway works at Derby recorded 3.9 million entries and exits (Source: ORR, 2020). Rail accounts for a very small share (albeit similar to the regional average) of journeys to/from work in Leicester. A higher proportion of Leicester's residents commute elsewhere (for example to Loughborough, London, Birmingham) by rail than the proportion of County residents (including those who travel by rail into Leicester).

The site of Leicester station is relatively constrained and the four through platforms (particularly platforms 2 and 3) are intensively used. The trackbed to the south of the station was extensively remodelled in 1986 but the tracks leading to the platforms still have to pass between the piers supporting the A6 London Road above. A through freight line runs to the east of Platform 4 adjacent to the carriage sidings. Up to 30 freight trains per day can pass through Leicester. Under normal operating conditions, platforms 1 and 4 provide bi-directional working while platform 2 serves predominately northbound (down) workings while platform 3 caters to southbound (up) workings. The Train Maintenance Depot to the north of the station has been upgraded and is currently owned and occupied by UKRL, a rail leasing company.

EMR provide hourly fast, semi-fast and second fast services north to Nottingham or Sheffield (peak time to Leeds) and south to London. Cross Country Trains provide hourly fast and semi-fast passenger services from Leicester to Birmingham New Street and hourly services to Cambridge/Stansted Airport (and peak time to Sleaford) with 2 or 3 car DMUs (Diesel Multiple Units). The Ivanhoe line, operated by EMR, connects Leicester via an hourly all-stations 2 car DMU service to Lincoln Central.

Direct rail services used to run from Leicester to both Liverpool Lime Street and Coventry (the latter via Nuneaton and Bedworth). A proposal to explore the reinstatement of the Coventry service is being progressed by Midlands Connect together with local partners including the city and county councils. There are also proposals to return passenger services to the freight-only 31-mile line between Leicester and Burton on Trent via Coalville and Ashby-de-la-Zouch

which closed to passenger traffic in 1964. The proposal, which was one of ten bids which were successful at the first stage of the Department for Transport's '*Restoring Your Railway Ideas Fund*' (DfT, 2020), would (among other things) require the reinstatement of a missing chord at Knighton junction (south of Leicester station) to permit through running. The Campaign for the Reopening of the Ivanhoe Line (CRIL) advocate the construction of new stations at Leicester South (for the King Power Stadium) and Meynells Gorse (to interchange with the Park & Ride site) as well as the reinstatement of stations at Bagworth and Ellistown, Coalville, Ashby, Moira, Gresley and Drakelow and the provision of a twice-hourly passenger service (CRIL, 2020).

2.1.4 Buses and long-distance coach services

Leicester has two bus stations. St Margaret's, located a 15-20 minute walk to the north of the railway station, serves local and regional service buses (including the shuttle to East Midlands Airport) and long-distance bus and coach operators including National Express. St Margaret's Bus Station and a link to the Haymarket via Mansfield Street has recently been completed. £10.5 million has been awarded for the redevelopment of the bus station through the LLEP's £20m 'Getting Building' fund which was awarded in summer 2020.

The City's second bus station at the Haymarket is slightly closer to the railway station (walking time 10-15 minutes). It was extensively redeveloped in 2015/16 to provide a new covered concourse, enhanced waiting areas and new passenger information screens. The Haymarket Bus Station primarily supports local and suburban routes operated by Arriva Midlands, First Bus and Centre Bus. In addition to timetabled routes, an on-demand 'Arriva Click' service is funded through a Section 106 agreement to link new housing developments to the south west of Leicester with the city centre. Leicester is also served by three Park & Ride sites from which direct bus services provide a fast and frequent link to the city centre. The 'Hospital Hopper' service, currently contracted to Centre Bus, links the City's three hospital sites and the railway station.

The recent remodelling of the front of the railway station has created a safer space for pedestrians, cyclists and dedicated bus lanes. The majority of Leicester's radial routes into the City feature dedicated bus lanes – some of which are 24 hours and others which are active at peak times (typically 7am-9am inbound and 4pm-6pm outbound). Camera enforcement is used on many bus lanes to identify and fine the owners of cars which enter them. A limited number of roads in the city centre (such as on the approach to the Haymarket bus station) can only be used by buses, taxis and cyclists. This reduces congestion, increases the reliability of bus timetables and makes the city centre safer for pedestrians and cyclists. The introduction of tighter vehicle emissions standards (Euro VI) for new buses and the retrofitting of older vehicles in the fleet with emissions abatement technology is reducing the quantity of pollution each vehicle emits.

There has also been substantial investment in bus infrastructure elsewhere in the City. This includes a bus corridor scheme on the A426 (which has seen patronage grow by 13%, reversing the national and local trend), bus lanes/gates and camera enforcement, smart ticketing, real time bus information displays and buses retrofitted with clean engine technology. The City Council has formed a strong partnership with bus companies to deliver improvements in bus priority infrastructure and operators have continued to invest in new,

more energy efficient, vehicles and new modes of contactless payment. This has included new eco-buses, with start-stop technology.

2.1.4 Taxis and private hire firms

Taxi and minicab operations within the city are provided by both Leicester City Council licenced Hackney Cabs and a range of private hire vehicles. The Deregulation Act 2015 permitted private taxi drivers to licence and operate their vehicles in any Local Authority area. As a consequence, private hire vehicles operating in Leicester can be licenced by other English Local Authorities. This affects the City Council's ability to regulate such operators.

2.1.5 Delivery vans

In common with other cities, Leicester is experiencing growth in internet shopping and home delivery. Evidence suggests that the COVID-19 pandemic and extended local lockdown increased the popularity of this form of shopping as city residents adhered to national Government advice to stay at home as much as possible to reduce the spread of the virus. Some couriers operate their own liveried vans – for example Hermes, DPD, and DHL - while others employ drivers through the so-called 'gig economy' to deliver packages on behalf of other firms or retailers. These drivers may use their own private vehicles to make multiple deliveries over the course of a shift.

2.1.6 Active travel

The Council's Local Sustainable Transport Fund and Access Fund behavioural change programmes have introduced many people to walking and cycling. In 2018, it was announced that Leicester City Council has successfully bid for £6,192,000 from the European Regional Development Fund (ERDF) to support a range of ambitious transport-related projects that sought to cut greenhouse gas emissions (Orton, 2018). The City Council's £100 million 'Connecting Leicester' initiative has sought to increase the length of the cycle and walking network in the city and improve its connectivity. This package of improvements has included new cycle lanes on the A6 London Road near the railway station and improvements to the urban realm.

The COVID lockdown and associated decline in car commuting led the City Council to introduce new 'pop up' cycle lanes on main radial routes into the city to provide a segregated space to encourage cycling. Of course, any intervention, no matter how modest, requires capital investment and following the UK's withdrawal from the European Union, Leicester, along with other UK cities which have previously received European funds, will need to explore other sources of funding. In March 2020 it was announced the city would receive £33 million from the Transforming Cities fund for investment in bus priority measures and active travel. The funds, however, did not cover the planned redevelopment of the railway station and its immediate environs. The total TCF programme amounts to around £70m including match funding.

2.2 Leicester's Local Transport Plans (LTPs)

Local Transport Plans (LTPs) are a statutory transport plan that Local Authorities in England are required to submit to the Department for Transport as a result of the original Transport Act 2000 (subsequently updated in 2008). The plans had to establish baseline levels of transport activity and pollution and set challenging targets for improvement and indicate how these targets will be met within the specified timeframe. Leicester's first five-year Local Transport Plan (LTP1) was effective between 2001 to 2006. The second (LTP2) was active between 2006 and 2011 and placed new emphasis on reducing transport emissions and improving local air quality. The third Local Transport Plan (LTP3) was adopted in 2011. LTP3 set out plans for traffic and transport in the city from 2011 to 2026 and included objectives to:

- Reduce congestion and improve journey times;
- Improve connectivity and access;
- Improve safety, security and health;
- Improve air quality and reduce noise;
- Reduce carbon emissions;
- Manage to better maintain transport assets;
- Improve quality of life.

Leicester's LTP3 was unusual in that it included specific interventions for multiple 'at risk' groups. In her analysis of the content of 32 LTP3s, Elvy (2014) discovered that, of the 18 LTP3s which outlined specific engagement with at risk groups, Leicester City Council was the only Local Authority which engaged with all four of the 'at risk' groups (people with disabilities, children and young people, older people, and ethnic minorities).

A new Local Transport Plan (LTP4) is currently being drafted. Consultation on the draft plan is expected in Spring 2021 with formal approval anticipated later that year. A new plan is needed given the increased emphasis on good quality, clean and healthy transport options that align with Climate Emergency responses by the council. The Council intends to align its plan with the approach outlined in the Campaign for Better Transport's Report on renewing the transport system[1]. The Campaign for Better Transport proposes a new form of Local Transport Plan that reflects this ambition in a more integrated way. It stresses the need for local transport authorities to have a co-ordinated plan to reshape transport networks based on active travel, shared and public transport, and suggests that Government funding should be linked to this plan.

The successful Transforming Cities Fund (TCF) bid means that the first part of the required public, shared and active transport infrastructure reshaping in Leicester can be delivered over the next 4 years, though much more will ultimately be needed. There may well be further funding opportunities made available by the Government, but locally controlled funding would provide more certainty and allow for stable long-term projects, as well as being invaluable in levering these Government funds. Therefore, it has been decided to investigate

[1] Covid-19 Recovery: Renewing the Transport System', July 2020

the potential of locally based revenue streams to be able to continue the TCF programmes and do much more besides. The WPL proposal forms part of these endeavours.

2.3 Options for Demand Management

In seeking to address traffic congestion and traffic related pollution in an urban environment, there are a number of demand management measures which can, and have, been considered and implemented. These range from developing Park & Ride facilities, substituting travel for digital communications, increased home working, and active travel, through to market-based approaches including road user charging and a Workplace Parking Levy (WPL). This section of the Report focuses on charging mechanisms including road user charging and the WPL and places the WPL in a wider parking context.

2.3.1 Road User Charging (RUC)

Road user charging has a long history in the academic economic literature and was a measure which generated a great deal of interest following the publication of the Smeed Report (1964) and the implementation of London's Congestion Charging scheme in 2002. The premise of road user charging is that by increasing the cost of travel there will be a reduction in vehicle use and therefore lower levels of congestion and environmental degradation. As Newbery (1990) observed: 'As road space is a valuable and scarce resource, it is natural that economists should argue that it should be rationed by price - road users should pay the marginal social cost of using the road network if they are to make the right decisions about whether (and by which means) to take a particular journey, and, more generally, to ensure that they make the correct allocative decisions between transport and other activities'.

The Royal Commission on Environmental Pollution (1994) suggested that the great attraction of road user charging was that it can be applied at a local level and that the charge can be readily adjusted in order to reflect variations in external costs in different localities and between different times of the day or week. In saying this, the Royal Commission appreciated that there are issues with political acceptance in terms of price levels required in order to tackle environmental degradation.

2.3.2 Parking Controls and Charges

Most people, whether they are residents, car owners, organisations or local authorities, have an opinion on parking. This might relate to the price charged, availability, ease of access, the issue of permits, or vehicle and personal safety and security. Parking can be a contentious issue as it impacts on the activity and behaviour of commuters, shoppers, retailers, employers, local residents, leisure users and local authority decision makers. Local authorities have to make important decisions as to the effective and efficient management of what is a scarce resource and one that impacts on car use (Ison and Mulley 2014).

Car parking facilities are considered to be a complementary measure when it comes to motoring in that a parking space is required at the destination and car parking is central to a motorist's decision making regarding:

- Whether to undertake a journey (and at what time);

- Which location to choose, assuming there is a choice;
- Whether to choose an alternative mode of public or active transport.

Parking controls and charges have formed a major approach used by Local Authorities in addressing traffic congestion and traffic-related environmental degradation. In addition, parking charges have been a source of revenue which, if hypothecated, can enhance alternatives to car use.

Parking is first and foremost a land-use issue with a decision required as to whether or not urban space should be allocated to it. In terms of parking supply, the Institution of Highways and Transportation (2005 p.20) state that the "Control over the availability of parking spaces is a key policy instrument in limiting car trips and for the time being is the most widely available and readily accepted method of doing so". The demand side is dependent upon the type of activity it is related to, whether work, retail or leisure activity, in addition to the time of day when the journey is undertaken and how long the parking space is required for.

Car parking is not a homogeneous product. It has an important spatial dimension, as it is available in numerous locations, and an important regulatory one as it is typically provided by a range of different agencies in both the public and private sector. Whilst parking controls/regulation and prices are rarely popular with the general public, they are a policy option that is understood and generally accepted in urban areas.

Various types of parking exist in the majority of urban areas, namely:

- *Public on-street* parking which is local authority controlled and essentially relates to kerb side parking. Its supply and demand can be controlled via regulation and/or pricing.

- *Public, surface or multi-storey off-street* local authority-controlled car parks can also be used by the general public. Motorists using these spaces are subject to a charge and regulation such as a maximum stay.

- *Privately owned non-residential car parks* which can be used by the public. Examples of private operators include NCP and Euro Car Parks.

- *Residential Parking* is associated with private houses or flats. This can be off street on private property (in recent times there has been a marked increase in the hiring out of these spaces to non-residents (see Budd et al, 2013)) or on street in which case it can be associated with residents only parking, Controlled Parking Zones (CPZs) and the use of permits. One of the main issues with restricted supply whether it by via regulation, such as double yellow lines, maximum stay or CPZs/permit only is that it can increase the amount of parking search or cruising for on-street parking (see Shoup 2006) which is not only a cost to the motorist but has an impact on the urban environment in terms of congestion and air pollution (Brooke et al, 2014, 2017, 2018).

- *Employee parking (private non-residential parking)* relates to car parking provision normally provided free of charge to employees, not available to the general public. In saying this, in recent years there has been an increased tendency for employers to charge their employees for the parking places available either by a daily, monthly or annual

charge. The provision of such parking is a cost to the employer since there is the maintenance, land take (which could be more efficiently utilised) and the initial cost of constructing the parking provision. This type of parking provision can arguably be seen as inequitable in that employers are subsidising these costs for employees who commute via car but they do not often provide a subsidy for those who commute via public transport, walking or cycling.

It is the provision of this type of parking provision which has led to the WPL being considered in recent years as a demand management option and this forms the focus of the reminder of this section.

2.3.3 Workplace Parking Levy (WPL)

The aim of a WPL is to place a charge upon the use of workplace parking places used for commuting, to encourage employers to consider managing and potentially reducing the amount of free workplace parking places they provide while promoting the use of alternative modes of transport, particularly if the charge is passed onto the employee. It also provides local authorities with a source of hypothecated revenue for funding a step change in the provision of public transport infrastructure and service provision.

The concept of a WPL in the UK can be traced back to the 1998 White Paper "New Deal for Transport: Better for Everyone" which, amongst other measures, permitting local authorities to introduce either a road user charge or WPL scheme or both, provided the revenue raised was hypothecated for transport improvements (DETR, 1998a, 1998b). The subsequent Transport Act 2000 granted local authorities the power to introduce and enforce a WPL scheme. In 2009, the Workplace Parking Levy (England) Regulations 2009 (SI 2009/2085) reinforced existing legislation for the issuing and managing of penalty charges for non-compliance.

Workplace parking management is an important part of a package of measures which can be used to address key local authority policy goals including congestion, carbon reduction, air pollution, local economic development and/or raising revenue in order to enhance alternative transport provision. The following section details both extant and proposed WPL schemes elsewhere in the UK to help identify best practice for Leicester.

3. A WPL for Leicester

A WPL is an established policy option and Leicester is not alone in considering a WPL. The fact that other cities have either adopted or are actively considering adopting a WPL means that Leicester can learn from their experiences. Section 3.1 details both extant and proposed schemes in the UK.

3.1 WPL: Experience from other UK cities and London Boroughs

To date, Nottingham City Council is the only English Local Authority to have introduced a WPL.

Nottingham

The Nottingham conurbation has a population of 670,000. This includes 320,000 in the Nottingham City Council administrative area which comprises the central area of the city. Traffic congestion in the peak period (07:00 to 10:00) was estimated to cost the city's economy £160 million per year (NCC, 2013[1]). In order to address congestion and promote sustainable transport alternatives, the City Council introduced a WPL in October 2011 with eligible employers required to pay the Levy from 1st April 2012.

The original objectives for the Nottingham WPL were:

WPL Objective 1:	Constrain congestion in the AM and PM peak periods;
WPL Objective 2:	Increase uptake of workplace travel plans and responsible parking management strategies;
WPL Objective 3:	Contribute to the implementation of major transport schemes and the Local Transport Plan;
WPL Objective 4:	Encourage sustainable travel and mode choice;
WPL Objective 5:	Enhance the attractiveness of Nottingham as a location for business investment;
WPL Objective 6:	No significant displaced parking problems.

The WPL scheme covers the area administered by Nottingham City Council. Employers within this area are required to apply for a licence and state the number of workplace places they intend to use. The Council then imposes a Levy on employers that provide 11 or more liable workplace parking places.

Some premises receive a 100% discount (and are therefore effectively exempt). These include:

- Premises from which frontline health services are provided by or on behalf of the NHS;
- Premises occupied by the emergency services;
- Places occupied by disabled blue badge holders;
- Employers with 10 or fewer eligible workplace parking places in the city.

The resulting WPL revenue is hypothecated for public transport improvements. £170m of the WPL revenue was spent on developing Phase 2 of the Nottingham Express Transit as well as

£11.7m towards the refurbishment of Nottingham railway station and over £3m for enhancements to the operation of the link bus services.

The refurbishment of Nottingham Station provided a high-quality public transport hub, in which passengers could easily transfer between rail, tram, bus, and active modes of transport. The investment helped to constrain congestion, enhance sustainable public transport modes and improve connectivity. A further benefit of investing in large scale public transport schemes is the temporary enhancement to the local economy during construction (NCC, 2013).

Table 1 shows the cost of infrastructure schemes in Nottingham and the contribution of the WPL. The Table shows how the WPL funds supplemented investment from Central Government.

Scheme	Scheme Total Cost (£millions)	NCC "Local" Contribution not including WPL contribution (£millions)	WPL Contribution (£millions)	Non-Local Sources
Nottingham Express Transit Phase 2	570	29	170 (30%)	371
Ring Road Major	16.175	3.2	0	12.975
Provision of Link Buses (Capital only)	8.8	0.3	3.78 (42%)	4.72
Refurbishment of the Railway Station	60	0	11.7 (19.5%)	48.3

Table 1: Funding of major transport schemes in Nottingham

Source: Adapted from Dale, S., et al 2014, A Case Study of the Introduction of a Workplace Parking Levy in Nottingham.

Impact on congestion

The data from Nottingham suggests that, as expected, the WPL on its own has had a relatively modest impact on levels of congestion but the combined effect of the wider WPL package (in which hypothecated revenue is used to fund transport improvements) has impacted on congestion (Dale 2017a). It is worth noting that the intended aim of the WPL scheme is to have a relatively modest direct transport impact as a larger impact will result from the investment and delivery of enhanced public transport infrastructure and services.

Business Impact

According to the WPL Business Case presented by Nottingham City Council (NCC, 2008) it was proposed that businesses would benefit from the package of transport improvements provided by a WPL and the associated reduction in the growth of congestion not least in terms

of improved accessibility, staff retention, access to supply chains and markets leading to enhanced competitiveness.

It was anticipated that the package would encourage the use of surplus land for a more productive purpose as well as encouraging sustainable travel planning. A study undertaken by PwC for Nottingham City Council and cited in the WPL Business Case (NCC, 2008) indicated that the financial impact of the WPL would be insignificant as a proportion of turnover for the majority of eligible employers. More recent work undertaken by Dale et al. (2017a) suggests that there is strong evidence that the WPL has not had a significantly negative impact with Nottingham remaining attractive to investors, not least on account of the public transport improvements the WPL funded. Other research undertaken by Dale et al (2017b) indicates that a WPL can be an effective tool to constrain congestion growth.

Political stability

Political stability within the City of Nottingham was conducive to decision makers taking a medium to long term view with respect to the implementation of a WPL since it was unlikely that they would be voted out of office over one issue such as a WPL, so long as the city economy adequately performed over the medium term (Dale et al. 2014).

[1] Atkins Cost of Congestion Report for EMDA 2008, cited in NCC 2013.

Although Nottingham is the only city to date to have introduced a WPL in the UK, a number of other English urban Local Authorities are currently exploring the possibility of introducing a WPL. Many are in the early stages of the process and not all will progress beyond the 'ideas' stage whereas others may, in time, result in full implementation. This section provides a snap shot of current activity (correct as of July 2020).

Birmingham

Birmingham City Council is currently investigating the idea of the WPL as part of a range of measures to reduce traffic congestion and create a healthier environment. Birmingham is seeking to encourage employers to *evaluate* and *oversee* their workplace parking provision so as to aid the funding of quality sustainable transport modes to encourage a shift to public transport ridership and reduce reliance on the private car.

A Birmingham City Council Report to Cabinet dated 15th October 2019 considered a WPL was commensurate with:

- Addressing air pollution, creating a cleaner, healthier environment, and aligning with the City's Clean Air Zone;
- Providing funds for public transport improvement;
- A traffic management strategy that aims to reduce congestion and aid economic growth;
- Improving workplace accessibility by alternative modes of transport and supporting the development of a new parking policy in Birmingham.

Hypothecated revenue would support:

- The expansion of the Metro light rail system to the east of the City;
- Further pedestrianisation of the city centre and Moor Street;
- The Snow Hill Growth Strategy including transformation of the A38 and improvements to public transport;
- Investment in cycle routes and improvements to the city's urban canal network; and
- Travel demand management and associated activities to promote sustainable travel.

Birmingham City Council consider a WPL to be preferable to alternative options, including a Road User Charging Scheme, since:

- The Legislation already exists;
- It will focus on the major issue of peak period commuting;
- Nottingham has proved that it can be successful, with no adverse impact on business;
- It will form part of a complementary package of parking/charging proposals in the City;
- It is cheaper to introduce and operate then other interventions;
- Providing adequate consultation and communication activities are undertaken, a WPL is considered to be more publicly acceptable than a road user charging scheme; and
- Whilst road user charging would most probably generate more revenue, the WPL will provide direct hypothecated funds for public and active transport improvements.

Source: Birmingham City Council (2019)

Oxford

Oxfordshire County Council and Oxford City Council *'want to make a real improvement to journey times for commuters and quality of life for residents, including improved air quality, by reducing the number of cars travelling into and around the city.'* As part of this they propose *'A charge for workplace parking provided by larger employers in the eastern arc* [a defined employment area not including the City Centre]*, which would help fund the proposed transport improvements and create a disincentive to drive to work. Discounts for the new bus services would be available for staff of employers paying the workplace parking levy.'*

A clear breakdown as to how the Authorities envisage using the WPL revenue is provided.

Planned improvements include:

- Additional *bus gates* city wide so as to improve journey times for City bus users, allowing for a redistribution of road space for an improvement in the routes for walking and cycling;
- New speedy, frequent bus routes linking Oxfordshire towns and the Park & Ride sites to Oxford's eastern arc. At present this is an underserved public transport area;
- Reconfiguring road space as a result of less vehicles so as to provide new and improved safe and attractive walking and cycling routes for access into and around the city;
- Enhancing public transport connectivity in areas of employment with a lack of direct bus service provision or Park & Ride connection;

- Combining traffic restrictions with the WPL is seen as a way of providing incentives for both commuters and residents to utilise modes of transport other than the car and for employers to provide less free or indeed subsidised staff car parking;
- A reduction in traffic volume, increasing speed thus reducing the need for dedicated bus lanes and as such freeing up space for active travel provision.

These proposals are seen to complement the creation of a zero-emission zone (ZEZ) which aims to address poor air quality in Oxford city centre.

Source:https://www.oxford.gov.uk/news/article/1175/councils_commit_to_cutting_traffic_congestion_and_improving_public_transport_in_oxford Accessed 21/07/2020

Cambridge

Although the Local Authority in Cambridge has no current plans to progress a WPL, Smarter Cambridge Transport believe a WPL would provide, in a relatively short time and with minimal overheads and administration costs, a reliable source of revenue with the benefit of allowing for improved bus provision without the need for expensive infrastructure.

However, a counter-argument is that public transport alternatives are seen as being good enough to entice people out of their cars and the scheme would impact adversely on those who have to live outside the Great Cambridge area as a result of high house prices in the City.

The Greater Cambridge Partnership view the merits of the WPL as:

- It encourages employers to support employees to use alternative forms of transport, modes that are more sustainable;
- If employers pass on the charge to their employees it can act as an encouragement to use alternative modes namely walking and cycling and public transport;
- Reducing the number of parking spaces could free up land for other uses.

However, a counter argument is that:

- There will be limited impact on congestion given the low levels of employee parking in areas of the city;
- The Impact depends on whether employees pass on the charge to employees.

Sources:
https://www.cambridgeindependent.co.uk/news/could-a-workplace-parking-levy-work-in-cambridge-9088070/
https://www.greatercambridge.org.uk/city-access/choices-for-better-journeys/choices-for-better-journeys-workplace-parking-levy

London Boroughs

Transport for London have a dedicated website which is designed to offer guidance to aid Boroughs seeking to implement a WPL (See https://tfl.gov.uk/info-for/boroughs-and-communities/workplace-parking-levies). TfL and the Mayor of London see this as part of their Transport Strategy to reduce traffic and ensure that by 2041 80% of London trips are undertaken by walking, cycling or public transport, with the revenue raised used for local transport improvement.

In the TfL Guidance it notes that while a WPL can be established by a single Borough or more than one working together it is not possible for two schemes to operate in the same location. Clearly this is not an issue that Leicester faces. TfL go on to say that a WPL and road user charging scheme could overlap as with the Congestion Charge and the Ultra-Low or Low Emission Zone.

The Mayor in his Transport Strategy (MTS) sees the WPL as a traffic demand management approach that Boroughs could implement, stating that '*The Mayor, through TfL, will work with those boroughs who wish to develop and implement appropriate traffic demand management measures, for example local (TfL or Borough) road user charging or workplace parking levy schemes, as part of traffic reduction strategies where they are consistent with the policies and proposals set out in this strategy*'.

Interestingly, the Guidance says (see http://content.tfl.gov.uk/wpl-mayors-guidance-jan2020.pdf) that as a demand management measure the effect of the WPL are likely to be less impactful than the implementation of a road user charge. This is not too surprising since the WPL is levied on employers, (who may or may not pass on the charge to their employees, thus impacting on travel behaviour) whereas road user charging forms a direct charge on the motorists for their use of road space. In saying that, as mentioned in section 2.3.3 a WPL can still impact of travel behaviour following a reduction in the supply of workplace car parking spaces plus the utilisation of the WPL funds for transport improvements. The WPL is seen as being important to the Mayor's London priorities.

Figure 1 Benefits of the WPL

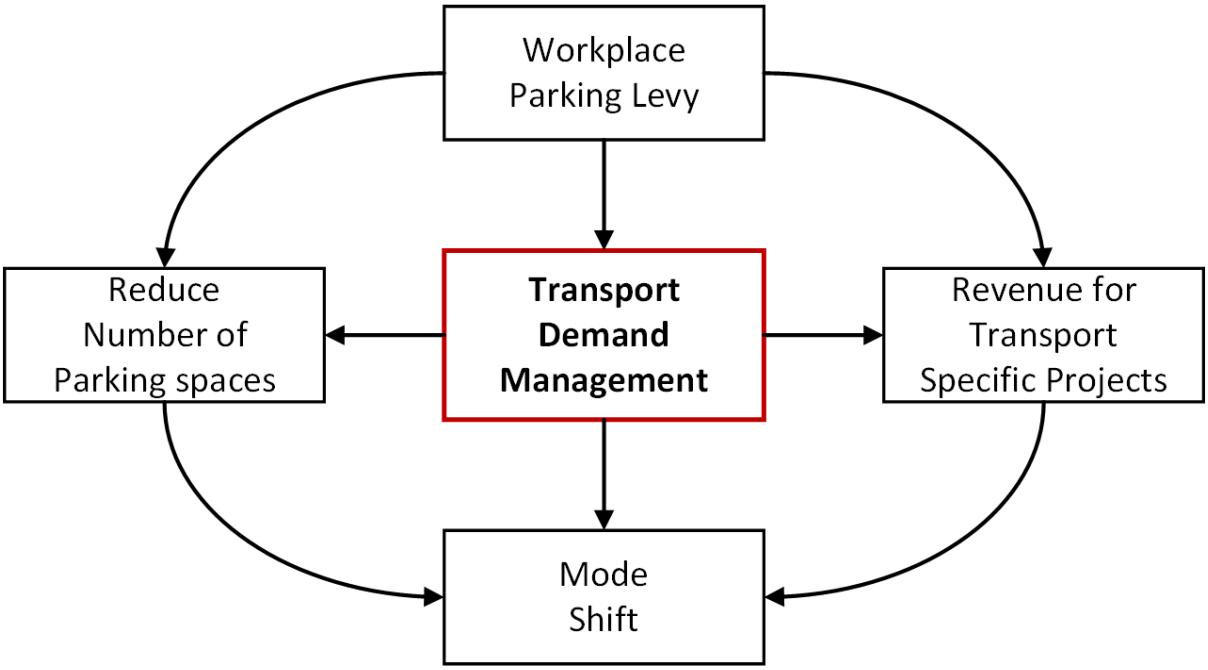

Figure 1 shows that there are essentially three benefits from the implementation of a WPL:

- As a demand management measure, via increasing the cost of motoring, specifically if the Levy is passed on as a parking charge to the employee so as to encourage mode shift and the resulting impact on congestion and emissions;
- Providing funds for improving active travel and public transport;
- Long-term a reduction in the supply of car parking provision as a result of a WPL implementation will encourage mode shift by commuters in addition to freeing up land to be utilised in alternative ways.

An important point made by the Mayor's Guidance is that a WPL scheme can be adapted so as to fit with local objectives. In common with other Local Authorities, the Guidance states that it is important for London Boroughs to clearly identify the objectives they intend the WPL to address. These objectives must furthermore be clearly articulated and easily understood.

The transport-specific objectives of a WPL may include:

- Mode shift leading to air quality benefits. As an aside, the Guidance states that "Outside London, the Clean Air Zones programme is now one of the main drivers for local authorities' interest in WPLs";
- Meeting the objective of Healthy Streets in addition to releasing land for other uses which could include new development; and

- Acting as a catalyst for improving the other parking policies in the Borough. This is important since the introduction of a WPL will require complementary measures such as the implementation of controlled parking zones to manage displaced parking.

One of the reasons the Cambridge congestion metering scheme failed to progress beyond the trial stage was that the objectives were far from clear (Ison 1998b; Ison and Rye 2005).

It is important to note that WPL schemes are most likely to form part of a package of transport interventions creating a step-change in local transport. Whilst in itself a WPL scheme may form only a relatively small component of a package of measures its role is still important not least in releasing funds for enhancing local transport provision.

In relation to the London Boroughs of Camden and Hounslow:

London Borough of Camden

As part of the Borough's targets to create a clean, lively and sustainable environment, the Camden Transport Strategy (CTS)[1] and Clean Air Action Plan contained a commitment to investigate the feasibility of a WPL. This is seen as a means of assisting in the reduction of traffic congestion, achieving an improvement in air quality and related public health, aiding accessibility and improving road safety. A WPL would seek to do this by bringing about mode shift from car use to active travel. Camden has also recognised that, in a period of funding challenges, a WPL provides an opportunity to enhance town centres and business areas. The CTS states that the funds from a WPL could aid in delivering what it calls (relevant) elements of the Investment Priority areas.

[1] Healthy Streets, Healthy Travel, Healthy Lives: Camden Transport Strategy 2019-2041, April 2019, Accessed at: https://www.camden.gov.uk/documents/20142/18708392/1925.7+Camden+Transport+Strategy_Main+Document_FV.pdf/d7b19f62-b88e-31d4-0606-5a78ea47ff30

London Borough of Hounslow

A clear reason for considering the WPL was articulated, namely that the growth in housing (7,500 new homes) and employment (14,000 new jobs) within the Great West Corridor (GWC) would benefit from delivering significant new transport infrastructure, namely the Brentford to Southall Rail Link and that the funds from the Levy would aid in making this possible. Without this investment it would lead to a significant increase in congestion and a deterioration of air quality. This model of proposing a WPL is that used in Nottingham where the revenue from the Levy is ring-fenced to help secure the implementation of NET Phase Two.

As part of developing the GWC the WPL is seen as a relatively stable revenue stream, one which would allow additional monies to be borrowed, not simply for the Brentford to Southall Rail Link but also for public transport and active travel improvements. Given the COVID-19 pandemic and the related impact on the UK and world economies funding will be at a premium, no more so than within local authorities. This is a line articulated by Transport for London (TfL) and the Department for Transport (DfT) and as such a revenue source such as the WPL is all important, and a source worth considering. Hounslow have identified the Community

Infrastructure Levy (CIL), Section 106 (S106) and borrowing from public or private sources based on new income emanating from business rates linked to the new development.

A point reiterated in the case of Hounslow and stated a number of times in this Report - if the Levy is passed on to employees, either in full or in part, then it would have the impact of encouraging commuters to consider alternative options when accessing the GWC which would aid in addressing congestion and the issue of air pollution. Hounslow offered the following (Table 2) as to the benefit to residents from implementation of a WPL.

Table 2: Benefit to Hounslow residents of the WPL

If the recommendations are adopted, how will residents' benefit?	
Benefits to residents and reasons why they will benefit, link to Values	*Dates by which they can expect to notice a difference*
A Workplace Parking Levy could form a key financing tool for improved public transport and walking & cycling infrastructure in the Great West Corridor area. The imposition of charges on the use of off-street car parks could also help encourage a move towards sustainable modes of travel. These outcomes would help reduce pollution, congestion and therefore help to improve quality of life for those who live or work in the Borough as well as supporting new development in line with the aspirations of the Local Plan and the Mayor of London's London Plan.	A WPL is expected to reduce traffic levels from the date of its implementation whilst further benefits will materialise on the introduction of the transport improvements. The earliest this scheme could be in operation in the western area would be 2021.
The Brentford to Southall Rail link, potentially funded by the Workplace Parking Levy, will deliver a step change in public transport accessibility for the corridor through provision of a direct link to the Elizabeth Line. This will help provide a reliable alternative to accessing the corridor to the private car.	This scheme could be operational by 2024-25.

The Cabinet Report states that "Experience from other cities in the UK that have considered WPL is that public acceptability of the scheme is very much associated with how concrete the link is between the proposed charge and the new transport infrastructure it facilitates". Research undertaken by authors of this Report would confirm that view. Whilst the research was undertaken with respect to road user charging, stating specifically how the hypothecated revenue would be spent dramatically increased its acceptability (Ison, 2004).

Source: Based on the Workplace Parking Levy – Cabinet Report
https://www.hounslow.gov.uk/downloads/file/2653/workplace_parking_levy_-_cabinet_report

3.2 Issues to consider when implementing a WPL

3.2.1 The need for a clear strategy

In terms of the implementation of the WPL a clear strategy is required in terms of the objectives of the scheme, clarity in terms of how the revenue raised should be utilised, how the issue of equity and exemptions will be addressed, and clarity in terms of communicating the concept, leadership and political stability (based in part on Ison and Rye 2005). Each of these aspects are now considered in turn.

3.2.2 The need for clear objectives

Clear objectives for a WPL are essential. The objectives can be *economic*, in terms of how efficiently a congested road network is utilised, *environmental*, with a WPL seeking to address traffic-emissions and to *raise revenue* to fund carefully targeted infrastructure investment. In reality a WPL is likely to encompass all three objectives. There is value in setting the WPL in a wider transport policy context.

Congestion metering in the city of Cambridge (trialled between October 1990 to October 1993) was an example of a scheme that lacked clearly stated objectives and this was perceived as one of the main reasons for the schemes failure to progress (Ison 1998b). In 1989 Cambridgeshire County Council produced a strategy aimed at tackling congestion. It incorporated a number of measures including extending the Park & Ride provision, bus priority measures, a package of road building measures and the development of a light rapid transit (LRT) system. One measure not initially included was congestion metering. Congestion metering was however not only seen as a means of limiting traffic growth but also as a way of meeting a proportion of the estimated cost of the LRT system. As such, congestion metering was perceived as having a number of objectives including: to retain the economic prosperity of the city, manage vehicular demand, and the use of the surplus income to fund a LRT system (Ison 1996). The objectives however were not seen as being well thought through (Ison 1998b).

In contrast the objectives for the Central London congestion charging were clear, namely:

- A reduction in total traffic within the zone of between 10-15%;
- An increase in traffic speeds of between 10-15%; and
- A reduction in the level of congestion of between 20 and 30% measured in terms of vehicle delays.

(Ison and Rye 2005)

Clear and unambiguous objectives, which the strategy team for communication and marketing could promote. Clarity of objectives are all important when considering a WPL.

3.2.3 Use of Revenue

The way in which the revenue raised from a WPL is to be used is all-important. This is recognised by the Government in that following the implementation of any road user charge or WPL scheme the legislation states that the revenue raised should be hypothecated for a period for transport improvements. The issue however is when those improvements 'come on stream'. For example, in terms of congestion metering in the city of Cambridge, one

objective was to use the surplus revenue in order to fund public transport improvements as a viable alternative to the car. Whilst this was the case a view was expressed that if congestion metering could have been introduced simultaneously with a vastly improved public transport system then it would have proved more acceptable (Ison 1998b).

As stated in section 3.1, Nottingham City Council made it very clear as to how the revenue raised from the WPL would be used.

3.2.4 Equity and Exemptions/Discounts

Market-based measures will always raise the issue of equity and fairness, and these are central issues in terms of gaining acceptance. The issue of equity can be addressed to some degree by the use of scheme exemptions. Clearly however the more exemptions included as part of a scheme then the more complex that scheme will be to administer and it could also mean that there will be an increased burden on those road users/businesses subject to the charge/levy (Ison, 2004).

For example, the London congestion charge scheme implemented a 90 per cent discount applied to residents living within the zone. In addition, there were exemptions and discounts for:

- Vehicles driven by/carrying disabled people registered for a 100% discount;
- Alternative fuel vehicles: gas, electric and fuel cell vehicles;
- Emergency vehicles: ambulances, fire and police vehicles;
- Vehicles with nine or more seats, motorbikes and mopeds;
- Black cabs and London-licensed mini-cabs.

A range of exemptions would appear to have aided the introduction of the London congestion charge. As for a WPL the issue of equity and exemptions/discounts need factoring into any decision-making with respect to the implementation of a WPL scheme. This was also the case in terms of the Nottingham WPL, as detailed in section 3.1.

3.2.5 Communication

Clear communication to the general public, business community and key stakeholders involved in any proposed WPL scheme is an important aspect of achieving successful implementation. Communicating why the scheme is being proposed, how the scheme will operate, and how the revenue will be utilised all help address concerns and promote general public confidence.

Communication was all important in the case of the implementation of London's congestion charge. The objectives of the scheme were clearly conveyed via local radio, TV stations, newspapers, leaflets (delivered to households) and a dedicated website. The objectives were clearly stated throughout the campaign. This was also the case with respect to the Nottingham WPL.

3.2.6 Catalyst for change/leadership and local governance – importance of political stability

A Policy Champion would appear to be all important with respect to the implementation of any new policy initiative, and a WPL is no exception. As Fauth *et al* (1978) stated over 40 years ago, agencies or individuals who act as 'policy entrepreneurs' are central in advancing concepts and seeking support. It could be argued that a policy champion or protagonist focused on the task of implementation is vital in terms of market-based road traffic policy measures. The implementation of a WPL will involve a diverse range of stakeholders in a fragile alliance and as such a policy champion able to provide leadership and direction is required (Ison and Rye 2005).

Relating to the London Congestion Charge, Ken Livingstone's election manifesto included reference to the congestion charge and in terms of implementation the role of the Mayor was all important. Scheme implementation was carried out by TfL, acting on direction from the Mayor. The Mayor was important in heading off criticism that could have seriously damaged the schemes implementation, ensuring that resources were concentrated on the task of implementation. Councillor and Officer leadership was also important to the successful implementation of the Nottingham WPL and will have a key role to play with respect to a WPL in the context of Leicester City Council.

3.2.7 Political Stability

Political stability can be viewed as an integral part of policy implementation. This is the case when considering any transport policy initiative that requires a lengthy lead in time and it was certainly the case in terms of the introduction of the London congestion charge and also with the Nottingham WPL where political stability and continuity were seen to be very important. The Labour Council clearly stated their intention to introduce a WPL scheme in three consecutive election manifestos and Nottingham City Council politicians were resolute in their support for a measure that had not been introduced anywhere in the UK.

3.3 Potential benefits of a WPL in the City of Leicester

The potential benefits of a WPL can be summarised as follows:

- The legislation already exists;
- Cost to the business community can be mitigated by improved traffic conditions, improved traffic-related emissions, enhanced quality of local environment, enhanced alternatives to the private car [improved public transport, active travel and an enhanced Travel Planning process]. In addition, the cost could be offset if passed on to the employees, which would have the benefit of impacting on travel behaviour;
- A WPL will focus on the main congestion related issue of peak-period commuting;
- Enhanced quality of transport provision, most notably in terms of connectivity. This would be achieved by a WPL releasing funds for enhancing local transport provision;
- Respondents to a Nottingham survey stated that improvements to the tram provided greater access to employment opportunities and greater employment opportunities. The *employment opportunities* in practice meaning access to a workplace;

- Better public transport options are cited by Dale et al (2017b) to be an attractor to inward investment, that is employers locating into the Nottingham City area in that instance;
- Health benefits through active travel mode shift – which could impact on employee productivity;
- There is the potential for a WPL to free up parking areas and road space which can be reallocated to support active travel;
- The City of Leicester has an issue with air pollution and traffic congestion, like most other cities in the UK and worldwide, and the consideration of a WPL, as part of a package of measures, is a focused approach for seeking to address it;
- A parking charge is understood by the general public as a policy option, with some employees already being charged to park at the workplace. The Workplace Parking Levy can be seen as an extension of this, in fact an incremental approach and certainly relatively easier to implement than a road user charge;
- A WPL can provide complementary support to wider transport policy objectives, for example set out in a local transport plan. This could for example support wider sustainable and active transport policies and other demand measures such as varying parking tariffs;
- Act as a spur to companies to evaluate and reassess their workplace parking provision – with help from the City Council (as practiced by Nottingham City Council);
- Act as a demand side measure promoting the more effective use of a scarce resource, namely urban land, avoiding the need for supply side measures such as additional road infrastructure which is resource intensive;
- Raise revenue which can be used to support an ambitious LTP at a time of climate emergency and population growth. WPL revenue would enhance the capability of the Transforming Cities Fund (TCF) and fund projects that have been planned or started;
- Be easier to implement and administer than a Road User Charge (see Table 3 and the discussion).

3.4 A comparison between a Workplace Parking Levy and Road User Charging in relation to the City of Leicester

- RUC is a charge for the use of road space. The key issue is how quickly drivers are charged for the use of the road space and the extent to which this then impacts on their travel behaviour and mode choice. If it is a monthly charge for example then the link between use/travel behaviour and charge is broken. If Leicester City Council is seeking to focus mainly on addressing congestion then a direct charge for the use of road space would be likely to have a bigger impact because it would affect more drivers travelling throughout the day.

- A WPL is a charge on a complementary product, namely a charge on workplace parking places, thus impacting on the costs of spaces available at the destination point of a journey. If the charge is passed on by the organisation to their employee then it is likely

to have an impact on travel behaviour. A WPL can more easily form part of an integrated transport strategy with multiple objectives.

- With both a WPL and a RUC attention needs to be given to the *boundary effect* which is an issue that Leicester City Council will need to consider. If a RUC is adopted then the boundary effect is likely to be at the outer edges of the pricing cordon (depending on the type of scheme adopted), whereas if it were a WPL then the *displaced parking* would be likely to be more localised – be that nearby street and residential areas.

- Given that both a WPL and RUC seek to impact on the amount of commuting traffic they are both likely to have an effect on the level of traffic-related emissions. However, RUC is likely to be more impactful.

- Since a RUC means that every motorist (except those that are exempt) will be subject to a charge when entering the charging zone during a particular period of the day, the revenue raised is likely to be higher than that raised from a WPL which relates only to companies, and only to companies with above a predetermined number of workplace parking places, if the scheme adopts the way in which Nottingham has administered it. As a result, there is likely to be a greater revenue stream from a RUC if Leicester City Council were to adopt a RUC.

- The cost of installing, and administering a RUC scheme will be much greater than a WPL and as such a WPL scheme is arguably more appropriate for a city such as Leicester.

- Based on the potential political difficulties likely to be experienced through the introduction of a RUC scheme it is most likely that a WPL scheme can be introduced in a relatively shorter period of time by a City Council thereby delivering earlier transport benefits.

- With respect to public acceptance a WPL is likely to be relatively more acceptable than a RUC on the basis that it is a Levy on companies as opposed to local people.

- A clear understanding as to how the revenue raised from either market-based option is important with respect to both implementation of a RUC or WPL.

Table 3 WPL and Road User Charging Comparison

IMPACT	Workplace Parking Levy	Road User Charging
Reduced Congestion	*No direct* impact on traffic and congestion in that it is not a charge for the use of road space but a levy on organisations for the number of parking spaces utilised. However, since there will be a reduction in the number of Private Non-Residential Parking (PNRP) spaces there is likely to be an impact on overall traffic congestion at the city level. The impact will depend on the level of the charge decided upon. It will also depend on how employers are stimulated to react to the WPL in terms of managing their workplaces including parking. There may however be an adverse impact at the local level as commuters seek to park in adjacent areas. There is also likely to be an impact on Parking Search. As such, this could involve the introduction of complementary measures namely an extension of CPZ's and/or charging or controlling on-street parking. In addition, there is a potential for stimulating through traffic as the freeing up of road space encourages those who utilise the city routes to travel from A to B.	*Direct* impact on congestion by charging for the use of road space particularly during the peak period. The likely effect will depend on the type of scheme implemented and the level of charge. There may however be a 'boundary effect' in the area around the road user charge cordon as motorists seek to avoid the charge.
Lower air pollution and carbon emissions	Since there will be a reduction in the number of PNRP spaces there will potentially be a beneficial impact on the overall level of air pollution at the city level as less motorists commute to work.	Potentially a reduction in air pollution since the introduction of a road user charge will reduce the number of vehicles on the road, although the boundary effect must be considered.

Hypothecated revenue used to enhance alternatives to the private car.	The impact on congestion and air pollution will depend on the enhanced package of measures implemented as a result of the revenue generated from the WPL.	Indirect impact on congestion through the use of funds raised through charging. Potentially higher revenue raising capability than the WPL to provide for an enhanced package of alternative measures.
Cost of implementation, management and revenue collection	Relatively low cost of implementation and efficient management and revenue collection.	Higher cost of implementation (the overall cost depending on the type of scheme envisaged). Higher operating costs than the WPL and variable revenue collecting efficiency depending on the type of scheme envisaged and the price elasticity of demand of motorists in the Leicester area.
Timescale to Implementation	Depends on issues such as the consultation process but it is likely to be shorter than that required for the implementation of road user charging, in that the technology required is of lower cost it is a low-tech solution and it is predominantly an administration-based scheme.	Likely to be longer to implement than the WPL. Clearly this would depend on the type of scheme proposed – whether it be a low-tech solution such as with the London Congestion Charge or an Electronic Road Pricing Scheme as with Singapore.
Attraction and retention of employers and retail facilities	Based on the Nottingham experience of the WPL there is no or little impact on the attraction/retention of employment and retail facilities. Less of an impact on accessibility than the implementation of road user charging.	Difficult to ascertain the likely impact on the attraction/retention of employment and retail facilities (depending on the type of scheme and package of complementary measures envisaged).
Accessibility to work and education	Less of an impact on accessibility than the implementation of road user charging.	Possible issues relating to accessibility requires measures to address the issue of social exclusion for low income groups.
Public Acceptability	Introduction of a market-based approach, whether it be a workplace parking levy or road user charge, is likely to meet with the issue of acceptance. In saying this the WPL is likely to prove more acceptable than a road user charge simply because the WPL is a Levy on organisations rather than the road using motorist.	Public acceptance is a major issue in terms of implementing a road user charge. For this reason, there are very few schemes world-wide. In addition, there is something specific about the nature of those areas that have implemented a RUC making them more suitable - such as density as in London, level of congestion throughout the day or the political makeup. Issues relating to equity, fairness, provision of alternative modes of transport and the cost of implementation are all important. A road user charging scheme, as with the WPL is more acceptable if there is hypothecation of revenue and as such the provision of alternative modes.

		Employees who choose to travel to work by car will benefit from reduced congestion through improved journey times and cleaner air.
Business Acceptability	The WPL impacts on business in that they are subject to the Levy. Clearly the Levy can be passed on to the employee. In the case of both the WPL and road user charging hypothecation of revenue to the provision of alternatives to the private car is important for both public and business acceptability.	Business is most likely to benefit from reduced congestion and therefore improved reliability of employee travel to work time and delivery.

4. CONCLUSION

4.1 Key issues

There are a number of key conclusions that can be drawn from this review of evidence relating to the WPL in the context of the City of Leicester. Whilst there is a relatively small, but growing, academic literature on the WPL, the literature relating to road user charging is extensive and covers the economic, technological and political underpinning. As stated in Section 2, one of the main issues pertaining to the market-based approach is the acceptance of such measures (Ison 1998b and Ison and Rye 2005). In this regard there are a number of lessons that can be learnt from road user charging that are of relevance when considering a WPL. This section of the Report seeks to address the important aspects relating to WPL acceptance.

4.2 Leicester-specific context

- Leicester continues to devise and deliver ambitious plans for tackling the climate emergency, alleviating traffic congestion, improving urban air quality, and sustainably accommodating population growth while ensuring the city remains a vibrant and attractive place in which to live, work and invest.

- In light of the current economic situation and challenging funding environment, lessons from Nottingham suggest that Leicester could use a WPL to raise direct funds to support transport infrastructure improvements and leverage additional match funding.

- Other Local Authorities, London Boroughs and major English and Scottish cities are considering a WPL and so it could be considered both timely and politic for Leicester to be investigating a WPL scheme for the city.

4.3 Practical considerations

- A WPL is quicker and easier to implement than a road user charge and is generally more publicly acceptable.

- A stable political environment has proved to be conducive to the introduction of a WPL in Nottingham and the political situation in Leicester is likely to be similarly conducive to a WPL in Leicester.

- Whilst a WPL impacts on the business community it does not impact directly on local people generally, unlike road user charging.

- Consideration needs to be given to complementary measures such as CPZs and on street charging to counter any potential ‘displaced parking’ effect of commuters parking in adjacent streets and residential areas.

- Businesses need to be consulted and their input can help shape the nature of the Levy and inform priorities for investment.

4.4 Recommendations

The Workplace Parking Levy could form an important transport intervention supporting the delivery of Leicester City Council policy objectives relating to tackling congestion, improving air quality, responding to the Climate Emergency and generally improving social equity and the quality of life in the City. It would be most effective if set in a holistic set of integrated transport policies and interventions planned for the future.

Based on the experience of WPLs in other cities and the findings from peer-reviewed academic research relating to the WPL, the following recommendations are proposed:

- The need for a WPL in Leicester, and its benefits to the city, will need to be clearly explained to all affected businesses and related stakeholders.

- WPL objective/s must be clearly stated and readily quantifiable.

- The geographic boundary of the Levy must be appropriate, clearly defined and enforceable.

- Exemptions, and the rationale for them, must be clearly stated and justified.

- The Council will need to clearly state how the hypothecated revenue from the WPL will be utilised and provide evidence of subsequent investment in previously published transport targets.

- WPL can provide complementary support to wider transport policy objectives, for example set out in a local transport plan. This could for example support wider sustainable and active transport policies and other demand measures such as varying parking tariffs

- There will be a need for clear and consistent communication and consultation between the Council and all affected businesses.

- A Leicester WPL policy champion, who acts as a focal point of the policy, is important.

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