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Local measures to encourage the widespread uptake of low emission vehicles: learning from the UK and global good practice

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Abstract

A range of local assets and powers can be harnessed to encourage the take up of low emission vehicles. These typically fall outside the direct control of national governments, being managed by local authorities and linked local and regional actors from both the public and private sector.

This paper discusses the major findings from a recent project to understand the measures available to local authorities in the United Kingdom to encourage the use of low emission vehicles. The project developed a framework guidance document to support the planning and implementation of local measures and coordinate actions to avoid a patchwork of approaches being adopted by local authorities across the UK.

The framework has been developed through interviews, surveys and a comprehensive review of measures being implemented in the UK, North America and across Europe. This considers measures that have been successful, had limited impact and which hold significant promise. It also recognises the need to consider unique local conditions and the priorities of individual local authorities in implementing such measures. The study also investigated major barriers and provided insights as to how these may be removed or overcome.

Measures considered in the study include: access to priority lanes, planning and development frameworks, infrastructure provision, parking, taxis, car sharing and procurement. A number of different measures have been identified in each of these areas with corresponding recommendations for implementation and examples of good practice.

Keywords: Electric vehicles, Low emission vehicles, Local government, Good practice, Policy measures

1 Introduction

A range of local assets and powers can be harnessed to encourage the take up of low emission light duty vehicles (LDVs). These typically fall outside the direct control of the UK government or devolved administrations, being managed by local authorities and linked local/regional actors from both the public and private sector.

The importance of these local measures is recognized in the UK by the Office for Low Emission Vehicles (OLEV), which launched a £35 million scheme in 2014 to support flagship cities in introducing innovative local incentives, such as free parking, access to bus lanes and ultra low emission vehicle (ULEV) car clubs [1]. Additionally, OLEV is providing a share of £50 million for local areas to invest in cleaner taxis, as

well as a further £32 million for recharging infrastructure.

The devolved administrations have also recognized the importance of such developments and the role of the local level in implementing policy measures to promote their uptake. For example, the Scottish Government's 2013 Switched On Scotland Roadmap [2] identifies local incentives as a key enabling measure in achieving widespread adoption of plug-in vehicles.

Whilst there is recognition of the important role that local authorities have to play in encouraging the uptake of low emission vehicles through the development and implementation of policies that facilitate their use, there is a certain lack of clarity about what available policy measures exist and where they are already being implemented. A patchwork of measures in different local authority areas that change across municipal or regional boundaries would be confusing to the public and would undermine the perceived benefits of low emission vehicles. Similarly, local governments are structured in different ways across the UK, with varying powers and responsibilities.

The purpose of this paper is to discuss some of the major findings from a recent project that was designed to better understand the measures available to local authorities in the United Kingdom to encourage the use of low emission vehicles. The project developed a guidance document to support the planning and implementation of local measures and coordinate actions to avoid such a patchwork of approaches being adopted by local authorities.

Taking into consideration selected measures including access to priority lanes, planning and development frameworks, infrastructure provision, parking, taxis, car sharing and procurement, this paper explores recommendations for implementation and examples of good practice, following a comprehensive review of measures being implemented in the UK, North America and across Europe and through interviews and surveys with selected UK local authorities. Other measures such as education and promotion, community benefits, integration with the wider transport network and economic development

were also considered in the project, but are out of the scope of this paper.

2 Methodology

The primary research consisted of in-depth semi-structured interviews with 15 local authorities, as well as an online survey, which was completed by a total of 92 respondents across 68 local authorities. 45 provided responses marked as complete and 47 provided partial response.

In addition, a desk-based document study exploring relevant policy documents/strategies, reports, briefings, web-based information and newspaper articles was carried out to identify specific details of measures currently implemented in the UK and overseas to increase the take up of low emission light duty vehicles.

3 Access to priority lanes

Allowing low emission vehicle drivers access to dedicated road space, such as a bus lane or high occupancy vehicle (HOV) lane, can be a powerful incentive in terms of saving travel time by avoiding congestion.

Road access and charging measures are implemented by the local authority and can involve a host of policy portfolios including Highways and Parking Services, Sustainable Transport and Planning, as well as local Passenger Transport Executives and public transport operators.

In the UK, such measures are likely to be implemented through Traffic Orders, which are mechanisms used to regulate, restrict or prohibit the use of a road or any part of the width of a road by vehicular traffic.

There are some very successful examples of access to bus lanes or HOV lanes as a means to encourage the uptake of low emission vehicles, such as Oslo in Norway. The highway into Oslo dedicates one lane for exclusive use by buses, taxis, EVs and motorcycles. The measure has contributed to see the number of EVs on the road grow year-on-year and the government has promised that the incentive will stay in place until the end of 2017, or there are 50 000 EVs registered in Norway [3].

The survey results showed that none of the local authorities questioned have given low emission vehicles access to bus lanes, and only 2% have

given them access to HOV lanes – demonstrating that there is still much potential for these such measures to be rolled out in the UK.

The research indicates that there is resistance to implementing such measures. Concerns about restricting access to non-low emission vehicles and about the possible disruption to bus services were raised. A lack of effective identification of eligible vehicles was raised – this is addressed in the Norwegian example through the ‘E’ registration plate given to each electric vehicle. Changes in national legislation to deregulate the bus network was suggested as a potential avenue to explore in making implementation of these measures easier.

3.1 Low Emission Zones / Charges

Some cities are opting to introduce zones where conventionally-fuelled cars do not have access. (Ultra) Low Emission Zones (U)LEZ either impose penalties on high emitting vehicles or prohibit their access altogether. In the survey, 4% of local authorities stated that they had implemented a LEZ.

Since 2003, London’s congestion charge, a weekday fee, has been charged for entry into the zone between 7am and 6pm. The standard charge is £11.50. The Greener Vehicle Discount (GVD) and the Electrically-Propelled Vehicle Discount (EVD) allow vehicles (cars and vans not exceeding 3.5 tonnes) that emit less than 75gCO₂/km and meet Euro 5 standards a 100% exemption on the charge.

Whilst London is a successful example of such a policy in the UK, it has been difficult in other cities, with less autonomous decision-making power, to gain public acceptance of the measure.

Both schemes are no longer open for new registrations. The title shall be set in 18pt Times bold. Author names are in 12pt; affiliations (one affiliation per line, stating institution, address and email) in 9.5pt Times italic.

4 Planning and Development Frameworks

Whilst lower tier councils rely on upper tier/district councils to act as the planning authority for the local level, there are nonetheless multiple means through which the necessary infrastructure in new and existing developments

can be planned for to facilitate the introduction of more low emission vehicles into the fleet.

By specifying the need for a minimum amount of spaces (and associated infrastructure where relevant) for low emission vehicles in new residential and commercial developments, local authorities can assure potential buyers that they can use their vehicles after purchase.

In the UK context, Section 106 agreements (of the Town and Country Planning Act (1990 – as amended) (Section 75 in Scotland) are by far the most widely-used tools. The Town and Country Planning (General Permitted Development) (Amendment) (England) Order 2011 was amended to introduce permitted development rights for electric vehicle charging points in off-street public and private car parking areas and clarified that local authorities can install on-street electric vehicle charging points as permitted development.

Local Development Orders can be made by a planning authority to extend the permitted development rights for particular types of development. Permitted development rights enable local authorities to reduce costs and time taken to install charging infrastructure and are therefore appealing measures to consider introducing.

Planning authorities can encourage provision of certain measures through Supplementary Planning Guidance, as part of a Local Development Plan or Local Transport Strategy, or added on to planning conditions and enforced via planning permission. Non-compliant developers can be served with Planning Enforcement Notices.

The research highlighted that 11% of local authorities surveyed include low emission vehicle specification in building codes. However 35% of surveyed local authorities do have specifications in their planning policy and developer contributions. One such example is the London Borough of Camden. As a part of its Green Action for Change, Environmental Sustainability Plan 2011-2020 [4], the Council is encouraging developers to provide electric vehicle charging points and car clubs as a part of their developer contributions.

Certain restrictions were identified in the research, such as limited parking availability, conservation area preservation and height limits requiring planning permission, but despite these limitations, it seems that there is much promise for the

implementation of such measures in the UK in the short and medium term futures to continue encouraging the uptake of low emission vehicles.

5 Infrastructure Provision

Closely linked with the incentives derived from planning and development frameworks, providing discounts or incentives for access to infrastructure is another measure to facilitate the use of low emission vehicles. These measures are largely the sole purview of the local authorities, which makes such schemes easier to administer. This is demonstrated by the fact that infrastructure provision for low emission vehicles was the most commonly implemented measure in the survey, with 77% of those authorities surveyed having implemented recharging or refuelling infrastructure.

But the provision of infrastructure itself does not constitute a true incentive – it is a requirement for the new vehicles. The incentives and encouragement come from the discounts or free access low emission vehicle owners are offered. Half of all local authorities surveyed provide discounted access to infrastructure. Some examples include Glasgow, where electricity for charging vehicles is free, and whilst being recharged, parking on or off-street is also free [5].

Despite the large number of authorities already implementing such measures, a number of challenges were identified with the measure. These included: the fact that the provision of charging points and the methods of access and payment are currently inconsistent across local authorities. It is an example where a true patchwork of measures has been established and it is likely to be difficult to harmonise or standardise the approaches across local authorities.

6 Parking

As with preferential access to road space, parking is one of the key areas where low emission vehicle owners, through a host of beneficial measures, could save time and money. Part of the reason this measure is compelling is because again it is an area where the local authority has ultimate authority, but there is also much flexibility as to exactly where the benefit is derived from. Because cars spend so much time parked, making this as cheap, easy and

convenient as possible is a big draw for potential low emission vehicle owners. Offering discounted or dedicated parking is a clear measure for incentivizing low emission vehicles in public areas, but there is also scope to offer cheaper, or perhaps quicker access to permit parking too. Traffic Orders are once again used to implement a host of these parking measures.

Almost 40% of surveyed local authorities offered discounted or dedicated parking for low emission vehicles and more than 10% were restricting parking spaces for, or increasing the cost at which conventional vehicles could park.

Whilst it is an increasingly popular measure, there are still some issues facing parking that may inhibit local authority progress in this area. These include the fact that parking revenue is an important and secure income for many local authorities. The changes that may be required to parking regulations can be time consuming to implement and enforcement once new measures are in place can be complex and often poorly managed. More attention needs to be focused on this area in the future as more low emission vehicles begin to make use of these incentives.

As well as the increasing amount of local authorities offering free or discounted parking, some also offer preferential treatment for residents. As well as having access to free parking, Westminster residents are entitled to free resident parking permit, so long as they can provide proof of the vehicles EV status.

In Amsterdam, where there is currently a 5-year waiting list for a resident's parking permit. Electric car owners are moved up the list and can park for a reduced fee once successful. A potential alternative approach would be to instead increase the price of permits for high emitting vehicles, but such a measure was not identified as currently being implemented in the course of this research.

7 Taxi Fleets

The taxi fleet in any given local area contributes significantly to the total vehicle miles travelled, with many short journeys. Typically fleets will be made up of diesel vehicles as they are cheaper to fuel, but this has significant air quality implications. As such, incentivising taxis and private hire vehicles owners to switch to low emission vehicles offers significant benefits.

There are a few mechanisms through which taxi owners and operators could be encouraged to make the switch to driving a low emission vehicle. These are differentiating the licensing fees, offering rebates for new vehicles and offering dedicated ranks for low emission vehicles. Whilst measures regarding taxis and private hire vehicles can be implemented at council level, primarily via the Licensing department the success of such measures will be contingent on working effectively with relevant external stakeholders including taxi/private hire operators, unions and taxi associations where applicable.

Policy implementation in this area was reported to be relatively easy. Taxi licensing regulations are the primary means of implementing these measures and local authority licensing departments can set emissions thresholds, licenses and types of vehicles to be used. In Scotland, the Local Government Act 1982 was reported to be applicable in this context. Despite such relative ease of implementation, the survey responses shows that a relatively small number of local authorities have adopted measures in this area. Flexible licensing caps or minimum thresholds for low emission vehicles in taxi fleets are the only measure to be adopted, and only by 6% of local authorities surveyed.

It is possible to find some examples of UK local authorities beginning to implement a range of policies however. Since 2011, Wigan has offered taxi and private hire vehicle owners a licence fee reduction of £20 per year for LPG vehicles, or those with tailpipe emissions of less than 150gCO₂/km. For ultra low emission electric plug-in vehicles, the annual fee is halved [6].

And in York, since 2013, taxi owners have not only had access to half price taxi licensing, the Council is also offering drivers £3,000 towards the cost of a low emission vehicle – hybrid or electric – that emits 100gCO₂/km or less. York is also home to the UK's first ever 'green' taxi rank, which is reserved solely for hybrid vehicles [7].

Reading Borough Council announced in September 2014 that it would be helping to convert the 113 eligible black cabs in the town's fleet to compressed natural gas (CNG). A £369,000 grant was awarded to the town by the Department of Transport to undertake the

scheme, which will administer grants to individual taxi drivers to purchase the hybrid conversion of their vehicles. Taxi drivers will also be granted access to the town's new CNG bus filling station [8].

A potential implementation challenge here is that not all local authorities have jurisdiction over taxi ranks. Whilst some ranks are managed through traffic regulation orders, this differs between local authorities. For example in some Scottish local authorities the Police are responsible for taxi rank enforcement. Accordingly there are different management and monitoring considerations between local authorities.

8 Car Sharing

Local authorities can play a very important facilitating role in the establishment of low emission car clubs in terms of allocating dedicated parking bays, perhaps in a preferred location, to the car sharing scheme, or signing up to such a scheme in lieu of operating their own fleet of vehicles.

Measures in this area can be implemented at council level, with the lead role being taken by the Transport department, working with Parking Services, and with the Highways Authority responsible for setting parking bays aside, signage, policing and regulation of those areas.

Transport interchanges can provide suitable sites for car club implementation as part of an integrated transport network, allowing people from other modes of transport such as trains to access car club vehicles, and furthermore that evidence shows car club users are more likely to use services across other modes of transport.

Despite these measures being a fairly new consideration, the Autolib' scheme in Paris is an example where the introduction of a low emission car club has been a success. Paris invested €35 million leased Autolib' a number of parking spaces. In return, Bolloré provides EVs and pays the city back with subscription revenues [9].

Additionally, dedicated car club bays are in place in many London boroughs due to the demand placed on resident parking. Operators are assigned dedicated bays on application, and no other vehicle can park in the assigned space; vehicles must make return trips to the space they were hired from.

Challenges to the implementation of such measures include resistance to the introduction of dedicated sharing spaces due to lack of available kerb space or removal of existing waiting and loading provision.

9 Procurement

Local authorities are well placed to promote the uptake of low emission vehicle use amongst employees as well as across its community. Therefore a procurement policy that offers guidance and gives preference to such vehicles may be an effective measure to implement.

Specific mechanisms, which can facilitate the procurement of such vehicles, include ISO14000 standards used as a benchmark to procure goods, the European Directive on Public Sector Vehicles Emissions Standards/Clean Vehicles Directive and the EU legislation on open procurement.

The presence of supportive Fleet Managers at local authorities was cited in the research as particularly beneficial in developing the business case for low emission vehicles, particularly electric vehicles.

According to the survey, 29% of local authorities asked have policies to support procurement of low emission vehicles. There are indeed some exemplar cases where procurement has been seen as a significant driver for change in promoting low emission vehicles. For example, The Mayor of London stated in the Air Quality Strategy 2010 [10] that the Greater London Authority (GLA) group and boroughs would work together with the Mayor to promote best practice procurement for cleaner vehicles using the combined purchasing power of the public sector. A procurement framework for low emission vehicles has subsequently been produced by the GLA, specifically designed for use by other bodies, including all of the London boroughs.

Yet in this area, numerous challenges were identified. Existing tendering and contract cycles were seen as a potential barrier to short term change. Moreover, increasing the specifications that are required of suppliers or contracts can push smaller operators out of the running.

10 Discussion and Conclusion

This project was intended to investigate the potential policy measures that exist at the local

level to promote the uptake of low emission vehicles. A host of different areas has been investigated, in terms of the mechanisms through which the measures could be developed and implemented, the challenges to uptake and some of the councils in which action is already taking place. The interviews and surveys conducted as part of the research uncover which policies are already being utilised and to what extent and those where promise for future implementation exists.

This paper does not unpack each measure in exhaustive detail, but offers insight into these areas and seeks to demonstrate that there is much potential to utilise these measures locally, and some key issues to consider in order to try and promote nationally-synergistic policies at the local level and to try and avoid a mismatch of approaches in different areas.

The survey data collected provides some initial insight into the different measures identified, in terms of their ease of implementation and expected impact in terms of promoting uptake of low emission vehicles. This initial analysis shows that measures relating to infrastructure provision, taxi policy, procurement and planning/development were perceived to be both straightforward to implement and have a high impact.

Measures related to road access and parking were seen as difficult to implement and less impactful and likely to meet with some public resistance. This is interesting as these measures are reported to have been some of the main drivers to successful uptake of electric vehicle ownership in Norway over the past decade since initial implementation. Indeed, there are several lessons that UK local authorities can learn from Europe and further afield, just as there is much that local authorities in the UK can learn from each other. Knowledge exchange and sharing experiences is a most important element of the process to ensure that consistent and effective policy measures are selected and implemented across local authorities.

Broadly speaking, measures focused specifically on increasing the presence and viability of low emission vehicles and their related infrastructure and policies were seen as most viable, with measures significantly impacting on other areas such as public transport, road networks and parking were seen as least viable.

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