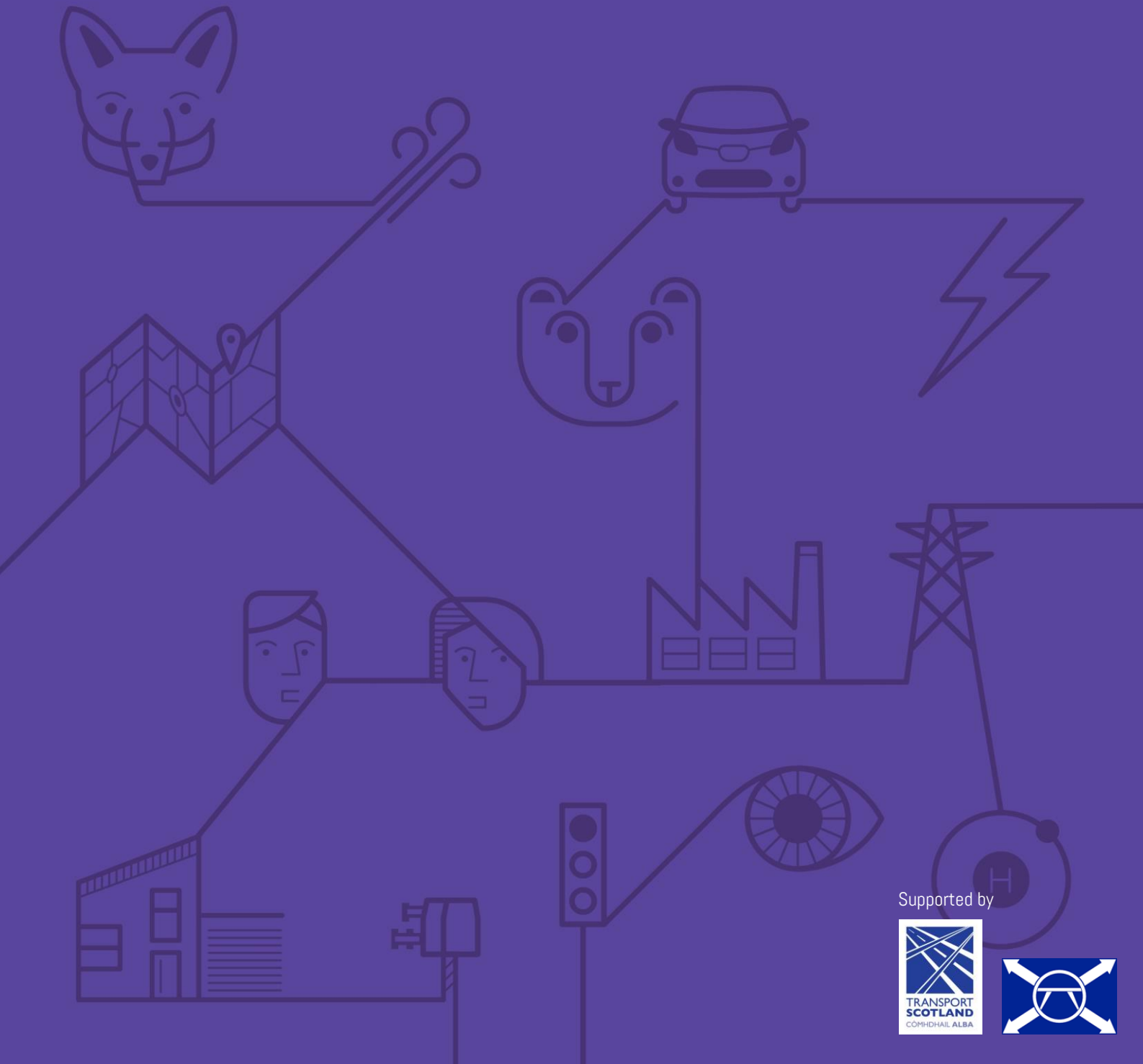


National Framework of Local Incentives for Electric Vehicles

Prepared for: Transport Scotland, Victoria Quay, Edinburgh, Scotland



Supported by



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Introduction

Local authorities across Scotland control a range of local assets and powers that can be harnessed to encourage the adoption of electric and plug-in hybrid electric vehicles (EVs and PHEVs). This report identifies a range of measures that can be implemented and provides guidance and examples of good practice to support successful implementation.

The framework has been developed by Urban Foresight and is supported by Transport Scotland and the Society of Chief Officers of Transportation in Scotland (SCOTS). It focuses on measures relating to four key policy areas:

- Parking
- Planning
- Road Access and Charging
- Taxis and Private Hire Vehicles.

This report will be useful for anyone involved in promoting the adoption of EVs in Scotland, especially at the local level. Chapters provide an indication of measures that could be undertaken in each area and considerations on their implementation but are not written to be comprehensive how-to guides. There are individual officers in local authorities who will be experts in these areas and can provide local context if the decision is taken to implement any of these measures.

1.1 A National Framework

Scotland's Roadmap to widespread adoption of plug-in vehicles 'Switched On Scotland' recognises the potential of measures in these key policy areas and establishes an action to develop a framework to support the implementation and alignment of local incentives. This is motivated by two key objectives:

1. Leveraging locally administered powers to make ultra-low emission vehicles (ULEVs) more cost effective, convenient and desirable to use.
2. Ensuring that local incentives are coherent and coordinated across Scotland (as a patchwork of measures in different local authority areas will be confusing to the public and will be less effective in stimulating ULEV markets).

This framework is not intended to mandate the development of incentives, but offer support in the planning and implementation of measures, by:

- Identifying the range of local incentives that could be implemented.
- Providing outline guidance on how such incentives could be implemented.

- Highlighting examples of successful implementation of local incentives in Scotland and elsewhere.
- Identifying how local, regional and national frameworks can be enhanced to make it easier to implement local incentives and to help ensure that measures are aligned across regions.
- Looking to the future to see how new vehicles and technological developments can be integrated into schemes and frameworks.

There is great diversity amongst Scotland's 32 local authorities that needs to be accounted for in making recommendations – each has their own jurisdiction, context and priorities. It is clear that one size does not fit all and some measures will be more relevant to certain areas than others. However, in focusing on some specific policy areas, it is possible to develop a framework that allows for a harmonisation of standards across Scotland, in keeping with the vision laid out in the Roadmap. By working together, the Scottish Government and the local authorities can help to ensure that ULEV drivers have confidence and peace of mind that benefits available to them close to home are also available elsewhere.

This guidance document discusses each of the policy areas in turn, it offers stakeholder-led insight into the perceived ease of implementation of each of the measures, as well as the expected impact each would have in delivering the shift to ULEV vehicles if implemented successfully. Each measure is graded 1-3 for each consideration.¹ A score of 1 for ease of implementation suggests the measure is challenging to implement, 3 would mean it is straightforward. For impact, 1 equates to limited impact on shifting people towards ULEVs and 3 means that it would have significant impact on behaviour and vehicle choice.

For each policy area, the guidance considers the legislative framework and role of the local authority in management and implementation of the policy area. The advantages of ULEV adoption are highlighted and examples and key considerations related to each measure are cited, as well as key considerations for implementation. The barriers and challenges to implementation are also considered.

Recommendations are provided for ways in which the Scottish Government, Transport Scotland and their partners could facilitate the introduction of incentive measures at the local level to encourage the uptake of ULEVs.

¹ The grade for each measure was identified in consultation with local authorities.

2 Scope: What Qualifies as an Incentive?

To delineate the scope of the framework, two tests are proposed to qualify an incentive:

1. Does it enhance the relative advantage of a ULEV over a fossil fuelled equivalent?; and/or
2. Does it incentivise investment in ULEVs or recharging infrastructure?

Under this test, the provision of a publicly funded charging point would not be considered an incentive; while the availability of a charge point may be beneficial, it does not enhance the relative advantage of a plug-in vehicle over a fossil fuelled equivalent (as fossil fuelled vehicles do not need charging points).

However, measures to incentivise privately funded provision of charge points (e.g. planning requirements, building codes) would be considered incentives. Furthermore, if the location of the charging point provides access to preferred parking, or if the running costs of EVs can be reduced through discounted parking/recharging fees, then plug-in vehicle drivers are enjoying a direct convenience and/or cost benefit which fossil fuelled vehicle drivers do not. Therefore, these measures would also be considered incentives.

Four further clarifications on the form that incentives can take are:

- Incentives are not just financial, as they may also take the form of some commodity or object that is desired by the recipient (e.g. saving time, privileged access, status).
- Incentives do not have to be focused on rewarding a desired behaviour, but can also impose an unwanted penalty or withdraw some desired objects to those that do not adopt plug-in vehicles (e.g. restrictions or penalties on fossil fuelled vehicles).
- Incentives do not have to be targeted at individuals but could be provided to a group, organisation or community (e.g. rewards for communities that achieve a high level of adoption).
- While most incentives are realised immediately, others can be awarded only at a later time (e.g. when adoption leads to a positive outcome such as improved air quality).

3 Measures in the Framework

This guidance looks at measures that fall into four key areas (Parking, Planning and Building Regulation, Road Access and Charging, and Taxis), which are considered to hold significant potential to encourage uptake of ULEVs in Scotland.

Table 3.1 lists measures that could be considered in each of the policy areas. Measures applicable in Scotland are explored in the following chapters.

Table 3.1 - Measures in the framework

Policy Area	Measures
Parking	<ul style="list-style-type: none"> • Discounted on-street parking • Discounted off-street parking • Discounted residential parking permits • Priority parking permits* • Reduce parking spaces for high emission vehicles • Dedicated parking bays (car clubs)
Planning and Building Regulation	<ul style="list-style-type: none"> • ULEV charging and dedicated parking for new developments • ULEV readiness specified in building codes • Permitted development rights
Road Access and Charging	<ul style="list-style-type: none"> • Use of bus lanes • Use of High Occupancy Vehicle (HOV) lanes* • Toll road/road charge exemption* • Low/zero emission zones
Taxis and Private Hire Vehicles	<ul style="list-style-type: none"> • Taxi and private hire licensing fees • Taxi and private hire licence quotas • Emissions targets for taxi and private hire fleets • Rebates and additional incentives • ULEV taxi ranks • Procurement of transport services

*Not currently applicable to/an issue in Scotland











4 Parking

As a policy area that is overseen solely at the local level, parking offers many opportunities for Scotland’s local authorities to encourage the uptake of ULEVs. Parking incentives can be very flexible. They can save time, where preferential spaces are allocated closer to amenities and they can save money, where discounts on parking fees are levied.

4.1 Measure Analysis

Table 4.1 introduces parking measures and grades them in terms of ease of implementation.

Table 4.1 – Parking measures analysis

Measure	Details	Ease of Implementation	Impact
Discounted on-street parking	ULEVs permitted to use on-road parking for free or at a reduced cost (not restricted to charge points)		
Discounted off-street parking	ULEVs permitted to use off-street parking for free or at a reduced cost		
Discounted residential parking permits	ULEVs owners have cost of residential parking permits waived or reduced		
Reduce parking spaces for high emission vehicles	The number of parking spaces set aside for fossil fuelled vehicles could be reduced		
Dedicated parking bays (car clubs)	Offering parking bays for car clubs would be contingent on adoption of ULEVs		

Key: Ease of Implementation (1 – difficult to implement, 3 – straightforward to implement) and Impact (1 – limited impact, 3 – significant impact)

4.2 Implementation

Traffic Regulation Orders (TROs) (or Traffic Orders) can regulate, restrict or prohibit the use of any road or part of the road by vehicles or pedestrians. They are the primary mechanism through which local authorities can implement their parking policy. The power to make a TRO is provided under the Road Traffic Regulation Act of 1984. TROs may contain restrictions that can apply at all times or during certain periods and can be applied to certain classes of traffic or vehicles. The flexibility exists therefore to use TROs to implement measures that relate to on- and off-street parking, and to restricting access to parking for non-ULEV vehicles.

Changing or introducing a TRO is a 2-stage statutory process. Firstly, a local consultation phase on the proposed TRO takes place, this is followed by a period of advertising the proposed TRO to the public to allow for formal objections to be lodged. The TRO then goes before an internal local authority committee. Successful proposals are subsequently approved by senior management or elected officials before being implemented.

Table 4.2 highlights some of the specific changes that would be required/could be requested in order to implement the parking measures identified in this guidance.

Table 4.2 – Parking measures – Implementation details

Measure	Change	Requirements
Discounted on-street parking	Amendment to TRO	
Discounted off-street parking	Amendment to TRO	-
Discounted residential parking permits	RTA allows Councils to implement increase in tariff	Political decision made at council tax setting session
Reduce parking spaces for high emission vehicles	Amendment to TRO	
Dedicated parking bays (car clubs)	Amendment to TRO	Links to the Developing Car Clubs in Scotland Programme

Electric vehicle recharging point parking signs and markings are prescribed by The Traffic Signs Regulations and General Directions 2016 which came into force on 22 April 2016². Changing the signage to clarify time restrictions for charging/free parking when not

² <http://www.legislation.gov.uk/uksi/2016/362/contents/made>

charging would be a potential approach to managing parking spots where charging infrastructure is present. Incorporating a parking fee as a part of the charging fee may make costs more acceptable in the longer term, where it is not feasible to continue to offer free parking/charging.

4.3 In Scotland

A number of the measures above are already being implemented in different areas across Scotland. In many areas, such as Fife, free parking is currently linked to vehicle recharging. Similarly, with regards to parking permits, in Edinburgh, for the past seven years, the price of a parking permit has been linked to the CO₂ emissions produced by the vehicle, with lower emitting cars paying less.

On the whole, however, the measures to incentivise the uptake of ULEVs within parking policy have not been fully utilised or integrated into parking policy anywhere in Scotland. Much potential exists for local authorities to introduce a package of complementary measures to increase the number of ULEVs on the road.

4.4 Barriers and Challenges

One significant barrier to free or reduced parking is that there is a need to manage and maintain the turnover of traffic in local areas. Offering free parking encourages vehicle owners to leave their vehicles for extended periods of time in prime locations, which regardless of the emissions produced by a vehicle, will contribute to congestion. It is likely that all measures relating to discounted parking or preferential access to prime spaces will need to be set with stringent time limits, therefore decriminalised parking enforcement (DPE), monitoring the use of car parking and enforcement, become fundamental to the effectiveness of the measures. Parking initiatives can therefore impact on resources by reducing income from fees and increasing costs as personnel are needed to manage such schemes, and therefore may require subsidy.

Furthermore, as ULEV uptake increases, it is likely that some of these measures will need to be withdrawn, therefore setting limits on number of total vehicles or a time frame in which the benefits apply will allow the measure to be effective, without becoming too onerous to manage. Experimental TROs, which have a time limit of 18 months, may be a useful tool here to trial particular measures, or to enable amendments to schemes to be made once introduced.

Tenements have been noted as a particular challenge for the uptake of ULEVs in Scotland, as parking is at a premium for car owners in urban areas. This is clearly linked

to the need for residential charging and is a matter that needs to be considered carefully in order to ensure that residents are not excluded from the benefits of owning a ULEV.

Ensuring that private car parks, those not owned or operated by a local authority, are covered is also a major challenge. Councils have a role to play in informing and educating private car park owners of the need for consistency in incentivising ULEV ownership. Similarly, the need to enforce these incentives has to be established. Councils and other public sector organisations can lead by example with the car parks they own and operate themselves.

Transport Scotland has been engaging with key stakeholders, including the British Parking Association and the Independent Parking Committee to better understand the private parking landscape and explore options to deliver improvements to the operation of such car parks in Scotland. This could provide a platform for the development of guidance, in conjunction with local authorities, on the provision of ULEV incentives in private car parks.

4.5 How can the Scottish Government Help?

It is important that the Scottish Government understands that costs associated with changing the infrastructure and signage, as well as obtaining approval of a TRO is not the same across all councils and that for some of the less well-resourced or smaller local authorities this presents a significant barrier to change. Providing support for the smaller authorities to make the changes, as well as guidance or standardisation of such elements would make these processes easier and perhaps less costly.

Transport Scotland is undertaking a consultation on improving parking in Scotland before the end of 2016. As part of this work there may be opportunity to explore how ULEV parking is implemented and managed. The consultation will ultimately inform the Government's Transport Bill and supporting guidance paper, which will set out how local authorities implement and enforce the provisions of the Bill.

4.6 Outlook

There is a lot that can be done to promote ULEVs using parking policy measures, and this is an area where relatively few technical or administrative barriers stand in the way. But there is a need for the processes of change to be simplified and for standardisation and guidance at the national level.

There is also a need to better connect the current and emerging charging infrastructure with parking policy in order to ensure that there is adequate allocated space and number

of recharging points in all car parks. This would also help facilitate joined up thinking around paying for energy and parking. There may also be a need to revisit parking policy based on emerging recharging technologies. For example, instead of planning for large car parks where whole sections are dedicated to rapid chargers, investing in emerging technologies such as wireless charging may mean that the space allocated to charging infrastructure can be significantly decreased. As such, there is a need to balance current demand and provision, and local authorities need to be mindful of technological developments and reflect on their parking policies regularly to ensure that they can be responsive to changing user needs. There is also a need to engage with private car park owners to ensure that changes to parking policy are consistent across public and privately owned car parks.

4.7 Recommendations at a Glance

Table 4.3 summarises recommendations related to parking measures.

Table 4.3 – Recommendations related to parking measures

Recommendations	Responsibility
Develop monitoring and enforcement guidelines and practices to ensure that incentive schemes benefit the intended recipients	Transport Scotland & local authorities
Regularly review uptake of incentives and set vehicle or time frame limits for removal of particular benefits over time	Local authorities
Work with other local authorities and Scottish Government to harmonise processes, procedures and costs involved in implementing measures	Local authorities
Work with private car park owners to harmonise/maximise incentive schemes as much as possible	Local authorities







5 Planning and Building Regulation

Planning policy and building regulations affect or underpin many other areas of policy and are therefore crucial to a number of other measures in this guidance. Understanding that the future uptake of ULEVs relies on planning foresight is an important consideration for Scottish local authorities. Potential ULEV drivers are more likely to make the switch away from fossil fuel vehicles if they can be assured that the infrastructure is in place to support them. Therefore, planning measures can help create an environment which facilitates and is more attractive to EV use, helping to increase confidence that EVs offer a practical alternative to fossil fuelled vehicles.

5.1 Measure Analysis

Table 5.1 introduces planning and building regulation measures and grades them in terms of ease of implementation.

Table 5.1 – Planning measures analysis

Measure	Details	Ease of Implementation	Impact
ULEV charging for new developments	Specifying a minimum requirement for dedicated ULEV parking in appropriate new commercial and residential developments		
ULEV readiness specified in building codes	Building codes specify need for ULEV-ready buildings		
Permitted development rights	Charge point installation designated as a permitted development right		

Key: Ease of Implementation (1 – difficult to implement, 3 – straightforward to implement) and Impact (1 – limited impact, 3 – significant impact)

³ Consultation also highlighted that impact could be increased in this was integrated with publicity and promotional activity.

5.2 Implementation

All planning decisions within a local authority are based on the local development plan unless material considerations indicate otherwise. It is therefore imperative to ensure policy for charging provision is included within local development plans.

High level planning policy in Scotland recognises the importance of considering EV charging infrastructure in new developments. Scotland's Third National Planning Framework (NPF), provides a statutory framework for long-term spatial development, committing to:

"Providing infrastructure to facilitate greater use of low carbon fuel options will be essential in reducing transport sector emissions and to realise our transformational vision of almost complete decarbonisation of road transport by 2050."⁴

Along with a specific commitment to continue to expand Scotland's charge point network.

Scottish Planning Policy 2014 (SPP) sets out national planning policy that will help to deliver the objectives of the NPF. The SPP states that:

"Consideration should be given to how proposed development will contribute to fulfilling the objectives of Switched On Scotland – A Roadmap to Widespread Adoption of Plug-in Vehicles. Electric vehicle charge points should always be considered as part of any new development and provided where appropriate."⁵

Local development plans are prepared in accordance with NPF and SPP and there is an expectation from Scottish Government that development plans will, where appropriate, include policy on EV charging infrastructure.

Local authorities are already incorporating the consideration of charging infrastructure into their development plans. For example, Dundee City Council's 2014 Local Development Plan states:

"The provision for charging points for electric vehicles should be incorporated into communal parking areas."

⁴ The Scottish Government (2014) [Scotland's Third National Planning Framework](#)

⁵ The Scottish Government (2014) [Scottish Planning Policy](#)

"Car parks provided exclusively for employees should incorporate the provision of infrastructure to install charging points for electric vehicles."⁶

South Lanarkshire's 2015 Local Development Plan states the link between climate change and ULEV provision:

"Proposals for new development must, where possible, seek to minimise and mitigate against the effects of climate change by ... providing electric vehicle recharging infrastructure in new developments to encourage the adoption of low carbon vehicles."⁷

Aberdeen City Council's proposed 2016 Local Development Plan includes supplementary guidance on transport and infrastructure which states:

"All new developments will therefore be required to install appropriate EV charging infrastructure."⁸

The inclusion of relevant policy and proposals in local development plans will help ensure the provision of charging infrastructure in new developments. Where EV charging has yet to be included in the local development plan, planning authorities can include conditions and/or obligations when granting planning permissions. Circular 4/1998⁹ recommends six criteria that should be met for a condition to be imposed on the grant of planning permission, and Circular 3/2012¹⁰ sets out the circumstances in which planning obligations, under Section 75 of the Town and Country Planning (Scotland) Act 1997, can be used. Provision of charging infrastructure will be easier to secure if the requirement to include it is contained in development plans.

The Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2014 enabled a series of new permitted development rights, including electric vehicle charging points in a series of amendments. This allows for the installation of charge points, within the restrictions of the Act, without the need for additional planning permission.

5.3 In Scotland

Measures are already being implemented in different areas across Scotland. In March 2015, the City of Edinburgh Council's Transport and Environment Committee issued a

⁶ Dundee City Council (2014) [Dundee Local Development Plan 2014](#)

⁷ South Lanarkshire Council (2015) [South Lanarkshire Local Development Plan](#)

⁸ Aberdeen City Council (2015) [Aberdeen Local Development Plan: Topic Area 7 – Transport and Infrastructure Transport, Air Quality and Noise](#)

⁹ The Scottish Government (1998) [Circular 4/1998](#)

¹⁰ The Scottish Government (2012) [Circular 3/2012](#)

report which sought approval for prioritising the installation of on-street vehicle charging points in Edinburgh using permitted development rights. This measure was integrated into the implementation of the city's Local Transport Strategy 2014-2019.

As mentioned previously, Dundee City Council's 2014 Local Development Plan, states that the provision for charging points for electric vehicles should be incorporated into communal parking areas as part of the requirements for new housing.

Such provision is not yet universal, potentially leading to variations in the quantity and quality of provision available. As local authorities establish new development plans, they should be encouraged to include provision for ULEV in accordance with national planning policy.

5.4 Barriers and Challenges

Making the requirements for ULEV provision precise was raised as a barrier by consultees. How many charge points are appropriate? What type of charge points should be installed? How should this vary for different types of developments? There is currently no universal guidance on whether every development requires charge points, and if they do how many. This report makes no recommendation on an appropriate standard but there are examples where guidance is being given.

Aberdeen City Council's proposed Local Development Plan for 2016 sets a required minimum number of active and passive charging spaces based on the total number of spaces in the development.⁸ There are also international examples where a proportion has been set: Barcelona has an ordinance that 2% of all new off-street parking construction must be equipped with charging points; and, in Vancouver, ordinance requires that multi-unit dwellings provide charge points at 20% of all parking spaces.¹¹ The London Plan includes the requirement that developments must ensure that 1 in 5 spaces (both active and passive) provide an electrical charge point.¹² Environmental Protection UK and the Institute of Air Quality Management provide the following as an example of good practice principles:

¹¹ Urban Foresight (2015) [Local measures to encourage the uptake of low emission vehicles](#)

¹² Mayor of London (2015) [The London Plan](#)

"The provision of at least 1 Electric Vehicle (EV) "rapid charge" point per 10 residential dwellings and/or 1,000m² of commercial floorspace. Where on-site parking is provided for residential dwellings, EV charging points for each parking space should be made."¹³

A further challenge is how to plan for upgrading the infrastructure and provision for ULEVs in existing developments. Consideration needs to be given to innovative ways of using new developments to increase the provision of infrastructure in existing developments. Permitted development rights for the installation of off-street charge points, within restrictions, came into force on 30 June 2014.¹⁴ This removed the need for planning permission to install provision, within the restrictions of the Order, but funding installation can still be a challenge. This is an area where developer contributions could prove useful in a similar way to how they are sometimes used to fund other elements of public realm.

5.5 How can the Scottish Government Help?

Building regulations in Scotland are set nationally, but applied locally. As new building regulations are due in 2016, the Scottish Government has a unique opportunity to incorporate planning for ULEV uptake into the latest guidelines to help deliver the Switched on Scotland vision.

As local development plans must be updated every five years (and every four years for strategic development plans), changes at the national level will filter down and can already be seen in the cases of South Lanarkshire and Dundee mentioned earlier. Whilst it is important to maintain the flexibility that local authorities have to do what is best for local development in their own areas, Transport Scotland may wish to consider developing guidance on charge points to support planning authorities. During consultation, local authorities indicated that the production of a guidance document illustrating good practice would be helpful.

5.6 Outlook

Planning conditions and building regulations can be used to encourage the routine installation of charge points in new developments, or futureproof new developments for easy installation in the future. If not already included, local authorities should look to include policy and proposals relevant to the provision of charging infrastructure for

¹³ Environmental Protection UK and IAQM (2015) [Land-Use Planning & Development Control: Planning for Air Quality](#)

¹⁴ [The Town and Country Planning \(General Permitted Development\) \(Scotland\) Amendment Order 2014 No. 142](#)

developments in their local development plans. While charging provision will not be relevant or appropriate to all development, appropriate inclusion in local development plans changes the argument from needing to justify the inclusion of charging provision to having to justify its absence.

There is a need ensure planners have information about charge points so that they can better assess need and installation requirements. SCOTS' National Roads Development Guide provides a single mention of EV charging, that charging facilities should be provided with a garage space.¹⁵ National guidance on the types and number of charge points for different developments, which local authorities could use as a basis before applying local context, may help overcome information needs.

Local authorities may wish to consider using the planning system to support wider initiatives to encourage the adoption of ULEVs. For example, developer contributions could be used to fund infrastructure for existing developments.

5.7 Recommendations at a Glance

The Table 5.2 summarises recommendations related to planning and building regulations measures.

Table 5.2 – Recommendations related to parking measures

Recommendations	Responsibility
Include consideration of charge points for inclusion in local development plans	Local authorities
Raise awareness of ULEV provisions with developers at the outset of the planning application process to increase the likelihood of them being included in new development proposals	Local authorities
Work with stakeholders to create common guidance on elements of the planning process such as car park zoning and minimum charger standards	Local authorities & Transport Scotland

¹⁵ SCOTS (2015, p.150) [National Roads Development Guide](#)





6 Road Access and Charging

Giving ULEV drivers access to dedicated road space, such as bus lanes is a compelling incentive because it can offer significant time savings through speeding up travel time by avoiding congestion. Giving ULEVs access to areas of a town or city where more polluting vehicles are charged can also offer financial savings, convenience and status benefits. Low emission zones in contexts outside Scotland have been successful and such measures likely hold significant benefit for Scottish towns and cities too.

6.1 Measure Analysis

Table 6.1 introduces road access and charging measures and grades them in terms of ease of implementation.

Table 6.1 – Road access and charging measures analysis

Measure	Details	Ease of Implementation	Impact
Use of bus lanes	ULEVs permitted to use bus lanes/gates		
Low/zero emission zones	Penalties or restrictions on high emitting vehicles accessing certain areas of city/town		

Key: Ease of Implementation (1 – difficult to implement, 3 – straightforward to implement) and Impact (1 – limited impact, 3 – significant impact)

6.2 Implementation

As with the parking measures discussed in Chapter 4, TROs could be used to implement changes to the use of the bus lanes in Scotland. This would require updating existing signs, with ULEVs specified as a separate class of vehicles. In terms of enforcement, experience in Norway of identifying eligible vehicles via specific number plates, which correspond to engine type, or in California with the use of in-car stickers, demonstrate that there are a variety of options available to local authorities in Scotland. It would be important for safety and management reasons that common or consistent hours of operation and the same vehicle parameters were applied across Scotland’s local authorities.

As a trunk road consideration, HOV lanes are actually not under the remit of local authorities in Scotland. Although the identification of particular types or classes of vehicles for the purpose of enforcement would be the same for this measure as for access to the bus lanes.

Cleaner Air for Scotland - the Road to a Healthier Future¹⁶, published in November 2015, is Scotland's first distinct air quality strategy and sets out a series of actions intended to improve air quality. The strategy also sets out proposals for a national Low Emission Framework, which will assess the potential effectiveness of transport related policy interventions in relation to specific local circumstances and issues. In addition, the [Scottish Government's Programme for Government, 2016/17](#), sets a clear commitment to establishing a first Scottish low emission zone by 2018.

Table 6.2 highlights some of the specific changes that would be required/could be requested to implement the road access/charging measures identified in this guidance.

Table 6.2 – Road access and charging measures – Implementation details

Measure	Change	Requirements
Use of bus lanes	Change in signage of bus lanes Amend TRO to enable ULEVs to operate in bus lanes	Authorisation from Transport Scotland to have signage changed. If no objection, TRO for ULEVs Bus driver training
Low/zero emission zones	-	Align with Scotland's air quality strategy, Cleaner Air for Scotland

6.3 In Scotland

None of the measures in this section have been implemented to date in Scotland, however there is much potential for such policies to be implemented in the future. Local Authorities in Glasgow, Edinburgh and Aberdeen have all conducted LEZ feasibility studies and with the publication of Cleaner Air for Scotland in 2015, a national strategy to reduce air pollution, it is hoped that such studies can be used as the basis for introducing a zone. In addition, the Scottish Government's Programme for Government, 2016/17¹⁷, sets a clear commitment to establishing a first Scottish low emission zone by 2018.

¹⁶ The Scottish Government (2015) [Cleaner Air for Scotland - the Road to a Healthier Future](#)

¹⁷ A Plan for Scotland 2016/17: <http://www.gov.scot/Resource/0050/00505210.pdf>

6.4 Barriers and Challenges

Infrastructure is a barrier that may prevent such access measures from being implemented. For example, in many areas within Scotland, appropriate bus lanes may not be available.

Changing the signage for bus lanes would also present a challenge. The necessary signage does not currently appear in the Traffic Signs Regulation and General Directions (TSRGD)¹⁸ and therefore Ministerial approval will be required for each sign until the TSRGD is updated.

Enforcement is a major challenge for all of the measures in this area, although much can be done with automatic number plate recognition camera technology as demonstrated by bus lane cameras in Aberdeen, Edinburgh and Glasgow , for example.

Public and political resistance to such measures are also important challenges. Causing delays to bus routes through overcrowding is a commonly cited concern. Experience from existing schemes, like that in Oslo, suggests that negative impacts on existing services can be managed. Setting clear parameters, like end dates for incentives can be important to ensure that the measures are balanced between offering valuable incentives whilst not causing severe disruptions to the rest of the transport network.

6.5 How can the Scottish Government Help?

In terms of the mechanisms that would be required to open up bus lanes to ULEVs, the Scottish Government could potentially play a role in ensuring that operating standards between local authorities are harmonised. A study could be commissioned to look into the feasibility of a nationwide scheme of number plate recognition, or vehicle stickers to manage the enforcement of local schemes. If feasible, the Government could consider supporting an initial pilot in one of the cities.

The Scottish Government's Cleaner Air for Scotland strategy, sets the vision of "making Scotland's air amongst the cleanest in Europe". The Strategy also includes a commitment to design, develop and implement a modelling system on regional and local scales to provide evidence for appraising and identifying potential transport and planning solutions to local air quality issues.

¹⁸ Department for Transport (2016) Traffic Signs Regulation and General Directions 2016

6.6 Outlook

Road access and charging measures are widely seen to offer considerable benefits in promoting early uptake of ULEVs. Such measures offer time and cost savings, as well as additional status to LEV drivers. But they can be seen as unpopular politically and publically, which is why feasibility work and public consultation are important elements in the policy process to ensure that measures can be successfully implemented.

Making the measures as simple and understandable as possible for the public is important. Restrictions, parameters and charges need to be transparent and clear, therefore when introducing such measures, effective communication and outreach is fundamental.

6.7 Recommendations at a Glance

Table 6.3 summarises recommendations related to road access and charging measures.

Table 6.3 – Recommendations related to road access and charging measures

Recommendations	Responsibility
Use feasibility studies and public engagement activities to trial access measures in local authorities	Scottish Government
Utilise the Scottish Government's low emission strategy to begin implementation of low emission zones across Scotland	Local authorities
Once introduced, review uptake of incentives regularly and set clear vehicle or time frame limits for removal of particular benefits over time	Local authorities

7 Taxis and Private Hire Vehicles













Taxi and private hire vehicle fleets often make up a significant proportion of total travel in the local area and are responsible for many of the short journeys. This means that they can have a disproportionate impact on local air quality, which could be significantly mitigated if the fleet was switched to ULEVs. In addition, because the cars in use have a high daily mileage, drivers could save a significant amount of money in switching to less expensive, cleaner fuels. Taxis can also increase the prominence of ULEVs on the street and play an important role in raising awareness and improving perceptions of such vehicles.

This is one area where the diversity of Scotland's local authorities come into play, some taxi drivers cover huge distances, often in rural or remote settings. Others focus on short, local urban trips. Therefore, it is important in developing appropriate policy responses that different service needs and demands can be taken into consideration.

7.1 Measure Analysis

Table 7.1 introduces taxi and private hire vehicle measures and grades them in terms of ease of implementation.

Table 7.1 – Taxi and private hire vehicle measures analysis

Measure	Details	Ease of Implementation	Impact
Taxi & private hire licensing fees	Reduced fee for EV taxi licenses		
Taxi & private hire licence quotas	Remove cap on number of licenses for given company if EVs are purchased or EV quota is included in fleet		
Emissions targets for taxi & private hire fleets	A minimum percentage of vehicles within the cap would need to be low emission		
Rebates and additional incentives	Offer additional contributions towards the cost of a low emission vehicle		
ULEV taxi ranks	Certain taxi ranks have exclusive or priority access to ULEVs		
Procurement of transport services	Public sector use of taxis and car clubs stipulates requirement for use of ULEVs		

Key: Ease of Implementation (1 – difficult to implement, 3 – straightforward to implement) and Impact (1 – limited impact, 3 – significant impact)

7.2 Implementation

Local authorities are responsible for taxi and private hire licensing as set out in the 1982 Civic Government (Scotland) Act (the “1982 Act”). They have considerable discretion to determine licensing arrangements according to their own local needs in accordance with their own legal advice. In 2012, the Scottish Government updated their best practice guidance to assist local authorities in their licensing functions. Many licences are currently granted in 3-year periods so enacting change to the licensing regime could potentially deliver fleet-wide results fairly swiftly.

The legislation gives local authorities a wide range of discretion over the types of vehicle that they can license as taxis or private hire cars. Local authorities can, at their discretion, restrict licences or offer reduced licence fees, based on emissions thresholds and types of vehicles used. Issuing of licences should be proportionate and give consideration to local demand.

The Air Weapons and Licensing (Scotland) Act 2015 (the “2015 Act”) has recently received royal assent. The 2015 Act does change the 1982 Act licensing regime for private hire cars as well as taxis and when it has been commenced, the provisions would allow local authorities to set limits on the number of private hire vehicles operating in their locality, where an ‘overprovision’ of vehicles was identified.

In terms of taxi ranks, the delineation is less clear, with some ranks being managed through TROs. The police in Scotland are responsible for enforcement on some of the ranks, so this is an area where there is much diversity in terms of the measures that can be implemented and where the responsibility for these lie. There is nothing to stop local authorities creating new ranks, but currently no provision exists to offer exclusive use for particular types of vehicles.

Table 7.2 highlights some of the specific changes that would be required/could be requested to implement the measures related to taxis and private hire vehicles identified in this guidance.

Table 7.2 – Taxi and private hire vehicle measures – Implementation details

Measure	Change	Requirements
Taxi & private hire licensing fees	Adding emissions/vehicle type to licensing review process Waiving fees would be possible, so long as the cost of running the application process was covered	Local authorities would be required to take their own legal advice as to what they are willing and able to do in terms of their existing powers
Taxi & private hire licence quotas	Adding emissions/vehicle type to licensing review process	Local authorities would be required to take their own legal advice as to what they are willing and able to do in terms of their existing powers
Emissions targets for taxi & private hire fleets	Section 10 1982 Civic Scotland Act (Local authorities power to specify types of vehicle for licensing). Adding emission targets to licensing process	Update to 1982 Act if powers to change are not reserved at UK level – it currently gives local authorities power to specify types of vehicle, but as an older legislation, it does not take account of new technologies Additional inspection monitoring and enforcement
Rebates and additional incentives	-	Exploration of state aid consideration
ULEV taxi rank	Section 19 of 1982 Civic Scotland Act (Local authorities power to create taxi ranks)	There are potential competency issues for the powers of the Scottish Parliament to provide for preference to particular sorts of vehicles
Procurement of transport services	-	National procurement frameworks

7.3 In Scotland

Dundee City Council is at the forefront of efforts in Scotland to promote ULEV adoption in taxi fleets. Since 2012 the Council has deployed over 62 standard chargers and 13 rapid chargers in the city. Recognising the need for measures to improve air quality and reduce carbon emissions, and capitalising on the size of the city, where journey distances can be accommodated on a single battery charge, the Council has changed the local licensing

regime to encourage drivers to switch to electric vehicles. Dundee is also in discussion with the taxi industry to introduce further incentives and conditions to promote the use of electric taxis in the city. And the Council has also been working closely with the private hire companies in the city who have also invested in electric vehicles. Collaboration between industry and government on ULEV uptake has been useful to navigate the unfamiliar waters and overcome issues associated with early adoption. This has made the transition for both parties more acceptable.

7.4 Barriers and Challenges

A significant barrier to the uptake of ULEV taxi fleets is the perception that taxi owners may have. Local authorities in many circumstances face a battle in trying to convince taxi drivers to make the switch. There needs to be a clear business case for taxi operators in which ULEVs offer at least a comparable service in terms of cost vs. efficiency in order for companies to make the switch. Upfront costs, range anxiety, slow charging and the inability to take long distance customers are all concerns cited which prevent the owners from investing in an ULEV. Whilst, as the case of Dundee shows, these issues are not insurmountable, they do require a more considered approach and changing the day-to-day behaviours of taxi drivers is a challenge.

There is clearly a need for local authorities to communicate with and help educate taxi owners raise their awareness of the benefits of investing in ULEVs, particularly in larger urban areas in Scotland.

There are also some practical barriers that prevent the uptake of ULEV taxis, in that the ULEVs currently available on the market do not cater for the range of accessibility needs that conventional taxis are capable of. Until wheelchair accessible ULEVs are available, they do not present a viable fleet in which to transport elderly or disabled passengers.

It is also recognised that delivering change in the taxi industry often involves carefully planned communication and consultation.

7.5 How can the Scottish Government Help?

Whilst the local authorities have wide powers and discretion for their licensing regimes, there are a number of elements of the system that could be modified at the national level to provide greater consistency between local authority approaches. For example, there is no continuity for some aspects of licensing policies across Scotland's local councils. Age of vehicles and testing requirements differ from council to council. Something that needs committee approval and takes months to decide upon in one area can be approved at

officer level in another. National Guidance to accompany the 1982 Act¹⁹ may help address these issues. Noting that the act will be amended slightly by the 2015 Act²⁰, which is due to come into effect at the end of 2016.

There is an important role for the Scottish Government in ensuring that intra-urban/regional trips can be accommodated for by the national charging infrastructure. Taxi owners need to have confidence that other areas and councils can support their recharging needs if they accept a longer fare. Offering clarity around the terms and conditions of who can charge their vehicles and where across the country is an important issue to address for the taxi and private hire fleets.

The UK Office of Low Emission Vehicles (OLEV) is operating a taxi scheme which will offer support for both vehicle purchase and infrastructure deployment. City of Edinburgh and Dundee City Councils have both submitted bids for funding, which will be awarded to selected cities on a competitive basis. The Scottish Government could monitor this scheme and consider if additional financial support may be required to help taxi drivers with the upfront costs associated with purchasing an ULEV.

7.6 Outlook

Whilst taxi owners should be aware of the impact that their vehicle choice has on the local environment, switching to a ULEV is ultimately a financial decision and the numbers need to stack up. There is a lot that local authorities can do to encourage the next vehicle purchase to be ULEV, by offering guidance and helping to change behaviours. But importantly, they have the legal powers at hand to change the licensing regime at the local level, and offering savings to taxi operators could be a compelling factor in making the switch.

Commercial users will continue to update their procurement policies and actively seek out low emission alternative to the conventional fleets and the availability of such contracts may encourage more taxi companies to make the switch.

The car industry also needs to deliver ULEV models in the next few years to enable taxi companies to fully capture the potential for a lower emission fleet. In addition, they need to be more realistic with charging cycles in their projections so operators are confident that they can deliver the same level of service without significant alteration to their business practices. The London Taxi Company is expected to launch a range-extended

¹⁹ 1982 Civic Government (Scotland) Act

²⁰ The Air Weapons and Licensing (Scotland) Act 2015

EV model in 2017 ahead of Transport for London’s legislation specifying that all new cabs must be zero-emission capable.

7.7 Recommendations at a Glance

Table 7.3 summarises recommendations related to taxi and private hire vehicle measures.

Table 7.3 – Recommendations related to taxi and private hire vehicle measures

Recommendations	Responsibility
Work with taxi and private hire vehicle operators to encourage a change in perception of ULEVs	Local authorities
Create dialogue with industry around opportunities for change, which will encourage political decisions around licensing to be made by local leaders	Local authorities
Keep local industry informed of ULEV developments and opportunities for investing in new vehicles	Local authorities and Scottish Government
Work with Scottish Government to support recharging between regions for taxi drivers working over longer distances	Local authorities

8 Final Words

Far sighted actions are being taken at both the national and local level across Scotland to leverage local assets and powers to encourage the uptake of ULEVs. This framework captures examples of many such measures, illustrating the range of opportunities that exist and paths to implementation.

The framework builds on extensive consultation across the Scottish Government, Transport Scotland, local authorities, SCOTS, COSLA and wider stakeholders in the EV sector. This consultation has helped to establish the challenges faced and wider context in which these measures sit.

While there is significant diversity amongst Scotland's local authorities, coordination of these measures at the national level is important to ensure that, where possible, actions are aligned and coherent across Scotland. These actions will necessarily be led by local decision-making, but continued work to promote good practice and supportive policy at the national level will help to avoid a patchwork of measures developing in different local authority areas, which would be confusing to the public and less effective in stimulating ULEV markets.

Many of these measures also require commitments and support of a range of different stakeholders. This highlights the importance of ongoing partnership working and collaboration to ensure the successful implementation and uptake of measures.

An important finding of the consultation for this framework is the considerable enthusiasm and awareness to make progress on this agenda. There is general consensus on the importance of local measures in promoting EV adoption and the impact that this can have in making electric vehicles more cost effective, convenient and desirable to use.

The Core, Science Central, Bath Lane,
Newcastle upon Tyne, NE4 5TF, United Kingdom

Registered in England & Wales No. 07705420
VAT No. 179 2207 93

E: info@urbanforesight.org
T: +44 191 495 7350
W: <http://urbanforesight.org>

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