Mobility credits scrappage scheme

BVRLA

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1 Executive Summary

National Government is under increasing pressure to tackle air quality but has yet to produce a solution to this public health and environmental crisis that does not harm small businesses, the economy or the most vulnerable in our society.

The UK Government has relayed this pressure to local authorities, tasking them with the challenge of reducing nitrogen dioxide pollution whilst protecting communities from the impacts of air quality measures. This provides an opportunity for local authorities to make creative use of the latest transport trends and technology to make their cities more livable, and demonstrate their leadership in exploring the future of urban mobility.

A Mobility Credits Scrappage Scheme

A mobility credits scrappage scheme tackles a core cause of air pollution by taking polluting vehicles off the roads and reducing congestion. By offering mobility credits in exchange for a household scrapping their old polluting vehicle, the scheme advances the shift away from private car ownership and increases the availability of roadspace in crowded urban areas.

As well as dramatically improving air quality by removing one of the largest contributors of pollution, a mobility credits scheme improves the health of its participants by encouraging more active travel and use of shared or public transport. A mobility credits scheme takes advantage of new technologies such as Mobility as a Service platforms, which can be fully integrated with mobility credits to incentivise sustainable forms of travel and improve journey efficiency.

By offering a strong incentive for city dwellers to scrap their vehicle and use more public transport and active and shared forms of travel, a mobility credits scheme 'nudges' the participant into a long-term behavioural change, offering advantages that reach beyond the use of the initial grant.

A mobility credits scrappage scheme delivers an air quality improvement measure that low-income households can contribute to. It is an option that is available to all, not just the most affluent. As well as providing low-income households with the opportunity to change their transport habits without losing out, it can also mitigate the impact of other air quality measures such as charging clean air zones, which can have a particular impact on micro-businesses or the less well-off.

2 Introduction

The UK is embarking on a revolution in the way we move people and goods around our cities. This transformation is being driven by overcrowding, public health awareness, the dangerous rise in air pollution and congestion. In 2017, the High Court ruled for the 3rd time that 37 out of 43 zones across the UK were in breach of EU legal nitrogen dioxide limits.[1] Innovation in technology, changing attitudes and new business models and transport modes are also paving the way for this transition by providing new ways to reduce air pollution and make journeys more efficient and reliable.

Tackling an Environmental Health Crisis

Air pollution is an environmental health crisis that kills up to seven million people every year worldwide. Reports have exposed the wide-ranging health ramifications of high levels of air pollutants, including respiratory problems, depression and a loss of intelligence. In recent years new research has prompted fresh concern about the impact of air pollution on young children. For example, UNICEF UK estimate that one in three children in the UK are growing up in areas with unsafe levels of particulate pollution.[2] Furthermore, a 2017 study published by the British Medical Journal found a very strong correlation between high exposure to damaging road traffic pollution in London and a low birth weight of children born to those exposed.[3]

The impact of harmful emissions is compounded by the congestion on UK roads. This is on the rise not only in London, the second most congested city in Europe, but across the whole of the UK, which is now the 10th most congested country in the world.[4] UK cities are also suffering from shrinking road space with more and more vehicles owned and parked in London, but rarely used.

Previous efforts to tackle emissions, by graduating most motoring taxes according to their carbon dioxide emissions, backfired by promoting what were potentially more polluting (in the form of particulate and NOx pollution) diesel vehicles. The scale of the issue was further compounded by the 'dieselgate' emissions scandal in the US where Volkswagen was found to be hiding the extent of these harmful pollutants in their vehicles.

A new pressure on local authorities

The UK now faces the challenge of tackling this health crisis whilst protecting the economy, UK businesses and low-income families from the potential negative impacts of clean air policies. This challenge has been increasingly devolved to local authorities, which have been tasked with reducing their nitrogen dioxide emissions to meet EU standards. In London, where the pollution and congestion problems are so visible to the population and its public transport provision so excellent, it has been possible to introduce a congestion charging zone with relatively little backlash. However, in UK cities without London's level of public transport provision, charging zones are politically much more difficult and are only being considered as a last resort.

As local authorities are pressured to act by concerns about public health they are also guided

[1] The Guardian, 'UK government loses third court case as plans ruled 'unlawful'', 21 Feb 2018.
[2] Unicef Press Release, 'One in three UK children live in toxic air zones, according to new UNICEF research', 21 June 2018.
[3] The British Medical Journal, Impact of London's road traffic air and noise pollution on birth weight: retrospective population based cohort study, 5 December 2017.
[4] BBC, 'UK must tackle 'astonishing' cost of congestion, study says', 6 February 2018.

by new technological innovations. For example, the Department of Transport wants to see fully autonomous vehicles on UK roads by 2021 and expects 50% of new vehicles to be connected to the internet by 2020.[5] This will provide the opportunity for network operators and users to receive real-time transport data to improve journey efficiency and management. New emerging modes of transport like drones have the potential to transform the way goods are delivered and the demarcations between different forms of transport are becoming less defined.

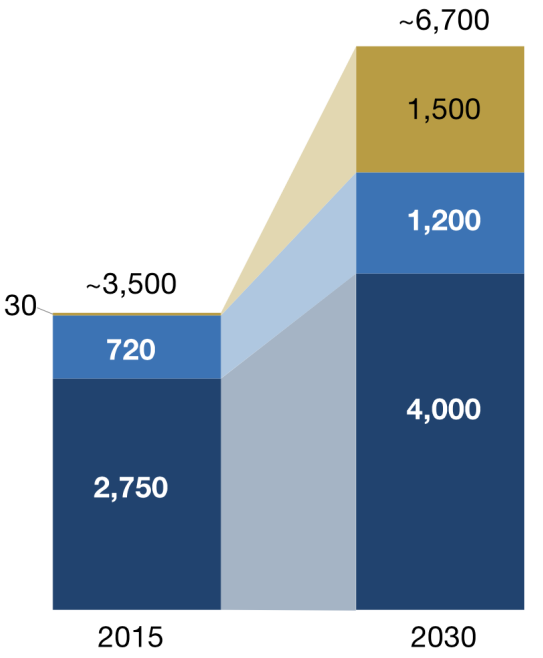
New technological trends

New trends are also impacting the way we travel and how to plan for the future of mobility. The advent of the sharing economy has led to an increase in vehicle sharing services and technological advancements have created a culture where everyone expects to be able to plan, book and pay for their transport on their smartphone.

It is against this backdrop that the future of urban mobility is being discussed in both national and local government up and down the UK. And it is in this space that a mobility credits scheme is an attractive clean air policy that can be implemented today. It reduces congestion and harmful emissions but also promotes long term behaviour change by incentivising individuals and households to scrap their polluting vehicles and increase their travel by more sustainable transport modes.

Future growth of shared mobility and data-connectivity transport services

High-disruption scenario, $ billion



Recurring revenues from new services
- Shared mobility—eg, car sharing, e-hailing[1]
- Data-connectivity services—including apps, remote services, software upgrades

Aftermarket
- Growth from increased vehicle sales

One-time vehicle sales
- ~2% annual increase driven by macroeconomic growth in emerging markets

[1]Excludes traditional taxis and rentals.

▲ *The management consultancy McKinsey & Company forecasted changes to the automotive revenue pool between 2015 and 2030 concluding that on-demand mobility services and data-driven services could create 30% more revenue potential in 2030.*

[5] Department for Transport & Centre for Connected and Autonomous Vehicles, Future of mobility call for evidence, 30 July 2018.

3 Mobility Credits

What are Mobility Credits?

A mobility credits scheme is a targeted and progressive modification of previous diesel vehicle scrappage schemes. Instead of receiving a one-off payment towards the purchase of a new car after scrapping their polluting vehicle, participants are given 'mobility credits' which can be spent on more sustainable, 'pay-as-you-go' private and public transport modes such as car and bike hire, car clubs, trams, buses and trains. A mobility credits scrappage scheme is the only clean air measure that inspires long-term behaviour change. By incentivising individuals to give up private car ownership and use other shared forms of transport new travel habits are created. The result is that participants adjust to using more sustainable forms of transport regularly and rapidly reduce their contribution to roadside pollution and congestion.

For local authorities this results in less congestion and pollution and healthier residents who embrace more efficient and sustainable forms of transport. It also places their cities at the forefront of the ongoing revolution in transport. Individuals do not suffer the economic hardship they often experience under alternative air quality policies.

A journey to long-term behaviour change

Transport behaviour is habitual and the nudge that a mobility credits scheme provides could bring about long-term behaviour change. This can be demonstrated by examining the nudge produced by car clubs and how they have encouraged sustainable transport choices. In 2016, the shared mobility charity CarPlus (now CoMoUK) surveyed 186,000 car club members sharing 2,800 cars and estimated that 25,000 privately-owned cars had been taken off the road as a result of membership.[7] Furthermore, a CarPlus survey of 4,000 London based car club members found that they walked, cycled and used public transport more than the national average and were 'increasingly interested in driving electric vehicles'.[8] This demonstrates the positive behaviour change that can result from providing new low-cost and shared access to cars. A mobility credit scrappage scheme that utilises not only car clubs, but other modes of shared transport would multiply the number of journeys available and have drastically more power to influence behaviour change.

Mobility Credits are most suited to an urban environment with strong transport links. This is because participants need to be able to fulfil all their transport needs without their own private car and therefore an effective scheme requires a local car club and very good public transport links and/or active travel routes.

[7] Air Quality News, 'Car sharing clubs 'take 25,000 cars off London roads', 26 April 2016
[8] Ecuity & BVRLA, 'Mobility credits: economic analysis', June 2017.
[9] Mayor of London, 'Proposal for a National Vehicle Scrappage Fund', February 2017.
[10] Enterprise & BVRLA, 'Consumers in the driving seat – taking control and tackling air quality, A modern multi-modal transport solution for cities – Mobility Credits'.

A Regional Mobility Credit Scheme – West Midlands Combined Authority and Bristol [10]

Enterprise modelled mobility credits scrappage schemes for euro 1-5 diesel cars in the West Midlands Combined Authority and the Bristol Built up Area that offered grants of £2,000 and £4,000 in credit.

Enterprise modelled different percentage uptakes of their schemes to calculate the kg of NOx emissions saved by the schemes and the potential to reduce emissions to the levels required by EU law. The NOx concentration in the West Midlands Combined Authority exceeds the annual mean EU annual NOx emissions limit by 75%. Enterprise's modelling found that an uptake of 70-100% euro 1-4 diesel cars for a £4,000 mobility credit scheme in WMCA would enable the combined authority to reach within 15% of the EU emissions limit.

Enterprise's results illustrated that a WMCA Diesel Scrappage Mobility Credit scheme has the potential to reduce the number of car journeys to work in peak times by 115,500-230,998. It could also increase peak travel to work by bus by 80,000 – 158,000, by train by 20,300 – 40,800 and by car club/daily rental trips by 31,000 – 62,000.[10]

Driving a car or a van

82% Existing mode share

70% Based on 100% uptake of Mobility Credit

Train

3% Existing mode share

5% Based on 100% uptake of Mobility Credit

Bus, minibus or coach

12% Existing mode share

20% Based on 100% uptake of Mobility Credit

Other (including Car Club)

2% Existing mode share

4% Based on 100% uptake of Mobility Credit

- **The impact of a Mobility Credits Scheme in West Midlands Combined Authority on modal share:** *In their modelling of a mobility credits scheme in West Midlands Combined Authority car-rental company Enterprise predicted that a 100% uptake of a £4,000 mobility credit scheme would increase the use of bus, minibus or coaches by 20%, train by 5% and other forms of transport, such as walking or cycling, by 4%; with the use of personal cars or vans decreasing by 70%. If the mode shift lasted beyond the mobility credits scheme, as predicted, the policy would reduce the use of privately-owned vehicles, the level of harmful emissions and congestion by encouraging the use of active travel and public transport.*

A London Mobility Credit Scheme to mitigate the impact of the Ultra-Low Emission Zone on low-income households [9]

In February 2017 Air Quality proposals to central Government Sadiq Khan presented his case for a National Vehicle Scrappage Fund and outlined three potential ways that it could be utilised to mitigate against the impacts of the London Ultra Low Emission Zone over a two-year period. One of these approaches was to offer a 'mobility credits' grant of £2,000 to support low-income individuals with a view to scrap 130,000 polluting cars.

The proposal used the 2019 London Poverty Profile to identify 27% of London households as low income and therefore able to benefit from the scheme. It also made a base assumption that this share is constant across Euro standards but that low-income households would be more likely to own older vehicles and less cars than other income groups. The report estimated an uptake of 86,000 – 130,000 households at a total cost of £172m – £260m, not including potential industry contributions. [9]

4
The Government Agenda

Legal pressure

Between 2015 and 2018 environmental lawyers Client Earth took the UK Government to court three times for failing to meet EU standards on nitrogen dioxide levels in London and several other cities. In its final ruling the High Court ordered the Government to tackle air pollution in 33 towns and cities as soon as possible and said it would monitor these actions to ensure compliance.[11] The Government has applied this pressure downwards towards local authorities, resulting in the search for fast-acting clean air policies that reduce emissions and support individuals and businesses.

Parliamentary pressure

Pressure to clean up the UK's air pollution has also come from within Parliament. In 2018, the Select Committees for Environment, Food and Rural Affairs, Environmental Audit, Transport and Health and Social Care called on the Government to place public health and the protection of the environment at the centre of air quality policy and take bold action.[13]

Parliamentary pressure has also been applied to the Government on the use of new technology and innovation in the transport sector. The Committee on Climate Change and the Business, Energy and Industrial Strategy Select Committee have both called for more policies to incentivise the purchase of cleaner vehicles and improve the UK charging infrastructure.[14] The Government's cuts to the plug-in grant in November 2018 also garnered widespread criticism from MPs. The House of Commons Transport Select Committee has taken a particular interest in Mobility as a Service (MaaS) platforms, which integrate planning, booking and paying for a variety of transport modes into one service.[15] MaaS platforms provide the unique opportunity to run a mobility credit scrappage scheme via a single smartphone app that enables people to book and pay for multiple different modes of transport. Investment and support for MaaS related research and pilots could easily dovetail with the growth of mobility credit schemes hosted on such technology.

The Government response

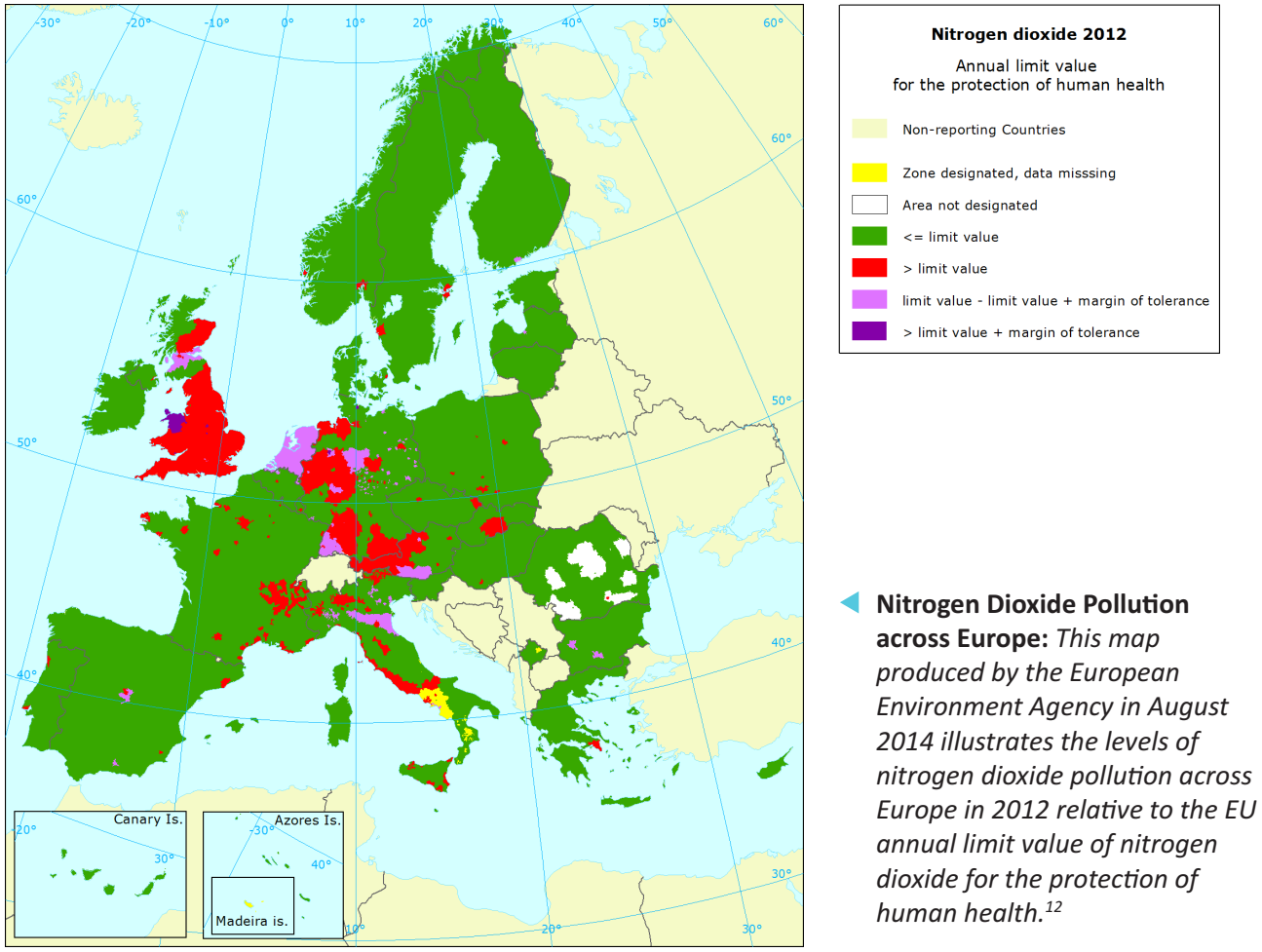
The Government has responded to these recommendations and trends by setting out its approach

[11] Client Earth Press Release, 'UK Government loses third air pollution case as judge rules air pollution plans 'unlawful'', 21 February 2018 & The Guardian, 'Air pollution: UK government loses third court case as plans ruled 'unlawful'', 21 February 2018.
[12] European Environment Agency Figure File, 'Nitrogen dioxide - Annual limit values for the protection of human health', 22 August 2014.
[13] House of Commons Environment, Food and Rural Affairs Committee, Environmental Audit Committee, Transport Committee & Health and Social Care Committee report, 'Improving Air Quality', 15 March 2018.
[14] House of Commons Business, Energy and Industrial Strategy Committee, 'Electric Vehicles: driving the transition', 19 October 2018
[15] House of Commons Transport Committee Report, 'Mobility as a Service', 19 December 2019.

to the future of mobility and air quality in its environmental, industrial and transport strategies. The Government has acknowledged air pollution as 'the greatest environmental threat to human health in this country'.[16] In January 2019, the Department for Environment, Food and Rural Affairs published its Clean Air Strategy. The strategy emphasises the importance of reducing sources of air pollutants other than transport, but it identifies the areas where nitrogen dioxide is above legal limits as the immediate challenge.[17]

By facilitating behaviour change away from car ownership and towards sustainable transport modes a mobility credits scheme supports the Government's commitment to improving air quality and addresses the challenges from Client Earth, Select Committee reports on Transport and Climate Change and opposition MPs to do more to reduce air pollution. The Department for Transport's Road to Zero publication acknowledges the need to adjust and prepare for a shift in how we travel and new business models emerging in this space.[18] Mobility credits schemes not only facilitate the shift to future mobility but also embrace and accelerate the modernisation of our transport networks.

The Future of Mobility Grand Challenge, set out by the Department for Business, Energy and Industrial Strategy in its Industrial Strategy, prepares



Nitrogen Dioxide Pollution across Europe: *This map produced by the European Environment Agency in August 2014 illustrates the levels of nitrogen dioxide pollution across Europe in 2012 relative to the EU annual limit value of nitrogen dioxide for the protection of human health.*[12]

[16] Department for Business, Energy & Industrial Strategy policy paper, 'Industrial Strategy: building a Britain fit for the future', 27 November 2017.
[17] House of Commons, Speech by the Secretary of State for Environment, Food and Rural Affairs c711, 22 May 2018.
[18] Department for Environment, Food & Rural Affairs, 'Clean Air Strategy', 14 January 2019
[19] Department for Transport, 'Reducing emissions from road transport: Road to Zero Strategy', 9 July 2018

for and sets out the need for the development of mobility credits schemes. This grand challenge consists of four early priorities:

• establishing a regulatory framework to encourage new transport modes and business models
• seizing the opportunities and managing the challenges of the transition to zero emission vehicles
• preparing for a future of new mobility services
• exploring how data can be used to improve our transport system and its development.[19]

The Industrial Strategy grants funds for projects that improve connectivity, reduce congestion and take advantage of new mobility services and technology as well as offering funding that local authorities can bid for to support their clean air policies and associated mitigation measures. A mobility credits scrappage scheme would reduce the number of cars on our roads and increase the use, and therefore investment, in new mobility services and technology in line with the Industrial Strategy. It could also be used to mitigate the impact of charging clean air zones and other air quality measures. The data collection potential of a mobility credits scheme and the benefits of sharing transport data for MaaS platforms are in line with grand challenge priority on using data to improve our transport system.

Amongst policymakers and politicians there is a clear political tension between a central singular approach to air quality measures and more local autonomy. The Select Committees for Environment, Food and Rural Affairs, Transport, Environmental Audit and Health and Social Care recommended that the Government pursue a 'single coherent framework' to air quality legislation.[20] In contrast, the Committee on Climate Chance encouraged cities and towns to take the lead in promoting more sustainable travel decisions. A criticism often waged by opposition MPs is that the Government is 'passing the buck' to local and regional authorities to fulfil the UK's legal air quality requirements.

The Government has expressed enthusiasm through its Air Quality Plan, for giving local authorities ownership of their own clean air plans and working with localities to design the right approach for each area. Mobility credits schemes go hand-in-hand with this local approach to air quality where vehicle eligibility, transport infrastructure available and socio-economic demographic of participants guide the parameters of the scheme. The Government has said that it is open to proposals regarding scrappage schemes but that they should be targeted to ensure the uptake is by those who would not buy a cleaner vehicle otherwise. [21]

[20] House of Commons Environment, Food and Rural Affairs Committee, Environmental Audit Committee, Transport Committee & Health and Social Care Committee report, 'Improving Air Quality', 15 March 2018.
[21] House of Commons, Speech by the Secretary of State for Environment, Food and Rural Affairs c718, 22 May 2018.

5
Benefits of Mobility Credits vs Diesel scrappage schemes

A core problem with a typical diesel vehicle scrappage scheme is that while it has some impact on pollution levels it has less impact on reducing the number of vehicles on crowded urban streets. A conventional diesel scrappage scheme promotes private vehicle ownership by incentivising the purchase of new lower emission vehicles. With the average privately owned city car spending 97% of its time parked it would be more beneficial to encourage a shift away from car ownership using a mobility credits scheme.[22] This would tackle the problems of congestion and parking spaces on city streets by shifting participants away from personal car ownership and towards public and active transport. For drivers, it would raise awareness of the cost and hassles associated with car ownership, including MOTs, insurance, parking and servicing.

Even with the financial assistance on the purchase of a replacement vehicle that a conventional scrappage scheme provides, those on middle and low incomes are still unlikely to be unable to afford the cleanest, newest vehicles.

Due to the high cost of battery vehicles and a lack of on-street charging infrastructure, in urban areas, a participant in a diesel vehicle scrappage scheme is unlikely to upgrade to an electric car or van. This increases the likelihood they will have to upgrade again in the near future and their vehicle will depreciate in value as air quality regulations and clean air zones become more stringent.

Mobility credits schemes takes advantage of the innovation, developing public transport infrastructure and car sharing ownership models that constitute the future of urban mobility. In London and other UK cities, car share companies are dramatically expanding their offering of hybrid and electric vehicles. For example, DriveNow expanded its London electric vehicle fleet by 130 BMWs in January 2019 and Zipcar has introduced 325 e-Golfs in the capital.[23] Enabling participants to use car sharing arrangements as part of a mobility credits scrappage scheme provides them with access to a car when they need it but results in a significant reduction in miles driven and a net reduction in vehicles on the road. Mobility credits schemes are compatible with the shift to sustainable transport modes and the future of urban mobility, but also act as a catalyst for this shift.

[22] Enterprise & BVRLA, 'Consumers in the driving seat – taking control and tackling air quality, A modern multi-modal transport solution for cities – Mobility Credits'.
[23] FleetNews, 'DriveNow expands EV fleet with 130 BMW i3s', 7 February 2019 & FleetNews, 'Zipcar's VW e-Golf shared fleet proves popular with London motorists', 14 January 2019.

Ecuity's modelling of a national Mobility Credits Scheme

In 2017, energy policy economists Ecuity modelled a national mobility credit scrappage scheme, which offers 40,000 euro 1-5 diesel car owners £2,500 in mobility credits to scrap their vehicle. As part of this modelling Ecuity calculated the net present value over a 10-year period, using DEFRA's modelling of a conventional scrappage scheme.

Ecuity's modelling demonstrates that a mobility credit scheme creates a larger total reduction in NOx emissions than a conventional scrappage scheme. It would also have a greater health and welfare benefit and cost the Government less money to action. The 2009 scrappage scheme was discontinued because it was not seen to have a favourable cost benefit calculation. Ecuity's modelling shows that a mobility credit scheme, with its higher cost benefit, would be more suited to Government policy.

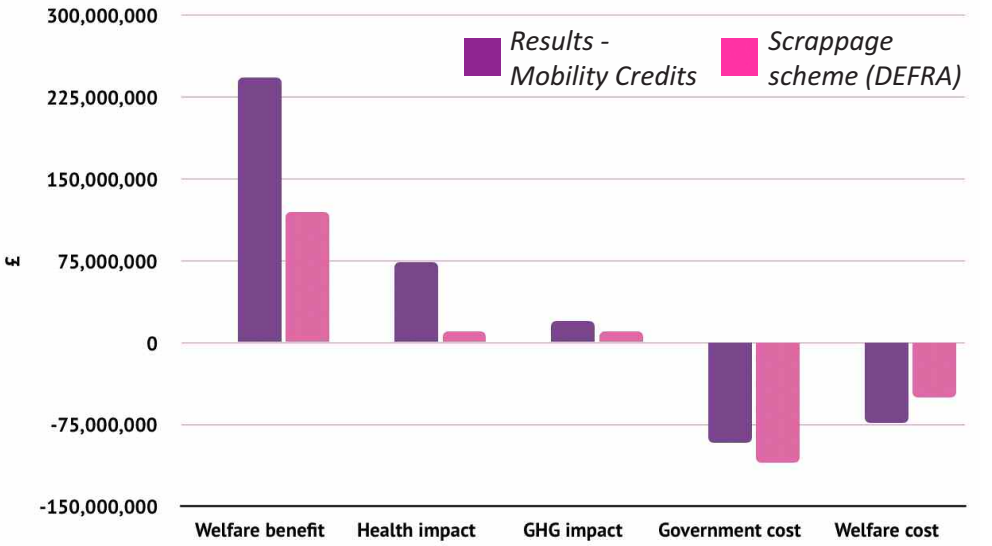
Ecuity's modelled policy reduces NOx by 67 tonnes in the first year of the scheme and by 1,272 tonnes over 10 years, which is equivalent to removing 180,000 euro 5 LGVs from UK roads for a year, assuming an average mileage of 30,000 miles. In comparison DEFRA's scrappage scheme model saves 400 tonnes of NOx in 10 years of operation, around a third of the reduction of Ecuity's mobility credit model.

Ecuity concludes that a national mobility credits scrappage scheme would be more cost effective than a national scrappage scheme and would provide added value for money by fostering behaviour change and promoting sustainable transport modes. In its economic analysis Ecuity also encourages the Government to consider supporting shared vehicle schemes as part of its clean air policy.

A cost-benefit analysis of a National Mobility Credits Scheme vs a Scrappage Scheme

	Results – Mobility Credits	*Scrappage scheme (DEFRA)*
First year air quality improvement (t)	66.93	
Total reduction in NOx emissions (t)	1272	*400*
Welfare benefit	£242,731,941	*£120,000,000*
Health impact	£73,499,575	*£10,000,000*
GHG impact	£19,721,120	*£10,000,000*
Government cost	-£91,772,670	*-£110,000,000*
Welfare cost	-£73,418,136	*-£50,000,000*
Economic growth impact	N/A	*Small & positive*
NPV of policy	**£170,761,829**	***-£20,000,000***

▲ *A table comparing the cost-benefit calculations for a National Mobility Credits Scheme with DEFRA's modelling of a National Scrappage scheme*



▲ *A graph showing the net present value of Ecuity's modelled Mobility credits scrappage scheme over a 10-year period.*

Cost benefit analysis

For an effective mobility credit scheme to take place, funding would be needed to acquire the prepaid payment cards or MaaS platforms for the system as well as covering thecost of the mobility credit grants and any extra necessary transport infrastructure. This needs to be balanced against the cost benefits for the Government from reducing congestion and reducing the money spent by the NHS on treating air pollution related conditions.[24]

Modelling from energy policy economists Ecuity shows that a mobility credits scheme would result in a greater reduction in NOx emissions than a conventional diesel scrappage scheme and that it would counter its greatest faults by acting as a catalyst for long term behaviour change and costing less to deliver. The choice between a conventional scrappage scheme and a mobility credits scheme has substantial impact on congestion and its associated harms. The behaviour changes incentivised by a mobility credits scrappage scheme would naturally decrease the number of cars on UK roads and therefore the excess pollutants released by stop-start driving and the level of particulate matter produced by brake and tyre wear.

Impact of mobility credits for lower income households

Mobility credits are a model mitigation measure for urban areas applying charging clean air zones and other air quality measures that are known to disproportionately impact lower income households. They can also prevent low income households from suffering as a result of the depreciation of the value of non-compliant cars, by offering the owners a payment that exceeds the value of the car for it to be scrapped.

By eliminating the costs of car ownership, promoting behaviour change to more sustainable transport modes and allowing individuals to sell their car above market value a mobility credits scheme supports the most vulnerable in our cities whilst reducing pollution in line with the goals of the Government and its stakeholders.

Social and Health benefits

A mobility credits scheme promotes public health in a variety of ways. It encourages active travel like cycling, walking and public transport as participants are less reliant on their personal vehicles. By reducing the number of polluting vehicles on UK roads a mobility credits scheme will improve air quality in the area it covers with a resultant reduction in negative health impacts. The reduction in congestion is likely to reduce the number of road accidents and the production of particulate matter pollution from brake and tyre wear. Ecuity estimated that their modelled national mobility credit scrappage scheme would have a positive quantified health impact of £73,499,575.[26]

Mobility credit schemes encourage the transition towards zero emission travel and the future of urban mobility for less cost than a conventional diesel scrappage scheme. They also have a higher social benefit. Mobility credits can be targeted at specific demographic groups who are at risk of transport related social exclusion as a result of air quality measures, such as low-income individuals who drive non-compliant vehicles.

In their cost/benefit analysis Ecuity quantified the total social welfare benefit of a national mobility credit scheme at £242.7 million.[27] This figure represents the value of the mobility credits to the consumer and the savings made to operating costs by switching to public transport and car clubs.

[24] Department for Environment, Food & Rural Affairs and the Department for Transport, 'UK plan for tackling roadside nitrogen dioxide concentrations', July 2017 & Ecuity & BVRLA, 'Mobility credits: economic analysis', June 2017.

[25] Mayor of London, 'Proposal for a National Vehicle Scrappage Fund', February 2017 & RAC Foundation, 'Scrappage for Equality', 29 August 2018.

[26] Ecuity & BVRLA, 'Mobility credits: economic analysis', June 2017.

[27] Ecuity & BVRLA, 'Mobility credits: economic analysis', June 2017.

RAC Foundation investigate mobility credit as CAZ mitigation[25]

In August 2018, the RAC foundation released research into how a mobility credits scrappage scheme could mitigate the impact of a clean air zone on low income households, specifically Sadiq Khan's £2,000 'mobility credits' scheme in his 2017 proposals to central government. The report estimated that 68,700 individuals in the 'most income deprived areas' of London were eligible for a mobility credits scheme. Of these 31,400 are individuals that drive into the ULEZ in a non-compliant vehicle and live within walking distance of a train station. A further 37,000 of these individuals did not live within easy walking access of a railway station but many were on bus routes or potentially able to join car clubs. The research concluded that a mobility credits scheme funded by £63 million would be suitable for up to half of low-income London based commuters that currently travel to work using a non-compliant car.

6 Implementation

Where is best suited to Mobility Credits?

Over the next 15 years, urbanisation is expected to increase average city density by 30%.[28] Furthermore, the UK already has a higher percentage of people living in its urban areas than any other OECD country.[29] The air pollution and congestion created by vehicles in UK cities create an urgent need for a mobility credits scrappage scheme. Such schemes are more likely to succeed in an urban environment because it is more likely to have well-connected public transport links and access to car clubs that mobility credits can be used for.

One of the benefits of encouraging car sharing arrangements by way of a mobility credits scheme is that these arrangements are more likely to make use of electric vehicles. To maximise the benefits of a mobility credits scheme it is advisable to establish it in areas with developing EV infrastructure.

Operations

There is no one model for an effective mobility credits scheme and the arrangement could be organised by public or private bodies. In keeping with the Government's emphasis on local authority ownership of clean air policy, a local authority could 'own' the scheme and outsource to a third party to administer the credits. Local authorities could bid for money from a central Government fund to implement a mobility credit scheme according to their own geographic requirements and make decisions regarding who would be eligible for the scheme. In contrast, central Government could run and manage the mobility credit scheme like it did the 2009 diesel vehicle scrappage scheme. In its model Enterprise proposes a scheme that is funded through the Government's Clean Air Fund or other opportunities including Section 106 commitments.

A private sector body could also own and run the scheme as part of its investment in and development of a MaaS platform or sustainable transport plan. However, mobility credits schemes run by private innovators would require public sector oversight to ensure compliance and to protect participants and their data. Any scheme operators would need to be approved to a minimum standard.

Enterprise recommend a scheme with a prepaid card, also accessible by phone. The card provider could limit the places where the money could be spent to ensure compliance with the scheme. This method is particularly useful for beneficiaries of the scheme that do not have a smart phone or bank account and are not technologically savvy.

Alternatively, the scheme could be run through a Mobility as a Service (MaaS) system where compliance would be guaranteed by only allowing in-app payments. On a MaaS platform users can access and pay for journeys with a variety of transport providers without leaving the platform, which usually takes the form of a smartphone app. MaaS platforms can be paid for by subscription or pay-as-you-go depending on the individual's transport needs.

[28] Ecuity & BVRLA, 'Mobility credits: economic analysis', June 2017.
[29] Enterprise & BVRLA, 'Consumers in the driving seat – taking control and tackling air quality, A modern multi-modal transport solution for cities – Mobility Credits'.

What is needed to move forward?

To provide more data and to help establish the best methods of funding and scheme ownership and operation pilot mobility credit scrappage schemes should be held in localities across the country. Investment and energy from central and local government and the private sector will help the UK take full advantage of what mobility credits scrappage schemes have to offer and meet the Government's ambition to be at the forefront of the transition to zero emission transport and future mobility.

To maximise the benefits of mobility credit schemes for low income households there needs to be more private and public sector investment in transport modes and infrastructure in low income areas. Currently, people in low income areas are less likely to have access to car clubs and strong transport links. Therefore, access to these transport services could be strengthened so that more people in these areas can benefit from mobility credits schemes. The RAC Foundation's 2018 research found that a mobility credits scheme could benefit half of low-income households affected by the London Ultra Low Emission Zone.[30] With greater transport in low income areas this could number could increase immeasurably.

To support the growth and development of MaaS platforms as a vehicle for a mobility credit schemes Government should legislate to facilitate the sharing of traffic-related data between public transport operators and trusted third parties.[31] To host a mobility credit scheme on a functioning MaaS platform service providers need to share essential information on routes, timetables, prices and accessibility and make their ticketing and reservation system interfaces available to other providers. The design of booking interfaces should become more interoperable and providers should eliminate the barriers that prevent the integration of different systems to host the most successful mobility credits schemes.

What do mobility credits look like into the future?

With investment in MaaS platforms and mobility credit schemes more and more people will turn to sustainable modes of transport and away from personal car ownership. The nudge of the mobility credit payment will result in a long-term shift to more sustainable transport decisions and a reduction of polluting vehicles on UK roads.

Once an individual has adapted to their more flexible, affordable and environmentally-friendly commute, they are likely to continue to rely on other transport modes to get to work, rather than returning to car ownership. An individual using mobility credits on a pre-paid card or MaaS platform that allows them to pay for transport using one app or card might top-up their mobility credits, similar to a London Oyster card. To incentivise participants to continue with the card or MaaS platform participating transport operators could offer customers competitive rates after the mobility credit has run out.

The advent of mobility credits schemes and pilots will also encourage more investment in public transport infrastructure and car clubs, resulting in further behaviour change.

Mobility credits scrappage schemes offer a unique opportunity to transform the habitual travel behaviour of those who live in cities across the UK, support low-income households and tackle the UK's air pollution crisis at a low cost to the Government. The future that mobility credits positions us towards is the future with a highly connected and efficient zero-emission transport system that is visualised in BEIS's industrial strategy.

[30] RAC Foundation, 'Scrappage for Equality', 29 August 2018.
[31] MaaS alliance, Data makes MaaS happen - MaaS Alliance Vision Paper on Data, November 2018.

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