



**mcia**  
Today's Industry. Tomorrow's Journeys



**Zemo  
Partnership**  
Accelerating Transport to Zero Emissions

# Realising the Full Potential of Zero Emission Powered Light Vehicles

A JOINT ACTION PLAN FOR GOVERNMENT AND INDUSTRY

## ► THE ROUTE TO NET ZERO

FEBRUARY 2022



# ► Foreword from Trudy Harrison MP

## Parliamentary Under-Secretary of State for Transport

Last year we delivered our landmark Transport Decarbonisation Plan (TDP) – a road-map, a greenprint even, for a future of clean travel. A key commitment in the TDP was to work with key partners on an action plan to realise the potential of zero emission powered light vehicles (PLVs). I am delighted that the publication of this document by the MCIA and Zemo Partnership fulfils that commitment. But the hard work starts now. There's plenty at stake on getting the transition to zero emission PLVs right. Cleaner air, reducing emissions, healthier lives and an accessible green transport network that works for all. I warmly welcome this action plan and am delighted with the level and depth of engagement from everyone within the UK's iconic, innovative motorcycle industry.



Government policy in this area is still evolving and developing but we are determined to work with industry and find the right place for zero emission powered light vehicles within the UK's wider transport. While I can't endorse and commit to everything in this plan, I will make sure we work with industry where we can.

Of course, we know that the users of PLVs represent some of those most at risk on our roads today. We will continue our work to reduce the safety risks to users by raising awareness between drivers and riders and promoting post-test training to ensure users have the skills they need to stay safe and avoid collisions. Our forthcoming Road Safety Strategic Framework will set out in more detail how we will reduce the risks and concerns of those who choose to ride.

Zero emission PLVs can be far less impactful than larger vehicles and there is no reason we should assume a 'one size fits all' approach to personal mobility. They offer a range of benefits such as reducing congestion, as well as helping remove air and noise pollution from our roads. Their smaller size also makes them complementary to increased public transport use and the growth of cycling and walking infrastructure.

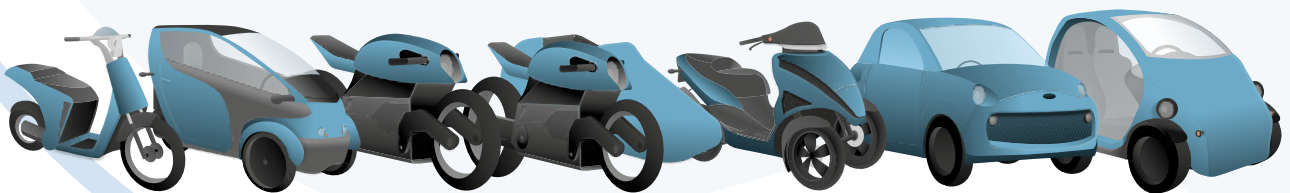
However, the benefits go beyond reducing our impact on the environment. Zero emission PLVs are delivering our takeaways and groceries; make light work of longer journeys for leisure or to work and school; and can provide affordable and accessible travel options for those in more rural communities, not just those in our towns and cities. They are also part of a new green industrial revolution – with the potential for thousands of new skilled manufacturing jobs right across the country. This action plan is an excellent start to taking full advantage of these opportunities.

I am proud of this country's motorcycling heritage. British motorcycle manufacturing is currently undergoing a renaissance, with the revival of classic British brands and the creation of new ones and it is fantastic to see these companies developing new products offering ever more zero emission choice for consumers. Later this year, we will also be consulting on the date to end the sale of all new non-zero emission L-category vehicles. These are positive signs that a zero emission PLV sector, fit for the future, is within reach.

This plan is the start of an exciting new era, Government can play a key role, but we need the expertise of designers, manufacturers and retailers, from across the industry, to ensure that zero emission PLVs help deliver the economic and environmental benefits we desperately need.

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## › Foreword

We are delighted to present this Action Plan for how we will, together with Government and industry, realise the full potential of zero emission powered light vehicles (PLVs). Success will not only accelerate decarbonisation of the UK's road transport system, but tackle other challenges faced by road users: significant greenhouse gas (GHG) emissions, in both vehicle production and use, poor air quality, congestion and the need for new mobility solutions to ensure an affordable choice for all.

Replacing fossil fuelled combustion-powered vehicles with electric variants is a key step on the journey to net zero and in time will remove vehicle tailpipe emissions, but risks leaving the other challenges unchecked if delivered in isolation. We believe an approach encouraging **The Right Vehicle for the Right Journey** will help to reduce the high number of single occupancy car and lightly laden van journeys we see congesting our roads today. Replacing many of these journeys (that cannot be completed by cycling and walking or public mass transport) with greater use of more affordable, zero emission PLVs could see an increase in the road space available for other users, a reduction in energy use and an increase in energy efficiency that will place less demand on our charging infrastructure.

As with electric passenger cars, the greater the uptake, the more affordable and accessible PLVs will become, particularly for those short-to-medium distance commutes which are too far for active travel or where public transport is not easily accessible, including rural settings.

Traditionally, PLVs have often been absent from national and local policy development, possibly due to an underappreciation or lack of awareness of their potential benefits. It is testament to the industry and all it has done to showcase its decarbonisation credentials that it is now regarded as a serious mode of transport for consideration alongside others, where appropriate, in the vision of our future transport ecosystems. So, we welcome the Government's new focus on zero emission PLVs as a key part of the solution to decarbonise transport, complementing both active and public transport, as outlined in the recently published *Decarbonising Transport: A Better, Greener Britain*.

Today, barriers remain, preventing zero emission PLVs becoming a significant transport mode in practice, and as a result the opportunities that do exist haven't yet been able to be fully harnessed by industry or users. This Action Plan sets out a series of ambitious recommendations to remove these barriers, speed up the delivery of decarbonised transport in the UK whilst creating new industrial, consumer and business opportunities right across the country.

We look forward to working with the Government and industry on making these recommendations a reality throughout 2022 and beyond.



**Tony Campbell**  
CEO, MCIA



**Andy Eastlake**  
CEO, Zemo Partnership

# › Executive Summary

## An Action Plan to Realise the Potential of Zero Emission PLVs

Working in partnership with industry and Government, this Action Plan recommends activity across four key themes:

### › SUPPLY AHEAD OF DEMAND – DELIVERING THE PRODUCT

The actions below focus on increasing the number, type, and range of zero emission PLVs available on the market, providing consumers and businesses alike with a wider choice of vehicles and capabilities for their application, with economies of scale leading to lower prices. Clarity of product regulation is designed to provide clear direction to industry, providing confidence for existing suppliers to develop new products and attracting additional entrants to the sector. Manufacture in the UK is actively encouraged through making opportunities available for both technology and vehicle development.



1 A review of existing L-Category vehicle regulation to ensure it remains fit for purpose and caters for the evolution of future zero emission PLVs, including assessing the potential for a new vehicle category.



2 Developing the component and system supply chain in the UK for zero emission L3-Category powered two-wheelers (PTWs) to encourage new entrants to the market, lower manufacturing costs and maximise the potential for GHG emission savings.



3 Developing the manufacturing base and supply chain in the UK for zero emission L7 cargo vehicles to increase the number and availability of models on the market, providing a greater degree of consumer and fleet choice.

### › DRIVE DEMAND – STIMULATING THE MARKET

The actions below focus on providing appropriate and complementary incentives for consumers and businesses to purchase, rent or share a zero emission PLV. This may be in the form of improved communication to raise awareness of PLV availability and capability, or financial support to assist a purchase similar to other vehicle categories. The latter is particularly important in areas where PLVs have yet to establish a viable business case but will do so once demand and volumes increase.



4 A review of the current grant and incentivisation structure in the PLV sector, including adopting learning from other vehicle categories where the roll out of zero emission tailpipe vehicles has proven successful.



5 Conducting a public awareness campaign jointly led by Government and industry to promote the existence, availability, and benefits of zero emission PLVs to consumers and businesses.

## › **IMPROVE ACCESS – OFFERING A VIABLE ALTERNATIVE**

The actions below focus on allowing more people to readily gain access to a zero emission PLV for personal transport, commuting or cargo delivery purposes. As a lower cost and smaller alternative to cars and vans, PLVs offer the potential to provide affordable, zero emission transport for those moving in and between inner cities, rural communities and journeys to work and school that are not easily supported by traditional electrified vehicles. A simplified licensing structure is designed to make PLVs an option for a larger section of society whilst still maintaining high standards of testing and training.



Simplifying the existing licensing regime across all L-Category segments to improve access to zero emission PLVs for a wider section of the community, increasing access, uptake and adoption.



Increasing mobility in rural communities by providing access to affordable zero emission PLV solutions using initiatives such as Wheels to Work.

## › **INCREASE INTEGRATION – INCORPORATING PLVS INTO INFRASTRUCTURE AND COMMUNITIES**

The actions below focus on ensuring PLVs form an integrated part of the overall road transport solution for the UK and are included in the strategic planning activity for other vehicle categories, whether this be at a national or local level, from charging infrastructure to road space allocation. This is to maximise ease and efficiency for the PLV user in terms of time, cost, comfort, safety, accessibility and convenience, and in doing so driving uptake of zero emission PLVs where it is appropriate to do so.



Engaging with local authorities through the Local Authority Transport Decarbonisation Toolkit to ensure zero emission PLVs form part of an integrated transport solution for the UK.



Creating a formal L-Category community to engage with the Government and monitor the delivery of this Action Plan.



Engaging with industry to ensure zero emission PLVs are considered and incorporated into the development of the EV charging infrastructure.

## › Introduction to PLVs

PLVs, or 'L-Category' vehicles as regulation defines them, refer to a range of two, three and light four-wheeled vehicles that are smaller and lighter than conventional cars (M-category) or vans (N-category). They are typically used for transporting passengers but are also increasingly used for cargo as part of last mile deliveries and within the gig economy.

Given their compact size and light weight, PLVs can support more optimal use of road space. They are increasingly powered by zero emission powertrains and so offer an efficient, clean, and practical form of personal and commercial mobility in urban and sub-urban environments.

This is especially true when active travel or public transport is not a viable option. Their purpose is to complement active travel and public transport by displacing inefficient, single, or low occupancy vehicles from the road.

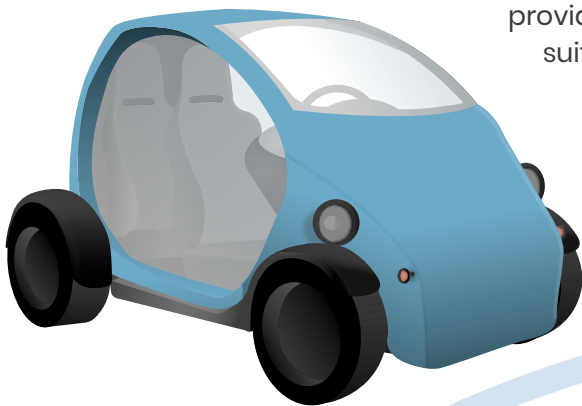
PLVs have also been shown to be better for the environment both in manufacture and in use. For example, MCIA and Zemo Partnership's recently launched Life Cycle Analysis showcases the significant GHG emission savings that can be had from a zero emission PLV's whole lifetime, compared with an internal combustion engine (ICE) car and even some electric variants<sup>1</sup>. Similarly, PLVs have significant benefits when it comes to reducing congestion.

***PLVs have been shown to be better for the environment***

For example, MCIA's PLV congestion impact study, carried out by Local Transport Projects, found that moving some journeys from private cars to PLVs could result in significant improvements for other road users in terms of reducing junction delays and cutting journey times at both individual junctions and along wider corridors<sup>2</sup>.

PLVs are regulated by law and must comply with the relevant design and manufacturing rules, as well as users having to hold insurance and a relevant licence, acquired through relevant training.

PLVs are subdivided into seven groups, each defined by power output, number of wheels, seating layout and weight. The following table provides an overview of the categories, most of which are suitable for passengers or cargo use.



Within the body of this Action Plan, we focus on three of the main L-Category vehicle types (L1, L3 and L7). Although all L-Category vehicles have a role to play in decarbonising transport, we believe these three categories offer the biggest benefit to society and opportunity for Government in terms of their electrical capability, sales volumes, and last mile delivery advantages. We have also identified the

<sup>1</sup> Powered Light Vehicle Life Cycle Analysis Study, December 2021. Published by Zemo Partnership at the request of MCIA.


<sup>2</sup> PLV congestion impact study, May 2019. Carried out by Local Transport Projects at the request of MCIA.

typical user groups for these categories, as these early users can provide visibility at the forefront of new product service experiences.

In developing this Action Plan, the interactions between the PLV sector and its adjacent vehicle categories, both larger (cars and vans) and smaller (micromobility products such as e-step scooters and electric bicycles), have been carefully considered. It is essential for the PLV community to engage and work collaboratively with these sectors to ensure that as a combined transport solution, the different vehicle categories work seamlessly together, minimising any potential confusion for both consumer and industry.

Ultimately, the rate of PLV adoption and the wider benefits they can offer will be determined by their advantages over other products or mobility solutions. For example, if they meet a person's travelling needs, the ease with which they can use the PLV and if its innovation can be shown clearly to others, therefore prompting their own adoption. It is these considerations that have informed the recommendations proposed in this Action Plan and which are discussed in more detail in the following pages.



L-Category	Short Description	Normal Use	Users
<p><b>L0</b></p> 	<p>MCIA and Zemo Partnership propose creating (see page 11) a new, lower-powered, light electric moped. We are also proposing a new category for e-step scooters which would bring them into the current regulatory framework (168/2013) to ensure their safe design and durability.</p>	<p>First Vehicle</p> <p>Commuting</p> <p>Last mile delivery</p>	<p>Young people</p> <p>Delivery Riders (all ages)</p> <p>Commuters (all ages)</p>
<p><b>L1</b></p> 	<p>L1 includes 2-, 3- or light 4-wheeled vehicles with a power output up to 1,000 watts and pedals, with power assist cut off at 15.5 mph (25km/h) (e-bicycles of 250w or less are not L-Category) and PTWs with up to 50cc petrol engines or up to 4kW alternative power. The rider must wear a helmet. PTW top speed is 28mph (45km/h).</p>	<p>First Vehicle</p> <p>Commuting</p> <p>Last mile delivery</p>	<p>Young people (16+)</p> <p>Delivery Riders (all ages)</p> <p>Commuters (all ages)</p>
<p><b>L2</b></p> 	<p>L2 vehicles have 3 wheels (or 4 if the wheels on the same axle are no more than 460mm apart), 1 or 2 seats and a running mass of up to 270kg. With up to 50cc if positive combustion engine or up to 500cc if compression ignition, or up to 4kW alternative power. Power is limited to 4kW, and the maximum speed is 28 mph (45km/h).</p>	<p>First Vehicle</p> <p>Commuting</p> <p>Last mile delivery</p>	<p>Car drivers (test passed pre-2001) or motorcycle riders 16 or over (full licence)</p> <p>Sometimes used by older riders or those with a disability</p> <p>Can be used for last mile deliveries</p>
<p><b>L3</b></p> 	<p>L3 vehicles are the most numerous L-Category, also referred to as PTWs. Subdivided into 3 main groups, defined by power output. Riders are tested relative to vehicle power and their age and must wear a helmet.</p>	<p>Commuting</p> <p>Courier</p> <p>Leisure</p>	<p><b>L3-A1:</b> Delivery riders 17 or over / Commuters 17 or over</p> <p><b>L3-A2:</b> Delivery riders 19 or over / Commuters 19 or over</p> <p><b>L3-A3:</b> Delivery riders 19 or over / Commuters 24 or over / Leisure riders 24 or over</p>

L-Category	Short Description	Normal Use	Users
<p><b>L4</b></p> 	<p>L4 vehicles refer to L3 vehicles fitted with a sidecar. Vehicles supplied for UK use must have the sidecar fitted to the kerb side of vehicle.</p>	<p>Leisure</p>	<p>Mostly riders over 24 for leisure purposes</p> <p>Some use by riders with a disability and families</p> <p>Popular with classic motorcycle enthusiasts</p>
<p><b>L5</b></p> 	<p>L5 vehicles share many characteristics with L2 vehicles but have power in excess of 4kW and top speeds exceeding 28 mph (45km/h). They can have a maximum of 5 seats and a running mass of 1,000kg. 3 wheels (or 4 if the wheels on the same axle are no more than 460mm apart) They can be enclosed or open.</p>	<p>Commuting</p> <p>Leisure</p>	<p>Drivers with a full car licence aged 21 or over or full motorcycle licence (age dependent on engine power)</p> <p>Sometimes used by older riders or those with a disability</p>
<p><b>L6</b></p> 	<p>L6 vehicles have 4 wheels and no more than 2 seats. Their power is capped at 6kW, top speed 28 mph (45km/h) and their running mass is limited to 425kg. They can be enclosed or open.</p>	<p>Commuting</p> <p>Courier</p>	<p>Drivers with a full car licence</p> <p>Riders aged at least 17 with a full motorcycle licence</p> <p>(age dependent on engine power)</p>
<p><b>L7</b></p> 	<p>L7 vehicles feature 4 wheels, an enclosed passenger area and a maximum power of 15kW. They can have up to 4 seats or 2 seats plus a cargo area. Top speed is limited to 56 mph (90km/h).</p>	<p>Commuting</p> <p>Courier</p> <p>Leisure</p>	<p>Drivers with a full car licence</p> <p>Can be used as last mile delivery vehicles</p>

# > Opportunities and Barriers for PLVs

To ensure road users are encouraged to choose *The Right Vehicle for The Right Journey*, a review of current L-Category regulation and licensing is essential to making access to these vehicles as easy and safe as possible.

As such, a mix of transport modes, at the fingertips of users, must be the end-goal to ensure users can make appropriate choices for their required journeys.

With the breadth and depth of L-Category vehicles on offer, there exists a huge opportunity to move more people into the L-Category space where active travel or public transport isn't viable or available.

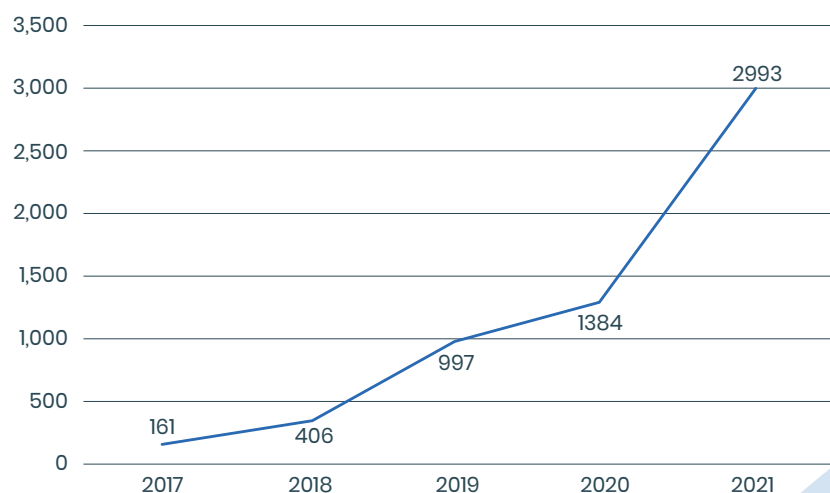


**L1 PLVs** > Many L1 vehicles are already battery electric. To fully harness and maximise their full benefits, current regulation needs to be able to cater for this ever-evolving market, in doing so providing greater consumer choice, beyond just the car in the traditional sense, be it electric or otherwise. The electric moped market is now growing exponentially and with just small changes to regulation, market access could be made much easier and vehicle costs kept low.

To realise this opportunity, we are proposing amending existing L-Category vehicle regulation to create a new, lower-powered, light electric moped with a maximum speed of 21.75mph. This is in line with pedal assisted electric bicycles, as although the powered assistance will cut out at 15.5mph; with input from the rider, electric bicycles can easily exceed the 21.75mph that MCIA proposes for the new lower-powered light electric moped. This would allow for greater access to zero emission, reliable and affordable travel, where active travel isn't appropriate, helping to decarbonise journeys to work and school, whilst educating young people on the rules and safety of the road at an earlier age.

**ELECTRIC L1-CATEGORY  
MARKET GROWTH**

> YEAR / VOLUME



A new, lower-powered, and appropriately regulated light electric moped category could stimulate innovation and design, leading to UK manufacturing and new technology development. Moving quickly to create a technical and legal space for providers to place these new innovative products on the market is therefore proposed.

Alongside this, an opportunity exists for the inclusion of e-step scooters within L-Category regulation. This would be to ensure their safe design, durability, and quality in meeting the test standards that are required for the use of motor vehicles on public roads in the UK.

By applying the right regulations for the purposes of addressing current concerns with private e-step scooters, but also for the purposes of future-proofing regulation to cater for the evolution of products, an opportunity exists to help manufacturers bring new products to market.



**A REVIEW OF EXISTING L-CATEGORY VEHICLE REGULATION TO ENSURE IT REMAINS FIT FOR PURPOSE AND CATERS FOR THE EVOLUTION OF FUTURE ZERO EMISSION PLVS, INCLUDING ASSESSING THE POTENTIAL FOR A NEW VEHICLE CATEGORY**

L3



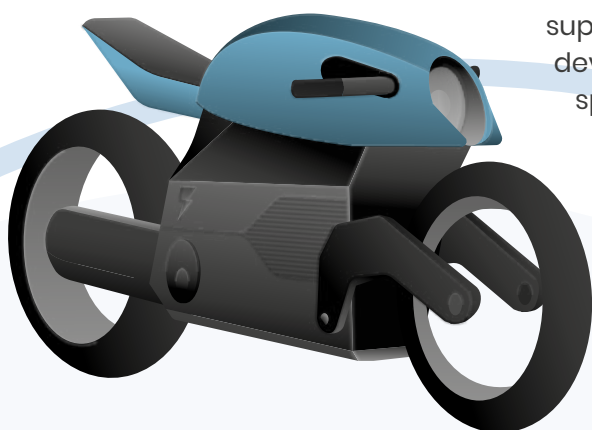
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**L3 PLVs** ▶ As the electrification of the L1 sector accelerates, the increased range, power, and performance required of the PTWs that make up the L3-Category currently provides more of a challenge for manufacturers.

Key powertrain components such as batteries, motors and controllers are often more expensive to purchase in comparison with ICE equivalents, and typically are not designed for use in such vehicles. This then requires either the development of bespoke units by the PTW manufacturer or the adoption of compromised design solutions to make use of components that exist in the market.

In either case, this can result in further cost being driven into the final product, to the extent that some manufacturers are understood to be holding back the introduction of zero emission PTWs in their product range until the business case becomes more viable.

Similarly, from a consumer perspective, the current price premium associated with L3 electric PTWs and the limited number available on the market are both limiting factors at present in their widespread adoption.



To address this challenge and encourage both component suppliers and manufacturers to enter the market, the development of a low cost, optimised powertrain unit specifically designed for L3 applications is proposed, supported by a combination of Government and industry funding. The development of this sector will no doubt attract UK manufacturing opportunities, both for the home and export market. There are already several UK companies manufacturing in this area which, in turn, generate UK supply chain demand, not least the rebirth of British companies such as Norton and BSA.

Central to attracting further manufacturing to the UK, including R&D, will be to ensure the right number of incentives and business reliefs are in place. MCIA and Zemo Partnership will support the UK Government in developing a targeted approach that will stimulate the industrial development of this sector.

**DEVELOPING THE COMPONENT AND SYSTEM SUPPLY CHAIN IN THE UK FOR ZERO EMISSION L3-CATEGORY POWERED TWO-WHEELERS (PTWS) TO ENCOURAGE NEW ENTRANTS TO THE MARKET, LOWER MANUFACTURING COSTS AND MAXIMISE THE POTENTIAL FOR GHG EMISSION SAVINGS**



## THE SECTOR RISING TO THE CHALLENGE

The L-Category industry has been mobilising itself to rise to the challenge of future mobility for some time now.

Whether it's new start-ups, established global manufacturers or schemes which provide services to the local communities, the industry is already innovating in this space.

Over the coming years, new approaches to design, materials and powertrains will develop as the world moves speedily towards net zero. As the market is disrupted, engineers and designers will be challenged to look at our industry in new ways. This will not just include traditional products that become fully electric but different PLVs that will, by design, require less energy and be less intrusive on the environment and the planet's resources.

Below is a case study which clearly demonstrates how this sector is quickly adapting to this new challenge. To support, accelerate and maximise their efforts, MCIA will be working closely with Government to ensure any obstacles are brought under a speedy review process and overcome as appropriate. The established motorcycle leisure market has peculiarities which are a real challenge to address with pure electrification. The vehicle architecture is far more restrictive than a traditional car, meaning less space for the

battery using current technologies.

Manufacturers are already looking at different solutions to be able to produce a vehicle that the market is currently demanding. For example, Triumph Motorcycles, a British company with a long and successful history and now one of the fastest growing global brands in the sector, is a real life success story.

Steve Sargent, Chief Product Officer at Triumph Motorcycles says:

**“We see huge positive potential in the promotion of L1 and L3-A1 category vehicles to reduce emissions, improve air quality and reduce congestion in urban areas. To maximise that potential, we need to remove some of the licensing barriers that prevent people from accessing these vehicles. Incentives for UK firms to invest in R&D and manufacturing to create products would accelerate the growth potential and infrastructure around secure parking and charging will also be required.”**



## **A BRITISH SUCCESS STORY**

### **MAEVING CASE STUDY**

*Maeving was founded in 2018, when co-founders Will Stirrup and Seb Inglis-Jones began looking at what contributed to the highest electric vehicle adoption rates globally.*

*What they found was that in China, a country famous for its pollution but with an exceptionally high electric vehicle adoption rate, the critical factor had been removable batteries. This technology had overcome the major barrier to adoption found with electric vehicles - reliance on charging infrastructure - by allowing users to take the battery out of the vehicle, and charge from any standard plug socket.*

*Will and Seb realised what the UK needed was a high quality, affordable electric vehicle with a removable battery at its core.*

*Fast forward to November 2021, and the Maeving RMI is born. Designed by some of the most experienced motorcycle engineers in the country, and built in Coventry, the beating heart of British motorcycle history, Maeving is targeting not just the existing motorcycle market, but the whole commuter segment.*

*Maeving have had their fair share of challenges: they launched their first fundraiser in February*



*2020, just as the Covid-19 crisis got underway, and have battled all manner of Covid-related setbacks ever since, from having to interview candidates in parks around Leicestershire amidst lockdown, to the ongoing supply crisis. But having sold out their first batch of 100 "Founder Edition" bikes in less than a month, things are looking up for the Midlands based start up.*

#### **GOVERNMENT FUNDING AND GRANTS**

*> Maeving were recently awarded a £950k loan from Innovate UK, to add to the significant capital they have raised from venture capital sources*

*> Maeving are in close contact with the local Growth Hub, who have been supportive*

*The actions within this collaborative Plan will ensure that Maeving can continue to grow.*

In summary, the sector is ready for this challenge and willing to develop and invest in practical solutions that support Government to achieve its net zero objective.



**L7 PLVs** ▶ The growth in last mile deliveries and collections, triggered in part by a post-pandemic change in shopping behaviour and an ambition to reduce road traffic congestion in urban areas, has seen an increased level of interest in the use of PLVs for light goods delivery in urban settings.

For L7 cargo vehicles, one of the most significant challenges for adoption is the lack of zero emission models available to choose from and purchase in the UK.

At present, around half a dozen manufacturers based in Europe offer a limited number of vehicles in low volumes for sale in the UK. Prices of these vehicles are relatively high and, in some cases, exceed those of the larger battery electric vans from the NI category. As a result, even when the consumer is aware of the existence of such vehicles, it can be difficult to create a viable business case for the purchase of an L7 variant in comparison to a larger van that is less suitable for their needs.

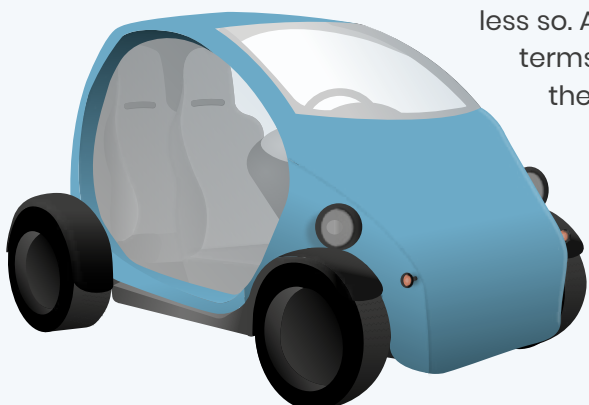
This creates a chicken and egg scenario where L7 cargo sales are low due to a lack of choice, availability, and price. But new manufacturers are dissuaded from entering the market because of a perceived lack of demand, resulting in a self-perpetuating situation.

To address this challenge in the short term, to drive modal shift and therefore the adoption of this vehicle type and other L-Category vehicles, current consumer incentives must urgently be reviewed (including the Plug-in Motorcycle Grant (PiMG)) and expansion considered for those incentives that apply to other vehicle types but not L-Category vehicles.



For example, expansion of the existing PiMG Scheme to encompass all forms of zero emission PLVs would assist the consumer in the purchase of existing L7 cargo vehicles. Equally, in extending the Grant beyond 2023 and reintroducing the grant support, adoption of zero emission PLVs can be further incentivised. In addition, the Government should also review the processes manufacturers and customers must go through to claim the grant, to make it easier, more light touch and digital by default. Every effort must be made to remove red tape to ensure the process is as easy as possible.

Whilst L-Category vehicles are complex in design, their use cases are less so. As such, it is easier to identify maximum impact areas in terms of decarbonisation effect for L-Category vehicles and therefore be an effective return on money spent.



MCIA, with the support of Zemo Partnership, will commit to providing a set of suggested proposals that set out a bespoke, L-Category approach to consumer and employee incentives, designed to work alongside the other actions set out within this Action Plan.

As a longer-term measure, the application of funding focused specifically on the research and development of low cost, lightweight, electric L7 cargo vehicles in the UK would encourage new entrants and products to the market.



***A REVIEW OF THE CURRENT GRANT AND INCENTIVISATION STRUCTURE IN THE PLV SECTOR, INCLUDING ADOPTING LEARNING FROM OTHER VEHICLE CATEGORIES WHERE THE ROLL OUT OF ZERO EMISSION TAILPIPE VEHICLES HAS PROVEN SUCCESSFUL***

This in turn would provide a greater degree of choice and affordability for consumers, leading to increased adoption and accelerating the transition of the urban delivery freight sector to zero emissions. As highlighted throughout this Action Plan, the production and assembly of electrified vehicles in the UK, rather than importing from other countries of manufacture, would bring with it an additional benefit in terms of reduced life cycle GHG emissions. This would also allow the UK to establish itself as a large-scale manufacturer of L7 vehicles in the global market.



***DEVELOPING THE MANUFACTURING BASE AND SUPPLY CHAIN IN THE UK FOR ZERO EMISSION L7 CARGO VEHICLES TO INCREASE THE NUMBER AND AVAILABILITY OF MODELS ON THE MARKET, PROVIDING A GREATER DEGREE OF CONSUMER AND FLEET CHOICE***



## > Opportunities and Barriers for all PLVs



Central to maximising the decarbonisation credentials of zero emission PLVs is the encouragement of their use in different localities. This will need to be driven by national Government but implemented by local and combined authorities, with industry input as to the best way of doing this through things like the Local Authority Transport Decarbonisation Toolkit.

**CREATING A FORMAL L-CATEGORY COMMUNITY TO ENGAGE WITH THE GOVERNMENT AND MONITOR THE DELIVERY OF THIS ACTION PLAN**



### > PUBLIC AWARENESS CAMPAIGN

In conceiving and launching a nationwide campaign, with full support from industry, that raises awareness of PLVs, their benefits and how both consumers and businesses can gain access to them, adoption of zero emission PLVs can be increased.

### **MOTORCYCLE LIVE 2021 ELECTRIC TEST RIDE FEATURE**

*The sector has already been playing its part in promoting zero emission PLVs to existing and new riders. Run by the MCIA, last year's Motorcycle Live Event offered for the first time a brand-new electric test ride feature.*

*The feature allowed over 750 visitors with the appropriate licence the opportunity to test ride an electric PTW of their choice. Not only were some of the large manufacturers showcasing their electric range and their vision for future mobility, several start-up companies also displayed their solution to providing affordable, electric transport for the masses.*



**Industry plans to expand on this for future events.**



**CONDUCTING A PUBLIC AWARENESS CAMPAIGN JOINTLY LED BY GOVERNMENT AND INDUSTRY TO PROMOTE THE EXISTENCE, AVAILABILITY, AND BENEFITS OF ZERO EMISSION PLVS TO CONSUMERS AND BUSINESSES**

Key to this will be encouraging employers to highlight the availability of these vehicles to their employees, improving commuting congestion and air quality in urban and sub-urban environments. We welcome and look forward to working with the Government's 'Commute Zero' programme. This will mean that employers will need support to provide ideal end destinations in terms of showers and changing facilities to allay weather exposure concerns. Equal incentives for employees would be the inclusion of zero emission PLVs in the Cycle to Work Scheme by way of salary sacrifice, for example, or a standalone zero emission PLV scheme.

Heavily linked to a public awareness campaign should be the welcome announcement of a Local Authority Decarbonisation Toolkit as a way of helping to introduce new forms of low and/or zero emission vehicles into different localities. However, stronger incentives, fiscal and non-fiscal, must be included and/or considered alongside this to ensure increased PLV adoption (see L7 PLV section).

**› LOCAL ACCESS RESTRICTIONS AND EMISSION ZONES**

In the last few years a range of local access restrictions have been implemented, primarily focussed on addressing air quality and congestion, but now moving towards decarbonisation. These very visible charges or restrictions can be a powerful driver of behaviour change and vehicle purchase choice.

PLVs are often excluded from the planning and implementation of these restrictions which is why it's critical they are considered and a consistent approach to vehicle requirements is taken, as has been the case with Clean Air Zones (CAZ), the London Ultra Low Emission Zone (ULEZ) and Scottish Low Emission Zones (LEZ).

Future consideration must include all PLVs, as they will have a big role to play in promoting modal shift and zero emissions as we transition to a fully decarbonised transport system, especially given their significantly lower emissions and energy compared to cars.



**ENGAGING WITH LOCAL AUTHORITIES THROUGH THE LOCAL AUTHORITY TRANSPORT DECARBONISATION TOOLKIT TO ENSURE ZERO EMISSION PLVS FORM PART OF AN INTEGRATED TRANSPORT SOLUTION FOR THE UK**

## › **BENEFICIARY PROFILES**

- › **Delivery riders and couriers** – PLVs, particularly the lower-powered end of the market (L1), offer a perfect solution for last mile small package or food deliveries, for example. The vast majority of L1 vehicles are already fully electric, with the remainder likely to become fully electric by 2030, ahead of the proposed 2035 deadline, making them both clean and efficient. Many of these riders, including drivers of L7 vehicles (though not as advanced – see page 15), are part of the Gig Economy and work on a self-employed basis, basing their decisions to a large extent on commercial reasons. As referenced, the expansion and extension of the PiMG, would allow them to access an electric, light weight, low-powered vehicle that's appropriate for their intended use.
- › **Shift workers** – PLVs offer an independent form of transport for those who may not have access to public transport due to unsociable working hours, for example. This is preferable to users opting for solo car journeys when an L-Category vehicle would be the right vehicle for the right journey.
- › **Commuters** – All of the incentives listed above will encourage road users to make better choices. The air quality and congestion impact studies mentioned above demonstrate how a positive modal shift towards zero emission PLVs delivers less congestion and improved air quality. Commuters should be encouraged to switch modes, where appropriate, with financial incentives to help drive this.
- › **Businesses** – Encouraging employees to use PLVs for travelling to and from work, but also for the business itself, brings many benefits. The congestion impact study above shows the additional benefit to journey times when a transition to a zero emission PLV is made. The advantage to businesses will be clear with much more efficient travel times achieved than by those workers who remain in cars or vans, vehicles which are arguably not appropriate for the journey.

## › **ACCESS TO RURAL AND AFFORDABLE TRAVEL (WHEELS TO WORK)**

Ensuring people can get to work and education in an affordable and efficient way without negatively impacting the environment has never been more important.

'Wheels to Work' is an excellent initiative, not only in supporting young people into the workplace, but also in offering access to affordable forms of mobility to the wider public. Wheels to Work schemes have been operating for many years. A number of the schemes are privately run, registered charities. Others are operated by local authorities.

Wheels to Work UK is a registered charity, set out to establish well operated schemes throughout the UK without the need for Government or local authority funding. A robust business case has since been created, with a small number of new schemes now trading with excellent initial results. With access to seed funding via a grant scheme or other Government support, for example, Wheels to Work scheme roll out could be increased across the country in high demand areas (large conurbations and rural settings where public transport is lacking).



WHEELS 2 WORK UK

# Kickstart

the moped hire charity



➤ GILLIAN

Kickstart has been running for over 25 years and is now a registered charity. They offer an alternative, affordable transport service across Norfolk, Suffolk and Cambridgeshire. Since its inception it has helped over 10,000 people. 75% funded by grants, Kickstart became fully sustainable a decade ago and has continued with this successful business model ever since. Kickstart Norfolk receives only two grants; one from a local council and one from the County Council which equates to 4% of its annual turnover.

With a fleet of 300 mopeds, scooters and electric mopeds, they assist individuals who require transport to access employment and training. Working with the local authority, they support post-16 users who face challenges with access to education due to poor public transport provision. In addition, Kickstart helps tackle social exclusion challenges for a number of users by allowing them access to independent transport.

The scheme offers compulsory basic training (CBT) for riders, protective safety clothing, the hire of the vehicle and detailed advice on transport planning.

Gillian lives in Mundesley and wanted to attend the University of East Anglia (UEA) to conduct an adult nursing course, in addition to nursing placements in the rural villages.

With the early start times, she needed a reliable mode of transport. The Kickstart Scheme provided her with a moped which gave the most reliable and affordable mode of transport for her to get to the UEA and her work placement.

**“What a fantastic scheme this is, the bike is great and is very reliable and has allowed me to both attend my course and get daily to my work placements.” - Gillian**



**INCREASING MOBILITY IN RURAL COMMUNITIES BY PROVIDING ACCESS TO AFFORDABLE ZERO EMISSION PLV SOLUTIONS USING INITIATIVES SUCH AS WHEELS TO WORK.**



## ➤ BARRY

*Barry attends a building skills course at college. He lives in Wedling which is a rurally isolated and public transport deprived area.*

*He cannot attend the College he wants to with the public transport available. Kickstart were able to assist, allowing Barry to continue with his education, despite the transport barriers.*

***“I now have the freedom to attend college, and socialise with my friends in the evenings and weekends. What a great scheme this is.” - Barry***



## ➤ MICHAEL

*Michael lives in the rural village of Cobholm near Great Yarmouth. He was out of work but the use of the Kickstart scheme allowed him to take on a new job and search for better employment.*

***“I was out of work without a car licence I needed to find a job and needed transport to get me there. I was given a new bike, which allowed me to search for better employment further afield.”***

*- Michael*

## › **PLV CHARGING INFRASTRUCTURE**

Being lighter and less powerful vehicles, covering shorter distances with lower levels of energy consumption when operating on the road, zero emission PLVs typically use smaller traction batteries than their passenger car or commercial van counterparts.

From a charging perspective, this translates into a shorter time to recharge to maximum range from a domestic 3-pin plug. A four-to-five-hour period to achieve a 100% fully charged state is typical even for larger and more powerful PLVs, whereas a small battery electric passenger car can require more than 12 hours under the same conditions.

Removable battery packs are also an increasingly common feature in PLVs, particularly for L1-Category vehicles. This enables batteries to be swapped rapidly to extend journey times and allows for a battery to be charged separately away from the vehicle, often enabling users with no on street charging to easily access and operate zero emission vehicles.

PLVs in general require a far less onerous charging infrastructure to be installed and, in many cases, can be accommodated within the existing power network of a building or location. However, whilst this is a clear and obvious advantage for PLVs, it is important that PLVs are included in the development of the EV charging infrastructure within the UK. Compatibility with the high-power charging network, the provision of dedicated and secure charging bays and the creation of off-vehicle charging facilities are some of the areas for consideration.



**ENGAGING WITH INDUSTRY TO ENSURE ZERO EMISSION PLVS ARE CONSIDERED AND INCORPORATED INTO THE DEVELOPMENT OF THE EV CHARGING INFRASTRUCTURE**

## › **IMPROVING ACCESS**

Ensuring the supply of L-Category vehicles is sufficient to meet demand and that the appropriate financial and regulatory incentives are in place are only a part of the solution. Licensing also provides an opportunity to increase the adoption of zero emission PLVs.

At present, and unlike micromobility options for example, users of L-Category vehicles must navigate onerous, repetitive, and often intimidating training and testing barriers to acquire the relevant licence for the L-Category vehicle they wish to use.

Simplifying the acquisition of a licence would massively reduce barriers to entry. This should never be at the expense of safety, but the improvement of it.

For example, the current Compulsory Basic Training (CBT) required for most L-Category vehicles does nothing to incentivise riders to progress towards test standard. A rider can simply choose to renew their CBT every two years. By introducing a 'CBT Plus' after two years instead (also valid for two years), riders will be able to upskill, moving them closer to test standard.

Safety improvements could also be made by not having to repeat identical Module 1 and Module 2 tests for each stage of the licence acquisition process. Repeating these modules does nothing to raise standards of riding and is inconvenient and expensive for candidates and Approved Training Bodies (ATB).

MCIA has developed a comprehensive set of proposals for what the licensing regime for PLVs could look like to ensure maximum uptake, particularly those which are zero emission. MCIA are currently in discussions with the DfT, DVLA and DVSA and are looking forward to further reviewing how we can, together, ensure the licensing regime is fit for purpose to accommodate this ever-evolving market and products.

**SIMPLIFYING THE EXISTING LICENSING REGIME ACROSS ALL L-CATEGORY SEGMENTS TO IMPROVE ACCESS TO ZERO EMISSION PLVs FOR A WIDER SECTION OF THE COMMUNITY, INCREASING ACCESS, UPTAKE AND ADOPTION**





## Motorcycle Industry Association

MCIA represents over 90% of the supply side of the industry; the manufacturers and importers of Powered Two Wheelers (PTWs) and other L-Category vehicles, accessory and component suppliers and companies providing associated services.



## Zemo Partnership

Zemo Partnership is a not-for-profit, independent partnership, jointly funded by the Government and its members, whose breadth of backgrounds and perspectives make the Partnership unique. Being collaborative, it brings together government, industry, NGOs, experts, and a wide range of key stakeholders at the highest levels, with a shared vision of accelerating transport to zero emissions.