WOLFSON ECONOMICS PRIZE MMXVII

Policy Exchange

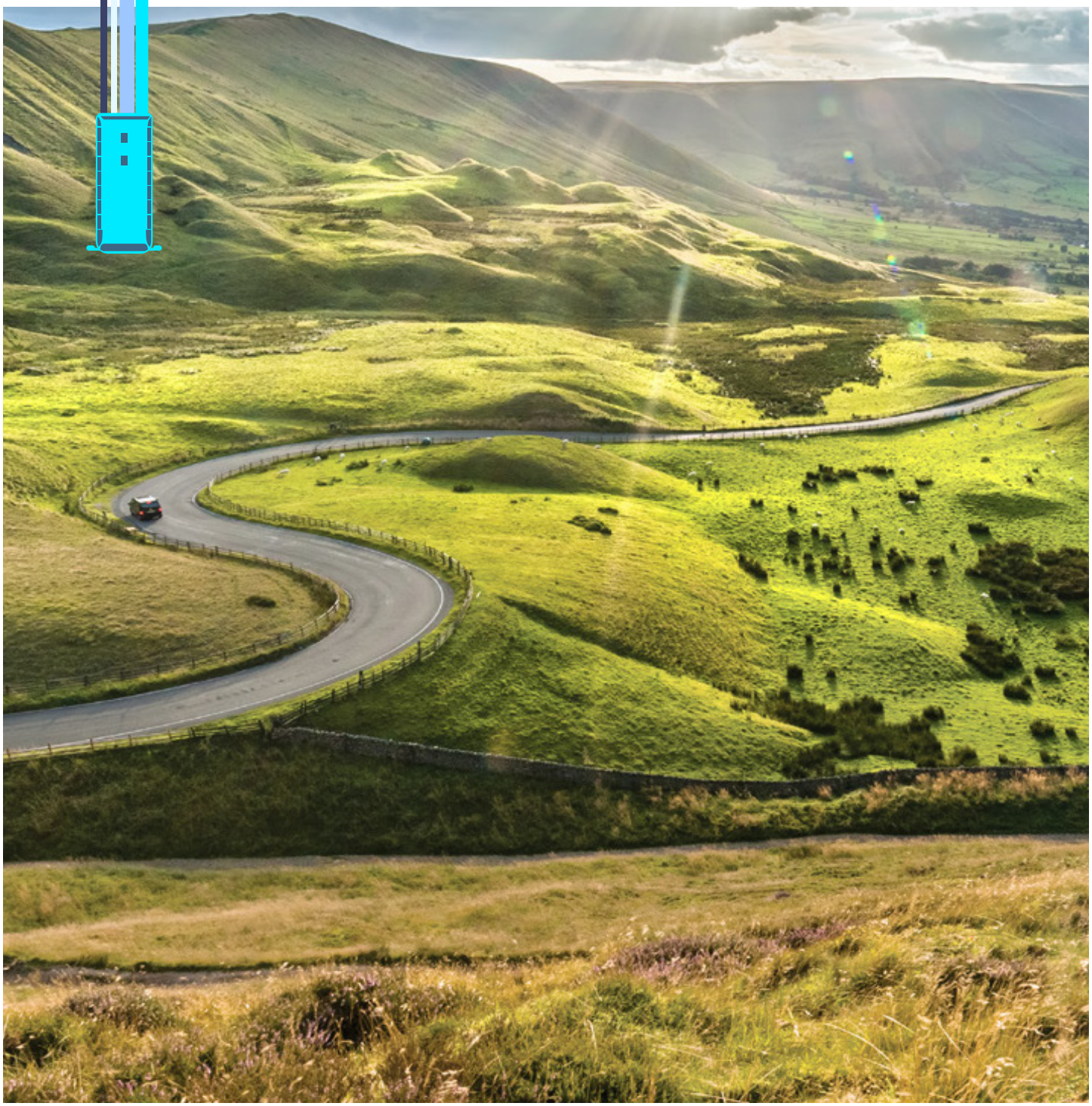
WOLFSON ECONOMICS PRIZE MMXVII FINALIST

Road Miles

Miles Better, Fairer, Greener, Safer

How Can We Pay For Better, Safer, More Reliable Roads In a Way That is Fair To Road Users and Good For the Economy and the Environment?

Edmund and Deirdre King



Edmund and Deirdre King

Road Miles

Deirdre and Edmund King met whilst working at the British Road Federation. They married in 2000, have three teenage children and live in Hertfordshire.

Deirdre King serves as a director of Blueprint

Consultants, and formerly worked as an economic business analyst for BSkyB and BBC Worldwide. She was also the economist at the British Road Federation where she devised the first Cost of Congestion report. She holds an MSc in Economics from LSE and a BSc in Economics from UCL.

Edmund King has 25 years' experience as a transport and motoring campaigner. He has worked in the motor industry in California, British Road Federation, East Anglia Roads to Prosperity, various motoring organisations and think tanks. He is Visiting Professor of Transport at Newcastle University, AA president and Chairman of the AA Charitable Trust for Road Safety and the Environment. Last year he received an OBE for services to road safety.

WOLFSON
ECONOMICS PRIZE
MMXVII

Policy Exchange

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Prize Director

LORD FINKELSTEIN

Judge

The Wolfson Economic Prize invites entrants from around the world and all sorts of backgrounds to propose original, well-argued and informed solutions to big national challenges. The aim is to bring forward fresh thinking to help people, governments and businesses develop practical policies.

This year the prize addresses an issue at the heart of every country's economic future: road infrastructure, and

how can we pay for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment?

The way cars are powered, driven and owned is being revolutionised. Soon a world of cleaner, automated vehicles will arrive and old annual charges and petrol taxes will no longer work. A new kind of driving will take a new kind of road and a new kind of funding – ideas needed not just in Britain but around the world.

The five shortlisted submissions – of which this is one – show that it is possible to come up with potential answers that can help road users, improve safety, protect the environment, and support our economy.

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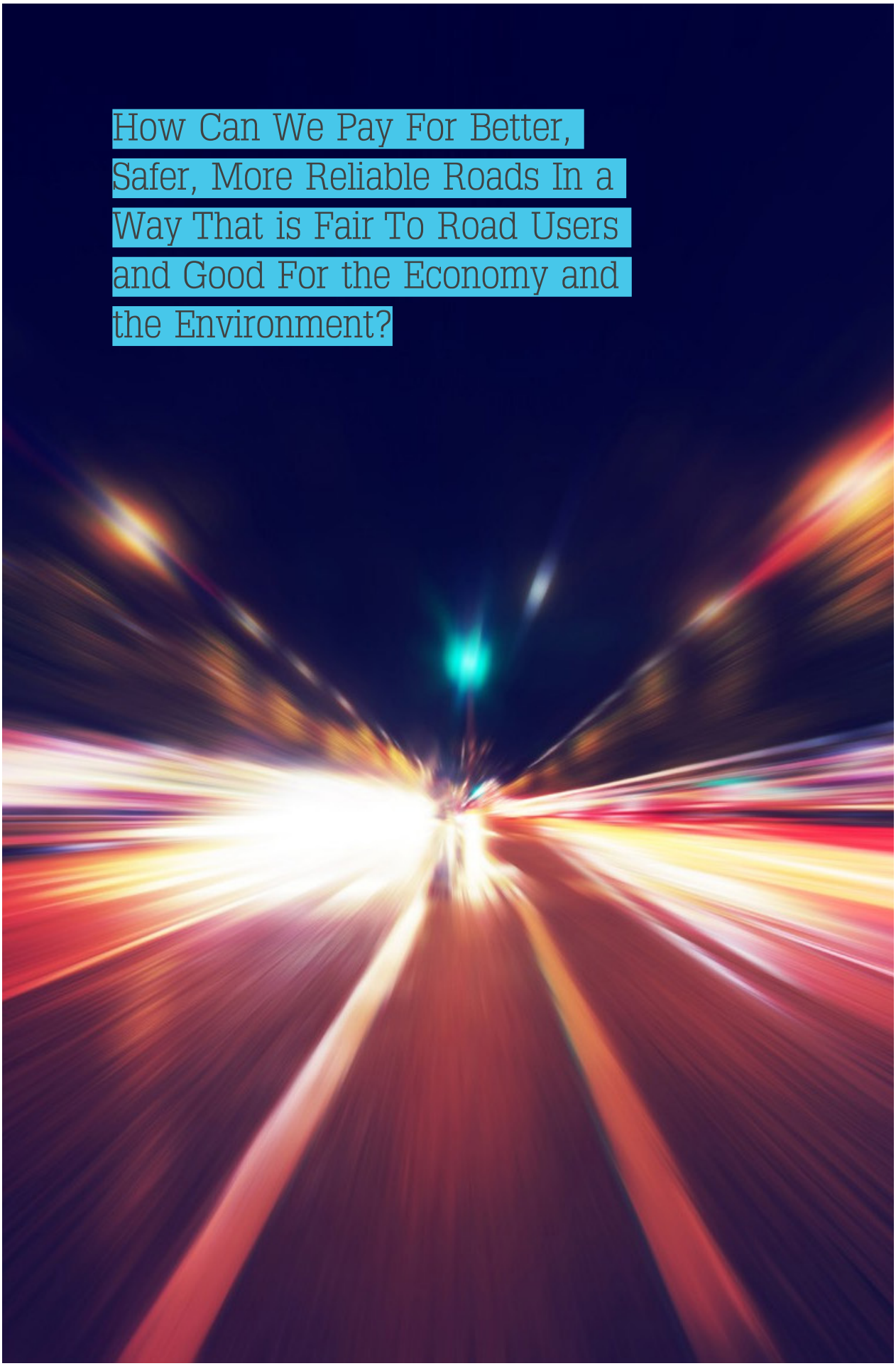
How Can We Pay For Better, Safer, More Reliable Roads In a Way That is Fair To Road Users and Good For the Economy and the Environment?



Summary

Our answer is Road Miles.

Road Miles could be introduced within a year and be fair, practical and popular. Extensive media coverage of our initial Road Miles proposal shows that the concept was well received.

Road Miles will pay for safer more reliable roads that are good for the economy and the environment. Road

Miles will not raise privacy concerns and will help support economic activity in depressed areas.

All drivers in Road Miles will pay less than they currently do, more will be spent on roads and the Government will receive more income.

How?

Drivers would be allocated at least 3,000 free Road Miles giving free access to roads. Fuel duty will be reduced and VED revised to further encourage greener vehicles.

After 3,000 miles, car drivers would be charged modest mileage rates of less than 1p per mile in the first year.

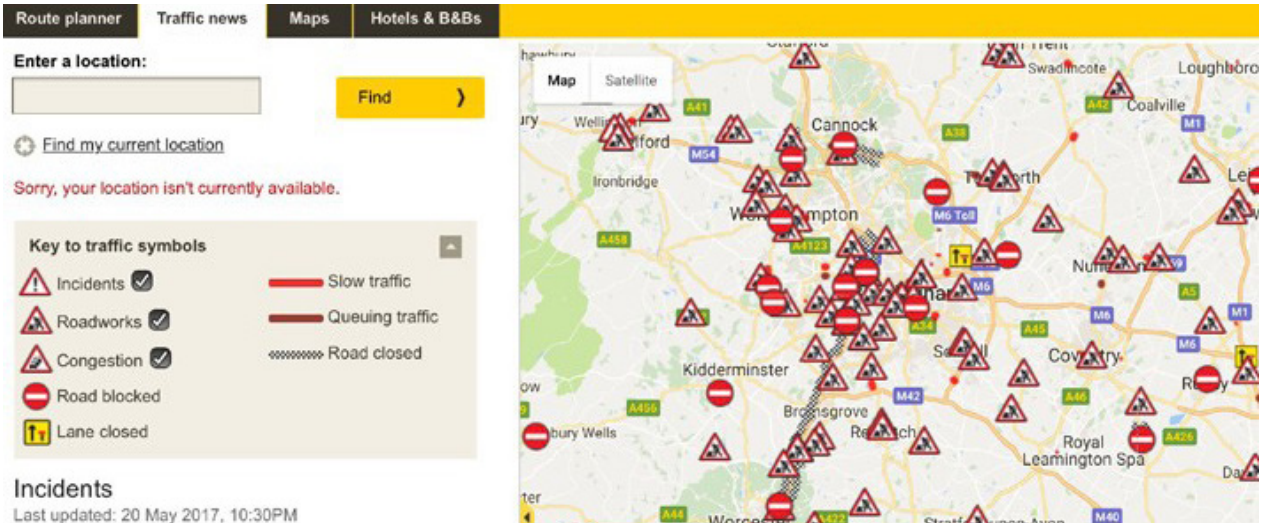
Our latest Road Miles proposal has been strengthened with a high-tech innovative dongle, which has successfully completed a 10,000 car trial.

Most vehicles will use a self-fitting dongle that plugs into the On Board Diagnostics (OBD) port. This automatically calculates mileage, credits fuel duty discounts and bills after the free mileage allowance is used.

The telematics dongle brings other benefits such as preventing one third of breakdowns, or cheaper insurance. After two years, differential charging at peak periods will be introduced.

Car and van drivers in rural areas will not lose out. The 18% who live in rural areas drive one third more and receive one third more free Road Miles. LGVs are included as half (53%) are privately owned and used for business[1].

[1] http://www.racfoundation.org/ assets/rac_foundation/content/ downloadables/van_report_ aecom_100414.pdf



Extra Income?

Extra income will be generated from a Road Miles Lottery with prizes including Tesla X cars and Road Miles. Income keeps Road Mile costs down; funds pothole repairs, and helps support bus services.

Companies bid in the auction for Road Miles to offer in promotions. Vauxhall may give 500 Road Miles with every purchase of the new Ampera EV.

Road Miles Adopt-a-Highway lets companies bid for naming rights of major roads. We could see the Adidas A1.

Government Revenues?

Our extensive financial modelling projects total revenues above current Government revenue by an average 3.4% pa (£1.1 billion) over a decade. Even if extra commercial activities were not adopted, Road Miles revenues still equal current income.

Extra revenues will give increased and much needed investment in the road network.

Popular?

In a recent Populus poll of 8,917 drivers, two thirds (63%) chose Road Miles as the most popular option of paying for road use.

Drivers will be real customers. They will be compensated with free Road Miles for over-running roadworks or delays re-opening roads.

The income will exceed today's motoring tax-take but drivers will pay less due to the extra commercial income.

Road Miles will be led by an independent director to ensure that road users get a say. The Motorists' Panel will be polled monthly on priorities for expenditure.

Fair?

Road Miles is a fair scheme as it lowers costs.

Costs for the 15% of vehicles currently unable to adapt to telematics, such as classic cars or motorbikes, will remain the same.

Fuel duty will be reduced by 20% over five years and then frozen. This gives incentives for drivers to switch to cleaner vehicles. Five years is deemed a fair period because this is the length of the average car replacement cycle.

Our case studies demonstrate that free mileage helps promote social inclusion by potentially enhancing the mobility of the disabled, youth, unemployed and elderly. These groups drive less than 3,000 miles per year hence would not pay mileage costs. Combined with reduced fuel duty, travel costs would be 15% lower than today by Year 5.

Safer?

Safety will be enhanced. Extra lay-bys will be built into 'smart motorways'. The most dangerous roads in the EuroRAP (road assessment programme) will be upgraded. At least £20 per head will be spent on cycle infrastructure and a new Road Miles Cycling Infrastructure Fund established.

Reliable?

Encouraging HGVs to drive at night with reduced Road Miles costs will cut congestion. Van drivers will be incentivised to adopt efficient logistics particularly for last mile deliveries. Pop-up freight consolidation centres, revised loading bay parking and coordination of roadworks will ease urban congestion.

Roads will be more reliable. Greater emphasis will be given to tunnels and pinch point solutions such as doughnuts or half-hamburger roundabouts.

HOV (high occupancy vehicle) connected car lanes and semi-autonomous cars lanes will be developed to encourage Autonomous Vehicles (AVs).

Good For The Economy?

The economy benefits from reduced transport costs. Costs as a percentage of household income will fall, and profits will increase.

New financing delivers more efficient roads and reduces congestion, which could save £28bn per year.

Improved accessibility through local road investment will augment economic benefits for local employment and businesses, increasing GDP by more than £4bn pa, significantly reducing the cost of congestion.

Environmentally-Friendly?

Road Miles will reduce mileage and encourage uptake of electric vehicles. This will reduce CO2 and poor air quality.

Drivers will be encouraged to avoid low emission zones via the Road Miles dongle and app. Park & Share, Park & Cycle, Park & Connect with on-demand Road Miles app technology will be promoted.

Technological improvements including road induction pads, streetlight and EV fast charging stations will be developed.

All proposals in Road Miles such as tunnels, maintenance, pinch point improvements, extra lay-bys, and cycling fund have been fully costed. Projected income and expenditure is fully analysed. We collect and spend more than the current Government but on average drivers pay less.

The Road Miles scheme will reduce journeys, as drivers will be think twice when approaching Road Mile limits.

Road Miles is not road pricing. It will be popular and bring benefits to all - car, van or truck drivers; cyclists or motorcyclists; urban or rural inhabitants.

Our case studies and extensive economic modelling show everyone benefits from Road Miles.

Road Miles will work.


THE QUESTION IS:
How can we pay for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment?

1. Prologue

Roads: who needs them?

A space-traveller landing on planet UK would be surprised that, as a country dependent on roads for 85% of passenger travel and almost 90% of freight, proportionately more of our foresight and investment is going into high-speed rail.

Yet roads are the main means of getting from our homes to our destinations and for getting goods to our shops. Roads have transformed our country and our lifestyles. Roads and cars have revolutionized how we live, work and play.

Yet roads are often the much-maligned poor relation that get a bad press. We are often told they are congested, dangerous, pot-holed and polluting.

But roads are also a liberating, convenient, efficient and sometimes joyful way of getting around.

As author/historian Piers Brendon pointed out in The Motoring Century:

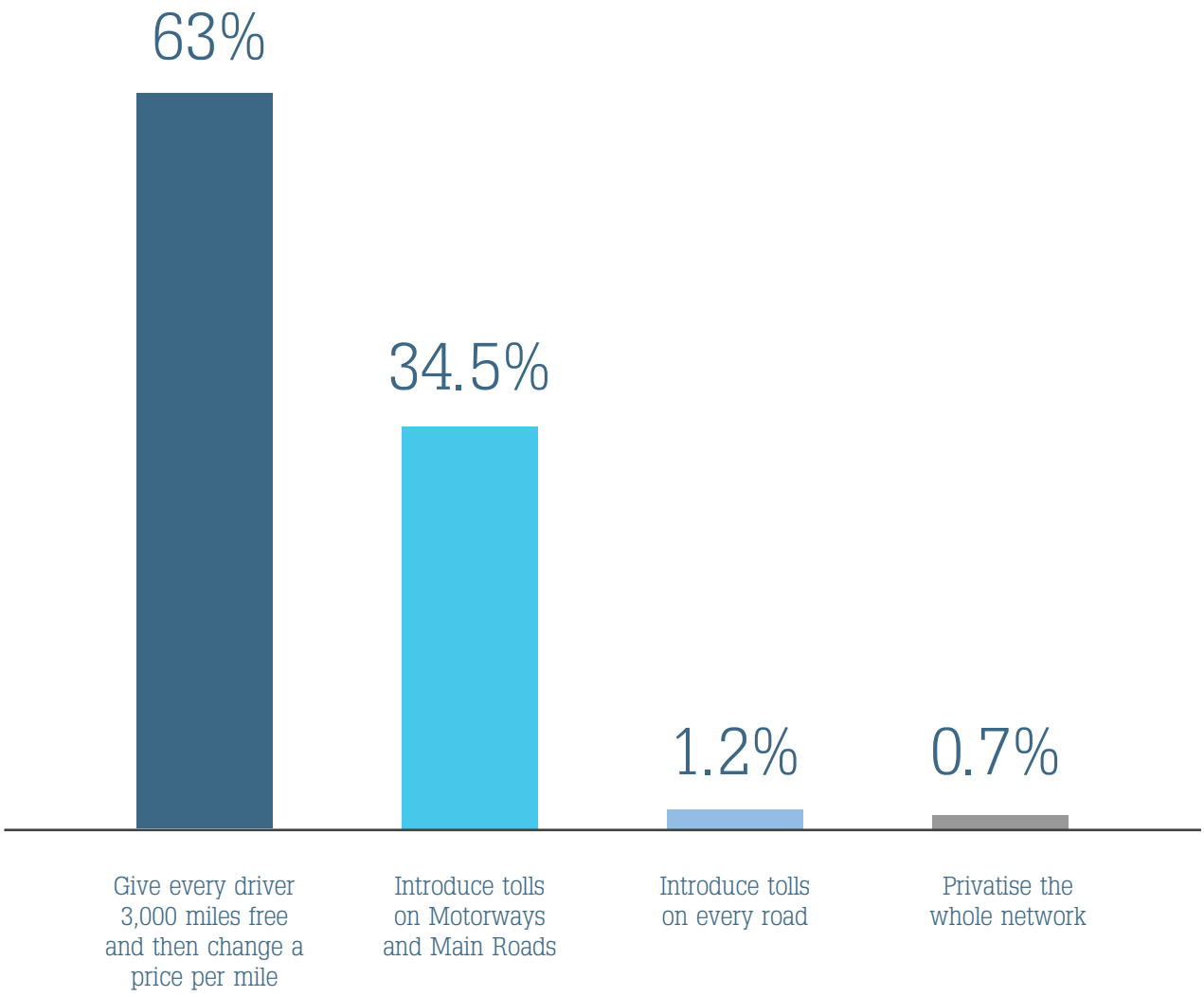
> "In 1890, the average distance a Briton travelled was 13 miles a year, whereas in 1990, it was 13 miles a day, nearly all that distance courtesy of the car.
> It has improved access to culture, leisure and health. It has encouraged the eman- cipation of women and augmented the freedom of men. It has reshaped cities, extended suburbs and opened up the countryside. However, the motorcar has always been a cause of contention."

The Motoring Century: Story of the Royal Automobile Club
17 Apr 1997 by Piers Brendon

Populus survey - paying for roads

Which of the following do you think would be the best way to pay for roads

Populus survey of 8,917 drivers 17th – 24th january 201



2. Preface

We recommend a new way to pay for roads that is fair to all road users, good for the economy, and good for the environment. It will address congestion, increase the efficiency of our current road network, and maintain Government motor tax revenues at or above current levels.

The benefit of the scheme is that it will be popular.

It will be a future proof scheme that can transcend future developments.

It will capture the public imagination.

Every driver will benefit from an annual allocation of at least 3,000 free Road Miles. Car and van owners in rural areas would get 4,000 free road miles to reflect their extra mileage. All drivers will benefit from gradual fuel duty cuts.

Our proposal could be initiated within a year, as it will dovetail with the current way of paying for roads before transitioning to a stand-alone system as the traditional payment method falls away. Once the adoption of greener vehicles reaches saturation point, fuel duty becomes redundant.

Our proposal is primarily based on the annual distance travelled by every motorist, measured by Road Miles, with a low charge per mile depending on vehicle type, combined with a Government Road Miles Auction, and a Road Miles Lottery.

Road Miles will work.

Companies bidding in the Auction would pass the Road Miles on to customers via loyalty schemes or as a bonus for purchasing products. Vauxhall told us "giving drivers "free" miles might act as a marketing incentive used by OEMs to differentiate their product offering from competitors."

The Road Miles Lottery will be run along similar lines to the National Lottery, providing funding for road maintenance, roads, and local bus support, whilst giving players the chance to win hybrid/electric Porsches and Teslas as well as free Road Miles.

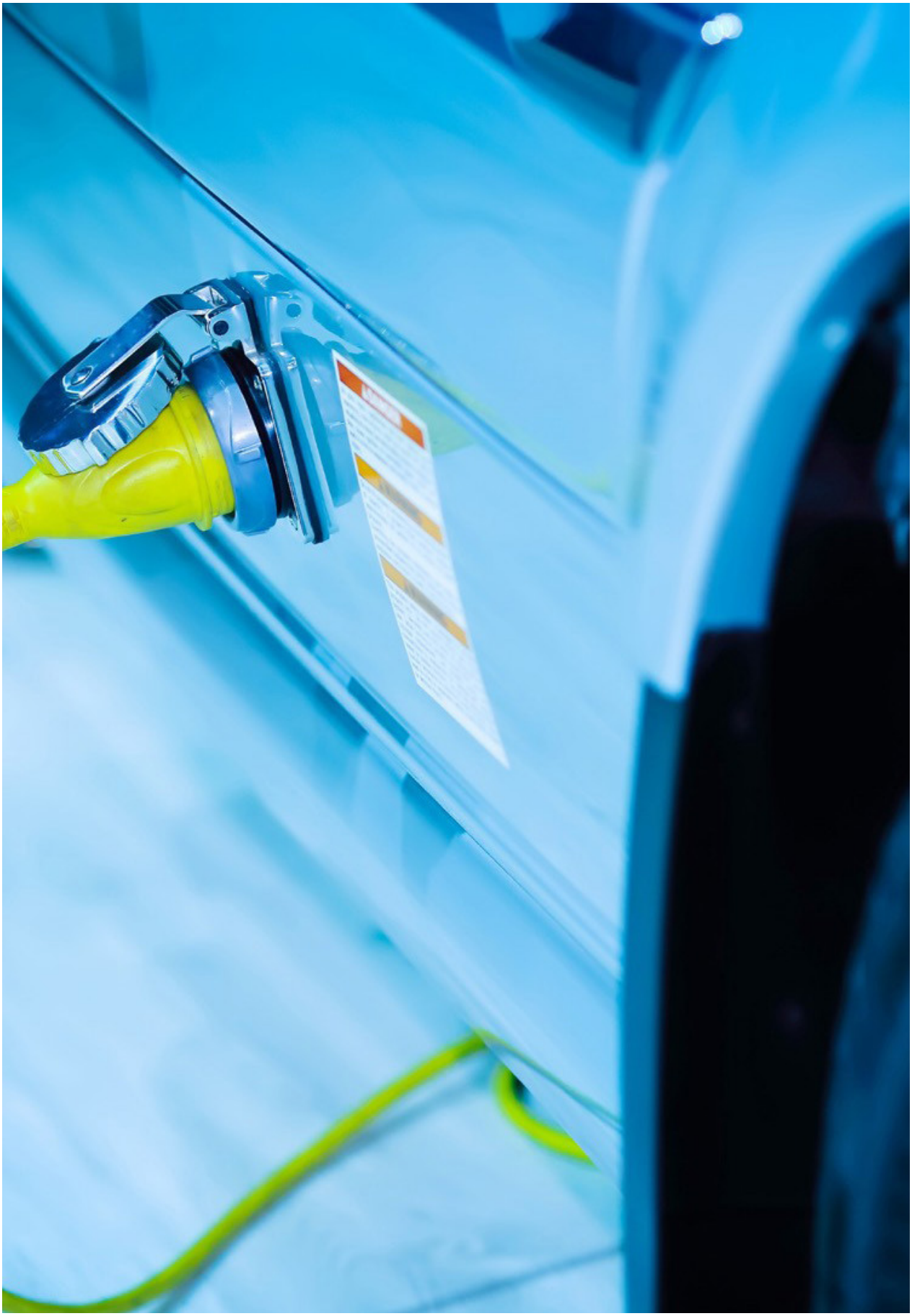
Road Miles is radical approach which our research shows will be accepted by the public and hence not become a 'poll tax on wheels'.

Results of a recent Populus Survey in January 2017 of more than 9,000 drivers show support for the concept. Populus posed the question:

"Drivers pay motoring taxes that go towards road investment through fuel duty, VAT on fuel and car tax (VED). As we get more hybrid and electric cars on the roads this tax take will diminish considerably.

Which if any of the following do you think would be the best way to pay for roads in the future if fuel duty is abolished?"

Of those drivers who selected an option linked to miles driven, nearly two-thirds (63.5%) supported the Road Miles option, and there were almost uniform levels of support across regions, age, and sex.



3. What Commentators And Media Have Said About Road Miles

History shows us that charging for roads always creates political problems and therefore public acceptance for any new road transport proposal will be paramount to its success.

To test public reaction to Road Miles, we have promoted and debated the concept across the national, regional and social media.

We generated more than 160 radio and TV broadcasts across two days to debate the benefits of the scheme, and both Road Miles authors were involved in a drive-time debate on BBC Radio Five Live Business

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BBC RADIO 5 live

Aa Boss Shortlisted For Wolfson Economics Prize

President of the AA, Edmund King, and his wife Deirdre have been shortlisted in a competition for their proposal to improve the UK's road network.

Their entry is one of five to have been shortlisted for the £250,000 Wolfson Economics Prize.

Entrants to this year's competition were asked to find a solution for "making roads better, safer and more reliable in a way that is fair to road users and good for the economy and the environment".

One of the ideas in the couple's proposal is giving drivers an annual road miles allowance.

In addition, BBC Five Live ran another debate on Road Miles without the authors but with external contributors.

We took part in detailed discussions with some of the more populist presenters such as with Julia Hartley- Brewer and Penny Smith on Talk Radio and Nick Ferrari on LBC.

We accepted all requests to discuss the proposal because we understand that it is important to initiate and capture public interest in order to help politicians promote new ideas as government policy.

The AA is the UK's largest motoring organisation representing some 15 million members. Despite previous driver hostility to pricing schemes, the Road Miles co- author (AA president), was open to debate the issues.

In order for a political initiative to gain acceptance from the public it is often asked: "Would it pass the Daily Mail test? Or indeed the Daily Telegraph test?"

Research from YouGov* shows that the Daily Mail, Telegraph, and Express are considered Britain's most right-wing newspapers. At the other end of the spectrum, the Guardian and Mirror are seen as Britain's most left- wing newspapers.

Road Miles was covered in a balanced manner in all of these papers. *https://yougov.co.uk/news/2017/03/07/ how-left-or-right-wing-are-uks-newspapers/

Although a swathe of headlines related to the Road Miles adopt-a-highway naming rights concept, all the articles covered the fuller Road Miles plan.

The Telegraph

The Morrisons M1? (No Jokes About Jams, Please) How Sponsors Could Get Naming Rights For Britain's Motorway

"The idea is part of his proposals to change the way people are charged for driving in Britain, with motorists paying some of the highest taxes in Europe to use a network that is in places congestion and deteriorating.

Another idea, the Road Miles concept, created by Mr King and his wife Deirdre, business analyst, would give drivers at least 3000 free road miles each year, with a small charge for additional distances, in an attempt to reduce non-essential journeys.

Mrs King said: "More money will be available for roads yet the motorist will pay less as extra income from the Road Miles lottery, naming rights and auction will supplement revenues."

Despite the somewhat more provocative headline in the Mail – "Motorway madness… could Man U sponsor M6?"- the copy was balanced and uncritical. Similar copy appeared in the Mail online.

Mail Online

Could Manchester United Sponsor The M6? Naming Rights Set To Be Sold For Major Roads To Generate Funds For Repairs

• AA president Edmund King said teams and tech firms could sponsor major roads

• US-style scheme could be adopted, where pay for litter in return for advertising

• Part of proposal to change taxes for motorists in the UK, among highest in world

By Daily Mail Reporter

"Car drivers in the first year would pay less than 1p a mile and there would be concessions for those living in the remotest areas and the disabled. The proposal would result in fuel duty dropping from 58p a litre to 47p within five years, and more than £3billion in extra investment for roads could be generated."

SUNDAY EXPRESS

Camilla Tominey: Ring The Changes In A Digital World Express

A president Edmund King's "adopt a highway" plan for companies to sponsor motorways is a brilliant idea. The sale of naming rights could lead to the Manchester United M60, the Morrisons M1, the Microsoft M4 and the Adidas A1 (other non-alliterative sponsors are also available).

Many may scoff at the notion of commercialising Britain's roads but it's preferable to motorists having to shoulder the burden of some of the highest taxes in Europe. And it's only set to get worse as hybrid and electric cars become ever more popular, reducing the amount of revenue in the Treasury's coffers.

Mr King accepted it is unlikely the M60 would be named after Manchester United as it would be unpopular with rival supporters.

Surely it would be all right if you gave Manchester City, say, the M6?

Should the Prime Minister support these proposals and achieve a landslide election victory across the UK, then the Theresa M-A1 might be in order. Nicola Sturgeon will have to make do with the M9. Tim Farron and his fellow Remoaners are welcome to the M25

theguardian

The Guardian Headline Was “Motorists Should Bid For The Miles They Drive – Aa Boss”

And The Daily Mirror’s “Beat Jams By Using Man Utd M6” But Both Gave Balanced Coverage And Detail In Their Articles.

There were some dissenting Mail readers:
Just Saying..., E Sussex, United Kingdom, 2 Days Ago

So what is it our road taxes for if not for the roads? Disgusting that this is even being considered, just shows us the system has failed us and our infrastructure.
Loonyleftie, Bristol, United Kingdom, 2 Days Ago

Car tax wouldn’t come close to funding the roads.
Vincent, Plymouth, United Kingdom, 2 Days Ago

@ loony - I think you’re forgetting the fuel duty also paid by motorists. The total tax revenue from motorists MORE than funds our road network.

Overall the media and public reaction has been very positive. Despite the widespread national coverage, the AA received only one complaint, which came from an LBC listener who objected to the idea.

THE SUNDAY TIMES

Charge Drivers By The Mile, Says Aa Chief

As sales of electric and zero-emission cars have risen, government receipts from road tax and fuel duty have fallen, leading to a suggestion that road-users should pay by the mile

Drivers could pay by the mile to use the roads under a plan devised by the president of the AA to tackle falling fuel tax revenues.

The "road miles" scheme suggested by Edmund King and his wife,

Deirdre, an economist, has been shortlisted for the Wolfson economics prize

and could win them £250,000.

They describe the plan as "simple and sellable to the public",

and claim that it would raise more money for Britain's roads while costing drivers less.

As sales of electric and zero-emission cars have risen, receipts from road tax and fuel duty have fallen.

"There will come a point when the whole road network is unsustainable,"

Mr King said.

The story was also covered in transport publications such as Local Transport Today, as well as featuring on several marketing websites. https://www.prolificnorth.co.uk/

The Adidas M1 – Could Firms Buy Naming Rights For Motorways?

By Stephen Chapman — 27 April 2017

Edmund King, the president of the AA, has proposed a "radical new solution" to improve the country's road network.

In a paper submitted for the Wolfson Economics Prize, he suggests that naming rights for roads should be sold to brands.

"We would set up a Road Miles auction, where companies can buy road miles. We actually give naming rights, so if Adidas want to name the A1, they can," he explained in the submission.

"We set up a system where everyone in the UK gets at least 3000 road miles free, with free access to the road network, but then after that there is a small charge."

Why the media is important

If politicians are unable to convince the media of the merits of any new scheme, it can backfire. This is what happened recently in Connecticut.

Sunday, 7 August 2016

Connecticut a public relations nightmare on exploring road user charging

There was little engagement with politicians, the media and the public of the value in participating in this pilot in Connecticut. Indeed, the media coverage is scathing, not just because of the failure to communicate, but because in the absence of clear objectives and a clear message, people make things up.

Although the focus of opposition was on spending US$300,000 of state taxpayers' money on the pilot, when no politician was willing to state that distance based charges might be implemented, that focus rapidly expanded to a dismissal of the pilot on the grounds that it isn't even worth studying. http://roadpricing.blogspot.nl/

The extensive, predominantly favourable media and social media coverage, shows that Road Miles can be positioned in a positive manner and not as another 'poll tax on wheels'. It is a serious proposal to radically change the way we pay for roads by drivers paying less whilst more money goes into road investment.

WOLFSON ECONOMICS PRIZE MMXVII FINALIST

THEIR BIG IDEA:
Road Miles become a new currency.

4. Road Miles Should Be Introduced Now

Today we have the best opportunity since new charging methods for roads were first discussed fifty years ago to introduce Road Miles.

The conditions are optimal:

- We have a new Government looking for new ideas.
- Congestion Charging was introduced early in Ken Livingston's first term.
- Sadiq Khan is reported to be considering pay-per-mile road pricing.
- Electric and plug-in hybrid ownership is still relatively low and led by early adopters. Once EVs become established as mainstream vehicles it will be more difficult to convince owners of the benefits of Road Miles because the owners will have more to lose.
- The current debate and genuine concern about air quality demonstrates the need for essential changes in how, what and where we drive.
- Brexit means we should have more flexibility to devise a system geared for the UK.
- New technology has just arrived which automates and simplifies Road Miles from the manual methods outlined in our first proposal.
- Involvement in a 10,000 car trial of a new telematics dongle (Car Genie) with the AA and our study of similar technology used in Oregon, California and Colorado, has convinced us that Road Miles can make this technological leap now.

5. Should Road Miles Be Optional?

We considered whether Road Miles should be introduced as an opt-in scheme. This concept is something Edmund King first wrote about in The Guardian more than ten years ago.

He argued that road pricing would never be politically acceptable unless re-defined and re-branded. Those arguments are just as valid a decade later. Also, he considered the Oregon trial demonstration whereby volunteers could opt-in to pay-by-the-mile and in return get fuel tax discounts at the pumps.

At the time King argued it could be introduced as a voluntary package in the UK:

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theguardian

A Route Map For Road Pricing

Edmund King

Guardian 18 December 2006 https://www.theguardian.com/commentisfree/2006/dec/18/post816

Part of the problem is the name. Road pricing sounds like a tax and taxes to motorists are as popular as a poll tax on wheels. "Road pricing" needs to be re-packaged and re-branded perhaps as "UK Drive Time". It is about the time we drive and how long we drive, but it should also be about helping the motorist through drive time.

So the way ahead is that we must not scare the horses .... or those with horsepower. Perhaps, then, we could promote a national scheme that has a gradual introduction over, say, two decades.

That might sound like a long time but we have been talking about pricing since the Smeed report 42 years ago.

The Oregon demonstration is very interesting. A trial started in mid June with 280 volunteers to test the viability of taxing vehicles by miles driven. The thinking behind it is that all vehicles equipped with the necessary technology would pay a passenger fee in lieu of gasoline tax during a 20-year phase-in period. So you have a gradual introduction. Those who use pay-as-you-go get a tax credit or refund on fuel tax; the others don't. It gets people used to the system, technology can be tested, etc.

Even though the system is GPS-based (and General Motors has announced that all 2007 models will have GPS as standard), privacy does not seem to be a problem. The system checks for two criteria: "Is the vehicle travelling in Oregon" and "is the vehicle in a small jurisdiction area such as a city" - no other information is retained.

So perhaps we could learn from Oregon to help us overcome public hostility. We could look at introducing a voluntary scheme as an interim measure. To attract potential motorists, one could offer other benefits. Our idea for UK Drive Time would include a package of measures that drivers want: pay-as- you-go insurance (as now offered, for example, by Norwich Union); discounts for green cars; congestion avoidance and sat nav systems; parking availability; vehicle tracking/breakdown assistance; organic food takeaway locations.

Without such a package, national road pricing will remain part of "group think" for academics and transport economists, and the only people who will benefit will be conference organisers - while drivers will be left stuck in congestion.

Why road miles shouldn't be optional

Having studied the Oregon experience over the intervening years and spoken to the promoters we now believe it was a mistake to try to introduce it on a voluntary basis.

The scheme was first conceived more than a decade ago.

In essence drivers can opt into pay-as-you-go and receive fuel tax credits or continue to pay their regular fuel tax at the pumps.

What Is Orego?

Oregon's Senate Bill 810 (2013) was the first legislation in the U.S. to establish a road usage charge system

for state transportation funding. It authorizes the Oregon Department of Transportation (ODOT) to set up a mileage collection system for volunteer motorists beginning July 1, 2015. ODOT may charge 5 cents per mile for up to 5,000 cars and light-duty commercial

vehicles and issue a fuels tax credit to those participants.

OReGO gives motorists private and secure choices for the technologies they use to report miles driven as well as how they manage and pay their road use charges.

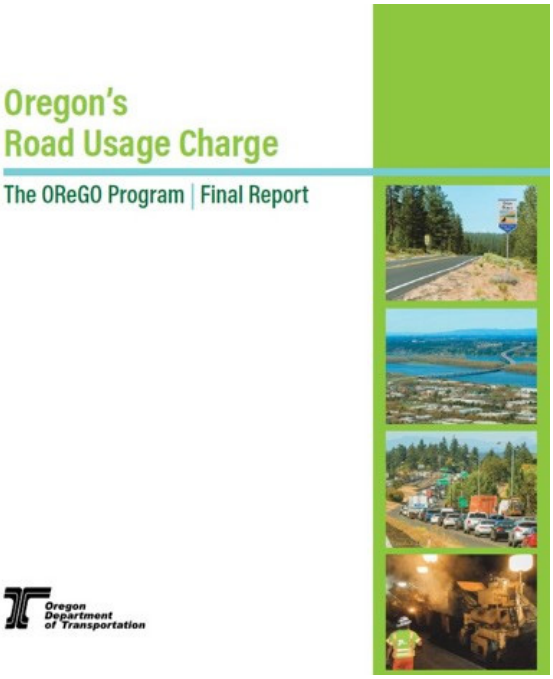
How does the system work?

First, volunteers choose who will manage their mileage reporting and payment/ credit (an account manager).

ODOT has contracted with private sector companies to manage accounts, calculate charges plus any credits due, and submit charges to the Oregon Treasury.

ODOT certifies and audits account managers to verify privacy, security and payment.

The road usage charge system automatically collects mileage data from vehicles. A mileage reporting device selected by the motorist interfaces with the vehicle and is paired with software to send mileage totals to the chosen account manager. The on-board mileage reporting device is either "basic" (does not use location-determination technology such as GPS) or "advanced" (uses location-determination technology).



Is Oregon working?

The Oregon Department of Transportation has now entered the second year of OReGO, a programme that has drivers paying 1.5 cents for each mile they drive, as opposed to the 30 cents drivers pay the state for each gallon of petrol they buy.

The voluntary scheme has seen only very limited interest from drivers. The state hoped for 5,000 people to sign up, but last year just under 1,000 were in the programme. This is despite hundreds of thousands of dollars spent on PR initiatives to entice

volunteers and a $2.1 million grant as part of the latest federal transportation funding bill.

Some of the debate in Oregon is whether such a programme would be regressive for rural and low- income drivers. While studies were mixed on the effects on both groups, the report noted people in rural households tend to drive fewer fuel-efficient cars and might benefit under a

mandatory pay-per-mile programme compared with a per-gallon gas tax.

But the state is pressing forward with OReGO in hopes of refining it to the point that lawmakers could consider it state-wide in some fashion in the near future.

Having Studied The Oregon Model In Depth And Discussed It With The Promoters, We Are Convinced That Road Miles Will Be Easier To Sell To The Public With The Free Access To The Network For At Least 3,000 Miles.

Also, we believe that many drivers would be reluctant to opt for a new payment system voluntarily even if it clearly benefits them. There are some comparisons here with households being reluctant to switch energy suppliers in the UK. Hence we recommend that Road Miles should be introduced as a mandatory scheme.

In financial terms it is impossible to accurately model the revenue from an optional approach because many drivers will stay with the status quo or continue to opt for what is best for them rather than for what gives the Treasury the best return or is best for the environment. This approach would be unsustainable.

In environmental terms, more fuel-efficient hybrids are better off opting out of pay-as-you-go whilst gas- guzzlers wanting to benefit from cheaper fuel tend to opt in. The Oregon example below demonstrates this. The gas-guzzler saves money by opting into usage charges whilst the hybrid saves money by opting out. This does not send out a good message when all efforts should be encouraging the uptake of cleaner, zgreener cars in order to reduce CO2 and improve air quality.

How does the roads usage charge compare with paying the fuel tax?

LET'S TAKE A LOOK

We compared these two models:

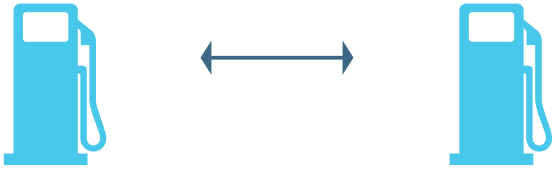
2014 TOYOTA PRIUS | **2014 FORD F-150**

50 mpg
Combined fuel economy

50 mpg
Combined fuel economy

The average Oregonian drives 12,962 miles each year.
The average price of gas in Oregon (including tax) is $2.876*

AMOUNT OF FUEL USED ANNUALLY



259.24 gallons

720.11 gallons

TOTAL COSTS WITH FUEL TAX

$745.57
Includes $77.77 state fuel tax

$2,071.04
Includes $216.03 state fuel tax

TOTAL COSTS WITH ROAD USAGE CHARGE

$862.23
Includes $194.43 road usage charge

$2,049.43
Includes $194.43 road usage charge

DIFFERENCE: + $116.66

The owner of the Prius pays a little more in road usage charge- $9.72 per month-which is offset by significant savings in fuel, using 460.87 gallons less per year.

DIFFERENCE: - $21.60

If enrolled in the Road Usage Charge Program, the owner of the F-150 would earn a rebate of $1.80 per month because fuels tax paid at the pump exceeds the road usage charge.

Using the same examples in the table, the greener car in Road Miles is better off than in Oregon. However as green vehicles will pay less fuel duty, the scheme must be mandatory to be fully effective.

Vehicle	Toyota Prius	Ford F-150
UK: Road Miles		
Today: Fuel cost (including tax)	£5.50	£5.50
Road Miles: Fuel cost (including tax) per gallon	£5.10	£5.10
Total costs with fuel tax	£1,426	£3,961
Total costs with Road Miles	£1,411	£3,764
Difference	(£15)	(£197)
% difference	(1%)	(5%)


AA
Car Genie
Predict. Prevent. Protect
O2-UK 4G
11:02
Battery health
Healthy
Your battery is looking g
AA

6. How Will Road Miles Work?

In our initial submission we contemplated a simple manual system for recording and reporting speedometer miles with the proviso that new legislation due next year would outlaw the companies that 'fix' speedometers.

Since then we have been involved in and examined the successful results of a 10,000 car trial of a new connected car telematics device, Car Genie.

Car Genie, a self-install device, helps drivers to understand what is going on under the car bonnet by plugging into the on-board diagnostics (OBDII) port and reading the vehicle's EOBD system in real-time. It then transmits information to a corresponding mobile app and generates a push notification (alert), which the driver can pick up before or after a journey.

(EOBD stands for European On-Board Diagnostics and all petrol cars sold in Europe since 2001, and diesel cars manufactured from 2003, must have OBD systems to monitor engine emissions. An error code is given along with a simple explanation, supplying the driver with the knowledge to seek help. Car Genie is the latest innovation from the AA.

It is the first step towards a new future where it can predict, prevent and protect drivers from breaking down.

During the trial the device pre-empted up to a third of breakdowns before they happened. Typically, it spotted battery degradation which could lead to starting problems, ignition coil faults, exhaust gas recirculation (EGR) valve and mass air flow (MAF) sensor errors.

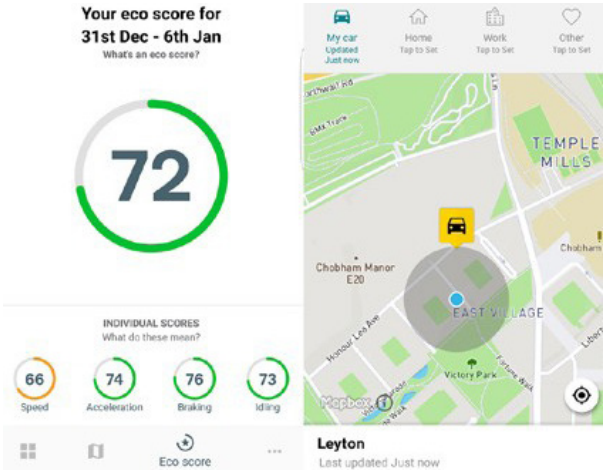
With a direct connection to the AA, the technology is also uniquely able to detect if your car has been involved in a crash. It does this by registering changes in speed vs g-force, which triggers a call from the breakdown service to the customer so support and advice can be given.

The trial found:

- Half of users understood better the issues with their car (49%)
- Two thirds gained a better understanding of how to drive their car economically (66%)
- A third of users claimed it saved them money on fuel (33%)
- Half agreed Car Genie helped them to be a safer driver (47%)

In addition to the core functions, the trial also tested the hardware's ability to detect car location using GPS and assess driving style with its eco score functionality; assessing speed, cornering, braking, acceleration and use of revs, which almost half (45%) of people identified as the most popular feature in the trial.

Based on the user's driver score, the app offers fuel efficiency tips, as well as interactive maps and even trip logging, which can be beneficial for mileage claims. Also, the system accurately tracks the miles driven.



This simple telematics device is perfect for recording the mileage of the vast majority of vehicles under Road Miles. Car Genie is compatible with 85% of cars and a similar device, Fleet Intelligence, can work on most vans and trucks. Similar devices from Azuga are already being used for charging schemes in the US states of California, Colorado and Oregon.

Azuga device options

Just plug in and go, and the Azuga device will accurately report your road usage for you. Choose between the Basic device (non-GPS, reports miles only) or the Advanced device, which is complete with several extra features such as trip logging, parking locator beacon, geofencing, etc. Right now the Azuga device and extra services are FREE for drivers volunteering in state RUC programs.

Road usage charging

Oregon chose Azuga as a partner in their pay as you go pilot described above. It provides an end-to- end charging solution. Their secure, accurate telematics technology collects mileage data in real time. They provide all the back office

functions, translating mileage into simple, easy- to-understand road usage billings. That's not all. Their cloud-based charging solution subtracts taxes paid at the pump— then, on the state's behalf, automatically invoices and collects net amounts due.

[1] http://www.myorego.org/frequently-asked-questions/ http://www.racfoundation.org/media-centre/road block-for-road-pricing https://www.oregon.gov/ODOT/HWY/RUFPP/Pages/about_us.aspx

How will the road miles dongle work?

The Road Miles dongle will plug into the car's diagnostic port (OBDII). It will note mileage but some devices will also spot car faults and send a push notification from the app to let you know what's wrong.

Like a mobile phone, the dongle uses sophisticated hardware and requires a data connection to transmit data from the car.

Once you have installed it and activated it, you won't even know it's there.

All the data is completely secure. It will not be shared with any insurance companies or the authorities.

Road Miles will encourage private companies with telematics expertise, such as the AA, to become account managers to administer the Road Miles scheme. DVLA will be another account manager and administer a basic Road Miles telematics scheme.

Commercial companies will be attracted to take part as account managers as they will be able to offer and monetise valued added services such as breakdown cover, insurance, sat nav, parking etc.

Insurance companies we contacted indicated they would be interested to act as account managers for Road Miles as the dongle would give them opportunities to offer pay-as-go or pay-how-you-drive insurance. Likewise, breakdown companies are interested as the dongle can provide better breakdown assistance and prevent breakdowns. Technology companies such as Trackm8, Danlaw and Azuga who produce and supply dongles are also interested.

The Road Miles dongle automates much of the administration and makes the role of account managers simpler.

Without being able to offer the additional commercial incentives to their customers, the Head of Pricing at a major insurance company stated that they would be less interested because it would be purely administrative work.

Under Road Miles, the majority of customers would opt for a commercial account manager due to the range of benefits.
The dongle is simple to self-fit but help can be provided.

How will the road miles work?

Drivers will be keen to participate as in addition to hassle- free Road Miles recording and payment, the dongle can offer:

- Rewards of Free Road Miles for driving smoothly and
- safely
  Free Road Miles for avoiding most congested areas at peak periods
- Find my car' facility on the app if car lost at a festival or carpark
- Route planning and route advice to avoid congestion
- Prevents and pre-empts one third of breakdowns
- Checks on driver after a crash
- Can geo-fence teenagers to 'safe areas' and warn parents if car ventures too far
- Show drivers how driving style can save fuel.

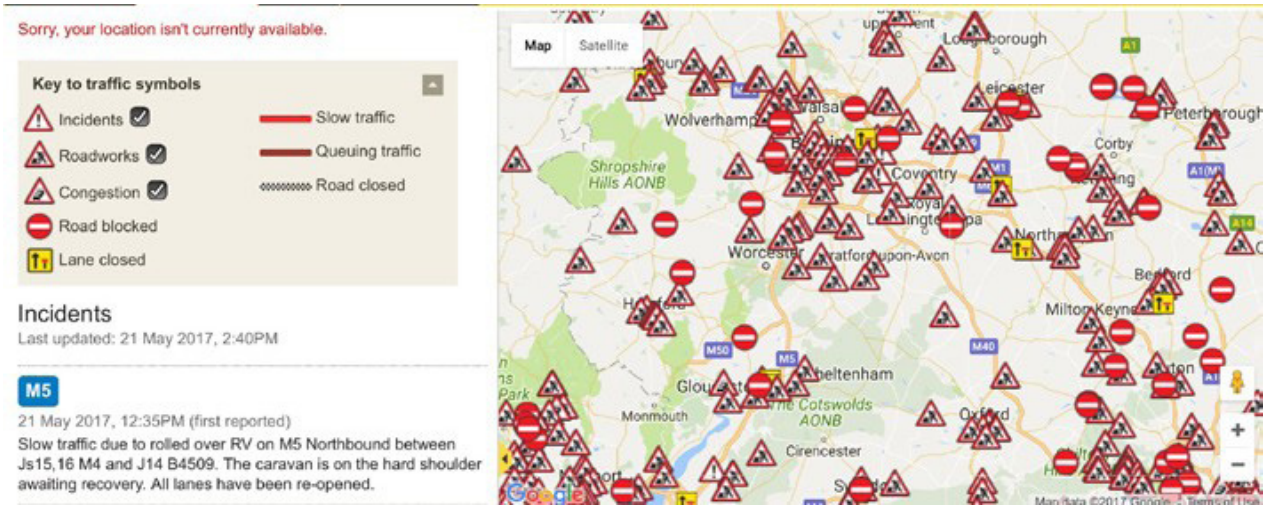
Process For Driver

- DVLA letter confirms if the device is compatible with your car
- Drivers simply register with an account manager (e.g. AA, DVLA)
- Leave payment details, registration & vehicle identification numbers, mileage
- Order the dongle
- Download the app from the App Store or Google Play
- Activate your account
- Plug in the dongle into the OBDII port in your car
- Drive

Process For Account Manager

- The Account Manager provides the end-to- end charging solution.
- Their secure and accurate telematics dongle collects mileage data.
- They also provide all the back office functions.
- After the free Road Miles are accounted for, they will translate the additional mileage into easy to understand bills.
- The cloud-based charging solution subtracts 10% discount from fuel duty paid at the pump in the first year – rising to 20% in year 5.

It will then, on behalf of the Road Miles, automatically invoice and collect net amounts due.



Aa Car Genie

Account: Prepay into wallet

Payment: Credit or debit card

Dongle: Free if sign up to other services GPS

Miles abroad credited

Numerous breakdown and Value Added Services

Dvla

Account: Post-pay, quarterly

Payment: Credit or debit card

Dongle: Free

Not GPS enabled

No miles abroad credited

No Value Added Services

Source: http://www.myorego.org/frequently-asked-questions/
http://www.racfoundation.org/media-centre/road-block-for-road-pricing
https://www.oregon.gov/ODOT/HWY/RUFPP/Pages/about_us.aspx

What about 15% vehicles not compatible with the road miles dongle?

The Road Miles telematics device will be compatible with most cars produced after 2005 and more than 85% of cars. The majority of vans and HGVs can also be fitted with devices.

The small proportion of vehicles not compatible will include classic cars, some specialist sports cars, older vehicles and motorbikes which tend to do lower mileage.

In the first few years of the scheme these vehicles will not be allocated free road miles nor charged per mile. They will continue to pay for their fuel without fuel duty discounts. They will also pay revised vehicle excise duty rates.

We did consider introducing Road Miles for these vehicles with manual checking of speedometers at MOTs or services but on balance we felt it easier to exclude them from fuel duty discounts. This actually increases the overall revenues as fuel duty discounts are larger than any Road Miles that would be paid as these are low mileage vehicles.

The other advantage is that these low mileage classic car owners, who often have more than one vehicle, will not need to take any action to register their classic cars with Road Miles.

What about charging more for the most congested times and areas?

Traditional economic theory suggests that we should charge more for the most congested areas at the most congested times. Whilst our dongle

allows us to do that, we believe it would be a barrier to the introduction and acceptance of the scheme. It is paramount that we introduce a system that is simple to understand and where the vast majority of road users will be winners compared to the current system.

Road Miles does this.

The traditional time/congestion based system in the early years would adversely affect 'white van man', urban residents, those on low incomes and essential businesses. It is crucial that we keep these important groups on side.

Once Road Miles is established as the way to pay for roads, changes can be introduced to easily differentiate charges. By waiting a few years, it would also mean that a greater proportion of the vehicle parc would

be compatible with the Road Miles dongle. Current schemes, such as the London Congestion Charge, can work alongside Road Miles and eventually would be amalgamated into one system.

The simplicity of free Road Miles, with proportionally more for rural drivers, means that all main categories of users are better off in the first few years. We have other radical plans to reduce congestion in the most congested urban areas.

Ad hoc surprise credits of free Road Miles can randomly be awarded to safe and economical drivers

on a monthly basis to encourage safer driving.

We believe that pragmatism to get Road Miles accepted in the early years outweighs the rationale of pure economic theory that might result in a lack of acceptance and the scheme being 'ten years away'.

The dongle system can be adapted easily to charge, for example, three times more for driving on the busiest roads at the busiest times. In addition, the Road Miles app can advise drivers which areas to avoid to keep costs and congestion down.

In order to get acceptance for Road Miles we need a concrete guarantee that drivers will pay less than they currently do in the first three years. Our system does this.

On balance we conclude that a less than perfect system for three years is better than trying to promote a system that would not be accepted by the public and hence politicians.

What about road miles privacy?

Road Miles will safeguard the privacy of participants and promote the Road Miles Data Charter.

Drivers have a choice. They can sign up to account managers who activate GPS or to the basic DVLA Road Miles where the device merely records mileage rather than activates GPS tracking.

Either way the Charter will go beyond the General Data Protection Regulations (GDPR), which come into force on 25th May 2018. In essence GDPR gives users more control over their personal data by ensuring users must actively opt in to receive more commercial information or

offers.

Road miles data charter new protections

- User owns data.
- Data won't be misused or sold on.
- Personal data guarded.
- Personal data needed to process charges but account manager may not disclose.
- Account managers only use location data for traffic management and research after removing personally identifiable information.

- Account managers must destroy collected location and daily-metered use records that are not used as above.
- Such data destroyed no later than 30 days after payment processing, dispute resolution for a single reporting period, or a noncompliance
- investigation, whichever is latest.
- Even if you select a GPS-enabled option, location information not disclosed to Government. Employees may review data for programme audit purposes.
- All programme-related data for audit remains confidential and is destroyed on a set schedule per programme policy.
- All personal data is treated in accordance with the Data Protection Act 1998 and will exceed
- safeguards in the General Data Protection Regulations (Regulation (EU) 2016/679).
- All Road Miles devices will have common standards so system could be rolled out worldwide.

Geographical reach of road miles

The application of Road Miles could apply to England alone or could easily include Northern Ireland, Wales and Scotland. Some money would be ring-fenced for

infrastructure improvements in Northern Ireland, Scotland and Wales. The devolved assemblies could also offer extra Road Miles in remote areas under their own jurisdiction in the way that Scotland has different drink drive limits and free University tuition. If they opted not to join Road Miles in the initial years, then drivers from those areas would not receive fuel duty discounts.

International

In the first three years of Road Miles foreign registered vehicles would continue to pay the full fuel duty at the pumps.

As the uptake of EVs increases, and before compatible dongles are commonplace on the majority of cars, a simple vignette system, similar to the Swiss system, could be introduced depending on the outcome of Brexit negotiations.

To travel on Swiss motorways, road users must purchase and display a vignette (sticker) or face large on the spot fines. You can buy a vignette at most border crossings, petrol stations, post offices, and online. The price of a vignette is currently CHF 40 (£31).

We also envisage the Road Miles concept being rolled out into other countries and we have already

had preliminary interest from motoring clubs from across the world.

Evasion or fraud?

Potential for evasion is minimal. Tampering with the on- vehicle dongle would result in default payment of the full fuel duty. The difference b w etween fuel duty rebates and mileage fees would be very small, providing very little incentive to try to evade the basic mileage fee. In fact, most drivers are better off receiving the duty rebate and therefore there is no real incentive to tamper with the device.

Additionally, if the vehicle dongle fails to transmit any data, the motorist would pay the fuel duty. If the device is disconnected for a prescribed period of time the account manager can send a message via the app to advise the driver.

Road Miles auditors could detect device tampering by inspection if they identify anomalies in mileage fee transaction data between fuel amounts purchased and miles driven. Penalties can be set to deter most device tampering.

We have been in contact with Oregon officials regarding any potential tampering problems and believe our system will work well.

In Oregon the dongle collects data from the mass-air- flow sensor. The estimated fuel consumption is calculated using this data combined with the known vehicle and fuel information.

Their road usage charge of 1.5 cents per mile and the fuels tax credit refund of 30 cents per gallon are calculated, determining whether or not the volunteer will receive a credit.

In cases where there is inaccurate data, zero values, or null values reported; the account manager will use the combined MPG rating for the specific vehicle. Essentially, the fuel tax that is included

in the price of fuel is treated as a prepayment of the road usage charge, and is credited to the account as the fuel is used.

If there are persistent offenders who try to cheat the system their details will be flagged to the police and targeted via ANPR cameras. Based on advice from Oregon and developers of the dongle we believe this is a secure system with adequate checks and balances.

Future

How roads miles will evolve?

Ultimately the Road Miles vision is for one simple system to be used to pay for roads. We envisage that with the exception of classic cars and some specialist models, the Road Miles dongle, or in-car equivalent, will be compatible with the vast majority of vehicles within five years. We want to simplify paying for roads. Both the Conservatives and Labour parties in their recent manifestos outlined plans to scrap tolls on the Severn crossing. If these plans

were not extended to other crossings, such as Dartford, then we would incorporate the payment mechanisms for these schemes into Road Miles to prevent the hassle of paying twice. Likewise, the London Congestion Charge or Low Emissions Charging Zones could be amalgamated into the dongle.

7. Current UK Road Expenditure And Financing

HM Treasury

Latest figures show that £9.34 billion was spent on UK roads in 2015/16, representing 1.6% of total public expenditure in the UK.

The present way of financing this road expenditure is through general taxation receipts.

Specific taxes paid by motorists – Vehicle Excise Duty, Fuel Duty and VAT on Fuel – account for £39 billion annually, representing a significant 5.8% of total UK Government revenue.

Why keep ved and fuel duty charges in the early years?

Road Miles will introduce a new mileage currency alongside revised VED and fuel duty rates to ensure a fair and smooth transition to a new way of financing roads within a year. After evaluating a number of other charging propositions,including replacing VED and fuel duty with a stand-alone charge, we considered this the fairest way to proceed. Vehicle ownership is influenced by socio-economic factors. Currently, those with the cleanest vehicles tend to be high-income early adopters compared to those owning less fuel-efficient older vehicles. Removing fuel duty completely would mean much cheaper petrol and diesel, but together with a new single charge based on environmental impact would result in higher costs for the majority if Government revenues were to be maintained around current levels. Therefore, it would be difficult to gain public or political acceptance for this type of charge over the short or medium term. Under our Road Miles scheme, all motorists[2] will be better off compared to today and therefore it would be easier to win public acceptance. Road Miles can transform into a single charging structure once ownership of alternative fuel vehicles reaches saturation point. Fuel duty will become redundant and VED incentives for greener vehicles will no longer be required.

[2] 1% of vehicles are alternative fuel vehicles (AFVs) and would not be better off because they do not currently pay VED or fuel duty. Going forward this will be unsustainable in terms of paying for roads and therefore it is only fair that AFVs start paying for their use of roads.

8. Case Studies

The latest National Travel Survey shows that people living in rural areas make more trips and travel further than people living in urban areas. Rural residents travel around 33% further than urban residents, and twice as far as London residents.

Rural and urban areas are defined in accordance with the 2011 Rural – Urban Classification, which stipulates an area as rural if it falls outside of settlements with a resident population of more than 10,000.

The survey provides a wealth of data on how people travel, including average miles travelled per year by type of residence and socio-economic position. The figures in the table below compare the pump price fuel costs per mile of driving today with the costs per mile of our Road Miles scheme (Road Mile cost + pump price fuel cost), differentiated by socio-economic position, type of vehicle, road usage, and urban/rural classification.

Savings under the Road Miles scheme during the first five years are a direct result of the combined effects of fuel duty reductions and some commercial income allocations.

For example, the total average cost per mile for petrol/ diesel cars will be just over 4% lower compared with the current rate of 12p.

By Year 10 these costs will graduate back towards current levels as a result of the fuel duty freeze in Year 5 and the continued increase in marginal Road Miles cost per mile.

Today's Fuel costs compared with total road mile costs in the short and medium term by area, type of vehicle, road usage and socio-economic position

	Norfolk	Nottinghamshire	Avon	Dorset	London	Derbyshire	Derbyshire	Surrey	Warwickshire	Cheshire
Home town/village of vehicle owner	Norwich	Norwich	Bristol	Christchrch	London	Dovedale	Derby	Guilford	Alverston	Manchester
Urban or Rural	Urban	Nottingham	Urban	Urban	Urban	Rural	Urban	Urban	Rural	Urban
Type of Vehicle	Car	Car	Car	Car	Car	Car	Car	Company Car	13+year old car	Motorcycle
Employment Status	Disabled	Undergraduate*	Unemployed	Retired	Employed	Employed	Employed	Employed	Employed	Employed
Road Usage	Light	Light	Light	Light	Low	High	Average	Heavy	Low	Average
Total Miles Travelled in One Year	1,398	1,740	2,106	2,747	4,601	10,895	8,192	18,500	5,500	4,387
Number of Free Miles	3,000	3,000	3,000	3,000	3,000	4,000	3,000	3,000	0	0
Total Milleage Cost PA										
Today	£170	£212	£257	£335	£561	£1,328	£999	£2,255	£671	£205
Road Miles - Year 1	£156	£194	£236	£306	£526	£1,274	£958	£2,197	£671	£205
Road Miles-Year 5	£145	£181	£219	£285	£511	£1,272	£957	£2,238	£671	£205
% Cost Difference Compared to Today										
Year 1	(9%)	(9%)	(9%)	(9%)	(6%)	(4%)	(4%)	(3%)	(0%)	(0%)
Year 5	(15%)	(15%)	(15%)	(15%)	(9%)	(4%)	(4%)	(1%)	(0%)	(0%)

The table shows how Road Miles will promote the social inclusion of various groups such as the disabled, youth, the unemployed and the elderly. With average annual mileage under the 3,000 mile allocation, driving costs will fall by 9% in the first year. By Year 5, this combination of zero per mile costs and the continued reduction in fuel duty will lower transport costs further, by 15% compared to today.

The low mileage London car owner could see costs on average 6% to 9% pa lower over the medium term compared to today's fuel per mile cost.

However, they would be subject to the London congestion charge when driving through central London, which would reduce this rate to 1.5% if we assume TfL's average annual congestion cost for an inner London car owner of £1,696.

Comparing rural motorists with their urban counterparts, we can see that on average they have the same percentage reductions.

The table compares a Derby (urban) resident and a Derbyshire Dovedale (rural) resident. The Dovedale motorist covers 33% more miles per year than the Derby motorist, but has an extra 1,000 miles annual allowance giving them a total of 4,000 free Road Miles per year.

As a result, both will save just over 4% each year compared to today.

High mileage company car drivers travelling 18,300 miles per year will experience the lowest average level of savings of 3% Year 1 and 1% Year 5.

After Year 5, when fuel duty is frozen, total Road Mile costs for petrol/diesel vehicle owners will start to rise. Classic car owners, those owning cars more than 13 years old and motorcyclists pay the same as they do today. These vehicles are incompatible with the Road Miles telematics device and so driving costs remain the same as today as no fuel duty discount or Road Mile costs will be applied. Since classic cars do low mileage and motorbikes do not cause congestion and produce limited emissions, we consider this the fairest option until such time that telematics devices can be fitted.

Today's Fuel costs compared with total Road Mile costs in the short and medium term by type of goods vehicle and road usage

Type of Vehicle	Light Goods Vehicle			Heavy Goods Vehicle		
	Low(urban)	Average	High (rural)	7,5T	26T	40T
Type of Vehicle						
LGV road usage/HGV weight	9,500	12,907	17,166	30,000	60,000	80,000
Total miles travelled in one year	3,000	3,000	4,000	3,000	3,000	3,000
Number of free miles	6,500	9,907	13,166	27,000	57,000	77,000
Road mile chargeable miles travelled pa						
Today	£1,518	£2,062	£2,742	£19,636	£39,272	£52,363
Road Miles - Year 1	£1,470	£2,014	£2,678	£19,102	£38,348	£51,179
Road Miles-Year 5	£1,492	£2,061	£2,741	£19,578	£39,486	£52,758
Road Miles-Year 10	£1,540	£2,135	£2,840	£20,415	£41,253	£55,145
% Difference from Today's Cost						
Year 1	(3,1%)	(3,4%)	(2,4%)	(2,7%)	(2,4%)	(2,3%)
Year 5	(1,7%)	(0,0%)	(0,1%)	(0,3%)	0,5%	0,8%
Year 10	1,5%	3,6%	3,5%	4,0%	5,0%	5,3%

The lower Road Mile charges will be welcomed by drivers and have a positive effect on household disposable income. In turn, this would benefit the local and national economy with households being able to maintain or increase expenditure on other goods and services.

The next table compares costs for LGV and HGV vehicle owners depending upon their usage of the UK road network.

LGV and HGV vehicle owners also benefit from lower total average costs per mile compared to today over the medium term.

How will fleet companies fare?

Here we look at some examples of companies with varying fleet sizes to assess how they will fare under the Road Miles scheme.

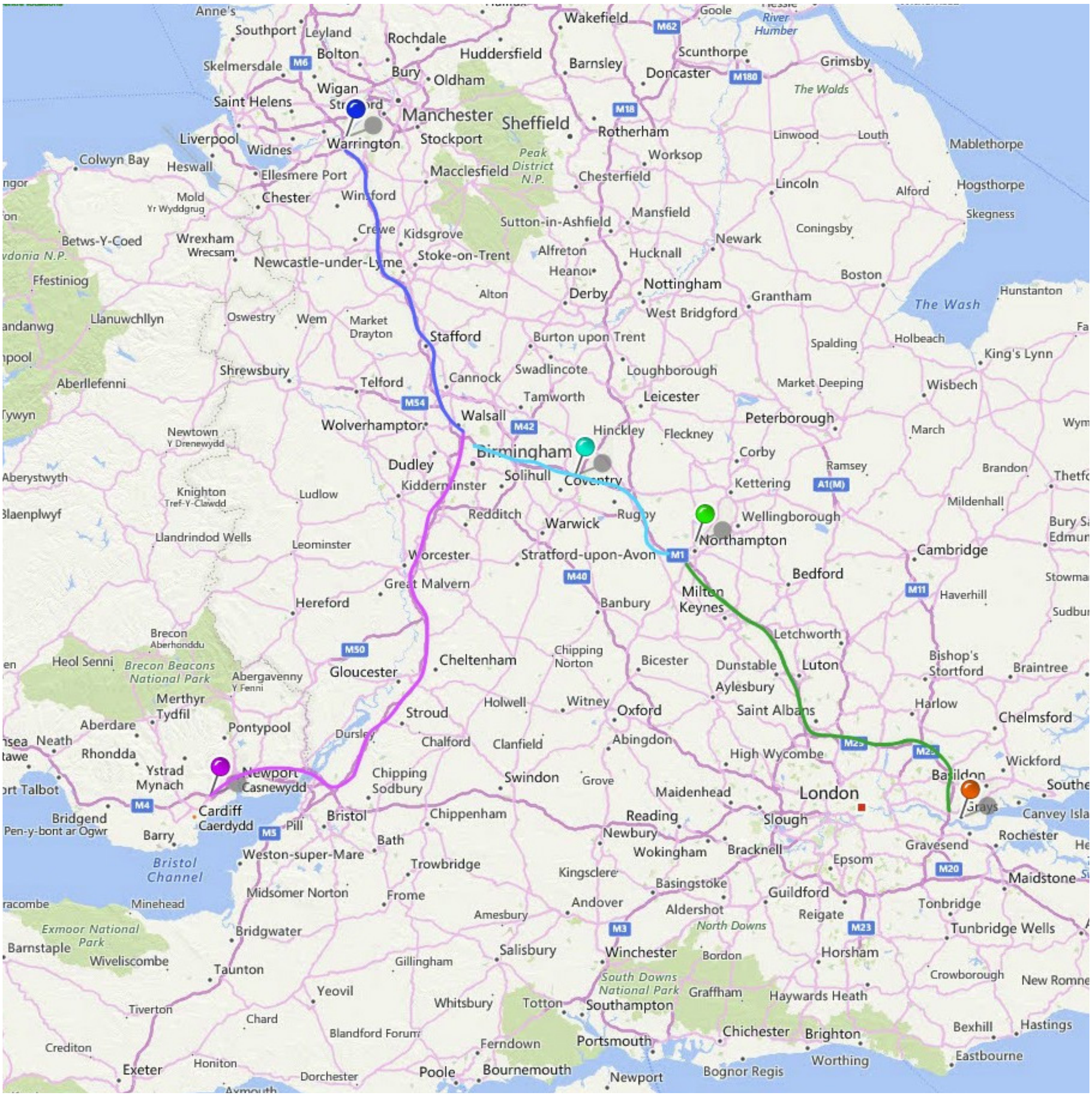
1. Travis Perkins

Travis Perkins is the UK's leading supplier of materials to the builders' merchant, home improvement and construction markets, distributing 400,000 product lines

under a range of brands including Travis Perkins, Wickes, Tile Giant and Keyline.

Their customers' key requirements are for locally stocked product ranges to be immediately available for collection or delivery so a good standard road network is of paramount importance.

Travis Perkins has two light goods primary distribution centres (Omega Centre in Northampton and Warrington), and four heavy goods regional Range Centres (Warrington, Cardiff, Tilbury and Coventry) which incorporate overnight deliveries into their schedules.



Total Travis Perkins branches	833
Trading outlets	2,059
No. of businesses operated	120+
No. of product lines distributed	400,000
Products available:	
Next day	27,500
Within 48 hours	3,000
Account customers	280,000
Number of employees	30,000
2016 Revenue	£6.3bn

Number of branches covered	
Headquarters	Northampton
North region (Warrington)	150
Midlands (Coventry)	150
South East (Tilbury)	126
South West & Wales (Cardiff)	144


Travis Perkins
Travis Perkins


Welcome to
Travis Perkins
Customer Sales
Paints

The company plans to open 5 – 10 new branches annually.

Their commercial vehicle fleet ranges from 3.5t panel vans to 44t artic trucks and travels an estimated annual 150 million miles with associated estimated fuel costs of £93 million[3].

The slightest saving in cost per mile will deliver significant financial rewards.

The table shows that under the Road Miles Travis Perkins could save around £4m in transport costs over the medium term, with an average 0.86% annual cost saving (£798k) compared with today's costs.

Travers Perkins	3.5T Vans	Under 7.5T	18T & Over	Total Fleet	
Number of vehicles*	1,100	800	2,370	4,270	
Average miles travelled in one year per vehicle. Total fleet mileage. Number of free Road Miles per vehicle pa	12,907 14,197,700 3,000	40,000 32,000,000 3,000	45,000 106,650,000 3,000	4,270 35,796 152,847,700	
Total Mileage Cost Pa Per Vehicle Total Fleet Mileage Cost Pa					
Today Road Miles	£2,268,134	£20,945,164	£69,806,305	£93,019,602	
Year 1	£2,214,755	£20,413,827	£68,078,118	£90,706,701	
Year 2	£2,246,265	£20,692,389	£69,017,621	£91,956,274	
Year 3	£2,250,914	£20,741,859	£69,195,384	£92,188,157	
Year 4	£2,268,851	£20,928,239	£69,830,774	£93,027,864	
Year 5	£2,267,111	£20,971,394	£69,991,487	£93,229,992	
Fleet Mileage Cost Difference Compared To Today					Total cost difference (£3,989,023)
Year 1	(£53,379)	(£531,337)	(£1,728,186)	(£2,312,902)	
Year 2	(£21,869)	(£252,775)	(£788,683)	(£1,063,328)	
Year 3	(£17,219)	(£203,305)	(£610,921)	(£831,445)	
Year 4	£718	(£16,925)	£24,469	£8,262	Average difference pa
Year 5	(£1,023)	£26,230	£185,182	£210,389	(£797,805) (0.86%)
% Difference Compared To Today					
Year 1	(2.4%)	(2.54%)	(2.48%)	(2.49%)	
Year 2	(1.0%)	(1.21%)	(1.13%)	(1.14%)	
Year 3	(0.8%)	(0.97%)	(0.88%)	(0.89%)	
Year 4	0.0%	(0.08%)	0.04%	0.01%	
Year 5	(0.0%)	0.13%	0.27%	0.23%	

The company's vehicle replacement cycle with more fuelefficient vehicles will further reduce in transport costs. This will help reduce their diesel consumption for environmental and economic reasons.

Travis Perkins has investigated electric vehicles but this is not financially viable for the company at present.

* estimated HGV split
Source: Travers Perkins; fta.co.uk;fleetnews.co.uk; Road Miles model

[3] Source: NTS 2015: England – average miles driven by unemployed

2. Royal Mail Group

The Royal Mail collects items from 113,000 postboxes, 14,300 Post Office branches and 87,000 businesses daily.

The company has a fleet of 32,500 vehicles ranging from vans to 14+ tonne HGVs (plus 33,000 bicycles) which travels 600 million miles per year.

The Royal Mail, under Road Miles, saves £5.79 million over the five-year period. During the first three years, Royal Mail could save £7 million but thereafter would see costs starting to rise above today's level, by 0.26% (£480k) in

Year 4 and 0.4% (£765k) in Year 5, assuming no change to cleaner vehicles.

ROYAL MAIL PLC	3.5T VANS	6.5T - 7.5T	14T +	TOTAL FLEET	
Number of vehicles	28,798	2,187	1,515	32,500	
Average miles travelled in one year per vehicle	15,000	44,500	50,000	18,617	
Total fleet mileage	431,970,000	97,321,500	75,750,000	605,041,500	
Number of free miles per vehicle	3,000	3,000	3,000		
Total free miles travelled in one year	86,394,000	6,561,000	4,545,000		
Total fleet mileage less free miles pa	345,576,000	90,760,500	71,205,000	507,541,500	
TOTAL FLEET MILEAGE COST PA					
Today	£69,008,765	£63,700,462	£49,581,130	£182,290,357	
Road Miles :					
Year 1	£67,587,843	£62,119,938	£48,377,896	£178,085,678	
Year 2	£68,599,767	£62,976,353	£49,051,507	£180,627,626	
Year 3	£68,800,078	£63,137,510	£49,185,089	£181,122,676	
Year 4	£69,408,856	£63,716,157	£49,644,465	£182,769,479	
Year 5	£69,425,961	£63,861,427	£49,768,209	£183,055,597	
COST DIFFERENCE COMPARED TO TODAY					Total cost difference **(£5,790,730)**
Year 1	(£1,420,922)	(£1,580,524)	(£1,203,234)	(£4,204,680)	
Year 2	(£408,998)	(£724,109)	(£529,623)	(£1,662,731)	
Year 3	(£208,687)	(£562,952)	(£396,042)	(£1,167,681)	**(£1,158,146) (0.64%)**
Year 4	£400,091	£15,695	£63,335	£479,121	Average difference pa
Year 5	£417,196	£160,965	£187,079	£765,240	
AS A PERCENTAGE					
Year 1	(2.06%)	(2.48%)	(2.43%)	(2.31%)	
Year 2	(0.59%)	(1.14%)	(1.07%)	(0.91%)	
Year 3	(0.30%)	(0.88%)	(0.80%)	(0.64%)	
Year 4	0.58%	0.02%	0.13%	0.26%	
Year 5	0.60%	0.25%	0.38%	0.42%	

3. "White van man"

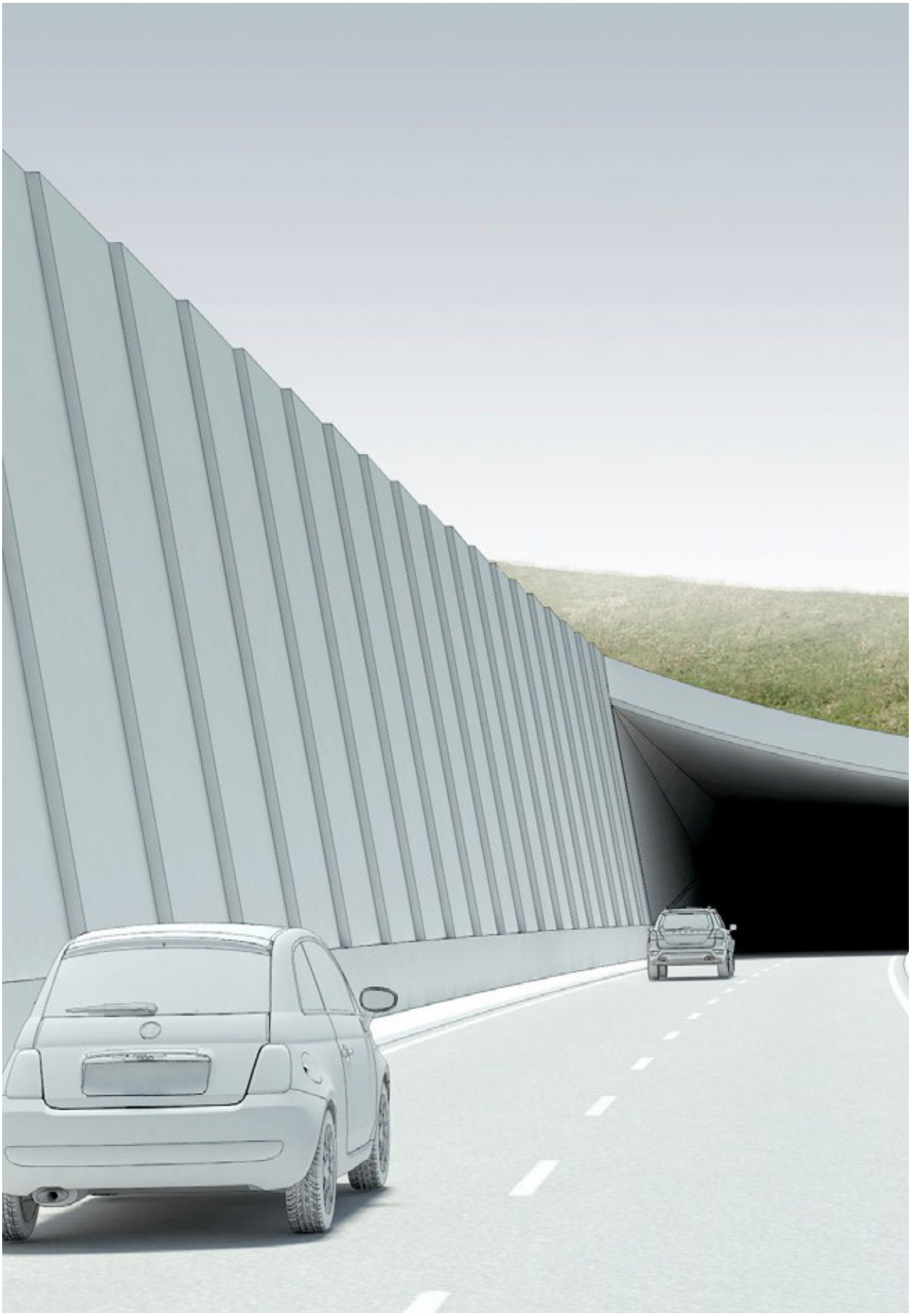
The table shows that "white van man" with low mileage and low income in Lancashire could save an average 2.6% pa across five years. Rural LGV owners will receive an extra 1,000 free Road Miles pa. A high mileage LGV driver in a rural Kent would save over 2% in the first year and just under 1% in the following couple of years before costs start leveling.

Margins are tight for the sector of self-employed single owner/driver businesses so any savings would be beneficial.

A courier firm in Essex with a small fleet of 8 vans doing very high mileage would save 1.22% in the first year but overall find transport costs rising by an annual average compound rate of 1% over the five years.

"WHITE VAN MAN"	COURIER FRM BASILDON, ESSEX HIGH M ILEAGE E)	SELF- EMPLOYED: PRESTON, LANCASHRE URBAN (LOW M ILEAGE)	AYLESFORD,KENT RURAL (HIGH MILEAG
Number of vehicles	8	1	1
Average miles travelled in one year per vehicle	28,000	8,600	8,000
Total fleet mileage	224,000	8,600	8,000
Number of free miles per vehicle	3,000	3,000	4,000
TOTAL FLEET MILEAGE COST PA			
Today	£35,785	£1,374	£2,876
Road Miles:			
Year 1	£35,350	£1,327	£2,811
Year 2	£35,953	£1,342	£2,851
Year 3	£36,145	£1,341	£2,858
Year 4	£36,554	£1,342	£2,881
Year 5	£36,667	£1,341	£2,880
COST DIFFERENCE COMPARED TO TODAY AS A PERCENTAGE:			
Year 1	(1.22%)	(3.41%)	(2.26%)
Year 2	0.47%	(2.30%)	(0.85%)
Year 3	1.01%	(2.40%)	(0.62%)
Year 4	2.15%	(2.34%)	0.20%
Year 5	2.46%	(2.38%)	0.16%

"Low mileage" is 1/3 less than average LGV 12,907 miles pa; & "high mileage" 40% more
Source: wwww.drivinaforbetterbusiness.com/casestudies/rovalmail.aspx:fta.co.uk:our model



9. Road Miles Expenditure

Road Miles would allocate revenues for expenditure to ensure that our roads are safer, more reliable, good for the economy and the environment.

ROAD BUILDING AND IMPROVEMENTS

Road Miles will be the funding source for further development of the Roads Investment Strategy (RIS). Total RIS investment will amount to £17 billion by 2020/21 in order to provide a smoother, smarter and sustainable road network that will:

- Support economic growth
- Establish a safe and serviceable network
- Create a more free-flowing network
- Improve the environment
- Improve accessibility and integration of the network

The RIS five-year plans with guaranteed funding moves road investment further away from the laborious annual funding approach, enabling longer term and more logical investment planning.

Road Miles fully endorses these objectives and longer term planning strategies, and funding will continue to support the vital projects already identified, as well as investing in more innovative solutions.

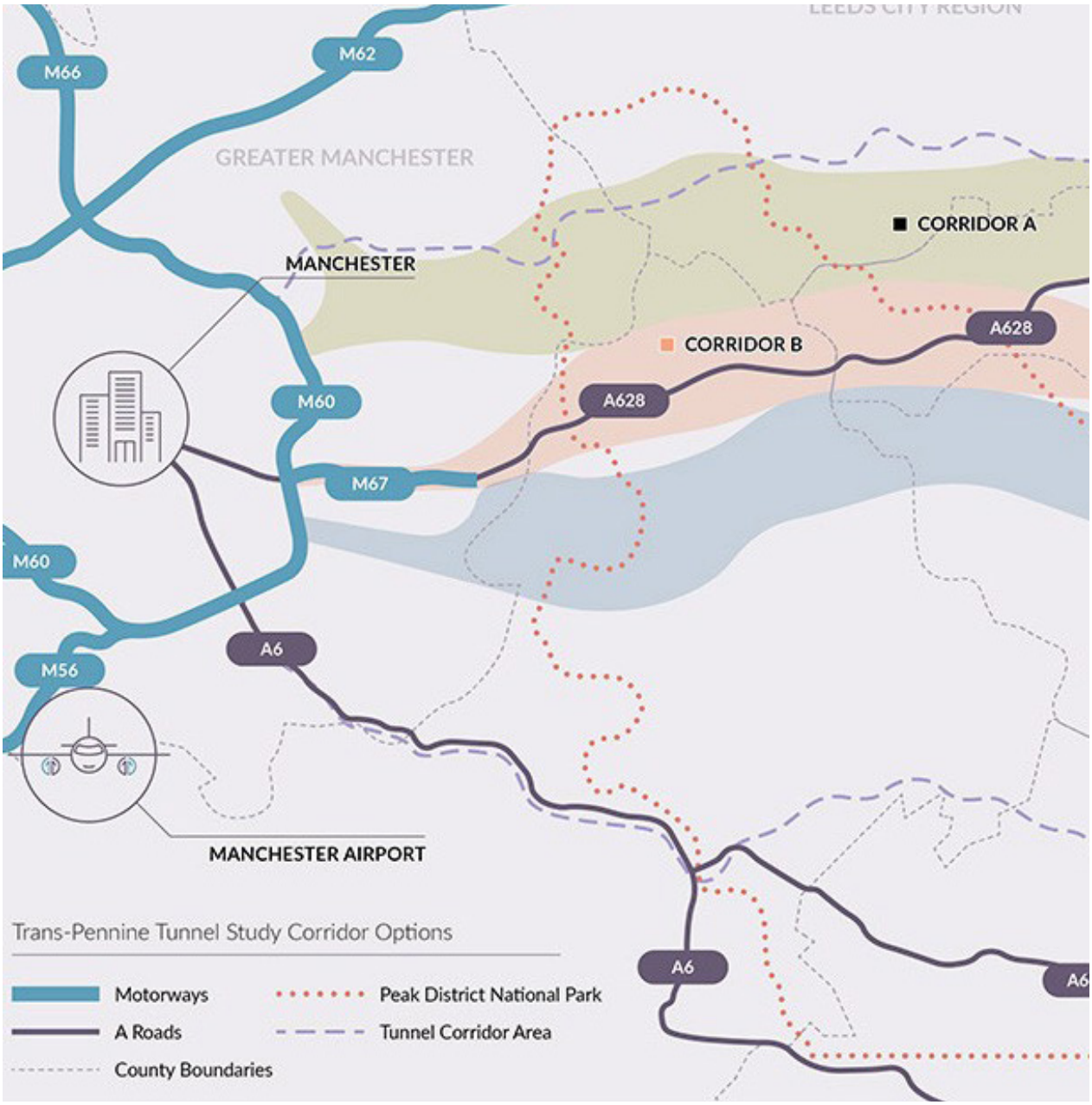
Furthermore, Road Miles will make up the current shortfall of £841 million for the RIS 1 capital programme, identified by the National Audit in its recent report[4] to prevent the delay or cancellation of some of the 112 projects. The report highlights a problem with 54 of these projects scheduled to start in 2019/20.

[4] https://www.nao. org.uk/wp-content/ uploads/2017/03/ Progress-with-the-Road- Investment- Strategy.pdf

Highways England has started to address these risks but additional funding from Road Miles will help ease the pressure.

With regard to road maintenance, some additional money comes in from the Road Miles lottery.

The Trans-Pennine tunnel[5] study describes how it would bring a step change in growth for the North of England, leading to a £97 billion increase in economic output and 1.6 million jobs. It could be a catalyst to explore further improvements in east-west connectivity, including linking the international ports on Merseyside and Humberside.



[5] https://www.gov.uk/ government/uploads/ system/uploads/ attachment_data/ file/572402/trans-pennine- tunnel-strategic-study-stage-3-report.pdf

The substantial economic and environmental benefits that could come from tunneling is why Road Miles has created a tunnel fund, initially providing £7 billion for tunnels under London, and a further £7 billion for tunnels in three other cities – potentially Birmingham, Manchester or Newcastle.

Consequently, the total amount allocated to road capital investment and maintenance will be £84 billion over the ten-year period, 85% of total expenditure.

Boris johnson's plan for two london tunnels[6] - A40 at park royal to A12 hackney wick, and a4 chiswick to a13 beckton

[6] http://www.standard. co.uk/news/transport/ mayor-unveils-plan-for-two-huge-tunnels-under- london-to-help-ease- traffic-jams-a3172921. html

Other Road Mile expenditure

In addition to funding roads, £900 million would be provided over ten years for measures to improve the environment and air quality. These will include noise barriers, new road materials, and clean air zones and a range of other vital solutions, outlined in the report.

Road safety will be allocated £300 million as we aim for Vision Zero, making our roads the safest in the world. An additional £320 million will be used to double the number of laybys over a total distance of 240 miles on smart motorways.

There will be compensation for drivers held up by road works for more than 2 hours and rewards for eco driving paid out as free Road Miles from a budget of £243 million.

Provision of £10 per head of population per year for the first five years, and £20 per head thereafter, will go into a Road Miles Cycling Infrastructure Contribution Fund for the construction of cycling tracks. This amounts to £4.9 billion over the whole forecast period or 5% of total Road Mile expenditure. Details of our cycling proposals are given later.

The Road Miles Innovation Unit will receive £600 million over ten years for developing projects that help make the road network safer; increase road efficiency and smooth the flow of traffic; help the more vulnerable users of the network (elderly, disabled, cyclists, those without a car); improve the environment; and use the 'Internet of Things' for communications between vehicles, roads and users. Innovation and new vehicle technology such as the development of driverless and autonomous vehicles will also be supported.

We have included the same level of investment funding as proposed in the RIS plans for growth and housing[7] of £200 million. This fund would be set up to facilitate the growth of economic enterprise areas and associated house building.

In England (outside London), bus use has fallen 8% since 2005/6 partly due to a decrease of 37% in local authority supported mileage[8]. Under our scheme, buses will have zero Road Mile mileage costs and will be further supported through a 5% allocation of income from the Road Miles Lottery fund, which is an average £48 million per year.

In order to set up Road Miles, administer commercial activities, liaise with account managers, design, manage, and deliver the schemes and various innovation and contingency funds, a provision of £900 million (0.9%) has been made.

In conclusion, over the ten-year period:

- Total Road Miles expenditure will reach £99.5 billion
- £604 million (6.5%) per year more than the current
- £9.34 billion spent on roads, and
- Total Road Mile revenues for the Government, net
- of Road Miles expenditure, will average £22.3 billion per year, which is £495 million (2.3%) higher than today[9].
- Therefore, taken together, there will be £1 billion per year extra from Road Miles.

[7] https://www.gov.uk/ government/uploads/ system/uploads/ attachment_data/ file/539701/GHF_ INFORMATION_LEAFLET.pdf

[8] For supported services, i.e. those usually considered socially necessary but not commercially viable, operators receive payment from a local transport authority for running the service.

[9] Figures exclude revenues from coaches and buses (around £1.4 billion fuel duty + VAT) because the revenue split was not publically available for modelling purposes. Road Mile charges for coaches would be applied in the same way as for other vehicle categories to ensure no shortfall from this figure.

- Expenditure	Year 1 - 5	Year 5 - 10	Total	% Of Total
Road Building And Improvements				
Ris Capital Enhancement	£7,693,000,000	£3,114,000,000	£10,807,000,000	**10.9%**
Ris Capital Renewal	£3,658,000,000	£750,000,000	£4,408,000,000	**4.4%**
Local Road Maintenance	£6,980,000,000	£6,980,000,000	£13,960,000,000	**14.0%**
Local Road Capital	£20,000,000,000	£20,000,000,000	£40,000,000,000	**40.2%**
Shortfall In Ris 1 Capital Programme	£841,000,000	£0	£841,000,000	**0.8%**
Road Miles Tunnel Fund:				
London Tunnels	£2,000,000,000	£5,000,000,000	£7,000,000,000	**7.0%**
Two Other City Tunnels	£2,000,000,000	£5,000,000,000	£7,000,000,000	**7.0%**
Other Road Miles Measures:				
Environment	£300,000,000	£300,000,000	£600,000,000	**0.6%**
Air Quality	£100,000,000	£200,000,000	£300,000,000	**0.3%**
Road Miles Cycling Infrastructure Fund*	£1,619,505,000	£3,239,010,000	£4,858,515,000	**4.9%**
Safety	£150,000,000	£150,000,000	£300,000,000	**0.3%**
Extra Laybys On Smart Motorways	£160,000,000	£160,000,000	£320,000,000	**0.3%**
Innovation	£300,000,000	£300,000,000	£600,000,000	**0.6%**
Growth & Housing	£100,000,000	£100,000,000	£200,000,000	**0.2%**
Road Mile Rewards And Compensation For Road Work Delays	£80,975,250	£161,950,500	£242,925,750	**0.2%**
Commercial Activity, Set-Up Costs, Fund Road Miles Board And Staff To Design, Manage & Deliver Schemes	£459,015,050	£452,930,100	£911,945,150	**0.9%**
Buses	£181,830,772.01	£293,862,758	£475,693,530	**0.5%**
Lottery Allocation Towards Road User Cost Per Mile	£909,153,860	£1,469,313,790	£2,378,467,650	2.4%
Lottery Prizes	£909,153,860	£1,469,313,790	£2,378,467,650	2.4%
Lottery Duty & Expenses	£727,323,088	£1,175,451,032	£1,902,774,120	**1.9%**
Total Expenditure	£49,168,956,880	£50,315,831,971	£99,484,788,851	**100.00%**
Average Expenditure Pa	£9,833,791,376	£10,063,166,394	£9,948,478,885	
Current Government Road Spending Pa			£9,344,000,000	
Difference From Current Government Expenditure Over 10 Years Difference From Current Government Expenditure Per Year			£6,044,788,851 £604,478,885	
% Difference Pa			6.5%	
Total Road Mile Net Revenue (Revenue Less Total Expenditure)	£109,083,537,795	£114,288,092,424	£223,371,630,219	
Average Annual Road Mile Net Revenue	£21,816,707,559	£22,857,618,485	£22,337,163,022	
Government Annual Net Revenue (Fuel Duty + Vat Revenue Less Road Expenditure)			£21,841,759,000	
Difference From Current Government Net Revenue Over 10 Years			£4,954,040,219	
Difference From Current Government Net Revenue Per Year			£495,404,022	
% Difference Pa			2.3%	

10. A Fairer Way Of Paying For Roads

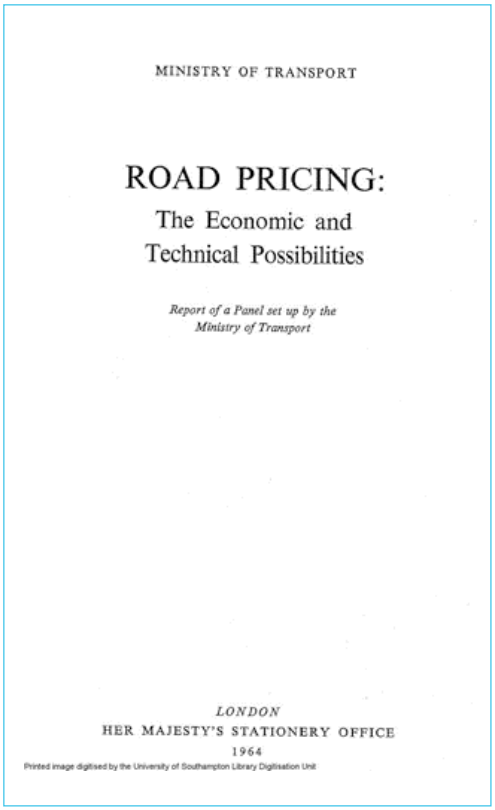
What we pay for roads

UK drivers pay almost four times as much in motoring taxes as is spent on roads which is the highest ratio in Europe[10] (with the exception of Malta).

In addition to covering the costs of roads, the taxes and charges are reinvested in society and could also be used to tackle the social costs of road transport as well as supporting health, education and vital services.

For the last half-century economists have argued that the solution is road pricing.

The UK Ministry of Transport published the first report entitled 'Road Pricing: The Economic and Technical Possibilities' in 1964. This became known as the Smeed Report, named after the Chair of the Report. It detailed seventeen requirements for road pricing including privacy, ability to charge different amounts for different roads and times etc. Most of the requirements are as relevant today as they were then.


MINISTRY OF TRANSPORT

ROAD PRICING:

The Economic and Technical Possibilities

Report of a Panel set up by the Ministry of Transport

LONDON

HER MAJESTY'S STATIONERY OFFICE

1964

[10] Table of cost cover ratios in Appendix

Such schemes came to the fore every ten years or so but every time road pricing was deemed to be at least ten years away. It still is:

" People say that national road pricing is ten years away - and it always will be - unless we examine the options and decide what we want. Once we've decided, we can ger on with doing it."

Transport Secretary 2005: Alastair Darling

http://news.bbc.co.uk/1/hi/uk_politics/4077336.stm

Blunt road pricing schemes have always fallen in the UK as as "poll taxes on wheels."

In response to a question posed by the Select Comittee on Transport, November 2002:

Examonation of witnesses (Question 494):"..... The reason I ask is that in your charter you ask for some of the costs to be offset?"

"(Mr King): The reason for that - and I think that it is a very good political reason - is that no political party, no Government, will go out there and sell congestion charging to the public without giving something back. It would be another poll tax on wheels. So I think you have to look at the practicalities of selling it to the public and I think that an offset of fuel duty, not entirely equivalent to the changes, would certainly help those poorer motorists in rural areas who have no alternative."

The AA President: Edmund King

http://www.publications.parliament.uk/pa/cm200203/cmselect/cmtran/38/2112710.htm

In 2007, an online petition against road pricing attracted over 1.8 million signatures.

> " Drivers accept the principle of pay as you go but don't trust the politicians to deliver a fair system. So we need a radical new system of paying for roads that is fair but also clearly shows the benefits for road users. People are happier to pay for things (and pay more) if they get a good service."

The AA President: Edmund King

http://www.publications.parliament.uk/pa/cm200203/cmselect/cmtran/38/2112710.htm

The current way we pay for roads via fuel duty will become redundant as we switch from fossil fuels to electric or hydrogen powered vehicles. Vehicle Excise Duty would also have to be radically redesigned to keep up with the changes.

Fuel duty is generally deemed unfair because it is regressive in the sense that all road users - rich or poor, employed or unemployed, younger or older - have to pay the duty regardless, and each pound paid out represents a larger proportion of a poorer household's income than of a richer household.

General taxation is considered still more regressive because everyone pays whether they use the roads or not.

But, Road Miles will offer a fairer way of paying for roads because:

a. Every vehicle will be given a free allocation of Road Miles. Our proposal suggests an average 3,000 per vehicle – that is nearly 40% of the average number of current miles travelled pa by car. These allocations will benefit all road users and, in particular, will favour those who travel less, such as students, the disabled, the unemployed and the elderly.
b. Rural inhabitants will receive a greater allocation of free miles to reflect their location and the longer distances they need to travel for shopping, hospital visits and so on, compared with their urban counterparts.
c. Fuel duty will be cut by 20% over the first five years and then kept constant at 47p per litre until it is phased out. The new Road Miles fuel costs for all vehicles compare favourably to today's cost per mile.

   DfT indicates that the average petrol car gets around 45 miles per gallon. With the cost of petrol currently £1.21 per litre, this equates to 12.19p per mile driven in fuel costs compared with 11.26 pence in Year 1 of Road Miles falling to 10.39p by Year 5.

Hence Road Miles will be a fairer way of paying for roads.

The West Coast mainline railway running alongside M1
Source: Wikipedia

11. Good For The Economy And Good For The Environment

Gross domestic product (gdp) and economic benefits

A good quality transport network that ensures connectivity is crucial for healthy growth in the UK's GDP. Roads link people to jobs, help companies plan logistics and support supply chains for the transport of goods or services around the UK and to ports, freight train depots and airports for overseas trade.

The Eddington Transport Study[11] reports how an efficient transport network impacts GDP:

1. Employment may be increased through greater access to labour or by encouraging the growth of new firms, which in turn increases the number of goods and services produced, and thereby increases GDP.
2. Business productivity will improve by reducing journey times, facilitating labour mobility and enabling competition either in local or geographically dispersed areas.
3. Transport improvements can increase the variety of products available, create new leisure opportunities and lifestyle choices, and enable travel time savings.

Eddington comments: "These dynamic impacts are very difficult to measure, but are nevertheless extremely valuable as they determine how quickly the economy grows and therefore the rate of growth."

Other studies looking at investments in road infrastructure have found economic benefits from:

- Changes to logistics, business travel and internal organization, which improve a firm's productivity;
- Links from productivity increases to raising employee wages (Gibbons and Machin, 2006);
- Increasing land and property market values in the local area;
- Additional scale effects, where transport cost reductions lead to lower output prices and higher demand – for example, by increasing market area (Lahr et al 2005);

Our case study of TRAVIS PERKINS is a good example of how these dynamic impacts can work and affect a company's business strategy and growth:
Travis Perkins' aim is to open 5 – 10 new branches every year to reach new market areas so that the company can expand its service and be in a position to "supply any product, to any customer, through any channel, at any time."

In order to achieve this, the company needs excellent transport links and access to the local labour market.

[11] http://webarchive. nationalarchives.gov. uk/20090104005813/http:/www.dft.gov. uk/162259/187604/206711/executivesummary.pdf

Centralising distribution through the development of new regional centres has improved productivity.

Currently, Travis Perkins' delivery costs to trade customers are bundled with their product. The company is changing its policy to provide price transparency in response to customers' wishes. Delivery costs must remain competitive. Clearly, any reduction in journey times through road improvements will have a positive impact.

Globalisation economic benefits

Step changes in transport infrastructure can be pivotal in driving forward globalisation. China has made considerable investments in roads, railways, ports and airports as a strategy towards globalisation and economic growth.

UK cities are relatively small but a good quality road network will enable the development of more effective regional growth hubs and so attract more trade and investment from around the world.

Businesses will choose locations that will best enhance their competiveness. For example, infrastructure developments have supported Bristol in developing a specialised competitive industry cluster around advanced engineering, electronics and technology. Apart from providing a vital transport link, the M4 enabled the development of fast-speed Internet access through the cabling of the motorway corridor.

International companies which have chosen to locate here – Hewlett Packard, Toshiba, Airbus, Rolls Royce – have strong links to the local economy with 76% of the supply chain being small and medium enterprises.

Spatial distribution of firms and additional economic benefits

The spatial distribution of firms may change through improved market access brought about by new roads. For instance, startups may be attracted by lower costs or increasing returns to scale (Gibbons and Overman 2009).

Recent studies looking at this impact on firms include a study of a major national highway improvement programme in India12. This found that districts within 10km of non-nodal highway sections saw increases in new firms entering the market and productivity in the manufacturing sector also increased compared with districts further away.

A UK study13 by Stephen Gibbons et al published in March 2017 looked at changes in accessibility within a small geographical area close to new road transport schemes (10 – 30km) to determine what benefits might be measured.

The study looked at 31 new strategic road schemes in 2007/8. These ranged from the A5 £20.5m Nesscliffe bypass to the £0.9 billion private investment in the M6 Toll.

The overall benefits showed positive impacts on labour productivity, specifically on gross output and wage bill per worker.

The study demonstrated that for every 1% increase in accessibility through road improvements there was a significant 0.3% - 0.4% additional positive effect on employment and businesses in the local area.

The authors concluded that these additional gains "appear substantial when roughly translated into the expected

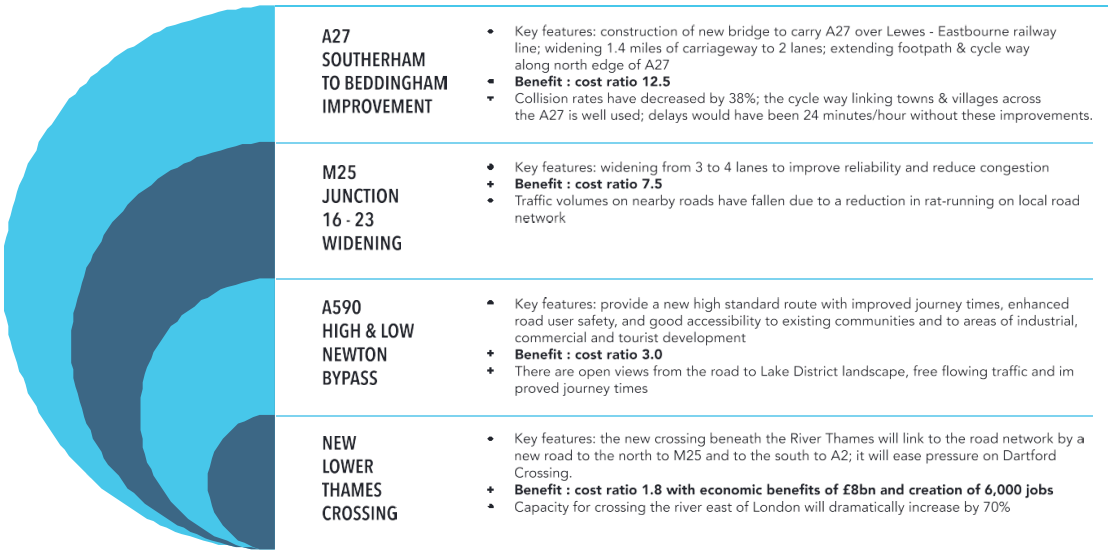
increase in GDP as a result of public investment in new roads. An upper bound on the estimate is £4.2 billion."

For comparison, they noted that expenditure on major road infrastructure of these types in 2007/8 was £1.8 billion, suggesting a potential 133% investment return.

Cost benefit analysis (cba)

Financial resources are scarce. Cost-benefit analysis offers a tool to help select the most efficient allocation of resources. Highways England has used this principle to evaluate the returns on capital investment from new roads. The following examples further demonstrate the substantial economic benefits that come from investing in much needed road infrastructure.

Within five years of opening, the A27 scheme has produced benefits representing a highly significant £12.50 for every £1 spent; the M25 Junction widening scheme £7.50; and, the A590 Bypass £3.00. The New Lower Thames Crossing is forecast to bring economic benefits of £8bn, with a CBA ratio of 1.8, along with 6,000 new jobs.



Projected economic benefits from RIS schemes come from the DfT (RIS: Economic Analysis of the Investment Plan, March 2015)

RIS Information:

RIS: Economic Benefits

Hours saved by 2030	46m
Average no.of construction jobs supported pa by investment plan	11.400
Benefits	£4.60 for every £1 spent

RIS Road Schemes

No. of schemes	127
Feasibility schemes	20
Expressways created	12
Key airport links upgraded	5
Additional lane miles	1,300
Smart motorways	29(8new)
Major ports helped	7
Junction upgrade schemes	63
Schemes directly eupporting housing anf grwth	50
Biggest single scheme	A14 Huntingtdon to Cambridge £1.5bn
Biggest new scheme	A303 Amesbury to Berwick Down (Stonehenge tunnel)

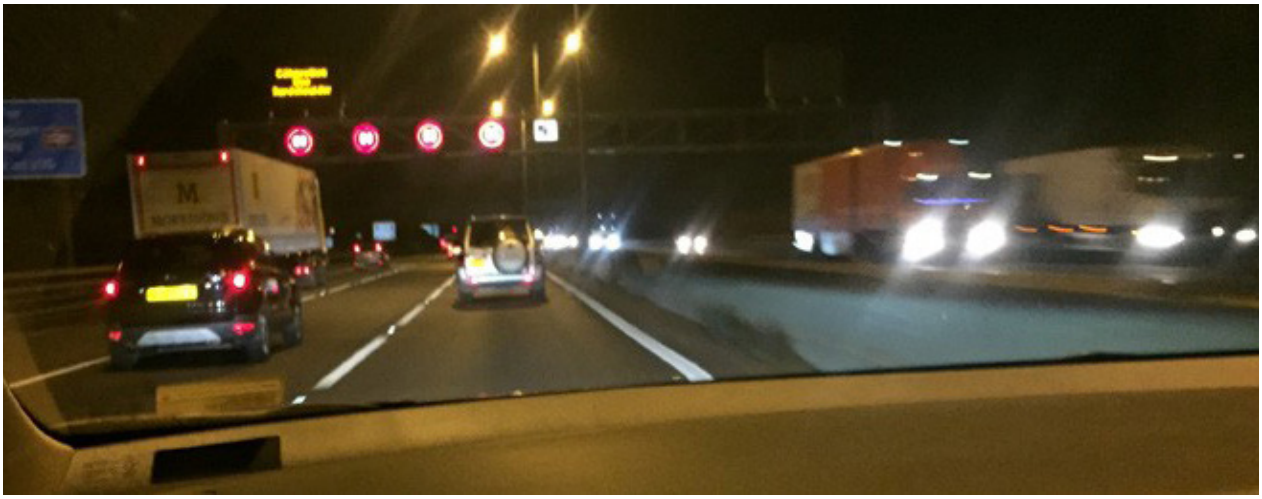
The benefit to cost ratio identified from the RIS schemes is 4.6:1.

Road Miles will be help deliver these important economic benefits as the new system of paying for roads will bring about sustained lower costs of travel (as demonstrated in our case studies) and help provide investment in strategic, new and innovative road projects.

[12] Ghani etal 2016

[13] New road infrastructure: the effects on firms-Stephen Gibbons, March 2017

B) tackling congestion and road efficiency



The UK is the 4th most congested developed country in the world (11th in global ranking), with drivers spending an average of 32 hours a year in congestion during peak hours according to INRIX, the traffic data analysis company.

The company's Global Traffic Scorecard[14] analyses and ranks the impact of traffic congestion in 1,064 cities across 38 countries worldwide:

Rank	Country	Continent (Europe Ranking)	2016 Peak Hours Spent In Congestion
1	Thailand	Asia	61
2	Colombia	South America	47
2	Indonesia	Asia	47
4	Russia	Europe (1)	42
4	USA	North America	42
6	Venezuela	South America	39
7	South Africa	Africa	38
8	Brazil	South America	37
8	Puerto Rico	North America	37
10	Turkey	Europe (2)	34
11	UK	Europe (3)	32
12	Germany	Europe (4)	30
12	Slovakia	Europe (4)	30
14	Canada	North America	28
14	Luxembourg	Europe (6)	28

[14] http://inrix.com/press- releases/traffic-congestion- cost-uk-motorists-more- than-30-billion-in-2016/

In terms of UK cities and large urban areas, INRIX's scorecard shows the top ten most congested below:

Rank	City / Large Urban Area	2016 Peak Hours Spent In Congestion	Percentage Of Total Drive Time In Congestion (Peak And	Total Cost Per Driver In 2016	Total Cost To The City In 2016 (Based On City Population Size)
1	London	73	12.7%	£1,911	£6.2bn
2	Manchester	39	9.9%	£1,136	£233m
3	Aberdeen	35	12.3%	£1,331	£138m
4	Birmingham	34	8.5%	£990	£407m
5	Edinburgh	31	9.8%	£1,009	£225m
6	Guildford	29	8.6%	£812	£44m
7	Luton	29	10.7%	£964	£72m
8	Bournemouth	27	10.8%	£1,019	£84m
9	Hull	27	9.4%	£970	£109m
10	Bristol	27	8.8%	£845	£154m

INRIX has estimated this cost of UK congestion to be £32 billion pa[15] (i.e. nearly £1,000 per driver), whilst the Eddington Transport Study[16] suggested that halving congestion in the UK could deliver economic benefits worth £28 billion per year.

Therefore, it is clear that new road financing which decreases journey times, makes deliveries more reliable, and supports economic activity, will have a huge impact in economic terms. Local tradespeople – plumbers, electricians, roofers, builders, florists – will benefit as will the supermarkets, high street retailers, and hauliers.

Equally, there would be significant environmental benefits as a less congested network will help reduce harmful emissions and CO2.

Britain's roads are becoming increasingly congested. There were 320.5 billion vehicle miles travelled in 2016, up 1.2% on the previous year, according to Department for Transport (DfT) figures.

This is the most ever recorded, and is 2% more than the pre-recession peak in the year ending September 2007. Traffic on motorways and rural A roads increased to new record levels last year, rising by 2.1% and 2.5% respectively.

Van traffic saw the biggest growth last year at 3.4%, with heavy goods vehicles up 2.8% and cars up 0.7%.

Annual motor vehicle traffic has increased each quarter for more than three years. The boom in Internet shopping and the service sector have contributed to the rise.

[15] Study by traffic information company, INRIX – 19th February 2017

[16] A 2006 study by Sir Rod Eddington of the impact of transport decisions on the economy.

Road Miles will help reduce congestion on the inter-urban roads and motorways because it is a subconscious form of rationing. Drivers who are close to their free Road Miles limit will consider whether some of their journeys are vital. Drivers' online Road Mile accounts and the App graphics will reinforce this behaviour.

But it is also imperative that the number of free Road Miles per annum allocated to motorists is guaranteed for at least two years by the Government as otherwise the public's trust will be lost, and our Road Miles system will be compromised.

We have suggested a minimum of 3,000 free Road Miles per motorist per annum, with 4,000 for those in rural areas. Once the system is embedded the charge could be varied according to vehicle type, location and time of day to help manage road usage and congestion. We envisage that the efficiency of UK roads could be enhanced by developing a two-tier system for HGVs where the cost per mile is cheaper between 9pm – 6am.

On average, an HGV owner would benefit from travel cost savings in the Road Miles scheme compared to today (1.11%) but if the delivery schedule was rearranged so that his HGV travelled 50% in daytime and 50% between 9pm and 6am (schedule 1), cost savings would grow to 3.7%.

In the urban areas Road Miles alone will not address the congestion issues but should still reduce some demand. In our vision, the local transport authorities will still have scope to provide solutions such as Low Emission Zones, enhanced bus and cycle routes, improved park & ride, Park & Share and Park & Cycle. Within three years we would integrate Road Miles with Congestion Charge or Low emission schemes so that vehicles are charged under one system for the congestion or pollution they cause.

Free Road Miles for buses and authorised on-demand mini-buses will improve the attraction of public transport.

Rank	Road Mile Cost Per Mile - Pence	Average	Schedule 1	Schedule 2
Day time cost (Road Miles average)	7.50	100%	50%	0%
Night time cost	3.75	0%	50%	100%
Road Mile cost		£2,366	£1,775	£1,183
Night time cost variation factor	50%			
Fuel cost	Fuel cost per mile pence 57.88	£19,996	£19,996	£19,996
Total road mile costs		£22,362	£21,771	£21,179
Today's fuel cost*	Fuel cost per mile - pence 65.45	£22,612	£22,612	£22,612
% Difference from today's cost		(1.1%)	(3.7%)	(6.3%)
Miles travelled pa	34547			
Average miles free miles	3000			

*Date used in initial submission 24th February 2017


ELECTRIC
CLEANERAI
FOR LONDON
an electric

C) Economic Activity In Depressed Areas

There are unemployment hotspots in the major cities such as parts of London and Birmingham but also in some outlying areas where traditional industries such as ship building, steel or mining are no longer carried out.

For instance, Middlesbrough features in the top ten unemployment hotspots. Part of the Road Miles strategic plan would be to target road improvements in depressed areas where improved connectivity would enhance economic development.

One such example would be the recently completed A19/A174 Parkway Junction improvement, which helped improve access to the Teeside Industrial Estate.

In other areas we would look to unlock brown field sites for economic development by improving the road connectivity and relaxing industrial planning permission around these road hubs.

Another current development where new road infrastructure is essential is around the proposed new Hinkley Point nuclear power station at Bridgewater. This development could bring 25,000 new job opportunities over ten years but not without improved accommodation and road access.

Hence Road Miles will promote targeted road improvements in key depressed areas.

D) Infrastructure Investment

Transport infrastructure investment requires considerable sums of money that Road Miles will provide but also needs joined-up planning to ensure that projects are part of an efficient national infrastructure strategy. Until recently, there was under investment in infrastructure in the UK. The long-term approach in the National Infrastructure Delivery Plan can make a difference and must be maintained.

Planning for infrastructure must take account of the inter- dependence of various types of infrastructure. This often does not align with the decision-making structures.

To drive economic growth, infrastructure investment is required in the built environment, in broadband capacity to power the new digital economy, and in the energy sector. Communications infrastructure with good download speeds is important to promote growth and connected transport development in rural areas, which are often already isolated and disadvantaged.

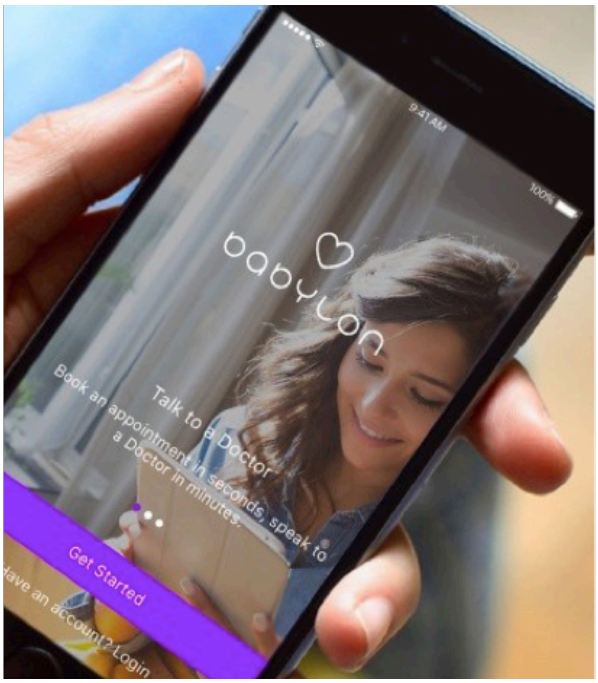
Smart cities, autonomous vehicles, and the Internet of Things all need better connections. The development of these new technologies will depend on infrastructure investment choices particularly in relation to the 5G mobile networks. Likewise, for energy development investment will be needed.

Effective development of smart cities will require coordinated planning to reduce the need to travel.

Case Study

Through Babylon, customers can book video or phone consultations with GPs, without the need to travel to a surgery. They can also ask any health related questions via text. Prescriptions can be ordered. The app has

a symptom checker as well as a monitor function, which checks vital signs of health and fitness to help customers monitor their health without surgery visits.



Cyber security

Smart cities will be a big part of the digital economy but data security underpins the development. The UK digital economy is massive with online sales of £60bn in 2016. Cyber security is now of paramount importance. While high profile organisations such as NHS, Yahoo and TalkTalk have suffered data breaches, SMEs are increasingly finding themselves in the line of fire.

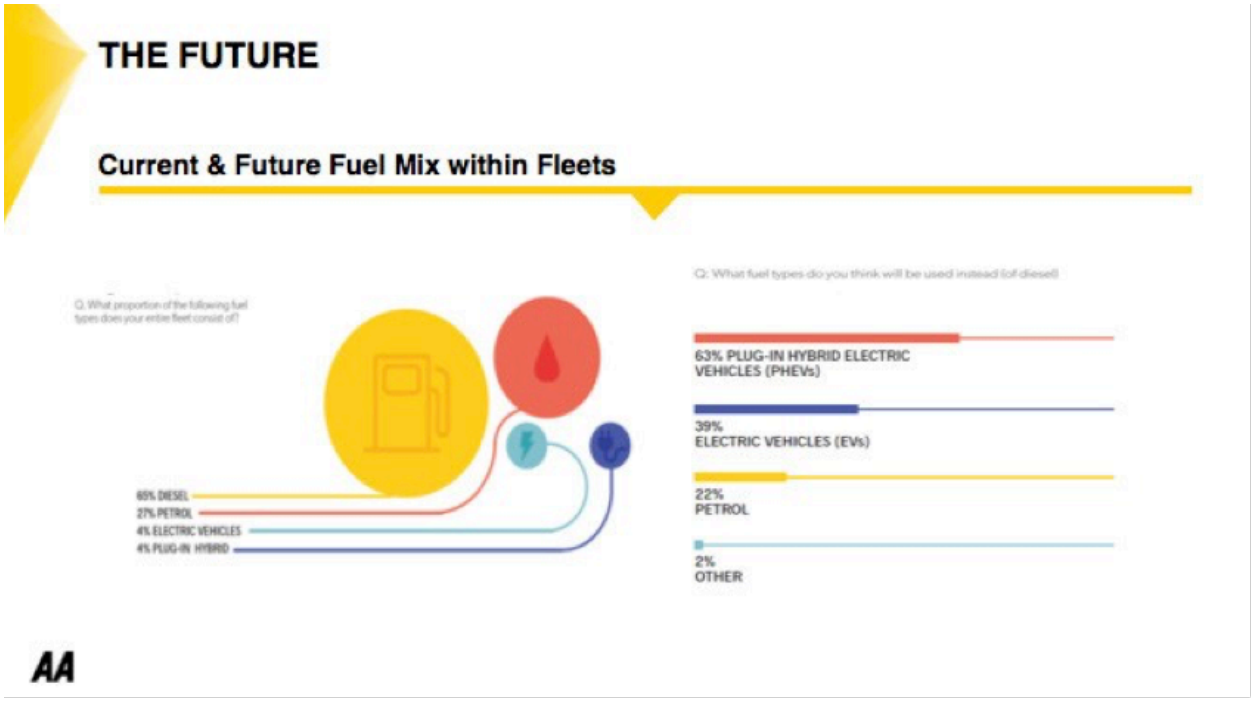
Cyber security risks will increase with AVs as we move into a 5G-enabled world and the Internet of Things. The first recommendation of the National Infrastructure Commission in their 5G report is that "responsibility for digital infrastructure should reside in one place under a single cabinet minister with the authority to shape policy". This is a move Road Miles would support.

E) Encourage Faster Take Up Of Alternative Fuel Vehicles (Afvs)

A faster uptake of AFVs will be good for the environment. Road Miles would support vehicle scrappage schemes to encourage replacement of some gross polluting vehicles.

Road Miles will encourage a faster take up of greener vehicles because:

- Petrol and diesel vehicles will be disadvantaged by paying fuel duty and Road Miles
- Cars with < 100g CO2 would qualify for purchase grants
- Road Miles re-aligned VED rate will favour greener vehicles. We propose to reduce the annual VED for cleaner cars between 1 – 140 CO2g/km by 50% from £140 to £70.



F) Cycling

Road Miles Cycling Infrastructure Contribution Fund

The parliamentary cross-party cycling group published 'Get Britain Cycling' in 2013. There was also an outstanding 'The Times Cities Fit for Cycling' campaign, launched after Mary Bowers, a Times reporter, was gravely injured by a lorry cycling to work. Edmund King, Road Miles co-author was active in both initiatives.

British Cycling and Cycling UK supported the call for investment in cycling of at least £10 per person annually, eventually rising to £20, in order to boost cycle use to 10% of trips by 2025, and to 25% by 2050. Road Miles will provide £4.9 billion over ten years to match this proposal, increasing the amount to £20 after Year 5.

Having sat on the Government's High-level Cycling Group and after consultation with Chris Boardman and Martin Key from British Cycling we feel the best way to really kick-start cycling is a 'contribution fund'.

This is the approach the Dutch took in the 1970s to accelerate the construction of cycle tracks. The Fund would be made available to local government for the construction of cycling tracks. The fund would contribute up to 70% of the costs of construction of cycling tracks in towns, cities and A-roads and up to 50% of the construction costs on B-roads. The Fund is required to enable local government to kick-start the development of cycling infrastructure and cycling networks that give people a real choice of travelling by bicycle.

Priority will be given to those projects that can demonstrate the greatest propensity for an increase in cycling numbers and a modal shift away from private car use.

There is recent evidence[17] that well-designed cycle ways with pots of flowers dividing the lanes from the road can increase house prices by 50% compared to adjacent streets in parts of London.

[17] http://www.bikebiz.com/news/read/house- prices-boosted- by-proximity-to-bike-lanes- finds-new-research/021290

[18] https://www.kickstarter.com/projects/ carltonreid/lets- rescue-britains-forgotten- 1930s-protected-cycle

We have spoken to Carlton Reid, an author and campaigner who is also executive editor of trade magazine BikeBiz.com. He has identified at least 280 miles of 1930s Dutch-style cycle track in the UK that are potentially available to be brought back into use as official intercity cycle lanes. This is a policy that Road Miles would support[18].

We also support some of the Cycling UK policies such as:

- A high-level, sustained commitment to promote, encourage and provide for cycling in national transport policy.
- Cycling should be promoted across government departments, e.g. health, planning, sport, tourism and recreation, education, environment and the Treasury.
- The Government should set a national cycling target of 10% of trips within 12 years.
- Funding for cycle training for all pupils before they leave school.

Road Miles would support initiatives such as AA Trust's #thinkbikes campaign to alert drivers to look out for cyclists. Cycling would be promoted by the Road Miles Cycling Infrastructure Contribution Fund. Also, improved road maintenance and education combined with the Road Miles quota should lead to more cycle trips.

G) Environment

Good For Environment?

Road Miles can help address environmental issues in a number of ways.

When we refer to the environment it encompasses the physical environment of roads causing visual intrusion or community severance, as well as, noise, CO2 and air quality. We don't believe there is one solution but our packet of Road Miles measures outlined in the table below does address the serious environmental concerns.

The Government currently has a consultation on 'Tackling nitrogen dioxide in our towns and cities' and which our Road Miles proposals will address.

Visual intrusion and community severance can be helped by bypasses, tunnels and cycle-ways. Noise can be reduced by better road surfaces such as porous asphalt or quieter engines. Air quality can be improved by planting more hedges; older diesel scrappage scheme; roadside remote sensing of NO2 emissions from vehicles to target the 10% gross polluters who cause 50% of the problem; Road Miles dongle to reward eco driving and re-route; targeted clean air zones and speed reductions on motorways if air quality limits are exceeded.

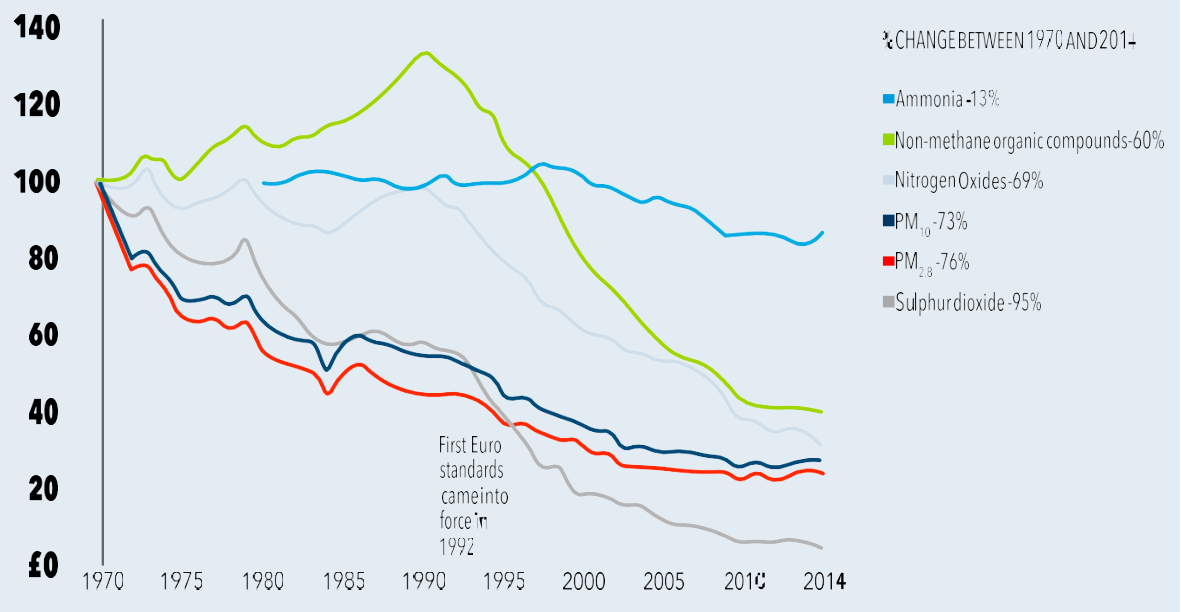
From the 1970s onwards we have seen significant reductions in the main air pollutants but current air quality exacerbates pre-existing health conditions, especially for children and the elderly, and can lead to pre-mature deaths disproportionately in deprived areas.

Urgent action is needed.

Failings of the Euro engine testing system and increased use of diesels following tax incentives in the early 2000s, saw diesel cars increase from 3.2m in 2000 to 8.2m in 2010 and vans from 1.8m to 3m.

We believe that the combination of Road Miles measures in the table below will help to reduce harmful vehicle emissions.

TRENDS IN UK EMISSIONS OF SULPHUR DIOXIDE, NITROGEN OXIDES AND PARTICULATE MATTER 1970-2015 (DFT)



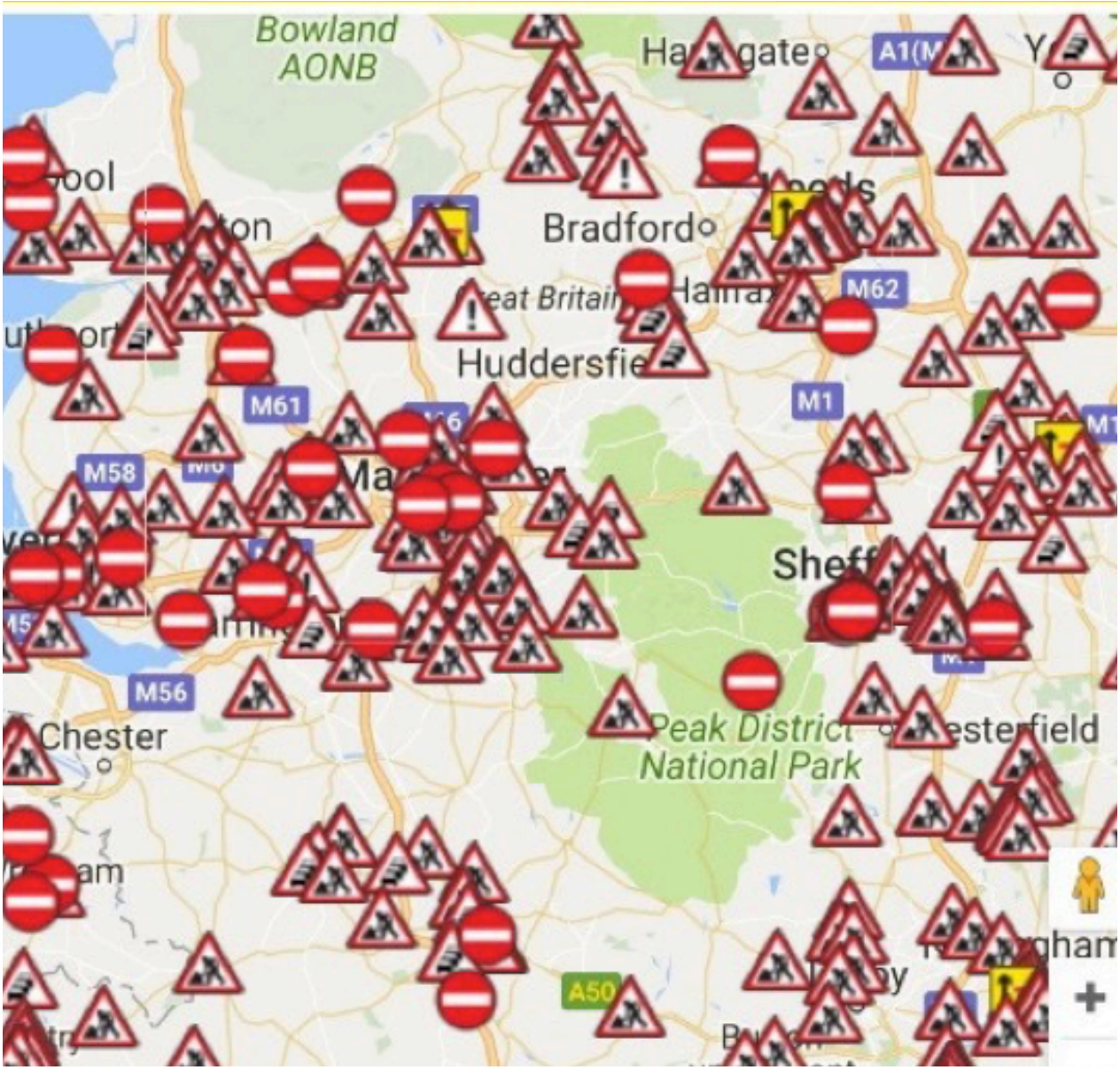
Solutions	Physical			Noise		Emissions	
	Visual Intrusion	Roads	Community Severance	Road Noise	Engine Noise	Co2	Nox
Tunnels	●	●	●	●	●	●	●
Bypasses	●	●	●	●	●	●	●
Traffic Calming		●	●	●	●		
Cycle Lanes	●	●	●	●	●	●	●
Smart Pedestrian Crossings			●			●	●
Porous Asphalt		●	●	●			
Noise Barriers	●			●	●		
Trees & Hedges	●	●	●				●
Evs Hybrids, Ev Vans				●	●	●	●
Freight Consolida- Tion	●		●	●	●	●	●
Reduced Vehicle Use Due To Road Miles Limits	●	●	●	●	●	●	●
Scrappage Scheme				●	●	●	●
Target Gross 10% Polluters				●	●	●	●
Dongle Eco Drive Reward			●	●	●	●	●
Dongle Re-Routes	●		●	●	●	●	●
Clean Air Zones			●	●	●	●	●
Reduce Speeds If Nox Limits Exceeded						● ●	● ●
Reform Ved						●	●
Advent Of Avs				●	●	●	●
Last Mile Delivery Actions			●	●	●	●	●

The table shows that Road Miles will promote a host of policies to help counter many of the physical, health, community and well-being environmental problems associated with road transport.


EuroRAP
RACC
Automóvil Club
Movitest
Auditamos la movilidad
RACC
Automóvil Club
Fundación

12. Safer, Smarter Roads: How Can We Improve The Roads?

A) Make Them Safer



Our aspiration should be for the safest roads in the world. We should embrace vision zero[19]. In general better engineering, education and enforcement improve road safety.

According to the latest DfT figures there were 1,810 road deaths in the year ending September 2016, this is not statistically different from the year ending September 2015.

[19] (Swedish vision for zero road deaths http:// www.visionzeroinitiative.com/0)

Despite having some of the safest roads in the world approximately five people per day are still killed. This is unacceptable. In the medium and longer term semi-

autonomous and autonomous vehicles should help reduce some of the 'driver error' deemed to be a factor in 95%of crashes. In the short term we need better education of all road users, better enforcement with more traffic police and better engineering of our roads. Road Miles will aim for five star drivers, in five star vehicles on five star roads.

Road Miles will make EuroRAP the stepping-stone to the safest roads in the way that EuroNCAP worked for car safety.

Some of this has started with a fund

created to improve the 50 most dangerous roads. www. roadsafetyfoundation.org/eurorap-uk.aspx

Currently the motorway capacity in England is being increased by converting hard-shoulders into permanent or temporary running lanes on so-called 'smart' motorways. However, safety may be compromised with lay-bys or Emergency Refuge Areas (ERAs) only specified every 2.5kms (1.5 miles).

In a recent AA Populus poll[20] 79% of drivers claim this has made the motorways less safe.

[20] http://www.newsandstar.co.uk/news/national/article/ Smart-motorway-lay-bys-labelled-death-zones-by unimpressed-drivers-de1e7ac2-a687-4a73-985b- 7a89e23fb67c-ds

The successful M42 pilot for 'smart motorways' had lay- bys every 600 – 800 metres.

Breaking down with no lay-by in sight is a terrifying experience which puts drivers at risk and means some drivers avoid motorways. Road Miles would double the number of ERAs on smart motorways as demanded by the AA and RAC.

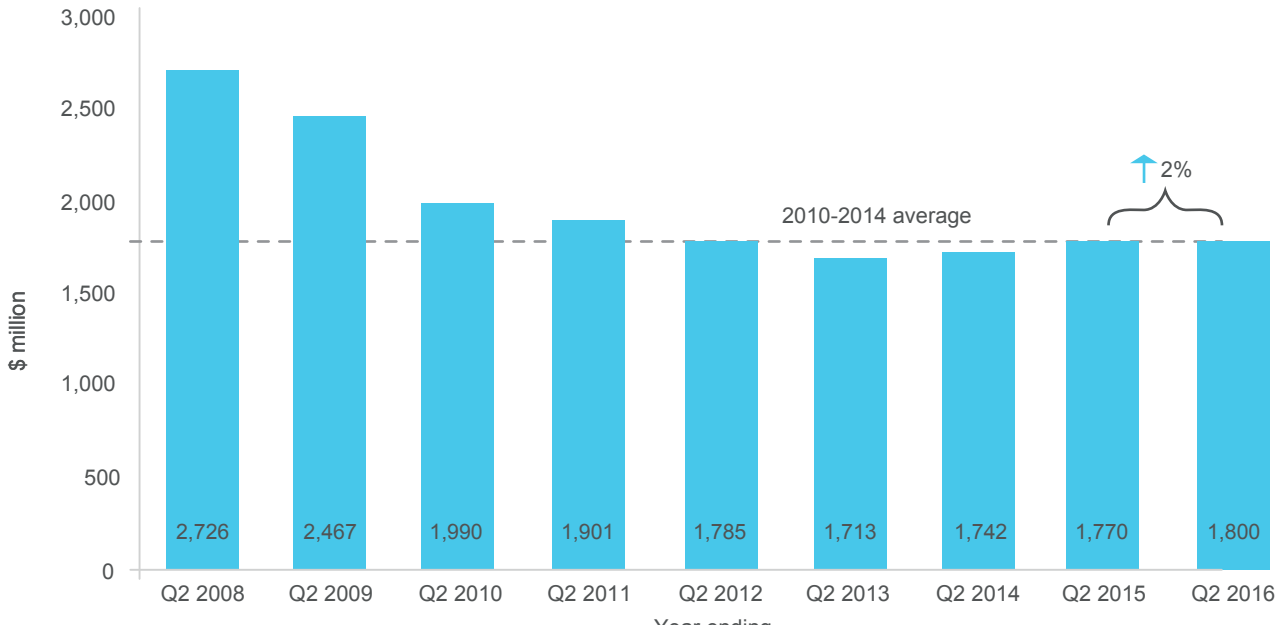
If this is done at the planning stage it is much more cost effective.

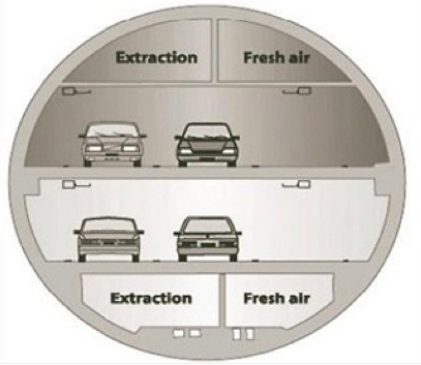
A breakdown in a live lane also causes considerable congestion. There is also evidence from Highways England studies of two sections of smart motorway on the M25 that drivers are reluctant to use the inside lane. This is probably as they imagine there could be broken down vehicles in the lane ahead as there is

no hard shoulder and not enough laybys. This somewhat defects the objective of the scheme to reduce congestion.

If drivers are to pay for roads in a different way, then we should ask them what they want. Our polling shows that drivers want safer roads. We should listen to our customers.

Road deaths: GB, rolling years ending June, 2008-2016





B) Make Them Smarter

I.Going Underground

The Road Miles philosophy is to provide more radical solutions to traffic congestion.

Whilst the UK has been a pioneer in providing adventurous rail tunnels (Channel Tunnel, Cross Rail etc), road tunnels have been the poor relation until recently.

Currently there are proposals for an A303 Stonehenge tunnel (after 30 years of debate) and an idea for a Trans- Pennine tunnel.

Paris has the futuristic A86 west tunnel that has transformed journey times.

While London's South Circular road remains a collection of signposts, the Versailles tunnel completed the final 10 km of the Paris ring road through forest, historic Versailles and residential areas.

Costs were radically reduced by building the tunnel for light vehicles only. This means dual 3-lane carriageways can fit in a single bored tunnel and the road network can be re-modelled to re-claim road space above ground.

The Boston Central Artery/Tunnel project is another example of using vision to transform the urban landscape.

Ideas for a network of London tunnels were developed in the 1980s at Imperial College. More recently when Boris Johnson was mayor, an 18km tunnel was promoted to run from west to east linking the A40 at Park Royal to the A12 at Hackney Wick. A second 25km tunnel could be developed to the south from the A4 in Chiswick to the A13 in Beckton.

Such tunnels can reduce congestion and improve air quality.

Polling suggests that drivers would be willing to pay extra to use these tunnels as they can appreciate the time-savings.

We believe that other cities such as Newcastle, Birmingham and Manchester could benefit from such schemes.

Ii. Traffic Management

Road Miles will promote innovative schemes. A good example is the recent Black Dam 'doughnut' roundabout improvement located at the northern end of the M3 Junction 6 Spur in Basingstoke, Hampshire.

The roundabout was operating above capacity, resulting in long queues during weekday peak periods along all approach roads and even onto the M3 Junction 6 exit slip roads.

The doughnut style construction of this four lane northbound carriageway through the roundabout has had incredible results in reducing peak time congestion. It has been widened on the eastern side of the gyratory to four lanes and widened on the north-eastern section of the gyratory to five lanes. This type of scheme is sometimes referred to as a 'half hamburger'.

The £11.24m investment has led to a vast improvement to traffic flows in all directions saving at least ten minutes per trip in peak periods and stopping the dangerous queuing of traffic coming off the M3.

The DfT appraisal for this scheme predicted that over 340,000 vehicle hours would be saved in the opening year of 2016. Using the DfT working time per person value of £27.06 per hour (2010 prices)[21], the total monetary benefit from time savings amounts to £9.2 million.

Future road design:

Road Miles would ensure that when we are looking at new road infrastructure we need to be thinking 20 years ahead when we will have connected cars, electric cars, hydrogen fuel cell vehicles and semi-autonomous and autonomous cars. Our plans should accommodate these developments.

This issue was raised by a civil engineer in The Scotsman (28.5.17) who argued the A9 dualling would not meet future needs for AVs as fewer lanes may be required.

However, Road Miles co-author, Edmund King, argued that the up- graded road needed to be future-proofed and extra capacity would still be required. AVs might encourage some sharing and platooning but might also attract mobility restricted drivers.

THE SCOTSMAN

SCOTLAND'S NATIONAL NEWSPAPER

A9 Dualling Will Deliver Road 'Unfit For Future'

One of Scotland's largest projects ever could become a "huge waste of money" because it is not future-proofed for the self- driving and electric vehicles which will become its main traffic. Civil engineer Derek Halden said the £3 billion upgrade of the A9 between Perth and Inverness risked being as big a mistake as less space would be needed for autonomous vehicles.

Halden also called for recharging technology to be embedded in the road surface to top up electric vehicle batteries as they drove. The consultant said: "Investing in the road network requires as fundamental a rethink as took place when cars replaced horses. In general, more lanes have helped improve safety and efficiency with manually driven cars, but it may well be that fewer lanes or simpler road configurations could speed up cars and improve safety as we depend more heavily on autonomous vehicles. "

AA president Edmund King said: "There is no doubt we need to be thinking 20 years ahead. If we don't plan for these developments now, we will be left with 19th-century roads in the 21st century. However, these vehicles will not remove the need for increased capacity – they will potentially enhance mobility for the young, the elderly and the disabled."

Neil Greig, of the IAM RoadSmart motoring group, said: "Driverless cars will have to cope with current road designs or will inevitably fail.

"A dual carriageway is future-proofing the road. It allows shared use of human and computer-driven cars for at least 25 years and then full driverless operation."

Read more at: http://www.scotsman.com/news/transport/a9-dualling-will-deliver-road-unfit-for-future-1-4459045

Connected corridor:

There is an ongoing pilot of a connected corridor[22] on A2 towards Dover with in-road charging. These developments will need specialised infrastructure with the advent of automated vehicles where the roads can be read by sensors, radars, cameras, and LIDAR[23]. We must plan for these developments now.

The advent of these vehicles will not remove the need for increased capacity. A recent PWC/SMMT study indicated that these developments would potentially enhance mobility for the young, the elderly and the disabled.

We will still need new capacity but it must be future- proofed so it doesn't become a turnpike rather than a connected corridor.

Iii. Freight Traffic

On current trends, freight traffic is growing fastest. DFT figures show car traffic grew by 0.9% last year but HGV traffic grew by 3.4% and LGV van traffic by 3.8%. Hence it will be paramount to improve freight logistics.

With the demise of heavy industry most freight traffic is governed more by consumer demand than by industrial demand. Retail trends such as increased home shopping, faster deliveries, multiple free return policies, are increasing the number of white van trips. These trends are not sustainable.

Deliveries are a particular problem with multiple attempts to deliver a single package. During the London Olympics many companies banned their staff from receiving deliveries. Road Miles would consider setting up delivery and collection hubs whilst encouraging shared delivery points and experimentation with delivery drones.

Road Miles would encourage more HGVs to travel longer distances on the strategic road network at night by giving concessions for night-time platooning and reduced Road Miles costs governed via telematics.

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[22] https://www.gov.uk/government/news/trials-of-wirelessly-connected- vehicles-and-driverless-cars-to-hit-uk-roads-as- part-of-innovation-push http://www.altenergymag.com/article/2016/02/the-dynamic-road-ahead-england-to-conduct- trials-of-dynamic-wireless- charging-for-electric-cars/22820/

[23] Light Detection and Ranging - a remote sensing method that uses light in the form of a pulsed laser to measure ranges

Overseas freight

The UK Brexit decision should potentially make it easier to impose charges and restrictions on overseas HGVs. Currently non-UK registered HGVs must make levy payments before entering the UK. The levy can be paid by day, week, month or year and discounts are available for longer levy periods.

Road Miles will continue with this levy system until such a time when mileage charges could be introduced.

More lorry parks would be set up particularly around the ports and at motorway hubs to discourage the congestion chaos caused by Operation Stack when there are ferry or shuttle problems.

Local freight: Reducing congestion in the last mile

In our major towns and cities, it is service vehicles that dominate. We hear about the growth of 'white van man' but often overlook increased services for refuse collection, home removals, express couriers, and construction.

The changes in the way we shop, work and play in The changes in the way we shop, work and play in our cities and residential areas are all affecting congestion. Home shopping deliveries and demand for same day services are difficult to coordinate. Shops only hold about 20% stock so deliveries increase. Virtual office blocks with numerous occupants often mean there is no group procurement so deliveries increase. Take-away deliveries are also on the increase by bike, moped, car, van and even robot.

The majority of 'white vans' or LGVs will be allocated 3,000 free Road Miles per year. This is to encourage them to try to reduce mileage by trip-chaining or consolidating deliveries. In rural areas we have allocated 4,000 free Road Miles to LGV drivers, as there tend to be more

self-employed lower-income drivers based in more remote areas.

How can Road Miles help last mile deliveries?

Many of the biggest delivery companies such as DHL or FedEx have different logistics systems and most optimization software struggles with last mile deliveries. Land-use planning does not take account of

e-commerce trends. The concept of free delivery increases expectations and congestion.

- Van traffic in 2016 continued to grow more quickly than any other vehicle type, rising 4.7% from 2015 to 49.1 bvm.
- Lorry traffic showed little change from 2015, after having grown steadily for the previous three years.

IN LONDON

50%
of HGVs involved in construction

75%
peak traffic is vans & trucks

17%
traffic in Congestion charge zone is vans

FOOD

Two thirds
of professionals order at least one meal to be delivered per month

Pavement robots
trialled to deliver food
Explosion of cycle food couriers

BUILDINGS

82%
drop in warehousing space in London

20%
retail space is storage &...

80%
on show

Virtual offices
with multiple desks and occupancy & multiple deliveries

HOME SHOPPING IS CREATING NEW TRAVEL PATTERNS

826m
Royal Mail packages delivered per year

20%
Royal Mail has empty capacity

45%
18-25 yr olds do all their shopping from home

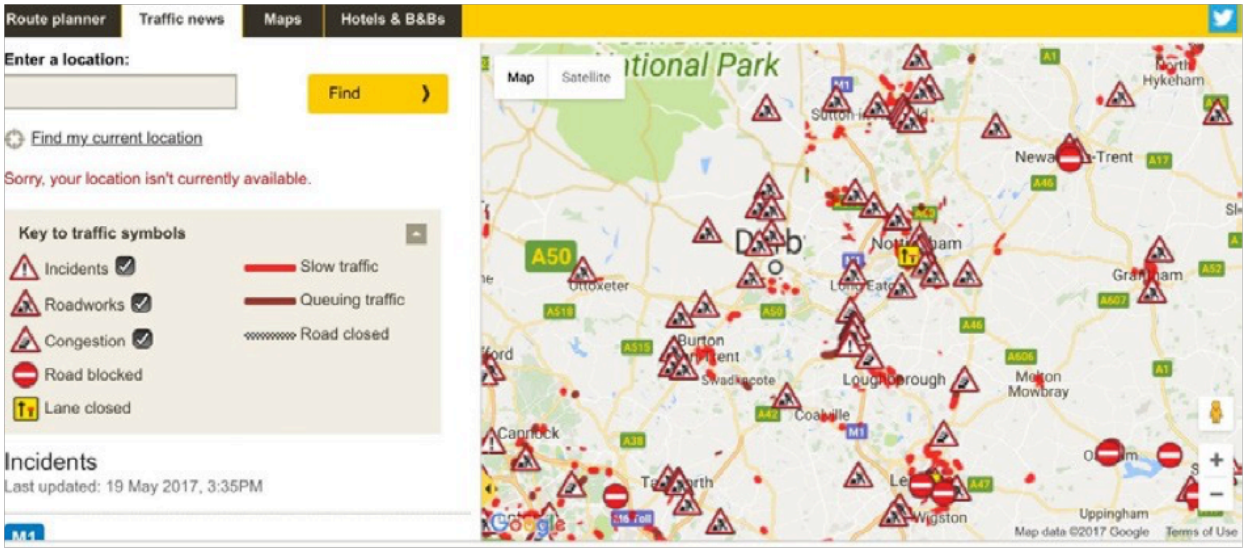
35%
packages too big for letterboxes (often due to excessive packaging)

10-12%
growth pa in on-line shopping

50%
are next day deliveries

10%
are same day delivery

14%
deliveries fail



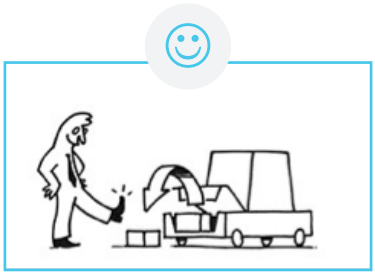
The Road Miles Innovation Unit will encourage:

- Joint procurement of services in shared office buildings and districts
- Local authority to act as 'landlord' to consolidate business tenants' deliveries
- Re-timing freight outside of working day
- More efficient click & collect centres
- Freight traffic control in dense urban areas
- Freight consolidation centres (as in France)
- Bookable loading bays (as in Lisbon)
- Floating freight depots on Thames, Tyne (as in Amsterdam)
- TNT temporary depot transporter off-loads bikes for deliveries
- More efficient curb side use
- Use of 'barrow boys' on foot for local deliveries
- Final mile only in EV vans in sensitive areas
- Pop-up delivery areas with temporary loading bays Mercedes service engineers use drones to deliver parts to their vans
- Airborne fulfillment centres
- Drones to deliver hospital blood or urine samples rather than single test-tubes in vans
- Longer parking periods for trucks so more deliveries can be made on foot
- Review of redundant double yellow lines
- Variable double lines outside peak periods to aid deliveries.

Order Your Goods Online

Simply select Cardrops as your shipment method during checkout.

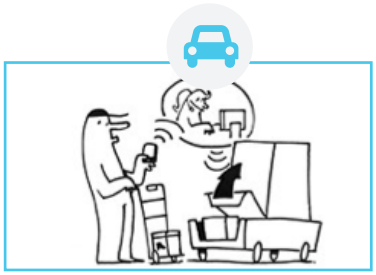
SHIP



While You Work We Locate Your Car.

Cardrops opens your trunk remotely the moment our trusted delivery partner arrives. We securely lock your car and keep you updated via SMS. No hassle, no worries.

SHINE



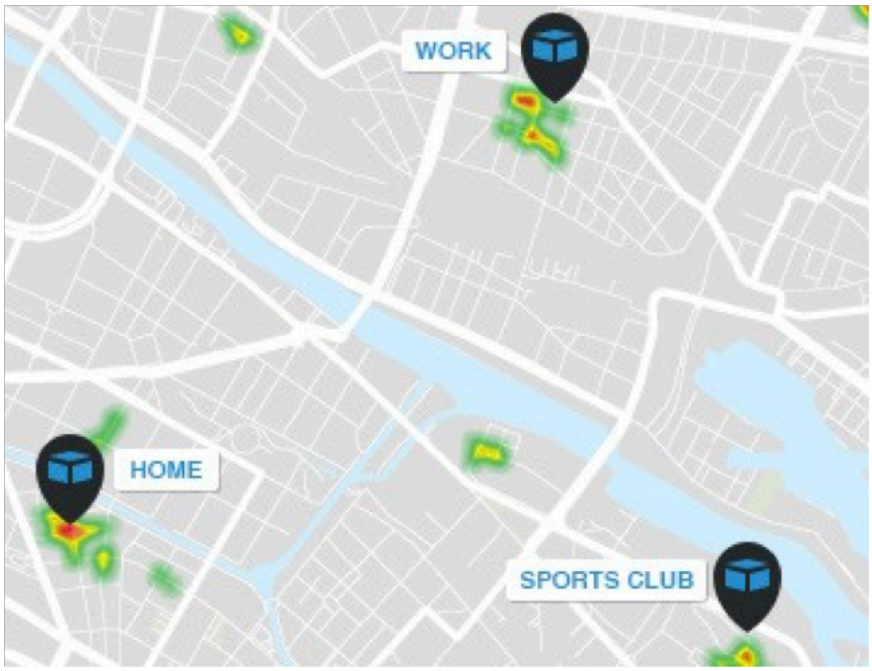
We Make You Smile

Driving around to pick-up points and postal offices is so nineties, don't you think? With Cardrops we want you to just enjoy your new goodies.

Knowing Where To Deliver

Track A Moving Drop-Off Box!

A service man will install the Cardrops starter kit in your car. This unit will ping the GPS coordinates of the car when it hasn't moved for 15 minutes. Based on these data our system can create a heat map of the exact ocations where your car is mostly parked. (e.g. in front of your house, office parking,…)



WHAT IS UberRUSH

https://rush.uber.com/

UberRUSH is an on- demand delivery network that makes getting things in your city more convenient, affordable, and reliable than picking it up yourself.

WHAT IS AMAZON FLEX?

The company is hiring drivers to deliver packages as part of its new Amazon Flexprogram, which lets people order and receive items from Prime Now within an hour. As long as you hit that delivery window and have a car and smartphone, they'll pay you $18 to $25 an hour.

What Is UberEATS: San Francisco Food Delivery

www.ubereats.com/

UberEATS delivers the best of San Francisco right when you want it. Our curated menu features dishes from the local spots you love

Heathrow Cargocloud App

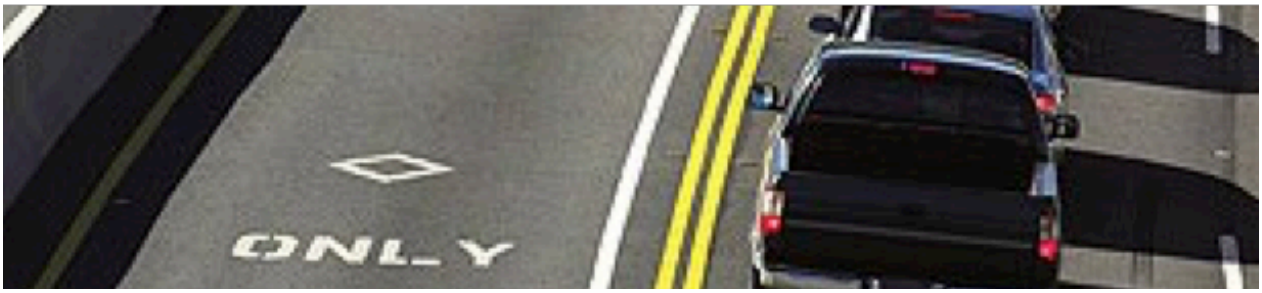
Heathrow Airport is inviting trucking companies and freight forwarders to reduce congestion and emissions by using its new load consolidation app.

Companies subscribing to Heathrow CargoCloud will be able to exchange and share information about any spare capacity on their vehicles, or ask for help on a load they need transporting, and the app will work to match them and they contact each other offline and discuss the opportunity.

Espace De Livraison De Proximité (ELP)

ELP is loosely translated as a Proximity Delivery Area. In essence it is a stopping and handling area on the public road, ideally placed at the edge of a commercial area and exclusively intended for the delivery of goods.

The area is independently managed and transport companies can find handling equipment such as hand trolleys for local deliveries as well as limited storage areas.



What improvements can be achieved?

Part of the inner city congestion problem is the loss of network capacity (30% in central London) over the last few years combined with a rapid growth of service and delivery vans. Uncoordinated roadworks lead to congestion and hence more vans to cope. We estimate that uptake of the optimization tasks outlined, linked with better coordination of roadworks, could reduce urban congestion at peak periods by 20%.

We are grateful to Professor Tom Cherrett from the Transportation Research Group at Southampton University and the IET for their advice on these policies.

Iv. Motorway Mile Lanes And Road Miles Cashback

Motorway Mile Lanes and Car Sharing: High Occupancy Vehicle (HOV) lanes on key motorways will be developed to encourage car-sharers.

The Road Miles app can be used to select other road users making similar journeys. Account managers can select potential car-sharers based on regular travel patterns and provide anonymous introductions. Privacy would be safeguarded in this voluntary scheme but users would benefit from faster journeys using the HOV lanes and reduced costs.

Special HOV lane concessions would be made for electric vehicles and ultimately for semi-autonomous cars and driverless cars. These HOV lanes would be through lanes without entry and exit at every junction to discourage local junction hoppers.

Road Miles Cashback: Road users will be entitled to compensation where things go wrong, for example,

over-running roadworks or failure to clear highways in two hours. Having discussed this with the dongle providers, we are confident that the Road Miles account manager's back office system can automatically pinpoint the affected roads in the vicinity of such delays and add free Road Miles to the accounts of those affected. Train passengers can receive compensation for delays so it is only right that road-users can do the same.

V. Road Miles Mover

Highways England traffic officer vehicles will be fitted with padded "nudge bars" or "bull bars" to quickly remove crashed or broken down vehicles from carriageways.

This is a tactic used by the California Highway patrols and other police forces in the United States. Not only does it reduce congestion but it can also enhance safety by quickly removing vehicles from live traffic lanes, for instance, on smart motorways where car occupants are at high risk.


1283996

C) Improve Road Maintenance

More dedicated ring-fenced funding will be allocated to address the maintenance backlog particularly on local roads, some funded by the Road Miles Lottery.

The Government has committed £6 billion for local road maintenance from 2015 to 2021 but the 2016 ALARM survey[24] estimates that £11.8 billion is needed. Dedicated funding should help to reduce compensation claims for pothole damage.

Tenders would be put out for a rapid response Pothole Assist service. In fact, one of the Road Miles authors 'launched' such a service back in 2011 as an April fool joke with a video showing an AA patrol filling in potholes from his van. The video has been viewed more than 650,000 times and has led to numerous serious enquiries from around of the world from companies wanting to offer such a service.

In Cambridge, Massachusetts, garbage trucks are already driving around with sensors. City Scanner uses the dustbin lorries as roving information gatherers measuring variables including potholes, air pollution and traffic.

DfT announced in January 2017 that high-definition cameras would be fitted to bin lorries in a new trial designed to detect future potholes.

The trial forms part of a major investment in local roads and it should allow the lorries to spot road surface problems which can be treated before they become potholes.

The DfT claimed the system, which is being trialled by councils in York and Thurrock, Essex, could "revolutionise the way potholes are identified and managed".

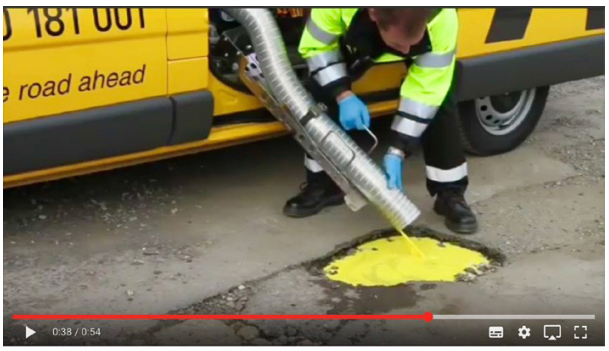
Ultimately the Road Miles trakm8 dongle can also be used to detect big jolts or vibrations caused by the road surface, which could then be notified to the highway authority.

The lane rental system and permit system to reduce disruption particularly from utility companies digging up the roads would be tightened and fines increased.

On new roads more ducts would be installed along the side of the road to counter disruption from road works.

In a hole use a mole:

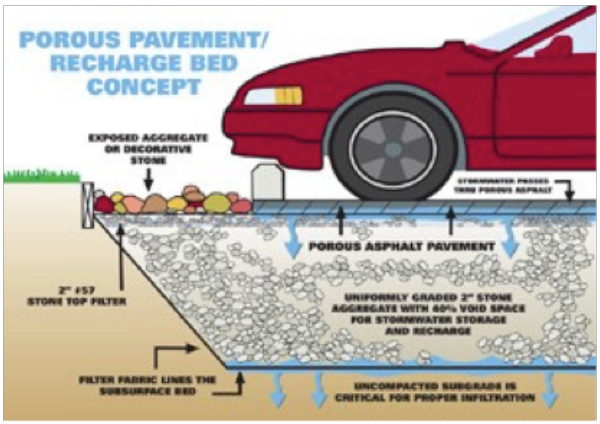
On existing roads more trenchless technology to tunnel cables under roads, rather than digging up the roads, should be used.



Pothole Assist prank
The AA · 579,833 views

[24] Annual Local Authority Road Maintenance Survey 2016

These techniques are used worldwide (Europe, USA, Canada, Australia, Japan) including some use in the UK. These techniques are generally well developed and relatively well used technology within the utility industry within London, saving both time and cost. However, outside of London their use is not so widespread.



Better surfaces:

Consideration would also be given to more widespread use of materials such as porous asphalt, which reduces surface noise and aquaplaning.

Other "smart surfaces" are being developed. For example, quick-cooling bitumen products used in Europe allow for asphalt to be laid at lower temperatures than standard asphalt, enabling construction workers to repair roads and open them to traffic faster, while also reducing carbon dioxide emissions during the paving process.


Audi piloted driving

13. The Future

Connected Cars And Driverless Cars

Global auto industry players and companies such as Google, Apple and Uber, are working hard to make the vision of the connected car and autonomous vehicles (CAVs) a reality.

CAVs that communicate with each other, avoid collisions, regulate their speed, and travel closer together will reduce congestion.

In the UK, the Government announced last year that it will invest £20 million in eight driverless projects.

However, in a modelling exercise by Atkins for the DFT, the results were mixed and in some ways counter-intuitive. They argue that on motorways and trunk roads, journey times will not be reduced until 50 -75% of the fleet is at least semi-autonomous. Benefits of 25% autonomous vehicles were considered "negligible".

Whereas delays could be reduced by a fifth in congested urban areas with a quarter of the fleet being semi-autonomous. However, this doesn't mean that a world with fully autonomous cars will be less congested. There could be greater demand from people who currently can't drive. Whilst potentially this change could bring extensive social benefits for these groups it won't solve the congestion issue.

Isabel Dedring, then Deputy Mayor for Transport, commented in February 2016:

"If you've got a traffic jam full of driverless cars, that is not better than a traffic jam full of drivers."[25]

In another scenario the lack of urban parking spaces means that passengers vacate their driverless cars but instruct their vehicle to continue circling the shopping centre without any occupants.

Most manufacturers are extremely cautious when Level V full automation will arrive.
Andy Palmer, CEO of Aston Martin, told us recently it would not occur in his lifetime. d probably longer.

However, many benefits will be derived from Level III partial and Level IV automation, particularly in the realm of road safety.

Others are more optimistic. Ford is to invest $1bn over the next five years in a new driverless car unit with a goal of reaching a commercial autonomous fleet by 2021 which is much more ambitious than any other manufacturer.

So, whilst there may be some congestion benefits from automation, for example, HGV platooning, our analysis suggests we cannot depend on driverless vehicles to solve our congestion problems.

Hence, Road Miles will continue to enhance road infrastructure by removing pinch-points, smoothing flows and more tunneling. In addition, Road Miles will have a self-limiting effect and reduce non-essential journeys. A two-tier time of day charge for HGVs and future time/congestion Road Mile scheme in urban areas will also reduce congestion.

[25] http://home.bt.com/ news/uk-news/streets-of- london-could-become-test- track-for-googles-driverless- cars-113640

Connected Mobility: Beyond The Connected Car

How Will Road Miles Adapt To Autonomous Vehicles (Avs)

We have engaged with the Centre for Connected and Autonomous Vehicles (CCAV), SMMT CAV group, TFL, PWC and a KPMG group to try to ascertain how Road Miles will interact with connected and then Autonomous Vehicles (AVs). We have also taken part in international webinars with the Global Mobility Alliance run by AAA in USA with inputs from German, Australian and Canadian motoring groups.

There is still much uncertainty but we need to understand how CAVs may impact upon us from challenging existing business models and creating new ones, to fundamentally changing how we move within and interact with our cities.

Are Local Authorities Ready For Cavs?

In discussions with TfL it is clear that cities and organisations should be preparing for CAVs – from preparing digital and physical infrastructure to understanding how business models may change.

In the short term any vehicle whether connected or semi- autonomous will receive a minimum of 3,000 free Road Miles and thereafter will be charged. After the Road Miles concept has bedded in, in-car connectivity (OBD dongles) will enable Road Miles to differentiate costs by time and place to regulate urban traffic.

The Institution of Engineering and Technology (IET) has expressed concerns that beyond a few larger local authorities there are considerable skill gaps to help these bodies plan for a connected or autonomous future. Road Miles will work with the IET to help spread best practice.

Toyota 'Backs Flying Car Project' In Japan Share This With Twtter

Will Road Miles become air miles?

Japanese carmaker Toyota has announced its backing for a group of engineers who are developing a flying car.

It will give £274, 000 to the Cartivator group that operates outside Toyota city in central Japan. Measuring 9.5ft (2.9m) by 4.3ft (1.3m), Skydrive claims to be the world's smallest flying car.

It has a projected top flight speed of 100km/h (62mph), while travelling up to 10m above the ground.

Uber has also unveiled plans to partner with plane manufacturers to develop and test a network of flying cars by 2020.

The ride-sharing company said it will run trials in the US city of Dallas and Dubai in the United Arab Emirates. The flying electric taxis are being developed with aviation companies including Embraer and Bell Helicopter.

Companies that manufacture drones are attracting investment for a potential future of air-borne deliveries and already 2,500 companies are licenced by the Civil Aviation Authority to operate drones commercially in the UK.

Creedit: Aeromobil

What Effect Will Autonomous Vehicles Have On Our Roads?

Sin City V Sim City

We have engaged with one of the best thinkers on CAVs, the American futurologist, Greg Lindsay*. In his article 'Sin City v Sim City' he compares some radical transport changes in Las Vegas and Milton Keynes.

In some scenarios he argues (as in Vegas study) we need to get away from thinking about the specific vehicle and concentrate on an app that gives us connected mobility.

In urban areas in the USA there is a significant growth in shared services such as Zipcar, Uber, RideScout, and SHIFT.

In the future in urban areas more people might take out a £300 monthly mobility service rather than buy a car. The common thread in all these schemes is software, information and intellectual property. This is the thinking behind the MaaS (Mobility as a Service) concept in Europe.

In Vegas, SHIFT helps to ascertain the status and availability of bikes, buses or cars all linked by GPS. They bought 100 Teslas as their telemetry was the most advanced. Rather than redistributing vehicles (as with moving Santander bikes) it regulates their use as to what is available.

In Boston they have developed Bridj – a pop up bus service that calculates routes not served by the city. In all of these the Smartphone is the key to transport.

Lindsay contrasts the Vegas approach with that in Milton Keynes exemplified by the Transport Systems Catapult promotion of self-driving vehicles around the train station and business district. This is a more one dimensional system with fixed routes.

*http://www.greglindsay.org/articles/sin_city_vs._simcity/

Heaven Or Hell?

Robin Chase, founder of Zipcar, said:

> "Rather, it is the fully autonomous car that is going to be game-changing. But it is a future with two trajectories: heaven and hell."

She presented this vision at the FIA conference in London in 2015.

Hell: In this scenario we all own driverless cars that do all our errands. She imagines getting dropped off in her autonomous car for a breakfast meeting and then the AV sends itself back home to park for free. She books an AV to return at 9:30 a.m., but doesn't rush out because the car will just circle the neighbourhood until she is ready.

The AV then takes her son to a friend's house rather than him cycling. Basically they don't trip chain as the AV circles the block for 15 minutes. This continues all day until the AV brings the take-out dinner.

She argues that if single-occupancy vehicles are the bane of our congested highways and cities right now, imagine the congestion when we pour in unfettered zero- occupancy vehicles.

Heaven: In this scenario shared AVs are used for on- demand origin-to-destination public transport. They use an app to call the public (or private) shared AV and tell it where to go. With the shared AV world, people have a full range of luxury and price points, and society has fewer individual car owners.

Road Miles will work to avoid the Hell scenario as all AVs will be subject to Road Miles and higher charges could be introduced for unoccupied AVs using seat sensor telematics to ascertain whether there are any occupants on board.

Hyperloop Or Cartube? Overground Or Underground?

Road Miles Innovation Unit will start planning and future-proofing new infrastructure for AVs and other forms of future transport now. A ' Future of Transportation' conference in Cologne in July 2017 will showcase ideas from Hyperloop One, PLP Architecture (Cartube) and Volocopter around a synopsis of an executive taking a hyperloop to the city, jumping in an AV for the last mile that goes in a Cartube under the streets to an office block, from where he/she takes a personal airborne transport device from the 10th floor to a meeting. All fast, efficient, predictable and clean.

Hyperloop: Three UK routes are being considered for Europe's first Hyperloop, the high-speed transport technology backed by Tesla CEO Elon Musk.

Routes from London to Edinburgh, Liverpool to Glasgow, and Cardiff to Glasgow have all been shortlisted by Hyperloop One.

The Hyperloop tracks could cut the 414-mile trip from London to Edinburgh to 50 minutes. At the moment the shortest trip is one hour and 20 minutes by plane. By car, it takes seven and a half hours.

Hyperloop One is designing pods that float using magnetic levitation and travel through a vacuum.

Hyperloop is a new way to move people and things at airline speeds for the price of a bus ticket. It's on-demand, energy-ef- ficient and safe. Think: broadband for transportation.

They can move at speeds of nearly 700 miles per hour because of the low resistance. Passengers and cargo are loaded into the pods and propelled along the tube.

The company says it will have more than 500 employees working on the technology, which it claims offers a clean alternative to long-distance road travel or flights, by the end of 2017.

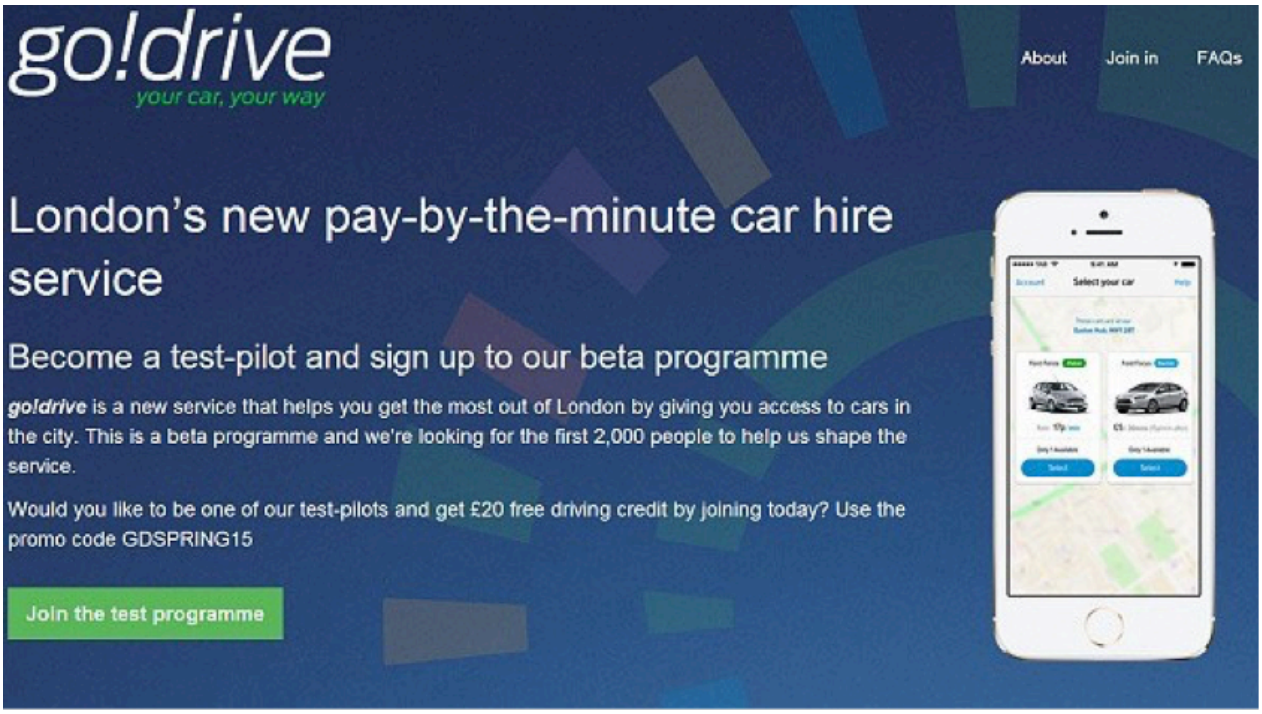
CarTube is a concept from PLP Architecture to set up a network of small bore tunnels which would free up city streets. The system can be achieved with today's technology and claims it can reduce urban travel time by 75%.

Car users decide book a time slot, and the system does the rest – whether you're using your own car or a taxi. Vehicles are spaced at two-metre gaps and locked into position on constantly moving tracks, so crashes and delays are prevented. If you arrive at your destination by private car, you could take a pedestrian lift to the surface while your car is kept in a "car stack" – like an underground car park with an automated valet service. A journey from Heathrow to the City will take 14 minutes (the same journey on Crossrail is due to take 34 minutes).

Road Miles view: Whilst elevated Hyperloops or subterranean CarTubes may sound far-fetched, considerable time and investment is being put into concepts for Smart Cities and faster long-distance transportation links.

The Road Miles Innovation Unit would work with the developers of such concepts in planning future infrastructure.

Exclusive CarTubes or tunnels for AVs could help keep cities moving whilst enhancing the street-level environment. Potentially Hyperloop type infrastructure could be built above the main motorway arteries to reduce environmental intrusion and to give drivers a clear choice of modes.



Other Av Visions

Most cars aren't used for more than 90% of the time. Fleet managers could potentially rent out their fleets not used at night. Robin Chase at Zipcars argues a similar line that technology allows you to rent out anything when not in use, for example, Airbnb renting out homes.

Companies like Ford are aware that the sharing economy could reduce the need for cars and are as likely to call themselves a mobility company as a motor company.

Driverless cars are becoming a more genuine prospect and ride-sharing companies such as Uber make it less desirable to own a car in some areas.

In the UK we might see shared autonomous cars rather than taxis.

Ford launched thirty "mobility" experiments in 2015 as part of a heavy investment in sharing including a car-hire service in London called GoDrive.

Ultimately, Ford predicts we will all be paying Spotify- style subscriptions for transport in future.

In return, we will be able to jump into different Ford cars –maybe a convertible for the weekend or a van to collect wine?

Other carmakers are changing. GM has invested $500m in Lyft, which alongside Lyft's partnership with the Asian car sharing platforms starts to make them a credible competitor to Uber.

Jaguar Land Rover (JLR) has recently invested $25m with US car-booking app company, Lyft. They have agreed to test ride-sharing with their range of vehicles and driverless cars.

Some in the car industry are betting that vehicle ownership will fall in big cities as drivers switch away from traditional car usage and begin demanding transport as a service.

Under this deal, JLR will sell Jaguar and Land Rover vehicles to Lyft to use in its existing network, and work on future services.

JLR's InMotion division has also invested in SPLT, the Detroit- based digital carpool business.

GM's $500m investment into Lyft in 2015 was the first from a major carmaker, and now other manufacturers have followed suit.

Digital Mappinge

For Driverless Cars to work we will need digital cartographers using networks of sensors, computing and data-crunching, to produce real-time simulations. These maps could show roadworks blocking traffic or pollution. Drones will need to know how to fly through cities.

More than 1bn people use the Google Maps smartphone app every month. But there are rivals particularly in dense cities, for example, CityMapper, shows which exit to take on London underground. Morgan Stanley projects that such digital map ads will generate $1.4bn of revenue for Google in 2017, rising to $3.3bn by 2020.

Autonomous cars cannot run without guidance from machine-readable maps known as “splines” or “digital rails” so this will be a big commercial opportunity. Goldman Sachs estimates that the market for maps for autonomous cars will grow in value from around $2.2bn in 2020 to $24.5bn by 2050.

Large quantities of real-time GPS location data from smartphones is important. Google harvests such data from Google Map users as they move. If data disappears from a street, for example, it is likely that the road has been closed. Germany’s three largest car companies, Daimler, Volkswagen and BMW, bought HERE, a digital map provider based in Chicago, for $3.1bn in 2015. HERE has also joined forces with the world’s biggest drone-maker.

America’s big three car companies, General Motors, Ford and Fiat Chrysler, have also invested heavily in digital mapping through AI start-ups.

For AVs to travel safely in the Road Miles world accurate digital mapping will be crucial.

125 Mph Sled In First Los Angeles Tunnel

Tesla founder, Elon Musk, announced in May 2017 that he is on a mission to build a network of tunnels under Los Angeles to alleviate the city's traffic problems. He released pictures and

details of the tunnels, which are designed to transport cars on an electrified platform or sled at 125 miles per hour.

Musk would need to obtain permits from Los Angeles to build tunnels under the city. He noted that a trip from the Westwood neighborhood to Los Angeles International Airport would take five minutes. According to Google Maps, that trip normally takes at least 20 minutes.

Car-Hailing

The rapid growth of Uber in the UK and the global expansion of car-hailing companies give a clear indication of how some aspects of urban travel will change.

Under Road Miles proposals car-hailing vehicles would be charged the same rates as conventional cars but local transport authorities could still consider restricting their use in certain areas if it led to excessive congestion.

Whilst there are benefits to the flexibility of car-hailing on-demand services there are also potential dis-benefits if excessive congestion is caused or they undermine local public transport that the elderly depend on.

Advantages With Automation[26]

There are five levels of autonomous driving with the top level meaning the pedals and steering wheel become redundant.

Many manufacturers are already at level 3, which means a car can stay in its lane and drive with little human

assistance. Audi's prototype A7 drove 500 miles across the US a couple of years ago with little assistance. However, the Tesla Model S crash on autopilot in 2016 when Ohio driver Joshua Brown died hitting a trailer, has meant companies are more cautious.

Ultimately AVs should be able to:

- Optimise traffic flow by driving closer together as long as the 'hell' scenario is averted.
- Reduce fuel consumption by smoother driving, platooning and ultimately by a full transition to EVs. Improve road safety as human error is an element in 95% of crashes.
- Some analysts, such as Professor Tony Seba in "Rethinking transportation 2020-2030" think the transition to AVs will be even quicker. See next page.

[26] See more at: http://www. volvogroup.com/en-en/ about-us/ r-d-and-innovations/ automation.html#sthash. fNc4kuKi.

The Telegraph

The End Of Petrol And Diesel Cars? All Vehicles Will Be Electric By 2025, Says Expert

An article from May 15 2017 contains claims by Stanford University economist Tony Seba that no more petrol or diesel cars, buses, or trucks will be sold anywhere in the World within seven years. All land transport will go electric leading to a collapse in oil prices and demise of the oil industry.

People will stop driving and switch to electric AVs. Cities will ban human drivers. Second hand car values will plunge. Cars will be 'computers on wheels' and the shift will be driven by technology not climate change.

The tipping point will arrive over the next two to three years as EV ranges surpass 200 miles and prices drop. By 2030 in the US 95% of the miles driven will be by electric AVs. Prices of electric AVs will drop dramatically due to the fewer moving parts and gasoline will not be able to compete with Evs in the way Kodak couldn't compete.

Road Miles will make provision for hands-free driving on motorways by 2020 but only in dedicated Connected High Occupancy Vehicle Lanes as we believe the interaction of AVs and human driven vehicles could still be problematic.

Self-parking cars are already around, and although they cannot be used in the driving test, they will be welcomed in the Road Miles cities. Road Miles will continue to work to encourage the AV trials in the UK whilst also liaising with partners that we have engaged with in the Austria, Australia, Canada, Germany and the USA.

Most AVs will be electric.

How Will We Charge Them?

As most autonomous vehicles will be electric Road Miles must start planning for more widespread charging infrastructure now. The majority of AVs will be charged at homes, car parks and at work but before induction charging comes on-stream more on-street facilities will be required.

With the advent of EV taxis in London TfL's initial aim is to see 75 more charging points by the end of this year, with the network growing to 150 by the end of 2018 and 300 fully functioning by 2020. Chargemaster will supply Ultracharge units, capable of charging electric cars and taxis to 80% in 20 minutes.

Each unit will include easy user access, including contactless payment via a card, to bring electric vehicle (EV) charging in line with other common payment systems across the city, including the London Underground and busses. The charging sites will also form part of the POLAR network, the largest EV charging network across the UK, with over 5,500 sites and over 30,000 electric vehicle users.

Currently in Kensington and Chelsea there is a pilot to allow residents to charge their EVs closer to home from points in streetlights. In outer London, one third of households have no access to off-street parking to charge up and in inner London this increases to 46%.

Road Miles will encourage the widespread rollout of a more comprehensive charging network and has been assured by commercial interests that once a tipping point has been reached these will be completely self-funding.

Road Miles will develop electric highways. As the 'electrification' of the world's vehicle fleet continues to accelerate, a system that allows them to recharge while driving is seen as a long-term goal.[27]

[27] http://www.traffictechnologytoday.com/news. php?NewsID=85469

FT The Telegraph

Electric Vehicles To Cost The Same As Conventional Cars By 2018

Reports in the FT and Daily Telegraph on 20 May 2017 suggest that analysis by UBS after taking apart a Chevrolet Bolt indicated that the cost of owning an electric car will draw level with that of a traditional combustion engine vehicle as early as 2018 in Europe.

"This will create an inflexion point for demand," the analysts said.

"We raise our 2025 forecast for EV sales by ~50pc to 14.2m - 14pc of global car sales."

This is yet another indication of the urgent need for the governments to seriously begin to change the way we pay for roads as outlined in the Road Miles proposal. If we don't begin to take action now, traditional motoring income from fuel duty will soon begin to drop off.

Driverless Insurance

DfT recently announced proposals, which will require owners of autonomous vehicles to take up two-in-one insurance products.

Driverless car owners will need to have a single insurance policy for both the motorist when he or she is driving and for the vehicle when it is in self-driving mode. This differs from earlier proposals that required drivers to buy separate cover for them and for the vehicle.

Claims made against cars in a collision in self-driving mode will be paid out by insurance companies, which will then recover costs from the vehicle manufacturer or a third party responsible for the incident.

This single insurer model will ensure that in the event of a collision, the not-at-fault party will be properly Compensated. The new insurance framework for driverless cars would increase premiums in the short term. However, in the medium term premiums should come down as the tipping point, when more cars become fully driverless, is reached. Human error is deemed to be a factor in 95% of crashes and many of those errors will be eliminated with autonomy.

Urban Mobility

Non-traditional motor industry players are looking to offer "mobility" and make money using the free time of the driver.

Also, there is discussion about Fleets of Autonomous Vehicles that are Electric and Shared (FAVES)[28] with two emerging technologies:

1. The self-driving vehicle, guided by real time updates, and to the next customer by real-time passenger requests

2. Blockchain-enabled, secure, peer-to-peer transactions allowing owners to directly rent out their vehicles under their own terms and conditions.

Tesla has announced plans to allow owners to loan their cars to a shared autonomous fleet when not in use.

These are all different models to current ride-sharing services such as Uber.

Stefan Bratzel, Director of Centre of Automotive Management[29], comments that, "Ultimately, this will lead to a "battle of business models" between the OEMs and the new players in the next 15 years… and will be perhaps the most disruptive period in the industry's history."

The way we pay for roads must be robust to adapt to an uncertain future. There are some indications that millennials are less enthusiastic about car ownership and are more likely to favour the sharing economy. However, this is more of an urban trend but would not dilute the need for comprehensive road improvements.

Road Miles has this capability as the telematics dongle approach has the capacity to change over time and adapt to use enabled digital wallets when there is full-dynamic charging.

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[28] https://www.weforum.org/agenda/2016/12/goodbye-car-ownership-hello- clean-air-this-is-the-future-of-transport

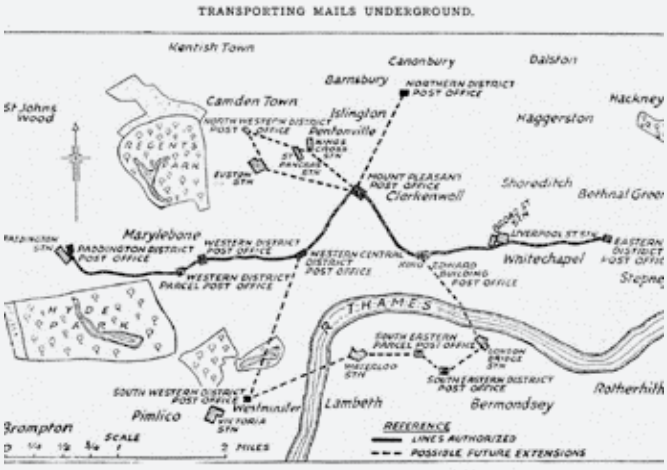
[29] University of Applied Science, Bergisch Gladbach, Germany

Could London's Hidden Tunnels Help Avs?

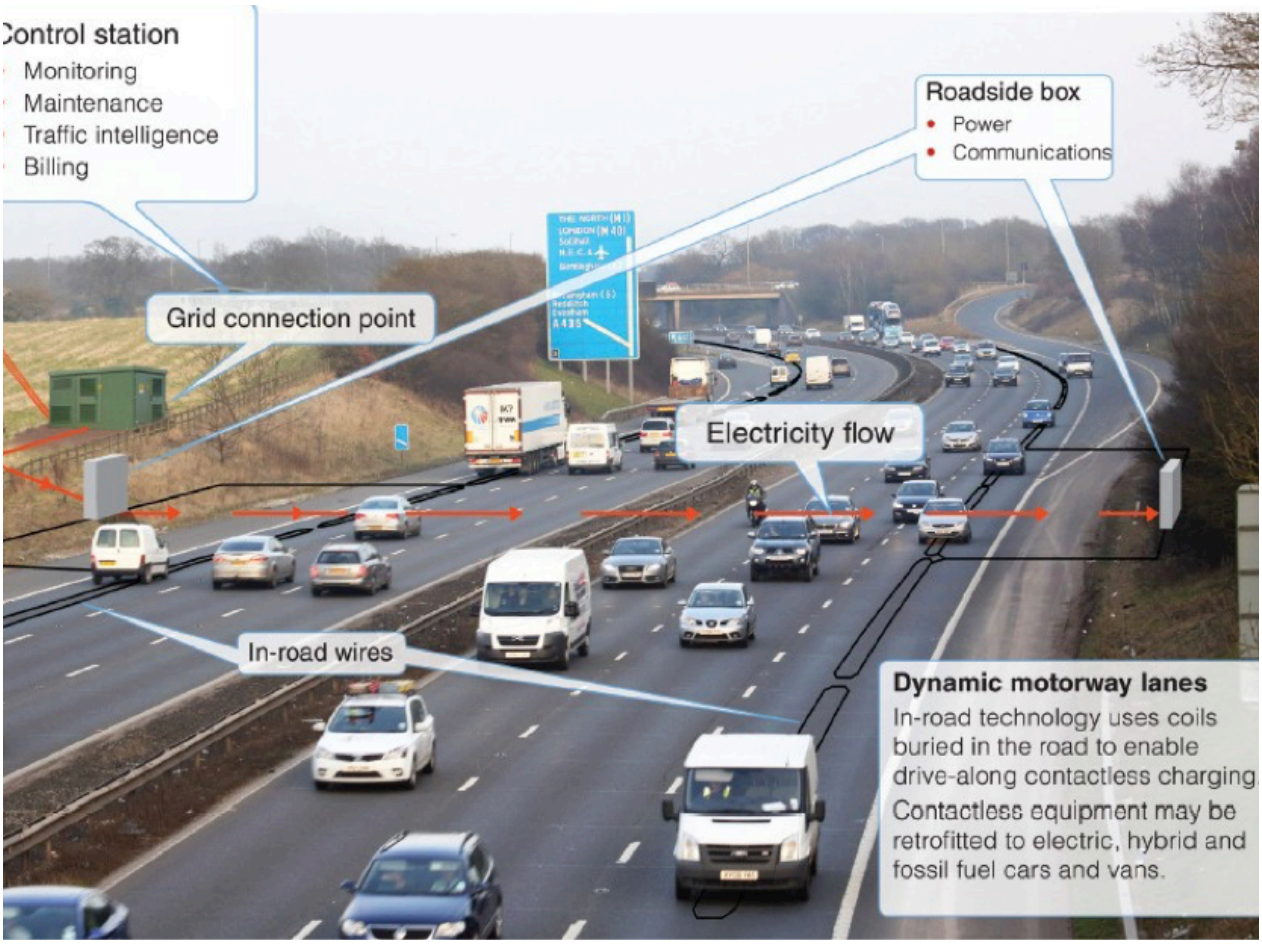
There are 6.5 miles of hidden tunnels under London which first opened in 1927 to service Mail Rail trains. These run from Whitechapel in the east to Paddington in the west, 70ft below street level and were abandoned in 2003.

The abandoned underground railway will open to the public in July 2017. Visitors will be able to travel along a 0.6-mile section in two battery-powered trains based on original designs but modified to carry up to 32 passengers.

Road Miles will consider whether the remaining 5.9 miles of tunnels could be used to speed small AVs on an electric sled across London as in the Elon Musk LA model.



The route of the Post Office Tube Railway in London.



Electric Highways And Solar Highways

Several global projects are exploring how electric highways and solar highways could be developed to cater for EVs and for new ways of using, producing, or storing energy that is good for the environment.

Wireless inductive charging will help popularise EVs, but dynamic charging is still expensive. There are other obstacles such as a lack of an industry wide standard for chargers.

Highways England:

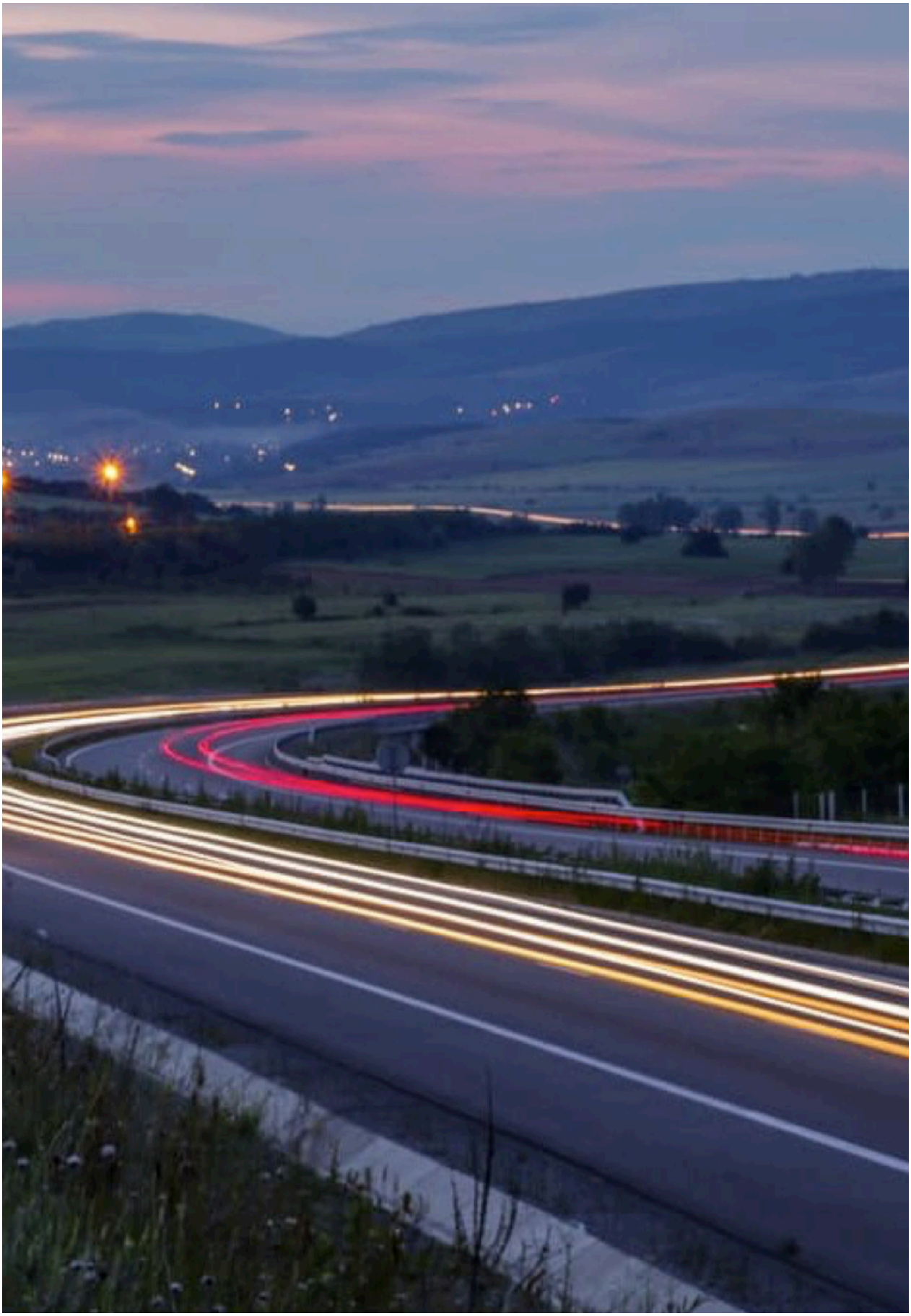
At the moment, Highways England is trialing the feasibility of in-road charging and is committed to installing plug-in charging points every 20 miles on the motorway network.

The last Government supported the growing low emission vehicle market, as outlined in the DFT 'Action for roads' paper where it stated: "An important part of managing the road network over the next thirty years will be preparing the infrastructure for a shift to these new types of vehicle." They also committed to provide £500 million to support the growth of ultra-low emission vehicles.

Siemens:

The engineering company, Siemens, has unveiled its first project on German motorways with overhead electric cables that allow hybrid diesel electric freight trucks to switch to electric mode when they detect the cables.

Highways england feasibility study of wireless in-road charging of evs to pilot in 2017



The US start-up Solar Roadways is examining whether standard asphalt or concrete surfaces can be paved with panels fitted with photovoltaic cells that generate and store electricity.

Another example of how solar energy might be used was demonstrated by Daan Roosegaard30, the Dutch artist, who set up a glowing lines project, painting three light- emitting lines along a highway in Oss, Netherlands, which absorbed light by day and glowed at night for up to eight hours.

Wolfson Economics Prize 2017 Lightbulb Award:

Dr David Williams argued in his Wolfson Economics Prize Lightbulb Award submission that roads can generate power. New technology means this is now practical and being tested already. Roads can be used to make solar electricity as the sun warms them. A system of heat pumps could extract the energy to produce power and even be used in winter to melt ice. Systems making power from rainwater and kinetic energy should also be tested. Combining energy generation from different sources such as cars running on the road surface, solar, wind and water, could make this affordable and consistent.

Formula E:

The all-electric FIA Formula E Championship has already introduced Qualcomm Halo™ wireless charging Technology. We visited the pits at the Formula E Grand Prix in Battersea to witness how the induction pads work with the BMW i8 and BMW i3 official course cars.

The future of electric charging was recently given its public debut as Qualcomm showcased its Halo Dynamic charging system. On a bespoke piece of test track in Versailles, a 150m stretch of road was created that was fitted with its dynamic charging technology.

The specially adapted Renault Kangoo took to the 'charging' road, initially at just 10kw rating, but later the power was upped and so was the speed on the car, and by the end it was running along the road at 100kmh while receiving the same amount of energy in charging as it was using to travel at those speeds.

In addition, two cars took to the strip simultaneously to show that multiple vehicles can be charged at the same time without the power level dropping.

The technology worked equally well in the pouring rain. We have discussed the technology with Formula E CEO and founder Alejandro Agag. He said: "Formula E was always designed to be a place where the next generation of technology could be showcased. We have already committed to introducing a battery that has twice the energy of the one we have now, but the technology we see here has the potential to take that even further. With a dynamic charging lane a 24-hour race without stops becomes possible!"

The first production vehicle featuring a version of Qualcomm Halo static charging is about to be launched by Mercedes-Benz. And while it will most likely be a few years before dynamic charging is available, it could have a pivotal role to play in the development EVs.

Road Miles will encourage further piloting of these developments to both generate energy and to power the rapid growth for the new generation of EVs. Even with more on-street rapid chargers there will not be sufficient charging points to keep the whole EV parc charged up. Charging on the move either via in-road induction charging or overhead charging will be essential.

[30] http://www.shell. com/inside-energy/ the-roads-of-the- future.html

14. Road Miles Board, Panel And Timeline

A Road Miles Board would be set up to introduce and promote the Road Miles scheme working alongside Highways England, Department for Transport and The Treasury.

An organisational chart shows how the Road Miles Board and Road Miles Commercial link to the Government and Highways England.

The Board would help prioritise and speed up targeted schemes in the road investment strategy.

It would work closely with the National Infrastructure Commission and promoters of major initiatives such as HS2 and 5G.

It would work with OLEV, relevant governmental bodies, Motorists' Forum (motoring groups, freight interests of FTA and RHA, SMMT and local government representatives) and private technology companies to facilitate the introduction of electric highways to encourage the faster take-up of electric, fuel cell and hybrid vehicles.

The Board would oversee Road Miles initiatives such as the Road Miles Cycling Infrastructure Contribution Fund Co-ordination of the Road Miles Last Mile Delivery Schemes, and Future Proofing Roads for AVs and EVs.

The Board would appoint and oversee the major account managers, such as the AA and insurance companies, to administer the commercial part of the Road Miles scheme. It would also work with DVLA on the non-commercial scheme.

The Road Miles Commercial would have responsibility for all the commercial activities such as the lottery, auction and adopt-a-highway naming rights.

The Road Miles Director will head up the Board as a respected leader and representative of drivers. Due to the commercial aspects of the position, the appointment is likely to be made from the private sector.

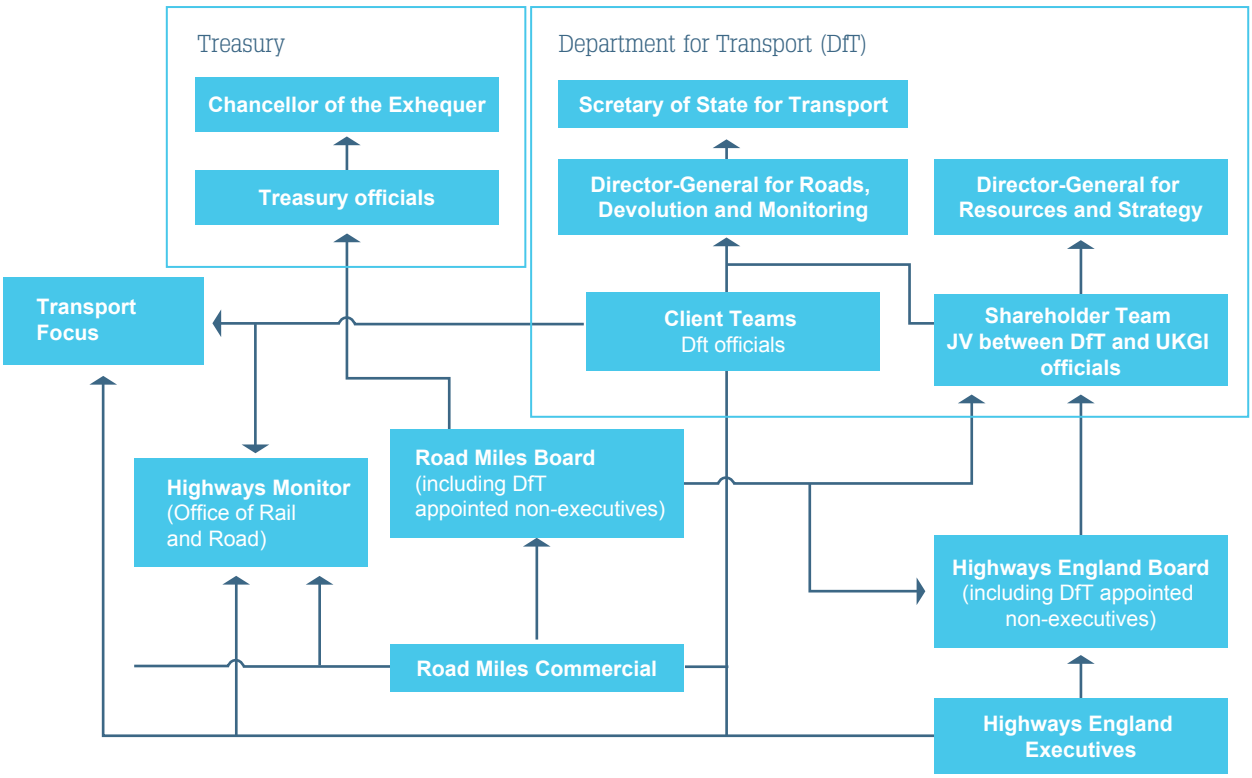
If the Road Miles proposition were taken forward it would be beneficial to engage some of the expertise from the Wolfson Economics Prize founder, director, judges and participants on the Road Miles Board

Road Miles Driver's Panel

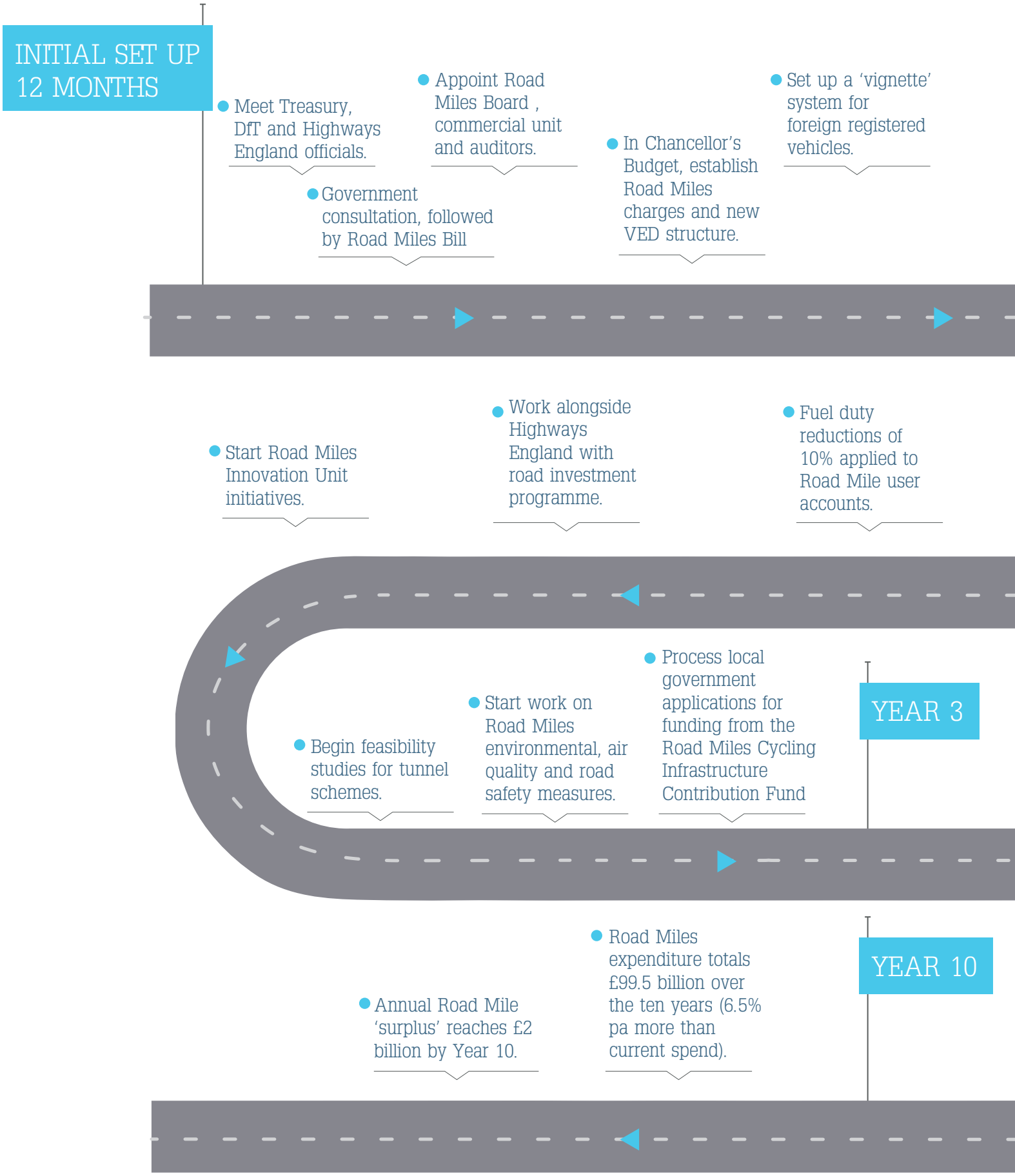
Our proposal includes setting up driver's panel, which would be polled and consulted monthly basis

This could be based on the AA Populus Panel, which is the largest dedicated motoring panel in Europe

The panel consists of a representative sample of more than 300,000 drivers.
Monthly poling brings in some 20,000 responses


Treasury
Chancellor of the Exhequer
Treasury officials
Department for Transport (DfT)
Scretary of State for Transport
Director-General for Roads, Devolution and Monitoring
Director-General for Resources and Strategy
Transport Focus
Client Teams
Dft officials
Shareholder Team
JV between DfT and UKGI officials
Highways Monitor
(Office of Rail and Road)
Road Miles Board
(including DfT appointed non-executives)
Highways England Board
(including DfT appointed non-executives)
Road Miles Commercial
Highways England Executives

ROAD MILES TIME LINE



- DVLA set up as account manager of basic non-GPS accounts, and sends letters to owners of all telematic compatible vehicles (85%).
- Tender for commercial Road Mile account managers offering GPS accounts.
- Road Miles customer registration: motorists contacted by DVLA register with their choice of Road Miles account manager; receive dongle; and activate their account.
- Set up Road Miles auction and lottery structure.

YEAR 1-2

- Promote, market and run Road Miles commercial activities (auction, adopt-a-highway and lottery).
- Receive Road Mile mileage payments from road users via account managers on monthly basis.

- Introduction of differential charging according to vehicle type, location and time of day via the dongle, in addition to any local authority initiatives.
- Fuel duty discount now 14% compared to today.
- Continuation of all initiatives, measures and expenditure as outlined in submission.

YEAR 5

- £49 billion spent on roads over first five years:- £26 billion national roads and tunnels, £27 billion local roads, £1.6 bn cycling infrastructure, £710m air quality/ safety/environment, and £400m innovation/growth & housing.
- Freeze fuel duty at 20% discount.

Conclusion

One of the best definitions of politics is ‘who gets what, when, where and how.’

Politicians’ actions in trying to change established aspects of life can sometimes backfire. Free access to the road network is deemed by many to be an essential right.

This is why ‘Road Pricing’ is still ten years away. It may be a great idea in economic terms but is difficult in terms of political trust.

Populus

A Populus survey we commissioned in February 2017 of 20,000 drivers asked:

Motoring is currently paid for by a combination of fuel duty and car tax. Some have suggested however that we should move to a system of paying based on when, where and how far we travel. In principle, would you support or oppose such a system?

46%	33%	17%
SUPPORT	OPPOSE	NEITHER

We then asked:

If the government promised reductions in Fuel Duty and Car Tax on the introduction of road pricing, would you trust the government to deliver their promise?

11%	75%	15%
YES	NO	DON'T KNOW

So despite drivers becoming slightly more supportive of the principle of road pricing over time, the massive obstacle is still total lack of trust for politicians to introduce a fair system.

Road Miles is different.

The question posed in the 2017 Wolfson Economics Prize is one of great range and significance.

It is essential to find an answer to this question before vehicular technological advancement reaches a tipping point.

Supported by extensive financial modelling, our Road Miles proposal offers a practical, sustainable and innovative solution that will win public support, and which will be able to transition road financing in a fairer way for those who pay for roads.

Road Miles has already been tested with the public and won two-thirds support in an AA Populus poll of over 9,000 drivers. Road Miles has been positively debated in more than 160 television and radio interviews by the authors (see Appendix) and has passed the 'Daily Mail' test.

A significant benefit is that Road Miles is a simple, straightforward scheme that could be implemented quickly. There are no expensive on-street cameras or massive IT infrastructure to set up.

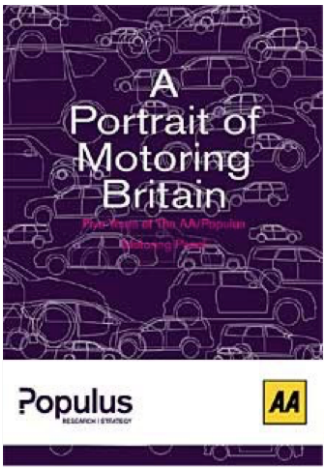
In summary, every driver will be given at least 3,000 free Road Miles. Those in rural areas would get 4,000 free Road Miles to reflect the third more miles they tend to travel.

Fuel duty will be cut by 10% in year 1 and by 20% by year 5. After 3,000 miles there will be a modest charge per mile – less than 1p per mile in the first year.

Road Miles will be based on the simple self-fitting dongle that takes just two minutes to plug into the OBD11 socket, which is normally located below the steering wheel. This works on 85% of cars and almost all vans and HGVs.

Owners of classic cars and older vehicles will continue paying the full fuel duty as they do currently.

The dongle registers the miles travelled in the UK. Once the free miles have been used, it automatically calculates the fuel duty discount and offsets that against any charges due for additional mileage.



Petrol and diesel drivers will have built up fuel duty discount credits during the free Road Miles period and these credits are then deducted as extra miles are driven. Once the credits are used up, the system automatically deducts any additional charges from a credit card or pre- paid account.

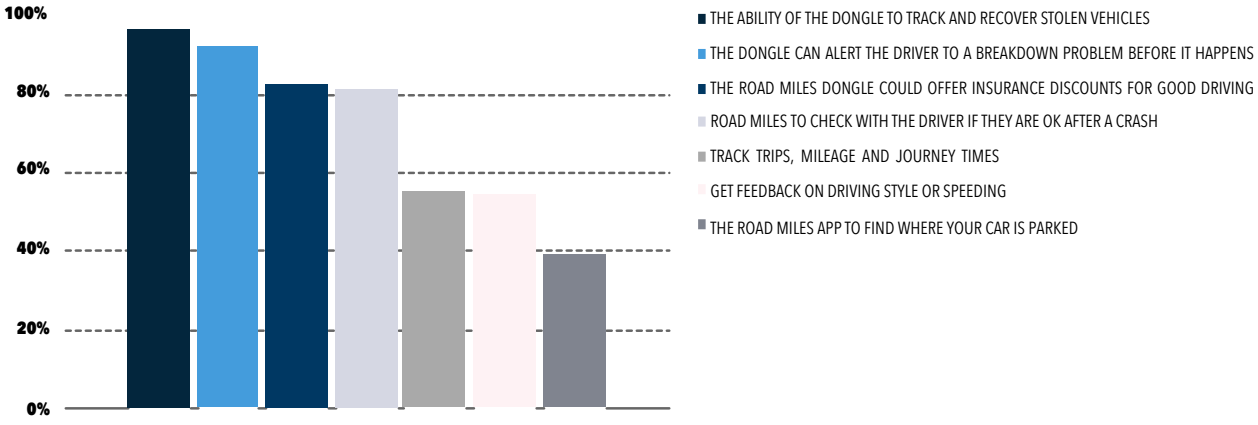
As fewer cars pay fuel duty, the Road Mile charge will increase gradually. However, the extra income from the Road Miles Lottery, Auction and Adopt-a-Highway naming rights, will mean charges are kept lower than the equivalent of today's costs.

After two years, when the scheme is fully established, the system can be simply adapted using exactly the same technology to charge extra for driving on the most congested roads at the most congested times.

The Road Miles dongle also brings other benefits that drivers want.

Road Miles will be popular. Two thirds of drivers support the concept as a method of paying for roads. Many more like the extra benefits such as breakdown prevention or insurance discounts that the Road Miles dongle can also offer.

Road Miles is not a political solution. It will be headed up by a Road Miles Board, led by an independent director, and influenced by the Road Miles Drivers' panel.



Road Mileswill save drivers money.

In the first three years all road users will be better off under Road Miles.

Even by year 5, compared to today, the vast majority of users would still be better off by 4%. There will be the additional benefits to society, as the elderly, disabled, unemployed and younger socio-economic groups will experience significantly lower travel costs, 15% compared to today.

After year 5 hauliers and very high mileage van drivers will pay just 1% more than they do today.

Drivers of cleaner, greener vehicles will be much better off under Road Miles than in other schemes such as OReGo in the USA.

Road Miles will also provide Government with more revenue than they get today.

In year 1 the Treasury will have a surplus of £216m or 0.7% of today's tax-take from road users.

By Year Ten the surplus grows to a massive £1.89bn or 5.7% increase.

Road Miles drivers pay less. More is spent on roads. The Government gets extra revenue. A winning formula.

The Road Miles lottery, Adopt-a -Highway and Road Miles Auction will bring the concept to life in a popular way and help reduce motoring taxation. Having discussed Road Miles with Andy Barratt, CEO Ford of Britain, he indicated that they might be interested in our proposal. They could, for example, run marketing promotions such as "Buy the new Ford Kuga and get 1,000 free Road Miles"

Drivers will get value for money. When things go wrong, drivers will be compensated with Free Road Miles.

Drivers will have more reliable journeys due to investment in more adventurous tunneling and pinch point schemes.

Drivers will think more about whether their journey is really necessary when their Road Miles are running low.

Road Miles will help reduce congestion through improving the road network, encouraging more HGVs to travel at night and reducing the total number of journeys. Truck drivers will be provided with more lorry parks to ease congestion and give the drivers a better service.

EuroRAP
EUROPEAN ROAD ASSESSMENT PROGRAMME

Road Miles will help reduce urban congestion by introducing incentives and delivery consolidation schemes to reduce the impact of last mile deliveries.

Road Miles will be good for the environment by reducing congestion and through incentives encouraging the faster take up of greener, cleaner vehicles and the new cycle lane investment fund.

Road Miles will plan for a future of AVs by future-proofing roads, developing AV and HOV lanes, and encouraging electric induction charging roads.

Road Miles will be safer as it will strive for Vision Zero.

Smart Motorways will have more lay-bys to reduce the risk of crashes and congestion in live lanes.

The most dangerous roads in the EuroRAP road assessment programme will be improved as a priority.

Road Miles will help economic development in deprived areas by targeting road improvements in key unemployment hotspots and easing planning restrictions where jobs can be boosted.

Road Miles infrastructure improvements will help the economy by reducing transport costs, improving productivity and increasing GDP.

Road Miles will encourage technological innovation.

Road Miles is simple. It is not rocket science. It is not a major IT project costing millions and then billions.

All the technology has been tested in both the UK and USA. The Road Miles dongle was tested in a 10,000 car trial last year in which we were involved.

The trakm8 dongle is the smallest dongle in the world. More than 1 million have been sold and 3 billion miles of data is generated from it annually.

Road Miles is neither pie in the sky nor spy in the sky. It is practical and does not compromise privacy.

The election of a new Government gives ministers in the DfT and Treasury a real opportunity to start laying the groundwork for a new way of paying for roads.

History shows that optional schemes, such as in Oregon, take far too long to take off.

Evidence from Stockholm shows that despite initial opposition, their charging scheme won two-thirds support in a referendum after introduction.

Charging schemes in London and Singapore also faced initial opposition but now users generally accept the necessity for them. The test is getting them introduced in the first place.

Road Miles could be introduced within 12 months. Doing nothing is not an option.

We believe Road Miles is the best option.

Please support Road Miles. The majority of drivers do.

ROAD MILES: miles better, fairer, greener, safer

APPENDIX

Road Miles Acknowledgements

The authors would like to thank the people who have helped or inspired our Road Miles report. We are grateful to Lord Wolfson for setting this important challenge and to Julian Glover and Sir John Kingman for their guidance and Isabel Dedring, Bridget Rosewell, Lord Darling & Lord Finkelstein for judging our submission.

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Institution of Engineering & Technology Transport Panel. SMMT Connected & Autonomous Vehicles Group.

DfT. Highways England. TFL.

TRL.

The Treasury. Populus.

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Chris Patience, Alan Ferguson, Gareth Adams, Jack Cousens, Stephen Wing from the AA.

Andy Graham.

Phil Carey.

Matt Cowley from Trakm8. Dominic Bird, AA Insurance

Matt Simmons and Graham Bradley from INRIX.

Tim Holmes, Executive Director, and Andy Barrett, CEO, Ford of Britain.

Dennis Chick, Communications Director, Vauxhall. Simon Sproule, Vice President, and Andy Palmer, CEO, Aston Martin.

BT Fleet.

Michelle D. Godfrey, Education & Outreach Coordinator, Oregon Department of Transportation.

Bo Camero, OReGO Road Usage Charge Program.

Global Mobility Alliance, FIA, AAA, ANWB, ADAC, OAMTC, CAA.

Robin Chase, Zipcar Founder. Greg Lindsay, futurologist.

Alejandro Agag, Formula E CEO and founder.

Carlton Reid, cycle historian. Chris Boardman, Olympic cyclist. Martin Key, British Cycling.

Stephen King, Chief International Officer, Believe. Jennifer Powers, Westbourne Communications.

David & Clare Leonard and Lewis kirk, Leonard Design.

Richard Woods and special thanks to Sue Vandezande @ arwmedia.

Our children, Finbar, Lucas and Eloise for being patient as their parents spent every spare hour on Road Miles.

GLOSSARY

AA	Automobile Association
AAA	American Automobile Association
ANPR	Automatic number plate recognition
AV	Autonomous vehicles
AFV	Alternative fuel vehicle
CAV	Connected and autonomous vehicles
CCAV	Centre for connected and autonomous vehicles
CHF	Swiss franc
CO2	Carbon dioxide
CTC	CYCLIST TOURING CLUB
DfT	Department of Transport
DVLA	Driver and Vehicle Licensing Agency
EGR	Exhaust gas recirculation
ELP	Espace de Livraison de Proximite
ERAs	Emergency refuge areas
EOBD	European on-board diagnostics
EV	Electric vehicles
FAVE	Fleets of Autonomous Vehicles that are Electric and Shared
FIA	Federation Internationale d'Automobile
FTA	Freight Transport Association
GDP	Gross Domestic Product
GDPR	General Data Protection Regulations
GM	General Motors
GPS	Global positioning satellite
IET	Institution of Engineering and Technology
HMRC	Her Majesty's Revenue and Customs
IPT	Insurance Premium Tax
LIDAR	Light detection and ranging
MaaS	Mobility as a Service
MPG	Miles per gallon
MAF	Mass air flow
NGC	Next Green Car
NTS	National Travel Survey
NOx	Nitrogen-oxides
OBD	On board-diagnostics
ODOT	Oregon Department of Transportation
OEM	Original equipment manufacturer
OLEV	Office for low emission vehicles
SMMT	Society of Motor Manufacturers and Traders
SRN	Strategic Road Network
TRUE	The Real Urban Emission's initiative
VED	Vehicle excise duty
VAT	Value added tax

1. Road Miles Q&As

Road Miles Scheme

What Is Road Miles?

Road Miles is a new concept designed to transform the way we pay for roads.

How Does It Work?

Every driver has at least 3,000 free miles and after that they are charged a small amount (<1p mile in first year) for the miles used. They will also get fuel duty rebates.

How Will You Know The Mileage?

More than 86% of cars and almost all trucks can be fitted with a small dongle device that can be self-fitted in two minutes into the OBD11 port under the steering wheel. This dongle records the mileage.

What If I Have A Classic Car?

Classic cars and some older and specialist sports cars can't fit a dongle. These vehicles tend to do low mileage anyway and will just be charged the full fuel duty.

Why Would I Want To Fit A Dongle?

As well as being used for Road Miles the dongle can be used for many other things such as: Checking the state of your car battery; predicting and preventing up to one third of breakdowns; route planning; recording business mileage; helping to find your car in a massive carpark; checking you are OK after a crash; helping to track your stolen car; provide pay-how-you drive insurance; geo- fence certain areas so others will know if the car is driven outside of a certain radius.

Are Those Services Free?

The Road Miles Service is free whether taken via an account manager (such as the AA) or via the DVLA for a basic service.

A typical cost for the additional services would be a subscription of approximately £30 pa (AA Car Genie costs £29 pa for members). Insurance costs would depend on the driver.

Fuel Consumption

How Will You Know How Much Fuel I Have Bought?

The dongle that plugs into the OBD-II port of the vehicle collects data from the mass-air-flow sensor. The estimated fuel consumption is calculated using this data combined with the known vehicle and fuel information. The fuel usage is calculated using Mass Air Flow, Fuel Type and Engine size. We calculate the amount of fuel used per engine stroke based on the Air Intake. There is a one calculation for Petrol, one for Diesel.

Ev Owners

Won't Current Ev Owners Be Worse Off?

Yes. At the moment owners of EVs just pay for their electricity (approximately 2p per mile) and as early adopters also get grants for purchasing an EV and installing a charging post. They also benefit from zero VED. As the mass transition to EVs come about this position is no longer sustainable as the Government would receive no income from them to pay for roads. Road Miles will start to gradually charge EV owners after their free Road

Miles are used up. As EV owners do not pay fuel duty or petrol/diesel costs their overall motoring costs will still be far lower than for those with combustion engines.

Fraud

What About Fraud And Someone Taking Out The Dongle?

The account manager knows if the dongle has been taken out. For example, it might be taken out legitimately during servicing of the car. In this case the driver would receive a text asking them to check the dongle. If someone is deliberately taking out the dongle to disguise the number of miles driven, then action can be taken.

Firstly, they will not be given the fuel duty discount. Secondly, when the dongle is re-fitted the account manager can check the missed mileage and charge for it at a premium.

What If People Just Don't Pay?

The system safeguards against this as credits are built up from the fuel duty discounts during the first 3,000 free miles. Hence every driver will have money on account and subsequently Road Miles charges will be deducted. In addition, the account manager will take bank/credit card details or pre-payment of a certain sum in advance.

How Will Fraudsters Be Stopped?

If the credit card is stopped and the driver does not pay after receiving 2 reminders, the car registration will be flagged on the DVLA system and police ANPR (automatic number plate recognition) system and action taken.

What If The Dongle Stops Working?

The dongles have been fully tested in trails and more than 1m have been sold. However, if it did go wrong the driver would just be charged the full fuel duty amount until a new dongle is supplied.

2. Road Miles Model

Exclusions

VED revenue is excluded in our forecasting model because we envisage total income from this source remaining the same as the current level on the basis that every vehicle is legally required to be registered to use the road network, but that VED rates shall be reformed to encourage faster take-up of cleaner vehicles.

Coaches are also excluded because publically available data relating to current fuel duty revenue and miles travelled are combined with buses. However, the Road Miles cost per mile for coaches would be calculated in the same way as for all other vehicles, whilst buses will travel free of Road Miles costs.

Overview And Assumptions

The Road Miles model has been developed mainly from a top-down approach, looking first at total Government fuel duty + VAT revenues from road users, total numbers of vehicles and corresponding miles travelled.

Total number of vehicles are kept constant each year with alternative fuel vehicles taking a growing market share, from just over 1% in Year 1 to 4.5% by Year 10. This is in line with Go Ultra Low predictions. Whilst the DfT project future growth in the number of vehicles, for example a 25% increase in cars by 2040, we chose to keep numbers constant as a conservative measure to allow for other industry "peak car" forecasts.

Miles travelled per vehicle are similarly held constant. On average, each vehicle will receive 3,000 free Road Miles pa and rural car/LGV owners will have an extra 1,000 miles giving a total annual allowance of 4,000.

Model Workings

Worksheets were designed for each vehicle type - car, LGV, HGV, and motorbike – over a ten-year period:

a. To input the independent variables:

- Number of vehicles per year
- Percentage market share of alternative fuel vehicles;
- Free Road Mile allocations – urban & rural;
- Cost per Road Mile;
- Change in fuel duty rate;
- Minimum total revenue threshold (held constant in real terms)

And,

- Vehicle percentage shares of the total current fuel duty (+VAT) revenues

b. To produce outputs of the dependent variables:

- Road Mile revenues
- Fuel duty plus VAT revenues
- Surplus revenues

Fuel Duty Rate And Road Mile Costs

Fuel duty is reduced by 10% in Year 1 and then gradually reduced by a further 10% to Year 5 (20% in total) before being frozen. This is to offset the introduction of Road Mile costs. A rigorous counter-balancing process adjusted the Road Mile costs per mile pa for each vehicle type to ascertain a level of charges that would keep the combined fuel costs and Road Mile costs at a fair level for the road user whilst simultaneously maintaining Government revenues at (or above) today's levels.

Once Road Miles is established as the way to pay for roads then it would be possible to adapt the system such that charges could be differentiated and linked to levels of congestion on various roads. By waiting

a few years, it would also mean that a greater proportion of the vehicles would be compatible with the Road Miles dongle.

So, in Year 3 for example, if the Road Miles cost per mile was increased by say 1/3 in congested times and reduced by 1/3 at night, transport costs would vary according to times of road use. The table compares different road use delivery schedules for a van driver with our base model average cost and today's costs. Schedules 1 – 5 show the use of roads from 100% in congested times to 0%.

The table demonstrates that transport costs for the van driver would increase by nearly 3% if all his business was conducted at times of congestion but would fall by 4% should business logistics allow zero travel during congested times e.g. night time deliveries.

Whilst traditional economic theory of supply and demand suggests we should charge more for the most congested areas at the most congested times, in the early years

we believe this would adversely affect 'white van man' whose main business must be conducted during working hours (schedule 1), as well as urban residents, those on low incomes and essential businesses. It is crucial that we keep these important groups on side.

"White Van Man" - Year 3

Road Mile Cost Per Mile - Pence		Average	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5
Congested Times Average Cost Time	2.99	0%	100%	50%	20%	0%	0%
No Congestion/Night Time	2.25	100%	0%	50%	80%	50%	20%
	1.51	0%	0%	0%	0%	50%	80%
Road Mile Cost		£223	£296	£260	£238	£186	£164
Congestion Cost Variation Factor	33%						
	Fuel Cost Per Mile - Pence						
Total Fuel Cost	**14.13**	£1,823	£1,823	£1,823	£1,823	£1,823	£1,823
Total Road Mile Costs		£2,046	£2,120	£2,083	£2,061	£2,010	£1,987
	Fuel Cost Per Mile - Pence						
Today's Fuel Cost	**15.98**	£2,062	£2,062	£2,062	£2,062	£2,062	£2,062
% Difference From Today's Cost		(0.76%)	2.81%	1.02%	(0.05%)	(2.54%)	(3.61%)
Miles Travelled Pa							
Average Miles Free Miles	12907						
	3000						

Road Miles is a system that is simple to understand and where the vast majority of road users will be winners compared to the current system. This will work together with our other radical plans to reduce congestion in the most congested urban areas along with reductions in non-essential journeys as drivers reach their free Road Miles limits.

TOTAL FUEL DUTY + ROAD MILES REVENUES

The underlying assumption is that total Government revenues from fuel duty (+VAT) plus Road Miles will remain constant in real terms at today's level of £31 million for the vehicle categories modelled.

The equations used to calculate total revenues by vehicle category under our scheme are as follows:

ROAD MILE REVENUES

Road Miles cost per mile x average annual miles

(net of urban/rural miles allowance) x number of vehicles (petrol/diesel, or AFV)

Plus,

FUEL DUTY (+VAT) REVENUES

Total real fuel duty (+VAT) revenue for all vehicles29 (£33m)

x % modelled vehicle share x adjustment for growth in AFVs x decrease in fuel duty rate

The percentage vehicle shares of total fuel revenue are assumed to remain the same as today. For example, cars currently account for a 59% share of the total fuel + VAT revenue.

An example spreadsheet (cars):

[illegible]	% AFV SHARE OF NO.OF VEHICLES*	COST PER ROAD MILE	TOTAL FUEL CARS	URBAN SPLIT (82%)	RURAL SPLIT (18%)	1. ROAD MILE REVENUE (PETROL/DIESEL)	TOTAL AFV CARS	[illegible]	2. ROAD MILE REVENUE (AFVs)	A. TOTAL ROAD MILE REVENUE (1+2)	TOTAL FUEL DUTY REVENUE+VAT (REAL TERMS)**	CARS SHARE OF TOTAL (ADJUSTED FOR AFV INCREASE)	DESRIVED FUEL DUTY + VAT PER FUEL CAR	DECREASE IN RATE OF FUEL DUTY FROM 100%	EFFECT ON FUEL DUTY PER LITRE	[illegible] DUTY + VAT, ADJUSTED FOR [illegible]	DESRIVED FUEL DUTY + VAT PER FUEL CAR	A + B: TOTAL REVENUE
Year 1	1.12%	£0.009	29,910,300	24,526,446	5,383,854	£1,319,120,735	340,000	278,800	61,200	£14,994,870	£1,334,115,605	£33,097,261,196	£19,406,080,728	£649	0.89	£0.52	£17,271,411,848	£577	£18,605,527,453
Year 2	1.25%	£0.010	29,872,171	24,495,180	5,376,991	£1,556,973,552	378,129	310,066	68,063	£19,708,526	£1,576,682,078	£32,819,621,952	£19,218,760,370	£643	0.88	£0.51	£16,912,509,125	£566	£18,489,191,204
Year 3	1.50%	£0.013	29,796,546	24,433,167	5,363,378	£1,941,289,809	453,755	372,079	81,676	£29,562,789	£1,970,852,598	£32,657,561,294	£19,075,444,840	£640	0.86	£0.50	£16,404,882,562	£551	£18,375,735,160
Year 4	1.75%	£0.016	29,720,920	24,371,154	5,349,766	£2,398,110,701	529,380	434,092	95,288	£42,714,440	£2,440,825,141	£32,657,561,294	£19,027,030,005	£640	0.84	£0.49	£15,982,705,204	£538	£18,423,530,345
Year 5	2.00%	£0.020	29,645,294	24,309,141	5,336,153	£3,030,868,088	605,006	496,105	108,901	£61,854,451	£3,092,722,538	£32,657,561,294	£18,978,615,171	£640	0.80	£0.47	£15,258,806,597	£515	£18,351,529,136
Year 6	2.50%	£0.021	29,494,043	24,185,115	5,308,928	£3,104,092,842	756,258	620,131	136,126	£79,592,124	£3,183,684,966	£32,657,561,294	£18,881,783,501	£640	0.80	£0.47	£15,180,955,543	£515	£18,364,640,509
Year 7	3.00%	£0.022	29,342,791	24,061,089	5,281,702	£3,191,113,564	907,509	744,157	163,352	£98,694,234	£3,289,807,798	£32,657,561,294	£18,784,955,832	£640	0.80	£0.47	£15,103,104,489	£515	£18,392,912,287
Year 8	3.50%	£0.022	29,191,540	23,937,062	5,254,477	£3,277,073,058	1,058,761	868,184	190,577	£118,857,572	£3,395,930,630	£32,657,561,294	£18,688,126,163	£640	0.80	£0.47	£15,025,253,435	£515	£18,421,184,065
Year 9	4.00%	£0.023	29,040,288	23,813,036	5,227,252	£3,347,417,336	1,210,012	992,210	217,802	£139,475,722	£3,486,893,058	£32,657,561,294	£18,591,296,494	£640	0.80	£0.47	£14,947,402,381	£515	£18,434,295,439
Year 10	4.50%	£0.024	28,889,037	23,689,010	5,200,027	£3,402,373,802	1,361,264	1,116,236	245,027	£160,321,279	£3,562,695,081	£32,657,561,294	£18,494,466,824	£640	0.80	£0.47	£14,869,551,327	£515	£18,432,246,408

Independent variables

Urban fleet mile allocation 3,000

Rural fleet mile allocation 4,000

Average miles travelled p.a. 8,192

2015 number of cars 30350300

2015 fuel duty+VAT revenue £19,324,091,000

2014/15 car % share of total fuel duty + VAT 59.30%

Key: figures in the following fonts & shading are:

£0.009	Independent variables
29,910,300	Petrol/diesel cars
340,000	Alternative fuel cars
£19,406,080,728	Car Road Mile revenues
£19,406,080,728	Car fuel duty + VAT revenues

* Gov.Uk ULA Low (Government and industry backed campaign) forecast , in line with Government projections for AFVs

** Revenue from all vehicles. Source: combining Budgetresponsibility.org.uk's forecasts in-depth tax-by tax-spend by-spend fuel duties' and Treasury inflation forecasts

Commercial Income

Additional income comes from the Road Miles Lottery and Road Miles Auction. These sources of income will be help keep down costs for road users, as well as providing some income for road maintenance and buses.

The total sums forecast are conservative – accounting for just 2.9% of total revenues in Year 1 and 5.8% by Year 10. Consequently, in our base model, the impact of no commercial income would be small. Our projections indicate that costs for the average road user across all vehicle types would be between 3% and 7% less in Year 1 compared to today, giving scope for Road Mile costs to be raised to cover the absence of any commercial income but without causing the road user to be any worse off compared to today's costs.

From Year 5 onwards, total model base level costs produce revenues (excluding commercial) at around breakeven point compared to current Government revenues, and so would not need to be raised.

Road Miles Lottery

Lottery revenue calculations are based on the assumption that 55% of car owners buy tickets every other week at £1.50 (25% less than the National Lottery ticket price for the first five years. From Year 5, the percentage of participants and number of week's tickets purchased increase gradually such that total lottery income will grow from £649 million in Year 1 (13% of National Lottery first year sales) to £1.2 billion (25% of National Lottery first year sales).

We assume that 25% of earnings will be allocated to road maintenance and other road projects, 25% towards Road Mile costs, and 25% for prizes with 5% towards financial support for local bus services.

Year	Forecast Proceeds	RM proceeds as % of UK National Lottery 1st year sales	Prizes	Towards Road Mile costs	Maintenance/ Projects	Lottery Duty	Buses	Total Expenses	Total
Year 1	£648,868,935	13.2%	£162,217,234	£162,217,234	£162,217,234	£77,864,272	£32,443,447	£51,909,515	£648,868,935
Year 2	£648,868,935	13.2%	£162,217,234	£162,217,234	£162,217,234	£77,864,272	£32,443,447	£51,909,515	£648,868,935
Year 3	£648,868,935	13.2%	£162,217,234	£162,217,234	£162,217,234	£77,864,272	£32,443,447	£51,909,515	£648,868,935
Year 4	£672,464,169	13.7%	£168,116,042	£168,116,042	£168,116,042	£80,695,700	£33,623,208	£53,797,134	£672,464,169
Year 5	£1,017,544,466	20.7%	£254,386,117	£254,386,117	£254,386,117	£122,105,336	£50,877,223	£81,403,557	£1,017,544,466
Year 6	£1,112,832,911	22.7%	£278,208,228	£278,208,228	£278,208,228	£133,539,949	£55,641,646	£89,026,633	£1,112,832,911
Year 7	£1,162,519,029	23.7%	£290,629,757	£290,629,757	£290,629,757	£139,502,283	£58,125,951	£93,001,522	£1,162,519,029
Year 8	£1,181,576,718	24.1%	£295,394,180	£295,394,180	£295,394,180	£141,789,206	£59,078,836	£94,526,137	£1,181,576,718
Year 9	£1,200,634,407	24.4%	£300,158,602	£300,158,602	£300,158,602	£144,076,129	£60,031,720	£96,050,753	£1,200,634,407
Year 10	£1,219,692,096	24.8%	£304,923,024	£304,923,024	£304,923,024	£146,363,052	£60,984,605	£97,575,368	£1,219,692,096
Total	£9,513,870,602		£2,378,467,650	£2,378,467,650	£2,378,467,650	£1,141,664,472	£475,693,530	£761,109,648	£9,513,870,602
Average pa	£951,387,060		£237,846,765	£237,846,765	£237,846,765	£114,166,447	£47,569,353	£76,110,965	
Allocation Percentage of Total Proceeds			25%	25%	25%	12%	5%	8%	100%

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
No.of cars	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300	30,250,300
% playing	55%	55%	55%	57%	58%	60%	61%	62%	63%	64%
No.of weeks buy ticket	26	26	26	26	26	27.25	28	28	28	28
Tickets bought per week	1	1	1	1	1.5	1.5	1.5	1.5	1.5	1.5
No.of tickets bought pa	432,579,290	432,579,290	432,579,290	448,309,446	678,362,978	741,888,608	775,012,686	787,717,812	800,422,938	813,128,064
Price of tickets	£1.50	£1.50	£1.50	£1.50	£1.50	£1.50	£1.50	£1.50	£1.50	£1.50
Lottery Revenue	£648,868,935	£648,868,935	£648,868,935	£672,464,169	£1,017,544,466	£1,112,832,911	£1,162,519,029	£1,181,576,718	£1,200,634,407	£1,219,692,096

NOTES: UK National Lottery facts, for comparison

National Lottery 1st year sales: 1995	£4,911,400,000
National Lottery sales: Year to March 2016	£7,595,000,000

32 million people play the National Lottery every week
3 tickets each a week on averge
70% of 18+ play regularly ie: 45m people
Of which 22.5m buy 3 tickets every week

Road Miles Auction

An auction of 30 billion Free Road Miles pa to companies, equivalent of 9% of current total vehicle miles travelled, would bring in additional income.

We assume that 50 major companies from different industry sectors – financial, breakdown organisations, car manufacturers, utilities, supermarkets, media and social media, phone companies, high street retailers, food companies – would bid an average 4-5% of their annual advertising spend on purchasing Road Miles to pass on to their customers. Additionally, we have assumed another 10% of the other 7,000 large UK companies would join the auction.

Bidding is assumed to be at the rate per mile for cars but in reality the Road Mile price is likely to go higher because, firstly, the number of miles up for auction will be capped and, secondly, fleet companies wishing to participate would have to bid at least the same rate as the corresponding Road Miles cost per mile for their vehicle category.

Commercial Income - Road Miles Auction

Commercial income - Road Miles auction

Sector		Company	% of Total Allowance pa	No.of Road Miles won at Auction	Assumed Bid Price per Mile	Auction Revenue Raised	2013 Advertising Spend	Auction Revenue as % of 2013 ad spend	No.of UK customers
Financial	1	Lloyds	1.0%	296,183,540	**£0.009**	£2,606,415	£52,128,303	5.00%	17,550,000
	2	Barclays	0.6%	193,384,153	£0.01	£1,701,781	£34,035,611	5.00%	11,700,000
	3	Halifax	0.8%	249,208,199	£0.01	£2,193,032	£43,860,643	5.00%	
	4	Direct Line	1.0%	286,856,733	£0.01	£2,524,339	£50,486,785	5.00%	
	5	Aviva	0.4%	121,035,239	£0.01	£1,065,110	£21,302,202	5.00%	
	6	Barclaycard	0.8%	246,343,295	£0.01	£2,167,821	£43,356,420	5.00%	
	7	Credit card 2	0.6%	170,454,545	£0.01	£1,500,000	£30,000,000	5.00%	
Breakdown	8	AA	0.1%	22,727,273	£0.01	£200,000	£10,000,000	2.00%	128,000
	9	RAC	0.1%	27,272,727	£0.01	£240,000	£12,000,000	2.00%	
Car Manufacturers	10	Ford	0.9%	264,548,602	£0.01	£2,328,028	£46,560,554	5.00%	217,250
	11	Vauxhall	0.7%	207,274,352	£0.01	£1,824,014	£36,480,286	5.00%	92,077
	12	VW	0.7%	195,148,250	£0.01	£1,717,305	£34,346,092	5.00%	73,409
	13	Renault	0.5%	151,923,347	£0.01	£1,336,925	£26,738,509	5.00%	
	14	BMW	0.5%	150,835,528	£0.01	£1,327,353	£26,547,053	5.00%	
Media	15	Sky	5.0%	1,501,924,915	£0.01	£13,216,939	£264,338,785	5.00%	12,000,000
	16	BT	2.8%	851,068,858	£0.01	£7,489,406	£149,788,119	5.00%	
	17	ITV	2.8%	852,272,727	£0.01	£7,500,000	£150,000,000	5.00%	
	18	Virgin Media	1.7%	502,029,670	£0.01	£4,417,861	£88,357,222	5.00%	5m customer
Social Media	19	Google	3.0%	909,090,909	£0.01	£8,000,000	£4,000,000,000	0.20%	According to
	20	Facebook	3.0%	909,090,909	£0.01	£8,000,000	£4,000,000,000	0.20%	
Newspaper/Magazines	21	The Telegraph	0.1%	22,727,273	£0.01	£200,000	£5,000,000	4.00%	
	22	Company 2	0.1%	22,727,273	£0.01	£200,000	£5,000,000	4.00%	
Utilities	23	SSE	0.5%	159,090,909	£0.01	£1,400,000	£35,000,000	4.00%	
	24	Npower	0.4%	119,588,342	£0.01	£1,052,377	£26,309,435	4.00%	7m customer
	25	British Gas	0.9%	273,344,782	£0.01	£2,405,434	£60,135,852	4.00%	16m custom
	26	EDF	0.3%	97,379,079	£0.01	£856,936	£21,423,397	4.00%	5.7m custom
Supermarkets	27	Tesco	1.8%	528,497,845	£0.01	£4,650,781	£116,269,526	4.00%	20m
	28	Sainsburys	0.9%	275,902,514	£0.01	£2,427,942	£60,698,553	4.00%	15.5m Necta
	29	Morrisons	1.2%	370,557,232	£0.01	£3,260,904	£81,522,591	4.00%	12m
High Street Retailers	30	Marks & Spencer	0.8%	230,500,764	£0.01	£2,028,407	£50,710,168	4.00%	32m
	31	Next	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	4.6m Next Di
	32	John Lewis (loyalty card)	0.5%	148,025,855	£0.01	£1,302,628	£32,565,688	4.00%	
	33	Debenhams	0.4%	110,350,100	£0.01	£971,081	£24,277,022	4.00%	
	34	Post Office	0.3%	98,712,550	£0.01	£868,670	£21,716,761	4.00%	
Phone companies	35	Vodaphone	1.1%	339,067,027	£0.01	£2,983,790	£74,594,746	4.00%	
	36	Dixons Carphone	0.6%	181,818,182	£0.01	£1,600,000	£40,000,000	4.00%	
	37	Samsung	0.8%	243,476,450	£0.01	£2,142,593	£53,564,819	4.00%	
	38	O2	0.6%	187,906,086	£0.01	£1,653,574	£41,339,339	4.00%	
Food Companies	39	McDonalds	1.1%	327,947,945	£0.01	£2,885,942	£72,148,548	4.00%	
	40	Mars Confectionary + M:	1.2%	351,394,000	£0.01	£3,092,267	£77,306,680	4.00%	
	41	Kelloggs	0.7%	197,643,232	£0.01	£1,739,260	£43,481,511	4.00%	
	42	Coca Cola GB	0.5%	149,929,427	£0.01	£1,319,379	£32,984,474	4.00%	
Other	43	Glaxosmithkline	0.5%	145,058,745	£0.01	£1,276,517	£31,912,924	4.00%	
	44	GoCompare	0.4%	126,436,682	£0.01	£1,112,643	£27,816,070	4.00%	
	45	Company 2	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	
	46	Company 3	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	
	47	Company 4	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	
	48	Company 5	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	Average per
	49	Company 6	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	company spe
	50	Company 7	0.5%	136,363,636	£0.01	£1,200,000	£30,000,000	4.00%	4%
Total companies 1 -50			**45.9%**	**13,771,301,521**		**£121,187,453**	**£10,366,104,689**	**1.17%**	
Per company (1 - 50)						£2,423,749.07	£207,322,093.77	1.17%	
Other Companies 51 - 700	**650**	**Companies**	**54.10%**	**16,228,698,479**	**£0.01**	**£142,812,547**			
so per company:			0.083%	24,967,228		£219,712			
See Printout for UK company suggestions			the derived % of Total Annual Allowance each						
Total Companies		**700**	**100%**	**30,000,000,000**		**£264,000,000**			
			9%	*Equivalent % of total vehicle miles travelled*					

House of Commons Briefing Paper November 2016	
Large UK companies	7,000
Turnover	£2,036,000,000,000
Average turnover	£290,857,143
Average Auction forecast	£219,712
Auction forecast as % of Turnover	**0.08%**

Adopt-A-Highway

Income from this source has not been modelled but could add a further £200 million revenue with ten £20 million sponsorship deals pa.

To put into context in November 2012, Arsenal and Emirates officially announced a new deal worth £150 million over five years for naming rights at the Emirates Stadium.

Manchester City was paid £400m for a 20-year deal from Etihad Airlines (£20m pa).

Dallas Cowboys Stadium is worth $20m per year from AT&T.

Tottenham are currently searching for £400m naming rights deal as they battle Chelsea and West Ham for crucial stadium sponsors.

Spurs chairman Daniel Levy wants a 20-year, £20 million-a- year deal. http://www.dailymail.co.uk/sport/football/article-4118388/ Tottenham-searching-400m-naming-rights-deal-battle- Chelsea-West-Ham.html#ixzz4iUoXxCg0

Year 1		Year 5	Year 10
Cars	£1,334,115,605	£3,092,722,538	£3,562,695,081
Lgvs	£516,719,680	£1,140,346,880	£1,407,615,680
Hgvs	£731,990,400	£1,677,478,000	£2,150,221,800
Motorcycles	£0	£0	£0
Total Road Miles	£2,582,825,685	£5,910,547,418	£7,120,532,561
Cars	52%	52%	50%
Lgvs	20%	19%	20%
Hgvs	28%	28%	30%
Motorcycles	0%	0%	0.0%

Total Model Revenues

All of these revenue streams feed into the Road Miles Total Model worksheet and produce a level of surplus in excess of the Government's current fuel duty (+VAT) receipts of 0.7% in Year 1 rising to 5.7& in Year 10.

We prudently base our model on cautious, low-level growth assunptions but realistically would expect revenues to grow more than forecast.

All Vehicles (Cars, HGVs,LGVs, Motorcycles)	1.Petrol/Diesel Road Mile Revenue	2.AFV Road Mile Revenue	3. Company Auction Revenue	4. Total Lottery Revenue	Total Road Mile Revenue (1+2+3+4)	Fuel Duty Revenue	Total Revenue	"Surplus" revenue	% surplus
Year 1	£2,555,343,714	£27,481,970	£264,000,000	£648,868,935	**£3,495,694,620**	£27,906,121,726	**£31,401,816,346**	£216,057,346	0.7%
Year 2	£3,112,037,965	£39,392,886	£312,000,000	£648,868,935	**£4,112,299,785**	£27,315,442,768	**£31,427,742,553**	£241,983,553	0.8%
Year 3	£3,857,648,088	£58,745,910	£390,000,000	£648,868,935	**£4,955,262,933**	£26,499,688,730	**£31,454,951,663**	£269,192,663	0.9%
Year 4	£4,706,886,940	£83,837,681	£483,000,000	£672,464,169	**£5,946,188,790**	£25,821,925,163	**£31,768,113,953**	£582,354,953	1.8%
Year 5	£5,792,336,470	£118,210,948	£612,000,000	£1,017,544,466	**£7,540,091,885**	£24,659,778,276	**£32,199,870,160**	£1,014,111,160	3.1%
Year 6	£6,168,874,536	£158,176,270	£630,000,000	£1,112,832,911	**£8,069,883,717**	£24,534,796,187	**£32,604,679,904**	£1,418,920,904	4.4%
Year 7	£6,428,616,007	£198,823,175	£651,000,000	£1,162,519,029	**£8,440,958,211**	£24,409,814,098	**£32,850,772,309**	£1,665,013,309	5.1%
Year 8	£6,617,133,413	£239,999,657	£672,000,000	£1,181,576,718	**£8,710,709,788**	£24,284,832,009	**£32,995,541,797**	£1,809,782,797	5.5%
Year 9	£6,741,459,427	£280,894,143	£690,000,000	£1,200,634,407	**£8,912,987,977**	£24,159,849,920	**£33,072,837,897**	£1,887,078,897	5.7%
Year 10	£6,800,108,596	£320,423,965	£705,000,000	£1,219,692,096	**£9,045,224,657**	£24,034,867,831	**£33,080,092,488**	£1,894,333,488	5.7%
							£322,856,419,070	£10,998,829,070	
% of Total Revenue								£1,099,882,907	
Year 1 (2019	8.14%	0.09%	0.84%	2.07%	**11.13%**	**88.87%**	100.00%	3.4%	
Year 2	9.90%	0.13%	0.99%	2.06%	**13.08%**	**86.92%**	100.00%	Average Government surplus pa	
Year 3	12.26%	0.19%	1.24%	2.06%	**15.75%**	**84.25%**	100.00%		
Year 4	14.82%	0.26%	1.52%	2.12%	**18.72%**	**81.28%**	100.00%		
Year 5	17.99%	0.37%	1.90%	3.16%	**23.42%**	**76.58%**	100.00%		
Year 6	18.92%	0.49%	1.93%	3.41%	**24.75%**	**75.25%**	100.00%		
Year 7	19.57%	0.61%	1.98%	3.54%	**25.69%**	**74.31%**	100.00%		
Year 8	20.05%	0.73%	2.04%	3.58%	**26.40%**	**73.60%**	100.00%		
Year 9	20.38%	0.85%	2.09%	3.63%	**26.95%**	**73.05%**	100.00%		
Year 10	20.56%	0.97%	2.13%	3.69%	**27.34%**	**72.66%**	100.00%		

"Surplus" revenue = total revenue - current total fuel duty + VAT revenue (ie: £31bn for the vehicle categories modelled)

Model Audit

The robustness of our top-down method of modelling was audited through a bottom-up approach by:

a. Working out the average annual pump price of fuel per litre from the new fuel duty rate. (VAT and the wholesale price of fuel assumed to remain constant throughout the forecast period);

b. Converting these per litre figures into a per mile cost, using the industry conversion factor and MPG figures; Increases in fuel efficiency have not been factored in here but any increase in miles per gallon would have the effect of further reducing fuel costs per mile for motorists, or would give scope to marginally increase Road Mile costs whilst keeping savings at the base model level.

Then, from the vehicle worksheets:

c. Calculating the pump price per mile by dividing total fuel (+VAT) revenue by vehicle miles travelled and then by the ratio of fuel duty + VAT to total pump price per litre for respective years, and finally,

d. Confirming that both figures from stage b. and c. match.

Fuel Duty And Pump Prices	Today*	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Fuel Duty	£0.58	£0.52	£0.51	£0.50	£0.49	£0.47	£0.47
Vat On Fuel: 20% Of Wholesale Price + Duty	20%	20%	20%	20%	20%	20%	20%
Fuel Wholesale Price	£0.42	£0.42	£0.42	£0.42	£0.42	£0.42	£0.42
Vat Per Litre	£0.20	£0.19	£0.19	£0.18	£0.18	£0.18	£0.18
Fuel Duty + Vat	£0.78	£0.70	£0.70	£0.68	£0.67	£0.64	£0.64
Pump Price Per Litre - Petrol	£1.210	£1.123	£1.116	£1.102	£1.088	£1.063	£1.063
Fuel + Vat As % Of Pump Price	64.6%	62.6%	62.4%	61.9%	61.4%	60.5%	60.5%
Diesel Prices Are Assumed To Change By The Same % As Petrol Prices:							
Pump Price Per Litre - Diesel	£1.230	£1.141	£1.134	£1.120	£1.106	£1.081	£1.081

	Today*	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Fuel Cost Per Litre - Pence							
Petrol Cost Per Litre (Conversion Factor In Formula From Litres To Gallons)	121.00	112.29	111.60	110.20	108.81	106.31	106.31
Diesel Cost Per Litre**	123.00	114.15	113.44	112.03	110.61	108.07	108.07
Mpg Car	45	45	45	45	45	45	45
Lgv	36	36	36	36	36	36	36
Hgv	9	9	9	9	9	9	9
Per Litre To Per Mile Conversion Factor	4.55	4.55	4.55	4.55	4.55	4.55	4.55
Fuel Cost Per Mile - Pence							
Car	12.19	11.14	11.08	10.86	10.69	10.39	10.39
Lgv	15.98	14.49	14.42	14.13	13.91	13.51	13.51
Hgv	65.45	59.35	59.07	57.88	56.98	55.36	55.36
Motorbike***	4.67	4.67	4.67	4.67	4.67	4.67	4.67

*Today - from first submission: 24th February 2017

** assumes same annual % change as for petrol

*** No calculation for motorbikes here because motorcyclists will pay full fuel duty each year & no Road Mile costs until motorbikes can accommodate telematics devices SOURCE: MPG figures - DfT Table TSGB0303; SMMT; FTA; conversion factor: http://www.fuel-economy.co.uk/calc.html

Data Sources

- Department for Transport statistic tables:
  - Vehicle licensing and road traffic, providing information on UK number of vehicles by type and miles travelled by vehicle type and road type (Table VEH0102; TSGB0903);
  - Road Traffic Estimates: Great Britain 2015 report, published May 2016;
  - Transport Statistics Great Britain 2016
  - Average new car fuel consumption (Table TSGB0303)
- Department for Transport – Road Taxation revenue in the UK 2014/15 Table TSGB1311 (this table was chosen so that revenue figures were from roughly the same period as road traffic information above);
- National Travel Survey: England 2015
- Fuel duties - Office for Budget Responsibility www.budgetresponsibility.org.uk/forecasts-in-depth/ tax-by-tax-spend-by-spend/fuel-duties/
- http://www.racfoundation.org/assets/rac_foundation/ content/downloadables/Transport_finances_Bayliss_October_2014_final.pdf; RAC Report: Public Expenditure, Taxes and Subsidies – Land Transport in Great Britain
- AFVs/EVs – Go Ultra Low; Vehicle Licensing Statistics Quarter 4 2015
- Fuel prices – www.petrolprices.com/the-price-of-fuel. htlm
- www.racfoundation.org/motoring-faqs/ Economics
- Fuel consumption/MPG calculator – www.torquecars. com
- HGV average miles pa and mpg– www.fta.co.uk/ policy_and_compliance/fuel_prices; FTA (Ricardo/AEA)
- Auction company revenue forecasts:
  - Percentage of UK advertising spend – http:// interactive.brandrepublic.com/test/marketing- top100ad;
  - UK biggest public companies – www.forbes.com/ global2000/list/2/UK
  - House of Commons Library Briefing Paper: Business Statistics, November 2016
  - FT UK 500 by sector
- Lottery – House of Commons Library: The National Lottery, first 15 years; National Lottery

3.Auction Of Road Miles To Private Companies, Plus Naming Rights

Other examples:

- The AA may wish to offer 500 free miles with a new membership:
- Autotrader or AA Cars may wish to provide 50 free Road Miles with every car purchased on their used car portals;
- Newspapers may wish to boost circulation with Free Road Mile offers;
- Credit card companies may wish to offer free Road Miles to new customers;
- Twitter, Google, Facebook may want to get involved;
- Radio stations could run competitions to win free Road Miles;
- Tyre companies could run promotional offers with for Road Miles.

4. Vehicle Excise Duty Road Miles Review

We stated that we would review the new VED system as it doesn't offer enough of an incentive to hybrid and low emission cars.

The new system of Vehicle Excise Duty from April 2017 for new cars includes:

- First-year rates depend on CO2 output; zero-emission cars are free to tax
- All cars registered before April 1 2017 remain in the current, unchanged system

The changes resulted in in a major increase in running costs for some models.

The 'first licence rate' for vehicle tax remains, and continues to be based on the vehicle's CO2 emissions – though some of the values are changed, with the highest polluting cars paying £2,000.

The second time the vehicle is taxed, drivers will pay one of three standard rates that are based on the vehicle's fuel type.

If the car has a manufacturer's list price of over £40,000, owners have to pay a new additional rate of £310 on top of the standard rate for five years. After this, the vehicle will be taxed only at the standard rate for that type of vehicle.

The changes will result in some models seeing big jumps in their running costs – particularly cars with low emissions.

For example, under the current system, the Volvo XC90 T8 (a plug-in hybrid with emissions of less than 50g/km) pays no VED. Under the new system, the £10 first-year rate will be followed by annual bills of £450 (the flat rate of £140, plus the £310 supplement for cars with a list price of more than £40,000) for five years.

The zero-emission, all-electric Tesla Model S will see its running costs jump because, although the car's emissions mean it is exempt from VED, its list price means it is subject to the £310 annual supplement.

Cheaper low-emission cars will suffer, too. For example, any car with CO2 emission of less than 100g/km currently pays no VED, but under the new system, a car with emissions between 91 and 100g/km will pay £120 in its first year, followed by £140 each year after that.

http://www.parkers.co.uk/car-advice/2017/keep-em-green- treat-em-mean-government-set-for-5-billion-car-tax-windfall/

Analysis of winners and losers is shown below in the graph below from Parkers.

Ved Tax Changes						
CO2 Emissions (g/km)	Current First Year Rate	New First Year Rate	First Year Rate Change	Current Standard Rate*	New Standard Rate*	Standard Rate Change*
0	£0	£0	£0	£0	£0	£0
1-50	£0	£10	+£10	£0	£140	+£140
51-75	£0	£25	+£25	£0	£140	+£140
76-90	£0	£100	+£100	£0	£140	+£140
91-100	£0	£120	+£120	£0	£140	+£140
101-110	£0	£140	+£140	£20	£140	+£120
111-120	£0	£160	+£160	£30	£140	+£110
121-130	£0	£160	+£160	£110	£140	+£30
131-140	£130	£200	+£70	£130	£140	+£10
141-150	£145	£200	+£55	£145	£140	- £5
151-165	£180	£500	+£320	£180	£140	- £40
166-170	£295	£500	+£205	£205	£140	- £65
171-175	£295	£800	+£505	£205	£140	- £65
176-185	£350	£800	+£450	£225	£140	- £85
186-190	£490	£800	+£310	£265	£140	- £125
191-200	£490	£1200	+£370	£265	£140	- £125
201-225	£640	£1200	+£560	£290	£140	- £150
226-255	£870	£1700	+£830	£490	£140	- £350
>255	£1100	£2000	+£900	£505	£140	- £365
*Standard Rate figures do not include the additional charges for cars over £40.000						

According to the latest SMMT figures the cars in the categories in red in the right-hand column of the table that emit between 1 – 140 CO2g/km made up 18% of the 2016 market share in 2016.

We propose to reduce their annual VED for these cleaner cars by 50% from £140 to £70 to encourage their take-up for environmental reasons.

To ensure that we have the same income coming in we propose to increase the VED for 25% of vehicle in categories 166-170 CO2g/km and above. Here VED would be increased from £140 to £190. This would be revenue neutral and a fairer system. Obviously when

substantially more vehicles come in under 140 CO2g/km the system will need to be reviewed.

Our proposal includes Vehicle Excise Duty as every vehicle is legally required to be registered and a graduated VED scheme can help to encourage the uptake of cleaner, greener vehicles.

Total VED revenue in 2015/16 was £6 billion.

From 1 April 2017, changes to how cars are taxed were introduced4. The main points are:

- The first year rate is based on official CO2 figures.
- A flat standard rate of £140 will apply to all cars except those releasing 0 grams CO2/km for which the standard rate will be £0.
- An extra charge of £310 a year applies to cars with a list price over £40,000 in the first 5 'standard rate years'.
- Cars first registered before 1 April 2017 continue to pay car tax under the old system.

However, in terms of encouraging motorists towards a quicker uptake of greener vehicles, we believe that there should be further modification to take into account other more detrimental emissions such as nitrogen oxides (NOx).

Next Green Car (NCR), for example, has developed one method that could address this by creating a NCR Rating system that expresses a vehicle's environmental impact as a score ranging from 0 to 100 (greenest to most polluting).

The methodology includes a comparison of the life cycle direct and indirect emissions generated for each

vehicle, which include carbon monoxide, nitrogen oxides, hydrocarbons, particulates, and sulphur dioxide, along with the three main greenhouse gases associated with road transport, carbon dioxide, methane and nitrous oxide. So, for example, a VW Passat Saloon 2.0 TDI GT

150PS BMT – Euro 6 Diesel – 2015 has a NGC Rating of 36.6, compared with a Nissan LEAF Acenta – Battery Electric of 27.2.

We propose designing a VED system that generates the same tax take as the current system but gives graduated incentives for choosing greener, cleaner cars using the NCR rating system.

FIA FOUNDATION

The Real Urban Emissions Initiative (True)

Road Miles will also publicise the new real-time emissions rating system from the FIA Foundation and consider using this in future VED assessments.

From Autumn 2017 drivers will be able to identify and avoid buying the dirtiest diesel and most polluting petrol cars and vans with a new emissions scoring scheme recently launched by the FIA Foundation and Mayor of London, Sadiq Khan.

The new online 'cleaner vehicle checker' will include test results for new car and van models on the market. It will clearly and more accurately detail the emissions they produce on the road rather than in the laboratory. This will free purchasers from having to rely on official testing - which can be unrealistic.

It is estimated that high levels of vehicle emissions contribute to the estimated 9000 people dying in London each year as a result of poor air quality.

https://www.fiafoundation.org/blog/2017/march/fia- foundation-to-work-with-london-and-paris-on-air-quality- initiative

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[4] Appendix: Government's VED rate card

5. A New Way – Commercial, Projections, Motorists' Costs

Road Miles

Our simple new system for drivers to pay for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment was outlined in Chapter 6.

Commercial Income

There are three central commercial tenets to our proposal:

1. Auction of Road Miles to private companies
2. Adopt a Highway naming rights
3. A Road Miles Lottery

1. An Auction Of "Road Miles" To Private Companies

Additional Road Miles would be auctioned off so that Additional Road Miles would be auctioned off so that private companies can offer Road Miles with their products or services to customers. We have discussed the potential for companies offering Road Miles with large corporations including the CEOs of Ford and Vauxhall.

Vauxhall said "It could be that, if such a scheme were introduced whereby drivers were charged a fee for the number of miles they travelled, giving drivers 'free' Road Miles might act as a marketing incentive used by OEMs to differentiate their product offering from competitors."

Ford said "Commercial companies could purchase some additional Road Miles in the Road Miles auction to offer as marketing incentives. For example, we may wish to promote Buy the new Ford Kuga and get 1,000 free Road Miles."

Other examples:

- MaaS (Mobility as a Service) providers may wish to build free miles into their car hire or car share propositions;
- Sky, BT, mobile phone operators and banks may wish to bundle Road Miles in with their Prestige Accounts;
- Shell Driver's Club loyalty card could offer free Road Miles as an incentive.

More examples are in the Appendix.

Revenue from the annual auction would help keep the cost per mile to motorists at acceptable levels. There is a precedent here with the 4G mobile Government auctions.

https://www.ofcom.org.uk/about-ofcom/latest/media/ media-releases/2013/winners-of-the-4g-mobile-auction

2.Road Miles Adopt-A-Highway

Road Miles will consider auctioning off the naming rights of key motorways in a similar way to football grounds, for example, Arsenal Emirates Stadium or Leicester King Power Stadium.

We might see:

A1 Adidas

M1 Morrison's

M3 3M manufacturing company

M4 Microsoft

M6 M&S

These companies would also be permitted to exhibit at Motorway Service Areas, for example, Adidas Astroturf at the Adderstone A1 service area.

What it could look like Birmingham Mail 28 April 2017

On local roads we would also consider US/Canada style Adopt-a-Highway schemes whereby local companies help pay for litter collection or flowerbeds on these highway verges in order to bring in more income.

The Chancellor could ration the number of free miles for auction to a pre-determined limit to counter the risk of oversupply and congestion.

3. Road Miles Lottery

We envisage this being operated in a similar way to the successful National Lottery, set up by the Government and regulated by the National Lottery Commission.

Since the National Lottery was launched in 1994, £55 billion has been paid out in prizes. On average £30 million is raised per week for National Lottery projects and a total of £36 billion has been spread across 500,000 projects. This equates to around 160 projects for every UK neighbourhood6.

The percentage split of the £7,595 million annual National Lottery proceeds for the year ending 31st March 2016 was:

- 55% paid to players in prizes
- 25% raised for "good cause" National Lottery projects
- 12% went to the Government in Lottery Duty
- 4% earned by retailers in commission
- 4% to Camelot as the lottery operator

The "good causes" element of Road Mile Lottery proceeds would be for road maintenance, potholes and road projects, thereby ensuring a reliable and sustainable source of funding towards maintaining our roads to a good standard.

In addition, there has been a decrease in supported mileage for public buses since 2009/107, currently 1.25 billion bus service miles, and so there would be scope to allocate some lottery funding towards local bus support to assist in the delivery of the social benefits identified

by Greener Journeys[8] in conjunction with LowCVP.

Lottery prizes will be super state of the art cars with free Road Miles for one or more years. The very latest top end electric/ hybrid models, such as Tesla X Model and proposed Aston Martin EV, would be offered to increase excitement about EVs. Service areas would showcase the cars with "Win Me for £1.50" signs. Smaller cash prizes would also be allocated.

We believe the total lottery market will expand because new lottery players would enter the market whilst players of both lotteries would enjoy their increased chances of winning different prizes.

The Road Miles Lottery percentage split would be:

- 25% prizes
- 25% towards cost per mile reduction for car owners
- 25% for road maintenance and projects
- 12% Government Lottery Duty
- 5% Local bus support
- 8% Operating Expenses

We stress that the Road Miles business model works with or without these additional commercial activities. However, we believe that greater interaction with road users via the lottery and sponsorship options will help customers buy into the concept. The additional income also helps to keep Road Miles costs down and contributes to some good road causes.

Road Miles Projections And Motorists' Costs

Road Miles will deliver the main revenue stream as fuel duty revenues decline.

Proceeds from the Road Mile Lottery and from the auctioning of Road Miles will supplement Road Mile revenues and the necessary funds for road maintenance, other road projects, and with some proceeds allocated to local bus services.

These revenue streams grow over time with the price per mile increasing whilst fuel duty proceeds decrease due to:

a. A decline in the number of petrol and diesel vehicles as the number of alternative fuel vehicles grows;
b. A continuing improvement in vehicle fuel efficiency; and,
c. A decline in the rate of fuel duty, frozen at Year 5: Whilst a decline in the duty rate will be of benefit to petrol and diesel vehicle owners, it nevertheless remains an additional cost compared to motorists driving alternative fuel vehicles.

Therefore, the over-riding impetus will be towards a faster uptake of greener vehicles. The freeze in Year 5 is to coincide with the average vehicle replacement cycle.

With a view to maintaining Government motoring taxation revenue at or above current levels, and at the same time creating a fair system for motorists, the cost per vehicle road mile will change along with the rate of fuel duty.

The main drivers of the Road Miles cost per mile are:

1. The annual amount of "free road miles" allocated to each road user, and
2. The percentage decreases in the rate of fuel duty.

Assumptions

a. An allocation of 3,000 Free Road Miles per year per motorist, and 4,000 for those in rural areas.
b. The total number of vehicles is held constant at 2015 levels. Whilst the Department of Transport forecast vehicle numbers increasing 25% by 2040, others comment that car traffic has been flat-lining and predict some decline in traffic in line with the "peak car" hypothesis that motor vehicle distance travelled per capita has peaked and will now fall in a sustained manner.
   UK population growth in the 2020s decade is projected to grow at an average 0.58% pa9.
c. There is an increase in the number of Alternative Fuel Vehicles (AFVs) from the current 310,000 to 1.3m by Year 10. This assumes growth in the share of total cars registered from the current 1% to 4.5% by Year 10, and that there is a corresponding decrease in the number of petrol/ diesel vehicles.
   The increase in AFVs means that they would account for 50% of all new UK car sales by Year 10, which is in

line with Go Ultra Low's forecasts for the year 2027. The same percentage shares have been used for the other vehicle categories.

d. The fuel duty rate, as one of the drivers in our model, falls from today's 58p per litre of fuel to 47p by Year 5 .

Our proposal incorporates this reduction as a means of offsetting the new cost of motoring to vehicle owners when the new Road Miles system goes live.

The Effect Of Fuel Duty Rate Changes On Pump Prices

The road user will welcome any reduction in pump prices. In our model, the fuel wholesale price and the VAT (charged at a percentage of the wholesale price plus the duty) remain constant at 42p per litre and 20% respectively.

Petrol pump prices would fall by 17% from today's price of 121p per litre to 106p by Year 5, and diesel from 123.5p to 108.5p. The reduction is planned to be fair to motorists, and to keep businesses competitive by not increasing their transport costs during the initial transition years of Road Miles when most motorists will be paying both Road Mile costs and fuel duty. HGV traffic has yet to return to pre-recession levels[9].

Pence Per Litre	Today	Year 1	Year 5
Fuel Duty	58	52	47
Pump Price – Petrol	121.0	112.3	106.3
Pump Price - Diesel	123.5	114.6	108.5

[9] ONS: Overview of the UK population: February 2016

From Year 5, fuel duty is frozen on the basis that the average motorist will change their car once every five years. This ties in with our projection that around a fifth (22%) of all new car sales will be alternative fuel vehicles (AFVs) in Year 5, based on Go Ultra Low's ten-year forecast.

The London Mayor's proposed scrappage scheme, which Road Miles will fully endorse, together with strong incentives from the Road Miles scheme (those with an AFV will not pay fuel duty) will encourage a faster take up of greener vehicles.

e. An auction of 30 billion Free Road Miles pa to companies, which is the equivalent of 9% of current total vehicle miles travelled. Conservatively, we assume that 50 major companies from different industry sectors – financial, breakdown organisations, car manufacturers, utilities, supermarkets, media and social media, phone companies, high street retailers, food companies – would bid an average 4-5% of their annual advertising spend on purchasing Road Miles to pass on to their customers. We have also assumed another 10% of the other 7,000 large UK companies would join the auction.

f. The difference between annual Road Mile model revenues and current fuel duty plus VAT receipts will be zero or show a small surplus. Fundamentally, this ensures that there is no loss compared to current Government motoring taxation revenue streams.

g. The Road Miles lottery fund is forecast to raise £649 million in Year 1 – equivalent to 13% of National Lottery ticket first year sales, based on the assumption that 55% of car owners buy tickets every other week at £1.50 (25% less than the National Lottery ticket price). Lottery takings are predicted to grow incrementally over the forecast ten-year period to £1.2 billion, which is equal to 25% of the National Lottery's first year sales or 16.7% of current National Lottery sales.

We assume that 25% of earnings will be allocated to road maintenance and other road projects, 25% towards Road Mile costs, and 25% for prizes and 5% towards financial support for local bus services.

Projections[10]

We undertook extensive business modelling of our Road Miles scheme, looking carefully at today's breakdown of costs, revenues and vehicle figures, sourced from the Treasury and DfT, before creating our detailed financial model. Many scenario tests were performed in deriving our base level projections, which are based on conservative assumptions.

A) Government Revenues

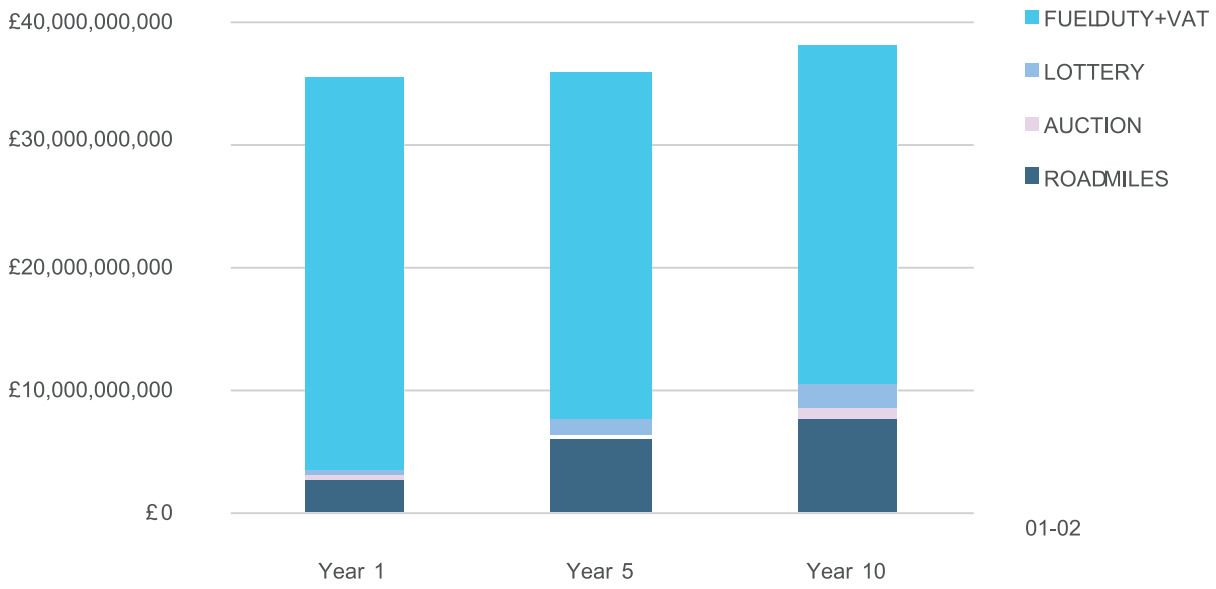
Vehicle Excise Duty will be reformed to encourage faster take-up of cleaner vehicles and in our projections will raise the same amount of duty as is currently raised. See Appendix. Hence this revenue stream has been excluded in our model projections here, which look at fuel duty revenues and Road Mile revenues.

Total revenue in our projections will come from four sources (until the time when fuel duty is no longer applicable) and will be maintained at or above current fuel duty (plus VAT) revenues:

i. Road Miles revenue (from cost per mile by vehicle)
ii. Road Miles Lottery revenue
iii. Road Miles Auction revenue, and Road Miles naming rights revenue
iv. Fuel Duty + VAT

The share of proceeds from the three Road Mile revenue streams roughly triple from 11% to 28% over the ten-year period, whilst fuel duty revenue share falls correspondingly from 89% to 72%.

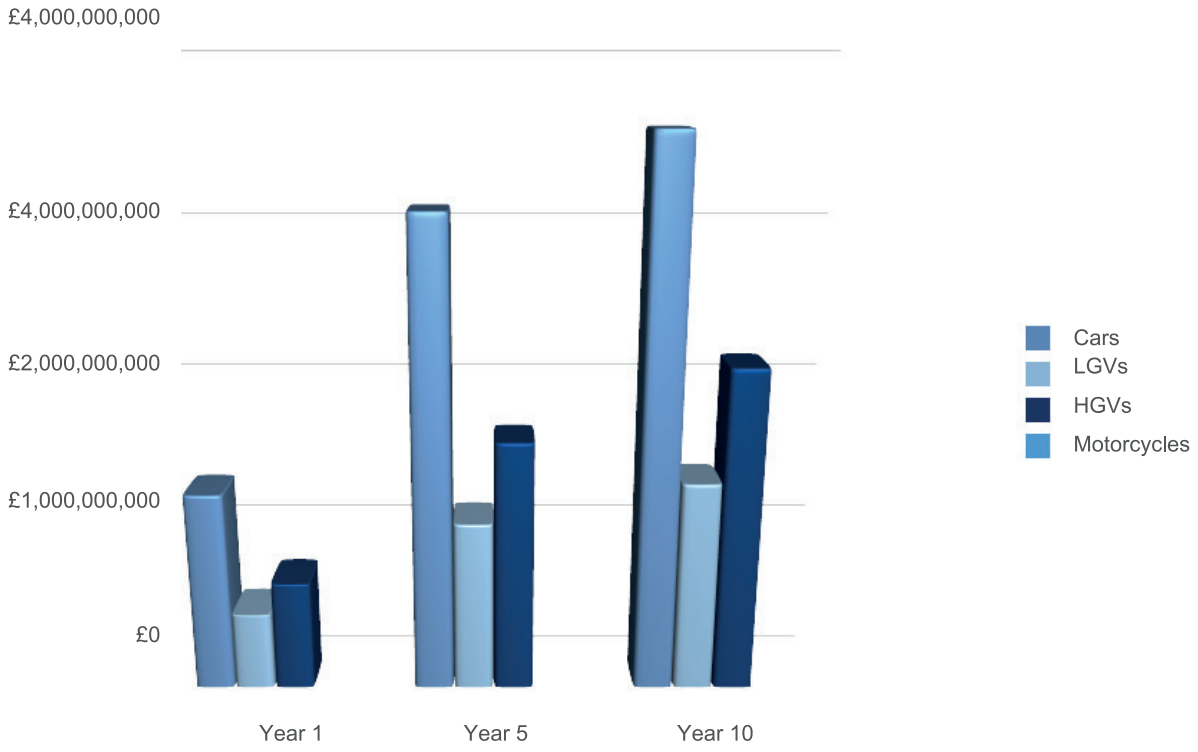
The share of revenues from Road Miles could grow more rapidly over the ten year forecast period if the take up of AFVs accelerated at a greater rate than forecast because, for example, dynamic charging comes on stream earlier than currently predicted.



[10] Further detail in Appendix

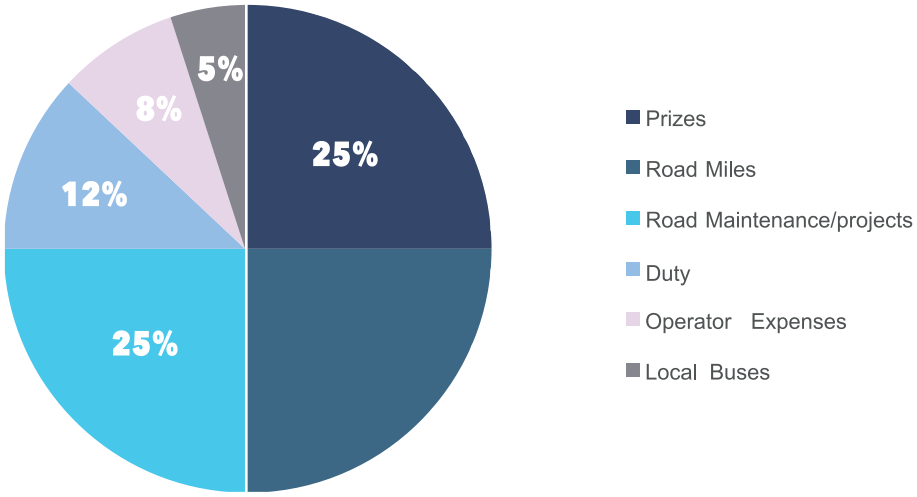
I.Road Mile Revenue

Road Mile revenue increases from £2.6 billion in Year 1 to £7.1 billion by the end of the forecast period, with cars accounting for 50% by Year 10, LGVs 20% and HGVs 30%.



Ii. Road Mile Lottery Revenue

Total Lottery proceeds are forecast to grow from £649 million in Year 1 to £1.2 billion in Year 10.



This proportional split would benefit motorists in many ways. For example, there would be an average £238 million pa towards road maintenance, potholes and other road projects. Last year, two million potholes were filled at a cost to the taxpayer of £118 million. Research

by Kwik Fit found that 6.3 million drivers suffered damage from hitting potholes in the year 2015/6 and paid an average £108.60 for repairs to tyres, wheels, suspension and exhausts, giving them a total repair bill of £684 million.

Iii. Road Mile Auction Revenues

We assume that bidding companies' pay the same price per Road Mile as car road users in our model (<1p per mile) but in reality Road Miles up for auction will be capped and therefore the Road Mile price could be higher.

Year 1	$264 MIllion
Year 5	$612 MIllion
Year 10	$705 MIllion

Any increase in the price per mile would augment this revenue source further.

Also, auction revenue from haulier companies (not modelled) would offer further potential uplift to our forecasts. They would pay the same rate as HGV vehicle users in our model (4.8p per mile).

Additional revenue (not modelled) will come from auctioning of Road Miles naming rights of key motorways ("Adopt a Highway"). This could add a further £200 million revenue with ten £20 million sponsorship deals pa.

In November 2012, Arsenal and Emirates officially announced a new deal worth £150 million over five years for naming rights at the Emirates Stadium.

Iv. Fuel Duty Plus Vat On Fuel Revenues

The fourth source of Government revenue from motorists, fuel duty (plus VAT on fuel) is projected to fall from £33 billion in 2015 (100% of total revenue) to £24.7 billion (76%) by Year 5. Thereafter, fuel duty revenue continues to fall (though at a slower rate because of the Year 5 freeze in duty) to £24 billion (72% of total).

B) "Surplus" Road Miles Government Revenue

Whilst developing Road Miles as a means of paying for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment, we incorporated the objective of maintaining total Road Mile revenues at least equal to the Government's fuel duty (plus VAT) revenues for the vehicle categories modelled - cars, LGVs, HGVs & motorcycles.

In Year 1, total revenue exceeds current duty revenue by £216 million and by £1,894 million in Year 10, giving annual average 3.4% "surplus" revenues of £1.1 billion per annum across the ten years.

C) Motorist Road Mile Costs

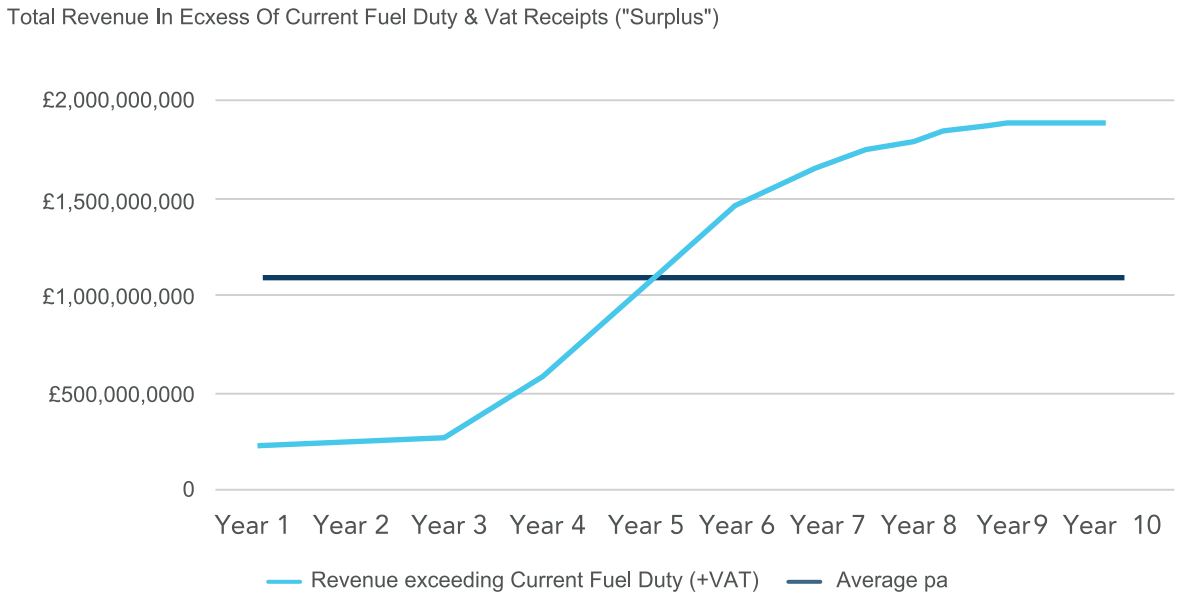
Motorist Road Mile costs comprise:

1. A Road Mile cost per mile, and
2. A pump fuel cost per mile

AFV owners will pay approximately 2p per mile electricity costs (Energy Saving Trust) and the Road Mile cost, whilst petrol/diesel vehicle owners will pay a combination of the Road Mile cost and the fuel costs.

Since the average car replacement cycle is five years, fuel duty will be cut over these initial years by 20% and in Year 5 will be frozen. The purpose is to ensure that there will be a benefit to all road users with the introduction of the new Road Miles system whilst simultaneously encouraging the take up of greener vehicles. After five years, a switch to alternative fuel vehicles (AFVs) becomes still more advantageous.

Our economic and financial modelling has produced the following per mile driving costs by vehicle type over the ten-year forecast period.



Per mile driving costs by vehicle type - in pence

	Today*	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Road Mile Cost**							
Car	0.00	0.88	1.04	1.30	1.61	2.04	2.35
Lgv	0.00	1.45	1.83	2.25	2.70	3.20	3.95
Hgv	0.00	4.80	6.05	7.50	9.10	11.00	14.10
Motorcycle***	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pump Fuel Cost							
Car	12.19	11.14	11.08	10.86	10.69	10.39	10.39
Lgv	15.98	14.49	14.42	14.13	13.91	13.51	13.51
Hgv	65.45	59.35	59.07	57.88	56.98	55.36	55.36
Motorcycle***	4.67	4.67	4.67	4.67	4.67	4.67	4.67
Electricity Cost Per Mile	2.00	2.00	2.00	2.00	2.00	2.00	2.00

The Road Mile and pump fuel costs per mile should not be added together as a "total" per mile cost because it does not take account of the free Road Miles.

EV owners pay the electricity cost of 2p per mile to the utility companies.

Reducing fuel duty more than offsets increases in Road Mile per mile costs which benefits all motorists. For average motorists the reduction of 12% in fuel duty by Year 2 (10% in Year 1, 2% in Year 2) feeds through to a pump fuel cost per mile of 11.08p for petrol vehicles. The Road Mile cost per mile increases by 18.2% to 1.04p, but the combined new costs have the effect of saving the driver 3.7%.

Distance: average 8,192 miles including 3,000 free road miles

	Today*	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Motorist Fuel Cost Cumulative & Fuel Cost Decrease (With Application Of Road Mile Fuel Duty Cuts)	£999	£912 (8.7%)	£908 (9.1%)	£890 (11.1%)	£876 (12.7%)	£851 (15.5%)	£851 (15.5%
Road Mile Cost		£46	£54	£67	£84	£106	£122
Cumulative % Increase In Road Mile Cost		0.0%	18.2%	43.2%	67.0%	93.7%	108.9%
Total Cost % Reduction From Today's Cost	£999	£958 (4.1%)	£962 (3.7%)	£957 (4.2%)	£959 (3.9%)	£957 (4.2%)	£973 (2.6%)

*24th February 2017

** commences after free Road Miles allocation

*** It is assumed that motorcyclists continue to pay fuel duty at full rate and zero Road Mile costs (until such time that the telematics device can be fitted) Note: figures should not be added together as a per mile cost because the Road Miles cost takes intop account the free miles allocation

6. Fuel Duty Revenue & Future Decline

Fuel duty per litre of petrol, diesel and biofuel is 57.95 pence, plus 20% VAT, which is charged on the duty-inclusive price of fuel, taking the total cost per litre to 79.2 pence.

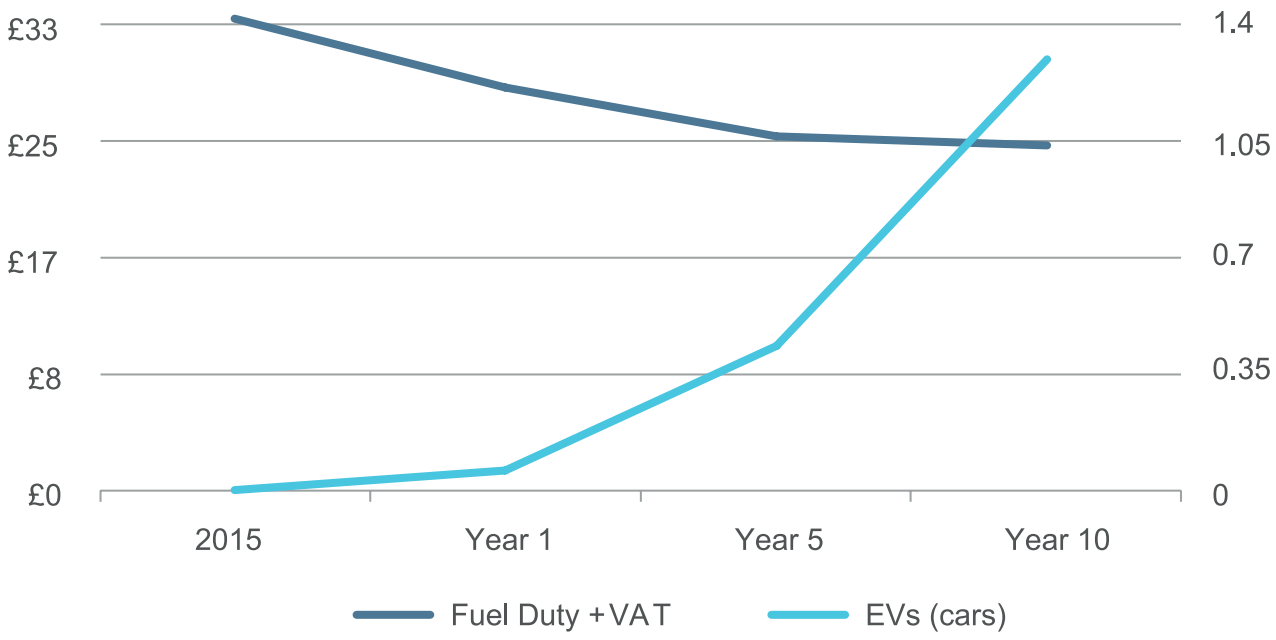
Total fuel duty plus VAT taxation receipts in 2015 was £32.6 billion, and accounts for 85% of total motoring tax revenue.

Technological Advances – Effect On Traditional Motoring Taxation Revenue Streams

Government revenue from VED and duty will decrease as fewer vehicles use petrol or diesel.

Forecast growth of electric cars (M) and fall in fuel duty revenues (£BN)

Sources: Report for Committee on Climate Change, Aberdeen University 2013; SMMT Information Paper September 2014; OBR December 2016; Go Ultra Low; Our Model



Sources: Report for Committee on Climate Change, Aberdeen University 2013; SMMT Information Paper September 2014; OBR December 2016; Go Ultra Low; Our Model

7. What We Pay For Roads

European Union Governments generated a surplus of €107.9 billion on road transport taxes in 2013. Road transport generated €286.3 billion in national taxes and charges, governments only re-invested a €178.4 billion into the road network.

Cost Coverage Rations for Passenger Cars 2013	
UK	387%
MALTA	558%
LUXEMBOURG	378%
BULGARIA	368%
BELGIUM	246%
GERMANY	209%
FRANCE	186%
IRELAND	287%
NETHERLANDS	230%
SWEDEN	250%

8.Media Coverage
Wolfson Economics Prize 2017

Radio Interviews For Road Miles
27 April 2017

LBC Nick Ferrari

BBC Radio 2 Chris Evans BBC TV paper reviews BBC 3 Counties

BBC Radio Wales BBC Berks

BBC 5 Live Business BBC Radio Stoke

WM LIVE pres:Danny prod:matthew. mitchell

0915 H&W LIVE pres:ELLIOTT prod:Alistair.Binney

0938 CAMBRIDGE LIVE pres:PAUL prod:BEN. STEVENSON

0945 HUMBERSIDE LIVE pres:David prod:helen. scholefield-rhu

0952 OXFORD LIVE pres:Jerome prod:paul.jenner

1045 DEVON REC pres:Vic prod:ollie. yates

1052 SCOTLAND REC pres:John prod:louise.robertson

Sponsored Motorways Could Help Tackle Traffic Jams

AOL UK (Web), 27/04/2017, Unattributed

Supermarkets, sports teams and technology giants should sponsor major roads around the UK, the president of the AA has said. Edmund King claims that giving companies the chance to attach their names to road networks would help to fight traffic jams and bring down the cost of fuel.

Could Aston Villa Sponsor The Aston Expressway?

MSN UK (Web), 27/04/2017, Unattributed

The Road Miles proposal was created by AA president Edmund King in a personal capacity and his wife, business analyst Deirdre, to change the way people are charged for driving in the UK.

How Liverpool Can Counter Manchester United By Sponsoring The M62 Motorway

MSN UK (Web), 27/04/2017, Unattributed

Could Liverpool sponsor the M62 motorway? A proposal from AA chiefs have tried to drum up funds for the country's transport infrastructure - and the plans could entail football clubs sponsoring motorways, such as the M6 and M62. AA president Edmund King and his wife, business.

M1, Sponsored By Morrisons? (No Jokes About Jams, Please)

The Daily Telegraph (Scotland) (Main), 27/04/2017, p.1, Danny Boyle

The M1 could soon be brought to you by Morrisons, Microsoft or even Manchester United as the head of the AA suggests naming rights for motorways should be offered to investors in order to generate funds for road investment. Edmund King said businesses such as

supermarkets, sports teams and tech firms could help pay for litter collection in return for roadside advertising.

M-Way Sponsor Bid To Cut Jams

Western Daily Press (Late City) (Main), 27/04/2017, p.19, Unattributed

Manchester United could sponsor the M6, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of

major roads under a Road Miles concept. The Road Miles proposal was created by AA president Edmund King in a personal capacity and his wife, business analyst Deirdre, to change the way people are charged for driving in the UK.

Road Sponsorship Ahead?

Southern Daily Echo (Main), 27/04/2017, p.2, Unattributed Manchester United could sponsor the M6 motorway, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept.

The Road Miles proposal was created by AA president Edmund King.

Sponsored Motorways Could Be The Answer To Tackling Fuel Costs And Congestion, According To The Aa

Yahoo! Finance UK and Ireland (Web), 27/04/2017, Unattributed

The Manchester United M6? Football Teams And Firms Could Soon Sponsor Motorways

Mail Online UK (Web), 27/04/2017, Unattributed Manchester United could sponsor the M6 motorway, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept.

The Road Miles proposal was created by AA president Edmund King in a personal capacity and his wife, business analyst Deirdre, to change the way people are charged for driving in the UK.

AA Boss Shortlisted For Wolfson Economics Prize For UK Roads Plan

The Guardian.com (Web), 27/04/2017, Unattributed Edmund King hoping his 'road miles' allowance idea will win £250,000 award, which sought ideas from around he world on improving roads.
A proposal from the boss of the AA for drivers to receive an annual "road miles" allowance is among the ideas shortlisted for a £250,000 competition to find new ways of funding the UK road network. Edmund King, the president of the motoring organisation, has appeared on a shortlist of five entries to win the Wolfson Economics prize, this year awarded for ideas on how to fund better, more reliable roads.

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Yahoo! Finance UK and Ireland (Web), 27/04/2017, Unattributed

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The Man United M6? Football Teams Could Soon Sponsor Motorways

ITV.com (Web), 27/04/2017, Unattributed

Football teams and firms could soon sponsor motorways Manchester United could sponsor the M6 motorway, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept. Manchester United could soon sponsor the M6 motorway under new proposals Credit: GMB The plan outlines the potential establishment of the Manchester United M6, the Morrisons M1, the Microsoft M4 and the Adidas A1. It is part of a submission that has been shortlisted for the £250,000 Wolfson economics prize to reduce traffic jams. The Road Miles proposal was created by AA president Edmund King in a personal capacity and his wife, business analyst Deirdre, to change the way people are charged for driving in the UK.

The Manchester United M6? Football Teams And Firms Could Soon Sponsor Motorways

Press Association, 27/04/2017, Unattributed

Manchester United could sponsor the M6 motorway, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept. The Road Miles proposal was created by AA president Edmund King in a personal capacity and his wife, business analyst Deirdre, to change the way people are charged for driving in the UK.

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Press Association (REGIONAL), 27/04/2017, Unattributed Manchester United could sponsor the M6 motorway, according to a proposal to generate funds for investment in roads. Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept.

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MSN UK (Web), 27/04/2017, Unattributed

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How Liverpool Can Counter Manchester United By Sponsoring The M62 Motorway

MSN UK (Web), 27/04/2017, Unattributed

Could Liverpool sponsor the M62 motorway? A proposal from AA chiefs have tried to drum up funds for the country's transport infrastructure - and the plans could entail football clubs sponsoring motorways, such as the M6 and M62. AA president Edmund King and his wife, business.

Freight Organisation And AA Continue Breakdown Agreement

Handy Shipping Guide (Web), 27/04/2017, Unattributed The AA has signed a five year contract extension with the Freight Transport Association to continue providing breakdown and recovery services to its 2,000 FTA Recovery members for their 86,000 mixed vehicle fleets. The fully comprehensive contract sees the AA provide services to cars, vans and HGVs.

Edmund King Coverage

BBC Radio Stoke, James Watt, 27/04/2017, 13:03:18, 5:0 The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund King Coverage

Radio Borders, Ruairidh Tait, 27/04/2017, 13:03:03, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund Kings Coverage

BBC Radio5, Afternoon Edition , 27/04/2017, 13:11:11, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund King Coverage

LBC News 1152 AM, Live News, Travel, Business and Weather for London, 27/04/2017, 13:36:18, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund King Coverage

BBC Radio Sussex, Allison Ferns, 27/04/2017, 13:40:09, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund King Coverage

BBC Radio Surrey, Allison Ferns, 27/04/2017, 13:40:12, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Edmund King Coverage

BBC Radio Lincolnshire, Rob Underwood, 27/04/2017, 13:54:14, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports team's tech firms could help pave political election in return for a road sign advertising targets for 2017.

Quiz Conducted

BBC Radio Stoke, James Watt, 27/04/2017, 14:33:34, 5:0

The presenter asks questions to the listeners about the interview he had with Edmund King, President of the AA earlier. He asks about Edmund Kings idea to save drivers money.

Edmund King Coverage

LBC News 1152 AM, Live News, Travel, Business and Weather for London, 27/04/2017, 12:30:01, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Orkney, As Radio Scotland, 27/04/2017, 12:48:07, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Scotland FM, John Beattie including First Minister's Questions, 27/04/2017, 12:48:07, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Shetland, As Radio Scotland, 27/04/2017, 12:48:35, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Highland and Islands, The Kaye Adams Programme, 27/04/2017, 12:48:40, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

LBC News 1152 AM, Live News, Travel, Business and Weather for London, 27/04/2017, 12:48:45, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Devon, David FitzGerald, 27/04/2017, 12:49:40, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Sponsoring By Firms

LBC News 1152 AM, Live News, Travel, Business and Weather for London, 27/04/2017, 12:29:48, 5:0

The presenter is interviewing Edmund King about sponsoring of busiest roads, as part of raising funds for repairing roads, upkeeping and clearing of litter. He says that business firms such as supermarkets, sports teams, tech firms are those among who can purchase the naming rights.

Naming Motorways

LBC 97.3, Darren Adam, 27/04/2017, 02:39:45, 5:0

Manchester United could sponsor the M6 motorway to generate funds for investment in roads, the president of the AA has claimed. Edmund King says sports teams, supermarkets and tech firms are among the companies

who could purchase the naming rights of major roads. This could lead to the Morrisons M1, the Microsoft M4 and the Adidas A1.

Naming Motorways

LBC 97.3, Steve Allen , 27/04/2017, 04:02:49, 5:0

It is claimed motorways and other roads could be sponsored by major brands to help generate investment in them. The Head of the AA and his wife have come up with the idea of giving companies naming rights.

Selling Naming Rights

LBC 97.3, Darren Adam, 27/04/2017, 03:27:35, 5:0

It is claimed motorways and other roads could be sponsored by major brands to help generate investment in them. The Head of the AA and his wife have come

up with the idea of giving companies naming rights and have submitted it as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

LBC 97.3, Darren Adam, 27/04/2017, 02:49:38, 5:0

Manchester United could sponsor the M6 motorway to generate funds for investment in roads, the president of the AA has claimed. Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

LBC 97.3, Darren Adam , 27/04/2017, 03:07:35, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms

are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

BBC Radio2, Vanessa Feltz, 27/04/2017, 05:22:23, 5:0 The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 06:12:41, 5:0

Manchester United could sponsor the M6 motorway to generate funds for investment in roads, the president of the AA has claimed. Edmund King says sports teams, supermarkets and tech firms are among the companies

who could purchase the naming rights of major roads. This could lead to the Morrisons M1, the Microsoft M4 and the Adidas A1.

Selling Naming Rights

Heart Peterborough, Kev and Ros, 27/04/2017, 06:02:14, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

Heart Cambridge, Kev and Ros, 27/04/2017, 06:03:03, 5:0 The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

BBC Radio Leeds, Liz Green, 27/04/2017, 06:03:13, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

LBC 97.3, Steve Allen, 27/04/2017, 06:03:24, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

Radio X, Toby Tarrant, 27/04/2017, 06:03:59, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

BBC Radio Three Counties, Andy Collins, 27/04/2017, 06:05:52, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

TalkRadio, Paul Ross, 27/04/2017, 06:16:34, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

BBC Radio Leeds, Liz Green, 27/04/2017, 06:21:00, 5:0 The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

The AA Coverage

BBC Radio Cambridgeshire, Dotty McLeod, 27/04/2017, 06:22:19, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart Norwich, Dave and Heidi, 27/04/2017, 06:31:30, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart Bedford, Matt and Michelle, 27/04/2017, 06:32:11, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart Cambridge, Kev and Ros, 27/04/2017, 06:32:50, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart Essex, Martin and Su, 27/04/2017, 06:32:53, 5:0 The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart Peterborough, Kev and Ros, 27/04/2017, 06:32:02, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio York, Nathan Turvey, 27/04/2017, 06:33:56, 5:0 The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 06:39:36, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should

sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 07:08:03, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should

sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 07:12:19, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Coventry and Warwickshire, The Breakfast Show with Trish Adudu, 27/04/2017, 06:46:28,

5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Stoke, Den Siegertsz, 27/04/2017, 06:49:08, 5:0

The President of the AA suggests that sports teams, supermarkets, and other

businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Three Counties, Andy Collins, 27/04/2017, 06:52:10, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Asian Network, Tommy Sandhu, 27/04/2017, 06:56:07, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Heart North Devon, Matt and Victoria, 27/04/2017, 07:03:11, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The Aa Coverage

Heart Cambridge, Kev and Ros, 27/04/2017, 07:03:16, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

Radio X, Chris Moyles, 27/04/2017, 07:05:55, 5:0 The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Three Counties, Andy Collins, 27/04/2017, 07:06:09, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

Selling Naming Rights

Heart Home Counties, Matt and Michelle, 27/04/2017, 07:03:16, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

Heart Wiltshire, Ben and Mel , 27/04/2017, 07:03:24, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major

roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 07:25:36, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

BBC Radio Cambridgeshire, Dotty McLeod, 27/04/2017, 07:29:42, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

Heart Peterborough, Kev and Ros, 27/04/2017, 07:31:40, 5:0

The Head of the AA, Edmund King, says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads, to generate funds for investment in roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Roads Naming Rights

Heart Peterborough, Kev and Ros, 27/04/2017, 07:02:18, 5:0 The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 07:39:21, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Lincolnshire, Chris Berrow, 27/04/2017, 07:42:27, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Oxford, David Prever, 27/04/2017, 07:49:06, 5:0 The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 07:49:30, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Heart Cambridge, Kev and Ros, 27/04/2017, 07:32:33, 5:0 The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

The AA Coverage

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 08:13:25, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

Selling Naming Rights

Heart Bedford, Matt and Michelle, 27/04/2017, 08:32:59, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Wiltshire, Ben and Mel, 27/04/2017, 08:33:32, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Cambridge, Kev and Ros, 27/04/2017, 08:03:06, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Peterborough, Kev and Ros, 27/04/2017, 08:30:57, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Hampshire, Rich and Zoe, 27/04/2017, 08:32:31, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help

generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Home Counties, Matt and Michelle, 27/04/2017, 08:03:03, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major

brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

BBC Radio Kent, John Warnett and Maggie Doyle, 27/04/2017, 08:28:40, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

BBC Radio Nottingham, Andy Whittaker and Sarah Julian, 27/04/2017, 08:30:01, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Cambridge, Kev and Ros, 27/04/2017, 08:31:45, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Essex, Martin and Su, 27/04/2017, 08:32:30, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Peterborough, Kev and Ros, 27/04/2017, 08:02:17, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help

generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

BBC Radio Leicester, Jim Davis and Jo Hayward, 27/04/2017, 08:14:50, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Radio Aire 2, Sean Goldsmith, 27/04/2017, 08:24:59, 5:0 The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads.

Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

Heart Norwich, Dave and Heidi, 27/04/2017, 08:31:02, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Selling Naming Rights

City Talk, Steve Hothersall, 27/04/2017, 07:35:20, 5:0 Manchester United could sponsor the M6 motorway to generate funds for investment in roads, the president of the AA has claimed. Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. This could lead to the motorways being sponsored by Morrisons, Microsoft and Adidas.

Selling Naming Rights

Heart London, Jamie and Emma, 27/04/2017, 08:32:46, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

The AA Coverage

BBC Radio Three Counties, Andy Collins , 27/04/2017, 08:05:48, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor

different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 08:20:54, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The Aa Coverage

Forth 2, Alan Edwards, 27/04/2017, 08:03:56, 5:0 The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor

different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The Aa Coverage

BBC Radio Leeds, Liz Green, 27/04/2017, 08:03:03, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Surrey, James Cannon and Suzanne Bamborough, 27/04/2017, 08:18:42, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should

sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

The AA Coverage

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 08:08:51, 5:0

The President of the AA suggests that sports teams, supermarkets, and other businesses, should

sponsor different roads in Britain. It is an idea for funds could be found to pay for extra investment in the UK's highways.

Roads Naming Rights

TalkRadio, The Two Mikes, 27/04/2017, 03:06:03, 5:0 The AA president Edmund King has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 08:40:25, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Heart Wiltshire, Time Tunnel, 27/04/2017, 09:01:52, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

LBC 97.3, Nick Ferrari, 27/04/2017, 08:43:03, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 08:46:18, 5:0

The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Leeds, Liz Green, 27/04/2017, 08:49:41, 5:0 The AA has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Heart Norwich, Time Tunnel, 27/04/2017, 09:01:14, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Heart Sussex, Time Tunnel, 27/04/2017, 09:01:25, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Heart Cambridge, Time Tunnel, 27/04/2017, 09:02:23, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Heart Kent, James and Becky, 27/04/2017, 09:02:42, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

TalkRadio, Paul Ross, 27/04/2017, 09:04:34, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Wave 105, The Golden Hour, 27/04/2017, 09:04:54, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

CFM, Robbie Dee, 27/04/2017, 09:02:03, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 08:26:48, 5:0

The AA president Edmund King has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads. The AA president Edmund King joins in a discussion on the scheme.

Roads Naming Rights

BBC Radio Solent, Louisa Hannan, 27/04/2017, 09:05:15, 5:0

The AA president Edmund King has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Selling Naming Rights

Sky News, Sunrise With Sarah-Jane Mee And Jonathan Samuels, 27/04/2017, 09:12:48, 5:0

The Head of the AA, Edmund King says sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights

of major roads. Motorways and other roads could be sponsored by major brands to help generate investment in them. Edmund King and his wife have submitted the idea as part of the GBP250,000 Wolfson Economics Prize.

Roads Naming Rights

LBC 97.3, Nick Ferrari, 27/04/2017, 08:38:55, 5:0

The AA president Edmund King has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

LBC 97.3, Nick Ferrari, 27/04/2017, 08:55:22, 5:0

The AA president Edmund King has proposed a US-style 'Adopt-a-Highway scheme' for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Radio X, Chris Moyles, 27/04/2017, 09:03:58, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Viking FM, Pete Egerton, 27/04/2017, 10:02:59, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Aire FM, Caroline Verdon, 27/04/2017, 10:03:32, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

talkSport, Jim White, 27/04/2017, 10:05:43, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Humberside, Lizzie Rose and Carl Wheatley , 27/04/2017, 08:39:25, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Humberside, Lizzie Rose and Carl Wheatley, 27/04/2017, 08:54:02, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 09:01:22, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Heart Peterborough, Time Tunnel, 27/04/2017, 09:01:32, 5:0

The AA has proposed a scheme for local roads, whereby

businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Edmund King Comments

BBC Radio WM, Danny Kelly, 27/04/2017, 09:10:39, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas

are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4. Edmund King comments.

Roads Naming Rights

BBC Radio Hereford and Worcester, Elliott Webb, 27/04/2017, 09:18:50, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Hereford and Worcester, Elliott Webb, 27/04/2017, 09:33:42, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Hereford and Worcester, Elliott Webb, 27/04/2017, 09:40:56, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Cambridgeshire, Paul Stainton, 27/04/2017, 09:42:55, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Oxford, David Prever, 27/04/2017, 09:53:16, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Heart Wiltshire, Toby Anstis, 27/04/2017, 10:02:05, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Stoke, Perry Spiller , 27/04/2017, 10:02:06, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Radio Aire 2, Darren Proctor, 27/04/2017, 10:02:53, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

City Talk, Steve Hothersall , 27/04/2017, 10:03:01, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Radio Borders, Ruairidh Tait, 27/04/2017, 10:04:11, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Wave 105, Mark Collins, 27/04/2017, 10:19:31, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

BBC Radio Stoke, Liz Ellis at Breakfast, 27/04/2017, 09:32:00, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

BBC Radio Humberside, David Burns, 27/04/2017, 09:55:24, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Heart Home Counties, Toby Anstis, 27/04/2017, 10:01:52, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Names

LBC 97.3, James O'Brien, 27/04/2017, 10:02:35, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Roads Naming Rights

Key 2, Darren Proctor, 27/04/2017, 10:03:09, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Roads Naming Rights

Forth 2, Ally Bally , 27/04/2017, 10:03:58, 5:0

The President of the AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Forth One, Micky Gavin, 27/04/2017, 10:04:22, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Naming Scheme

Viking FM, Pete Egerton, 27/04/2017, 11:03:28, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Absolute Radio, Leona Graham, 27/04/2017, 11:01:15, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

BBC Radio Stoke, Perry Spiller, 27/04/2017, 11:01:44, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Hallam FM, Richie Pearson, 27/04/2017, 11:02:47, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Magic London, Gary Vincent, 27/04/2017, 11:00:18, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

CFM, Pete Moss, 27/04/2017, 11:02:13, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Radio Aire 2, Darren Proctor, 27/04/2017, 11:04:27, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Aire FM, Caroline Verdon, 27/04/2017, 11:04:36, 5:0 The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

Road Naming Scheme

Heart Home Counties, Toby Anstis, 27/04/2017, 11:02:06, 5:0

The AA has proposed a scheme for local roads, whereby businesses sports teams, supermarkets, and tech firms could purchase the naming rights of roads.

The AA Coverage

City Talk, Mick Coyle, 27/04/2017, 11:16:36, 5:0

The presenter in the coverage report that president of the AA said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.

Edmund King Coverage

BBC Radio Wiltshire, Ali Vowles, 27/04/2017, 11:22:46, 2:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising

Edmund King Coverage

LBC News 1152 AM, Live News, Travel, Business and

Weather for London , 27/04/2017, 11:27:56, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

Share Radio, Listen Again: Track Record in Brief, 27/04/2017, 11:31:58, 5:0

The presenter in the coverage report that

Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Leeds, Richard Stead, 27/04/2017, 11:33:58, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Edmund King Coverage

BBC Radio Lincolnshire, Melvyn in the Morning, 27/04/2017, 11:40:07, 5:0

The presenter in the coverage report that Edmund King said businesses such as supermarkets sports teams tech firms could help pave political election in return for a road sign advertising.al targets for 2017.

Road Names

Heart Home Counties, Toby Anstis, 27/04/2017, 12:01:45, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Aire FM, Caroline Verdon, 27/04/2017, 12:03:14, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments.

Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Forth 2, Ally Bally, 27/04/2017, 12:03:37, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Viking FM, Pete Egerton, 27/04/2017, 12:03:55, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Radio Aire 2, Darren Proctor, 27/04/2017, 12:03:58, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Key 2, Darren Proctor, 27/04/2017, 12:04:13, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

BBC Radio Stoke, Perry Spiller, 27/04/2017, 12:04:14, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Forth One, Micky Gavin, 27/04/2017, 12:04:28, 5:0 The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

TalkRadio, Julia Hartley-Brewer, 27/04/2017, 12:04:52, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Road Names

Kerrang, Alex James, 27/04/2017, 12:05:22, 5:0

The President of The AA, Edmund King is proposing that companies are allowed to sponsor major roads to

generate funds for investments. Some of the ideas are the potential establishments of Manchester United M6, the Morrisons M1 and Microsoft M4.

Sponsored Motorways Could Be The Answer To Tackling Fuel Costs And Congestion, According To The Aa

Yahoo Finance UK - Apr 27, 2017

It sounds crazy (and might not appeal to too many fans of United's rivals) but it's part of a radical new idea to transform Britain's road network. President of the AA, Edmund King and his business analyst wife, Deidre, believe sponsoring the UK's ...

Could Aston Villa Sponsor The Aston Expressway?

Birmingham Mail - Apr 27, 2017

At least, this could be the future under plans to allow companies to invest in our congested highways. Sports teams, supermarkets and tech firms could purchase naming rights of major roads under the Road Miles concept. Pictured views of Gravelly Hill ...

Aa Boss Shortlisted For Economics Prize For 'Road Miles' Allowance Plan

The Guardian - Apr 26, 2017

One of the entries for the Wolfson Economics prize included naming roads after companies as an incentive to ensure they are pothole-free. Economics Prize ...

How Liverpool Can Counter Manchester United By Sponsoring The M62 Motorway

Liverpool Echo - Apr 27, 2017

A proposal from AA chiefs have tried to drum up funds for the country's transport infrastructure - and the plans could entail football clubs sponsoring motorways, such as the M6 and M62. AA president Edmund King and his wife, business analyst Deirdre ...

'Beat Traffic Jams By Using Manchester United M6': Now Our Motorways Could Be Sponsored In Bid To Cut Costs

Mirror.co.uk - Apr 26, 2017

Major roads should be sponsored by sports teams, supermarkets and technology firms, according to a motoring expert. Bringing in adopted highways such as the Man United M6, Morrisons M1, the Microsoft M4 and the Adidas A1 would help to tackle traffic ...

Charge Drivers By The Mile, Says Aa Chief

The Times (subscription) - Apr 26, 2017

Drivers could pay by the mile to use the roads under a plan devised by the president of the AA to tackle falling fuel tax revenues. The "road miles" scheme suggested by Edmund King and his wife, Deirdre, an economist, has been shortlisted for the ...

The Leeds United M621? Football Teams And Firms Could Soon Sponsor Motorways

Yorkshire Evening Post - Apr 27, 2017

Sports teams, supermarkets and tech firms are among the companies who could purchase the naming rights of major roads under a Road Miles concept. The plan outlines the potential establishment of the Manchester United M6, the Morrisons M1, the ...

Edmund King, the president of the AA, has proposed a "radical new solution" to improve the country's road network. In a paper submitted for the Wolfson Economics Prize, he suggests that naming rights for roads should be sold to brands. "We would set up ...

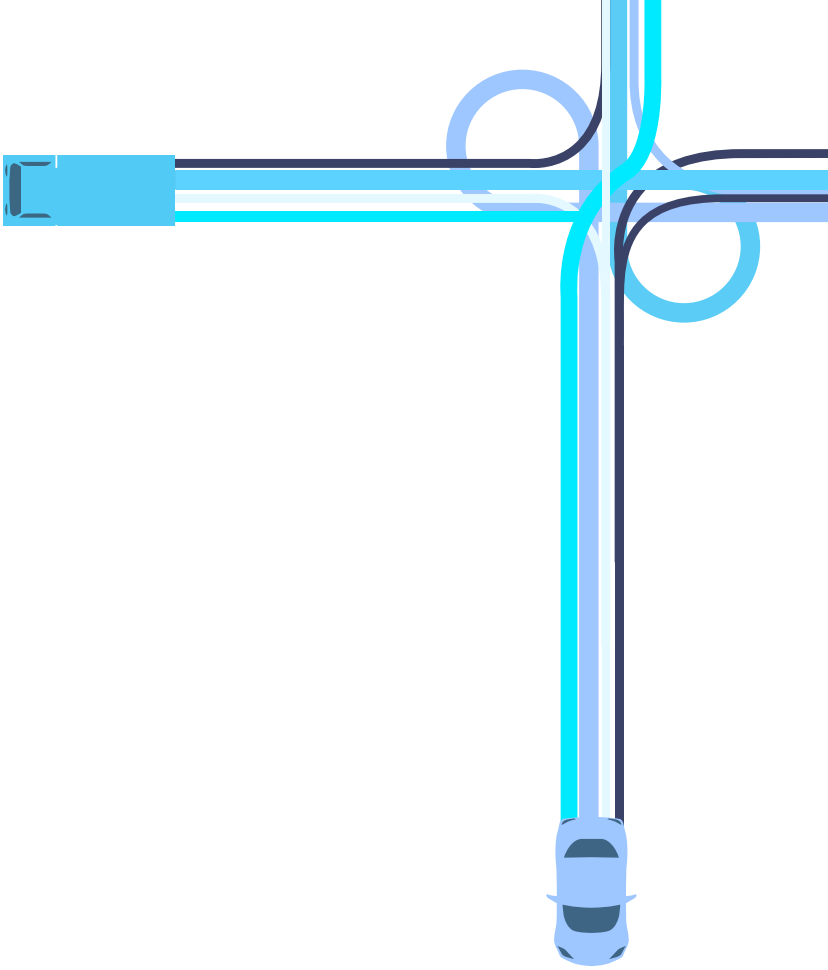
Pay-As-You-Drive Schemes To Battle For Wolfson Prize

Transport Network (press release) (registration) (blog) - Apr 27, 2017

Five finalists have been unveiled for the second largest economics prize in the world – the £250,000 Wolfson Economics Prize 2017, which this year focuses on highways. The competitors aim to solve the challenge of 'making roads better, safer and more ...

The story was also covered in transport publications such as Local Transport Today, as well as featuring on several marketing websites.

https://www.prolificnorth.co.uk/



https://policyexchange.org.uk/wolfsonprize/

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WOLFSON ECONOMICS PRIZE MMXVII

Policy Exchange