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AMBITIONS FOR EUROPE 2024

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A DECARBONISED TRANSPORT SYSTEM
LONG DISTANCE MOBILITY
URBAN MOBILITY

CONTENTS

INTRODUCTION

The challenge of delivering sustainable mobility

Decarbonising the European economy requires a sustainable mobility sector. The European Commission published several White Papers, notably in 2001 and 2011 with ambitious objectives to reduce the environmental impacts of mobility without curbing the mobility of citizens or goods.

Both papers focused on ways to reduce the external costs of transport: impacts on climate and biodiversity, accidents, pollution and noise. They identified the reduction of Greenhouse Gas (GHG) emissions as a key priority.

For each mode of transport, total emissions depends on that mode's volume of traffic in passenger- or tonne-kilometres (pkm or tkm), multiplied by unit emissions per pkm or tkm. These unit emissions are calculated by considering the unit emissions of the relevant vehicles and the occupancy rate.[1]

$$\text{GHG emissions} = \frac{\text{Traffic x Unit vehicle emissions}}{\text{Occupancy rate}}$$

The resulting formula shows that, for each mode of transport, reducing GHG emissions is possible via four policy options: **a) reduce traffic, b) lower vehicle emissions, c) increase occupancy rates and/or d) a modal shift**, reducing traffic from modes producing most emissions, to those producing the least.

The European Commission's 2011 White Paper sought to pursue these policy options and deliver a path towards a decarbonised European transport sector. The objectives set out in the Paper can be grouped under three broad headings.

Firstly, the Commission aimed to encourage **a modal shift**, particularly to rail. By 2030, 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport, with the figure rising to 50% by 2050. In passenger transport, the length of the existing high-speed rail network should triple by 2030, and by 2050 the majority of medium-distance passenger transport should be by rail.

These ambitions were a central part of plans for an EU-wide multimodal TEN-T 'core network' by 2030 with a high-quality and high-capacity network by 2050 which would also see all core airports and seaports sufficiently connected to rail.

Secondly, the White Paper set ambitious objectives to **lower emissions through technological advances**. The use of 'conventionally-fuelled' cars in urban transport should be halved by 2030, with a complete phase out in cities by 2050. City logistics in major urban centres should be essentially CO_2-free by 2030. In terms of long-distance transport, the Paper called for low-carbon sustainable fuels in aviation to reach 40% by 2050, with a 40% reduction in EU CO_2 emissions from maritime bunker fuels in the same period.

Finally, objectives were set to move towards the **full application of 'user pays' and 'polluter pays' principles**, which would also contribute to revenue generation to fund future transport investments. This move to market-based incentives and increasing the efficiency of transport would

[1] Crozet Y., 2019, Reconciling transport and the environment - a dilemma that is here to stay, *European Court of Auditors Journal*, N° 1, 2019, pp. 6-14 https://www.eca.europa.eu/lists/ecadocuments/journal19_01/journal19_01.pdf

be supported by the deployment of modernised air traffic management infrastructure, including the completion of the European Common Aviation Area, and the deployment of equivalent land and waterborne transport management systems. This would include the European Global Navigation Satellite System (Galileo) and a framework for a multimodal transport information, management and payment system.

01

REGULATION TO ACHIEVE A DECARBONISED TRANSPORT SYSTEM

AMBITIONS

1 **Achieve a successful modal shift**

2 **Develop mobility policies that adequately, fairly and efficiently internalise external costs**

3 **Provide a regulatory framework that allows for technological advances**

The challenge

The results of Europe's mobility policy to date are mixed. However, the objectives of the 2011 European Commission White Paper were correctly grounded in an understanding of how a decarbonised transport sector can be created.

Therefore, European mobility policy in the period 2019-2024 should continue to focus on achieving greater modal shift, making use of market-based incentives and pricing (to reduce traffic and/or increase occupancy rates), as well as technological change (to lower vehicle emissions).

A principle challenge in this will be convincing Member States to support such policies and to design incentives and support mechanisms that can ease this transition.

Ambition #1: Achieve a successful modal shift

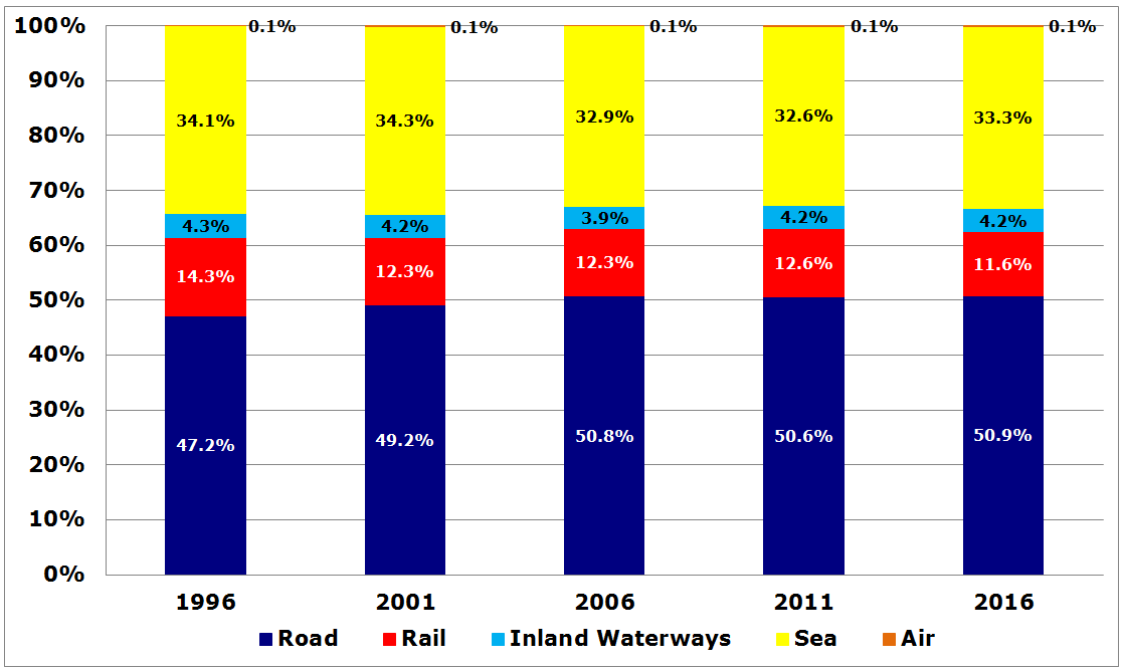
A modal shift was central to the EU's objectives of reducing emissions in the transport sector. This was particularly the case for goods, which were supposed to switch from road to rail and water on a large scale. To this end, the European Union identified corridors along which transport infrastructure – mainly rail – needed to be built or improved, to create a genuine trans-European transport network (TEN-T). For passengers, high-speed rail projects had the same objective: to offer an alternative to intra-European air travel. In terms of passengers in urban areas, modal shift meant an emphasis on the development of public transport.

However, results have fallen short of the original objectives, as a report recently submitted to the European Parliament makes clear: *"The **modal share** of road, rail and inland waterway transport remained **substantially unchanged** between 1996 and 2016, both for passenger and freight transport, with road transport showing a slight increase."*[2]

Perhaps the most disappointing results are observed in the modal share of rail transport, for goods and for passengers.

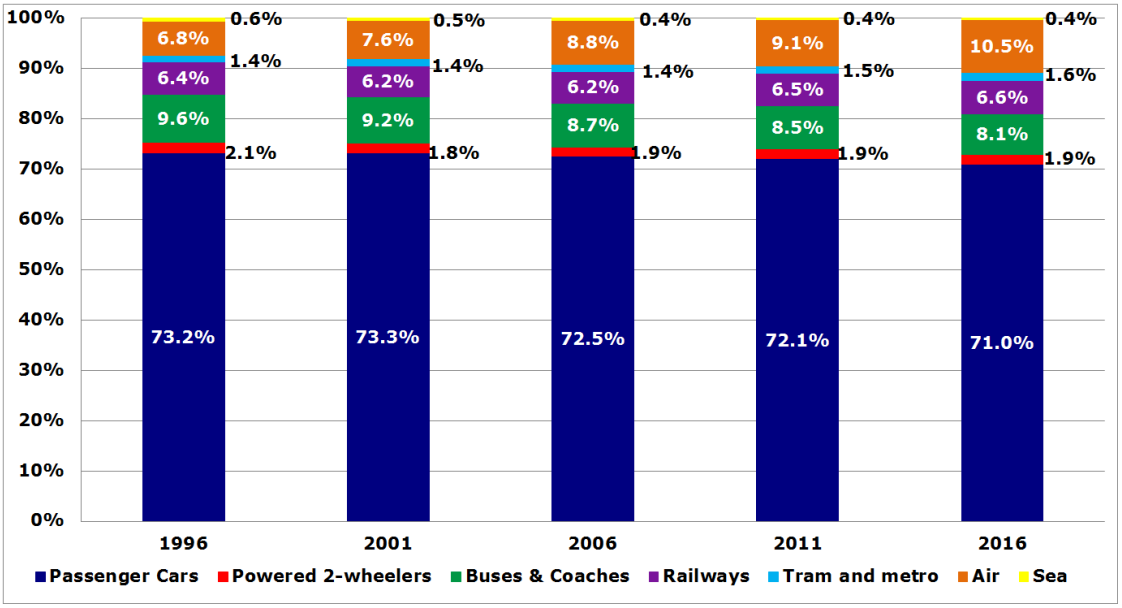
[2] Research for the TRAN Committee - *Modal shift in European transport: a way forward*, Study requested by the TRAN Committee, Policy Department for Structural and Cohesion Policies, Directorate-General for Internal Policies, PE 629.182 - November 2018, 174 p.

Figure 1: Modal share of freight transport in the EU, between 1996 and 2016 (based on t-km)



Source: 'Modal shift in European transport: a way forward', European Parliament

Figure 2: Evolution of modal share for passenger transport in the EU, 1996 - 2016 (based on p-km)



Source: 'Modal shift in European transport: a way forward', European Parliament

However, it should be noted that the Commission's target related specifically to freight traffic travelling over 300km, where rail may be competitive with road as part of a multimodal chain. This is provided that rail offers sufficient advantages in terms of quality of service and cost on the trunk haul, to offset the disadvantages of the need for transfer between modes. It does hold a substantial share of the market at this distance, although smaller than road.

When looking at long distance passenger traffic, we observe the same disappointing results, even if some countries such as the UK, Austria and Sweden have seen a sharp increase in rail passenger traffic. The limited progression of traffic on HSR lines[3] stands in contrast with the success of air transport. Low-cost airlines have limited the growth of high speed rail traffic, not because of direct point-to-point competition – which is relatively infrequent – but because of the incredibly wide range of destinations offered to customers. These days, when Europeans are deciding where to spend their holidays, they no longer start by choosing their destination, but consult airline websites first to see what is on offer. Increasingly, they also choose a mode of transport before deciding on their destination. This trend is clear in France, where high speed rail traffic increased by only 12% between 2008 and 2017, while air passenger numbers between mainland France and Europe rose by 39%. The fact that more and more airports are connected to a high-speed rail line means that high speed rail now serves as a complement to, rather than as a substitute for, air transport, as the 2011 European Commission White Paper stated.

In its own review of progress with the White Paper of 2016,[4] the Commission notes that little progress has been made to date and attributes this largely to slow adoption of the measures advocated in the White Paper. It also noted that technical change (particularly digitalisation and automation) has been faster than foreseen in the White Paper, and that some adaptation of the initial measures may be necessary.

Issues for policymakers

- *Given that no 'one size fits all' solution exists, policymakers must continue to work with Member States to implement tailored policies that can deliver the modal shift required in European mobility.*
- *What incentives and supports can be offered to Member States to adopt the measures already outlined in European policy?*

[3] https://www.eca.europa.eu/Lists/ECADocuments/SR18_19/SR_HIGH_SPEED_RAIL_FR.pdf
[4] http://ec.europa.eu/transparency/regdoc/rep/10102/2016/EN/10102-2016-226-EN-F1-1.PDF

Ambition #2: Develop mobility policies that adequately, fairly and efficiently internalise external costs

The objectives of European mobility policy are beset by an internal contradiction. For decades, transport policies have been based on the idea that 'curbing mobility is not an option'. Indeed, an EU objective is that the external benefits of mobility should be extended to the entire population.

At the same time, the EU is promoting competition as a key factor in reducing costs and increasing demand, as has been seen in air transport. Deregulation of the sector has led to a significant drop in ticket prices. For intra-EU travel, air passengers pay around 5 cents per kilometre. This is half as much as for high speed trains (10 to 15 cents) and five times less than for cars (25 to 30 cents). It is hardly surprising that the number of passengers in airports is increasing much faster than rail and road traffic.

Alongside cost reductions, the general increase in purchasing power has led to greater passenger mobility. In France, recipients of the minimum wage in 1972 needed to work for one hour to be able to purchase three litres of petrol. 47 years later, they can buy six litres with an hour's work, and as their cars consume almost half as much fuel, they can drive four times further per hour worked.

On top of this income effect, there is a substitution effect caused by the variation in relative prices. Cheaper plane tickets have stimulated demand for air travel, whose economic speed is now five times that of the automobile. For one hour of work, a recipient of the minimum wage can now travel 200 km by air, but only 40 km by car.[5]

In the freight market, there has been a major decline in bulk commodities such as coal and iron ore, which were predominantly carried by rail, and a growth in small consignments of high-value products which require a high quality of service. These are much more likely to use road transport, which has achieved substantial improvements on cost and quality of service through the early growth of competition and through infrastructure investment.

European mobility policy must now, eventually, confront the contradiction at its core: the promotion of mobility of both goods and people without properly pricing external costs such as pollution is fundamentally incompatible with Europe's decarbonisation ambitions. Better pricing of goods and passenger mobility is essential.

A recent European study shows that all modes of transport other than rail are, on average, priced at levels well below marginal social cost.[6] This reinforces the fact that, despite internalisation of externalities having been a goal of European policy for 20 years, little progress has been made.

Issues for policymakers

- *Policymakers will need to consider what incentives can be designed to overcome Member State opposition to policies that adequately, fairly and efficiently internalise external costs.*
- *Should EU support mechanisms be transformed from the support of individual infrastructure/'flagship' projects to the support of a better pricing regime?*

[5] Crozet Y., 2019, Travel speed, Dictionary, http://en.forumviesmobiles.org/marks/travel-speed-12977
[6] https://ec.europa.eu/transport/themes/sustainable-transport/internalisation-transport-external-costs_en

Ambition #3: Provide a regulatory framework that allows for technological advances

If road and air traffic continue to grow, then in order to reduce unit vehicle emissions, their source of energy needs to change, which is why the emphasis is now on electrifying cars and – to a certain extent – lorries. In order to achieve this, the European Union envisages tighter standards for car manufacturers so that all new vehicles sold emit less and less CO_2 per kilometre. Several countries, including France, Germany, Spain and the United Kingdom are considering banning the sale of vehicles powered by internal combustion engines from 2040, the aim being that all cars should be electric by 2050.

However, what are the chances of such an objective being achieved and – even if it can be – what will be the actual impact on CO_2 emissions?

On the first point, **sustained policies will be needed to achieve such a dramatic change in the vehicle fleet. Ambitious and consistent policies to support the roll-out of electric and hybrid vehicles will be needed.**

At the same time, electrification based on fossil fuels is not a solution. **The decarbonisation of European mobility must go hand-in-hand with efforts to decarbonise the energy sector.**

Issues for policymakers

- *Provide coherent, cross-sector guidance to deliver the changes required in the vehicle fleet, electricity generation, charging stations and the electricity grid.*

02

LONG DISTANCE MOBILITY

AMBITIONS

1 **Complete the introduction of competition in all modes of transport, including rail**

2 **Support smarter, economically viable investment**

3 **Fully internalise the external costs of mobility**

The challenge

The progress towards a common transport market and policy is one of the success stories of European integration. The opening up of road and air transport markets to competition and the resulting drop in transport prices have seen ever increasing volumes of goods and numbers of passengers transported.

However, challenges remain. The internal market for transport has not been fully completed, particularly in rail, and the benefits of competition remain unevenly spread. A lot of work remains to be done to make the long distance transport sector sustainable and to address its contribution to carbon emissions. At the same time, the sector is crucial to the European economy and wider society and restrictions on freedom to travel are politically unappealing.

European mobility policy must strike a difficult balance.

Ambition #1: Complete the introduction of competition in all modes of transport, including rail

In 2007, the rail freight market was completely opened up to competition, and in 2010 international passenger services followed. Under the 4th Railway Package, competition for commercial passenger services will follow in 2020 and for services operated under public service contracts in 2023. Thus, with the implementation of this Package in the coming years, the legislative framework for the introduction of competition for all rail services will be in place.

While it is encouraging that a number of countries have opened up their markets ahead of legislative deadlines, the **results so far have been disappointing. A major study conducted in 2012[7] found no evidence of an impact of the reforms on the modal split**. This was repeated in a 2018 report[8] for the European Parliament which concluded that "*The modal share of road, rail and inland waterway transport remained substantially unchanged between 1996 and 2016*".

In addition, while horizontal separation of passenger and freight services had reduced costs, vertical separation of infrastructure and operations had only done so on less densely used systems. On densely used systems it had actually increased costs.

One possible explanation is that the **reforms have yet to introduce substantial amounts of competition**. In the freight market, almost 30% of traffic is handled by new entrants, whereas in the passenger market many countries have yet to introduce any competition. Moreover, the introduction of competition is being postponed in some countries by the direct award of 10-year contracts. Direct award will continue to be permitted if it can be justified to an independent body, such as a regulator.

[7] D. van de Velde, , C. Nash, A. Smith, F. Mizutani, S. Uranishi, M. Lijesen and F. Zschoche (2012), "EVES-Rail - Economic effects of Vertical Separation in the railway sector", Report for CER - Community of European Railway and Infrastructure Companies, by inno-V (Amsterdam) in cooperation with University of Leeds – ITS, Kobe University, VU Amsterdam University and Civity management consultants, Amsterdam/Brussels

[8] Modal shift in European transport: a way forward, p.17.

Vertical separation, whilst being helpful in ensuring non-discriminatory access to the infrastructure for new entrants, has also brought problems in terms of transaction costs and misalignment of incentives.

In a vertically separated system, no-one has responsibility for optimising the system as a whole. To an extent, solutions to these problems may exist in the form of the holding company model or alliances between operators and the infrastructure manager, as is increasingly being used in Britain.

However, these solutions rest on the continued presence of a single dominant operator. As such, they may work better with a franchising system than with a system relying on extensive on-track competition.

A further concern is the perception that the rail industry is slow to innovate and to adopt the results of research. Shift2Rail, a major programme of research currently being undertaken as a public-private partnership, has set ambitious targets with a 50% reduction in system life cycle costs, a 50% improvement in reliability and a 100% improvement in capacity. However, this research will be in vain if the results are not put into practice.

Issues for policymakers

- *While the introduction of competition, including in rail, is almost complete, issues remain. These are best tackled at Member State level. However, the European Commission must play its role in monitoring developments, enforcing legislation and disseminating best practice.*
- *Policymakers should support strong, independent regulators dedicated to improving the efficiency of the rail sector and with adequate powers to implement their conclusions.*

Ambition #2: Support smarter, economically viable investment

An important part of the improvement of the quality of rail services will come from improved infrastructure. Previously, the European Commission had called for a trebling of the length of high speed lines in the EU by 2030, to improve long distance passenger services as well as to release capacity on the existing network for freight. However, a recent report by the European Court of Auditors[9] found that this target will not be reached, that the existing European high speed rail network was an ineffective patchwork, and that some recent lines were not economically justified.

High speed lines are very expensive and difficult to justify unless they carry very dense traffic. Moreover, these lines are generally not competitive for very long distance traffic. Thus, the idea of a network of new high speed lines linking all European cities does not seem to make economic sense.

As a result, new proposals for high speed lines are likely to be increasingly harder to justify, as high speed lines on densely used routes have largely been built and further investments look ever more marginal. The EU definition of high speed lines does include upgrading existing lines to allow speeds up to 200kph, but not all existing lines are suitable for such upgrading.

It will be necessary to examine future proposals very carefully to determine the appropriate mix of upgrading and new build.

Issues for policymakers

- *How to balance the target of creating an integrated, effective high-speed rail network with the economic feasibility of new lines or upgrading?*

[9] European Court of Auditors, 2018. A European high-speed rail network: not a reality but an ineffective patchwork.

Ambition #3: Fully internalise the external costs of mobility

Europe must finally get to grips with internalising the external costs of mobility. In the long distance market, the pricing of road goods vehicles and of air transport are two crucial issues.

In 1999, the Eurovignette Directive was amended to allow the charging of full marginal social costs to heavy goods vehicles. **However, while this is permitted, it is not required**. Moreover, time-based rather than vehicle kilometre-based charges are still permitted, resulting in the charge systematically undercharging operators of long distance freight. Only a small number of Member States have introduced distance-based charges and typically for motorways only. Policymakers should follow through on proposals to **amend this directive to make such charges compulsory and to require them to be based on distance, not time.**

Air transport has long been a problem area for the internalisation of externalities because of its international character and of international agreements. While the United Nations' Corsia scheme is a welcome development, its effectiveness is uncertain – it freezes emissions at 2020 levels, will not become compulsory until 2027 and doubts persist as to how well the offset mechanism will be regulated to ensure a genuine reduction in emissions. In light of this and the urgency of the climate change challenge, European policymakers and Member States should lead the way with their own plans.

So far the European Commission has relied on the Emissions Trading System (ETS) to recover the external costs of aviation, but existing cap levels on carbon prices have been very low and a large portion of the permits used by airlines have been received for free. As a consequence, the total CO_2 emissions of air transport are still growing in Europe, even if the CO_2 emissions per passenger-km are decreasing. **The European institutions must act to make the ETS a more reliable tool through an increased carbon price and/or by reducing the number of free permits available. Alongside this, policymakers should encourage Member States to consider a Union-wide approach to additional levies – either on tickets or as a kerosene fuel tax.**

Issues for policymakers

- *How can Member States be convinced to support a level playing field in long-distance mobility that adequately prices roads goods vehicles and air transport?*
- *Policies such as the provision of investment funds should be considered for those countries most affected.*

03

URBAN MOBILITY

AMBITIONS

1 **Support the introduction of sustained, ambitious efforts to reduce the external costs of road traffic**

2 **Embrace the opportunities of new mobility services & shared mobility, without being blind to their challenges**

3 **Empower mobility authorities to deliver Mobility 2.0**

The challenge

Air pollution is responsible for the premature death of 400,000 Europeans every year with a further 6.5 million suffering from pollution-induced diseases including strokes, asthma and bronchitis.[10] Despite some progress in recent years, air quality has not improved as quickly as hoped for, and Member States frequently find themselves in breach of air quality standards.

In May 2018, the European Commission applied to the European Court of Justice to bring an action against several Member States including France, Germany, Spain, Italy and the United Kingdom. All are accused of exceeding the maximum thresholds of pollutants, in particular NOx and particulates, in their main conurbations.

Even though air pollution is not exclusively caused by transport, road traffic is responsible for a large part of NOx emissions (e.g. 56% in Ile-de-France), and particulate matter (e.g. 35% in Ile-de-France). In addition to pollution, transport in urban areas is responsible for other external costs, including accidents, noise and congestion.

Ambition #1: Support the introduction of sustained, ambitious efforts to reduce the external costs of road traffic

To reduce the CO_2 emissions of transport, one can choose to organise a modal shift to low-emissions/emission-free modes, reduce traffic, lower vehicle emissions and/or increase the load factor of each vehicle.

At a superficial level, it seems that many European cities and urban areas are successfully mixing these policies. **Modal shift is very often a success in densely populated areas.** In the central part of big cities, it is also easy to adopt traffic calming measures or even to ban diesel vehicles. Policies often combine banning the oldest vehicles from the road and replacing them quickly with the aid of grants for buyers of new vehicles. These policies are in line with European goals to move away from conventionally-fuelled cars and goods vehicles in major urban centres.

However, once we move beyond this superficial level, questions arise as to the effectiveness of such regulatory measures. Indeed, while car traffic has decreased in the centres of large cities, **traffic is still growing outside urban areas**, particularly for journeys from and within the periphery. At the same time, the **rate of change in vehicle fleets is slow** and in most countries electric vehicles still account for a small share of sales.

There is a sizeable gap between the accepted consequences of pollution and climate change and the relatively conservative measures adopted to date. **Regulations have largely been focused on technical issues such as vehicle standards, when it is apparent that economic tools would be much more powerful**. This is illustrated by the experience of Stockholm's urban toll: since urban road pricing was introduced there in 2006, the city of Stockholm has seen a 25% reduction in both traffic and pollutant emissions.

[10] https://ec.europa.eu/environment/air/cleaner_air/

What is clear is that a decarbonised transport system is a cross-sector challenge requiring the energy community, urban planners, transit authorities, digital platforms and governments to work together. Solutions will vary across countries and localities.

Issues for policymakers

- *Coordinate and facilitate the wide range of actors in energy, urban planning, transit, the digital sector and government to work together, including by sharing best practice and expertise.*
- *Policymakers should set more ambitious policy goals and make use of economic tools including tolls.*

Ambition #2: Embrace the opportunities of new mobility services & shared mobility, without being blind to their challenges

The **digitalisation of urban mobility presents many opportunities** for local and national policymakers, public transit authorities, citizens and mobility providers. However, **disruptive innovation is also challenging public policies** which have sometimes existed for decades. The development of connectivity in mobility services is changing the level playing field for taxis, but also for the management of bicycles or car fleets, and eventually for all actors in urban mobility.

Perhaps **the most radical transformation offered by digital platforms is a more collective use of cars**. Given that increasing the load factor of cars is one approach to reducing the external costs of urban mobility, then the sharing of vehicles via digital platforms is an enticing solution. Studies conducted by the International Transport Forum in Lisbon and Helsinki have shown that **shared mobility can greatly reduce congestion and pollution**, and even travel times, provided this shared mobility primarily replaces individual vehicles.

However, **such services can only be deployed if a new division of labour between new and old mobility providers and a new regulation of mobility services are implemented**.

The **large scale implications of digitally-enabled shared mobility as an organising principle are unclear**. This is because today a large part of mobility still depends on the use of private modes of transport. Even in very large cities, public transit accounts for less than half of the mobility market. The provision of a mobility service is expensive, sometimes for users and more often for the community. **One question is therefore whether digitalisation can change this system by lowering the costs of services, so that commuters abandon private vehicles and turn to new mobility services and shared mobility.** But two important issues remain: financing new mobility services on the one hand and the management of urban space on the other.

The **business models of new mobility providers are challenging**, and many new entrants have gone bankrupt. The question then arises as to whether public action is required and, if so, what form it should take. Policymakers will need to consider if subsidisation is necessary to achieve critical mass. If so, they must then grapple with how subsidies to traditional public transport should be combined with those to the new mobility services and the role that urban tolls might play. In addition to this, there are questions around what share of public funding should be directed to new mobility services.

In recent decades, policies for public transport and soft modes have been accompanied by a restriction of the public space dedicated to private cars. **Given the radical scarcity of urban public space, policymakers must consider how room can be made for new mobility services.** Decisions must be taken as to whether they should be allowed to use the space reserved for public transport and/or whether they should be allocated specific spaces (e.g. reserved lanes, car parks) that would be removed from other uses, including private cars.

The introduction of some form of urban road pricing would appear to be essential as part of this development. Currently, electric vehicles are generally allowed free use of road space (except for a limited fixed charge), whereas fossil fuel powered vehicles pay fuel taxes. Making efficient use of urban road space will be central to the promotion of shared mobility.

Issues for policymakers

- *How to foster a move to shared mobility services which replace individual vehicles?*
- *What public support – both financial and in the use of public space – should be made available to these new services?*

Ambition #3: Empower mobility authorities to deliver Mobility 2.0

Central to the concept of Mobility as a Service (MaaS) is the principle that the services of various mobility providers - new and old, public and private – be combined through a unified gateway that creates and manages trips. This concept brings forward many questions about the production and sharing of data related to urban mobility. At the scale of a conurbation, the development of a multimodal digital application requires the collection of data which is still scattered today.

Do online availability and open data access constitute sufficient solutions enabling application developers to provide relevant mobility solutions for individuals and the community? Or **should we consider that public policies must not only organise the sharing of data but also guide service offerings in a way that favours, for example, public transport or soft modes?**

Policymakers at all levels will have to address a number of regulatory questions:

- Should mobility data, especially that automatically stored via e-hailing apps, be subject to additional regulation and why?
- Should commercial organisations be required to share their data with governments, and why?
- Should government and commercial organisations' data be readily available to the general public, including the research community and why?

The data issue is crucial for mobility authorities. However, we must also question if the open data approach has produced the innovations and economic results that it appears to offer. It is true that private applications have been created as a result of open data initiatives, but these applications have often failed to generate significant business and their durability has proven fragile once the start-up funds are exhausted. Experience to date would suggest that opening data access is certainly a necessary condition for the emergence of new services, but it is not a sufficient condition.

What also emerges from experience to date is that 'business-to-consumer' (B2C) models are challenging to maintain. The **development of MaaS will be effective if new mobility providers are to some extent integrated into the public transit supply**. As a consequence, their business models have to move from a B2C to a Business-to-Government (B2G) rationale. **Digitalisation and new mobility services will therefore lead to a more important role for mobility authorities**.

Issues for policymakers

- *What data sharing/access arrangements might be needed?*
- *Will public authorities remain the key organising agent of mobility systems, and if so, how and to what extent should new services be integrated?*

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ABOUT CERRE

The Centre on Regulation in Europe (CERRE) is an independent Brussels-based think tank. We promote ever-better regulation of network and digital industries in Europe and beyond.

We support rules that guarantee access to quality services at reasonable prices for all citizens, consumers and users today, while stimulating investments and innovation for tomorrow. These rules should safeguard citizens' rights and ensure strong consumer protection as well as appropriate competition between industry players.

The growing convergence and interactions between the energy, water, mobility, media, telecom and online economy sectors, create new opportunities and challenges for regulation. CERRE's approach allows stakeholders, including policymakers and regulators, to actively adapt to fast changing technology, business models and markets.

The CERRE community supports applied research that guides political, regulatory and business leaders to take better decisions for all. To do so, CERRE develops and disseminates policy-oriented independent research undertaken by experienced economists, lawyers, engineers, political scientists and other acknowledged academics based all over Europe.

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