

Sustainable Urban Mobility for All

**Agenda for a mobility transition from municipal
standpoint**

A position paper by the Association of German Cities

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Our Vision: Sustainable mobility for a better future

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We support urban leaders all around the world to make their innovative solutions for sustainable urban mobility a reality by providing state of the art know-how and mobilizing investments.
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Table of contents

Preface	5
A. Positions	6
1. Numbers and facts	6
2. Transport policy goals for 2030	7
3. Agenda for a mobility transition (Verkehrswende)	8
3.1 Consistent transport policy at Federal Government and <i>Länder</i> level for a transformation of mobility	8
3.2 Sustainable mobility of people and goods to improve quality of life and the environment	9
3.3 Digitalisation and innovation for intelligent mobility	10
3.4 Municipal scope for decision-making and efficient steering instruments for more rapid implementation.....	11
3.5 Sustainable financing of mobility for all.....	11
B. Backgrounds, theses and information on positions	13
I. What must be said – Positions on sustainable urban mobility	13
1. Mobility and transport – In the light of quality of life, social concerns, economic development and climate protection goals.....	13
2. Transport policy in a European and global context – Joint responsibility for a sustainable transport policy in cities and regions.....	13
3. The “Verkehrswende” from the standpoint of the Association of German Cities – The transformation to sustainable mobility in cities and regions	14
II. Where we stand - Sustainable urban mobility today	16
1. A record of success despite difficult framework conditions – What cities have achieved	16
2. Current challenges and problems – A growing pressure to take action	17
III. What we want to achieve by 2030 – A scenario for a sustainable transport policy	22

IV. What must be done - An agenda for sustainable municipal transport policy
24

1. Consistent policy at Federal Government and *Länder* level: Creating good services – Efficient and effective design of regulations.....24
2. Substantial improvements in quality of life and the environment in the cities - Strengthening sustainable mobility for people and goods.....27
3. Utilising digitalisation in a city friendly way – Facilitating innovation.....29
4. Giving municipalities more scope for decision-making – Providing efficient steering instruments from the Federal Government and the *Länder*31
5. Ramping up investments – Sustainably financing mobility for all32

List of sources and references..... 36

Preface

Traffic jams and bike traffic, city centres full of parked cars, poor air quality and bans on driving – questions about transport policy are on everyone's mind these days. For some time now, the member cities of the Association of German Cities (*Deutscher Städtetag*) have been dealing intensively with the “mobility transition” (*Verkehrswende*). Transportation shapes the economic viability and capabilities of cities, influences the urban quality of life and the environment, and is a key component in public space.

In a recent survey conducted among mayors of German cities by the German Institute of Urban Affairs (*Deutsches Institut für Urbanistik – Difu*), the topics of mobility and digitalisation played a central role. The most recent Municipal Panel of the bank *Kreditanstalt für Wiederaufbau* (KfW) highlights the relevance of these issues; of the identified 160 billion euros in investment needs, 26 percent is accounted for by the transport sector.

In February 2018 the Executive Committee of the Association of German Cities carried out an in-depth examination of the many individual aspects in a discussion paper. Its proposals and areas of focus have been incorporated into the Background, Theses and Information (Part B), which have been extrapolated as the central positions of the Association of German Cities (Part A). The positions, theses and basic principles are intended to help municipalities, political bodies and experts, but also a targeted audience in the Federal Government and the *Länder* (federal states), to engage at a substantive level with the positions of the Association of German Cities regarding the issue of sustainable mobility. This position paper is meant to encourage further discussion.

The necessary changes in mobility and the further development of the transport systems are not something that can be achieved in just one legislative period. This is why the paper also outlines important preparations and tasks for the period leading up to the year 2030. It formulates the preliminary expectations for the commission that have been agreed upon at national level for the 19th legislative period, compiling them into a strategy under the heading “The Future of Affordable and Sustainable Mobility.”

I wish you an enjoyable read.



Helmut Dedy
Executive Director

Sustainable Urban Mobility for All

Agenda for a mobility transition from municipal standpoint

A position paper by the Association of German Cities

A. Positions

1. Numbers and facts

The traffic situation in cities is, on the one hand, perceived as the personal experience of traffic jams, overcrowded public transport and a subjective sense of lack of safety when moving through a city as a pedestrian or a cyclist. On the other hand, cities have long undertaken efforts to gradually depart from the concept of a car-friendly city. The transportation situation as a whole can be described on the basis of selected parameters and data:

- The number and relative share of users of the “environmental alliance” (public transport system, bicycle and pedestrian traffic) is increasing in cities and metropolitan areas, against the nationwide trend. Pedestrians and bicyclists are increasingly asserting their own legitimate claims to space. For the environmental alliance, the expansion course and design qualities are often insufficient.
- The main driver behind the increase in traffic is the transport of freight on public roads. The distance travelled in passenger transportation increased by 28 percent between 1991 and 2015, while the increase in freight traffic amounted to 66 percent.
- The Federal Transportation Infrastructure Plan (Bundesverkehrswegeplan) assumes that by 2030 the total traffic volume in the passenger transport sector will be 12.2 percent higher than it was in 2010. During that same period, the transport volume of freight traffic is expected to grow by 38 percent.
- The number of commuters is continuing to grow in many cities – from 2000 to 2015 it increased by 14 percent in Frankfurt, 21 percent in Munich and 53 percent in Berlin. The average distance to place of work increased by 14.6 km in 2000 to 16.8 km in 2015. Nearly half of those trips, however, have a distance of less than 10 km.
- Almost half of the trips taken in cities are less than three kilometres in length. 40 percent of these trips are taken by car. Over 60 percent of people make at least one trip per day exclusively on foot. 21 percent of people ride a bike on a daily basis.
- The courier, express and package delivery sector reported an increase by over 7 percent in the volume of packages in 2017 alone. While it accounts for only a 10 percent share of all logistics services in cities, package logistics are responsible for 50 percent of all logistics routes in cities.
- The traffic volume of the public transport system is increasing steadily, but often only within the frame of the overall rate of transport increase rather than disproportionately; in other words, there has been no noticeable change in the modal split.
- With a view to the year 2030, there is the continuing risk that expected improvements in the area of vehicle emissions and fleet configuration will be offset by a disproportionate increase in traffic volume and vehicle size.

- In the year 2017, permissible limits for NO_x were exceeded in approximately 70 municipalities. While this is a significant improvement relative to the previous year's values (2016:90 municipalities), it is no reason to sound the all clear.
- The number of accidents involving persons within towns and cities has declined by 4.4 percent over the last ten years, but between 2015 and 2016 there was an increase against trend of 0.9 percent – with pedestrians and bicyclists particularly affected.
- Construction sites, traffic congestion, shortage of parking space, double-parked cars, pedestrians and cyclists at risk of harm – all cities are faced with the task of managing the daily challenges of traffic.
- The availability of space and the acceptance of claims to space are significantly restricted in many cities and regions, thereby impeding infrastructure measures.

2. Transport policy goals for 2030

Although the goals of sustainable mobility have long been recognised, the paths to their implementation are still controversial at social and also political level. It requires considerable energy at federal, state and municipal level to design a mobility transition (*Verkehrswende*) in a way that fosters consensus. The goals must be translated into strategies, programmes and projects. They can be achieved through immediate action, medium-term conversion or retrofitting projects and a long-term and far-reaching transformation of the transport sector. The particular challenge lies in significantly accelerating the pace of this change in the transport system relative to past decades. If there is to be success in bringing about a permanent improvement in quality of life, a sustainable economy and transport sector and effective climate and environmental protection, an integrated bundle of measures will have to achieve much of its impact by 2030, and its full impact by 2050.

From the standpoint of the Association of German Cities, the following building blocks must for the most part be in effect by 2030:

- There must be broad political and societal consensus for achieving sustainable mobility for all, and it must be a consensus that is instrumental in promoting change, conversion and renewal. In the process, the public transport system will have to orient itself much more to individual needs, and private transport will have to be based far more on city friendly sharing systems.
- The transport sector must deliver on its agreed commitment to reach climate policy targets by 2030 and 2050. Harmful emissions and noise pollution must be significantly reduced. The levels of fossil-based motorisation need to drop decisively, and vehicles must be operated more efficiently.
- Regional and urban planning interests are also encouraged to implement the shared principle of “the city of short distances”. Settlement expansion without connection to environmentally friendly transport systems must be avoided. The settlement development between cities and the peripheries requires more cooperation and a decisive orientation toward reducing transport services. Municipal land use planning should pursue forms of densification in residential and commercial areas that are site-specific and suitable based on the particular type of settlement.
- Distances travelled by commuters by motorised private transport can be reduced again through densified settlement development and a greater housing supply for all income levels in urban agglomerations, as well as through a mix of different usages and the spread of new forms of work and production; recreational automobile use needs to be significantly reduced by leisure and recreational options that are offered in proximity to the place of residence. The potentials of “short distances” must also be fully tapped into

by way of a comprehensive approach to mobility management with incentive systems offered by public and private employers alike.

- An overhaul of the infrastructure system, demand-oriented public transport services, mobility stations, sharing systems and bicycle parking facilities must all play a part in growing the appeal of the “environmental alliance”. Overarching tariff systems and the establishment of clearing houses for the purpose of coordination between different modes of transport can make a contribution to attaining mobility for all at a reasonable cost.
- Traffic safety must be taken to a new level – the “vision zero” without fatalities and serious injuries in road transport must be made viable.
- The digitalisation of transport in the public and private realms must be focussed on a more efficient utilisation, optimisation and interlinking of existing transport systems, and must also integrate new modes of transport. This also extends to the information and communication between providers and users, systems and services offered. Autonomous driving must be given priority in public transport development.
- Public space must be turned into a place where people once again like to spend time and meet each other. Traffic areas must be more justly distributed, and mixed-use areas can help to reduce speeds. The public transport system, together with pedestrian and bicycle traffic and sharing systems integrated into public transport services, needs to form the backbone of urban transport and take the place of a significant portion of motorised private transport. Stationary automobile traffic in cities must be significantly reduced. This also requires the use of regulatory measures.
- Given the continuing increase in demand, commercial traffic will have to fully utilise sustainable concepts of logistics and delivery transport in order to relieve the impact on public space. Only quiet, clean and safe vehicles should be deployed. Within cities, light vehicles using alternative drive technology should be used, as well as cargo bikes and pedestrian transport aids. The excessive share of truck traffic must, at international and regional level, be reduced by a shift to and expansion of rail-based transport. Regional economic cycles should be strengthened.
- The Federal Government and the *Länder* are called upon to set the right framework conditions for a uniform sustainable transport policy, and to review their funding system and interlinkage of funding areas in order to ensure that they promote the most economically viable and environmentally sound variant of the expansion and transformation of the transport system.

3. Agenda for a mobility transition (*Verkehrswende*)

From a municipal standpoint, the building blocks for a sustainable urban mobility and a *Verkehrswende*, or mobility transition, must be consolidated into one unified agenda. This is best achieved through a multi-level approach between Federal Government, *Länder* (federal states) and municipalities, with the development and fine tuning of the agenda accompanied in parallel by immediate action aimed at “rapid impact”.

3.1 Consistent transport policy at Federal Government and *Länder* level for a transformation of mobility

- Sustainability in the transport sector requires a cross-departmental mobility policy at federal level that allows a mutual engagement of the different fields of action (preserving, retrofitting and renewing the infrastructure, promoting the “environmental alliance”, switching to low-noise, low-pollution propulsion technologies etc.).

- There must be a thorough review of the federal and state funding system that has been in place until now, allowing a holistic cross-system consideration of alternatives and taking into account the spatial interdependencies in urban agglomerations. The Federal Government and the *Länder* are called upon to facilitate the creation of prerequisites for the implementation of the most viable solution from the standpoint of economic and environmental policy.
- Instead of retroactively correcting the shortfalls that come about through the often intransparent, non-congruent and temporally limited individual programmes of the Federal Government and the *Länder*, efforts should be devoted to securing an adequate basic financing for the expansion, maintenance and renewal of rail-bound passenger transport and municipal transport infrastructure.
- The cities are undertaking diverse initiatives to ensure that mobility is as environmentally sound as possible. Complementary regulatory interventions must be components of one and the same strategy if the objectives of noise reduction and clean air are to be achieved. This also includes continuous speed limits for long stretches of road and the trial-based reversal of the standard speed limit in the entire road network, with the exception of major roads, and a regulatory approach to managing parking in public space and on private property.
- The automobile industry needs to make clear commitments to reduce emissions at the source and for the retrofitting with filter systems that in particular reduce nitrogen oxide emissions of already registered vehicles.
- The Federal Government is called upon to design its Freight Transport and Logistics Action Plan (Aktionsplan Güterverkehr und Logistik) in a way that is oriented to implementation at municipal level, in order to reduce transport volumes and environmental impacts at national, regional and city level.
- The municipalities require a financial and regulatory framework for the implementation of their transport development plans and the attainment of air quality and climate targets in their areas of action. This also includes the introduction of a “blue badge” that would allow vehicles to be differentiated according to their environmental impact. It also includes corresponding funding programmes, changes and further experimentation clauses in road traffic law.
- The infrastructure plans of the Federal Government and the *Länder* must be guided by the principle that all action and planning levels responsible for transport be interlinked in a coherent network, with greater consideration given to the impacts of their transport policy on the transport situation in the city and its periphery.
- The Federal Government, recognising its responsibilities, must secure joint working processes with other federal levels, as well as with business and civil society stakeholders.
- Spatial planning law, construction planning law and building regulations law must be far more oriented toward supporting regulations aimed at traffic avoidance and reduction.
- The Federal Government must take an active role in steering and moderating the required societal dialogue on sustainable mobility and must coordinate this dialogue at cross-departmental level.

3.2 Sustainable mobility of people and goods to improve quality of life and the environment

- The central prerequisite to achieve city friendly mobility is an integrated perspective on and steering of city and transport planning. The corresponding framework plans should reflect this integrated approach. They should, however, also address the range of

challenges faced by cities, based on their size and to what degree they are impacted by traffic problems. At the same time, new developments need to be incorporated (e.g. intermodal and multimodal transport behaviour, car sharing and car pooling concepts, charging infrastructure, but also new public transport systems such as cablecars).

- Public space is where the transformation process becomes visible and palpable. In order for changes to be accepted, it is important to improve how public space is used, to enhance the amenity value of public space, and to redistribute spaces and their usage. This also includes dedicating more room to safe pedestrian and bicycle traffic and offering diverse amenity possibilities in public space.
- A stringent local parking policy and management system in conjunction with other regulatory measures enhances the long-term value of public space and creates incentives for choosing alternative modes of transport.
- Sustainable mobility policy can only function if the relationship between a city and its periphery and the resulting flows of commuter and recreational traffic are taken into account; it encompasses the steering of land usage and settlement development to the necessary mobility services that provide alternatives to automobile-centred mobility. Digital transport and mobility management must also extend to the relationship between city and periphery.
- Commercial transport is indispensable for a functioning city. Freight traffic forms the basis of the prospering development of economy and the city as an economic location. It must be ensured that this traffic takes place in an environmentally sound and city friendly manner. For this purpose, there should be a promotion of intermodality and “last mile” concepts between truck transport, electromobility and, in city centres, preferably cargo bikes; inland water transport and rail-bound freight transport should be expanded, and trucks must be operated with lower impact.

3.3 Digitalisation and innovation for intelligent mobility

- The digitalisation of urban transport offers significant opportunities to establish new city friendly forms of mobility and to strengthen existing transport systems; the risks that accompany digitalisation must be recognised at an early stage and avoided, or their impact and likelihood of occurrence must be minimised.
- Digitalisation can serve as an instrument that contributes to a more efficient system of parking management. The prerequisite is a legal framework that secures the common use of public traffic areas through non-discriminatory access to information on available parking capacity and on parking spaces located on public and private property. The necessary standardisation of technical interfaces should be carried out as soon as possible in order to avoid the dissemination of additional independent (“proprietary”) services.
- A high level of data security and data protection must also be maintained in cloud-based systems. The data sovereignty of municipalities or municipal companies makes them ideally suited to this task.
- In the digital world as well, cities rely on a modern public transport system with buses and trains forming the backbone of sustainable mobility. The public transport system must be secured and bolstered and, based on the particulars of a situation, should be supplemented by new forms of service, in particular in the area of feeder transport services. Individualisation and networking should be used to help make the system more attractive.
- Autonomous and connected driving requires adequate “guardrails” in order to secure its benefits in the municipalities and minimise the risks (increase in traffic, strict separation of public space, social segregation in terms of mobility opportunities etc.). It should be

closely linked to the public transport system and follow the larger goal of reducing individual transport and increasing vehicle occupancy. The technical and administrative prerequisites for autonomous driving will also lead to high personnel and financial costs for municipalities, which will have to be met.

- Traffic management should not serve the primary goal of facilitating the smoother flow of private automobile traffic. A smooth flow of traffic is often already limited by overuse. The focus of traffic and mobility management should instead be on improving the conditions under which the modes of transportation that make up the “environmental alliance” can help reduce emissions and promote traffic safety.
- In sector coupling, there must be a coordinated interdisciplinary view incorporating all areas of intelligent networking, while avoiding a one-sided orientation toward the needs of only one sector. This applies, for example, to the closer interlinkage of electromobility and energy supply structures that we can expect to see more of in the future.
- The municipalities must be involved in all initiatives to advance the digitalisation of the transport system. A corresponding research agenda and the activities of exchange platforms should be geared to this priority.

3.4 Municipal scope for decision-making and efficient steering instruments for more rapid implementation

- Good services must be supplemented by good regulation. Good regulation must also provide for the necessary measure of flexibility for municipal practice, in order to allow for the quick realisation of local ideas and solutions.
- The municipalities require more flexible road traffic laws that facilitate rather than impede the testing and implementation of corresponding measures.
- The Public Transport Act (Personenbeförderungsrecht) is already, thanks to its experimentation clause, a suitable means to test new mobility services, including those conceived at larger scale. In the future, the municipalities must be able to regulate and approve (licensing) the forms of mobility that they desire. This also applies to all forms of sharing and pooling of mobility services.
- With regard to parking, there is a need for comprehensive reform of the legal framework, with measures ranging from setting appropriate costs for the residential parking in public space to enforcing parking management systems to more stringent sanctioning of parking violations.
- Unavoidable restrictions of access and alternative routing require an enforceable legal framework that can help avoid a patchwork of individual regulations.
- Regarding the introduction of autonomous and connected driving, the required legal regulations must be provided for from the start in order to take municipal interests into account.

3.5 Sustainable financing of mobility for all

- The dramatically underfinanced transport infrastructure is an issue that affects municipalities of all sizes. The funding deficit has a particularly detrimental effect in metropolitan areas, as this is where the largest impacts of a transformation of mobility will be felt. This transformation has to be built on a solid financial foundation. This concerns new development, conversion and preservation of infrastructure, as well as efforts to secure the mobility offer for all users. Financing and funding programmes have to be increased, expanded and made more flexible. This also includes securing additional necessary personnel resources for the management of funding programmes.

- Beyond the division of responsibilities between the Federal Government and the *Länder* with regard to transport financing, there is also the need for a fundamental solution to provide a permanent needs-based transport financing. There is a pressing need for a larger investment initiative that will enable sufficient needs-based financing of the transformation to sustainable mobility in cities and in cooperation with the regions.
- It must be sufficiently ensured that after 2019 as well, the *Länder* continue to provide the municipalities with the divestiture funds so far earmarked for urban transport purposes. The *Länder* are also called upon to take action on their own supplemental initiatives and programmes for the funding of urban transport.
- From a user standpoint, the public transport system is in price competition with automobiles. For this reason, investment costs must not lead to an increase in ticket prices. Instruments favouring the public transport system, such as the tax cross-linkage (steuerlicher Querverbund), must be preserved.
- The “Sustainable Mobility for the City” fund should be designed in such a way that it actually provides additional funds that the municipalities can use as unbureaucratically as possible for measures with a maximum possible benefit in advancing the cause of sustainable mobility.

B. Backgrounds, theses and information on positions

I. What must be said – Positions on sustainable urban mobility

1. Mobility and transport – In the light of quality of life, social concerns, economic development and climate protection goals

Mobility and transport play a central role for the population and the economy of cities and regions. The overarching aim is a needs-based and environmentally friendly organisation of mobility, and to strengthen the economy and competition in the process. How mobility is secured for people and goods and how the problem of traffic is handled has a significant influence on the quality of life and the environment in cities and regions, as well as on the competition between them with respect to business location development. The cities have managed to gradually – and with a significant degree of success – improve the balance of mobility needs and quality of life. At the same time, however, the demands that people and the economy at large place on the possibilities of mobility have increased significantly. Growing metropolitan regions must now take new mobility requirements into account.

Nevertheless, the cities have a responsibility to redouble their efforts in reducing emissions of noise, pollutants and environmentally harmful gases, as well as the high rate of land use. The continuing and multi-faceted need for adjustment in the area of mobility and transport is a product of growth and shrinking processes in cities and regions. In addition, there is a need to continue the development of diverse forms of mobility, in accordance with the requirements and expectations of the population and the economy, while meeting high standards with regard to quality of life and the value of the respective location.

In the process, a particular challenge lies in maintaining fair and just conditions in terms of social and mobility needs; the principle of universal access to the cities, regardless of people's respective economic productivity, must be guaranteed. A resilient and future-proof transport policy must ensure that everybody can participate in mobility services, and must enable their access to public service facilities, as well as places of education, training and employment.

2. Transport policy in a European and global context – Joint responsibility for a sustainable transport policy in cities and regions

Urban transport policy is certainly linked to the UN sustainability and climate protection targets as well as the New Urban Agenda of the HABITAT III conference. The Presidium of the Association of German Cities determined that the global climate protection and urbanisation targets also determine the local political framework for action. Additional frameworks include European climate protection targets and the Federal Government's Climate Action Plan. Negotiations are currently underway at European level regarding the setting of emissions standards for new cars and light utility vehicles, which are to go into effect as of 2021. Key framework conditions are set by way of political stipulations at European level, as well as by the Federal Government and the *Länder*. The sustainable development and design of urban transport and transportation between cities and their peripheries require common targets and coordination between various policy areas.

However, an implementation of the environmental and climate protection targets in the municipalities can only succeed if the European Commission, the Federal Government and the *Länder* set the necessary framework conditions and build the foundation for a sustainable mobility and transport policy. This must also involve key fields of action in the areas of regulation and financing.

As important as political guidance is, and despite the recognised time pressure, it must be clearly remembered that transport policy is always a process! As such it requires a broad civil society consensus against the background of a common positive vision of the future that revolves around a liveable city and a mobile urban society. The municipalities have a key role to play in this process, and for this they require the corresponding support.

3. The “Verkehrswende” from the standpoint of the Association of German Cities – The transformation to sustainable mobility in cities and regions

The process of transformation toward sustainable mobility in cities and regions has been underway for some time now. The drivers of this transformation include the increasingly apparent exceeding of capacity limits in the areas of motorised private and freight transport and public transport, the necessary reduction of harmful emissions and noise, the protection of natural resources and the need to reduce land use.

This transformation is increasingly being referred to by the term “Verkehrswende”, or mobility transition.¹ The concept is taking hold in political and professional communication as well, and even resonates positively with the public.² Already in 1989, the “The 10-point Plan to Improve Urban Transport” formulated concrete proposals and demands that point in the direction of a mobility transition.³ The term “Verkehrswende” is associated with the term “Energiewende,” or energy transition, which dates back to the early 1980s, and in a similar way also stands for a political agenda.

More important than a discussion of terminology, however, is the clear positioning on the action needed to improve the transport situation in the cities. Building upon past accomplishments, there must be a clear formulation of what is required of the transport policy of the 21st century. This will also require political and social discussion in order to reach an agreement on essential and non-essential transport needs, so that there is no more need to expand the existing use of public space, in particular for motorised private transport.

Many member cities are also involved in expert panels that are working toward achieving sustainable and affordable urban mobility. They are active in the Building and Transport Committee and in the expert commissions of the Association of German Cities, are participating in “Agora Verkehrswende”⁴ or are cooperating in the “Urban Mobility Platform”.⁵

¹ The Federal Government, in the context of its Sustainable Development Strategy, its Climate Action Plan and its newly launched Emergency Clean Air Programme, uses the term “Verkehrswende”; see <https://www.bundesregierung.de/Content/DE/Infodienst/2017/11/2017-11-30-kommunalgipfel/2017-11-30-saubere-luft-in-den-staedten.html>. The origins of the term date much further back, however; already in 1990 Markus Hesse and Rainer Lucas of the Institute for Ecological Economy Research (IÖW) discussed the concept of a mobility transition using the term “Verkehrswende”; see https://www.ioew.de/uploads/tx_ukioewdb/IOEW_SR_039_Verkehrswende.pdf, last accessed on 26 Jan. 2018.

² The increasing acceptance among the population is illustrated, for example, in two recent representative studies commissioned by the KfW and Infratest/dimap. They show that there is “apparently an awareness that in addition to an energy transition, there is also a need for a mobility transition. see <https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-Fokus-Volkswirtschaft/Fokus-2017/Fokus-Nr.-187-November-2017-Verkehrsbefragung.pdf> and https://www.swr.de/-/id=20937412/property=download/nid=233454/1gmvlgb/umfrage_mobilitaet.pdf, www.ioew.de/uploads/tx_ukioewdb/IOEW_SR_039_Verkehrswende.pdf, last accessed on 26 Jan. 2018.

³ Decision by the Executive Committee on 20 September 1989, in: Der Städtetag 1989, p. 718 f., also Folkert Kiepe (1994): *Für eine Wende in der Verkehrspolitik*, in: Der Städtetag 1994, p. 657.

⁴ <https://www.agora-verkehrswende.de>, last accessed on 2 Dec. 2017 are cooperating in the “Urban Mobility Platform”.

⁵ <https://www.plattform-urbane-mobilitaet.de>, last accessed on 2 Dec. 2017

Insights from these networks have also been incorporated into the positions paper.⁶

This paper follows the positions of the Association of German Cities:

- Key elements of the positions paper were already addressed by resolutions by the Association of German Cities in recent years, for example on clean air, climate protection, electromobility, speed limits in the cities, transport infrastructure or transport financing. The Association of German Cities has played a pioneering role on a range of key topics, and has initiated important associated discussions.
- The Association has always highlighted the necessity for a sustainable mobility and transport policy, at international level as well, for example by providing support to the European Commission for the White Paper on Transport,⁷ to the Habitat III Conference and in the drafting of the “New Urban Agenda” in October 2016, which proposes globally relevant building blocks for sustainable mobility in cities.⁸
- For many years now, numerous cities in Germany have been active in advancing a sustainable mobility and transport agenda, and have led the way in developing and implementing solutions based on the principles of sustainability.⁹

The Association of German Cities strives for a transformation process that is geared to future viability, working toward a transport system that incorporates both performance and sustainability, toward more quality of life, higher efficiency, greater diversity and more interconnectedness between transport services. This transformation will enable the mobility of citizens and goods and guarantee the functional capabilities of cities and regions in a way that balances environmental, health-related, economic and social concerns. Urban transport policy should be needs-based and should allow for the development and rapid implementation of adequate products and services, taking into account technical innovations, digitalisation, intelligent networking and new technologies. In particular, good mobility behaviour needs to be incentivised. Future efforts should focus on the ensuring that distances can be travelled as optimally as possible, from the standpoint of time and energy and in maintaining environmentally sound quality standards. Both at the provider and user level, this goal can only be achieved through incentives, and if needed also by regulatory intervention. This can only function through the joint efforts of all involved parties: The Federal Government, regions, municipalities, economic and civil society stakeholders must all take on a shared responsibility that should not be oriented to formal levels of authority and spatially differentiated areas of jurisdiction.¹⁰

⁶ Agora Verkehrswende (2017): Mit der Verkehrswende die Mobilität von morgen sichern. 12 Thesen zur Verkehrswende, see <https://www.agora-verkehrswende.de/12-thesen/>, Plattform Urbane Mobilität, Erklärung zur Zukunft der urbanen Mobilität und Logistik, Berlin 5/2017, see <https://www.plattform-urbane-mobilitaet.de/>, both last accessed on 20 Dec. 2017

⁷ COM (2011)144, White Book of Transport, European Commission,

⁸ See <http://habitat3.org/wp-content/uploads/NUA-German.pdf>, last accessed on 26 Jan. 2018.

⁹ These range from transport development plans, targets and measures aimed at changing the modal split, to strengthening the public transport system and linking mobility forms, to measures fostering pedestrian and bicycle traffic and electro-mobility and influencing user behaviour.

¹⁰ For the Association of German Cities, this was also the idea used to convince the Federal Government that towns or districts located on the peripheries of affected cities should also be eligible to take part in the “Emergency Clean Air Programme”.

II. Where we stand - Sustainable urban mobility today

1. A record of success despite difficult framework conditions – What cities have achieved

In recent decades, municipalities have already made significant progress in advancing the cause of sustainable mobility in cities. Some of the achievements include implementing integrated transport development plans and associated measures, investing in the “environmental alliance”, overhauling the road network and redesigning many public spaces. In many cases, success can be seen in the change of the modal split, i.e. the distribution of the different modes of transport.¹¹

The public transport system is being reinforced and modernised using the funds that are available. Approximately 10.2 billion passengers use the public transport system in Germany. This means that every day, trips by bus and rail replace 20 million trips by car on German roads. German transportation companies operating on behalf of municipal authorities cover well over 90 billion passenger kilometres (pkm) – in comparison, however, to nearly 60 billion pkm accounted for by passenger cars. The per kilometre energy consumption of buses, trains and trams is, at 46%, just under half of that accounted for by automobile use. One trip by train even achieves savings of over 60% versus the same trip made by car. Even the generally precarious revenue situation of German public transport companies is, at approximately 12.4 billion euros, 30 percent higher than it was ten years ago. This means that compared to the situation ten years ago, the cost recovery ratio in the public transport sector has increased on average from 73.8 percent to 76.1 percent, putting it at around three quarters.¹²

This measurable success in strengthening the public transport system, however, does not come at the expense of municipal investment in the road network. Despite all obstacles to providing investment funds for municipal transport needs, sample surveys have shown that the absolute share of municipal funds for passenger vehicle-based transport significantly exceeds the share provided to the public transport system, bicycle and pedestrian traffic. The situation is different when it comes to subsidies per passenger kilometre – here the cities understandably devote significantly more funds to public transport and pedestrian traffic.¹³ Based on their share of trips travelled and the volume of passengers transported, pedestrian and bicycle traffic deserve a much greater proportion of funding. It is also clear that municipal involvement in the transport sector accounts for approximately one fourth of the entire amount of municipal investment.

Stringent parking management policies¹⁴ have kept city centres accessible for all modes of transport, and have improved access for the “environmental alliance” of public transport, bike and pedestrian traffic. Traffic safety and the performance capabilities of the road network have significantly improved through better transport planning and traffic management. More and more people are making use of urban space, and the process of reclaiming these spaces for non-motorised traffic has picked up pace. Increasing numbers of commuters¹⁵ in

¹¹ The German Federal Environmental Agency provides data on transport capacities, traffic volume and the modal split up to 2015: <https://www.umweltbundesamt.de/daten/verkehr/fahrleistungen-verkehrsaufwand-modal-split#textpart-1>, last accessed on 28 Jan. 2018.

¹² See <https://www.vdv.de/statistik-personenverkehr.aspx>, last accessed on 28 Jan. 2018.

¹³ Universität Kassel (2015), NRVP – Kostenvergleich zwischen Radverkehr, Fußverkehr, Kfz- Verkehr und ÖPNV anhand von kommunalen Haushalten, Kassel. Based on the examples of Kiel, Kassel and Bremen, the study shows the scope of municipal financing for the various modes of transport, see https://www.uni-kassel.de/fb14bau/fileadmin/datas/fb14/Institute/IfV/Verkehrsplanung-und-Verkehrssysteme/Forschung/Projekte/Endbericht_NRVP_VB1211.pdf, last accessed on 28 Jan. 2018.

¹⁴ See also the brochure published by AGFS: “Parken ohne Ende”, https://issuu.com/agfs-nrw/docs/parkraum_broschuere_2012_web, last accessed on 25 July 2019.

¹⁵ <http://www.bbsr.bund.de/BBSR/DE/Home/Topthemen/2017-pendeln.html>, last accessed on 20 Dec.

many cities are traveling safely to work and back to their residential neighbourhoods again. Work and residential usage are growing closer together, in ways that are compatible with low mobility requirements, and the city centres are seeing residential use increase once again. Air pollution is decreasing with each passing year. Cities are steadily increasing their residential value through noise-reducing road surfaces, 30-km speed limits as well as active and passive noise prevention measures. Bicycle traffic is increasingly being recognised as an equal mode of transport and is being steadily improved.

2. Current challenges and problems – A growing pressure to take action

The current discussion of a mobility transition¹⁶ (*Verkehrswende*) revolves primarily around the challenges of climate change, the energy transition (*Energiewende*) and environmental protection. In the process, however, the fact that mobility is an aspect of public service should not be neglected. It is therefore necessary to maintain a holistic view of transport policy at federal, state and municipal level, as mobility must take into account criteria of social justice and must guarantee mobility for all.

Ensuring mobility in the municipalities – the core task of transport policy

The majority of cities are faced with growing mobility demands in the areas of private, freight and passenger transport. Not only does the increase in freight traffic on the streets have a detrimental environmental effect, lead to increasing land use and contribute to an accelerated deterioration of the transportation infrastructure, by now it is also impeding motorised private transport as well. The growth and densification of metropolitan areas are leading to increased transport needs, which in light of the finite supply of space cannot always be met. The core task is and will remain to ensure the mobility of citizens as they go about their private lives and employment activities, while at the same time meeting environmental objectives.

Climate protection

Despite all efforts, the transport sector has so far contributed too little to both the achievement of the Federal Government's climate goals and to the implementation of the Paris Climate Agreement. On the contrary, CO₂ emissions are stagnating and the final energy consumption of the transport sector is even on the rise. Automobile and truck traffic continue to dominate passenger and freight transport.¹⁷ The diesel scandal has shown that the industry's support for diesel technology as an important contribution to environmental protection in the transport sector by lowering CO₂ emissions stands in contrast to the significant disadvantages in terms of NO_x emissions that accompany this technology.¹⁸ In addition, the CO₂ advantage of diesel-powered vehicles risks being outweighed by the trend toward more powerful engines and heavier vehicles ("rebound effect").

The goal of the decarbonisation of the transport sector by 2050, as put forward in the Paris Climate Agreement, is becoming ever harder to attain; nevertheless, this goal remains on the agenda and is becoming increasingly urgent. Municipalities have a considerable interest in implementing efficient measures for reducing CO₂ emissions, as they – and their

2017, based on BBSR (2015) Verkehrsbild Deutschland, Pendlerströme. Quo navigant? BBSR-Analysen KOMPAKT 15/2015.

<http://www.bbsr.bund.de/BBSR/DE/Veroeffentlichungen/AnalysenKompakt/2015/AK152015.html?nn=415476>

¹⁶ InfrastrukturRecht (2017), Heft 10/2017. Regarding the requirements of a mobility transition, see articles in German by Beckmann, Jung, Loske, von Lojewski, zur Nedden, Monheim.

¹⁷ For a description of the situation, see in particular: Sachverständigenrat für Umweltfragen (SRU) (2017), Umsteuern erforderlich – Klimaschutz im Verkehrssektor, Berlin, November 2017, see https://www.umweltrat.de/DE/Themen/Mobilitaet/mobilitaet_node.html, last accessed on 2 Dec. 2017

¹⁸ https://www.umweltbundesamt.de/sites/default/files/medien/2546/dokumente/no2-ueberschreitungen_staedte_stand_18.01.2019.pdf, last accessed on 25 July 2019. Limits are still being exceeded in approximately 70 cities.

infrastructures – are impacted by the direct consequences of climate change. Already now, measures are being taken to adjust municipal infrastructure to the effects of climate change, in particular in the area of flood control and urban development. Such steps will be unavoidable in the area of transport as well. The justification of sustainable transport policy, however, is not only rooted in climate protection.

Air pollution

In many cities, people are suffering from harmful levels of air pollution, in particular nitrogen oxide, but also from high levels of particulate matter. This situation has triggered EU treaty violation proceedings, as according to the EU Commission the Federal Government of Germany has not taken sufficient steps to comply with binding EU pollution limit values. The Federal Administrative Court considers it increasingly likely that, as of February 2018, far-reaching regulatory measures such as driving bans will have to be instated. However, the municipalities are only the last link in the chain, as they neither have an influence on the emissions of diesel-powered vehicles, nor can they require mandatory technical retrofitting. The cities have largely exhausted the means that they have at their disposal from a regulatory, urban development and transport policy standpoint to reduce pollution.¹⁹ Even ambitious pollution control plans have so far not proven sufficiently effective. Nevertheless, they do provide a good foundation for the implementation of measures that are currently to be financed through the “Emergency Clean Air Programme 2017-2020”.²⁰

Noise pollution

Noise has become one of the main health risks for people living in cities. Despite some improvements in the situation, limit or reference values for noise prevention and noise reduction are often not met, and people are exposed to harmful levels of traffic noise. In many cases, municipalities have developed a range of measures in the area of noise reduction planning, but these are often either not adequate in solving the problems at hand, or they face obstacles in their implementation. And for the most part, it is not within the authority of the municipalities to remove these obstacles.

Traffic safety

The welcome and significant decline in the number of accidents in urban road traffic in recent decades, in particular in the number of accidents with fatalities, is largely due to the technical improvements and higher safety standards in vehicles, as well as improvements in emergency services. Despite this progress, Germany is still far removed from a “vision zero”²¹: Every year in towns and cities, more than 200,000 accidents are registered, with over 1,000 people killed and over 35,000 people badly injured.²² Pedestrians and bicyclists are particularly affected and deserving of protection. The “Mid-term Review of the Traffic

¹⁹ With regard to clean air, the Presidium of the Association of German Cities determined that in many cities targeted measures have brought about measurable success in the reduction of particulate matter (PM10) for example. At the same time, as of the middle of the second decade, the limits of municipal efforts in reducing traffic-based emissions through urban planning, transport planning and regulatory measures have become apparent.

²⁰ See <https://www.bundesregierung.de/Content/DE/Infodienst/2017/11/2017-11-30-kommunalgipfel/2017-11-30-saubere-luft-in-den-staedten.html>, last accessed on 28 Jan. 2018

²¹ “The goal of ‘vision zero’ is: no fatalities and serious injuries in road traffic. The core of the strategy is a safe transport system and the realisation that people, as part of this system, are not without error. The design of the respective modes of transport and the transport routes must follow this realisation, and the rules of participation in road traffic must be adjusted accordingly.” This was agreed upon in the German Traffic Safety Council already in 2007. See <https://www.dvr.de/dvr/vision-zero/>, last accessed on 19 March 2018 injured.

²² For accident statistics, see Deutscher Verkehrssicherheitsrat, <https://www.dvr.de/unfallstatistik/de/innerorts>, last accessed on 2 Dec. 2017, and https://www.destatis.de/DE/Presse/Pressekonferenzen/2016/Unfallentwicklung-2015/pressebroschuere-unfallentwicklung.pdf?__blob=publicationFile, last accessed on 25 July 2019.

Safety Programme 2011-2020” focuses on this key area of action.²³ The rising number of injuries and fatalities in traffic within towns and cities – which runs counter to the general trend – is likely attributable to the higher shares of non-motorised transport, or perhaps to an increasing tendency by road traffic participants toward reckless behaviour. There continues to be a high need for action in the areas of infrastructure design, regulation and monitoring as well as mobility/traffic education and communication, with the overall goal being an improvement of the objectively measurable level of safety.

Claims to using and shaping public space

In many cities, the desired shift in mobility behaviour is already apparent, in particular in the form of an increase in bicycle traffic and a constant high level of pedestrian traffic. At political and planning level, however, this is often not sufficiently recognised. The areas designated to pedestrian and bicycle traffic are still of inferior quality. Lighting of streets, sidewalks and paths still needs to be improved. The subjective sense of safety also needs to be strengthened. At the same time, the urban population is increasingly demanding to be involved in the shaping of public space in a way that is not only geared to the needs of vehicle traffic. So far, however, the public (street) space rarely reflects these needs and demands. It is thus becoming more and more important that a redistribution of the scarce resource of public space take place, oriented in particular toward such demands for quality and usage and measurable by criteria of effectiveness and efficiency. This also holds true for the temporal allotment of traffic space according to transport types (e.g. bus lanes, delivery traffic, switching of traffic lights)²⁴. Not only the demographic shift and the accompanying aging of the population will require a redoubling of efforts to create barrier-free conditions in public space and in local and regional transport. Barrier-free access will benefit all users of public space.

Technological change

The advance of digitalisation in the areas mobility and transport brings with it a variety of technological innovations that municipalities can make use of for creating sustainable urban transport. It is the task of the cities to identify useful and viable solutions and implement them for the purpose of achieving their goals. Frequently, these innovations are supported and promoted already before they have proven their practicability and compatibility in an urban context. Cities are often open to innovations and willing to support the testing of their practical application. However, they require sufficient opportunity to carry out a balancing of interests according to common welfare aspects, for example in order to ensure that new mobility services do not jeopardise the substance of public services. For this reason, it is necessary to look not only at the aspect of economic viability, but also at more far-reaching criteria for the assessment of compatibility and sustainability of transport-related innovations (technical, organisational, procedural). To this end, there must be early and trustful cooperation and impact assessment between the Federal Government, the *Länder* and municipalities, with the cooperation of business and civil society stakeholders.

Growing and shrinking cities

Many cities and metropolitan regions are growing at a rapid rate, and often much faster than was forecasted just a few years ago. The major challenge for spatial planning, land use planning, urban and transport planning is to meet this growth not with more automobile transport, but instead by adherence to the goals of sustainability. At the same time, the share of commuters in the overall transport mix is growing, and the distances covered by

²³ https://www.bmvi.de/SharedDocs/DE/Publikationen/StV/halbzeitbilanz-verkehrssicherheitsprogramm.pdf?__blob=publicationFile, last accessed on 25 July 2019.

²⁴ The redistribution of public space is dealt with in detail by the Association of German Cities (2016), Positionspapier Öffentlicher Raum und Mobilität, Berlin, see <http://www.staedtetag.de/fachinformationen/verkehr/081299/index.html>, last accessed on 14 Feb. 2018.

commuters are increasing. The same applies for freight traffic, in particular delivery traffic. This exacerbates the competition for scarce public space, especially in the city centres, but also on federal motorways, trunk roads and state roads.

There is a particular need for action in creating an efficient public transport infrastructure (rail connections, urban integration, park&ride facilities) and in advancing a bundle of measures to ensure adequate operating quality in the public transport system (traffic light prioritisation, capacity reserves for vehicles and personnel, optimisation of frequencies and schedules, resilience to extreme weather phenomena etc.), as well as for creating effective facilities for bicycle transport.

At the same time, there is also need for action in those cities and regions that are faced with declining populations, as well as on the peripheries of cities, in particular in terms of maintaining alternatives to automobile-based mobility through an adequate level of demand-based public transport services. After all, cities and regions experiencing a shrinking demographic trend are in particular need of perspectives and opportunities – including when it come to securing mobility.

Financing mobility and transport

Sustainable mobility requires public funds in order to attain its full effect and to avoid disadvantages in competition with automobile-based passenger transport and truck-based freight transport. The problem of an underfinanced transport infrastructure (roads, bridges, tunnels)²⁵ accompanied by the need to maintain, renovate and expand municipal infrastructure for all participants in the transport system, in particular the public transport system (railway tracks, vehicles)²⁶, has long been known and is documented in numerous studies.²⁷ Currently, the level of investment is falling well short of what is needed. Demographic change is leading to additional need for action, which must take the different forms of change into account: From a declining population to strong growth in the cities, from selective spikes in birth rates and number of pupils to the increase in the number of elderly citizens requiring barrier-free access. There is also a clear need for investment in the area of bicycle and pedestrian traffic.

The Federal Government's programme for municipal transport funding has thus far provided 330 million euros in financing and is significantly oversubscribed. After 2019, municipal transport funding by the *Länder* will hardly be able to provide more than the 1.33 billion euros so far granted by the Federal Government. These approaches stand in contrast to required investments in the modernisation and expansion of the public transport system over the next ten years through investments by the municipalities and their companies totalling approximately 15 billion euros.²⁸ The Federal Government is trying to meet this by a gradual

²⁵ Difu (2013), Kommunale Straßenbrücken - Zustand und Erneuerungsbedarf, Berlin, see <https://difu.de/node/8921>, last accessed on 28 Jan. 2018.

²⁶ KfW (2017), KfW-Kommunalpanel 2017, Frankfurt, see <https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-KfW-Kommunalpanel/KfW-Kommunalpanel-2017.pdf> last accessed on 3 Dec. 2017: The highest backlog demand and replacement requirements exist in the area of road and transport infrastructure (EUR 34.4bn), 27% of a municipal backlog demand totalling EUR 126bn.

²⁷ Report by the Commissions on the Future of Transport Infrastructure Financing (*Daehre Commission*) (2012), see <https://www.verkehrsministerkonferenz.de/VMK/DE/termine/sitzungen/12-12-19-abschlussbericht-komm-zukunft-vif.html>, last accessed on 2 Dec. 2017; Commission "Nachhaltige Verkehrsinfrastrukturfinanzierung" (*Bodewig Commission*) (2013), concept document, see <https://www.verkehrsministerkonferenz.de/VMK/DE/termine/sitzungen/13-10-02-sonder-vmk-kommission-nachhaltige-vif/13-10-02-kommission-nachhaltige-vif-konzeptdokument-anlage-2.pdf?blob=publicationFile&v=2>, last accessed on 25 July 2019.

²⁸ VDV (ed.) (2017), Deutschland mobil 2030. Neue Mobilität für ein mobiles Land, Cologne and Berlin. p. 8, see also <https://www.deutschland-mobil-2030.de/neue-mobilitaet-fuer-ein-mobiles-land.pdf>, last accessed on 16 March 2018.

increase of its federal programme to 1 billion euros by 2021.

And although the Federal Government's funds for operating the public regional rail transport (SPNV) have been increased and have been provided with a growth dynamic, they are more sufficient to securing existing stock in this area. The aim of using regionalisation funds must be to redirect significant amounts of traffic in growth regions and commuter traffic from shrinking regions to modes of transport other than the automobile.

A user- or beneficiary-based financing mechanism that transfers realistic cost shares to the responsible party (cost-by-cause principle), including to the operators of mobility services who profit economically from infrastructure systems, only exists in part.

Reviewing the funding system

The funding system of the Federal Government and the *Länder* stands in contrast to a cross-system examination of alternatives or a concerted use of funding resources. Specifically, there is a separate handling of the respective funds from transportation infrastructure funding laws for implementation of the Federal Transportation Infrastructure Plan (Bundesverkehrswegeplan), the regionalisation funds for operation of the regional rail transport system and municipal transport funds for investments in roads and the public transport system. In the past, the isolated management of these systems has led to a one-sided funding of new road construction and expansion of existing roads instead of advancing environmentally sound and sustainable transport solutions. Given the spatial interlinkage in metropolitan areas, there seems to be an urgent need to undertake an examination of alternative measures of regional rail transport or public transport. The Federal Government and the *Länder* are called upon to pave the way for realising the most favourable solutions from an economic and environmental standpoint.

Promoting personnel development and recruiting

The transport sector is also suffering from recruiting problems and a shortage of young workers. The personnel shortage in this engineering discipline has to be tackled. Universities must continue to develop their curricula for integrated transport planning. The *Länder* should orient their technical training programme (Referendariat) to future requirements of integrated urban planning, regional planning and transport development.

III. What we want to achieve by 2030 – A scenario for a sustainable transport policy

An agenda, or “building blocks for a mobility transition (*Verkehrswende*)”, should be derived from a clearly outlined general concept that shows what cities should aim for and where they want to stand in 2030. This purpose is served by a Scenario for a Sustainable Transport Policy 2030, which anticipates the future situation from today’s standpoint.

Although the transformation process in the mobility and transport sector, and the accompanying broad societal dialogue, will not be concluded by the year 2030, it will have led to visible and noticeable improvements, which include the following:

- The shift to sustainable mobility, which began as of 2010, will have led to positive social resonance, thanks to incentives, funding, improvements in the environmental alliance” of public transport, pedestrian and bicycle traffic, but also corresponding policies in the areas of spatial planning, transport, housing and taxes. It will have been possible to achieve broad societal consensus regarding sustainable mobility for all, which was instrumental in promoting the transformation, overhaul and renewal of the transport systems. The public transport system will have responded clearly to individual needs, and private transport in urban agglomerations is now overwhelmingly based on sharing services.
- Access to leisure and recreation areas, sports and recreational facilities will have significantly improved for means of transport other than the automobile. Furthermore, society will have become increasingly clear in demanding that consumer goods are transported in an environmentally friendly way. Employers are helping to reduce the distances travelled by package delivery services by increasingly allowing package delivery to the workplace. Cities are demanding mobility concepts from all public employers and larger private employers.
- Cities will have continued to develop their settlement structures according to the principle of the “city of short distances”. There has even been a reduction in average trip distances in many cases. Mixed usage in urban development has made pedestrian and bicycle traffic much more attractive.
- It will have been possible to introduce overarching tariff systems at least at regional level so that all modes of transport can be used with one ticket. The coordination among the various modes of transport will have become much more customer friendly. Mobility stations facilitate the nearly seamless transfer from one mode of transport to the next.
- Designated bike parking spaces, parking lots and facilities offering bike-related services will have significantly increased the appeal of bicycling. This also applies to bike traffic between cities and regions, as an extensive network of radial and tangential express bike routes has taken the place of the past strategy of widening federal motorways and roadways in urban agglomerations.
- Public space as a key component of an urban quality of life will be less dominated by traffic and will have once again become a place where citizens of all age groups spend time and interact with each other. There is a more just distribution of traffic space, which will have in particular benefitted pedestrian and bicycle traffic. At the same time, there is more mixed-use space, with traffic participants keeping to lower speed limits. The dominance of stationary traffic (parking) will have been mitigated by improved regulatory instruments with regard to residential parking. This will have been facilitated by a significant reduction in the ownership rate of private vehicles, accompanied by an increase in the sharing rate of cars, electric scooters and bicycles.
- Since the early 2020s, German cities have led the way in the area of mobility sharing services and are playing a key role in the continuing spread of this principle. The concerns in the late 2010s about mountains of stray rental bikes and electric scooters

cluttering up the streets, sidewalks and public squares of many cities will have quickly faded. The providers recognised that their business model can only function if they and the cities agree to uphold some fundamental “ground rules” and quality standards. By now people routinely use all existing sharing systems as a matter of course.

- The significance of the public transport system will have grown considerably, not least of all thanks to integrated “on-demand” services based on digital innovations, especially during low-occupancy periods and in periphery areas, but most of all as a result of the major expansion and overhaul of the infrastructure. These improvements will be possible through a regulatory framework that facilitated innovation but prevented “raisin picking”, and further bolstered public transport along the key transport axes. This development will have also been encouraged by the further prioritisation of public transport within the framework of traffic control measures.
- The opportunities of technological innovation and digitalisation are being utilised, while risks are being minimised through regulatory “guardrails”. Collaborative forms of mobility such as car sharing and bike sharing now contribute to a city friendly transport system. Cars occupied by fewer than two people are the exception. While fully autonomous driving is not yet an everyday reality in the cities, its advantages in terms of traffic safety and the combination of car and ride sharing are already apparent.
- Growth in commuter traffic has come to a halt as a result of a significantly improved level of coordination between cities and suburbs in the area of settlement development, together with modifications in the regulatory framework conditions (including in tax law) and comprehensive mobility management by employers, in growth regions as well. Dedicated efforts to expand the railway transport sector (investment expansion in railway lines and vehicles, consumptive expansion in the services area) through optimised financial framework conditions have significantly boosted the share of public transport in commuter travel. The principle of intermodality (i.e. the e-bike as a shuttle to the train station and the first self-driving e-minibus shuttle services) has gained in importance – multimodality and intermodality²⁹ will have become the norm for transport users.
- Commercial transport, and with it the functional capacity of the cities, will have profited considerably from the changes outlined above. At the same time, new concepts in logistics and delivery transport (for example micro-hubs operating with cargo bikes) have further reduced the burden on public space. The vehicles used in commercial transport are quieter, cleaner and safer thanks to corresponding regulatory requirements. Even the mid-sized trucks used in urban logistics are powered by alternative drive technologies.
- The transport sector is now contributing to an increasing degree in the attainment of climate policy targets, even if not yet to the extent envisioned. Harmful emissions and noise levels from the vehicles still on the road (with decreasing levels of motorisation and more efficient operation) have been brought down even below statutory limits - including under real operating conditions. This has been possible not least of all due to clear regulatory requirements imposed on emissions at the source, combined with dedicated support for environmentally friendly propulsion technologies, in particular electromobility.
- This form of a mobility transition (*Verkehrswende*) will be achieved in particular through the perpetuation of the Federal Government’s special programme “Sustainable Mobility in Cities and Regions” and through the further bolstering of funding for local transport, as well as massive support measures for intelligent networking in the transport sector.

²⁹ “Multimodality in passenger transportation refers to the possibility of using different modes of transport. ... Intermodality, on the other hand, means chaining different modes of transport together in one trip.” For a definition of terms, see <https://www.vcd.org/themen/multimodalitaet/schwerpunktthemen/was-ist-multimodalitaet/>, last accessed on 19 March 2018

There will have been key support for joint solutions between city and region to reduce the amount of motorised commuter and recreational traffic between the cities and the peripheries. Networks and working groups on sustainable mobility promote the spread of good practice. The “National Competence Centre on Urban Mobility” will have developed into a cross-level internationally recognised platform that helps stakeholders test innovations and quickly roll them out to market.

- Additionally, the Federal Government recognised that shifting the responsibility for municipal transport financing to the *Länder* would add to the unequal development of transport infrastructure and undermine the contribution that the transport sector can make to environmental protection and the *Energiewende*, Germany’s energy transition. It will be possible to offset the significant disadvantages suffered by owners of cars that no longer comply with new emissions standards by achieving a higher rate of sharing using alternatively powered cars and expanding the regional rail transport and the public transport systems. Finally, the Federal Government also recognised the urgency of advancing the transport projects under the “European Unity” programme in order to achieve significant reductions in the high share of truck traffic in the transport mix.

IV. What must be done – An agenda for sustainable municipal transport policy

1. Consistent policy at Federal Government and *Länder* level: Creating good services – Efficient and effective design of regulations

“Sustainable mobility for all” is a society-wide task that affects many areas of life and policy. Mobility and transport policy requires a political agenda from the Federal Government that sets out key framework conditions for the municipalities, in particular with regard to the legal and regulatory framework and to financing. Cities and regions have to be able to rely on consistent, cross-departmental action that encompasses all relevant areas of policy and action. This includes environment and energy, health and climate, economic affairs, spatial planning, urban development and transport, as well as the cross-sectional areas of finances, justice and home affairs. This level of consistency must be reflected in the Federal Government’s various areas of action, from legislation to securing adequate basic funding, from financing and development programmes to the area of communication and public relations. Adequate basic funding for development, operational and renewal measures is particularly important in light of the often non-transparent, bureaucratically top-heavy, incongruous and temporally limited scope of project support measures.

A central task of the Federal Government is to utilise the full range of its possibilities, based on its authority, at international and European level, and in its function as legislator and regulator, initiator and funding entity. This pertains in particular to the following points:

- The automobile industry is not only a key industry of the German economy. It also decisively influences the quality of life and the environment within the cities and regions. Automobile manufacturers must therefore be held accountable – to a greater degree than has so far been the case – in terms of converting vehicle fleets in private and public transport (transport of passengers and goods) to environmentally friendly, low-noise and low-pollution propulsion technologies.
- Notwithstanding all necessary openness to technological innovation, a sharp reduction in the use of fossil fuels for automobiles is unavoidable, with the longer-term goal being to ultimately render automobile use dispensable. The Federal Government should devote intensive effort to extending and expanding its mobility and fuel strategy.
- Changing the propulsion technology is not something that happens overnight; currently some alternative technologies – natural gas, for example – offer viable alternatives. At the same time, all conceivable efforts must be put into laying the groundwork for a post-fossil era. In the future, electromobility, including fuel cell technology, will have to play a

far greater role as a propulsion technology for that portion of automobile transport that cannot be shifted to other modes of transport. In the process, the desired positive effects should not be offset by developments such as increasing vehicle weight, greater acceleration power or lower vehicle occupancy.

- In principle, the conversion to alternative technologies must take lifecycle cost analysis into account, as well as the social and ecological impacts of fuel supply and disposal. Additionally, battery production and disposal must be regulated in an environmentally sound way, and there must be a broader and more energy-effective promotion of hydrogen fuel cell technology. The switch to electromobility or fuel cell technology must be flanked by efforts to develop the required capacities of regenerative electricity.
- For electromobility, network operators should reinforce local distribution networks in order to improve the network capacities at the designated supply points. However, municipalities have no planning authority for such measures extending beyond the public charging infrastructure. The same applies to the establishment of a network of alternative fuelling stations. In both contexts, service providers and property/apartment owners are called upon to find viable solutions.
- Key players at local level have a responsibility, at least within the framework of existing and still-to-be adopted support programmes, to adequately expand the charging infrastructure within public space as well.
- As a regulatory incentive and steering mechanism, emissions standards must be much more restrictive, while environmentally harmful propulsion technologies must be made more expensive.³⁰
- Not least of all, manufacturers must be required to take measures for an effective retrofitting of diesel vehicles that support the goal of a substantial reduction of NOx emissions and are suitable to avoid short-term driving bans in affected cities. The agreements from the “National Diesel Forum” and the “Municipal Summit” in August and September 2017 are far from sufficient to attain these objectives.
- The Federal Government, *Länder* and municipalities should make all possible effort to avoid driving bans. Cities have no interest in unreasonably restricting the mobility of citizens and goods in cities and regions, and in the process jeopardizing supply and disposal chains in the cities. They are, however, calling for the introduction of a system for labelling low-emissions diesel vehicles (“blue badge”), so that they might have a practical instrument on hand in the case of court-imposed driving bans; this would give them the ability to distinguish between cars with lower emission levels and more environmentally harmful vehicles. In the case of driving bans, suitable exemptions must be decided on,³¹ conceivably to be supplemented by variable adjustments in the speed limits on main roads and city highways. Additionally, it must be made easier to implement one-off solutions such as local bans on truck traffic, combined with active truck routing.
- The public sector has a key role to play in leading the conversion of vehicle fleets to low-emission and environmentally friendly propulsion technology. The same applies for the Federal Government, the *Länder* and the municipalities. In order to be able to fulfil this function as role model and meet the prescribed environmental and climate protection targets, the municipalities require support in the form of funding for retrofitting and conversion programmes. The current budget situation of many municipalities frequently prevents more ambitious voluntary retrofitting measures.
- Many municipalities would like to get involved in the retrofitting of the public transport system, but often see their efforts hampered by bottlenecks in the production of the

³⁰ Decision of the 409th Presidium Session of June 2016, see <http://www.staedtetag.de/presse/beschluesse/079994/index.html>, last accessed on 28 Jan. 2018.

³¹ see position of the Presidium of the Association of German Cities of September 2017, 415th Session in Kassel, concerning the National Diesel Forum.

respective vehicles. The manufacturers are called upon to ensure an adequate supply of electric buses and other vehicles powered by low-emissions technologies. The same applies for the bus fleets of public transport companies, including funding for the required modification of vehicle depot areas, repair shops, filling stations and charging infrastructure etc.

- With regard to the funding and regulatory framework conditions, the Federal Government and the *Länder* have a key role to play in the required support for and prioritisation of the transport modes of the “environmental alliance”: Sustainable mobility forms must not only be encouraged, they must also be actively supported or regulated based on their benefit.
- There is also a need for greater leeway in applying the legal framework. Already today, the testing of new ideas can take place on the basis of experimentation clauses in the Passenger Transport Act (Personenbeförderungsgesetz – PBefG), or the Road Traffic Act (Straßenverkehrsgesetz – StVG) and the Road Traffic Regulation (Straßenverkehrsordnung – StVO). However, the municipalities require much more room for manoeuvring in the case of legitimate decisions on deviations from these regulations. This also includes continuous speed limits for longer stretches of road and the trial-based reversal of the standard speed limit in the entire road network, with the exception of major roads, as the Association of German Cities has been demanding for decades.³²
- New mobility services at the intersection of traditional public transport services and the required modifications of traffic areas to meet the shifting mobility behaviour have to be regulated within a short period after respective insights have been gained. Innovations must be tested, and once they prove suitable, must be easily transferred into standard procedures.
- Adjustments, such as those pertaining to car or bike sharing³³, should be implemented at as quick a pace as possible in the traffic laws of the *Länder* (e.g. implementation of the federal car sharing law).
- It must be guaranteed that the railway network provides an adequate and extensive service in the context of long-distance rail-based passenger transport. The implementation of the "Deutschland-Takt" project (a synchronised timetable of high-frequency public transport services across Germany) must be given a high priority; railway lines should be largely electrified by 2030; and the rail-bound freight transport system needs to be given a greater role.
- Sustainable transport policy also requires structural changes at national level. Although the planned establishment of a “National Competence Centre on Urban Mobility” – or a corresponding network to support municipalities in identifying barriers and areas of required action – constitutes an initial positive approach, there is still a need for clear and resilient concrete measures that take municipal requirements into account. There must be an intensification of the involvement of central municipal associations in the legislation, research and funding programmes that are relevant to urban and regional transport.
- Independently of such efforts, there should be a restructuring and, if applicable, a bundling of jurisdiction among the federal authorities (e.g. the Federal Highway Research Institute, the Federal Institute for Research on Building, Urban Affairs and Spatial Development, the German Environment Agency) in matters of urban transport. The jurisdiction of these agencies is often fragmented or insufficiently regulated, and as a result, they are not always efficient and effective in their function as federal advisory

³² <https://nationaler-radverkehrsplan.de/de/aktuell/nachrichten/leitende-verkehrsplaner-fuer-mehr-tempo-30>, last accessed on 17 March 2018

³³ see Agora Verkehrswende (ed. 2018), Bikes sharing im Wandel. Berlin. https://www.agora-verkehrswende.de/fileadmin/Projekte/2018/Stationslose_Bikesharing_Systeme/Agora_Verkehrswende_Bikesharing_WEB.pdf, last accessed on 24 July 2019

authorities.

- Unless a sustainable mobility policy is accompanied by a dialogue process that involves all of society, its foothold will not be lasting and its success will hardly be achievable. The Federal Government has the decisive role of moderating this dialogue process, with the intensive involvement of municipalities and the *Länder*, but also of stakeholders from economy and civil society.

2. Substantial improvements in quality of life and the environment in the cities - Strengthening sustainable mobility for people and goods

Cities and municipalities play a key role for the development of sustainable mobility. This is where it becomes apparent that a mobility transition (*Verkehrswende*) means much more than simply replacing the respective propulsion technologies. Instead, sustainable mobility must aim to improve the quality of life and the environment in cities at a broad scale and in different areas of action, without restricting the legitimate mobility needs of people and goods. Political stakeholders, administrative bodies, the mobility economy and civil society are all equally important players in this process. The municipalities are willing to take on this role. They are well familiar with the core tasks in designing urban mobility. This applies in particular to the following areas:

- The essential prerequisite for a sustainable and city friendly mobility, as well as for managing the flow of traffic, is a regional and urban development policy that understands mobility and transport as integrated components of the same system and treats them accordingly at all planning levels. The mixed “city of short distances” is, especially within existing structures, not easily achievable and is, additionally, not applicable to all situations. At the same time, it comes closest to the ideal of a sustainable design of the transport system. Cities and municipalities are aware of this and, in many cases, are taking action accordingly.
- The range of action is broadly defined: Long-term planning of new residential areas in optimally integrated locations with good connections to the public transport system and the network of main bike routes, settlement structures with good conditions for pedestrian and bicycle traffic and other services catering to multimodal transport behaviour (e.g. car and bike sharing), preservation of mixed-use structures taking commercial use into account, in conjunction with integrative neighbourhood-based transport concepts, and much more.
- The strategic framework for mobility and transport policy is normally provided by integrated transport development plans (Verkehrsentwicklungspläne – VEP) or other forms of urban mobility plans. These are increasingly oriented to the “Sustainable Urban Mobility Plan” (SUMP) according to the EU Definition,³⁴ which focuses on achieving a prioritised promotion of the transport modes of the “environmental alliance” (public transport, pedestrian and bicycle traffic) through an efficient and safe infrastructure. This can create a significant need for expansion, which the municipalities must then meet. The central objective is to bring about another significant change in the modal split in urban transport in favour of these modes of transport. But this should also include new mobility forms and services that fit the cities’ respective needs and demands.
- At the same time, automobile traffic should be noticeably reduced or, if it cannot be shifted to other modes of transport, should be managed in a way that is as environmentally- and city friendly as possible. The priority position of the “environmental alliance” not only applies to an efficient and safe infrastructure within the network

³⁴ COM (2013)913, Communication from the Commission “Together towards competitive and resource-efficient urban mobility”, 17 December 2013, building upon the “Action plan on urban mobility”, COM (2009)490, as well as COM (2010)2020 “Europe 2020: A strategy for smart, sustainable and inclusive growth”.

structures for all modes of transport, the principle also extends to the area of traffic management, for example in the steering of traffic signals. The transport development plans should be developed in close coordination with the goals of climate protection, clean air and noise reduction planning.

- A central regulatory instrument for supporting these objectives is parking management. Given a coherent mix of supply management, pricing and communication, it can have a significant influence on car ownership and use and unlock considerable space potentials in public space. Sharing systems and intermodal services also encourage this process. The credibility of this policy depends on the “environmental alliance” receiving simultaneous support to ensure other equal mobility alternatives. For the implementation and effectiveness of the policy, on the other hand, it is important that there are gradual changes in the regulatory framework.
- In the future as well, the key factor for the societal acceptance of transport policy will be the management and design of the scarce resource of public space. Acceptance for the redistribution of space depends not only on the design quality of that space, but also on creating more room for barrier-free pedestrian traffic and safe bicycle traffic. Other types of usage in public space that are a product of adjacent development can also enhance the quality of public space. This can also go hand-in-hand with a reallocation of the traffic space in favour of non-motorised transport in particular.
- As many positive examples and pilot projects show: It is necessary to think in terms of changed premises and make gradual adjustments in the regulatory framework in order to increase the cities’ room for manoeuvring in decision-making. Even regulation can be a driver of innovation: The position paper “Mobility and public space”³⁵ by the Association of German Cities lays out a foundation for this topic. Furthermore, it should be noted that in the future, not only public space but also the urban transport system as a whole will have to become universally accessible. Spatial separation can trigger additional need for space. Shared space, on the other hand, can ensure mutual respect and cooperation. Integrative planning and design approaches therefore have a particular significance.
- If it is to deliver on a sustainable transport policy, the “environmental alliance” must not only focus on the core areas of city centres. As a rule, the majority of the urban population lives outside of city centres. These areas have very different problems and challenges, for example those associated with ensuring an attractive, competitive system of public transport beyond the main transport axes. In particular, demand-based mobility services that utilise the potentials of digitalisation in the context of the public transport system can greatly contribute to this development.
- A significant portion of traffic, the amount of which differs from city to city but nonetheless always represents a relevant amount, is not the result of homegrown factors. Despite all efforts, the volume of commuter traffic has not declined. There are two decisive drivers for this: The persistent connection between population growth/economic development and increasing transport services on the one hand, and the tax advantage offered for commuting and the taxation of land use in cities and regions on the other. It is the task of cities to create affordable housing in densely populated urban areas and, in the context of cooperation between cities and the outskirts, at locations that are well connected to the public transport system that can provide relief to those agglomerations. State and regional planning instruments, as well as fiscal instruments, are more necessary than ever in order to counteract further urban sprawl.

³⁵ Deutscher Städtetag (2016), loc. cit.

- In rural areas, the traditional system of public transport, even if it receives higher funding, will as a rule never provide the consistent quality that can allow it to compete with the automobile. This is why intermodal transport services in particular must be strengthened, with attractive transfer options offered at the stations of a rail-based regional transport system that must be expanded. But also outside of cities, a basic supply of public transport services is required, which through digital innovations can be made much more attractive than is currently the case, and which can be tailored to individual needs.
- Cities are the centres of economic power. This also means that commercial locations need to be reliably accessible, while the supply and disposal requirements of the city need to be organised in an efficient and sustainable way. In particular in the area of intra-urban delivery traffic, where the rising volume of online commerce, among other factors, is fuelling the current growth trend and leading to competing claims to public space, harmful emission levels etc., there is considerable need for immediate action. Here, intermodal and cooperative concepts for the “last mile”, for example, which are developed in close cooperation between municipality, businesses and the logistics sector, can bring about the necessary improvements.
- The delivery and commercial transport sector is undergoing an extremely dynamic development. Testing is underway for new forms of delivery, which can go forward on the basis of valid legal regulations. All key players are called upon to assess the results of these tests according to the criteria of a sustainable transport policy, and to clarify open questions on data protection, liability and impact on public space, for example.
- Changes in the area of transport affect every single person in terms of his/her individual mobility needs and behaviour. This is why communication represents a key area of action. It must be oriented both to changes in people’s individual behaviour, and also to the attainment of broad-based civil society acceptance and support for a mobility transition (*Verkehrswende*). At municipal level, the mobility management carried out by public and private employers through information and corresponding services offers a wide range of opportunities to influence mobility behaviour. Municipalities can take the initiative, for example through integrated transport development plans and master plans, if possible with funding from the Federal Government or *Länder*. In the implementation of measures, action is required by employers, housing associations, project developers, businesses etc.
- In the area of active mobility (pedestrian and bicycle traffic), there is significant potential for attaining health improvements for individuals and for reducing disease-related costs.³⁶

3. Utilising digitalisation in a city friendly way – Facilitating innovation

The digitalisation of mobility services and sector coupling through intelligent networking will change urban transport to a degree that today is still unforeseeable. It offers significant opportunities to create an efficient, environmentally friendly, safe and sustainable traffic situation in passenger and commercial transport. However, it is not an end to itself, but must instead be deployed in accordance with the public welfare interests of the municipalities. Risks have to be considered at an early stage and can, under certain circumstances, lead to requirements for additional regulation. The following aspects are of particular relevance:

- In the future, the transport behaviour of people living in cities will be focused less on one preferred mode of transport, but will instead be intermodal and multimodal in nature. In major cities in particular, this is already starting to be the case. The practice of selecting the mode of transport based on individual needs and the interests of the city as a whole

³⁶ See AGFS brochure “Städte in Bewegung”, https://www.agfs-nrw.de/fileadmin/Mediathek/AGFS-Broschueren/Staedte_in_Bewegung2015.pdf, last accessed on 14 May 2018.

can be decisively encouraged by developing transparent, up-to-date, customer-friendly communication and information that is independent of the mode of transport.

- In a digitally oriented urban transport system as well, public transport will continue to play the central role. However, it will have to undergo significant further developments, not only in the areas of route organisation, vehicle technology and cross-platform transport information, but also through improved interconnected mobility services. Examples of this can already be seen in ride selling models and the use of self-driving cars, which utilise the traffic areas outside of the main axes better, more efficiently and with a more demand-oriented approach.
- The key prerequisite is a broad tariff integration of such services into the public transport system, even if it means the participation of different operators. The introduction of an integrated, overarching electronic ticketing system that covers bike sharing services, charging infrastructure etc. and can be booked and paid for via mobility cards or smartphone is long overdue. This requires a neutral bill processing. Here, initially, there should also be testing of competing regional solutions as needed. This could be a pragmatic and above all quick way to make improvements in individual urban regions and transport networks, as opposed to waiting for interregional models or the one large-scale solution at national or even international level.
- Automated/autonomous or connected driving will noticeably change urban transport in the medium to long range, although this change in urban mobility will likely take place only gradually and in areas that are approved for this type of mobility. Private shuttle transport services will not be able to replace the public transport system. Instead, the technology can above all offer a useful addition to the public transport system and contribute to a long-term reduction in operating costs in that area, while helping to maintain low-occupancy transport routes.
- The groundwork for automated/autonomous driving is already being laid today. Here, the active involvement of the municipalities is important in order to utilise the opportunities presented by this technology, while minimising its risks. On the one hand, traffic flow, efficient use of traffic space, traffic safety and mobility options for mobility-restricted citizens can be significantly improved. On the other hand, everything should be avoided that leads to an increase in traffic volume on the streets (longer trips, empty runs, induced increases in transport) and jeopardises the substance of the public transport system as the backbone of a city friendly transport system. Additionally, autonomous driving must not lead to a forced partitioning of urban space, which would stand in the way of a road space design that is oriented to integrated and open principles of urban development. This would have serious disadvantages, in particular for pedestrian traffic. Finally, autonomous driving must be designed in such a way that it does not further exacerbate the segregation of population groups based on their mobility chances. A new technology has to adapt to the needs of the city – and not the other way around.
- Digitalisation is already influencing traffic management in a variety of ways: Traffic detection, traffic steering, the control and coordination of traffic lights or traffic monitoring are key areas in which digitalisation can bring about further improvements in traffic flow management, emissions reduction, parking management and safety. The systems should be oriented to a long-term shift in traffic flow to other modes of transport. Short-term success in achieving a smoother flow of traffic usually fails alone by virtue of the fact that the system as a whole is overstrained. The interests of the “environmental alliance” (public transport system, pedestrian and bicycle traffic) must be given priority. Digitalisation in the area of individual transport also allows for technical measures on the vehicles themselves, for example systems to assist in compliance with speed limits.
- Employers in the private and public sectors are encouraged to make greater use of digital services for their employees in conjunction with a comprehensive mobility management, which can help reduce the traffic volume (home office, e-learning, use of video conferences, package delivery to the workplace etc.).

- In the future, digitalisation will offer even more options: from parking monitoring to crowd sourcing-based information on the traffic situation to situation-based control of street lighting and management of storage capacity in electric vehicles for grid stabilisation, to name only a few applications. The cities, after careful deliberation on opportunities and risks, are generally open to such innovations. The Federal Government, on the other hand, should support these processes through a “Research Agenda on Sustainable Mobility”. This also includes an overarching national platform for the exchange of ideas, concepts and experiences, as well as the action requirements of all partners. It is the responsibility of the Federal Government to ensure the utmost degree of data security and to create data protection regulations that are adapted to the special situation of the transport sector and that effectively protect citizens’ privacy.
- Furthermore, the Federal Government, the *Länder* and the municipalities are called upon – not only for reasons of an effective use of resources – to actively utilise the potentials of sector coupling through intelligent networking. This includes, for example, the use of electric vehicles as interim storage for renewable, volatile energies, the multifunctional configuration of streetlamps and the linking of smart home and smart traffic.

4. Giving municipalities more scope for decision-making – Providing efficient steering instruments from the Federal Government and the *Länder*

The attainment of sustainable mobility is not only a matter of money and infrastructure. Good services are only one side of the coin; they must be accompanied by efficient regulatory mechanisms as a necessary supplement in the sense of a “push and pull” strategy. The municipalities require sufficient leeway and regulatory possibilities in order to ensure that the management of the traffic situation is conducted in as city friendly and environmentally friendly a way as possible. The aim is to achieve an optimal traffic flow for all modes of transport, to increase traffic safety and to create attractive public spaces. The prerequisite for this is openness to innovation and the testing of new ideas and solutions through pilot projects, even if these may not yet be fully covered under the existing legal framework. But regulation can also mean steering new developments that have major implications on urban traffic (for example automated and connected driving or the introduction of new ride selling services outside of the conventional public transport system) from the very beginning in such a way that they can be implemented in agreement with municipal public interests. The following points in particular must be taken into account:

- The increase in freedom of scope in shaping regulatory measures pertains to, among other things, road transport law and the associated regulations; in particular, section 45(9) of the road traffic act (Straßenverkehrsordnung - StVO) should be changed.³⁷ With a view to enabling smoother traffic flow and reducing congestion in cities, for example, the municipal authority to enforce a constant speed limit must also allow for lower and city friendly speed limits, if needed, for reasons of traffic safety and environmental protection; furthermore, cities must be given the possibility to test deviations from the current regulations with the context of the road traffic act. On the whole, cities need more possibilities to test innovations in public space.³⁸ Often, these are measures that have already been proven in other countries, for example interactive zones modelled on Swiss and Austrian experiences. Such openness to innovation is particularly in demand when it comes to the necessary promotion of pedestrian and bicycle traffic. This does not

³⁷ This regulation lists, among other things, the exemptions that qualify the restrictions and bans on moving traffic, see https://www.gesetze-im-internet.de/stvo_2013/_45.html, last accessed on 28 Jan. 2018.

³⁸ Position of the 413th Presidium Session of April 2017 and the 415th Presidium Session of June 2017, see <http://www.staedtetag.de/presse/beschluesse/083155/index.html> and <http://www.staedtetag.de/presse/beschluesse/081737/index.html>, last accessed on 28 Jan. 2018.

preclude maintaining the greatest possible uniformity in the handling of the legal framework.

- Also with regard to a more effective regulation of stationary automobile traffic (parking), the municipalities require more scope of action to realise flexible regulatory options that facilitate a more efficient approach to public space and that ensure traffic safety (for example, appropriate fees for residential parking permits that reflect the value of public space, significantly higher fines for parking on sidewalks, bicycle facilities and bus lanes with a greater deterrent effect, better possibilities of arranging loading zones for commercial transport).
- In this context, state building codes also play a key role, as by way of municipal parking statutes they can have significant influence on the establishment of parking places and thus help restrict motorised private transport. Many state building codes also need adjusting with regard to parking requirements for bicycles. The same applies for the installation of charging stations for electric vehicles.
- The digitalisation of the transport sector opens up considerable potentials for more cost efficient parking management systems. Modern cars are equipped with systems to pay parking fees digitally and online; some cities have years of experience in this area based on their vehicle fleets. Digital tools (e.g. badges for residents containing digitally readable information) can be used to increase efficiency in the personnel-intensive area of parking management, while access restrictions can be efficiently monitored by stationary systems. Technical and organisational solutions that meet data protection requirements exist or are described.
- The cities need enforceable solutions for restrictions on traffic based on climate protection or environmental considerations, to be applied in cases when courts rule them to be unavoidable in individual urban agglomerations in the interest of compliance with emission limits (see Chapter 3). There must be advancements in the prioritisation measures for the “environmental alliance”, for example in the areas of traffic steering, traffic light controlling, bicycle areas in front of traffic lights, turning procedures etc.
- Regarding the gradual introduction of automated and connected driving, from the very early stages potential regulatory requirements must be reviewed and introduced by and for the municipalities if applicable, in order to avoid developments that are counterproductive from a transport policy standpoint.
- The passenger transport act (*Personenbeförderungsgesetz – PBefG*) must continue to bolster the role of the municipalities as the responsible authority for the public transport system and provide for improved possibilities of directly awarding transport service capacity. Furthermore, the provision of transport services through the sharing economy must, insofar as possible, be tested and accompanied at regulatory level under the umbrella of the passenger transport sector.
- Spatial planning law and construction planning law have a considerable influence on the possibilities of cities to advance integrated settlement and transport development in a regional context as well (e.g. development along railway axes), to implement lower-traffic urban and building structures (mixed-use, decentralised supply etc.) and thus to make a key contribution in advancing an environmentally sound urban development.

Each regulatory instrument is only as good as its implementation and its monitoring. The municipalities need to have sufficient financial and personnel-related resources at their disposal, especially when it comes to implementing the responsibilities they are tasked with.

5. Ramping up investments – Sustainably financing mobility for all

It is indispensable for maintaining societal cohesion that a sustainable mobility of people and goods which is both city friendly and environmentally friendly is safeguarded in the medium- to long-term. This requires a financial basis that is both long-range and stable, which ensures

planning and financing security that extends beyond the scope of an “emergency fund” or one legislative period. The safeguarding of efficient financing and steering instruments for municipalities means a fundamental redetermination, in the course of which transport financing must become part of the Federal Republic of Germany’s sustainability and climate protection commitments. From the point of view of the Association of German Cities, one way that this should take place is through the continuation of the “Emergency Clean Air Programme 2017-2020”. The declaration of commitment found in the coalition agreement must receive the financial backing it needs.

In order to reach the targets, the Federal Government and the *Länder* need to significantly boost the financial resources available to the transport sector:

- Although the Federal Government and the *Länder* have reorganised municipal transport financing, they have not provided for a needs-based allocation of resources. What is needed, in addition to the boost in investment at federal level, is a significant increase in investment in municipal transport. The existing financing instruments for new traffic construction must be supplemented by assistance for refurbishing the public transport system. The planned continuation and increase of the Federal Government’s programme for municipal transport funding (*Gemeindeverkehrsfinanzierungsgesetz – GVFG*) is a welcome step; if the funding level is too low, however, the destruction of economic value will continue. The programme funding must be increased to meet the actual demand as quickly as possible.³⁹
- The Federal Government’s funds for operating the public regional rail transport (*SPNV*) have been increased to 8.2bn euros and have been provided with a 1.8% growth dynamic. However, in regions with high population growth and in shrinking regions with high levels of commuter traffic, these funds will not be enough to grow the appeal of the public transport system to the point that it provides an incentive for car drivers to switch over. A key aim of the use of regionalisation funds must be to redirect significant portions of commuter traffic to modes of transport other than the automobile.
- A user- or beneficiary-based funding mechanism that transfers realistic cost shares to the responsible party, including if necessary to the operators of mobility services who profit economically from infrastructure systems, only exists in part.
- The European Conference of Ministers of Transport has called for a National Sustainable Mobility Campaign as a prerequisite for the further improvement of the transport situation. This is made up of three components: An investment programme for sustainable mobility with an annual funding totalling 5bn euros for ten years, modernisation of the regulatory framework and reform of terms for granting funds.⁴⁰
- From a municipal perspective, however, since the 2006 change in the basic law, the *Länder* also have a direct financing obligation that extends beyond the pass-through of federal divestiture funds. As of 2020, the *Länder* – which will receive around 9.7 billion euros from the fiscal equalisation scheme with the Federal Government – bear the sole responsibility for municipal transport funding.
- The Federal Government and the *Länder* need to develop programmes of action that take into account the actual financing needs for expanding and retrofitting key transport infrastructure (in particular tunnels and bridges; securing of barrier-free access) and that

³⁹ Verband Deutscher Verkehrsunternehmen (2017), loc. cit. This calls for establishing a special programme totalling 15 billion euros over ten years in order to enable the necessary immediate investments in the municipal public transport system and to make key progress in advancing the mobility transition (*Verkehrswende*) in Germany. The *Länder* should co-finance this programme with an additional 5 billion euros during its course.

⁴⁰ See https://www.verkehrsministerkonferenz.de/VMK/DE/termine/sitzungen/17-11-09-vmk/17-11-09-10-beschluss.pdf?_blob=publicationFile&v=3, last accessed on 20 Dec. 2017.

enable major expansion and conversion measures.

- The GVFG federal programme and future financial aid from the Federal Government to the *Länder* must be given greater flexibility (e.g. departure from the requirement of own rail tracks for new tram lines, renewed revision of standardised evaluations for, among other things, cost-benefit analyses to simplify procedures in closing gaps in rail networks and extending railway lines, or the relativisation of schedule speed as a decision-making criterion).⁴¹
- The *Länder*, insofar as they have not already done so, must sufficiently ensure (through a municipal transport funding law, for example) that as of 2020 the municipalities will still have at their disposal the funds that so far have been distributed as earmarked divestiture funds, so that these can continue to be used to finance municipal transport infrastructure.
- Furthermore, the *Länder* are obliged to increase these funds already prior to 2020 if necessary, in order to make their own contribution to a sustainable transport policy. In general, all financing programmes must be sure to comply with the prescribed requirement to create barrier-free access conditions.
- User-based financing schemes should continue to be pushed in order to generate additional support in maintaining and expanding the transport infrastructure. This was already called for by the European Conference of Ministers of Transport and by the commissions established by that conference at the beginning of the 18th legislative period. To this end, the heavy goods vehicle fee should be expanded to all roads, with the goal of instating a uniform distance-based and environmentally based toll system for all vehicle types.⁴²
- The municipalities should consistently be given a share of the toll revenue for roads built under municipal jurisdiction; the apportionment procedure for this should be established by 1 July 2018 at the latest. The toll gap for vehicles between 3.5 and 7.5 tonnes should be closed, toll fees should be staggered based on emissions and the exemption from the heavy goods vehicle fee for long-distance buses should be lifted. In addition, cost participation for the use of bus stations should be introduced, and the truck toll must be expanded to the entire road network.
- Proposals for a toll on passenger cars should be reviewed⁴³ in order to avoid negative impacts on regions close to Germany's borders.
- The possibility of a public transport fee and other models of “beneficiary-based financing”, including a “citizens’ transport ticket”, must be given more in-depth examination.⁴⁴ Revenue from user-based financing and toll revenue must always be managed separately from state funds and may not replace these funds.
- The introduction of a “city toll” is currently not considered to be a constructive solution, as it threatens to weaken the important retail function of the cities and increase commuter traffic. The continuation and expansion of inner-city parking space management systems, on the other hand, is currently a priority for a majority of cities. At the same time, studies examining the viability and benefits of a city toll system can contribute to a robust discussion, and individual cities should not be discouraged from testing such systems.

⁴¹ Demand of the Executive Committee of the Association of German Cities of September 2014, see <http://www.staedtetag.de/presse/beschluesse/079184/index.html>, last accessed on 28 Jan. 2018.

⁴² Daehre Commission and Bodewig Commission, see also footnote 27.

⁴³ Demand of the Executive Committee of the Association of German Cities of September 2014 and February 2015, see <http://www.staedtetag.de/presse/beschluesse/071028/index.html> and <http://www.staedtetag.de/presse/beschluesse/072651/index.html>, last accessed on 28 Jan. 2018.

⁴⁴ Demand of the Executive Committee of the Association of German Cities of September 2007, see <http://www.staedtetag.de/presse/beschluesse/059321/index.html>, last accessed on 28 Jan. 2018.

- Tax incentives that run counter to achieving the goals of a sustainable transport policy, such as the indirect support for long trips between places of residence and work, should be gradually eliminated to the extent that this is constitutionally permissible. It will be necessary to reassess the travelling allowance (Entfernungspauschale).⁴⁵
- From the standpoint of its users, the public transport system is in competition with the automobile in terms of price, comfort and certainly also image. For this reason, rising investment costs must not lead to an increase in ticket prices. Comfort and service quality must not be sacrificed for cost aspects, and the image of the public transport system needs to be continuously improved. Better service, including in the areas of system access, networking, information/ticketing and operations should not come at the cost of steadily rising ticket prices.
- Instruments that favour the public transport system, such as the tax cross-linkage (steuerlicher Querverbund), must be preserved in order to provide a financial equalisation instrument that can offset the structural disadvantages faced by the public transport system at all funding levels.
- Support for the retrofitting of public transport vehicles (including modification of vehicle depot areas, repair shops, etc.) is urgently needed in order to facilitate a timely contribution to the aims of environmental and climate protection. Financial support for such measures must begin immediately.
- Despite a number of unsettled issues, the “Sustainable Mobility for the City” fund, which was decided in the course of the 2017 “Diesel Summit”, is a positive signal and possibly a first step toward the financing of sustainable mobility. However, it only provides support for municipalities in which limit values for nitrogen oxides are exceeded. For this reason, it cannot serve as replacement for the long-term financing of sustainable mobility. The distribution of the resources from this fund must be organised in as simple and as unbureaucratic a way as possible, while at the same time focusing on measures with a maximum possible environmental and climate protection benefit and enabling the project-based financing of additional personnel. The fund must not replace existing support programmes. It should be used in particular to close existing gaps in funding possibilities for pedestrian and bicycle traffic. At the same time, the recently introduced funding possibility for express bike lanes must be continued and expanded as necessary.

⁴⁵ German Cities Association (2013), Erwartungen und Forderungen des Deutschen Städtetages an den neuen Bundestag und die neue Bundesregierung, Decision of the 395th Executive Committee, 18 September 2013, see http://www.staedtetag.de/imperia/md/content/dst/veroeffentlichungen/beitraege_stadtpolitik/beitraege_zur_stadtpolitik_100_erwartungen_2013.pdf, last accessed on 28 Jan. 2018.

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Agenda

for a mobility transition from municipal standpoint

A position paper by the Association of German Cities

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