Global Roadmap of Action Toward Sustainable Mobility

Contribution of the Private Sector

SUSTAINABLE mobility FOR ALL

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GLOBAL ROADMAP OF ACTION

Toward Sustainable Mobility

CONTRIBUTION OF THE PRIVATE SECTOR

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"Onboarding the private sector in the SuM4All initiative is essential to convey the voice of the business and achieve a successful transformation of mobility"

EDITORIAL

As transportation and related industries undergo fundamental changes–fiercer competition with new entrants, multiple exits of traditional actors, new business models, and rapid development of new technologies–Sustainable Mobility for All (SuM4All) recognizes that change cannot happen without integrating inputs from both public and private actors. Onboarding the private sector in the SuM4All initiative is essential to convey the voice of the business and achieve a successful transformation of mobility. A business consultation, led by Michelin on behalf of the SuM4All Steering Committee, with support of the World Business Council for Sustainable Development (WBCSD), Movin'On and Ernst & Young (EY), took the pulse of more than 25 large corporations covering the whole value chain comprising raw materials, transportation services, equipment, digital services, manufacturing, financing services, energy, and consulting. In addition to this, at the annual world summit on sustainable mobility in June 2019, Movin'On organized a special workshop in Montreal. This workshop, dedicated to the Global Roadmap of Action, offered the SuM4All initiative a unique opportunity to get direct outreach to business, and allowed corporations present at Movin'On to add their voice, thus enriching the consultation process.

All private actors involved have shown a deep interest in the SuM4All initiative, and have been very responsive and contributive to discussions, and we are grateful for their willingness to support SuM4All collectively in making mobility green, efficient, accessible and safe.

Nicolas Beaumont,
Senior VP Sustainable Development and Mobility, Michelin
July 2019.

ACKNOWLEDGMENTS

This consultation has been made possible thanks to the active mobilization of several key actors of the sustainable mobility ecosystem. Many thanks to them for all their valuable inputs curated to build this contribution.

Active Invest
Alstom
Bestmile
Blue Solutions
BNP Paribas
Bridgestone
Eaton
EDP
Egis
Enel
Geodis
Huawei
Kantar
Mahindra
Meridiam
Microsoft
Renault-Nissan
Saint-Gobain
Solvay
Valeo
WBSCD
Volkswagen…

… and Corporates participating to Movin'On SuM4ALL Workshop "Will you add your voice?" on June 4, 2019 in Montreal, Canada.

The elements presented in this document are the results of a process of collective discussions and reflections. It synthetizes the different points of view gathered during interviews and workshops with key actors. The conclusions and recommendations are not binding, and have not been endorsed individually by participating companies.

EXECUTIVE SUMMARY

Within the framework of the SuM4All initiative, the Global Roadmap of Action Toward Sustainable Mobility (GRA) has been written as a multi-stakeholder effort in developing a menu of policy actions to achieve sustainable mobility. It provides tailored and operational guidance to policy makers in both countries and cities, to promote and implement a vision of sustainable mobility as accessible, efficient, safe and green. However, the transition toward a more sustainable model cannot happen without the private sector playing a key role in this transformation. In this context, a consultation of the private sector was carried out to gather inputs from different key players of the sustainable mobility ecosystem, based on:

- Several interviews with key players from the sustainable mobility ecosystem with a special effort to represent the entire value chain;
- A workshop to explore the key messages and co-construct the key recommendations;
- A presentation and discussion under the aegis of SuM4All with key stakeholders at the Movin'On summit held in Montreal on June 4–6, 2019.

The goal of this consultation, as a supporting document to the GRA, is to summarize the business perspective and main expectations, and to provide key recommendations based on private actors' experiences and challenges. This mobilization brought to light three major statements shared by the involved companies.

1. The private sector is engaged to facilitate the transformation of our mobility systems, and to support the SuM4ALL initiative.
2. The private sector is one of the key pillars without which the transformation will not happen.
3. Collaboration is essential. The four objectives of the SuM4ALL initiative (clean, efficient, accessible, safe) have to be pursued concomitantly.

Business inputs to the GRA also led to six concrete, actionable recommendations that foster the adoption of clean, efficient, safe and accessible mobility solutions.

1. Collaborate - Act in ecosystems and facilitate collective action via standardized and harmonized tools.
2. Anticipate and stabilize - Provide long-term visibility and consistency to enable forward-looking action and investments.
3. Unleash innovation - Promote technological innovation and diffusion of new mobility solutions based on informed, technology neutral strategic choices.
4. Educate - Strengthen communication and education to trigger behavioral changes and speed up sustainable solutions.
5. Remove building blocks – Clear bottlenecks to infrastructure and data access.
6. Experiment locally - Rely on cities and local communities as essential drivers for testing and scaling up.

Each key recommendation is specifically elaborated and illustrated in this report, with a success case as a concrete actionable example.

Building on the key recommendations and contributions presented in this report, Michelin has committed to translate them in direct inputs alongside the 168 policy measures listed in the GRA.

KEYS STATEMENTS

The world of mobility is at the early stage of a profound and systemic change. The development of new solutions to mobility provides a glimpse of a future of mobility that can become greener, safer, more efficient and more accessible. The role of the public authorities and policies is to guide this transformation, at the local, national and global levels, while setting up a clear and consistent, holistic framework encompassing economical, legal, fiscal and technological frameworks of action. Private actors are key players in this transformation, and their voice adds value in the decision-making process.

1 The private sector is mobilized to facilitate the transformation of our mobility systems and supports the SuM4ALL initiative.

Private actors have demonstrated a strong interest in the SuM4ALL initiative, as shown by the success of this consultation and call for action.

A structured guidance for public and private players of the mobility ecosystem: Framing the transformation is fundamental to enable a proper planning of national trajectories and to lay the foundation for the development of a sustainable mobility ecosystem favorable to innovation and experimentation.

Tailored tools to address the variety of situations with the possibility to propose custom-made solutions: Work accomplished for the GRA is perceived as critical and essential to classify countries in four different groups, allowing each of them to position itself, and consequently, better perform by adopting policy measures put in force by comparable fellow countries.

Therefore, the GRA as a structured, tailored and operational guidance to policy makers is a key step in the right direction.

2 The private sector is a key pillar of the mobility system's transformation.

Private actors are indeed leading players in the transformation of mobility as they are very often the ones that provide innovative technologies, products and services as well as business models required in this transition. Therefore, collaboration between the private sector and policy makers is essential. From the design stage of public policies to the implementation of concrete actions, such collaboration will foster results that cannot be achieved in isolation. For instance, policy designs that neglect the private sector input might not take into account the economic and industrial realities encountered by private actors on the field leading to wishful thinking rather than transformative action. Later on, during the implementation phase, dialogue is crucial to experiment with business models, innovative solutions, and technologies, and to capitalize on feedback.

3 The four pillars of the SuM4ALL initiative (clean, efficient, accessible and safe) have to be pursued concomitantly to ensure the transition toward a truly sustainable mobility.

Companies underline that sustainable mobility, whether for passenger or freight transport, will occur only if convenient and attractive. Consequently, it is important to anticipate and mitigate any contradiction that could occur between these four goals or between these goals and the convenience and attraction aspects. For example, a policy focusing exclusively on accessibility in the short term might neglect the two objectives of safety and green by promoting cost ef-

fective and relatively easy implementation of individual mobility solutions. Similarly, policies that would promote safe or green transportation at the expense of convenience and attraction are not likely to materialize.

Contributions of the private sector can be divided into six concrete recommendations:

1. Collaborate
2. Anticipate and Stabilize
3. Unleash innovation
4. Educate
5. Remove building blocks, and
6. Experiment locally.

KEY RECOMMENDATIONS

THE BUSINESS PERSPECTIVE

How to foster the adoption of clean, efficient, safe and accessible mobility solutions?

1 COLLABORATE

Act in ecosystems and facilitate collective action via standardized and harmonized tools.

The collaboration among different players from the private, public and civil society sectors has been highlighted as an important driver of success in the transformation of mobility. These sectors cannot act alone in facing the scale and complexity of the transformation. Synergies must be created through ecosystems gathering different actors from the whole mobility ecosystem and also from the digital world, research institutes and public authorities from different countries. Several examples illustrate the possibility of cooperation to sustain transformation projects.

Public authorities have a central role to play in the development, standardization, and harmonization of tools to enable collaboration. These tools can be institutional, administrative, technical or financial.

1. **Institutional tools** facilitate collaborations at the national and local level, to draft policies and regulations that unleash and leverage the innovative potential of the private sector while limiting externalities and fostering SuM4ALL goals. For example, the manifesto of the Transport Decarbonisation Alliance made up of countries, cities and companies suggests a methodology to establish such governance.
2. **Administrative tools** are also essential for the day-to-day implementation of policies in a collaborative way. Examples include calls for projects that integrate collaborating aspects, or regulations that surround the co-development of new projects on public space. The more harmonized these tools, within and between countries, the easier it will be for actors to replicate successful collaborations on a wide scale.
3. **Technical tools** facilitate the diffusion of emerging technologies. For instance, common charging standards are needed for hydrogen vehicles, common data sharing protocols are also essential for the emergence of smart mobility.
4. **Financial tools** that help redirect private investment toward sustainable investments, including sustainable mobility, would gain from being standardized and harmonized. For instance, a clarified taxonomy for green finance which defines a shared understanding of those investments, including mobility projects, that can be labeled green and those that cannot.

Finally, beyond these shared efforts between companies specialized in mobility, governments, local com-

Public-private partnerships in mobility: The successful example of Miami Tunnel

The sustained development of Public–Private Partnerships (PPPs) is a good example of collaboration on concrete projects. PPPs of different sorts are booming all around the world in various sectors, and the mobility ecosystem offers several opportunities for this kind of collaboration. The Port of Miami Tunnel is one of the first PPP projects in Florida. Several reasons explain the success of this project, most notably collaboration between different levels of the government (federal, state, county and city) and community involvement.

munities or funders, the involvement of citizens in the ecosystem is essential. Citizens are the end users of mobility services for their transport and shipment, and the success of new solutions depends on the adoption (or not) by the end user. The future of mobility will be based on demand-driven solutions, building on new information technology (IT) and digitalization. The end user needs to be associated in the development of these solutions in collaborative ecosystems at the early stage of design and experimentation. Private companies, such as transport operators, that are in direct contact with customers play an important part in this process.

2 ANTICIPATE

Provide long-term visibility and consistency that enable forward-looking action and investments.

Sustainable mobility solutions can only be designed, tested, invested in and scaled-up in a stable environment, where each actor of the ecosystem can have enough visibility on the market trends and the public orientation given for the future of mobility. Setting a timeline is crucial.

Visibility and consistency over the objectives for mobility ensure that long-term decisions are made by companies, investors and consumers. Private companies expect policy makers to commit to the long term, and to use available tools that bridge the gap between the political agenda. Typically, they expect the 4–5 years length of a political mandate, and the industrial investment timescale that can spread over many years if not decades. Policy makers have several tools that already exist, ready to be deployed to build long-term visibility and to reconcile these time horizons. Setting sustainable mobility goals into multi-annual laws is one of those necessary steps.

Consistency of the regulation also conditions the establishment of a confident environment to help foster and de-risk innovative investment. Consistency of the regulation over time leads to a better visibility: long-term goals are useless if they are not respected or modified constantly.

Visibility and consistency are also a game changer for consumers' behavior, as they help build confidence and facilitate the shift toward new solutions and new uses. For example, the stable policies and incentives put in place by the Norwegian governments have greatly participated in the democratization of electric vehicles to make it a pioneer country in mobility. Public policies can also foster behavior change of the individuals and citizens as well as the adaptation of cities and private actors by providing long-term visibility on the planned increase of carbon prices.

Visibility and consistency should not be implemented at the expense of flexibility. When companies experiment, they position themselves to iterate, innovate and develop projections, learning from experience (see #6). Some innovations have a faster pace than regulation, making the exercise difficult for policy makers who have to provide visibility and flexibility at the same time. Flexibility can be observed in urban areas for instance where new mobility solutions emerge rapidly. Free-floating bikes and scooters outpaced regulation in many cities and imposed a new business model, requiring public actors to adapt while maintaining their goals to promote modal shifts. In other words, public decision makers should remain firm on the targets while being flexible to the means of implementation.

Phasing-out internal combustion engines – successive goals to provide visibility

The Indian government has a clear agenda of phasing out of Internal Combustion Engines (ICE) vehicles. The first goals were set in 2015 by the national Electric Mobility Mission Plan 2020 and the implementation of the Faster Adoption and Manufacturing of (hybrid and) Electric Vehicles (FAME) scheme. The FAME scheme, promoted a faster transition from thermal to electrical engines, and set a first goal of six to seven million electrified vehicles on Indian roads by 2020. The success of this scheme, in supporting market development of electric vehicles and its manufacturing eco-system, established the ground for a new and even more ambitious goal announced in 2017—a complete ban on sale of new ICE vehicles by 2030.

3 UNLEASH INNOVATION

Promote technological innovation and dissemination of new mobility solutions based on informed, technology-neutral strategic choices. In addition to consistency and flexibility, informed technological neutrality fosters sound and fair competition in favor of sustainable mobility. By setting common rules for all actors, technology neutrality by policy makers is essential to provide a level playing field both within a single mode of transportation and between modes (e.g., buses vs. trains vs. shipping). Policy makers should also strive, with the help of the private sector, to provide objective information on the benefits and the inconvenience of each mobility solution to promote informed choices.

A strong case for setting technology-neutral goals presents itself. Green mobility and GHG emissions reduction, clear carbon pricing mechanisms at the regional or national level, taking into account the whole life cycle of products, provide effective tools to remain technology neutral, and avoid premature strategic choices, potentially leading to lock-in situations. Sustainable mobility and transportation will no doubt include a set of various technologies and tailored solutions.

Life-cycle assessment for transportation decision making

Life-cycle assessment (LCA) is a tool used in different industries to assess environmental impacts associated with all the stages of a product's life. Private actors are advocating for the integration of LCA techniques in the decision-making process in transportation. An LCA can help analyze the full impact of new mobility solutions and can offer the basis for informed, objective benchmark of solutions. Most of the existing regulations do not factor the full life cycle of a product. As a notable exception, the Low Carbon Fuel Standard in California is a regulation encouraging the use of cleaner, low-carbon fuels in California by expressing the carbon intensity (CI) of gasoline and diesel fuel and their various substitutes based on the LCA on each step of the production, transportation and use of a given fuel.

These goals as well as the information provided to users should be based on reliable, clear and comparable metrics that take into account the global cost of mobility. Beyond economic or fiscal incentives, public authorities are also in position to provide neutral information to all actors and consumers, based on relevant metrics for objective comparisons. The said metrics must aim to approximate the total cost of mobility solutions for society, , the total cost of ownership, and also external costs such as those of all infrastructural requirements as well as of social and environmental dependencies. The private sector acknowledges the work produced by SuM4ALL that gathers a set of comparable mobility indicators, many of which can be used to define technology-neutral goals.

4 EDUCATE

Strengthen communication and education to trigger behavioral changes and accelerate sustainable solutions. Alongside a strengthened collaboration between all actors, a better long-term visibility, and the promotion of innovation through technology-neutral choices, education is another fundamental lever that accelerates growth, and is a key driver for appropriation of sustainable mobility solutions.

Consumers must adopt new technology and business model for the SuM4ALL goals to reach their targets. For this, communication and education are instrumental to change behaviors. Consumers' lack of understanding, and the overall cultural dimension can represent a true barrier to innovation. It affects individuals,

Educating consumers on the carbon footprint of a journey

More and more mobility service providers inform their customers of the carbon impact of their trips, sometimes allowing for comparison between different transport modes. For instance, take the case of the French SNCF's (railway company) app that systematically visualizes the carbon footprint associated for every trip. These types of measures illustrate how companies and operators can raise awareness and help consumers better realize the impact of their individual mobility choices.

citizens, and also companies—as key consumers of freight services—and local public authorities as actors in parts via public procurement. With their knowledge and their connection to the end user, private actors have a key role to play alongside public actors in strengthening communication and education toward all types of consumers.

Communication and education campaigns should focus on two decisive aspects: Why? And how?

- The "why" aspect: Users, whether public or private, have to change the way they move and the way they move goods, and that necessitates making clear the consequences and costs of unsustainable mobility. Consumers are often unaware of the real benefits and drawbacks of different modes and technologies in terms of sustainability and of convenience. Only then, will a systemic shift be appropriated and accepted. Consumers will only consent to make the expected efforts if they understand how the benefits, whether personal or social co-benefits, outweigh the costs.
- The "how" aspect: Campaigns must demonstrate to users how they can rely on existing innovative solutions to change their practices. To do so, the role of companies cannot be overemphasized as they are, in many cases, the ones proposing new solutions.

The emergence of new mobility solutions also requires building up new skills and abilities, both in the public and private spheres. Many companies underline their difficulties to hire the right talent to take on the challenges of sustainable mobility. In close cooperation with the companies concerned and with higher educational institutions, policy makers can take action in the development of adequate training and curricula. Executive education of public actors at local and sometimes national levels is critical as they are themselves often concerned by the lack of public servants qualified for the changes ahead. In particular, public servants must be trained to collaborate efficiently with a diversity of private actors (through collaborative experimentation, PPPs). These challenges of education exist in developed as well as developing countries and might become more pressing as the transition gains momentum.

5 REMOVE BUILDING BLOCKS

Infrastructure and data

Private companies point out infrastructure as one of the most important bottlenecks that slows down the development of mobility solutions and their adoption.

Infrastructure is often lagging for the full-fledged deployment of sustainable mobility market solutions. New mobility offers a chicken-and-egg paradox. For instance, the sale of electric vehicles (cars, vans, light-duty vehicles and heavy trucks) will only increase if supported by a sufficient supply of infrastructure, while in return the offer of infrastructure will only emerge if there is a critical demand for EVs; it is about a genuine market being put in place. Yet many actors point out that it is the infrastructure offer that is missing. This is true for almost all types of infrastructure: urban, peri-urban, rural, rail, road, and ports. Moreover, the future infrastructure will be different as it will have to combine classical infrastructure works with digital infrastructure. This equation alters the traditional mobility ecosystem in a profound way. It also requires the acquisition of specific competencies to manage this growing asset.

The development of infrastructure faces difficulties as the legal and financial frameworks need to be adapted. Companies noted that frameworks often consist of procedures that are too complex, and unfit for innovative, more flexible and decentralized tailored mobility solutions. Several actions would help establish a facilitating environment.

- A framework, as harmonized as possible, to facilitate projects with coherent regulations, for instance on land planning or electricity use and sale.
- A framework to redirect financing toward sustainable infrastructure that fosters co-financing.

In many cases, public regulations, incentives and subsidies are a prerequisite to encourage the development of sustainable mobility infrastructures. For example, access to and cost of data was identified as one of the main building blocks to remove.

Eventually, infrastructural development is a good illustration of the cooperation needed between public

Open market model – planning infrastructure in a collaborative way

The Open Market approach for charging stations provides an interesting model–from the company Allego–of coordination between public and private actors to plan infrastructure. It is based on an online tool accessible to all the inhabitants of a given city. This online tool maps all the needs of final users for private developers who can bid on for the deployment of new charging stations. This successful model, enabling the creation of a dense charging network adapted to the demand, is being replicated in several cities across Europe.

and private sectors since a large array of actors are involved: construction companies, private developers, investors, national public institutions and local city planners, and also in some cases, manufacturers, information technology companies, digital services providers, and startups. The different tools for collaboration are critical for a timely development of infrastructure.

6 EXPERIMENT LOCALLY

Enable through local experimenting

Rely on cities and local communities as essential drivers for testing and scaling up. Cities and local communities appear to be the ideal ecosystem for deploying many of the actions and experimentations needed to enhance or spearhead sustainable mobility. They are especially well positioned to drive innovative solutions tests.

From a corporate perspective, cities must embrace the forefront of transformation implementation. Cities and peri-urban communities have the local knowledge and insight required to implement many of the solutions identified; installation of safe corridors for bicycles, dedicated fast lanes for clean vehicles, reserved parking places for EVs, low- and ultra-low emissions zones, development of local hydrogen ecosystems, and cooperation with operators of free-floating devices. Yet, with finance and capacity building, only very few cities around the world are in a position to implement and monitor concrete and effective actions. Therefore, a key action that countries can take, is to empower cities by adopting appropriate regulatory frameworks. Specific care must be taken to ensure that this benefits not only capital cities or large cities, but also smaller cities as well to achieve the goal of accessible mobility.

Cities can be ideal testing grounds for new models, products and services, as they are at an appropriate scale to test with sufficient actors and stakeholders (passengers' mobility and freight transportation) and yet at a limited risk. Cities are also a favorable ecosystem for the experimentation of new solutions and most suitable business models. Although the role of cities and local communities as ecosystems for experimentation is recognized by many, a lack of appropriate frameworks allow for such experimentation. In many countries, regulations need to be adapted to empower experimentation. Finally, local experimentation is not an end by itself. It can only play its full role if good practices are identified and replicated at a broader level. The identification of successful experimentation coupled with an adequate showcasing process are decisive levers for transformation with adequate showcasing tools at the national, and when possible, international levels.

The development of autonomous vehicle

The current development and experimentation around autonomous vehicles is a very good example showing the potential of cities as testing grounds in the field of mobility. All around the world, cities are currently leading the way with experimentation and regulation of autonomous vehicle. In the USA for example, the federal legislation is historically permissive with the development of guidelines rather than strictly binding laws. It leads to several varied approaches and the emergence of good practices such as in the city of Arlington, Texas where the experimentation of autonomous shuttle since 2017 has led to a better acceptance by the public. France, for example, is also currently establishing a legislative framework that will allow testing of autonomous cars on public roads in 2019.

This role of cities as key actors and testing grounds should however to be balanced with the need for harmonized measures. A precise equilibrium must be struck to ensure that cities are given the necessary latitude to implement new solutions, without jeopardizing coherence at a national or regional level. For instance, one or a few cities can play a role in experimenting ultra-low emission zones (ULEZ) in a given country, generating valuable lessons. Yet, after some time, a process of harmonization should follow to establish, among other things, that end-users traveling from one city to another face a coherent environment, and not a set of disparate local regulations and standards.

CONCLUSION

It is time for the mobility ecosystem to gear up in its transition toward a more sustainable future. In developed and developing countries alike, the challenges are daunting. The four goals of the GRA– accessible, efficient, safe and green mobility—are more than wishful thinking. They are a clarion call for a radical transformation of our entire mobility systems. This transformation will not happen without the private sector. It will not happen without the public sector either. Policy makers and public authorities around the world can count on the strong willingness of companies to participate actively in this transition. Private actors have strong expectations that policy makers will deliver in implementing concrete public policies and in shaping ecosystems where private initiatives can thrive. For public and private actors alike, the time for action has dawned.

ENDNOTES

1 See for instance the Tropical Landscape Financing Facility developed jointly by BNP Paribas, Michelin and UNEP.

2 Transport Decarbonisation Alliance, 2018, Decarbonising transport by 2050. A TDA manifesto on how to reach net zero emission mobility through uniting countries, cities / regions and companies, http://tda-mobility.org/wp-content/uploads/2018/12/EY_TDA-Manifesto.pdf

APPENDIX

DIRECT INPUTS ALONGSIDE THE BUSINESS CONSULTATION TO THE DETAILED LIST OF GRA POLICY MEASURES

Michelin translated the recommendations and contributions presented in this report as direct inputs alongside the policy measures listed in the GRA.

The following matrix represents those business inputs in the listed GRA policy measures, a visible contribution toward the completion and enrichment of the GRA. This appendix accordingly gathers three types of input:

- "Add" section: Proposed new policy measures based on the results of the business consultation.
- "Modify" section: Proposed amendments with new contributions that take into account the private sector's point of view better.
- "Highlight" section: Measures mentioned in the list of policy measures that strongly echo the concerns and perspectives of the private sector.

ADD

Policy Measure Title	Policy Measure Description
Ensure Neutrality and Transparency on Technology related communication	Take into account the whole life cycle of technologies when making technology decisions, using for instance LCA (Life Cycle Analysis) methodologies.
Facilitate the Understanding and Increase the Demand for Sustainable Solutions	Deliver communication campaigns and promote physical and online information centers aiming to reinforce the demand for sustainable mobility products, and facilitate the understanding of new technologies.
Facilitate the development of an end-of-life management system for new electrified mobility systems, such as batteries	Promote the development of a specific industrial sector dedicated to the management of the new mobility solutions' end-of-life. Management, treatment and recycling of batteries being one of the key challenges of the electrification of mobility. Support the research to optimize the life cycle of batteries by improving their lifespan and developing optimal cost-efficient sustainable recycling solutions.
Increase the Awareness on the Real Cost of Mobility	Insert the topics of sustainable mobility into formal and informal education in order to increase population's awareness of the challenges of mobility (including externalities) and raise the willingness to pay and use efficient, safe and green transport services.
Develop an International Taxonomy for Green Investments	Develop an internationally recognized taxonomy for sustainable and green investments and attach fiscal and regulatory incentives (e.g. reduced solvability ratios) to these investments.
Encourage the Development of Sustainable Investment Products	Reinforce blended finance models both for local multi-stakeholders' projects and large projects requiring the collaboration of several IFIs and private actors. Ensure their promotion towards both public and private actors including financial institutions.

Policy Measure Title	Policy Measure Description
Encourage the Development of Sustainable Investment Products	Define regulatory frameworks to facilitate the creation of impact funds targeting sustainable mobility including small-scale projects led by start-ups or NGOs. Support existing funds.
Develop a Demand-driven Research Framework	Develop a demand-driven research framework by allowing experimentations at a local level and strong connections with research centers and universities to optimize the R&D process and enable identifying missing technologies.
Develop Vehicle Rental Platforms for Different Types of Use	Provide effective shared car and bicycle-sharing systems as an alternative to vehicle ownership. Promote the use of vehicles adapted to daily needs (i.e. small BEV for daily trips) and offer alternatives renting solutions for exceptional journeys (i.e., range-extender or large BEV holidays).
Integrate New Mobility Solutions to the existing transports	Support the complementarity of new, shared solutions such as car-sharing, electric vehicles rentals and autonomous vehicles with existing public transport networks, for instance by supporting new solutions to direct traffic to public transport stations or as a replacement after operating hours.
Synchronize Civil Works and Develop Synergies	Synchronize the different civil works necessary for new mobility infrastructure (for instance road and telecommunication infrastructure) in order to maximize synergies and limit costs.
Provide Visibility to Industrials and Investors	Set legally binding medium to long-term mobility targets, including on infrastructure development, in order to provide visibility to industrials and financial investors.
Ensure the Renewal of Regulations	Promote periodic review of the regulations to allow the fast moving mobility solutions to evolve towards a sustainable and inclusive transport system.
Implement Regulations Supporting Smart Charging	Implement regulations supporting internationally harmonized V2X technologies and smart charging solutions, both in terms of hardware and software, to facilitate the growth of e-mobility.

MODIFY

Policy Measure Title	Proposed Policy Measure Description
Allow and Regulate Vehicle Sharing and TNCs	Allow and regulate vehicle sharing programs (cars, bicycles, scooters), transportation networking companies (TNCs), demand-responsive transport solutions and support vehicle-sharing community networks such as car-sharing fleets within companies and administrations.
Develop Data Repositories and Data Collection Guidelines	Develop centralized data repositories and establish data collection guidelines at the national and metropolitan levels. Facilitate access to city-level data to the private sector while establishing a legislative framework defining the context and purpose of its use.
Prepare Public Procurement Rules and Procedures	Prepare procurement rules and procedures, standard contract documents for infrastructure constructions and maintenance, supported by an e-procurement platform. Harmonize those at a regional or international level to foster economies of scale.

Policy Measure Title	Proposed Policy Measure Description
Provide Education Programs for Innovation	Provide neutral trainings and educational programs to develop up-to-date skills, increase awareness of the latest innovations and support innovation in transports. Rely on close cooperation with companies to develop curriculums.
Support Innovation through Regulatory Incentives	Develop a framework at national and sub-national level enabling public–private cooperation to design policies such as targets, regulations supporting technical and business innovation and its diffusion.

HIGHLIGHT

Policy Measure Title	Policy Measure Description
Set Targets across Policy Goals	Set clear targets to be achieved in the long-term and in the interim for the four policy goals, aligned with the integrated sustainable mobility plan.
Adopt a Coherent Competition Policy	Adopt a coherent competition policy for passenger and freight transport based on the principles that competitive markets are central to efficiency, and acknowledging that market failures in the transport sector require regulation.
Remove Barriers to Intermodal Interoperability	Remove regulatory barriers to improve inter-operator and intermodal interoperability.
Define Low Emission Zones in Cities	Define Low Emission Zones (LEZ) in cities, i.e. areas where the most polluting vehicles are regulated through access restrictions, which could be based on vehicle emission standards or vehicle age, and enlarge them progressively.
Establish Electric Vehicle Manufacturing Mandates	Establish mandates for manufacturing electric vehicles and gradually increase their supply.
Establish Data Protection Regulations	Establish personal and travel data protection regulations, with processes that handle personal data with the appropriate safeguards and ensuring that data is not made available to the public without explicit informed consent.
Require Service Providers to Report Standardized Data	Establish standardized data reporting requirements for all transport service providers, including transportation network companies (TNC), public transport operators, and bike- or car-share companies.
Use Public Procurement to Support the Circular Economy	Use circular economy principles in public procurement, by which public authorities purchase transport goods, services and works that contribute to closed energy and material loops, minimizing environmental impact and waste creation.
Identify and Empower Sustainable Mobility Champions	Identify and empower country champions to help move forward the sustainable mobility agenda, for example, ministers and mayors.
Build Capacity Across Levels of Government	Build national and local capacity across levels of government, jurisdictions, organization, and modes.
Provide Training for Workforce in Leadership Positions	Provide training for the current and future transport workforce in leadership positions, enabling well-trained staff to drive change toward sustainable mobility.

Policy Measure Title	Policy Measure Description
Set Targets across Policy Goals	Set clear targets to be achieved in the long-term and in the interim for the four policy goals, aligned with the integrated sustainable mobility plan.
Harmonize Construction Standards along Corridors	Adopt construction standards so that assets are created using accepted, up-to-date, harmonized standards and regulations, across borders, within regions and along transport corridors.
Expand Public Transport Infrastructure	Expand the public transport network adjusted to demand requirements, with an emphasis on equitable access and considering the most appropriate modes in each context, including bus, rail, demand-responsive service, cable-propelled transport and ferry transport.
Develop Infrastructure for Road Transport Electrification	Develop infrastructure for road transport electrification, such as charging stations, electric road systems, including electricity and hydrogen power for trucks, cars, buses, etc.
Invest in Railway Electrification	Invest in railway electrification, battery-hybrid trains, biogas or hydrogen powered trains, to reduce the dependence on diesel fuel, increase energy efficiency, and reduce noise and vibrations.
Ensure an Optimal Level of Vehicle Availability and Use	Ensure an optimal level of vehicle availability and use, for example, adapt train capacity to activity and load factor, invest in buses and rolling stock to reduce public transport crowding or vehicle damage to minimize operation breakdowns, and use adaptive carriage in trains (mixed passenger and freight wagons).
Provide Effective Car and Bicycle Sharing Systems	Provide effective shared car and bicycle-sharing systems as an alternative to vehicle ownership.
Implement ITS Solutions for Providing Transport Information	Implement online platforms and other ITS solutions for providing information on traffic, routes, occupancy rate in train parts, public transport and transport mode options for both passengers and freight transport, to support more efficient use of time, more efficient choices of route, and more efficient responses to service interruptions.
Implement Mobility as a Service Packages	Implement government-coordinated Mobility as a Service (MaaS) packages combining different services and platforms for transport users to review travel options, changing the focus from providing a specific service on one mode of transport to mobility solutions that are consumed as a service.
Support Data Sharing Programs and Platforms	Establish a Framework and promote data sharing programs and platforms across different sectors to exchange data relevant for transport policy, such as data collaboratives models including the public and private sector.
Provide Incentives to Increase Car Occupancy	Provide incentives to increase private vehicle occupancy, for example, High Occupancy Vehicle (HOV) lanes.
Provide Sustainable Alternatives for Commuting Trips	Encourage initiatives that provide sustainable mobility options for employees, such as employer sponsored transport programs, carpooling schemes, and public transport commuter benefits.
Implement Telecommuting Policies	Implement policies that support telecommuting, i.e. working from home schemes, in order to avoid non-essential trips.

Policy Measure Title	Policy Measure Description
Set Targets across Policy Goals	Set clear targets to be achieved in the long-term and in the interim for the four policy goals, aligned with the integrated sustainable mobility plan.
Develop Asset Management Standards and Plans	Develop asset management standards and plans to preserve, maintain, and manage transport infrastructure and their systems over their life cycle.
Evaluate Long Run Transport Infrastructure Needs	Evaluate long run infrastructure finance needs including the existing backlog of deferred maintenance (i.e. infrastructure gap).
Use a Robust Framework for Project Prioritization	Use a robust investment evaluation framework to prioritize the allocation of public infrastructure funding to infrastructure projects and associated services.
Conduct Impact Evaluation Studies	Conduct impact evaluation studies to improve the evidence base available to policymakers, considering the impact of transport infrastructure projects on economic growth and employment and considering differentiated impacts on women.
Require Projects to Meet Cost-Effectiveness Thresholds	Require transport projects to meet an economic viability threshold based on a cost-benefit analysis and estimate the Economic Internal Rate of Return (EIRR).
Enable Municipal Revenue through Tax and Bonds	Enable city-level revenue generation, such as taxation and bonds, for transport projects to be funded locally, especially in medium and large cities.
Apply Innovative Solutions Financing for Asset Creation	Apply sustainable and innovative financing schemes for asset creation, including new financing mechanisms, new fund management techniques, and new institutional arrangements.
Set User Fees to Support Transport Infrastructure Funding	Adopt transport user fees to help fund transport infrastructure and allow for return on investment, for example, toll roads.
Mobilize Public and Private Capital for Transport Finance	Mobilize public and private capital for transport finance, using Public Private Partnerships (PPPs) to improve sector efficiency when appropriate, and help bridge the transport infrastructure gap.
Implement Fuel Taxes and Phase Out Fuel Subsidies	Implement and increase fuel taxes while phasing out fossil fuel subsidies to offset the social cost of greenhouse gas emissions and air pollution.
Use Congestion Charging or Pay-as-You-Drive Schemes	Use congestion charging or pay-as-you-drive schemes to charge for the congestion costs imposed by personal motorize vehicle use.
Apply Market-Based Pricing to On- and Off-Street Parking	Apply market-based pricing schemes for on-street and off-street parking, such as variable pricing given demand.
Provide Financial Incentives to Reduce Environmental Impact	Provide financial incentives, for example subsidies, tax credits, or low tax rates to reduce the environmental impact of transport, including financial incentives for cleaner vehicles, cleaner fuels, old vehicle abatements, and the circular economy.
Provide Financial Incentives to R&D and Innovative Products	Provide subsidies or tax credits to encourage research and development and the supply of innovative products or services.
Support R&D to Reduce Environmental Impacts	Support systematic research and development for technologies that reduce the environmental damage from transport through join industry/government research, for example, alternative fuels (sustainable biofuels, biogas, synthetic fuels, hydrogen) and intelligent transport systems.

Policy Measure Title	Policy Measure Description
Set Targets across Policy Goals	Set clear targets to be achieved in the long-term and in the interim for the four policy goals, aligned with the integrated sustainable mobility plan.
Consult with Stakeholders during the Full Project Cycle	Consult extensively with stakeholders during project formulation and establish a framework for continuous consultation during project implementation.
Use Participatory Planning Methods	Use participatory planning methods, including creation of a website, to help communities propose interventions.
Promote Public Discussion on New Mobility Solutions	Promote public discussion with civil society about new mobility solutions in order to generate new ideas, innovations and tools.
Implement Awareness and Behavior Change Strategies	Implement awareness and behavior change (ABC) strategies to help to shift attitudes towards sustainable modes, for example, public transport, walking and cycling, complementing other engineering, legal or economic measures.
Label Products According to Environmental Performance	Label products and services according to their environmental performance, this includes adopting fuel economy labels clearly displayed on all cars and light trucks for sale, green freight labelling schemes for logistics service providers and eco-rating schemes that allow shippers to choose green freight practices, and labelling products based on their embedded energy use.
Make Information Publicly Available on Projects and Policies	Make information accessible to increase the public support to transport policies and projects.
Share Knowledge on Successes and Best Practices	Share successes and best practices with other agencies at the local, national and international level, based on a well-designed knowledge transfer framework.