**Smart, Green and Integrated Transport – Mobility for Growth and Green Vehicles 2017**

**Part of HORIZON 2020**

**Borough Briefing**

1. **Introduction**

[Horizon 2020](https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/H2020_inBrief_EN_FinalBAT.pdf) is the EU’s Funding Framework for Research and Innovation. It is part of the EU’s drive to create growth and new jobs in Europe. It will cover many policy addressing major concerns shared by all Europeans such as climate change, developing sustainable transport and mobility, making renewable energy more affordable and coping with the challenge of an ageing population. Calls for proposals are published every two years and are based on 3 overarching priorities: [excellent science](http://ec.europa.eu/programmes/horizon2020/en/h2020-section/excellent-science), [industrial leadership](http://ec.europa.eu/programmes/horizon2020/en/h2020-section/industrial-leadership) and [societal challenges](http://ec.europa.eu/programmes/horizon2020/en/h2020-section/societal-challenges).

The transport challenge is allocated a budget of €6,339 million for the period of 2014-2020. The programme aims to boost the competiveness of the European transport industries and achieve a European transport system that is resource-efficient, climate-and-environmentally friendly, safe and seamless for the benefit of all citizens, the economy and society. Activities are addressed in this Work Programme by three calls for proposals: Mobility for Growth, Green Vehicles and Small Business and Fast Track Innovation for Transport. **Calls within the Mobility for Growth and Green Vehicles proposals are most suited to local authority transport priorities.**

**2.0 Timescale for bidding**

* 21 October 2016: Planned opening date of the calls
* Deadline for submissions – Two stage process
* 26 January 2017: Deadline for first stage submission
* 19 October 2017: Deadline for second stage submission
* Deadline for submissions – One stage process: 01 February 2017

**3.0 Funding and co-financing**

Each call has an approximate budget foreseen by the EC (section 5.0) which ranges from €1 million to €15 million. Horizon 2020 offers a funding rate of 100% on all costs for Research and Innovation projects and Coordination and Support projects or 70% for Innovation projects. In both cases an additional flat rate of 25% is added to cover overheads. This means that partners in some cases will not have to contribute match funding. See section 4.0 for further information on the project categories.

1. **Types of actions (ToA)**
2. **Research and Innovation Actions:** EU funding rate: 100% of costs, with additional 25% applied to cover partner overheads

Projects should focus on establishing new knowledge or explore the feasibility of a new/ improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale demonstrations or pilot activities aiming to show technical feasibility.

***These projects are about developing new approaches to common challenges in different cities, and testing them. Academic institutions might lead on the research and innovation, whereas Boroughs/ TfL would be given demonstration roles to do the piloting.***

1. **Innovation Actions:** EU funding rate: 70% of costs, with additional 25% applied to cover partner overheads

Projects should focus on producing plans, arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

***Innovation actions are a lot more “hands on” with less emphasis on research and more on developing, delivery, testing and piloting innovative policies, approaches, and technologies in the field of sustainable urban mobility.***

1. **Coordination and Support Actions:** EU funding rate: 100% of costs, with additional 25% applied to cover partner overheads

Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of networking and coordination between programmes in different countries.

***This type of action is primarily designed to share information and develop policy and infrastructure design.***

Whilst pure research is not normally a priority of for Boroughs, the demonstration and pilot component actions will be of interest, as will the results and testing of the research.

1. **Forthcoming calls:**

Four calls opening may be of interest to boroughs. A summary of each call is provided in the table below, and a full description can be found in the [annex](#_Annex_1_-) to this briefing. The following is a summary intended as an introduction to calls, and it is recommended that boroughs also read the full specification relevant to the call found [here.](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-transport_en.pdf)

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| **Call Name (reference)** | **Type of Action & Funding** | **Brief Description** |
| **Mobility for Growth** | | |
| MG-8.4-2017: Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas | Research and Innovation – 100% Funded  Funding available for projects will range from €1-3 million. | **Improving accessibility, inclusive mobility and equity:** The specific challenge is to address to examine whether organisational, technological (including extended use of ICT) and social innovations in public transport can lead to improved accessibility, inclusive mobility and equity in prioritised areas, by responding better to their specific needs and demographic/socio-economic characteristics. |
| MG-8.5-2017: Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility options. | Research and Innovation – 100% Funded  Funding available for projects will range from €1-2 million. | **Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility options:** The specific challenge is to address the paradigm shifts in relation to car sharing and changing value of travel time. Transport research is needed to explore the dynamics of such changes and their impacts in socio-economic and environnemental terms. Projects should provide comprehensive analyses of these new preferences, behaviours and lifestyles, identify the main factors that influence then and assess their potential economic, social and environmental impact. |
| MG-4.1-2017: Increasing the take up and scale-up of innovative solutions to achieve sustainable mobility in urban areas. | Innovation – 70% Funded.  Funding available for projects will range from €2 to €5 million. | **Sustainable mobility in urban areas:** The specific challenge is to increase the take up of innovative solutions by transferring them to new contexts and studying and comparing the impacts. Actions should transfer a single solution that has previously proven successful in a small number of locations in Europe (Indicatively not more than five) to at least ten new locations in Europe. |
| MG-4.2-2017: Supporting ‘smart electric mobility’ in cities | Innovation – 70% Funded.  Funding available for projects will range from €4 to €5 million. | **Smart electric mobility in cities:** The specific challenge is to increase market up-take of electric cars and L-category vehicles by establishing business models for recharging infrastructure. The focus of projects should be on developing integrated approaches and testing of business models, rather than purchasing the actual clean vehicles and their appropriate infrastructure. |
| MG-4.3-2017: Innovative approaches for integrating urban nodes in the TEN-T core network corridors. | Coordination and Support Actions – 100% Funded.  Funding available for projects will range from €1 to €2 million. | **Integrating urban nodes in TEN-T core network corridor:** The specific challenge is to validate recommendations for wide-scale deployment of research and innovation solutions in urban nodes along TEN-T corridors. Recommendations should define funding needs and instruments for creating synergies, and promoting exploitation of results between H2020 AND Connecting Europe Facility. Projects will set up one or two expert networks that develop current practices and opportunities, and produce recommendations. |
| **Green Vehicles** | | |
| GV-10-2017: Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system. | Innovation – 70% Funded Funding available for projects will range from €7 to €10 million. | **Integration of electrified L-category vehicles in the urban transport system:** Proposals will focus on the demonstration of the potential market penetration of EL-Vs and consumer needs in different European cities. |

**6.0 Next steps**

Boroughs are encouraged to [contact LEPT](http://www.londoncouncils.gov.uk/services/london-european-partnership-transport-lept/contact-us) with any queries, expressions of interest or project ideas.

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**Annex I**

**MG-8.4-2017: Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas**

**Type of action:** Research and Innovation

**Specific Challenge:** Accessibility is a concept used in order to address both **travel patterns, attitudes and needs of particular social groups** – e.g. gender specific needs, unemployed persons, vulnerable to exclusion citizens such as elderly, children, disabled, etc., as well as the mobility needs and transport use characteristics of people living in different types of areas such as rural, remote or deprived urban areas. To obtain a more comprehensive view which will allow the elaboration of measures and transport systems that will improve inclusive mobility and equity, and support social innovation in this area, it is necessary to incorporate both approaches considering specific geographical factors as well as the mobility needs and capabilities of particular population groups.

In this context, the main challenge of this topic is to examine whether organisational, technological (including extended use of ICT) and social innovations in public transport can lead to improved accessibility, inclusive mobility and equity in prioritised areas, by responding better to their specific needs and demographic/socio-economic characteristics.

**Scope:** Proposals should address all of the following:

* Analysis of the characteristics of prioritised areas in terms of spatial, demographic and socio-economic characteristics and identification of the factors that influence mobility and accessibility.
* Exploring travel behaviour and social habits of the population is a disaggregated way and assessing travel demands in prioritised areas.
* Critical assessment of existing innovative organisational and operational frameworks aimed at delivering new mobility solutions and their impact on inclusive mobility and equity.
* Identification and/or development of new, efficient, inclusive, affordable and accessible mobility solutions and public transport models taking also advantage of IT applications.

**Expected Impact:** Projects are expected to contribute to:

* The identification and critical assessment of sustainable and inclusive mobility options for European citizens in prioritised areas and improve accessibility offered by public transport systems.
* The development of effective, efficient and affordable mobility solutions which respond to the specific needs of particular population groups such as the elderly, the young, the disabled, taking into consideration the gender aspect.
* The elaboration of new business models for public transport, with the deployment of organisational, technological (such as IT and app-oriented services) and social innovations taking into account possible social and demographic barriers for their effective use.

**MG-8.5-2017: Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility options.**

**Type of action:** Research and Innovation

**Specific Challenge:** There are indications that transport may be entering a period of paradigm shifts due to the introduction of disruptive technologies but also due to changes in individual preferences, behaviours, lifestyle and the emergence of social innovation and new concepts which are likely to impact on the future transport models and management. Issues addressed:

* Car sharing: Over the past two decades car sharing has gradually developed. New business models and social innovations are likely to emerge in the upcoming years, fostered by new IT application (app-based services). This relatively short period of time has now allowed for a comprehensive and established assessment of its various impacts in social, economic and environmental terms.
* Changing values of travel time: Travel time savings is often the principal benefit of a transportation project and efforts to achieve faster travel have been long dominating decision making. However, as technology evolves people can use their time during travel for business and leisure thus reducing the cost of travel in economic terms. Consequently, allowing other consideration such as energy savings, pricing, environmental and social consideration to affect their travel time preferences.

Transport research is needed to explore the dynamics of such changes and their impacts in socio-economic and environnemental terms. The specific challenge of this topic are to provide comprehensive analyses of these new preferences, behaviours and lifestyles, identify the main factors that influence then and assess their potential economic, social and environmental impact. In all aspects, issues of age and gender should be taken into account.

**Scope:** In order to meet this challenge, proposals should address **one** of the following parts:

1. Shifting from car ownership to sharing. Proposals should include:

* Compare the existing trends and forecasts across the EU and identify the factors – economic, social, demographic, spatial, and cultural – that influence the varied implementation of such schemes in different countries, regions and cultures, including the growing use of app-based services.
* Compare and benchmark existing business models, social innovations and identify possible new ones.
* Assess the impacts of car sharing schemes for the European car industry.
* Assess the potential impact on emissions, noise and congestions, especially in urban environments, as well as on safety of potential users.

2. Changing value of travel time. Proposals should include:

* Analyse differences between various travel motivation and the related travel time value and examine the extent to which the proliferation of ICT applications tend to reduce the perceived cost of travel time for private and corporate travel.
* Identify possible areas where a shift away from the speed paradigm would be feasible and provide estimates of environmental and socio-economic implications.

**Expected Impact:**

The project will result in providing comprehensive analyses of the dynamics of new preferences, behaviours and lifestyles, to identify the main factors that influence them and to assess their potential economic, social and environmental impact.

Projects are expected to collect and provide up-to-date information on the present state of development of new business models and social innovations, a reliable assessment of their growth potential across different geographical cultural and economic environments and an assessment of their impact in areas of key policy interest.

1. Car Sharing Projects: The collection of updated and reliable data on the car sharing market and its prospect in terms of their social, economic and environmental impact. This will facilitate evidence policy marking particularly with regards to urban congestion, emissions, and the re-organisation of urban transport. In addition, it is expected that projects will provide concrete assessments of their impacts on the European car industry over the mid-long term.

2. Changing value of travel time: Projects are expected to contribute to the generation of new knowledge in a new and under-researched area which may lead in the short-medium term to different cost-benefit assessment methods of transport projects. Projects will provide in-depth knowledge of users attitudes and choices with respect to travel time and in the longer term in possible energy savings and emission reduction as well as re-organisation of transport routes and schedules based on different perceptions of the value of travel time.

**MG-4.1-2017: Increasing the take up and scale-up of innovative solutions to achieve sustainable mobility in urban areas**

**Type of action:** Innovation action

**Specific Challenge:** Many innovative solutions for sustainable urban mobility were locally developed or developed as self-standing projects in a variety of social, economic and geographical contexts. The specific challenge is to increase the take up of innovative solutions by transferring them to new contexts and studying and comparing the impacts. Special attention should be paid to social issues and implications and where relevant potential gender differences should be investigated.

**Scope:** Proposals should address one or serval of the following domains:

* Traffic and travel avoidance:
* Optimising the use of existing infrastructure and vehicles:
* Optimising design and use of multi-modal hubs and terminals for passengers and freight:
* Supporting modal shift towards more efficient modes:
* New governance models for freight and passenger transport:

**Expected Impact:**

* Action should successfully transfer a single solution/approach or limited package of mutually reinforcing solutions/approaches from a small number of locations in Europe (indicatively not more than five) to at least ten new locations in Europe.
* Europe-wide take-up and rollout of results during and following the actions, they will result in new insights into the practical transferability of innovative solutions.
* Actions will demonstrate how their activities will lead to faster, more cost-effective and larger scale deployment of a range of innovative (technological and non-technological) solutions/approaches to achieve sustainable mobility in urban areas. Possible (technological and non-technological) barriers and ways to overcome them should be identified and addressed by actions.

**MG-4.2-2017: Supporting ‘smart electric mobility’ in cities**

**Type of action**: Innovation action

**Specific Challenge:** In order to integrate electromobility in their Sustainable Mobility Plans, European cities need to equip themselves with a network of electric recharging stations for electric cars and L-category vehicles. This will help the market to grow, as potentially interested consumers tend not to buy electric vehicles because they are not confident enough about the opportunities to recharge them.

**Scope:** Proposals should focus on the development of integrated approaches and testing of "business" models for the local production and distribution of electricity together with electric vehicles fleet, to create the conditions for market take up in urban and sub-urban areas. This could include private and public recharging stations. Specific tests and pilots focussing on the integration of solutions into transport system, in combination with a cross-site evaluation, could be carried out. Possible barriers and ways to overcome these barriers to deploy integrated solutions and business models for electric recharging should be identified.

**Expected Impact:** Tested and validated business models for electromobility solutions regarding:

* Large scale, sustainable and decentralised energy production and distribution in balance with local use
* Simple, interoperable, convenient and intelligent billing systems ensuring at the same time a safe and reliable data exchange in cities. This includes integrated energy infrastructure systems, bringing together technologies from the energy, infrastructure and transport domains.
* Emergent integrated approaches and business models for recharging, looking – among others – at consumer acceptance, value models and ownership.
* Projects should bring innovative tools and recommendations to integrate electromobility in SUMPs (for example, planning policies and use of urban space), as well as recommendations for common standards of ultra-low emissions urban areas.
* Europe-wide take-up and rollout of results during and following the project are expected.

The project proposal should include an estimation of CO2 savings obtained through the sustainable urban mobility solutions deployed in the project, on the basis of CO2 intensity of the European electricity grid of 540 g CO2/kW-h 19. It should also provide information on how this estimate is calculated, for example on the basis of the size of the entire vehicle fleet powered by electricity that will be deployed in the project, and/or on the number of the recharging in the infrastructure that will be deployed in the project.

**MG-4.3-2017: Innovative approaches for integrating urban nodes in the Trans-European Transport Network (TEN-T) core network corridors**

**Type of action:** Coordination and Support

**Specific challenge:** Better and more effective integration of urban nodes into TEN-T corridors could address issues around integration of efficient and sustainable (e.g. using alternative fuel vehicles) solutions for 'last mile' delivery; greater use of intermodal urban freight logistics, and approaches for linking long-distance with last-mile freight delivery in urban areas. The efficient and effective integration of urban nodes into TEN-T corridors requires further research and innovation efforts for the development and related recommendations for deployment of innovative solutions in urban areas.

**Scope:** One or two expert networks should be set up that develops current practices and opportunities, and produce recommendations. These expert networks could focus on how to deploy novel combinations of existing technologies/ services and involve new combinations of different stakeholder groupings, for example from research and innovation programmes, from urban planning, from infrastructure constructors and operators and from financiers, with a great emphasis on creating synergies between results of Horizon 2020 funded projects and CEF funding.

**Expected Impact:** The main impacts will be validated recommendations for wide-scale deployment of research and innovation solutions in some (if justified, a selection could be made) or all urban nodes along the TEN-T 21 corridors. These recommendations should also define funding needs and instruments for creating synergies, and promoting exploitation of results, between Horizon 2020 (and previous Framework Programmes) and Connecting Europe Facility (CEF)22 (e.g. by scaling up R&I results). TEN-T policy, both through "nonfinancial" action of the European Coordinators and funding under CEF can pick up these concepts and recommendations and potentially fund implementation-related studies, pilot action and works. The recommendations should also take into account socio-economic aspects of deployment of innovations.

**GV-10-2017: Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system**

**Type of action:** Innovation action

**Specific challenge:** Growing urbanisation in Europe is generating increased traffic congestion, greenhouse gas emissions, and air pollution. Economic development requires an efficient and sustainable mobility system and European citizens need affordable and adaptable transport options through synergies between different modes. L-category vehicles, for individual passenger transport and for small logistics, are an effective solution to address the growing problems of traffic congestion in towns and cities across the EU. Smaller, lighter and more specialised than other vehicles, their use produces economic savings in terms of time gained, energy consumption and space required for moving and parking. Electrified L-category vehicles (EL-Vs) are a further step towards an even more sustainable urban mobility but they are still a niche market, mainly due to cost, lack of public information and limited direct user experience. However, last generation EL-Vs, and those currently under development, could meet mainstream customer expectations and contribute to urban quality of life.

**Scope:** Proposals should focus on the demonstration of the potential market penetration of EL-Vs in different European cities. It should enable EL-V manufacturers to make vehicles more attractive to the general public, support a mind-shift and encourage the uptake of EL-Vs (in particular two/three wheelers and light quadricycles). The demonstration of EL-Vs as private, shared, or service vehicles will make the public more familiar with easy to operate EL-Vs and allow overcoming issues such as range anxiety. Enabling users to experience the wide range of EL-Vs as part of their daily personal mobility, will make them more aware of their real mobility needs and allow the integration of EL-Vs with other private and public modes of transport. Surveys among private and professional users should measure in how far the demonstration projects provide attractive services and match market demands. The scope includes deployment of ICT tools for driver support and services such as communication with back-office, booking, route scheduling, real time monitoring of vehicle performance to enhance eco-driving and for integrating EL-Vs into the urban transport. The scope also includes the compatibility of EL-Vs with other vehicles’ charging stations and with cheaper charging devices, such as home chargers. Compatibilities and potential incompatibilities between different categories of vehicles (L, M, N) should be identified and documented, suitable to serve as a basis for creating or adapting street rules, type approval regulations, standards and policy measures for the deployment of an effective charging infrastructure. The consortium should have at least two cities as beneficiaries. In order to maximise the impact in this topic, the focus of investments planned in these proposals should be on the demonstration of the potential market penetration of EL-Vs in different European cities, rather than purchasing the actual vehicles and their appropriate infrastructure. This topic is particularly relevant for SME participation.

**Expected impact:** As described in the specific challenge above, the demonstration will contribute to assess the potential market penetration of EL-Vs and consumers’ needs and expectations. Actions are expected to give details on their contribution to speed up the penetration of EL-Vs into the market and will supply the manufacturer with crucial information for the development and the engineering work of the next generation of EL-Vs. The work on deployment of ICT tools for driver support and services is expected to give the vehicle manufacturers and mobility service providers the necessary information to develop successful business models. Actions will demonstrate how the proposed innovation will contribute to quality of life in urban environments (including commuting), and will provide recommendations for effective policy measures supporting the deployment of EVs, as well as for an optimised grid and charging infrastructure, able to guarantee compatibility among different type of EVs. In addition, the demonstration will provide data on real driving conditions useful to design policy measures (i.e. optimal amount and distribution of public charging points, identification and possible areas accessible only to electrical L vehicles, interaction with other means of transport and vulnerable road users). Project results will also contribute to climate action and sustainable development objectives.