MORE Launch Event – Final programme

27th November 2018

INTRODUCTION TO 'MORE'

Peter Jones (UCL) introduced the vision of the **Multimodal Optimisation for Road space in Europe (MORE)** project. The aim of MORE is to identify existing and future pressures on the main roads/streets in cities that connect the urban nodes and the main city attractions with the TEN-T: Trans-European Road Network. Drawing from the lessons of the EU CREATE project, Peter explained that the priorities of a city evolve over time. In the past 60 years, cities have transitioned from car-centric design, first to cities encouraging sustainable mobility and later to cities also with the focus on placemaking. The use and functionality of urban streets have also changed accordingly. Today cities face the challenge of meeting the needs of different user groups - both movement and place-based - within the limited street space available. MORE sets out to address this challenge by optimising street usage – through the ways in which they are planned, designed, managed and operated. To explain it further, he presented the concept of understanding streets as an 'ecosystem'. There are five essential components of a street (sub-surface, carriageway and footway, buildings, movement and street activity, and airspace) that dynamically interact with each other to negotiate for space and usage of the street. This holistic approach to understanding street will provide the broad underpinning conceptual framework for the MORE project.

MORE will focus on five case study feeder road corridors – in Budapest, Constanta, Lisbon, London and Malmo. The project is divided into six technical and three supporting work packages. The main practical outputs of the project will be a range of supporting street design tools covering four tasks - generating options for street design, stakeholder engagement tools, a dynamic traffic simulator to assess the performance of all road-based activities, and an appraisal tool to evaluate design options.

Understanding user needs, design solutions and performance measurement

Regine Gerike (University of Dresden) outlined the different user needs served by urban roads/streets and the wide range of street types, geometries and functions being examined in WP1. These can be grouped into three main components: the carriageway movement function for goods and people, the place function served by cafes, shops, entertainment and the kerbside activities such as loading and unloading of goods, taxi services, etc. The MORE project focuses on addressing the user needs on corridors that have a high movement and place function with heavy traffic flows from the core of an urban area to Trans-European road network. Work Package 1 focuses on understanding user needs, identifying objectives and performance indicators for the corridors, and evaluating current practices in urban street design. She concluded that the fundamental motive of MORE is to balance all user needs by providing more space/capacity when needed for essential movements and for pedestrians, encouraging different street activities and inviting more people to in total use the street.

USER PERSPECTIVES

David Harrison (Living Streets) shared his perspective on the needs of pedestrians on the streets, both when moving and when taking part in street activities. In his opinion, pedestrians are the most vulnerable user group and their priorities are seldom fully reflected in street design. The present and the future challenge for cities are to cater the volume and flow of traffic and manage the ownership of kerbside to ensure better walking and place-based activity environments for pedestrians. At present, most pedestrian pathways are cluttered with infrastructure for other modes that reduce the usable space for pedestrians. Initiatives such as the low traffic neighbourhood implemented in a shopping area in Walthamstow, London have successfully increased walkability, street use, commerce, inclusivity and reduced road casualties.

Natalie Chapman (Freight Transport Association) noted that freight and logistics are among the most regulated user groups on the street. She highlighted the challenge for the freight industry is to be commercially viable and perform efficiently in a tightly controlled environment with regulations on air quality, safety, congestion, regulated delivery timings, limited vehicle types eligible to enter ultra-emission zones and inconsistent borough regulations. Acknowledging the scarce road space available, Natalie suggested four broad solutions to optimise road use: retiming deliveries, implementing consistent regulation across boroughs, more vehicle options for last mile delivery, and consolidation of deliveries. In the era of a shift towards electric vehicles, she also pointed out challenges of the technology for freight. In most cases, the technology is not commercially beneficial on account of the uncertain resale value of the vehicle, limited capacity and model options, the high cost of initial investment and a delay of six to eight months for vehicle procurement. The freight industry can best tackle its challenges and benefit the economy and society by collaborating with the relevant authorities and participating in the solution development process.

Ivo Wengraf (RAC Foundation) presented the perspective of **car users** and illustrated this by raising their concerns about the ULEZ air quality strategy in London. Under this scheme, older polluting vehicles will be restricted from entering the ULEZ zone. Ivo raised a series of questions that must be considered in appraising the distributional effects of the scheme. It will adversely affect the vulnerable and low-income groups, as the budget allocated to provide new ULEZ cars may not be sufficient for everyone who needs it. The main alternative mode, rail-based public transport, is often not accessible within walking distance of residents living in suburban areas. Hence proving to be disadvantageous for low-income groups who may not be able to afford a ULEZ approved car.

DISCUSSION

Is distance-based pricing a solution for optimising freight*?* For reducing freight traffic, the audience suggested the option of distance-based pricing as part of a solution. However, Natalie Chapman responded that distance–charging is not likely to be effective and would impose additional costs on the industry – and ultimately the customers. The freight already bears additional costs and is incentivised to use vehicles efficiently. She suggested that the solution is to have a range of vehicle types and management strategies in place.

Is walkability a good measure of accessing public transport? The audience questioned Ivo Wengraf's analysis of walkability as a measure of accessibility to public transport and suggested that alternative modes, like cycle and bus, are a viable last-mile option to access rail services that must be considered to assess the overall level of service. He responded by highlighting the need for political will to implement sustainable transport solutions and suggested that removing cars from the streets is not going to completely address the mobility challenges of the city.

Will the same strategy work everywhere? The audience raised the important role of context and argued that solutions are not ubiquitous. There is a need to consider the wider contextual factors, such as prevalent culture, political ideologies, and spatial structures. To this, David Harrison acknowledged the significance of context and commented on the role of political will as boroughs with similar characteristics are not able to achieve the same level of reduction in car ownership and use. He concluded by highlighting that the primary focus of research should be to identify what sustainable transitions are possible and where they are possible.

STREETSPACE ALLOCATION

Charlotte Halpern (Sciences Po) focused on the governance, regulatory and political issues of allocating street space and introduced WP2 of MORE. This seeks to identify key stakeholders, understand institutional, organisational, political responsibilities, and the existing traffic regulations in all case study cities. To understand the multi-actor network of governance, MORE is conducting a mapping exercise to identify the relationships amongst the actors. Charlotte noted that one of the key governance challenges in allocating street space is to deal with divided ownership and control of the street activities between different national agencies. She then discussed the concept of the street as an ecosystem from a socio-political perspective. The socio-political actors influencing street design and use have different priorities and MORE will look at how different policy weights and dynamics based on these priorities will generate different outcomes of street space allocation.

Fatema Karim-Khaku (Arup) presented the FlexKerb street design concept developed at Arup. The objective of FlexKerb is to create demand responsive street layouts that enable different kerbside uses at different times of day and days of the week. The transition from rigid to flexible streets would depend on how policy regulation and governance arrangements influence the changes and on the available technologies. Fatema presented a FlexKerb case study and demonstrated how the street space and kerbside demarcation was changing over the period of the day - with priority to pedestrians during peak office hours and priority to other modes during the other times of the day. A site was selected in the City of London based on the availability of data, willingness of the local authority to collaborate, and the dynamic pattern of demand on the street. In terms of overall benefits, this flexible modal for different times of the day resulted in a reduction in vehicle delays. While FlexKerb appears to be a plausible solution, there is a need for further research into understanding and addressing the challenges of the concept. For example, how can the streets cater to the needs of visually impaired and physically challenged users? Who would be responsible for financing? What is the opportunity cost to local businesses and authorities of doing nothing?

Tatiana Samsonova (ITF/OECD) delivered a presentation on the challenges of managing kerbside space, particularly with the additional pressures due to the growing use of app-based shared mobility services She presented the negative impacts of the current shared-mobility schemes and offered potential solutions to optimise the use of the service. Ride-sharing schemes are adding to congestion as the fleet is a constant source of traffic on the road, and places additional pressure on the kerbside. Additionally, the new dock-less bike schemes are congesting pedestrian walkways and hence impacting both the management of public spaces and the walking journey experience. She then offered an array of solutions such as geofencing of bikes, implementing a fleet cap, user education, demarcating designated parking areas and implementing demand-based parking areas to address the negative externalities of shared mobility services. She concluded by asserting that regulation for shared mobility schemes must be proactive instead of reactive, should take careful consideration of the trade-offs between modes and leave room for innovation.

Pip Howson (London Borough of Southwark) contrasted the 'theories' of what had been discussed with the on-the-ground realities of trying to introduce such policies in an Inner London borough – taking into account political realities and competing priorities. Amidst a very transport centric discussion, the speaker noted that, in reality, public authorities have a wider responsibility beyond transport, including housing, air quality, health etc. Therefore, there is a need to acknowledge the trade-offs that the authorities have to make on account of limited budgets and resources, and the limits to which policy can be ahead of public attitudes.

DISCUSSION

Will flexible streets only better serve active travellers? Based on the case-study example presented by Fatema, the audience raised a concern as to whether the aim of FlexKerb is only to prioritise cyclists and pedestrians. She clarified that the application of the concept is very flexible, and the actual design solutions would be policy led and demand informed. So, the pattern of kerbside space allocation would be dependent on both the vision of the council and the patterns of demand captured by various types of data. Overall, Fatema suggested that the objective of the reallocation of street space should be de-prioritising car use and prioritising freight and active travel.

Can we develop tailormade solutions for cities with different socio-technical structure? The audience, as in the previous 'user perspective' discussion, was curious to brainstorm the role of contextual factors such as government structure, lifestyle, health etc. in designing solutions. The panel agreed that cities require tailormade solutions. This can be achieved by various methods such as public consultation or funding from the private sector to develop new designs. However, it is not simple to develop tailormade solutions as it is influenced by other factors such as funding and the perspective of decision-makers on the planning process.

FUTURE REQUIREMENTS AND TECHNOLOGICAL OPPORTUNITIES

Meng Lu (Dynniq), leader of WP3, discussed the technological requirements relating to future transport systems and outlined the role of Dynniq in the MORE project. In the context of future technological developments, MORE will identify the trends and challenges of the new technologies that are likely to impact digital (ICT) transport infrastructure. Led by Dynniq, MORE will propose both long-term and short-term technological solutions to cater for changing population demographics, retail and employment patterns and associated new patterns of demand – using scenarios to assist this process. They will further develop practical applications using available technologies applicable to traffic and transport (sensors, wireless communications, information processing, AI, nanotechnology, etc.). Some of these applications will contribute to dynamic traffic management, implementing new parking solutions, advancement in construction materials, etc. Meng concluded by highlighting that the approach is to design proactive solutions and therefore the outcome of the system development process will be to analyse technological advancements to design for future roads.

Helge Janzon (Daimler) discussed the significance of data and the potential of app-based services to provide new mobility solutions, drawing on experiences from the Moovel product developed by Daimler. Data will be the focal point to develop new solutions for challenges faced by the cities. These integrated mobility solutions can be broadly categorised into eight packages - data and traffic management, mobility strategy, smart city parking, last-mile solutions, AV, intermodal connectivity, urban logistics and charging infrastructure. The aim of Moovel is to simplify and improve the journey experience of the user by providing a holistic mobility solution that will include route selection, ticketing, and on-demand services in one app as part of a Mobility as a Service package. The challenge, however, is to gain consensus and the co-operation of all service providers in a city to integrate into the app. The pricing scheme for the service will be based on minimising transport costs for the users. The app would analyse the travel data from previous months and recommend a package that would minimise user expense.

Nick Reed (Bosch) explained that Bosch intends to provide new mobility solutions based on particular city demographics to cater the growing demand in dense urban areas. The solutions will be designed in three-steps - discover, design and develop, and deploy. At present, Bosch has established mobility hubs in four cities worldwide – London, Chicago, Mexico City, and Bangalore - to develop city mobility platforms. These platforms will integrate data from as many mobility service providers as possible in a city. To further encourage innovation, Bosch has established ‘The Connectory’ and also organised urban mobility hackathons, an initiative to share new innovations and foster collaborations to generate new mobility solutions.

‘MORE’ STREET DESIGN TOOLS

Paulo Anciaes (UCL), WP4 leader, outlined the case for and the conceptual framework for developing tools for street planning and design in the MORE project, as WP4 leader. He noted that, at present, there is a gap between modelling, consultation, and decision-making processes. There is a need for a systematic approach to choose

the best option for a street design in a particular context. MORE aims at improving the option generation process and the involvement of stakeholders in the design and appraisal of the projects. The option generation tool will identify essential street elements and try different combinations of these elements to create design options; some of the options would not be feasible to implement and thus would be eliminated from the option-generation process. The current appraisal process only accounts for the movement function of the street whereas the new design tool would be based on multi-criteria analysis that will include factors such as placemaking and take wider impacts, like air pollution, into consideration.

Simon Morgan (Buchan Computing) highlighted that effective public engagement is the key to achieving user-centric street design. To incorporate a wide range of user opinions into the design, MORE will develop a web-based public engagement platform. The objective is to create a simple engagement tool that can attract a wider audience, beyond the design community. There are existing road mapping tools, however, they don't explain in detail to the participants the impact of their choices on kerbside activity and general street use. Developing a new tool needs to be adapted to take account of various local factors, such as local authority needs and consider the characteristics and interests of potential participants that will engage with the software. Simon showed some the features of the engagement tool under development. It will be pictorial, allow comments/suggestions from different user groups, be compatible with all electronic devices, offer language choices and have multiple access categories. The members of the public will be limited to viewing and commenting, whereas the design community can also create modifications to the proposals.

Devrim Kara (PTV) presented the features of the existing PTV Vissim multi-modal traffic simulation model and indicated how its further development will enable more informed option generation testing for street design in the MORE project. PTV Vissim will support scenario-led modelling and evaluate multiple scenarios by comparing different street layouts at various times of the day. The model will evaluate the multiple scenarios on the basis of agreed performance indicators, such as the level of service for different street user groups, travel times and delays, and queue lengths. Thus, the model will help to test and quantify the benefits of the options to enable more informed decision-making choices.

Meha Shukla (UCL) highlighted the physical and cyber-security concerns that are likely to arise and how new smart technologies can both cause and help to address them. She presented two case studies demonstrating the use of smart technology to create a better street environment. The first - Bird Street – had a street design that incorporated innovative ideas, such as generating energy from pedestrian footsteps and air-cleaning benches to encourage more activity on the streets. As a result of this increased activity, the post-project analysis revealed that the number of crimes reported on or near Bird street had reduced. Meha gave a second example of the deployment of smart lamp posts on the streets that have additional features such as intrusion alarms to identify abnormal behaviour, the ability to disable hostile drones, scanning sensors for weapons and drugs, intelligent surveillance and many more. She concluded by highlighting the need to explicitly incorporate the objective of reducing crime in street design, in order to deliver safer and more attractive streets. This is not currently given much attention by road traffic engineers.

DISCUSSION

Can modelling generate 'perfect' solutions? The audience raised a number of concerns relating to the dependency on data, digitisation and modelling-led decision-making processes. They questioned whether the decisions should be solely based on the above three features. Some presenters responded with the opinion that tools do not produce decisions but only assist in decision making. Others thought that modelling is valuable for developing evidence, but sometimes it takes away the ability to bring about change that cannot be reliably forecast.

Are new mobility schemes ubiquitous? The audience raised equity concerns as to whether the new mobility services based around MaaS were economically viable for lower density suburban and rural areas. Helge Janzon responded that MaaS is likely to be a viable solution for low-density, less accessible areas only if it is integrated with the local public transport system – providing a feeder mode as an extension of the existing system. In cases where the MaaS platform is only able offer the products owned by the particular brand, then the viable service area will be much more restricted.

Which types of projects require detailed modelling? Given the time and effort required for detailed modelling work, the audience questioned the stage of development and the type of projects that necessarily require such detailed modelling effort. In Devrim's opinion, the cost of modelling is a small fraction of the entire cost of infrastructure and is particularly necessary for complex projects involving a range of user groups and design variables. Whereas, simpler projects like pedestrianisation of a local street might be designed and justified without detailed modelling work.

'MORE' CASE STUDY CITY CORRIDORS

Paul Curtis (Vectos) introduced the five MORE case studies corridors, as WP5 leader. The objective of the corridor studies is to generate detailed design options for urban feeder roads and assess the corridor performance on four levels – entire urban feeder road, the wider impact corridor, interface with TEN-T network and sections of the chosen urban feeder road under stress at pinch points. All five cities have common challenges such as air quality, congestion as well as context-specific unique challenges. To elaborate, the aim in Budapest is to redirect traffic away from the 'short-cut' city centre route to the orbital TEN-T network; in Romania and Constanta the challenge is to manage freight movement and seasonal traffic volume variations and in Lisbon the project aims at controlling speeding. London being more complex, has overlapping challenges of congestion, delays, high rates of collisions; while Malmo being a port hub requires a focus on port redevelopment and densification. In summary, MORE aims at developing flexible solutions to address the unique challenges of each of the five case studies.

Laszlo Sandor Kerenyi (Budapest) presented a MORE city perspective from Budapest in greater detail. Traditionally, cities have focused on implementing individual projects to resolve mobility problems. Often these projects are not well integrated or complementary to one another in nature and thus do not address the mobility challenges from a holistic perspective. MORE, focuses on the overall mobility

challenges of the city and intends to design integrated and complementary solutions. Specifically, in the case of Budapest, the project will focus on managing urban roads to compliment the role of the surrounding parts of the TEN-T network. At present, the city faces a range of traffic-related issues, such as congestion in peak hours and deteriorating air quality. Based on the results of public consultation, some of the solutions that MORE will look into are rebuilding tram lines and focusing on more green pedestrian spaces.

CONCLUDING PANEL DISCUSSION

Lynda Addison, Transport Planning Society; **Richard Dilks**, London First; **James Harris**, Royal Town Planning Institute; **Jonathan Marsh**, Transport for Greater Manchester.

***Need for transport led housing policy*.** Along with major mobility challenges, many cities in England also are under increasing pressure to accommodate growing housing demand. These targets can only be delivered when cities shift from car centric suburban and low-density development to densification of urban areas around transport corridors.

***Need for behaviour change to adopt sustainable solutions*.** Transport planning is evolving from relying on traditional forecasting methods to more sustainable goal-oriented scenario planning. However, it is still challenging to make people and politicians believe in scenario planning against the single forecasting 'predict and provide' approach. Cities cannot achieve these goals without nudging behaviours and implementing strategies to achieve the desired target. TPS is taking initiatives like a "people's award" to address this challenge by increasing community engagement and educating the communities about trade-offs in order to nudge behaviour.

Need for public and private sector collaboration. Community engagement along with public and private collaborations are essential in creating flexible streets. Cities need to better understand the concerns and priorities of different actors to create dynamic road-space allocation that can fairly justify all user's needs.

***Knowledge sharing can help other cities*.** The panel suggested the idea of collaborative learning through sharing outcomes and lessons from transport strategies implemented by different cities on a common platform. In this regard Jonathan March from TfGM expressed his interest on sharing the learnings from their 'Streets for All' strategy – 2040. The governance structure of cities also plays a key role in steering the pace and shape of the policy development and implementation. It is therefore necessary to understand how different governance structures are impacting policy development and what can cities with fragmented structures learn from the more overarching governance structures like Transport for London.

Michel Arnd (POLIS) concluded with details of the MORE Exchange Forum

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