Comparing Implementation Approaches in Mobility Innovations: The ECCENTRIC Project in Madrid

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Abstract: Innovation is often considered as a mostly linear process, piloted by visionary researchers, technicians and decision-makers to get new concepts implemented. This linear concept collides with much of contemporary thought on public policies, social action and collective thinking or knowledge creation. This paper illustrates this by analysing the planning and implementation processes of eleven measures in Madrid between 2016 and 2019, in the context of the EU Horizon 2020 *ECCENTRIC* project. The experience can be seen as a real-life experiment: different teams were charged with the implementation of each measure; although the territorial, political and social context was the same in all cases, the contents of the measures were different and each team had to find its particular route, sometimes getting momentarily lost, and sometimes arriving to unexpected destinations. The experiences of these teams offer an excellent basis to identify the essential traits that innovative measures have, and the alternative methodologies that planners and professionals may mobilise; not to get innovations implemented as initially planned, but to put innovations at the service of transformational public policies. Taking a wider understanding of their context, planners can embrace innovation critically and contribute to strengthen the local democratic discussion.

Keywords: Sustainable mobility; innovation; decision-making; planning theory

Introduction

The understanding of innovation processes in transport relies largely on Geels' (2012) description of socio-technical systems through a multilevel perspective (MLP). In accordance with this concept, changes in transport are mostly incremental, based on innovations produced by the incumbent stakeholders (mainly the transport industry), and only exceptionally of a disruptive nature, based on innovations produced by niche stakeholders challenging the dominant position of the incumbent industry and decision makers. In both cases, implementation of innovation is seen as a mainly lineal process in which research results move forward to pilots, full-size demonstrations and finally reach the market, eventually failing to move from one of these stages to the next one and perishing. Whereas this model can rightly describe wide technological developments (e.g electro-mobility), it does not seem to capture the complexities of innovation implementation in particular contexts, such as cities.

In practice, the innovation process is far from linear, and this is particularly obvious at the demonstration stage in urban environments. The experience of large European Union's (EU) demonstration projects in cities show the lack of linearity of the innovation process, as many

innovations do not follow the simple stages of design, implementation, operation and upscaling. Along any of these stages, many innovative measures fail to move forward, and others undertake substantial changes. This can be the consequence of the interaction of the measures with their local context (Hodson et al, 2017). They can also be the consequence of the adaptation of the measure at stake with the elusive concept of *public interest*: transport is not a stand-alone, isolated policy sector but a part of a broader set of public policies serving the political agenda and priorities of those in charge.

From a public policy perspective, demonstrations become not only a critical stage of the innovation process, but also of a broader knowledge-creation process. A process that moves away from the rigid, external hierarchies of the Porphyrian tree, but which is also elusive to be described through the Deleuzean concept of rhizomes. The pragmatic tradition can be useful in this particular situation: an idea agrees with reality, and is therefore true, if and only if it is successfully employed in human action in pursuit of human goals and interests, that is, if it leads to the resolution of a problematic situation (Westbrook, 1991). In the context of innovation in urban transport, demonstration actions are asked to address a concrete challenge; however, this challenge is not the one defined by the researchers and experts that developed the original idea; the challenge has to be so in the terms defined by the particular political context in which the demonstration takes place; in other words, the idea has to be embedded within the larger perspective of the identification of the public interest in each particular local context.

The paper is organised in three sections, besides this introduction. The next section provides an overview of ECCENTRIC, a European Union's (EU) demonstration project running between 2016 and 2020, concluding that the demonstrations carried out by the project in Madrid can be classified into three different categories, with specific challenges in terms of implementation and with different knowledge creation processes and potential: the "means-focused", "market-focused" and "values-focused" measures. It is followed by another section analysing the knowledge creation characteristics for each category, suggesting that values-focused measures can be better understood along the lines of neo-pragmatic epistemology. The last section concludes providing considerations to streamline the implementation of research results, and particularly those of a "values-focused" ambition by taking into consideration the political context since the initial steps of urban transport research, rather than postponing it to the demonstration stage.

The ECCENTRIC demonstration project

CIVITAS stands for "City Vitality and Sustainability". It is a brand name grouping most of the research projects on urban transport within the European Union's Framework Programmes on Research and Development. The idea of branding urban transport research under this name started in the late 1990s, and was formalized in the 6th Framework Programme, in 2002. Since then, five generations of CIVITAS projects have followed: CIVITAS I, CIVITAS II, CIVITAS PLUS, CIVITAS PLUS II and the current CIVITAS H2020. Key elements of CIVITAS are (1) a focus on demonstration, (2) strong participation of cities and cities leadership in its flagship demonstration (also called living lab) projects, (3) strong top-down monitoring of projects, (4) focus on dissemination and replication, including annual conferences (CIVITAS Forum) and a diversity of

networking and dissemination tools (official website, newsletter, social media, publications with common guidelines…). CIVITAS has become to the European Commission (EC) "an engine of urban mobility innovation" (EC, 2013). Although formally financed by the EU's Research and Development budget, its demonstration focus makes it closer to the instruments the European Commission manages to support the objectives of the Common Transport Policy as defined in the various White Papers on Transport (EC, 2011). CIVITAS is also loosely connected with most of the EU's initiatives on urban issues, like the broader EC's urban mobility package (EC, 2013).

The freedom of cities for defining their own projects (including the measures to be implemented and their particular characteristics, location, goals…) and the accompanying measures for public participation and integration within the cities' plans are constrained by an increasingly stringent monitoring and reporting framework, largely predefined by CIVITAS. The framework favours quantitative metrics, which is helpful for benchmarking and for encouraging replication in other cities, but this comes with a risk to reduce the debate to transport technicalities, and to divert attention from the broader picture of the cities' vision and priorities.

It is worth noting that CIVITAS is not targeting particular social groups or urban areas within cities. CIVITAS builds upon a simplified vision of citizens as individual users, rather than as members of social groups and particular communities. The same can be said about the CIVITAS' concept of *city*. The ECCENTRIC project is a good example of a concrete effort to overcome these limitations. ECCENTRIC was selected under the 2015 CIVITAS call. Its basic hypothesis is that mobility needs in high-density districts in the urban periphery are different from those in city centres, and that innovative measures must be tailored to the specific needs of each community and place (ECCENTRIC Consortium, 2016). ECCENTRIC in Madrid intended to move away from the traditional approach in the design and implementation of mobility measures, although it was unclear at its conception to what extent the expectations of traditionally marginalised social groups could be met by the project.

ECCENTRIC (Innovative solutions for sustainable mobility of people in suburban city districts and emission free freight logistics in urban centres) is one of the three demonstration projects funded by CIVITAS within Horizon 2020. ECCENTRIC started in September 2016, and includes the cities of Madrid, Munich, Ruse, Stockholm and Turku. These cities have in common previous experience in the implementation of sustainable mobility policies and measures, and a rising demand to implement high quality and viable solutions for neighbourhoods outside the city centre. Briefly described, the challenge for these cities is to demonstrate innovative sustainable urban mobility solutions in peripheral city districts, serving as living labs.

The living lab in Madrid is Vallecas, a district at the south-east of the municipality, with 328,000 inhabitants. The area consists of several well-defined neighbourhoods, all of them with a population that has consistently decreased in the last 10 years (1.23%). The only exception is the neighbourhood *Casco histórico de Vallecas*, which almost doubled its population (+96.7% or 38,218 inhabitants), due to a newly developed area known as *Ensanche de Vallecas*, which started to materialize in the past decade.

The project in Madrid includes eleven measures. Their main contents are presented in Table 1. The measure code in the table will be used to refer to the respective measures throughout the remaining of

this paper. The link of the measures to the living lab is very different. Only four measures (measures 2.8, 4.6, 4.7, 5.1) are clearly targeting Vallecas. Another three measures (measures 2.3, 4.1, 5.8) refer to technological innovations, which could have been demonstrated in any other part of the city. Finally, four measures are taking place at a city-wide level (measures 3.3, 6.2, 7.1, 7.6).

Table 1. The ECCENTRIC measures in Madrid.

Code	Measure name	Main contents
2.3	Adaptive parking management based on energy efficiency and occupancy	A smart parking management scheme to be tested in the demonstration area. The system will include priority for HOVs and clean vehicles.
2.8	Mobility management strategies for vulnerable groups with a gender approach	A focus on vulnerable groups (children and elderly), identifying actions through a collaborative process and building upon inputs from recent psychology research. For children's mobility, the methodology will build upon the successful results of the previous project STARS. The actions focused on the elderly will be based on the projects implemented in Madrid regarding health and active life for them.
3.3	Open platform for multimodal mobility information and services	An open mobility data portal with multimodal information from different sources (public and private transport, traffic, public bicycles, air quality, etc.) will be created as a basis for the development of new mobility information services and products by interested companies, institutions and individuals.
4.1	Innovative and participative approach to traffic safety at neighbourhood level	A comprehensive road safety study, supported by the analysis of key urban parameters serves as a basis for the development of a GIS-based application collecting road safety incidents. Residents' safety perception is also analysed through a systematic review of social media and other sources of information.
4.6	Pedestrian friendly public space outside the city centre	Improving walking conditions in one of the car-oriented areas in Vallecas. A high quality pedestrian itinerary (*Paseo Miradores*) is created, improving the quality of the public space.
4.7	Enabling cycling outside the city centre	Prioritising the shared use of road space in the demonstration area. Bike ownership will be fostered through the implementation of innovative parking solutions for residents and for users of public transport hubs in the demonstration area.
5.1	High-level public transport service corridors in peripheral districts	The objective is to improve the quality of the bus service and increase the bus patronage on a tangential corridor in the eastern districts. The study will assess different solutions, and one 3-km pilot section will be built, including the rearrangement of crossings, parking facilities, new signals, bus stops, etc.
5.8	Electric and hybrid buses for public transport	Service needs will be analysed to select the electric and/or hybrid bus solution. The new buses will be assigned to serve the pilot PT corridor. Buses' performance will be monitored and assessed to support future renewal plans of the city's bus fleet.
6.2	Test fleets, policy incentives and campaigns for the uptake of electric vehicles	The municipality will foster the use of electric vehicles within its own services and also by local private companies, and will expand the electric charging network in the city. Based on the monitored performance of the electric vehicles in the pilot, new strategies will be designed to promote a wider uptake of electric vehicles.
7.1	Consolidation centre with EVs and local regulations for clean urban freight logistics	Based on a detailed analysis of the urban logistics sector in Madrid, a pilot urban consolidation Centre for last mile distribution will be implemented. The pilot will include the implementation of regulatory reforms to encourage the use of cleaner delivery vehicles.
7.6	Prototype for an ultra-low emission cargo vehicle	Development and demonstration of a 5.5-ton electric truck prototype, adapted to the specific needs of Madrid's urban delivery sector. It will be tested under real conditions in order to fine-tune its design and performance, and to promote its commercialisation.

Considering their relationship with the local context, the measures above can be classified into three different categories. The first one would include measures 2.3, 4.1, and 5.8: all of them are measures of a technological content, aiming at improving the management of existing public policies (parking access control, road safety and public bus emissions); they are likely to be pushed forward mainly by civil servants working in the related technical services, and are not expected to raise much interest from the side of citizens or decision makers. They are expected to provide incremental improvements,

of a medium to long-term range, as the measure is expanded from the demonstration site to the whole of the city.

The second cluster consists of measures providing technological solutions, usually implemented by private stakeholders. Although these are mature technologies, they still need a favourable environment or context to become fully competitive compared with incumbent solutions. This is the case of measures 3.3, 6.2, 7.1, and 7.6. The third cluster refers to measures of a more political character, highly sensitive to the local context, and requesting strong leadership from local authorities. They need to mobilize a variety of stakeholders, to gain sufficient support, and to move through administrative procedures poorly fitted to support them. Furthermore, the mobility components within each measure have to be combined with a variety of other considerations of a social, urban, or economic nature. For good or bad, they are likely to gain a prominent political profile and even to generate keen political discussion. This is the case of measures 2.8, 4.6, 4.7, and 5.1.

Demonstrations as knowledge-creation experiences

All the processes leading to the demonstration of the measures were reviewed in the first half on 2019. The results of the process evaluation suggest that those in charge of the implementation of demonstration measures follow different strategies in accordance, inter alia, with the particular profile of the measure they are responsible for. These strategies reflect how the technicians in charge are acquiring knowledge from their experience. In the case of measures within the "means cluster", the process is lineal, and tends to follow the taxonomies characteristics of the traditional Porphyrian tree: the most often barriers these measures encounter are described as of a *planning*, *organisational*, *financial*, *technological* and *spatial* nature, and can be addressed through minor adjustments, without requiring significant diversions from the initially established path. The knowledge acquired is shared at the conclusion of the pilot in the form of recommendations and lessons learnt to streamline future implementation. The knowledge acquired is typically of a management nature, and is applied in the form of better suited structures within the institutions dealing with innovation (through autonomous agencies, horizontal services or other solutions), earmarking resources or providing incentives for technical services to innovate as a way to gain access to additional funds or to strengthen the relationship with the research community (e.g. May, 2015). Recommendations may also include a call to tailor measures to their specific spatial contexts, introducing methodological changes in the process e.g. to include more ambitious participatory and co-creation processes, participatory budgeting and other actions.

The recommendations above are not adequate to deal with the barriers implementation processes face in the case of measures within the "market cluster". To be successful, these measures require to put in the market competitive alternatives to the existent options, to reach final users, and to get the support of committed private or public stakeholders eager to take these innovations to the market and make them widely available. Much has been discussed in terms of how public action can speed up the access to market of innovative technological solutions: financial support and incentives during the deployment stage, supportive regulatory frameworks, public stakeholders as early adopters, risk-sharing between the public and the private sectors… (TRB, 2015). The experience from the ECCENTRIC project in Madrid merely confirms these recommendations, and the difficulties (counter-balanced by the significant potential) to establish the appropriate cooperation framework that

can lead to successful implementation. The process of knowledge creation is no longer linear, based on choice between mutually exclusive alternatives. On the contrary, the knowledge-creation process can evolve at any moment following unexpected directions as a result of the power interactions among the variety of stakeholders participating in the market. As in the powerful image of Deleuze and Guattari (1980), the path of knowledge creation evolves like a rhizome; not only because the relations of power among the stakeholders (the industry, the innovator, the regulator, the governmental decision-maker…) are not stable, but also because the knowledge acquired at a certain moment is likely to change the relative position and power of some stakeholders vis-à-vis the others. The process is not completely anarchic, though: as it goes, moments of change and reposition alternate with more stable stages, at which stakeholders take stock of the knowledge acquired. These knowledge-building stages (*plateaux* in Deleuzean terms) provide the necessary stability for stakeholders to further cooperate, increasing the likeability of moving successfully from innovation and demonstration to the market stage.

The knowledge acquired from demonstrations within the "means-focused" and the "market-focused" categories is scarcely useful for the implementation of measures within the "values-focused" group. The difficulties for implementation of these measures primarily rely neither on rigid, inappropriate or underfunded public bureaucracies nor on the reluctant involvement of private partners. They face a more substantial obstacle: a public policy model inconsistent with such measures, and that cannot accommodate them without getting into trouble and instability. Public policies, including urban mobility policies, remain dominated by the values of responsibility and efficiency. Public bureaucracies select measures on the basis of their efficiency (e.g. cost compared to benefits or targets achieved), and public action is justified by its ability to empower users to choose alternative options to the undesirable ones. Sustainable mobility measures under this cluster do not fit well within this paradigm: their impact is of a long-term nature, and it is spread over a wider range of sectors. Consider, for example, a measure to improve the quality of pedestrian networks in a neighbourhood, such as ECCENTRIC measure 4.6. If successful, it can modify travel patterns, increasing short-distance trips and changing modal split, but these impacts will affect people's behaviour and become significant only in the long-term; furthermore, their main impacts may be of a completely different nature, for example, increasing liveability and social bonds within the neighbourhood, or be of a more dubious character, like increasing real estate prices and displacing low-income residents and small businesses. This does not mean that we should oversize our repertoire of indicators; on the contrary, it will probably be wiser to move away from the efficiency approach to a more nuanced monitoring and assessment framework.

The relevant knowledge acquired through this category of "values-focused" measures is of a transformative nature. It relates to the ambitions to act politically, to review and challenge the traditional understanding of the public interest and to build up a stronger citizenship. Knowledge acquisition becomes relevant to the extent that it allows to effectively address this wider conversation. Borrowing the wording of James and Dewey, knowledge is validated through its ability to move forward along the path of a radical democracy (Westbrook, 1991; Dewey, 1925).

Measures within the "public policy cluster" are consistent with a long-term vision of the city, which includes but is not limited to mobility issues. They contribute to create the conditions in which alternative behaviour is not only possible, but is actively supported by public institutions. They do not primarily attempt to provide alternatives to users, but rather to empower citizens to gain ownership of

their physical and political environments, by creating the conditions to increase social bonds, and to access to the public sphere regardless of the particular personal circumstances. They cannot really be legitimized by their ability to increase the options available to people, so that they can responsibly may sustainable choices; on the contrary, they are legitimized on the basis of solidarity: they provide more balanced conditions to all, decreasing inequalities. Their impact evaluation could be assessed, if necessary, not in terms of efficiency, but in terms of their effectiveness in improving social equity. As it is well known (e.g. Nagel, 1986), the cost of these measures increases with the ambition in terms of solidarity.

These measures are not likely to be successfully implemented within the framework of mobility projects like the ones promoted by CIVITAS. They need to be embedded within urban policies based on the principles of solidarity and effectiveness, which are occasionally promoted by local leaders in some cities to address major city challenges. It is only in a context of transformative change that mobility measures can yield the expected results in terms of sustainability.

This is not to say that these measures cannot be implemented autonomously. In fact, this is the way many cities are dealing with pedestrian areas, bike expansion or children, elderly and other social groups' mobility. The point is that (1) the implementation of these measures remains, at best, at the fringes of the local bureaucracy, requires enormous resources and political leadership to move forward, and cannot be streamlined within the municipality, and that (2) the actual impacts of these measures remain uncertain, sometimes generating gentrification and displacements, or increasing motorised mobility elsewhere in the city.

The living-lab approach is consistent with a vision of public policies from the values of solidarity, effectiveness and equity. It offers an opportunity to build up a shared and integrated vision among stakeholders, and to gain their involvement (Niitamo, 2006). But a living-lab approach cannot be narrowly limited to mobility issues. With its sectoral approach to urban mobility, the CIVITAS initiative (in the case of Madrid and, probably, in most of the participating cities) is successfully developing more favourable institutional and regulatory environments for the implementation of technological innovation in cities. This is positive for the implementation of measures within the "means" and "market" clusters. But it cannot successfully support the implementation of measures of a transformative nature. For doing so, it would necessary to get out of the "mobility bubble" and reach out to broader urban policies based, not based solely on the values of responsibility and efficiency.

Knowledge creation and innovation implementation

Geels became aware of the weakness of its *socio-technological* paradigm to understand innovative processes in highly contextual, local environments like cities. In his recent publication with Hodson et al (2017), a complementary concept is presented: innovation in the case of urban transport would be a reconfiguration process of the socio-technological system, in which besides technological changes, the transition is characterised by reforms in the governance framework and by political and technical discussion and revision of the shared vision to be attained through the transition, i.e. the sustainable transport paradigm. To better understand the reconfiguration process, it is necessary to take into consideration the governance and institutional arrangements shaping it. They will help to explain

which innovations are selected for demonstration and how they are tailored to the particular conditions in each living lab. Innovation becomes closely linked to the spatial traits of particular local contexts, such as a city, a region, a social group or an industry.

The governance framework becomes particularly relevant. Whereas the original multilevel perspective, as initially presented by Geels (2012) is strongly influenced by neo-institutional analyses (DiMaggio et al, 1983), and emphasizes the homogeneity of institutions, the living lab approach takes into account the various ways in which institutional and social interests are organized through governance processes that seek to shape transitions. In the re-organization of governance processes within living labs, concrete configurations of technologies and social interests are assembled and experimented in a particular place, and provide contextualised lessons. This does not mean that the configuration process is autonomous, and that the landscape level defined in MLP becomes irrelevant. On the contrary, exogenous processes of a global (in space) or of a modal (within the transport system) nature also intervene in the configuration of the living lab experience, and in the eventual scaling-up of the innovation from the living lab to a wider area (Kivimaa, 2014).

As social and institutional interests compete to shape the reconfiguration processes, they provide revised- and usually competing- conceptions of the sustainable mobility vision they are aiming at. Indeed, the definition of the concept remains ambiguous in the EU policies on transport and research, which can be interpreted as a recognition at the EU level of the necessity to contextualize the concept in particular spatial, temporal or social circumstances. This ambiguity facilitates its adaptation to the contextual circumstances in which each living lab takes place. In short, there would be no single way of reconfiguration in transport innovation.

Is the sustainable mobility paradigm a sufficiently bold and values-charged concept to sustain such a comprehensive reconfiguration process? If so, this would provide an excellent argument for those claiming that each relevant sectoral policy should look for its own values, and generate consistent visions of fairness or equity in accordance with those values within their own spheres of influence (Walzer, 1983). Two main arguments can be opposed to this position, notwithstanding its strong appeal. On one hand, the short-sighted scope of the sustainable mobility paradigm; on the other hand, the insufficiency of reforms in the transport sector to advance on its own along the path towards radical democracy.

In spite of its widespread acceptance within the transport community (or precisely due to this wide acceptance), the sustainable mobility concept does not provide a sound-enough basis to build up the sort of citizenship envisaged by Dewey in its radical democracy vision. Banister (2008) provides a widely-accepted description of the sustainable mobility paradigm, in which citizen participation mainly plays a users' educational, awareness and acceptance perspective. The sustainable mobility paradigm moves away from the utilitarian perspective by providing a balance among social, economic and environmental objectives. But one thing is to broaden the scope of the objectives, and another one to promote values such as better informed and educated citizenship, transparent and factual-based public deliberation or providing for minimum quality of life standards. Transport can certainly contribute to that, but should not do it on its known, without getting embedded in the wider effort of the public policies implemented by the local government. In this sense, claiming that transport innovation has the potential to reconfigure local governance seems naïve, to say the least.

To provide useful knowledge, in the neo-pragmatic sense, transport innovation rather needs to take into account the political context in which it is operating and identify whether the basic contextual conditions are present. This means, that a certain innovative demonstration of a "values-focused" content should only be implemented where the local government is engaged in a political vision consistent with these values: otherwise, the demonstration will be unable to provide the expected knowledge, and will not provide any relevant progress in the search for stronger local democracies. An innovative transport measure cannot be an isolated event: it should be understood within the wider global processes strengthening democracy beyond place-specific contexts.

Conclusions

The ECCENTRIC project in Madrid has successfully proved the ability of the municipality to implement measures within tight deadlines. The local bureaucratic and technical machines have been able to successfully deal with the challenges of adaptive management to implement actions that did not fit with the usual profile of municipal actions. However, in a few cases, adaptive management may have gone a little too far, eviscerating some measures of their most innovative contents and embedding them within actions already in progress in the city. This has been the case for the measures on the improvement of pedestrian and cycling conditions (4.6 and 4.7), on the implementation of clean buses in public transport (5.8), on the expansion of electric car fleets (6.2) and on the implementation of a freight consolidation centre (7.1). Measure 5.1 was the only one that had to be abandoned. It aimed at implementing the first section (some 3 km) of a bus corridor linking several neighbourhoods in the east periphery of the municipality, and its failure was due not only to the lack of sufficient political support from the local government, but also to the complex needs of the affected area: residents preferred that the municipality's investments were dedicated to actions outside the mobility realm. There was a technical focus on bus priority that left aside critical issues regarding the public's priorities and preferences, as well as funding availability. When the preparation of the construction project had been completed, decision makers realised that the concept provided little value for money and would not be backed by a majority of residents.

The project in Madrid also showed the difficulties to actively engage some of the stakeholders initially envisaged. This concerned stakeholders at the decision-making level (who tended to see their participation as unnecessary in the absence of critical problems), and residents (as the transport actions undertaken by the project, although relevant for them, were not of first priority compared to more urgent, non-transport related issues in their agendas). The central role played by the local civil servants involved in each measure became even more relevant to navigate the local bureaucracy, identify opportunities and take the actions to reasonable completion.

In general, the implementation of most measures was facilitated by its inclusion in a CIVITAS project: the project mainly served to provide the "manpower" needed to dedicate the necessary effort to actions that otherwise would have hardly been seen as a priority by the technical departments involved. The project also served to check the adaptive capacity of the local government and bureaucracy to cope with the needs of innovative actions. For example, it showed some contradiction between the top-down approach in CIVITAS (in which participation is limited to the "how", and not to the "what" of the measure) and the general trend of the local government to foster participatory

budgeting for the selection of actions (in all policy areas) in the neighbourhoods. It also showed the tensions between the long procedures for project design, budgeting and construction in the city (fully justified by public control procedures and by the need to establish rigorous selection of public investments) and the tight deadlines established by the CIVITAS initiative within the four years envisaged for the project.

The suitability of the CIVITAS concept to the project in Madrid also showed some shortcomings. CIVITAS has a strong mobility and technological focus, not fully consistent with the particular conditions in Madrid: the focus of the project in Madrid was a large low-income peripheral district, whereas CIVITAS is usually targeting city centres with high visibility; secondly, there was a strong interest on equity and social impacts in Madrid, whereas the social focus of CIVITAS is limited to the public acceptance of new concepts. The contextual conditions in Madrid were challenging, with a new local government fighting with strong financial shortages due to the overspending of its predecessors, among others, in a multi-billion urban motorway project. It could be said, at the very least, that CIVITAS is poorly adapted to intervene in such kind of complex social, financial and political contexts. It is worth pointing out that the CIVITAS approach did not suited well the local government effort on participatory democracy. Participatory aspects were relevant only in some of the measures included in the project, and the involvement of decision-makers was not reviewed in detail in the project proposal. CIVITAS technological priorities could have at best a minor impact on the living conditions of the residents, and were unlikely to raise high interest among them. A more profound mismatch can be pointed out: the CIVITAS focus on innovative technologies and its deployment in the mobility market is far away from the political priorities in many cities, and it is not likely to induce any substantive process to strengthen local participatory democracies or to increase local cohesion.

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