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Cleaner and better transport in cities

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METEOR

A policy assessment of the CIVITAS Initiative

September 2006

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1 Introduction: the CIVITAS policy challenge

The policy challenge of the CIVITAS Initiative is to increase the sustainability of urban transport systems in European cities. As illustrated in Figure 1.1 below, the CIVITAS Initiative is set out to achieve its goals through the promotion of integrated urban transport strategies, entailing the combined implementation of a varied range of innovative instruments pertaining to 8 major policy fields.

Figure 1.1: CIVITAS objectives, strategies and instruments

The experience accrued by the 19 cities of CIVITAS I provides the first benchmark to assess the capability of the CIVITAS Initiative to achieve its policy objectives. The demonstration projects carried out in these cities have undergone a systematic review, monitoring and evaluation process, both internal to the projects themselves and by means of a cross-site evaluation that aims at drawing additional lessons from the comparison of the experiences carried out in each of the 19 involved cities. Such process has produced abundant - although often incomplete - evidence that has led to a number of conclusions and recommendations concerning both the CIVITAS strategy as such and the results achieved so far.

Whilst also drawing from such evidence, this document specifically focuses on those elements that are directly policy relevant. Policy relevance is here primarily meant as the usefulness for policy makers who, at the city level, are involved in the decision processes surrounding the CIVITAS Initiative or/and the formulation and implementation of strategies that are in line with those promoted by CIVITAS. The first ambition of this document is therefore to help addressing basic policy queries such as:

- why should my city adopt the CIVITAS strategy? What's in it for me and my fellow citizens?
- how can I identify priority policy areas that are well suited to the specific needs of my city?
- what are the critical success factors that are likely to determine the success (or failure) of the CIVITAS strategy in my city?

On the other hand, policy level conclusions are also relevant for European and national policy makers, with particular reference to the EU decision makers that have devised the CIVITAS Initiative in the first place and are concerned with its future development. The basic policy queries that are relevant in this regard are, typically:

- is the overall design of the CIVITAS Initiative effective? Does it meet the needs of the European cities?
- does the policy framework underlying the CIVITAS Initiative facilitate its successful implementation? Can it be improved, and how?
- can CIVITAS survive even without additional EU funding to more demonstration cities? And how to achieve a multiplier effect?
- how could the CIVITAS framework be improved?

Ultimately, the fundamental policy challenge is to validate CIVITAS as a useful instrument that can provide substantive, possibly decisive contributions to the high level objective of increasing the quality of European urban environments.

Although most of these queries can hardly be answered in a definitive way, the experience of CIVITAS I has provided a series of useful elements that are summarised and presented hereafter.

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2
the CIVITAS approach: lessons learnt

The contents of this section are mainly drawn from the evaluation of the CIVITAS process (rather than the results achieved), and therefore primarily focus on the effectiveness of the approach adopted by the European Commission in promoting and operating the CIVITAS Initiative, and that adopted by CIVITAS I cities in carrying out their demonstration programmes.
The conclusions and recommendations outlined below are therefore directed both to the EC, in its capacity of main promoter of the Initiative, and to national and local authorities, who are responsible for the effective implementation of the programme.

2.1 Barriers and drivers

As could have been expected, the factors influencing the successful implementation of the CIVITAS strategy vary considerably with the type of measure and also across cities. Specific lessons can be drawn from a detailed analysis of those factors.

At the policy level, however, some general findings clearly emerge.

Table 2.1 - Top ranked barriers and drivers

	Overall ranking		
	1st	2nd	3rd
Barriers	Planning	Cooperation	Technology
Drivers	Political commitment	Planning	Cooperation

Planning

As shown in Table 2.1 above, insufficient planning - in both the policy formulation and implementation stages - is unanimously perceived as the most serious barrier to successful implementation. On the other hand, good planning is deemed to be a major success factor by the vast majority of CIVITAS I players. In general, such recognition of the importance of good planning does not come as a surprise, as it reflects standard common sense and management practice. However, in the CIVITAS case, two specific remarks should be made.

- The major innovative challenge of CIVITAS is to foster integrated strategies for the sustainability of transport systems in European cities. Integration entails much more than simple juxtaposition of individual initiatives, and results in a degree of complexity often unprecedented. The difficulty in appraising (both ex ante and ex post) the exact nature and the impacts of interactions and synergies between the multiple components of an integrated urban policy has been repeatedly mentioned. The perceived importance of effective planning and monitoring is a further confirmation.
- The CIVITAS Initiative provides an innovative framework for urban transport policy implementation. The simple fact that cities engage into contractual obligations with the EC implies that, in the implementation of policies, they must adopt a project-based approach. Projects (as opposed to policies, or at least to a much higher degree than policies) are subject to a stringent set of operational constraints: they are characterised by a pre-defined time frame, precise (and usually quantified) objectives, and pre-defined limitations in resource availability. Planning is therefore of the essence, and the CIVITAS I experience has highlighted the importance of an appropriate planning culture and, more concretely, of a dedicated organisational function.

It is recommended that the planning function is explicitly included in the organisational structure of the CIVITAS teams at city level, with dedicated staff and resources, including specific management tools.

Political commitment is ranked as the topmost driver, which goes to confirm the well known importance of finding "political champions" at the city level, who must be sufficiently determined to put their credibility and reputation at stake by betting on courageous and radical reforms. Political champions are particularly needed in a context like that of CIVITAS, where the primary role of demonstrations and experiments is to win over the reluctance to change that typically affects policy makers and the public at large.

However, the experience of CIVITAS I has stressed another dimension of the political commitment, i.e. the importance of continuity. The complexity of the CIVITAS strategy is such that tangible impacts can reasonably be expected only in the medium-long term, which is more than the standard horizon of a political mandate can usually accommodate. On the other hand, persistence in the implementation of new policies is often a prerequisite for goal achievement.

In the short/medium term, policy makers should preferably make a point of selecting a limited set of strategic goals in their communication with citizens: integrated strategies, despite their virtues, may end up by masking the few fundamental issues that immediately matter to the public, thus leading to lukewarm reactions and re-election failure.

In the longer term, the real challenge is to convey the notion that sustainability policies are "above the parties", and that changes in the political affiliation of the incumbent administration should not affect the continuity of visionary reforms. Once again, investing in the sustainability culture of the constituency is of the essence.

Cooperation also ranks particularly high both as a driver and as a barrier. This can be seen as a twofold issue:

- the involvement of citizens (ultimately their direct participation to policy formulation and implementation). Not all of CIVITAS I cities have explicitly recognised that an insufficient involvement may be a major hindering factor. On the other hand, in those cases when citizens' involvement is identified as a driver, its enabling power is perceived as very high.

- concertation among stakeholders other than citizens is interestingly perceived as the only way to turn conflicting interests between specific groups into win-win situations.

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The crude conclusion could then be "if you think that cooperation is expensive, try without!"

The review of barriers and drivers experienced by the CIVITAS I cities further leads to a series of additional conclusions and recommendations.

Funding (or rather lack thereof) is predictably considered as a significant constraint towards policy implementation. However, and to some extent surprisingly, it is ranked systematically lower than "softer" factors such as planning or cooperation. On the other hand, the availability of sufficient financial resources is seen as especially critical in the early stages of a new policy cycle: it is a major requirement to win over the reluctance to innovate, much less so when it comes to consolidation and full implementation.

The *quality* (timing, earmarking) of funding is at least as important as the *quantity*: once a new policy has proved to be beneficial to citizens (tax payers), it is easier for policy makers to raise the financial resources required for full implementation through ordinary budgetary mechanisms.

In this respect, CIVITAS is well on target, inasmuch as it concentrates its funds on the early, take-off stages of policy reforms.

Working under pressure. Several CIVITAS I cities recognise that the time constraints imposed by the above mentioned "project-approach" to policy implementation can have beneficial effects, as problem pressure forces the teams to keep to deadlines and commitments more than it usually happens in "traditional" implementation contexts. This should however not be seen as in contradiction with the previously advocated call for more stringent planning.

Institutional factors are only perceived as barriers, never as drivers. On the other hand, there is strong demand for institutional and regulatory reforms that would facilitate policy implementation. This should be interpreted not only as a negative judgment on the current institutional framework, but also as a claim for a more systematic involvement of all players in the formulation of institutional reforms: once more, consultation and participation are at the heart of the matter.

2.2 Strategic evaluation: targeting the essentials

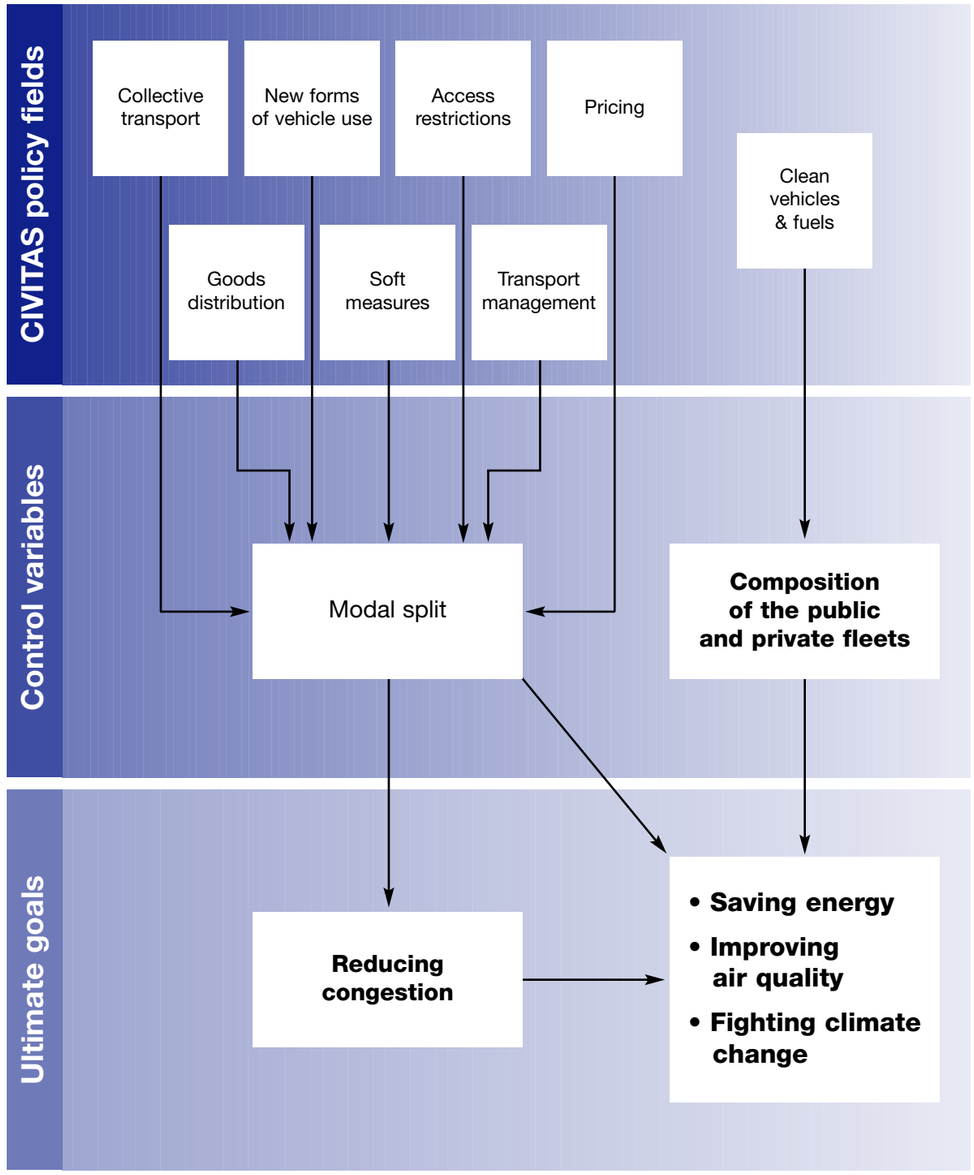
Identifying and evaluating the effects of CIVITAS I has proved to be a major challenge. Their interpretation is not always straightforward (especially in terms of their potential for transferability and generalisation).

From a high level policy perspective, however, a major lesson learnt from the complex cross-site evaluation exercise concerns the choice of the impact variables that can better allow to represent strategic goals and achievements.

While a detailed framework for monitoring and evaluation is essential at the city level (and even more so at the micro-scale level of individual measures), the overall assessment of the contribution of the CIVITAS Initiative to achieving high level sustainability objectives can and should rely on a limited set of strategic parameters.

The scheme below summarises the recommended framework. It is driven by the need for policy makers to present their policies (both *ex ante* and *ex post*) in a simple and meaningful way.

Figure 2.1 - High level policy evaluation: a simplified scheme



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The many surveys conducted in CIVITAS I to assess the level of awareness, motivation, acceptance, etc. in relation to the proposed changes show that citizens are in general ready to support a wide range of innovative policies and measures. Acceptability is high even when there is an immediate price to be paid (as e.g. in terms of access restriction, and even more so for road pricing schemes), provided that policies and measures produce tangible effects on the fundamental performance of transport services (i.e. "how long will it take me to get from A to B?").

Moreover, the CIVITAS surveys have clearly shown that the overall sensitivity of the public to energy and environmental matters has considerably increased in recent years, and that issues like air quality and noise levels are now perceived as concrete components of everyday life, not anymore as abstract concepts to be dealt with by scientists and a minority of green activists.

What really matters (in the sense that this is what most citizens expect and what they will be able to immediately perceive as the outcome of policy implementation) is a tangible improvement in two basic areas:

- **traffic conditions and congestion levels (and therefore the overall quality of available transport services)**
- **environmental quality (particularly air, but also noise)**

This is clearly a highly simplified view, and it can be argued that important issues such as social impacts and a variety of indirect economic effects cannot be captured by such a simplified scheme. The overall effects on the economic vitality of cities, in particular, deserve explicit attention and further appraisal mechanisms.

Nevertheless, even such a simplified scheme makes room for the appraisal of all "policy fields" at the heart of CIVITAS: whether directly or indirectly, all measures (with the exception of clean vehicles and fuels) have an effect on the level and structure of traffic demand, which can in turn be assessed through changes in the modal shares. On the other hand, and somehow independently, the energy and environmental performance of fleets (both private and collective, both passengers and goods) is primarily linked to the penetration of efficient and environment friendly technologies.

Modal split on one hand, the composition of fleets on the other, can therefore be considered as the two independent "control variables" at the heart of the CIVITAS policies.

Ultimately, improvements in the functional performance of the transport system (notably through reduced congestion and therefore a reduction of time spent travelling) will have further impact on energy and environmental performances: while vehicle and fuel technology reduce consumptions and emissions per unit of travel (e.g. per passenger.km, or per ton.km), less traffic will reduce total consumptions and total emissions (less passenger.kms and less ton.kms).

3 the impact of CIVITAS I: identifying policy priorities

3.1 Effectiveness and efficiency of policies and measures

While the previous section was concerned with the assessment of the overall effectiveness of the CIVITAS framework and instruments, leading to conclusions and recommendations on the overall format and on the implementation process of the Initiative, this section concentrates on the efficiency of the CIVITAS strategy and of the implementation measures (i.e. their actual performance towards the desired objectives). It is based on the observation and interpretation of the results achieved by CIVITAS I cities so far, and its meaningfulness is therefore constrained by the short time span available to observe and assess impacts that will primarily materialise in the medium/long term. Conclusions and recommendations are therefore here primarily directed to local authorities in charge of the formulation of city policies and of their implementation by means of specific measures and packages.

The basic challenge is here to help identifying policy priorities and the most appropriate measures to pursue them at the individual city level. In this respect, CIVITAS I has produced abundant evidence that is directly or indirectly relevant for the appraisal of measure performance. However, and despite the highly structured evaluation framework established within CIVITAS I to ensure comparability and a full fledged cross-site appraisal, meaningful conclusions are extremely difficult to reach at the general level (i.e. conclusions that would readily allow to identify "universal" priorities).

A first important conclusion is that all attempts to directly use micro-data to derive general recommendations are bound to fail, owing to the considerable diversity of local implementation contexts, and to the complexity of integrated policies.

A simplified appraisal framework is therefore needed at the policy level, one that by averaging out the most important context diversities would allow overall phenomena to better emerge.

3.2 Identifying typical city profiles

A first contribution to the establishment of such a simplified framework has been proposed in the previous section, where the central (and somehow "universal") role of (i) modal shares and (ii) vehicle fleets is recognised and accordingly used to drive all policy and measure choices. A further area where key ("universal") criteria are needed is that of city profiles: how to broadly classify individual cities into homogeneous categories - or clusters - that, based on high level similarities between urban contexts, might help identifying priorities at the cluster level.

The CIVITAS I experience provides interesting inputs in this direction: visual inspection of the quantitative evidence available at city and measure level clearly points at some basic key parameters which appear to drive overall measure performance at city level and contribute to explain the differences in the results achieved. The proposed clustering scheme that thus emerges is summarised hereafter.

The basic idea is that cities can be differentiated according to the varying nature and severity of the sustainability issues they are confronted with. In turn, these can be primarily traced back to:

- **traffic density**, i.e. the relationship between the overall size of the vehicles stock in use and some measure of the city dimension
- **modal split**, and more specifically the relative shares of (i) private cars, (ii) collective transport and (iii) non motorised modes.

Accordingly, CIVITAS I cities can be split in 3 main clusters, as follows.

Table 3.1 - Level of severity of sustainability pressures

	City	Population density	Private car density	Modal split		
				Cars	PT	Other
Cluster A High severity	Bristol	H	H	H	L	M
	Lille	H	H	H	L	M
	Nantes	H	H	H	L	L / M
	Rome[1]	H	H	H	L/M	L / M
Cluster B Medium to high severity	Barcelona	H	H	M	L	M / H
	Berlin	H	H	M	M	M
	Bremen	H	M	M / H	L / M	M
	Bucharest	H	L / M	L	H	L
	Cork	H	M / H	M	L	H
	Gdynia	H	M	M	H	L
	Goteborg	L / M	L / M	M / H	M	M
	Graz	H	M / H	M / H	L / M	M
	Kaunas	H	M	H	L	L
	Prague	H	H	M	M / H	L / M
	Rotterdam	H	M	M	L	M / H
	Stockholm	H	H	M	M	L / M
Cluster C Low to medium severity	Aalborg	L	L	M / H	L / M	L / M
	Pecs	H	L	L	L / M	L / M
	Winchester	L	L	H	L / M	M

Decreasing severity

Population density (inh/km2): High = 2000 or above; Medium = between 1000 and 2000; Low = less than 1000

Private car density (cars/km2): High = 1000 or above; Medium = between 300 and 1000; Low = less than 300

Modal shares (%): High = close to or above 50%; Medium = between 25% and 50%; Low = less than 25%

1 - Only the urbanised area of the (very large) Municipality of Rome is considered

Cluster A includes cities where very high traffic intensity is combined with a high modal share of private motorisation and relatively low shares of public transport and non motorised modes. Such cities clearly suffer from the most acute pollution and congestion problems, and face challenges that require fundamental structural changes.

Cluster B represents cities where traffic intensity is still relatively high. Congestion levels are often significant, but at least partially abated by a more favourable modal split, with PT or/and alternative modes playing a significant role.

Cluster C corresponds to cities that benefit from a relatively low traffic intensity. Even when the modal shares of PT and alternative modes are not particularly high, the severity of congestion and pollution problems faced by these cities is limited due to the reduced traffic volume.

3.3 The performance of measures varies with the city profile

Although no systematic analysis is possible due to the limited availability of impact data on comparable measures, a series of trends and conclusions can be drawn on the relative performance of measure groups across city clusters.

Pedestrian area in central Rome

3.3.1 Zones with controlled access

Measures that are built around the concept of access restriction or similar appear to yield most visible results in cities with medium or low traffic intensity.
This can be for instance appraised through the observation of the modal shift effect towards sustainable modes, like the considerable increase in cycling traffic observed in Cork (B), while a similar observation shows lesser - albeit still important - effects in cities like Bristol and Rome (both A), where increased modal shares of bicycles are significant but lower.

Such differentiated impacts are further substantiated by measure performance at the environmental level, with percentage values of emissions reduction significantly higher in Cluster C cities like Cork, where CO emissions are reported to have decreased by twice the factor than in a Cluster A city like Rome. Particulate matter emissions show an even wider gap.

3.3.2 Clean vehicles

The reduction of energy consumption and pollutant emissions, and the subsequent improvement in air quality, are the most visible effects - as targeted and expected - brought about by measures leading to changes in both the composition of collective transport fleets and in that of the private car stocks. Observations carried out in CIVITAS I cities show that such improvements can be achieved in all city clusters.

Clusters A and B (high and medium severity) appear however to have a more immediate potential for improvement (e.g. the high percentage reduction in the emission of both carbon monoxide and benzene registered in Berlin, or the even higher reduction in particulate emissions of the bus fleet observed in the Barcelona demonstration).
This can be interpreted as a measure of the dramatic dependence of urban air quality from the emissions generated by the transport activity: the higher the traffic intensity, the higher is the relative responsibility of the transport sector in the deterioration of air quality.
In these cities the beneficial effects of clean technologies are likely to weigh more than in others when overall concentrations are measured.

A CNG delivery truck in Göteborg

3.3.3 Improving collective/public transport

The contribution of public/collective transport is crucial to the achievement of high levels of sustainability in all city clusters. Whether through the introduction of new services, the increase in frequencies, or through the improvement of safety and security, all CIVITAS I cities have recorded visible impacts in terms of the resulting modal shift from private motorisation to collective transport.

Improved tram lines in Barcelona

The interpretation of the varying degree of success is however challenging, e.g. when comparing the high modal shift recorded in Barcelona as a result of the introduction of new tramway lines with the much lower shift achieved in Bucharest with comparable measures.

The primary explanation seems to lie in the overall structure of the initial modal split (the starting situation): whenever the modal share of public transport is already high (e.g. close to 80% in Bucharest), it is quite obvious that additional shifts are more difficult to achieve. On the other hand, in such cases, any further improvement must be highly valued, precisely owing to the intrinsic difficulty in achieving it. The Bucharest experiment should thus be considered as particularly significant in that it shows is that the trend towards increases in private motorisation - currently being witnessed in most New Member States - is not inevitable, and that all

efforts towards the consolidation of a virtuous mobility culture (one that recognises the fundamental role of collective modes) can and should be deployed.

A further confirmation of this interpretation can be found in the high level of acceptance recorded in a city like Prague, where the overwhelming majority of the users have a highly positive perception of measures improving public transport quality (e.g. priority systems, information measures, etc.). The lower acceptance levels recorded in cities like e.g. Aalborg should then be interpreted as the combined result of a lower degree of severity (and therefore a lesser degree of perceived urgency) and of the high share of private motorists.

Altogether, the outcome of collective transport measures in CIVITAS I demonstrations points once more at the fundamental importance of a sustainable mobility culture: in cities with a largely prevailing presence of private motorisation, immediate effects may be sizeable but ultimately reverting the overall modal split is extremely difficult, while cities with consolidated habits of using collective transport can still achieve further improvements.

3.3.4 Car sharing and car pooling

New forms of vehicle ownership and use yield the most beneficial effects in cities characterised by a medium level of severity (Cluster B). Cities like Bremen and Berlin have witnessed reductions in private car-kilometres travelled in the order of several hundred thousands as a result of the car sharing/pooling measures. Indeed, Cluster C cities can also benefit from these measures, e.g. in Aalborg where the overall energy demand originated by the transport sector has declined by a significant share.

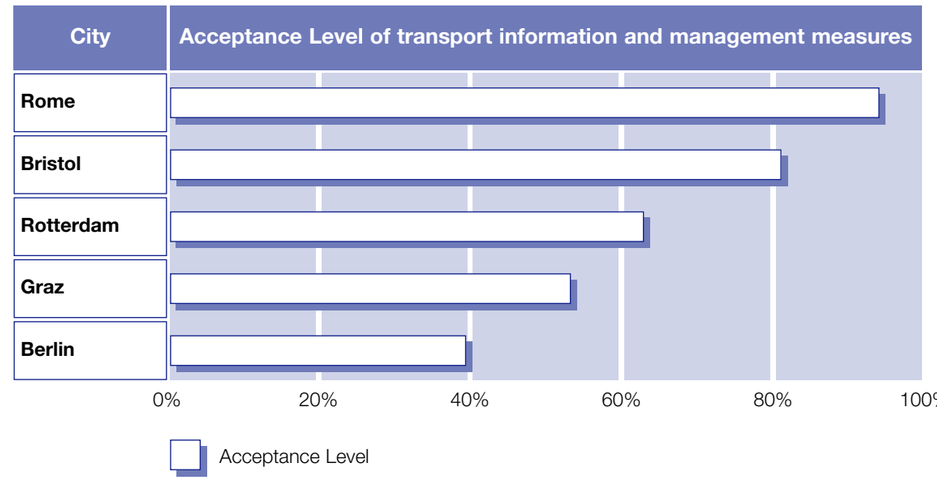
Visiting a car sharing location in Bremen

Altogether, nevertheless, the CIVITAS I demonstrations in this area seem to indicate that the promotion of new forms of vehicle use is more immediately interesting in cities where the relatively high severity of traffic and congestion is partially compensated by their medium size: in such cities, organising and managing complex operations like car pooling and car sharing is more realistically feasible than in very large cities.

3.3.5 Transport information and management

Measures that aim at providing better information to users about routes, connections and fares appear to be more beneficial in cities characterised by medium and medium/high private traffic intensity (Clusters A and B). Although the figures available mainly reflect performances at the micro-scale, modal shifts induced by these measures can be very high in Cluster A (e.g. Bristol) and Cluster B (e.g. Graz) cities. On the other hand their effect in cities where the severity of congestion is limited appears to be much lower, e.g. in the case of Winchester (C).

The available evidence on the level of citizens' acceptance for these measures is consistent with the above, with cities like Rome (A) and Bristol (A) showing the highest rate of acceptance, as illustrated in the graph below.



3.3.6 Summary conclusions

Based on a systematic review of the observations carried out in the CIVITAS I, and notwithstanding the many incompleteness and comparability problems, the relative merits of the main CIVITAS instruments in the three typologies of CIVITAS cities can be summarised as follows, providing a qualitative indication of possible priorities.

Table 3.2: Comparative benefits across city clusters

	Cluster A	Cluster B	Cluster C
Clean vehicles and fuels	+++	+++	++
Road Pricing	+++	+	
Parking charges	++	+++	+
Car sharing/pooling	+	++	+
Soft measures	++	++	++
Access restriction	+++	+++	+++
Collective passenger transport	++	++	+
Transport management	+++	+++	+

High to very high benefits	+++
Medium to high benefits	++
Low to medium benefits	+
No available data	

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the big picture: can CIVITAS save the planet?

4.1 Generalising the CIVITAS experience: rationale and limitations

Beyond rethorics, it is not exaggerated to claim that the main responsibility for the future sustainability of the European continent lies with its cities. An overwhelming (and still on the increase) share of European citizens live in an urban context. In turn, urban mobility is responsible for the predominant share of energy consumption, pollutants and greenhouse gas emissions, time losses and, ultimately, the deterioration of the quality of life.

The CIVITAS objectives, as many times reinstated, therefore go well beyond an incremental improvement of sustainability indicators in those European cities where the severity of threats posed by congestion, consumption and environmental pollution is already widely perceived: what is at stake is in fact the very liveability of the planet.

The commonly agreed framework to analyse the sustainability of policies and measures is based on the combination of the three well known “pillars”: social, economic and environmental. Despite the continuing efforts to devise a comprehensive analytical framework that would integrate all sustainability aspects - and accordingly allow for a quantitative assessment of the effects of sustainability policies - one must recognise that the complexity of the challenge is not mastered so far.

While analysts and modellers strive to better understand such complexity and improve our capabilities of simulating, predicting and interpreting the effects of policies and measures, in the short term one can only recur to grossly simplified schemes in order to shed some light on the possible consequences of major policy decisions and of their subsequent implementation.

This section provides some rudimental contributions in this direction, based on (i) the interpretation of selected preliminary findings from CIVITAS I, and on (ii) currently available approaches to generalise impact assessment of sustainable transport policies.

As illustrated and discussed later in this document, CIVITAS policy fields, although varied in their approach, in the constraints that they must accommodate and in the practical paths they can adopt towards implementation, ultimately boil down to controlling two main phenomena:

- the volume and modal structure of urban transport demand
- the technological performance of the vehicle fleets (both public and private)

The positive effects of steering these two phenomena towards more sustainable patterns are in turn proved to spill over most, if not all, the important sustainability indicators (from energy consumption to the accessibility of transport services, to time lost in congestion, economic competitiveness of cities, citizens' health and the associated social costs, etc).

4.2 Less private cars, more collective transport

Demonstrations and tests carried out in most of the CIVITAS I cities in order to decrease the use of private cars have yielded a varied range of effects, depending on the nature of the measure, the approach to implementation and, even more importantly, the context conditions. The limited quantitative data available on the observed impacts are difficult to generalise. On the other hand, the variable extent of the modal shift generated by CIVITAS measures follows no easily recognisable pattern, also due to the fact that car traffic reductions can benefit both collective transport and non motorised modes.
Assumptions must therefore be made when venturing into generalisation attempts. A goal that appears to be reasonable - in the light of the experience accrued by CIVITAS I cities so far - is to move 20% of private car traffic to collective transport. In fact, higher modal shift values are being observed in some CIVITAS I cities, at least on the micro-scale, but they do not account for the expected growth in overall traffic demand that currently characterises most of the European cities.

Applying this assumption, for all EU cities[2], to currently available mainstream transport scenarios for Europe (the analytical framework of the TREMOVE model has been adopted here) leads to estimating the following aggregated impacts on traffic volumes, air quality and climate change.

Effects of modal shift for all EU cities

		Percentage reduction
Traffic volume		
Kms travelled by car		20 %
Total traffic (kms travelled by cars+buses)		18.8 %
Pollutant emissions		
CO	Carbon monoxide	19.8 %
NO_x	Nitrogen oxides	11.4 %
SO_2	Sulphur dioxide	17.8 %
PM	Particulate matter	11.7 %
Greenhouse gases		
CO_2	Carbon dioxide	17.2 %

Given the current (2005) composition of the vehicle fleets in EU metropolitan areas and the current patterns of trips, moving 20% of the private traffic to collective modes would in fact entail an increase in bus traffic in the order of 8% (bus.kms travelled), but an overall reduction of the distance travelled by all vehicles (cars + buses) of as much as 18.8 %, and thus major benefits in terms of all major nuisances, and a significant contribution to the achievement of the Kyoto targets to fight climate change.

4.3 Renewing public transport fleets

Here again, the experiences accrued by CIVITAS I cities are numerous and highly varied in terms of technological approaches, scale and context of implementation and measurability of the effects. No immediate comparison - and, even less so, generalisation - is therefore feasible. Assumptions need therefore to be made. Considering the current average perception of the potential benefits associated to the mainstream clean vehicle technologies, a reasonable hypothesis is to predict that the widespread implementation of the CIVITAS strategy can lead to replacing - in cities only - a share of 20% of the current diesel bus fleets by CNG vehicles. Clearly, this is a gross assumption, which only considers one of the many

2 - All data and calculations presented below exclusively refer to urban transport (similar calculations for interurban transport would produce significantly different results, owing to the differences in car use patterns, average fleet composition, energy consumption, etc.)

technological options available, and therefore does not allow to capture the outcome of the diversified choices being made in individual cities. It nevertheless provides interesting indications as of the size of the potential impacts that can be expected from systematic renewal of public transport fleets.

Applying the above assumption, for all EU cities, to currently available mainstream transport scenarios for Europe (the analytical framework of the TREMOVE model has again been adopted here) leads to estimating the following aggregated impacts on air quality and climate change.

Effects of bus fleet renewal (CNG Vs Diesel) for all EU cities

		Percentage reduction
Pollutant emissions		
CO	Carbon monoxide	14 %
NO_x	Nitrogen oxides	11 %
SO_2	Sulphur dioxide	16 %
PM	Particulate matter	17 %
Greenhouse gases		
CO_2	Carbon dioxide	5 %

4.4 The added value of CIVITAS implementation

Clearly, even the potential benefits outlined above must be seen in perspective, as the CIVITAS policy objectives are not being pursued within an otherwise static context: the overall performance of the urban mobility systems is expected to change as a result of a variety of "natural" or by all means underlying trends, e.g. technological progress, the dynamics of demography, institutional and organisational reforms already under way, and many others. What is then the value actually added by the CIVITAS strategy?

A comparison of the gross potential improvements illustrated above with the expected performance of the "Business as usual" scenario (TREMOVE) shows that the additional benefits of CIVITAS are far from marginal. Considering for instance the 20% modal shift assumption, even when adopting a "Business as usual" scenario that incorporates fairly optimistic assumptions on the effects to be expected from the "natural" trends alone, the additional benefits are sizeable, as illustrated in the table below.

Value added with respect to the business-as-usual scenario (BAU)

Emissions	Index value (2005 = 100)			Improvement over BAU
	Current values (2005)	BAU (2010)	BAU + 20% modal shift (2010)	
CO	100	61	49	19.7%
NO_x	100	60	53	11.7%
SO_2	100	86	71	17.4%
PM	100	76	65	14.5%
CO_2	100	87	72	17.2%

5

EU cities can speak with one voice

5.1 The challenge of the CIVITAS Policy Advisory Committee

The driving role of "political champions" at the local level and their continuing commitment towards high level transport, energy and environment sustainability goals has been repeatedly advocated and is now commonly recognised as a major ingredient, and in fact a prerequisite for the success of CIVITAS within individual cities.

The CIVITAS I experience, notably through the establishment and operation of the Policy Advisory Committee (PAC), and its steering position within the wider community of CIVITAS cities (the CIVITAS Forum), has further allowed to confirm that the role of committed politicians is at least as important when it comes to extending the CIVITAS policy objectives from the local level to that of Europe as a whole. Critical mass is of the essence when pushing for political reforms, new legislation, and in general for innovative policies that call for the mobilisation of sizeable resources.

In turn, achieving critical mass in the political arena requires a high level of consensus among the community of elected stakeholders (across political parties and beyond "party politics"), as consensus is essential to lend credibility to policy reforms that are often perceived, in the early stages, as unpopular.

European Commission Vice President Responsible for Transport, Jaques Barrot, meets the CIVITAS Politicians

CIVITAS I has provided highly effective grounds to test the mechanisms for building consensus among high level policy makers.
The convergence of a diverse group of local politicians (as represented in the PAC) around a solid set of principles, ideas, priorities and practical initiatives must be considered as one of the important achievements of CIVITAS so far.

This section summarises the main areas where a dialogue was established within the PAC and often extended to the CIVITAS Forum, leading to common positions on a number of issues for which consensus was not granted at the outset.

These common positions have been formalised through a series of statements reflecting the achieved consensus, thus paving the way towards an effective reform process.

5.2 Different technological priorities still leave room for joint efforts

In recognition of the existence of different national and local contexts (physical, economic, technological and social), it was agreed that different fuels and technology options (CNG, biogas, electric, ethanol, LPG, etc.) may all play a significant role: the path towards long term sustainable solutions such as hydrogen should therefore not be approached through the adoption of a single clean fuel/technology as the preferred European choice.

On the other hand, no single clean vehicle/fuel option stands a serious chance of rapidly taking off unless demand reaches a minimum level of critical mass that will justify the required commitment on behalf of the industry and of policy makers.

CIVITAS politicians have agreed that joint efforts are needed in order to establish an effective dialogue with the industry.
They have set themselves the ambitious goal of demonstrating that a common approach to procuring clean technologies can be established and its effectiveness proven.
A group of CIVITAS I cities have started developing such an approach through specific projects, partly funded by the EC within the *Intelligent Energy for Europe* programme.

5.3 A shared perception of the most prominent barriers

In full respect of the national and local options, the CIVITAS cities are convinced that the dialogue with the European institutions could be improved by setting forth a joint set of positions and requests, notably:

- current EU national markets are still too protected from genuine and generalised competition.
  The success of clean vehicles/fuels technologies depends on the attainment of a sufficient critical mass, and the European Commission should work towards the abatement of market fragmentation and protection.
  Moreover, obstacles at times stand in the way of the implementation of the CIVITAS strategy, e.g. in the case of Environmental Zones and similar strategic concepts, for which the free trade argument is often found to be an insurmountable challenge

- inconsistent legislative and regulatory provisions throughout Europe hamper the diffusion of clean vehicles/fuels technologies.
  The European Commission should facilitate the adoption of a common clean vehicle definition, common clean fuel standards, clean vehicle certification and clean vehicles labelling systems

- minimum levels of conventional fuel taxation should be set to stimulate the cost-efficient diffusion of clean fuels

- communication from and with the European Commission should be improved.
  Legislation and investments in clean vehicles and fuels must not be perceived merely as a set of directives coming from “above”, but rather as concrete attempts to improve the quality of environment, and geared to widely shared objectives.

5.4 A common strategy to improve the current policy framework

The debate within the PAC has allowed to identify a set of priority issues for which the CIVITAS cities are convinced that the current policy framework - as notably laid out in the Green Paper on Energy Efficiency "Doing More With Less" COM(2005) 265 final, and in the White Paper, "European transport policy for 2010: Time to Decide" COM(2001) 370 def - can and should be improved.

5.4.1 Reinforcing travel avoidance strategies

As already affirmed by the European Council of Göteborg, breaking the link between economic and transport growth (decoupling) is at the heart of the EU sustainable development strategy. Most of the measures identified in the current European policy framework provide significant contributions to the advocated decoupling.

However, urban *travel avoidance* strategies must be further and more forcefully promoted. To avoid possible negative effects on economic growth and social acceptability, such strategies must be developed in close *consultation* and *collaboration* with the full range of involved stakeholders, including industry and operators, national authorities and the public at large.

5.4.2 Adjusting to demographic changes

The EU is undergoing major demographic changes, with a dramatic shift in the balance of age groups. The CIVITAS cities believe that more attention must be given, in the formulation of transport and energy policies, to the impacts of population ageing on the nature and patterns of urban mobility and on the demand for transport and energy services.

5.4.3 Recognising more explicitly the specificity of urban contexts

The current European policy framework devotes special and dedicated attention to the urban dimension of transport and energy policies. However, in order to achieve the corresponding policy goals, the specificity of urban contexts must be better recognised and reflected in the formulation and implementation of many policies. For instance, road charging schemes entail equity issues for all modes and networks. These issues are particularly sensitive at the urban level, calling for explicit differentiation mechanisms.

5.4.4 Assigning higher priority to environmental objectives

The environmental component of sustainability features prominently in most recent policy statements and directives both at the European level and within Member States.
Improvements in environmental performances are being achieved, e.g. air quality. The CIVITAS cities however believe that, particularly in urban contexts, progress achieved so far is minimal if measured against full potential. Decisive progress in curbing congestion is still to be achieved.

Policy makers within the European Union, Member States and at local level must recognise the higher importance of environment protection and accordingly focus both their policy statements and the allocation of resources on more ambitious targets.

5.4.5 Devising a realistic, phased approach to sustainability

Reducing fossil fuel dependency, and generally moving towards the greening of the economy is also set out as a primary strategic goal in all recent policy declarations.

Here again, the CIVITAS cities however believe that to achieve such goal the specificity of urban transport systems must be better recognised, notably for what concerns the heavy infrastructure requirements associated to fuel substitution in the transport sector. In the long term, clearly phased policies must be devised, allowing the involved stakeholders to efficiently plan and manage the transition towards the hydrogen economy, notably to reduce the risk that the considerable investments required by fuel substitution policies are hindered by the perspective of uncertain returns.

5.4.6 Recognising the limits of the subsidiarity principle

The regulatory role of the EU is fundamental to facilitate the required progress towards sustainability.

This also applies to urban contexts, where the strict application of the subsidiarity principle has at times hindered decisive harmonisation actions.

The CIVITAS cities believe that the limits of the subsidiarity principle must be recognised, and in any instance a clear and definite interpretation of subsidiarity is urgently called for.

Basic harmonisation issues, notably for what concerns common definitions of clean vehicles and clean fuels, must be forcefully pursued at the EU initiative and in close - and timely - consultation with Member States and local authorities.

Other issues amenable to improvements of the regulatory framework include e.g. the mandatory adoption of environmental performance criteria in the evaluation of international competitive bids (for instance, transport services).

5.4.7 A "Marshall Plan" for urban public transport

Radical changes in mobility culture and in the performance of urban transport systems require substantial investments that cities cannot afford alone.

The CIVITAS cities regard the transition "from private to collective modes" as the centrepiece of their sustainable transport strategies.

Dedicated funding mechanisms must be devised to ensure that public transport can play an increasing role in European cities, both in the "old" and in New Member Sates.

This should not only cater for the financing of additional infrastructure capacity, but also for all measures that are required to achieve radical improvements in the performance of transport systems and networks.

5.4.8 Common priorities for further research and debate

Despite the diversity of city contexts and individual priorities, the CIVITAS cities have jointly identified a short series of concrete, highly strategic issues for which the formulation of effective policies still requires additional evidence and/or further debate and concertation.

- How to ensure continuity of sustainable transport policies despite changes in local governments?
  Can sustainability be established as a policy goal "above the parties"?
  How to reach bipartisan consensus on sustainability objectives?
  And (more difficult) on sustainability policies and measures?
- From the urban policy perspective, what are the limits of the subsidiarity principle?
  And those of liberalisation and deregulation (e.g. in the public transport sector)?
  Is it possible to define policy benchmarks?
- Are joint procurements effective in generating market transformation and economies of scale in the medium/long term (and not only in achieving better deals in the short term)?
- The diffusion of efficient technologies may generate increases in the demand for services (energy, transport), thus offsetting the potential benefits in energy savings and emissions abatement. Is it realistic to fight such rebound effects through the active promotion of a new mobility culture, e.g. stressing the societal benefits of sustainability?

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6
a marketing strategy for CIVITAS

Recent years have shown that policies can - and possibly should - be devised and assessed through the marketing prism. Contrary to what many still erroneously seem to believe, *marketing* is not a collection of sales techniques, but rather a comprehensive approach to address the needs of users, and to do so by making sure that supply matches demand, in both qualitative and quantitative terms.

The CIVITAS Initiative is no exception, and assessing its effectiveness - based on the outcome of the first experiences of CIVITAS I - amounts to looking into the well-known 5 pillars of a successful marketing strategy:

- the ***product*** (nature and contents of the policies, interventions, measures, technologies, etc.)
- the ***packaging*** (how policies and measures are "dressed" and presented to achieve maximum effectiveness, including, in the CIVITAS case, a more direct meaning of the term "packaging", whereby measures must be appropriately bundled to achieve maximum synergies and positive cumulative effects)
- the ***promotion*** (how to communicate with the target users and potential beneficiaries)
- the ***place*** (how to identify the most appropriate locations, which, in the CIVITAS case, may be interpreted as selecting as priority targets those cities that can most benefit from CIVITAS)
- the ***price*** (the cost of any given policy will ultimately be borne by tax payers, and it is essential to ascertain that the benefits justify the cost imposed upon citizens)

Lessons can be learnt from the CIVITAS I experience on each of these 5 aspects

6.1 The CIVITAS product

The CIVITAS "menu" was laid out at the outset through the identification of a series of "policy fields" that collectively cover the entire range of interventions that are likely to increase the sustainability of urban transport systems. There is little doubt that each and every individual item in the CIVITAS menu can produce some beneficial outcome. Cleaner vehicles, collective transport, car sharing, alternative transport modes etc. are indeed all good ingredients.

On the other hand, all possible actions can hardly be implemented at once, if only for financial reasons. As it often happens, the main policy issue is therefore to select those priorities that have the highest possible impact on the currently perceived problems, at the lowest possible cumulative cost. CIVITAS I has shown that

no ideal priority ranking can be established: measure and policy performances, to the extent that it has been possible to assess them, vary considerably across cities

While these varying performances partly depend on the technical and organisational choices made for practical implementation (e.g. the specific clean vehicle technology adopted, the location of a P+R facility, etc.), they are - more importantly - strongly affected by the nature and profile of the urban context addressed (physical, political, institutional, cultural, etc.)

There is however at least one key factor that forcefully emerges from CIVITAS I as "the" common ingredient for success: promoting citizens' awareness and commitment.

Even children express their opinion in Berlin

Whatever the policy field(s) selected, whatever the quality of the technical and organisational choices, no policy will be successful unless it is widely perceived to meet the needs of the citizens.

Each at its own pace, all CIVITAS I cities have discovered the importance of citizens' involvement. The general impression is however that it is mostly considered as a means to assess the policy acceptance rather than a major component of the policy itself.

On the other hand, the CIVITAS I experience also shows that technological choices often play a central role in policy formulation. This is understandable if one considers that they are associated to sizeable direct investments, and therefore highly sensitive to budget constraints. When it comes to assessing the success of implemented policies, however, cities themselves recognise that the technological factor is far from being the most critical one. One could dare say that:

technology is a secondary policy variable: it is made available by the global marketplace, and individual city policies can only marginally influence the shape and direction of the large research programmes behind it.

Summary of conclusions/recommendations on the CIVITAS "product"

Going in the right direction is more important than trying to identify the perfect mix of integrated measures and actions (which does not exist).

Technology is important but technological choices will not per se determine the success or failure of a policy.

Investing in the citizens' culture and in securing their awareness, involvement and commitment has a higher benefit-to-cost ratio than any other investment. This must be better recognised in policy formulation and in the allocation of resources.

6.2 Packaging and integrating CIVITAS products

If ranking individual measures is difficult, identifying the perfect policy package is practically impossible. Even more than for individual measures, the underlying context of implementation plays a fundamental role, and synergies between two or more actions may appear in some cases and not in others.

Efforts have been made in CIVITAS I, both by participating cities and at the higher level of cross-site assessment, to capture the added value of jointly implementing two or more individual measures. One should admit that these efforts have largely failed, at least for what concerns the quantitative measurement of synergic effects and the assessment of the relative merits of the jointly implemented measures.

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Integrating public transport, cycling and car-sharing in Bremen

This is mainly due to the intrinsic complexity of urban systems and to the strong and multiple interdependence between the main impact variables (traffic density, energy consumption, modal split, air quality), encompassing rebound and threshold effects (such as e.g. with all measures that reduce congestion, which may ultimately encourage transport users to travel more, thus increasing congestion; or with energy efficient technologies, which by reducing the fuel cost of travelling may again perversely encourage transport users to travel more, thus consuming more energy).

Modelling is often thought as the best methodological approach to cope with such complexities. At this stage of development of the CIVITAS Initiative, however the available urban models appear to be limited in their capability of providing a reliable quantitative measure of the added value of measure packages.

A more realistic approach to the packaging of measures, and one that is definitely more likely to feed into policy discussions, seems to be one that relies on:

- the qualitative identification of causal relationships, to make sure that the policy is "going in the right direction" and avoid, or at least anticipate, major negative surprises such as the rebound effects previously mentioned. The section on "transferability" of Deliverable D6: CIVITAS I Cross-Site Evaluation (see List of References), provides a number of meaningful examples of such causal relationships
- reducing the complexity of packaging by looking at small clusters of measures (rather than at a complex package of many interdependent measures). For instance, the experience accrued within CIVITAS I has shown that an increase in the modal share of collective transport may have a negative effect in terms of particulate matter emissions if the public transport fleet solely relies on diesel traction. An immediate conclusion is that promoting collective transport must be coupled with the adoption of non-diesel powered vehicles.

Summary of conclusions/recommendations on the CIVITAS "package"

It is extremely difficult to capture the complexity of interactions between measures, and in any instance it is impossible to do so in a way that would apply to all city contexts.

Overambitious attempts to predict the quantitative added value of jointly implementing a complex package of measures should be avoided: understanding the basic cause-to-effect relations is often sufficient to avoid major mistakes.

Synergies can often be more easily ascertained within small clusters of individual measures, thus already providing valuable inputs to measure prioritisation

6.3 Communication with citizens

As previously noted, this is probably the only area where unanimous and good-for-all conclusions can be reached, whereby the importance of an effective communication policy cannot be overstressed.

The communication efforts of the CIVITAS I cities have taken a wide variety of forms, but their comparative outcomes allow to reach some general conclusions, some of which merely go to confirm well-known principles (which however are not always applied), others being more originally tied to the specificity of the CIVITAS strategy. Communication is here primarily intended between the CIVITAS policy makers and implementers on one side, and the citizens on the other.

Communication is a two-way process. While no one will dare challenging such a basic statement, the practice shows that its genuine application is not generalised. What can be noted, in particular, is that even when communication is activated both ways, it is usually designed to serve the needs of one party (the local authority) more than the other (the citizens). For instance, surveys have been frequently conducted in CIVITAS I cities to obtain a variety of information from citizens, which is useful and commendable, but this kind of communication is not sufficient to allow citizens to pass to the authorities the information that THEY would spontaneously like to convey. What is needed is a truly open channel available to citizens, one that is not constrained at the outset by the framework and the priorities of the local authorities.

The communication process must be initiated as early as possible, and by all means prior to deciding on major policy orientations. In order to fully recognise the usefulness of an early start, one should acknowledge that communication with citizens is not only directed at securing acceptance on policies that have already been devised, but, more importantly, that it must be used as a means to gain ex ante, additional insight into what is actually needed, which in turn might lead to changes, even substantial, to the original policy idea(s).

Communication should not be a one shot affair. Very often, it has been observed that communication is activated only when it is immediately needed by the local authorities (surveys, once again, are a typical example). To achieve a true interaction and build the level of confidence that is necessary to ensure the credibility of the dialogue with citizens, communication must be a permanent process. This particularly applies to the information provided to the citizens in connection with a given policy decision, when the golden rule could be put forward as: “tell them what you are going to do, then tell them what you are doing, and then tell them what you have done”.

In general, communication approaches and instruments should be adapted to the various stages of the policy cycle: awareness raising, monitoring, consultation, and ultimately participation require different organisational setups, operational means and media. They should be carefully tailored to the specificities of local contexts.

Summary of conclusions/recommendations on the CIVITAS “communication”

Communication with the citizens is an inherent part of the CIVITAS strategy, not a means to secure acceptance. This calls for far more planning and resources than usually allocated.

The ultimate form of successful communication is participation. This calls for a permanent communication structure, allowing spontaneous information to flow from citizens to local authorities.

Communication expenditure must be seen as an investment, not as an episodic operating cost

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6.4 City profile

CIVITAS I cities (and even more so, CIVITAS II cities) are a diversified sample in terms of size, history, physical and built environment, transport demand nature and structure, and overall underlying context. From the perspective of positioning the CIVITAS Initiative, the question can be raised of whether there is a specific city profile that fits better with its overall aims and approach.

The preliminary lessons learnt from CIVITAS I can somehow contribute to the debate on this matter.

Beneficial effects of developing a CIVITAS strategy can be observed in all involved cities. The quantitative measure of the (varying) effects observed does not seem to be immediately correlated with the most obvious criteria that come to mind, such as size, population density, car ownership rate, etc.

No immediate conclusions on which type of city profile can draw higher benefits from CIVITAS can therefore be directly derived from the lessons learnt so far. This is in fact consistent with the general conclusion whereby the success of the CIVITAS strategy is highly dependent on the local context.

As discussed in another section of this document, the primary challenge of the CIVITAS Initiative is to activate the virtuous circle of sustainable urban transport policies, where a limited number of highly successful demonstration sites have the power of together triggering the many times advocated multiplier effect.

Accordingly, one might crudely state that ***the optimal target for the CIVITAS Initiative are not those cities where the sustainability issues are more severe, but rather the ones where a CIVITAS demonstration project can rapidly produce visible results.***

In this respect, the choice of the European Commission to refocus CIVITAS II on medium and medium/small sized cities is highly sensible, in that the short term benefits for large cities of small scale demonstrations are inevitably limited, and therefore hardly valuable from a marketing perspective, while very small cities usually enjoy higher sustainability standards, making it difficult to achieve visible progress in the first place.

A typical example, which can be observed in several CIVITAS cities, is the positive feedback of measures promoting public (collective) transport. Such measures have higher chances of success in cities where the modal share of public transport is already relatively high: this reflects the existence of a favourable mobility culture, which in turn makes it easier to achieve further progress along a path that has already proved beneficial.

Summary of conclusions/recommendations on the CIVITAS “city profile”

As a demonstration programme, CIVITAS must give priority to cities where visible results can be easily achieved.

Medium size cities with highly committed policy makers are best suited to rapidly show the way (although, paradoxically, they might suffer from less acute sustainability problems and therefore be in less need of urgent improvements)

6.5 Costs

No conclusive evidence can be drawn at this stage from CIVITAS I for what concerns the economic analysis of the implemented measures, particularly in the medium/long term. While the costs of implementation of individual measures can be estimated (at least in some cases, notably when investments or/and procurements are implied), the benefits are much more difficult to assess, owing to:

- the conceptual difficulty of attributing an observed benefit (e.g. a decrease in congestion levels) to one or the other of the many measures that may have contributed to its achievement (e.g. increased Public Transport, access restrictions, rationalisation of goods distribution systems)
- the fact that certain benefits cannot be immediately quantified in economic terms (e.g. what is the value of air quality?)
- the fact that most costs are borne at the outset and in any instance can be "dated", while benefits accrue over long periods into the future (e.g. the reduced climate change effects resulting from a decrease in the emission of Green House Gases), with all the associated uncertainties.

Altogether - and this clearly emerges from the CIVITAS I experience - policy makers face a well known dilemma: those measures that stand a higher chance of yielding a positive economic benefit in the long term are not always those that bring immediately perceived rewards to the users.
Policy makers have the difficult task of striking a balance between "selling in the short term" and "justifying in the long term".

The observation of experiences in CIVITAS I shows that this can be achieved by adopting pragmatic approaches that, in the true spirit of the integrated policies advocated by the Initiative, combine e.g. heavy investment policies such as the renewal of public transport fleets (whose benefit in pure economic terms can hardly be immediately perceived by citizens) with less costly measures such as those that improve the quality of public transport service through better information, better ticketing etc.

Another meaningful example of sound pragmatic approach to balancing economic factors is that adopted by most cities involved in road pricing schemes, whereby the rates are set not so much on the basis of economic theory (optimal pricing ensuring the theoretical maximisation of welfare), but rather on the basis of acceptability levels (elicited through surveys and polls). In the longer term, and once the measure has proved successful and is recognised as being beneficial by the public at large, rates can then be adjusted to achieve higher economic efficiency.

Summary of conclusions/recommendations on the CIVITAS "costs and prices"

Policy makers need a more comprehensive view of the costs and benefits of measures and measure packages. Benefits should be estimated in the long term. The practice of monetary valuation of certain benefits (environmental, social) should be forcefully promoted and systematically included in Cost/Benefit analyses at the policy level.

Integrated, pragmatic approaches should be preferred in the early stages of policy implementation, to avoid that the short term costs perceived by the users lead to rejection of policies that are primarily justified in the long term.

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7
final conclusions: shaping the virtuous circle

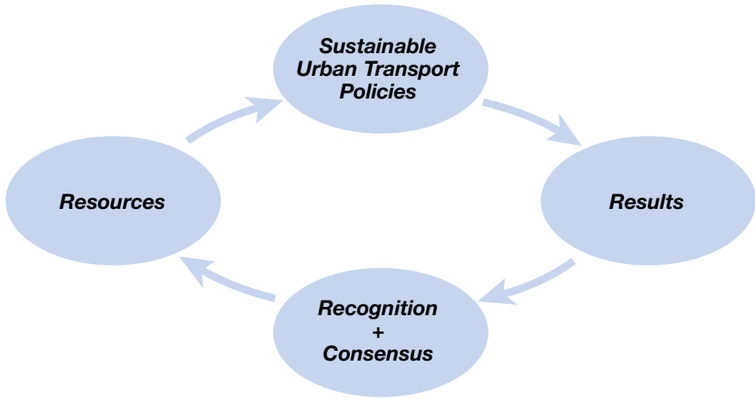
A successful policy is one that

- produces the results it has been designed to produce, and
- is explicitly recognised to have produced them.

Only if both these conditions are met, will the policy makers be able to build upon the first stages of policy implementation, and pursue more ambitious objectives, expanding the scope of the interventions and consolidating them over time.

In the context of CIVITAS, this can be simply represented as follows.

Figure 7.1 - The virtuous circle of sustainable urban transport policies



This virtuous circle concept is relevant for policy makers both at the city level and at the national and European level:

- at the city level, policy makers aim at consolidating their initial actions, e.g. by extending to the whole city a measure that has been initially developed at small scale, or/and by introducing further innovative measures capitalising on the trust gained from the first achievements.
- at the national and European level, the main objective of policy makers is to replicate/transfer successful experiences carried out within individual cities to a larger number of cities..

To what extent has the CIVITAS experience so far contributed to shaping this virtuous circle?

7.1 Formulating sustainable urban policies

- The CIVITAS policy fields ensure a comprehensive coverage of all possible actions to increase the sustainability of urban transport systems. CIVITAS I has allowed to meaningfully test them and refine their formulation, thus consolidating a credible reference framework for policy formulation. The credibility of this policy framework is a major asset for policy makers, who can more confidently claim that the CIVITAS strategy "goes in the right direction".
- The results of the implementation of CIVITAS I so far clearly show that despite the complexity of integrated urban policies, when it comes to delivering higher sustainability levels the critical success factors can be reduced to 2 main "control variables": modal split and vehicle fleet performance. These 2 factors should ultimately drive policy formulation and the identification of priorities.
- CIVITAS I has confirmed that the exchange of best practices among cities is highly beneficial. However, one should not expect to draw immediate conclusions on "DOs and DONTs" from the experiences carried out in other cities: no standard recipe emerges, and no direct transferability should be attempted at the level of specific measures. On the other hand, some useful lessons can be learnt at the higher level of policy formulation, where cities with roughly comparable mobility contexts could possibly share basic policy orientations.

7.2 Achieving the desired results

- Even more than was expected, the CIVITAS experience so far has confirmed that complex and ambitious policies can only be evaluated in the medium/long term. This is due
  - to the inherently long lead time needed to produce tangible effects, notably for all the measures that, directly or indirectly, entail a change in the culture and behaviour of citizens, and
  - to the scale of implementation, which is initially limited and can therefore hardly produce results that are both tangible and meaningful.
- CIVITAS I has shown that to cope with such intrinsic difficulties cities should
  - preferably identify a limited set of priority goals and concentrate on the swift achievement of tangible results in those areas where priority goals have been set, without however renouncing the ambition of developing integrated strategies, that is the distinct innovative characteristic of the CIVITAS Initiative
  - make sure that sufficient resources and attention are devoted to planning and anticipation, to ensure the consistency and the sustainability of their policies in the medium/long term.

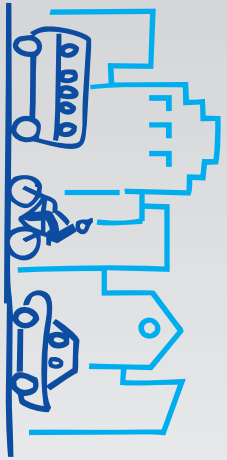
7.3 Ensuring recognition and building consensus around the CIVITAS strategy and policy objectives

- This has proved to be the most critical step in the advocated virtuous circle. The consumer industry has long recognized the fundamental importance of the "after sales" steps of the business cycle. Having a good product idea, and doing things right when developing and selling the product itself is not enough to ensure market success. Along such a crude marketing approach, the ultimate success of the CIVITAS strategy calls for
  - more attention and resources devoted to the monitoring and evaluation of policies and measures implementation. More importantly, however, this does not mean that monitoring and evaluation frameworks should become increasingly detailed and complex to manage and interpret. On the contrary, the challenge is precisely to adopt simple, pragmatic approaches (few but good and realistic indicators) to the evaluation of impacts while ensuring the meaningfulness of the outcome
  - continuity and consistency in the pursuance of the established policies, as opposed to haste in trying to justify policy decisions before hard evidence is available
  - more, better and more systematic initiatives to promote consultation with and participation of citizens to the policy debate, as the more effective instrument to achieve substantive changes in the underlying mobility culture.
- While confirming the importance of the above, the CIVITAS I experience has also shown that immediate policy justification - at both the local and at the European level - can hardly be based on attempts to extrapolate, or generalise the results achieved in a fistful of European cities.
  Analytical tools to attempt such generalisation in a credible way are not available so far. While a few aggregated figures can be used to provide gross indications (Are we going in the right direction? Can we expect meaningful effects?), no credible prediction of the overall quantitative impacts of a generalised adoption of the CIVITAS integrated strategy can be offered at this time to provide a full account of the corresponding social, economic and environmental effects.

7.4 Identifying and mobilising the necessary resources

- A major lesson learnt from CIVITAS I can be crudely summarised as follows: "once a policy has shown to be beneficial and accepted, it should be possible to find the resources required for larger scale implementation within ordinary budgetary mechanisms".
  What is in fact direly needed is start-up money, and this is precisely what CIVITAS has so far provided to selected European cities.
- Harmonisation at the technical, institutional and regulatory levels can significantly help to reduce implementation costs, and should be forcefully pursued, notably through legislative reforms but also by means of a strong coordination among cities (e.g. joint procurements), which CIVITAS I has contributed to shape.
- Technology is crucial to many of the CIVITAS policy fields, and often entails considerable expenditure. However, once again, the severity of the financial constraint associated to technological procurements is primarily concentrated in the early stages of the innovation process, i.e. when demand has not yet reached critical mass and the supply side of the market has not achieved maturity and economic efficiency.
- On the other hand, what CIVITAS I has also shown is that human and social capital is possibly more important than financial resources: a wide consensus has emerged from the CIVITAS I cities on the critical role of planning, management, communication, which are consistently high on the list of barriers and drivers, well above financial or technological constraints.
  Paradoxically, this is not systematically reflected in the actual patterns of financial efforts deployed by cities when setting up the organisation and professional structure in charge of policy design, implementation, evaluation and interpretation.
- Even more specifically, investments in consultation and participation are largely underestimated in most cases, and should be forcefully enhanced and sustained over time.

In summary, Table 7.1 overleaf highlights the main elements of a global assessment of CIVITAS so far, identifying its strengths and weaknesses at the policy level so that in future developments the overall performance of the Initiative can be enhanced.

Table 7.1 - Overall assessment of the CIVITAS strengths and weaknesses.

	What CIVITAS has done right so far	What could be improved in future CIVITAS developments
Policy and priority formulation	❏ High credibility of the CIVITAS framework of "policy fields" ❏ Wide, comprehensive scope of CIVITAS integrated approach ❏ Abundant evidence and exchange of good practices is very helpful for policy formulation and priority formulation	❏ The "few but fundamental" objectives (reducing private traffic, improving the performance of fleets) should be better highlighted in the formulation and presentation of urban integrated transport policies ❏ Transferability of best practices is highly constrained by local specificities, and is never straightforward. While no standard recipe exists, more can be done to identify important similarities between urban contexts and thus facilitate the sharing of experiences
Policy goal achievement	❏ Positive effects have been observed in all CIVITAS I cities: CIVITAS is "going in the right direction"	❏ Evidence on the ultimate impacts of CIVITAS has not yet emerged, due to (i) the short timeframe and the limited scale of implementation so far, and to (ii) the inherent complexity of integrated policies that makes it difficult to carry out reliable evaluations. Further efforts to continuingly monitor, evaluate and interpret the outcome of CIVITAS city developments must be ensured to reach more conclusive evidence
Consensus building	❏ CIVITAS has dramatically increased the awareness of policy makers on the importance of citizens acceptance ❏ Consistently high levels of consensus have been achieved among citizens on most CIVITAS measures and policy fields ❏ The CIVITAS Forum and the Policy Advisory Committee have allowed to make major steps towards the achievement of consensus among policy makers despite their very diverse backgrounds and different systems of constraints	❏ More efforts are needed to better communicate with citizens on the importance of the issues at stake and on the potential benefits of CIVITAS strategies, concentrating on few meaningful messages and lessons learnt ❏ Pursuance of medium/long term policy goals is threatened by the risk of political discontinuity: more must be done to establish CIVITAS goals and values "above the parties" ❏ Consensus is difficult to spread beyond the CIVITAS family, due to the difficulty in extrapolating and generalising
Resource mobilisation	❏ CIVITAS provides start-up money, which is exactly where it is most needed ❏ CIVITAS I has shown that technologies, and to a lesser extent also financial and professional resources, are in principle available	❏ Human capital investments are in general under budgeted ❏ The supply side of the CIVITAS market (technologies, industries and services) does not fully match the expectations of the demand. Facilitating initiatives are needed, including legislative and regulatory..