Cooperative traffic systems: a Roadmap for the city context

The EC-funded project CIMEC project aims to assist European cities to assess the opportunities of cooperative traffic systems, understand the state of the market, and develop a strategy suited to their local area.

Cooperative systems are fairly well understood for highways – but much less studied for the more complex urban network. The CIMEC "Roadmap for European cities" is the first attempt to address specifically the city perspective.

In cooperative traffic systems, stakeholders exchange data – enabling them to make better decisions, and leading to improvements how local traffic works. It's a kind of "smart city" concept.

The opportunities are certainly there. In an extensive round of engagement, CIMEC identified eighteen city-relevant "use cases", relevant to one or more of city policy goals: traffic efficiency, traffic safety, the environment, or accessibility. Use cases include providing priority for public transport at traffic signals; helping freight vehicles manage their speed, fuel usage and emissions; and supporting alter systems than could help forestall accidents with pedestrians and cyclists.

But there are significant challenges in technical and commercial design. Technically, there are important choices on whether to communicate from the centre (over mobile channels) or from the roadside (using local systems). Commercially, there are many different business approaches which overlap with open data publication, service contracting, and partnership agreements. Each approach has its advantages and its drawbacks.

The CIMEC industry survey found that most suppliers see the potential in cooperative systems, either to improve existing services, or to enable new services. However, few are investing heavily in their development, and the impression is of a market at an early stage of innovation and maturity.

Because of this, the benefits can be hard to quantify reliably, and the costs and risks are not well understood. There are also new challenges. The connected model requires road users to be suitably equipped with matching technologies. Moreover, many connected services require from the vehicle which puts a significant burden on data protection. CIMEC suggests that initial deployments are likely to focus on professional drivers in managed fleets (public transport, freight).

Although these are not trivial difficulties, they can be addressed through careful planning, phased implementation, realistic expectations and budgeting, and good project management. The potential wins are big – not just on traffic operations but also politically: showcasing the city as progressive, and a "beacon" for new technology.

To enable cities to take full advantage of these opportunities, national and European policymakers need to do their bit: clarifying the legal environment, collating a robust evidence base, guiding the private sector, establishing a suitable funding regime for cities, and facilitating technical support to cities as they begin their programmes.

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