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Meeting the European Union's 2050 climate-neutrality target will require a 90% reduction in transport-related greenhouse gas (GHG) emissions. A large proportion of these reductions will need to come from Europe's city-regions, and urban mobility in Europe will need to change fundamentally as a result. The question for European municipalities is how they can pursue mobility planning that ensures GHG emissions decline at sufficient scale and speed to meet the EU's 2030 and 2050 climate targets.

The European Commission's current policy framework for supporting urban mobility transitions includes the Sustainable Urban Mobility Planning (SUMP) approach as one of its cornerstones, with the SUMP practitioner guidelines currently in their second iteration and EU funding for municipalities likely to become conditional on adherence to these planning principles. Based on our work within the H2020 SUMP-PLUS project, we argue that new long-term planning approaches to developing transition pathways are needed that complement existing SUMP planning focused on a five- to ten-year time horizon (Smeds & Jones, 2020). In this chapter, we make reference to the cities of Barcelona and Stockholm as illustrative examples, based on conversations with representatives of the respective city governments during the webinar "Urban Mobility after COVID-19" hosted by CIDOB in April 2021.

I. Towards a long-term planning approach

Meeting EU climate targets in the mobility sector will be challenging.¹ Since the rise of the local sustainable development agenda in the early 1990s, the transition towards sustainable mobility has been too slow. Across the EU, GHG emissions from the transport sector have not declined at the same pace as emissions from the energy, agriculture, industrial and service sectors. Transport emissions in the EU only started to decrease in 2007, and in 2017 were still 28% higher than in 1990. Road transport is the largest contributor of emissions in urban areas, accounting for 82% of the total. There is no large-scale dataset for GHG

1. This paragraph draws on an earlier, longer chapter by Smeds and Cavoli (2021). References for the statistics and research cited can be found in that chapter.

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emissions attributable to urban areas across the EU, but considering the evidence available, we can be quite confident that urban transport emissions are not on track to achieve the 2050 target. It is crucial to acknowledge that mobility transitions have been uneven, both geographically and within cities of different sizes. We know that many large Western European cities have successfully reduced private car use since the early 2000s, but we also know that car use is increasing in other parts of Europe, and our analysis of data from a survey of 336 European municipalities shows that half of those with fewer than 50,000 inhabitants have next to no experience with sustainable mobility planning (Dragutescu et al., 2020).² The capacities and drivers related to sustainable mobility transitions vary a lot. Decarbonisation and context-specificity are thus two crucial aspects that will need to be integrated more strongly into the upcoming revision of the policy framework for urban mobility developed by the European Commission's Directorate-General for Mobility and Transport (DG MOVE) and any future revision of the SUMP concept.

With these challenges in mind, what kind of mobility planning will enable European cities to achieve the 2030 and 2050 climate targets? In the SUMP-PLUS project, we have published guidelines for a long-term planning approach focused on developing transition pathways to carbon-neutral mobility with a time horizon of 20 to 30 years, and with intermediate milestones and implementation strategies (Smeds & Jones, 2020).³ Developing an emissions reduction pathway for urban mobility is a demanding technical exercise that involves aligning EU, national and cities' overall emission reduction targets and introducing local policy measures that complement those being implemented at other levels. Then, long-term targets for urban mobility emissions need to be broken down into intermediate ones. Many larger European cities going through this process at the moment are still figuring out how to do this. Although some specific tools have been developed to support cities in developing emission pathways, like SCATTER in the UK,⁴ only limited best practice has been established.

One problem is that in most cities, strategic mobility planning continues to rely on modelling to forecast travel demand that is based on historic relationships, even though the paradigm of "predict and provide" has long been challenged and is not sustainable. In other words, while cities plan for accommodating projected population and traffic growth, long-term climate goals are not the central focus, in the sense of targets that cannot at any cost be missed.

Within the SUMP-PLUS project we argue for a backcasting approach. Backcasting is an established planning method that has been applied since the early 2000s in London and cities in Sweden and the Netherlands, among other places (Miola, 2008), but has yet to become mainstream. Backcasting focuses on vision-led planning: taking a future vision of the desired city as a starting point and working backwards all the way to the present to identify what needs to be done between today and 2050 at specific points in time in order to achieve that vision. Here, models are used to construct and validate policy packages that will meet key targets. Cities then develop a pathway that includes a clear timeline of policies and milestones linked to emission targets – a narrative and strategy so compelling that the next political administration cannot ignore it and is

2. Drawing on survey data collected as part of the H2020 CIVITAS SUMP-UP project.
3. We focus on GHG emissions here, but of course these pathways also need to consider other policy objectives, such as road safety (e.g. through Vision Zero) and social justice – equalising access to public transport, active mobility and public space for different socio-economic, age, gender and ethnic groups.
4. <https://scattercities.com/>

obliged to keep its eyes on long-term goals. During the CIDOB webinar, both Barcelona City Council and the City of Stockholm explained that they already draw on elements of the backcasting approach. It is likely that European cities can learn a great deal from each other in this respect.

While carbon emissions curves are crucial, we also need to set this within a broader long-term vision for the city. The days when urban mobility planning was primarily about techno-economic engineering are long gone; today, mobility planning at its core is about place-making, sustainable lifestyles and the relationship of citizens with streets and mobility services as part of the city's public life. Building political coalitions around new ways of framing mobility policy is crucial. During the CIDOB webinar, Stockholm's Vice Mayor for Transport, Daniel Helldén, underscored that backcasting approaches are more challenging to "sell" to stakeholders, who are used to seeing things from the modernist perspective of "planning for growth", rather than with the planet's absolute limits in mind. New participatory visioning approaches and governance platforms are needed to generate new narratives, as well as partypolitical strategies that can tie sustainable mobility issues into broader progressive policy platforms and win elections.

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II. The need for cross-sectoral coordination

A vision for a climate-neutral city that promotes human well-being, offers high-quality public services in line with the European social model and builds sustainable economic prosperity⁵ also needs to consider cross-sectoral coordination in the development of transition pathways. Realising the goal of the Horizon Europe Mission for Climate-Neutral and Smart Cities to support 100 European cities to become climate-neutral by 2030 and many more cities thereafter means that carbon emissions generated in one sector can no longer be "exported" to another – including transport emissions. The need for mobility is largely a "derived demand", in other words, it is generated by decisions made in other sectors, beyond the policy levers of mobility planning (Jones, 2012). For example, building new housing, shopping or educational facilities in locations inaccessible by public transport and active mobility has major carbon-generation consequences.

In order to reduce urban mobility emissions, we thus need cross-sector coordination that goes beyond integrated land use and mobility planning to take into account the mobility consequences of decisions made in different public and private sectors. Within SUMP-PLUS, we have developed an initial framework supporting the identification of such cross-sector linkages (Jones et al., 2021). We are working with Greater Manchester in the UK on the transport implications of how people will access healthcare in the future and how the sector could reduce or shorten trips through more decentralised or digital services, aligning with the UK's decarbonisation plan for its national healthcare system (NHS, 2020). The interrelation between emissions, mobility flows and the tourism sector in Barcelona would be another example that is relevant to the SUMP-PLUS Links approach. To get to net-zero emissions we need planning that considers mobility across public services, consumption and leisure activities – essentially linking spatial concepts like the 15-minute city to decarbonisation pathways across sectors.

5. See the work of UCL's Institute for Global Prosperity on approaches to sustainable place-based prosperity and universal basic services

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III. Enabling actions for overcoming barriers

Our guidance on how European municipalities could develop transition pathways includes eight steps (Smeds & Jones, 2020). The step we highlight in this essay is identification of the “enabling actions” that are interdependent with policy milestones: institutional and financial barriers that need to be overcome or new capacities that need to be built to enable the implementation of ever-more ambitious mobility policies. We know that the greatest barriers to sustainable mobility transitions are primarily a lack of financial resources and appropriate business models and issues to do with cross-sector governance and partnerships. But assessing the carbon-intensity of our mobility policy mix is just one key issue. In paying attention to enabling framework conditions, we must also ask what the deadline is for different enabling actions to overcome a specific barrier, in order to facilitate the actual implementation of a policy and the achievement of our intermediate carbon target.

The city-regional context is one crucial dimension. Inward commuting and car-dependency across city-regions are issues for all large European cities. We know that progressive mayors are accelerating sustainable mobility transitions with bold visions and experiments, but big-city mayors cannot “save the world” alone. Integrated planning across functional urban areas remains the fundamental cornerstone of sustainable mobility: to enable us to reach climate neutrality by 2050, innovative actions to strengthen city-regional governance are needed. Achieving the European Green Deal will require increased levels of EU funding support to European cities (Smeds & Cavoli, 2021) and, in many countries, political and fiscal decentralisation to empower municipalities to experiment with mobility policies (Smeds, 2020). In the UK, local governments have started to explicitly list the additional national support and local powers needed to achieve carbon-neutral mobility in their transition pathway policy documents. Such demands to change the framework conditions of planning will become more common over the next ten years, we predict.

IV. Conclusion: balancing long-term planning and short-term experimentation

We have argued that the European Green Deal – and the climate crisis it seeks to address – demands a new approach to long-term mobility planning. We have outlined the SUMP-PLUS method of developing transition pathways to achieve carbon-neutral mobility by 2050 through backcasting and cross-sectoral coordination.

We conclude by acknowledging that long-term planning needs to be complemented by medium-term thinking and actions that can urgently accelerate the implementation of sustainable mobility policies leading up to 2030. Within SUMP-PLUS, we have also developed implementation concepts to kickstart this process through “quick wins”, experimentation and building public political momentum towards milestones for more radical policy change, like larger CO₂-free zones or an end to the sale of particular types of vehicle.⁶ Professor Phil Goodwin, a former transport advisor to the UK government, recently tweeted that every pathway needs a detailed “Gantt chart for decarbonisation”.⁷ A comment on the

6. See the Implementation Strategy concept, in Smeds and Jones (2020).

7. https://twitter.com/Phil_Goodwin99/status/1380784780376150016

tweet read: “we won’t... plan our way to net zero. Interim targets and thinking about dependencies are essential, but so is experimentation and failure along the way”. We agree with both perspectives: careful long-term planning linked to emission curves is crucial, but the recipe for mobility transitions also necessarily involves ensuring that municipalities start “building stuff on the ground” and making concrete progress as soon as possible – while drawing on civil society ideas and private sector business models to enable transformative change.

As everything cannot be foreseen, everything cannot be planned for. During the COVID pandemic, we have seen many cities experimenting with “quick-win” scheme implementation, but there are many lessons to learn about how such experimentation can be made more strategic and integrated with wider plans. We are in a climate emergency, but we need to take a more holistic approach and accelerate transitions in a strategic way that also achieves the other components of cities’ visions. There will be many more shocks and disruptions in the lead-up to 2050, and we need to think about how policymaking can remain agile in the face of them.

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