MODE: ENHANCING THE DECISION-MAKING PROCESS FOR MOBILITY PROJECTS

A novel framework supporting you understand the impact-investment trade-offs in mobility and make informed decisions

Cities can make or break new mobility projects. The lack of reliable data and the existing mixed evidence can make the assessment of wider societal benefits of mobility investments unclear. We have defined a novel MObility DEcisions framework (MODE) to offer transport decision-makers strategic support in the planning, implementation and assessment of mobility pilots, projects and policies. Our three-step robust methodology:

- Allows you to begin with the end in mind, relating the project's objectives and KPIs to your wider goals stated in your strategic mobility plans.
- Adapts to your local context, needs and data availability, co-designing with you the stakeholder engagement process, data collection and analysis.
- Treats each case as a natural experiment, offering insights into the costs, benefits and causal impacts of a proposed solution.
- Translates the lessons learned into policy recommendations, helping you monitor and update your SUMP and other relevant roadmaps & policies.

Accompanying you throughout the project implementation, MODE will support you in making informed decisions for sustainable urban mobility planning and achieve strategic city goals.

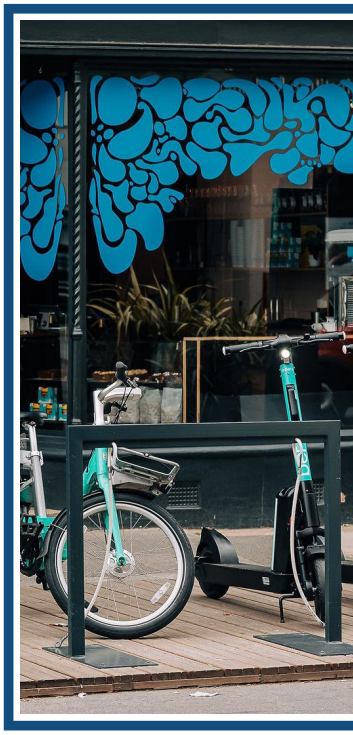
	Stage 1 Pre-decision: conception & pre-design	Stage 2 Pilot design & deployment	Stage 3 Assessment & replication
	EXPLORATORY EVALUATION	EX-ANTE EVALUATION	EX-POST EVALUATION
Data sources & input	Available data & evidence from other case studies & state of the art, estimating **potential impact**	Stated preferences (survey data) measuring **expected impact**, potentially coupled with other revealed preferences	Stated preferences (survey data) measuring **real, causal impact**, potentially coupled with other revealed preferences

Insights MODE can help you obtain during different project stages

	Stage 1	Stage 2	Stage 3
Optimal design (size/fleet/location)	●	● ●	● ● ●
Cost benefit analysis	●	● ●	● ● ●
SUMPs target assessment	●	● ●	● ● ●
Future scenario assessment	●	● ●	● ● ●
User profiles & behaviour	—	● ●	● ● ●
Impact assessment*	●	● ●	● ● ●
Scalability & transferability	—	● ●	● ● ●

robustness & accuracy

*congestion, air pollution, noise, health, traffic safety, accessibility, use of public space



Contact us

If you want to know more about the MODE framework and explore ways to collaborate, please get in touch with us:

i.magallon@baxcompany.com +34 93 476 04 44

Ignacio Magallón
Senior Consultant
Team Lead

Business models & exploitation plans, user behaviour

Albert Gragera, PhD
Mobility Consultant

Transport economics, impact assessment

Lorena Axinte, PhD
Mobility Consultant

Urban planning, SUMP/SULP & policy advice

Joan Estrada
Innovation Consultant

Data & trends analysis, AI & machine learning

BAX & COMPANY
VALUE FROM SCIENCE AND TECHNOLOGY

CAN SHARED E-SCOOTERS HELP REDUCE CO2 EMISSIONS AND CAR USAGE?

Use case: applying the MODE framework in Norfolk (UK)

Norfolk's shared e-scooters pilot

As shared e-scooters are gaining popularity, local authorities might face difficulties in implementing such projects in a balanced manner. Current evidence regarding the wider social benefits of e-scooters is often contradictory, making it difficult to define the best approach

Norfolk is one of the first UK cities to embrace this novel mobility solution, trialing shared e-scooters since September 2020. Experiencing sustained growth in ridership since the launch, the city will enhance its understanding of the pilot's impacts by employing the MODE framework.

How MODE enhances the process

To understand the impact of all the various measures implemented (e.g., station-based model, capped top speed, minimum age required, etc.), we apply the MODE framework and treat Norfolk's pilot as a natural experiment. Preliminary insights collected in the ex-ante evaluation are contrasted with the first evidence collected in the exploratory phase, showing positive results in terms of emissions saved, while also profiling the potential early adopters.

Stage 1: Exploratory evaluation

Norfolk aims to reach climate neutrality by 2030, reduce air pollution coming from transport sources, and support initiatives that lead to clean air. Based on state of the art evidence, we have assessed the potential impact and contributions that the shared e-scooters pilot could bring.

- 15,000 Potential users
- 77t of CO2 emissions saved per year
- 305k car kilometres avoided

Stage 2: Ex-ante evaluation

Likelihood to adopt e-scooters

- 18 - 40 young people
- Men 17% more than women
- Heavy bike and car users

Trips shifted

- Bus 16.7%
- Walking 8.3%
- Car 9%

Potential number of users

100k
out of which 25k active

Deterrents

Parking availability at work

Most likely reason to shift

Leisure activities

In Stage 3: Ex-post evaluation, MODE will allow us to assess differences in travel behaviour, vehicle ownership, awareness and attitudinal changes between users and a control group. Based on the results, we can determine the right vehicle mix needed to support sustainable mobility and decarbonisation.

Besides, we can scale up the lessons learned at an intra-pilot level to neighbourhood and city levels, by using predictive models for pilot enrolment and behavioural changes based on population socio-demographics and mobility characteristics.

BAX & COMPANY
VALUE FROM SCIENCE AND TECHNOLOGY