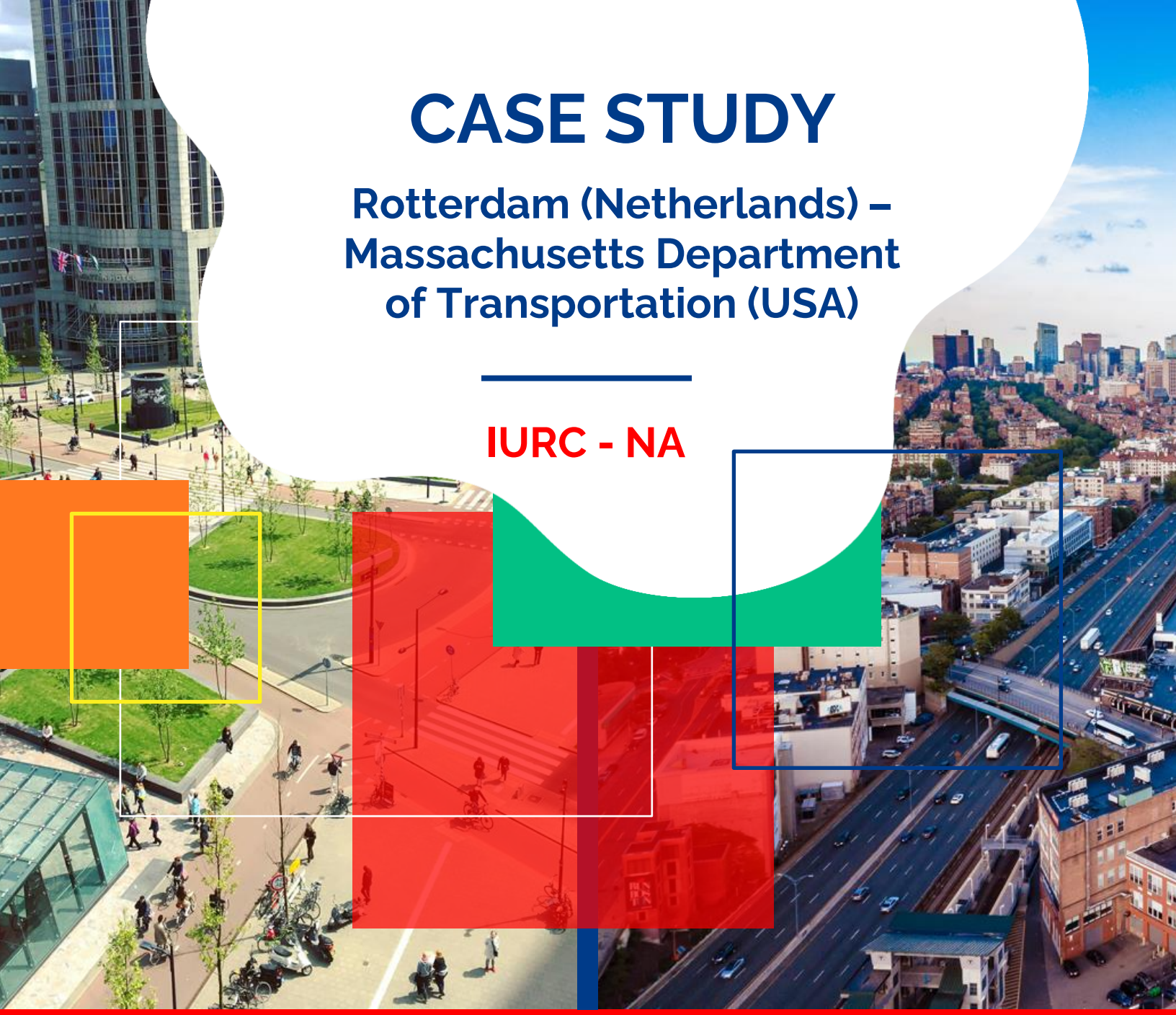

CASE STUDY

Rotterdam (Netherlands) – Massachusetts Department of Transportation (USA)

IURC - NA

DECEMBER 20, 2025

Thematic Network(s): Sustainable Urban Mobility and Transport
Topic keywords: ***sustainable mobility, micromobility, multimodal travel, e-scooters, regional mobility, road safety, mobility governance, user behaviour***

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INTERNATIONAL URBAN AND REGIONAL COOPERATION

ROTTERDAM (Netherlands) – MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (USA)

IURC – CASE STUDY

By addressing the challenges of emerging urban micromobility from different perspectives and institutional responsibilities and competencies, the City of Rotterdam and the Massachusetts Department of Transportation (MassDOT) are shaping a governance approach that blends regulation, oversight, and responsible user education. Through their transatlantic cooperation, they are helping chart a path toward better integrating micromobility as a cornerstone of efficient, sustainable, and safe urban mobility.

EXECUTIVE SUMMARY

Since 2023, within the framework of the International Urban and Regional Cooperation – North America (IURC-NA) programme, the Massachusetts Department of Transportation (MassDOT) and the City of Rotterdam have been exchanging strategies to advance sustainable urban mobility, with a strong focus on micromobility governance.

The cooperation has explored MassDOT's role as a state-level authority developing new regulatory tools for micromobility and encouraging responsible user behaviour, alongside Rotterdam's hands-on experience managing micromobility daily as a major European city implementing rules set by higher institutional levels. Their discussions highlighted a shared goal: to make micromobility safer, better regulated, and more effectively integrated into broader urban mobility systems.

CHALLENGES AND SOLUTIONS

Cities face an ongoing challenge: providing mobility that is efficient, fast, and sustainable for their residents. Public transport networks remain central to reducing reliance on private vehicles, and they are increasingly complemented by active mobility options. Over the past fifteen years, this is where the most significant innovations have emerged—most notably the rapid expansion of electric micromobility vehicles and the rise of shared-mobility services.

These developments have broadened opportunities for integrated and multimodal travel, but they have also introduced new challenges. Governments at both national and local levels must now regulate these innovations in ways that prevent negative externalities—such as non-compliant vehicles, reduced road safety, rising crash rates, or the disorderly use of public space—from undermining their intended benefits.

In Boston, the Massachusetts Department of Transportation (MassDOT) plays a central role in the Special Commission on Micromobility1, established by the state legislature in 2023. This consultative, cross-sectoral body reflects a statewide approach to policy learning and coordination, bringing together 15 representatives from public agencies, municipalities, the private sector, and the industry. Its mandate is to review existing laws, clarify vehicle definitions, and propose recommendations to the state legislature that support innovation while enhancing safety.

MassDOT—through its Registry of Motor Vehicles and with support from MassDOT's internal innovation unit, The Lab2—is exploring a "micro-ID" system, a lightweight digital registration method (such as QR-code decals) designed to help identify vehicles, improve crash reporting, and facilitate insurance coverage. The approach seeks to provide traceability without the administrative burden — for both agency staff and micromobility device users — of current licensing frameworks. MassDOT is also developing a behaviour-based education initiative that uses sensors to alert riders when they exceed context-appropriate speeds, integrating technology and awareness to promote safer riding habits.

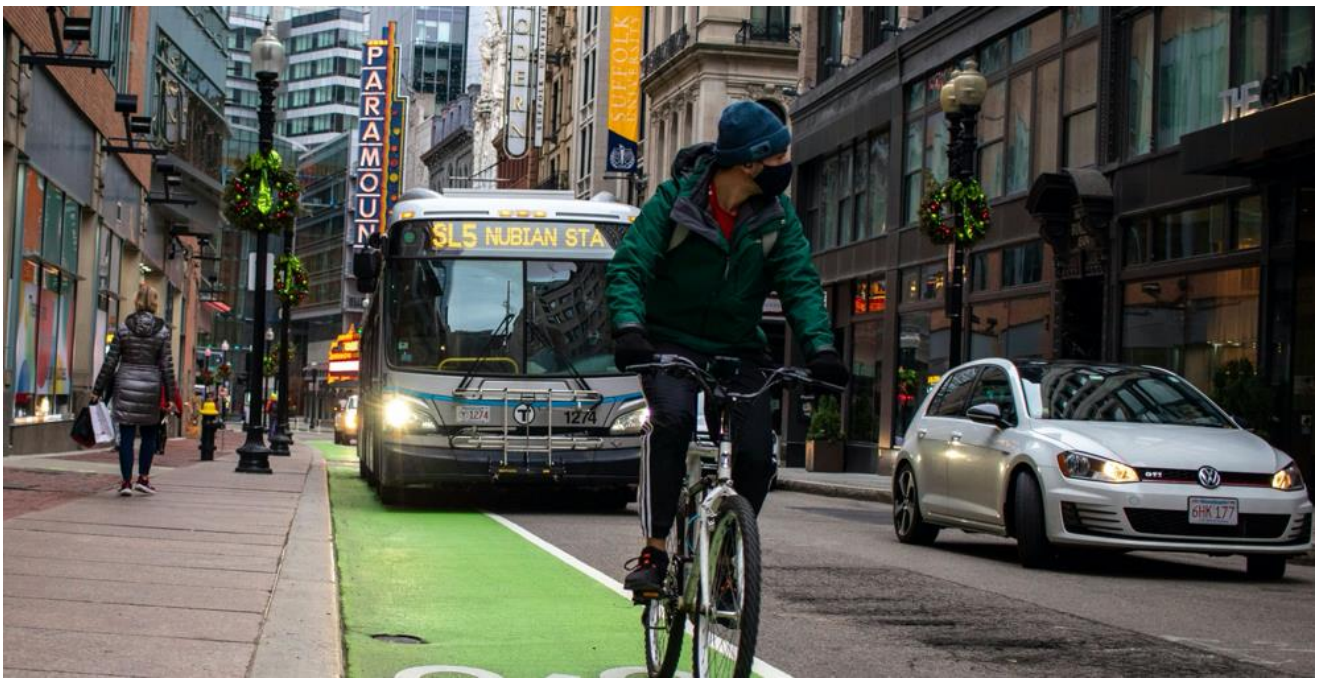

Figure 1. Bike Lane in Boston, Massachusetts. Photo by Aaron Doucett

[1] https://www.mass.gov/info-details/special-commission-on-micromobility
[2] https://www.mass.gov/the-lab-massdot

In Rotterdam, the City Government operates within the framework of Dutch national law, where vehicle approval and technical standards are overseen by the Netherlands Vehicle Authority (RDW) under the Ministry of Infrastructure and Water Management. Although the Netherlands does not have a national micromobility commission comparable to the Massachusetts model, consultation among the Ministry, municipalities, and mobility operators is standard practice when shaping new regulations—as demonstrated by the national process leading to the legalisation of e-scooters from July 2025.

Clear definitions and identification requirements for micromobility vehicles are central to Dutch policies on safety, liability, and data collection. Speed-pedelecs (up to 45 km/h) and throttle-based e-scooters or mopeds must be approved by the RDW and display a licence plate, while pedal-assist e-bikes (up to 25 km/h) are classified as bicycles and do not require registration. From July 2025 onwards, e-scooters will be permitted on public roads only if they are officially approved and registered, ensuring compliance with safety and battery standards.

The City of Rotterdam has also implemented awareness campaigns on e-scooter parking behaviour and adherence to cycling-path rules, often in collaboration with shared-mobility operators and universities.

Figure 2. Bike lane in Rotterdam.Photo by Eryk Piotr Munk.

RESULTS AND IMPACT

The resulting convergence led to the identification of key areas where joint work could yield valuable, comparative insights. The two entities involved commit to maintaining regular contact and to keeping each other informed about the work of the commissions and networks currently addressing the overall framework for micromobility vehicles. The hierarchical difference between the two bodies, together with their distinct competencies, could have increased the complexity of the collaboration; instead, it becomes an opportunity to develop meaningful and innovative policy initiatives.

The strength of the Massachusetts Special Commission model lies in its ability to bring together a wide range of perspectives, integrating voices from both the public and private sectors and convening, in a single forum, state agencies, municipalities, stakeholders, and operators. The City of Rotterdam could take the lead in establishing, at the municipal level, a commission on micromobility management involving different tiers of government and private-sector actors, or alternatively propose a similar model to higher administrative levels to reinforce existing practices at the national and regional levels. Conversely, MassDOT can rely on a direct connection with a European municipality that has made micromobility a central element of its mobility policies, within a country, the Netherlands, that for decades has been considered a benchmark for active-mobility development, and has exceptionally high micromobility usage. This direct link provides a valuable source of specific information and insights relevant to the Special Commission's work in Massachusetts, broadening its understanding of municipal-level issues. This exchange enables both parties to reflect on the opportunities of combining formal and institutional governance structures with more flexible, agile collaborative networks closer to everyday operational challenges involving operators and users, ultimately strengthening their capacity to manage micromobility effectively.

A first concrete area in which this collaboration can be applied concerns vehicle identification. The shared objective is to regularise the circulation of micromobility vehicles on the road and enable accurate recording of road traffic incidents, as well as the identification of vehicles involved in collisions. MassDOT can gain insight from the Dutch system of precise, clearly defined vehicle classifications, supported by an effective regulatory framework, and may consider developing more structured forms of vehicle classification and identification to propose to the Special Commission. The City of Rotterdam could, in turn, explore how future digital micro-ID approaches might support real-time data collection and enforcement at the municipal level, complementing national legislation for regulated vehicles, but mainly those currently outside the formal registration framework.

Both partners recognise that infrastructure and regulation alone are not enough to ensure safe micromobility, particularly as the sector continues to evolve rapidly. Education and user behaviour are essential to reducing crashes and fostering responsible riding. Their collaboration therefore also focuses on co-designing education and awareness strategies. This joint effort not only allows them to exchange approaches but also illustrates how multi-level cooperation can deliver tangible improvements in user safety. The partners aim to jointly develop a road-safety education campaign and to define a set of concrete actions and technologies that can be adapted and implemented within their respective territorial contexts.

KEY FIGURES

15 partners

Comprise the Massachusetts Special Commission on Micromobility. Through MassDOT's contribution, it benefits from the experience and expertise of a major European municipality.

LESSONS LEARNED

Micromobility is a valuable asset that expands options for active travel and plays a central role in shared-mobility systems

Innovation in the sector evolves quickly, with new vehicle types emerging each year, requiring regulatory frameworks and classifications that can be updated rapidly.

Multiple levels of government play essential roles: national and regional authorities set regulatory and legislative parameters, while municipalities manage day-to-day operations and implementation.

Effective governance models integrate institutional actors, stakeholders, and operators, combining formal structures with flexible, operational collaboration.

Clear vehicle definitions and classification systems are essential for producing reliable data. When formal registration is not feasible, flexible identification methods can serve as effective alternatives.

Managing micromobility requires more than regulation and enforcement; information and education are vital. Well-designed campaigns can encourage safe, responsible riding and proper road use.

THE INTERNATIONAL URBAN AND REGIONAL COOPERATION PROGRAMME IN NORTH AMERICA

The International Urban and Regional Cooperation program in North America (IURC NA), funded by the European Union, partners European cities with Canadian and USA cities to facilitate knowledge exchange through online tools, face-to-face interactions, study visits, participation in thematic and networking events, and capacity-building initiatives. Its activities support the achievement of policy objectives as well as major international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals, and the Paris Agreement. The program is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with the public and private sectors, researchers, innovators, community groups, and citizens. IURC NA is financed under the EU Foreign Policy Instruments and benefits from the strategic support of the Directorate-General for Regional and Urban Policy of the European Commission.

Author: IURC North America
For more information, please contact us at info-na@iurc.eu

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The contents of this case study do not necessarily reflect the latest data from the City of Rotterdam.

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