

Overall objective and description

The pilot in Tel-Aviv is a clear example of **data-driven urban mobility**. Three different use cases showed how **leveraging the value hidden of data** can help design more **efficient, dynamic and inclusive** cities.



Data-driven analysis and visualization of mobility patterns using Bluetooth data

The first use case focused on compiling passengers' **mobility patterns** based on **Bluetooth** detectors. Advanced trajectory clustering algorithms and comprehensible dashboards led to data-driven planning of traffic rearrangements and traffic management strategies to cope with **road disruptions or temporary needs**. The Data-driven methods provided qualitative and quantitative **support to decision-makers in urban mobility planning** settings throughout the ongoing infrastructure changes.

Public Sphere re-allocation

Digital technologies provide a primary source of knowledge to identify mobility patterns. However, they do not really capture citizens' sentiments. To decide the **public space distribution that satisfies the different road users' needs**, liveability and safety for pedestrians and cyclists, it is essential to involve them in the decision process with **co-creation** methodologies. By working on focus groups, surveys and interviews and based on the **HoQ** (House of Quality) methodology, use case 2 in Tel-Aviv was able to rank **street design scenarios** and revealed to what extent **each design attribute contributes to each need**.

Vulnerable Road Users prioritization

Data-driven solutions can help create more **inclusive and safer streets for vulnerable users**. Using **cameras in road intersections and vision detection advanced algorithms**, Tel-Aviv simulated the delay of **smart-traffic lights** when detecting wheelchair users and trolleys with a minor effect on the **traffic-flows fluidity**.

Impact

Enrich decision-making process to offer better temporal arrangements and re-organize public transport based on capturing mobility patterns, resolve road users conflicts and demonstrate it is possible to control smart-traffic lights **without affecting the traffic**.

Learnings and recommendations

- **Involve** decision makers and professionals in **all phases** of the design.
- **Reutilize** existing infrastructure (traffic cameras).

Key advices for data collection

- Converge different sources of data to create a **unique space of truth**.
- Develop mechanisms to ensure **data quality**.
- Combine **digital technologies** for capturing data with research methods that help understand **users' needs**.