



Explore use cases for cycling data standardisation

6 November 2024 – Turin, Italy

Ambassadors Cristina BURAGA, Mirelle PETERS
Samuel PIERCE, Jørgen WANSCHER, Tu-Tho THAI



Our program for you

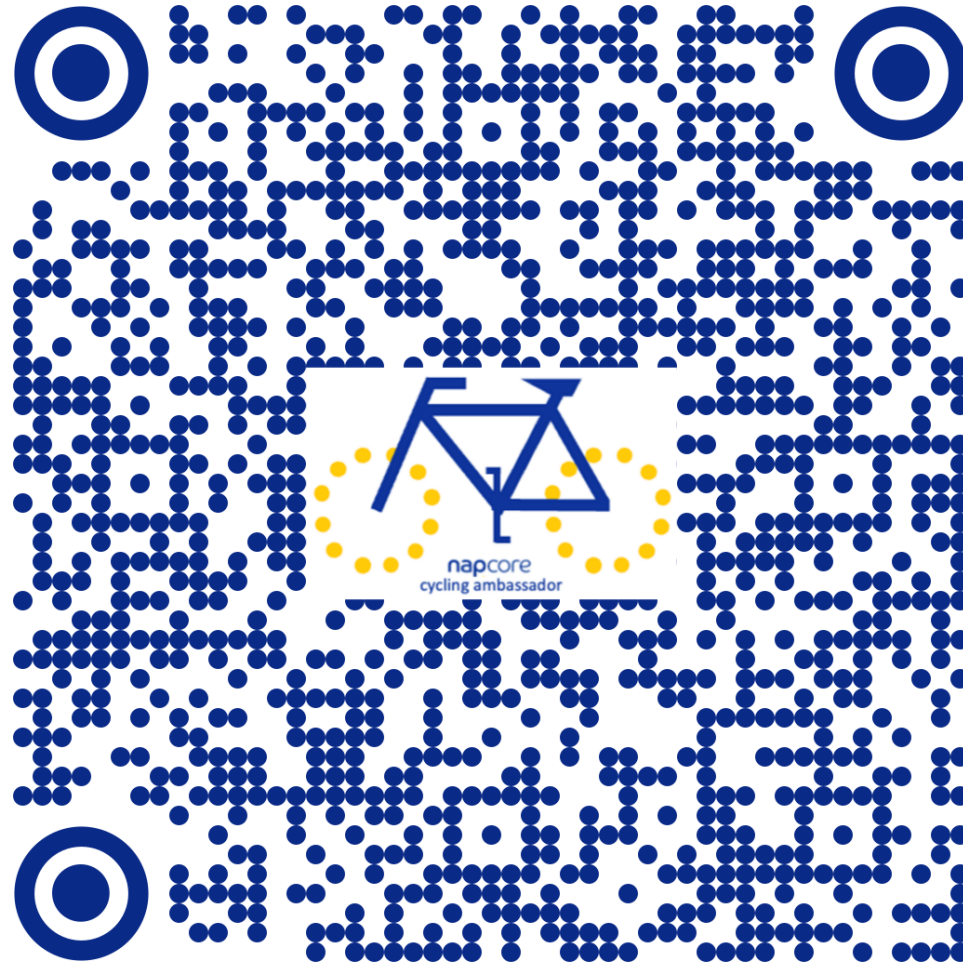
- Setting the scene – 5 min
- Learnings from our workshop – 30 min
- Let's work together – 40 min
- Wrap up & Conclusions – 15 min

I. Welcome and introduction

What we did since last year

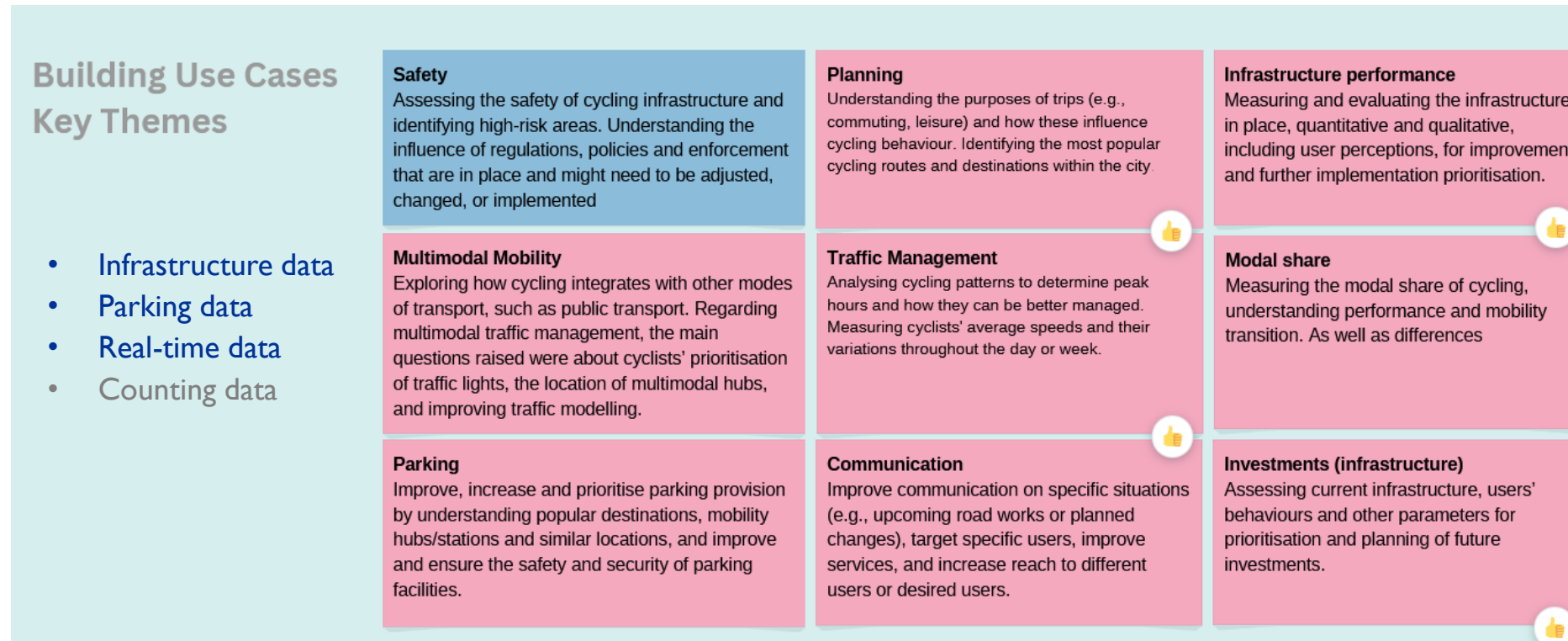
- Strengthen the partnership with POLIS to organize a joint workshop with their members
 - Objective: collect use-cases from cities & regions
- Organise an open workshop with the cycling community
 - Objective: widen use-cases and discuss data types & existing standards
- Deep-dive in data types & existing standards to identify the gaps to cover with a focus on
 - Parking data
 - Infrastructure description
 - Real-time data
- One more deep-dive to conduct: counting data

Canva link



Main use-cases identified

- Workshops co-organized with Polis (11th April online and 22nd May in Utrecht) allowed to collect typical use cases according to key themes:



2. Learnings from our workshops

Cycling Infrastructure Data – (Some of) The main use cases

Different perspectives -> different use cases

- Cyclists
 - How to get from A to B?
 - Is the route suitable for my skills / type of cycle / special needs (“Qualitative”)?
- Infrastructure managers
 - How does the infrastructure perform (“Weather”; “Design”; “Safety”)?
 - What are the maintenance / investment needs (“Maintenance”)?
- Policy makers / funding institutions
 - How much cycle infrastructure do we have? (Quantitative)
 - How much do we need (“Usage, continuity and connections”; “Monitoring”) ? How much will it cost?

Cycling Infrastructure Data - the data types

Regulation (EU) 2017/1926

Level of service 1

(e) (ii) cycle network (cycle tracks, cycle lanes, bus-and-cycle lanes, on-road shared with vehicles, on-path shared with pedestrians);

Level of service 2

**(a) (iv) bike-sharing stations; (vi) secure bike parking (such as locked bike garage);
(c) (ii) vehicle facilities, including classes of carriage, on-board Wi-Fi, capacity and access conditions for bicycles.**

Level of service 3

(c) (i) detailed cycle network attributes (surface quality, side-by-side cycling, shared surface, on/off road, scenic route, 'walk only', turn or access restrictions, e.g. against flow of traffic);

(d) trip plan computation: estimated travel times by day type and time-band by transport mode/combination of transport modes.

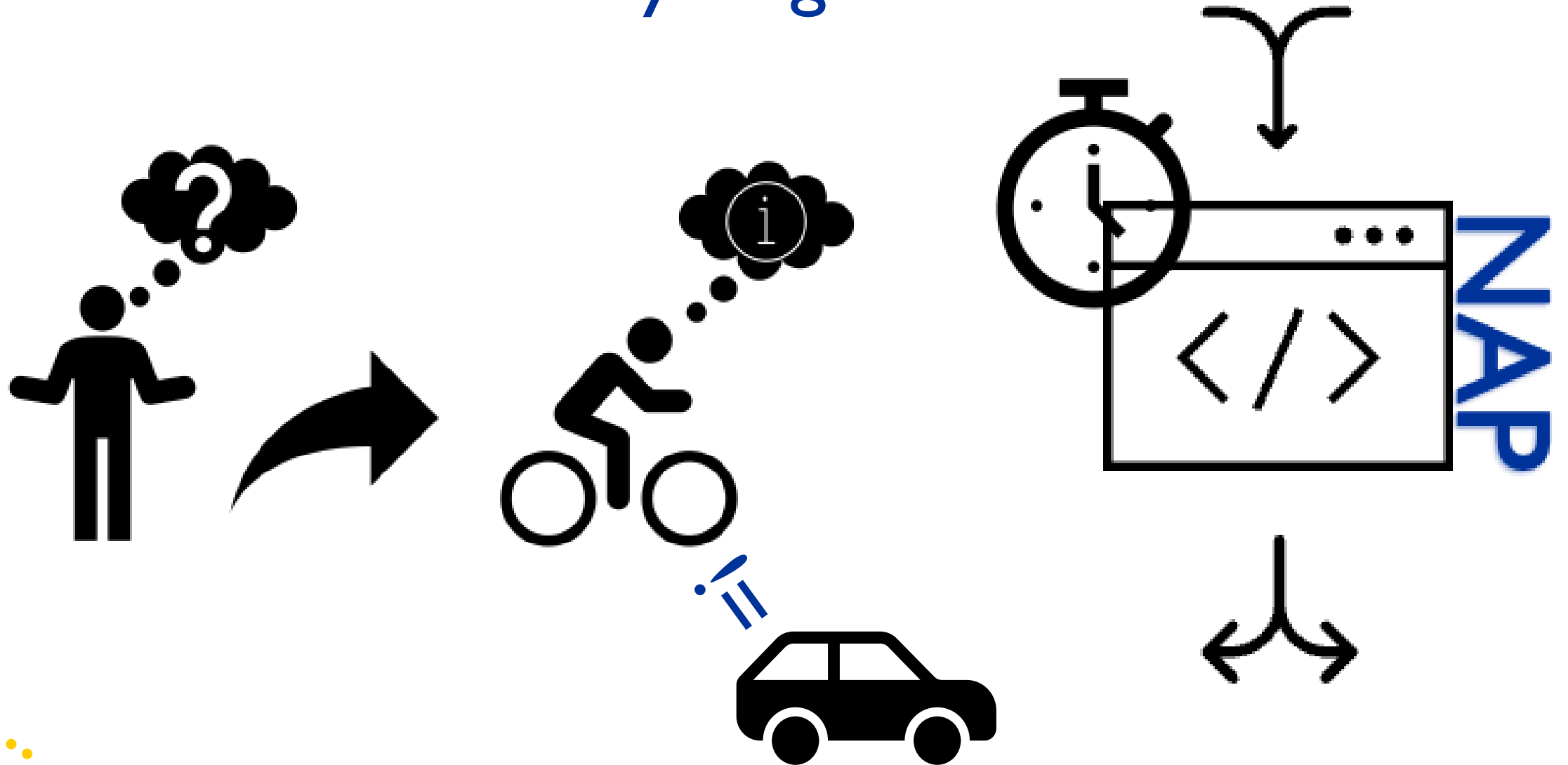
Cycling Infrastructure Data - What exists?

- OpenStreetMap: Crowdsourced; Varying level of detail and accuracy
- How to deal with it?
 - Update and use OSM data directly (Helsinki, Norway/Entur)
 - Establish conversion tools (France)
 - Ignore?
- National level: Austria, France, Germany... Others?
- International level: UNECE; Survey data (EuroVelo European Certification Standard, iRAP, CycleRAP); DG MOVE cycling infrastructure study

What way forward?

- Data we would like to have -> is all of this captured in existing data types?
- Existing cycling infrastructure datasets -> what are the common denominators that allow to represent the datasets in a harmonised format?

Real-time data for cycling



Real-time

CYCLING DIFFERENCES

Cycle infra is generally less managed than car infra. I.e. car tunnels have sophisticated management systems and 24/7 monitoring, this is generally not the case for cycle underpasses/overpasses for example

Casper Van Ghelue

Most bikes don't have a display, so carefully think of the Human Machine Interface. Holding smart phone in your hand is

Routing options, such as most direct route, best for air quality, or avoiding steep

Privacy/GDPR considerations specifically for bicycling data

Jergen Bundgaard Wanscher

DATATYPES/USE CASES

Congestion information for real time re-routing (3-5 minutes dependent on onset/decay speed for flow)

Jergen Bundgaard Wanscher

crowdedness on cycling lane, in order to allow people to choose more quiet route and/or to give speed advise to cyclists on that specific track (e.g. e-bikes/speed-pedelegs)

Ability to report on forthcoming (Sustainable) Urban Mobility Indicators

Peak cycling hours /periods/days on certain cycling lanes...especially around school zones

CYCLING DIFFERENCES

To be verified: What is the share of bicycles parked in large centralised facilities where it makes sense to use real time data? Is it the same or lower than for cars?

The different types of bicycles may have radically different parking requirements

Jergen Bundgaard Wanscher

Bikes can be locked together as opposed to cars. Therefore, depending on the design of a parking spot there might be more than one bike on a spot

Insurance claim areas to high interventions

Iain Macbeth

That's not trully parking related, but bike availability on train (wich train car allow bike and how many spaces (in meter square they have) is also important for multimobility

secured bike parking availability (number of places still available, prices that may vary for example)

COUNTING

Access restrict pedestrianised specific times of static data...

Bike location

Information about accidents or planned

Logistics service providers

Data on availability of specific type of and quality of parking, such as e-cargo bike, framelocking possibilities etc

Real time charging infrastrucre availability

Managing the curb: loading zones and parking conditions for e-cargo bikes carrying out deliveries and logistics operations.

Dynamic pricing for bike storage/parking facilities based on real-time demand

Real-time cycling routing information based on current roadworks/infrastructure problems

Natural obstacles on bike lane (e.g: flooding, tree on road) there is definitively less items that for cars listed in DATEX , but a few of them are needed

Parking occupation for multilocation facilities. Cyclists can then select parking location based on level of availability (10%, 30%, 90%, 110%)

Jergen Bundgaard Wanscher

... and charging infrastructure (charging stations/battery banks) occupancy for personal and professional users in parking facilities.

Lucas Fried

Real-time availability of all kinds of shared bicycles: where, how many, what type, state of charge (if electric), price.

Is available in GBFS/MDS/SIRI

PARKING

INFRA



Real-time data for cycling

- *Incident sensitive routing (road works/events)*
- *Condition sensitive routing (weather/traction)*
- *Green time extension for bicycles / green waves*
- *Flow information / congestion impact*
- *Availability – Parking, charging, mending, bridges, etc*
- *Not elevation!*
- *(Floating Bicycle Data and derivative information)*

Parking data – The main use cases

- One shared objective in identified use cases: To support modal shift and/or uptake of cycling for commuters
- Some relevant use-cases:
 - Integration in trip planning
 - Increase safety for cyclists
 - Cycling & Tourism
 - Investment in infrastructure

Parking data – The data types

- Parking description
 - Location, pricing, etc.
 - Safety details
 - Additional services
- Parking capacity
 - Ventilated per type of bikes
 - Real-time capacity
- Parking usage

Parking data – Identified existing standards

- DATEX II (CEN TS 16157-6), coming from the traffic management sector
- NeTEx (CEN CEN/TS 16614 series), coming from the public transport sector
- APDS [Alliance for Parking Data Standards] (ISO TS 5206-1), coming from the parking sector
 - DATEX II Part 6 mirrors APDS
- National initiatives like France, Netherlands, Flanders...
- Community initiatives such as Open Street Map

3. Let's work together

Workshop organisation

- 3 themes = 3 corners of the room
 - Infrastructure data led by Sam PIERCE (CIE)
 - Parking data led by Tu-Tho THAI (AFNOR, GT7 / enRoute)
 - Real-time data led by Jørgen WANSCHER (Hermes Traffic Intelligence)
- Objective:
 - Identify the data types that are relevant to NAPs
 - Draft a roadmap for cycling data in NAPCORE X

Workshop – Identifying technical priorities

- 4 min - Alone: Write on sticky notes all the use-cases you find relevant
- 8 min - Group: Identify the 3 main use-cases that are the top priorities for NAPs
- 8 min - Group: Identify the suitable data types / standards for your 3 main use cases
 - Already exist but need to be adapted/completed
 - Need to be created

Workshop – Identifying strategic priorities

- 4 min - Alone: Based on the previously discussed data types / standards, identify the relevant the stakeholders
- 8 min - Group: Identify the “low hanging fruits” for data standardisation (i.e. the ones that are the easiest to work on)
- 8 min - Group: Identify which EU-funded projects could support the development of these low hanging fruits (i.e. we’re building the cycling roadmap for NAPCORE X with you)

4. Wrap up and Conclusions

Feedback from each theme / corner

- 3 minutes per theme to wrap up
 - Main learning on the data type:
 - what exists,
 - what needs to be adapted/created
 - which stakeholders to involve
 - Top priority for data types to be included in NAPs

Conclusions

- *What are the next steps identified by the Ambassadors*
 - *Technical work with standards experts (DATEXII, NeTEX, SIRI, others FBD?)*
 - *Legal work for Delegated Regulations (SRTI, RTTI, MMTIS, other logistics, railway...?)*
 - *Strategic work for coordination of the cycling ecosystem (NAPCORE X, CE...)*



Thank you for your attention!

