

11-02-2026

SUMPS FOR BSR

Enhancing Effective Sustainable Urban
Mobility Planning for Supporting
Active Mobility in BSR Cities

Interreg
Baltic Sea Region



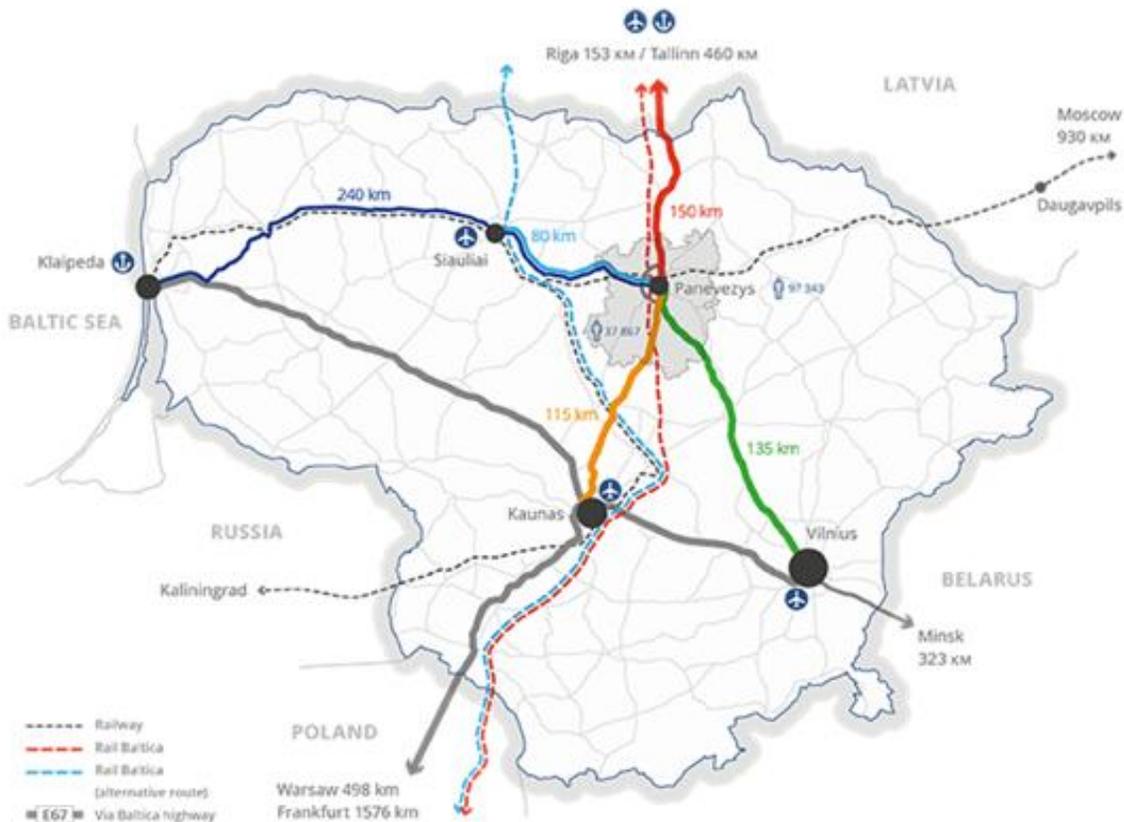
Co-funded by
the European Union

 SMART GREEN MOBILITY
SUMPs for BSR

Monitoring of School Mobility in PANEVĖŽYS



Panevėžys (Lithuania) in short:



- 86.000 citizens / 52 km²
- The No. 5 by citizens, the No.2 city by population density in Lithuania
- Urban structure: Monocentric city
- Industry-based spatial planning
- The Greenest municipality in Lithuania in 2024 (The Second greenest LT municipality in 2025)

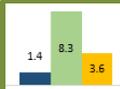
- City has Sustainable Urban Mobility Plan (SUMP; prepared in 2017)
- Exceptional and effective system of internal and external transport chain: highways (Via Baltica), railways (Rail Baltica in 2030), 3 airports within 150 km.
- One of 5 urban nodes in Lithuania among 400+ in Europe

Identified CHALLENGES (1)



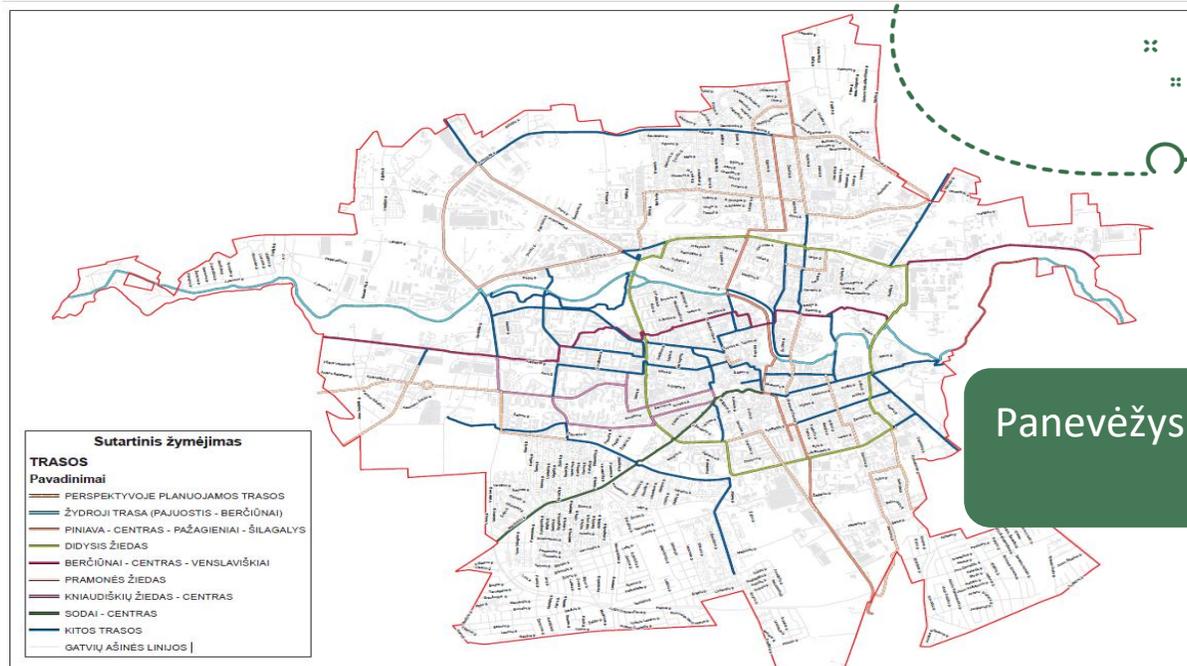
Governance challenges

- Budget constraints for infrastructure
- Lack of mobility & data specialists
- Weak inter-institutional coordination
- Political cycle–driven priorities



Data and methodology challenges

- Limited active mobility data
- Fragmented data sources
- Gaps in cycling & pedestrian counts
- Limited monitoring & evaluation capacity



Panevėžys city bicycle route map

Urban infrastructure challenges

Bicycle route network over **90+ km** (**39 km** upgraded to date, over 10 km planned in 2026)

However:

- Low cycling & e-scooter commuting
- Underdeveloped bicycle path connections between urban neighborhoods
- Insufficient bicycle parking
- Few traffic-calmed streets for daily cycling / commuting
- Shared pedestrian-cyclist paths causing conflicts

Identified CHALLENGES (2): secondary data

Current situation assessment – available secondary data

DATA AVAILABLE ON NATIONAL LEVEL :

- Car ownership ratio (cars per 1000 inhabitants)
- Traffic accidents with injuries or fatalities among pedestrians or cyclist (number of accidents per 1000 inhabitants)
- Infrastructure for active modes (km per total area of the city)
- PT stops accessibility ratio (number of inh. living in 500 m radius from PT stop compared to total population)
- PT service intensity (average number of trips per day)
- Charging stations accessibility (number of inh. living in 500 m radius from charging point compared to total population)

DATA MONITORED BY PANEVĖŽYS:

- Annual air quality monitoring
- Annual noise pollution monitoring
- Data collected during Panevėžys SUMP development in 2017

RATINGS:

- Environmental ranking of municipalities
- Compass for sustainable cities ranking

Secondary data will be useful to **assess natural city dynamics**. However, due to limited monitoring locations and delays in data publication it will be impossible to use secondary data to evaluate implementation effects and impacts.

Addressed CHALLENGES (1): organisational setup and coordination

Why schools?

Status quo analysed

Proposal outline drafted

Stakeholders engaged

Sampling strategy developed

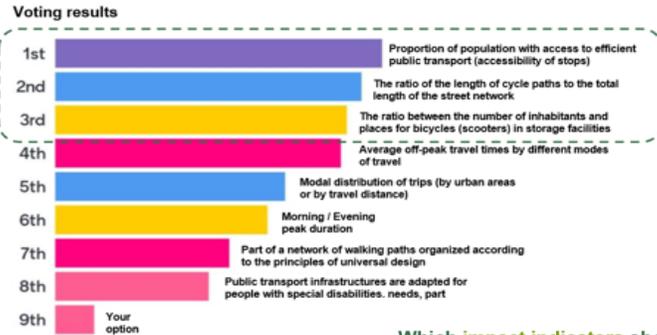
Low-burden data collection tools chosen



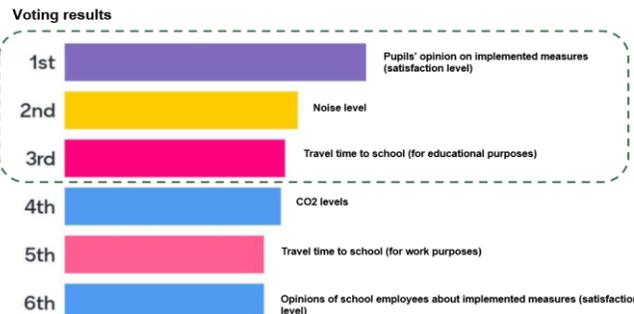
WHY SCHOOLS?

- Large population
- Daily, repetitive travel patterns
- Clear subordination
- Low implementation cost
- Early habit formation
- Strong justification for follow-up investments
- Scalability
- High public legitimacy
- Etc.

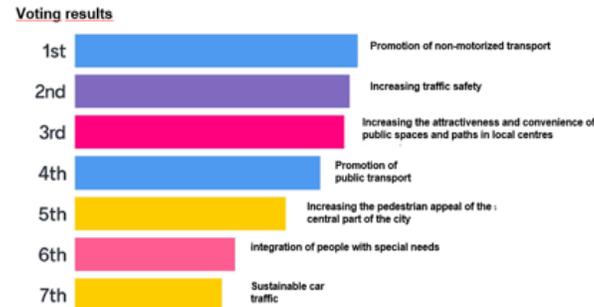
Which effect indicators do you think should be collected at the city level?



Which impact indicators should be collected during project monitoring before and after interventions?

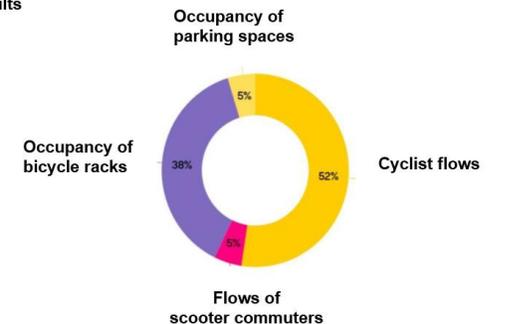


Which of Panevėžys sustainable mobility goals do you think are the most relevant for Panevėžys in the context of this project?



Which effect indicators should be monitored during the project monitoring before and after interventions?

Voting results



Addressed CHALLENGES (2): data collection



- Scope of indicators
- Data collection methods
- Monitoring algorithm
- Pre- and post- intervention surveys
- Data quality procedures
- Feasibility and burden control

PILOT INDICATORS

RESULT INDICATORS:

- Bicycle racks, pcs.*
- Scooter racks, pcs.*
- Bicycle and scooter charging points, pcs.*
- Bicycle repair stations, pcs.*
**Preliminary list, it will be updated when procurement processes for rack pilot will be finished*

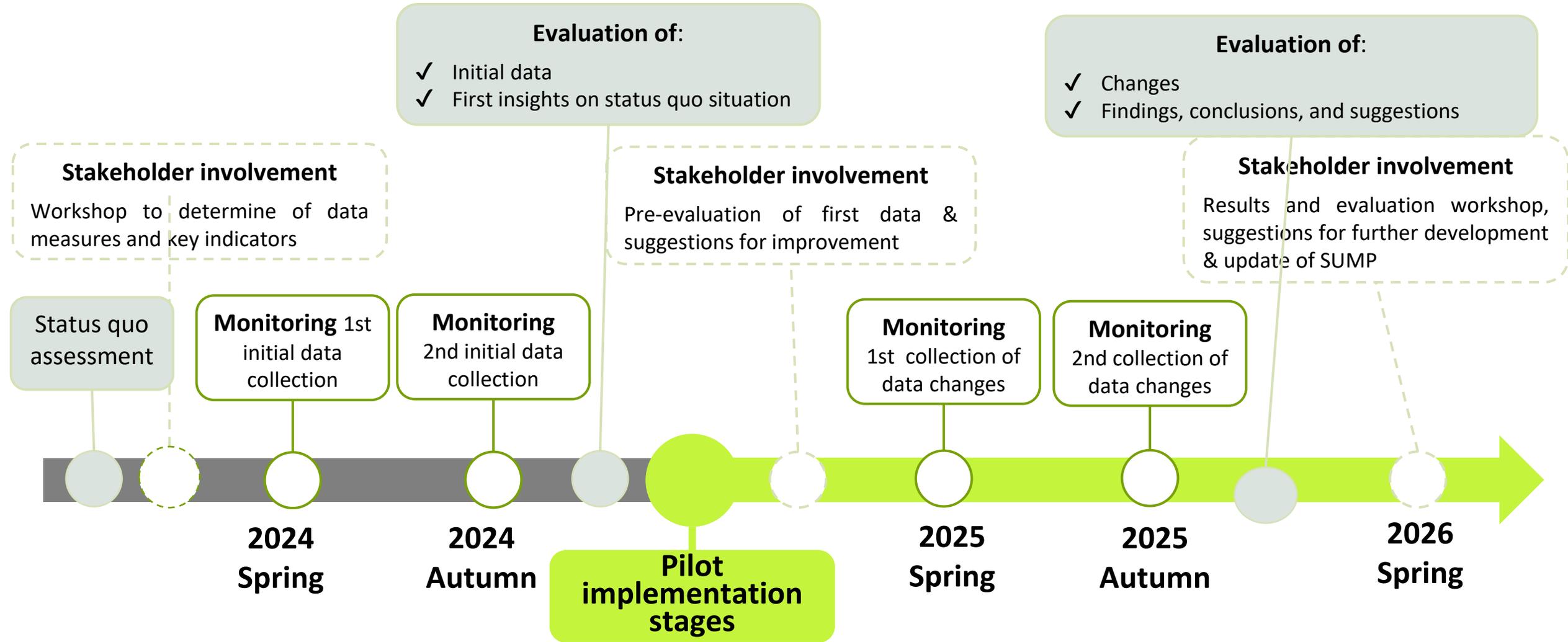
EFFECT INDICATORS:

- Pedestrian flows, pers./h
- Cyclist flows, pers./h
- Scooter flows, pers./h
- Car flows, veh./h
- Modal distribution of trips to school, %
- Occupancy of bicycle racks, %
- Occupancy of scooter racks, %

IMPACT INDICATORS:

- Noise level, Db
- Travel time, min.
- Perception:
 - ✓ Level of satisfaction with interventions, points
 - ✓ Level of feeling of safety in cycling/scooting to school, points
 - ✓ Level of traffic safety for cycling/scooting to school, points
 - ✓ Level of comfort (infrastructure aspect) for cycling/scooting to school, points
- Pollution level**
- Traffic accidents' rate**
- Infrastructure for active modes **
- Car ownership rate**
***Data to assess city dinamics not related to pilot implementation*

MONITORING and EVALUATION PROCESS MAP



Methodology-related SOLUTIONS



HOW WE DID IT

- Data analysed
- Baseline mobility data collected
- 4 data collection stages (2024–2025, morning peak)
- Indicators: traffic flows, noise levels, rack occupancy
- Student and staff surveys
- Schools' independent monitoring of rack use
- NIOSH SLM mobile app
- TAMO



MONITORING METHODOLOGY

Data collection methods used and the institution that collected the data

SURVEYS

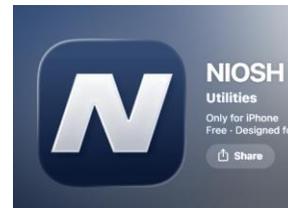
▪ Questionnaire for students (their parents) via TAMO	Educational institution
▪ Questionnaire for school staff	Educational institution

FIELD SURVEYS

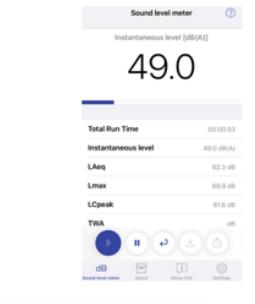
▪ Traffic flow monitoring	Consultant
▪ Inventory of existing infrastructure	Educational institution
▪ Monitoring of existing infrastructure usage	Educational institution

INSTRUMENTAL SURVEYS

Noise level measurements	Consultant
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Noise level observation (using NIOSH SLM app, at spots near schools, when only usual background noise is present)



RESULTS

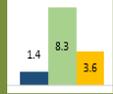


- Baseline data collected
- Comparison over time, across age groups, and by season
- Insights into school staff mobility patterns
- Changes captured between seasons, before and after the intervention, and across years
- In the surveyed schools, noise levels did not exceed national limits
- Open-ended responses:
 - explained reasons for active and inactive travel behaviour among students and staff
 - revealed children's likes, concerns, satisfaction, and road safety perceptions

Problematic aspects

- Due to their workload, teachers were not always willing to complete additional survey
- No data collected on students travelling to school by public transport

Our lessons learned



Data governance and planning

- Define data roles early
- Use baseline and follow-up data
- Keep indicators simple for long-term tracking

opportunities

- Leverage student transitions to gain new insights
- Engage schools to enhance data collection
- Use target group trends to tailor programs
- Strengthen school collaboration for better data
- Apply trends to inform strategic planning

Methodology & data quality

- Mixed methods improve quality
- Minor indicator adjustments enhance analytical insight
- Some survey questions added limited value
- Limited sites restricted secondary data



Our advices to other cities

✓ To Do

- Align data collection with SUMP targets from the start
- Start with schools for low-cost, quick-impact results
- Use simple monitoring methods
- Engage young people
- Build an evidence base
- Use early data to refine scope and expectations
- Support local or “mini” travel plans
- Collect data on students travelling to school by public transport during field observations



✗ Not To Do

- Overcomplicate data collection for limited budgets
- Run surveys more than once per year (unless seasonal data)