Lendersloot
mobility connected

FiRus

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Expert cycling mobility

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Cycles to work, for leisure, as sport

The Loendersloot Groep

- Esthablished 2008
- Professionals working for different clients
- Specialized in sustainable mobility solutions
- Cycling key!
- Experts in policy, solutions and implementation
- Working worldwide

Project background

- Analysis of touristic cycling routes between Finland and the Russian Federation
- Consists of two phases:
  - Phase 1:
    - Site survey along several routes
    - Results were analyzed and compared with Dutch ‘best practice’
    - Phase 1 forms the foundation of the project
  - Phase 2:
    - Specific recommendations for developing cycling tourism in the Leningrad region
    - Also, recommendations regarding safety improvement and legislation

Mindset was not always the same

Phase 1

The European scope

- Two EuroVelo-routes cross the Leningrad region (10 & 13)
- Cycle tourism sector is growing rapidly
- Cycle tourism in the Leningrad region shows great economic potential

Figure 1. EuroVelo network (Source: http://www.eurovelo.com/en/eurovelos)

Site survey

- Examination of possible routes
- Analyzing the potential for encouraging and supporting cycling tourism
- Suitability is based on three pillars
  - Hardware; the physical infrastructure design
  - Humanware; soft elements such as human behavior
  - Orgware; laws and policies related to government action

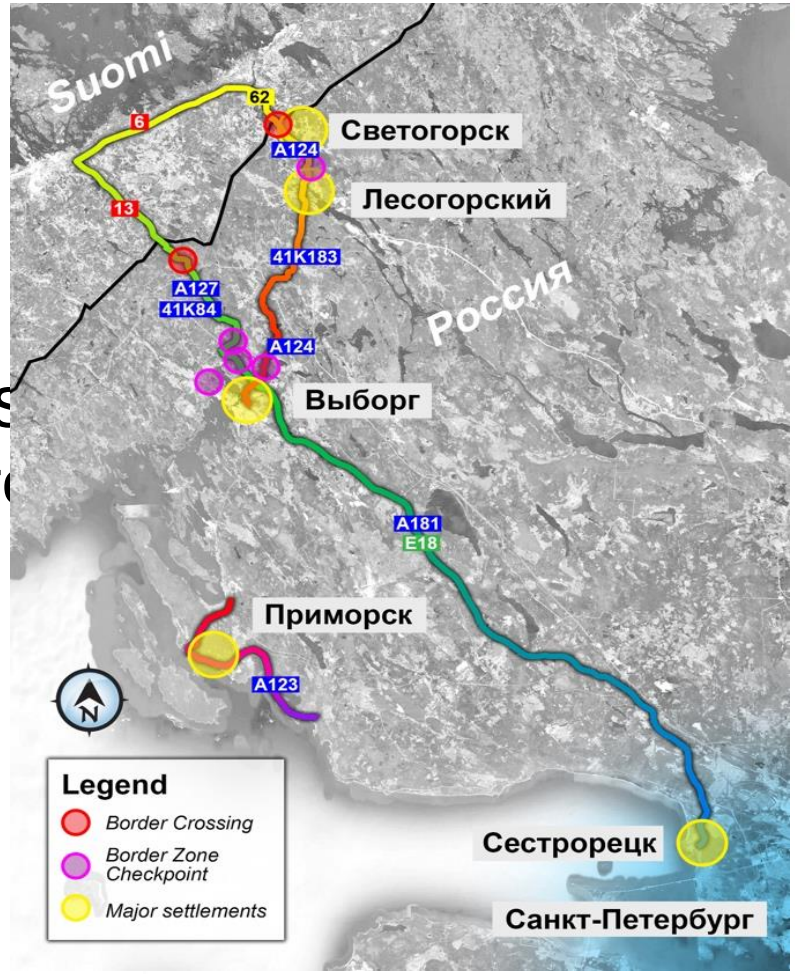

Figure 2. Map of Site Survey Routes

Hardware (possible improvements)

- Pedestrian/bicycle paths begin and end abruptly
- Axis marking and edge marking is missing
- No separate cycling paths outside urban area
- No bicycle/pedestrian infrastructure at border crossings

Figure 3: Abrupt ending of sidewalk

Figure 4: Marking for pedestrian crossing is absent

Humanware (possible improvements)

- Russian road users are not used to cyclists
- High speed differences
- Dangerous behaviour of truck drivers
- Problems with humanware can have implications for hardware because more safety measures may be necessary

Figure 5: Dangerous passing habits of truck drivers

Orgware (possible improvements)

- Traffic laws are not suitable or not attractive for cycling tourists
  - Cyclists are not allowed to make a left turn on roads with two or more lanes
  - Cyclists are not allowed to use pedestrian crossings
  - Cyclists obliged to dismount when movement interferes with other road users
  - Children younger than fourteen years are not allowed to cycle
- Efficiency of cycling is reduced by current traffic laws

Conclusion after phase 1

- In current situation, the Leningrad region is not yet ready for cycle tourism
- Mismatches in hardware, humanware and orgware can crea problems for potential cyclists

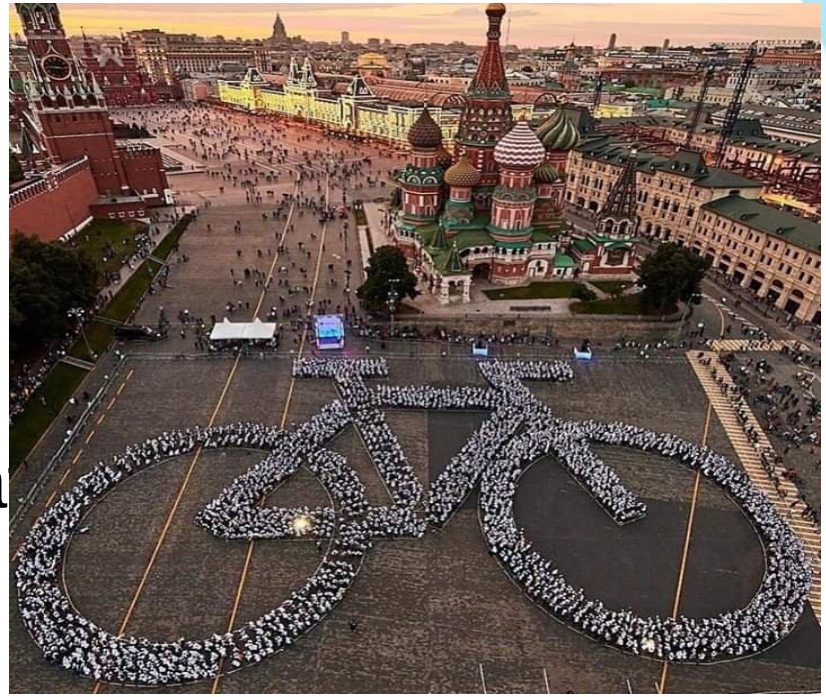

Figure 6. Bike rally in Moscow.

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Phase 2

Goal

- To give specific recommendations regarding:
  - The development of cycle tourism in the Leningrad region
  - Services, accommodation and places of interest in order to meet the criteria of EuroVelo
  - Safety improvement

Why realize cycling infrastructure?

- (Economic) benefits of cycling:
  - Example of Utrecht; annual economic benefit of €38 million
    - Caused by an increase in jobs, retail, production and assembly of bicycles, bicycle courier services and bicycle parking
    - Also; socio-economic value of €21.3 million annually because of fewer road-fatalities, less air pollution and general healthier living
  - Additional benefits of cycle tourism:
    - Extra revenue on food and drink services, accommodation, bicycle rental and public transport
    - Possible stimulation of local economy
- High-quality infrastructure leads to more cycling (tourism)

Best practice study of cycle tourism

- Success factors of cycling tourism
  - Nationwide and/or cross-border cooperation
  - Integration of transport modes
  - Including cultural heritage and places of interest
  - Stakeholder cooperation
  - Marketing strategy
  - Involving local communities

Figure 7: Cycle route in Spain

Figure 8: The Drau cycle route

Analysis of the routes

- Six routes were analyzed in total
  - Two are part of EuroVelo (Baltic Sea Route & Iron Curtain Trail)
  - The other four are analyzed to further determine the potential for cycling in the Leningrad region

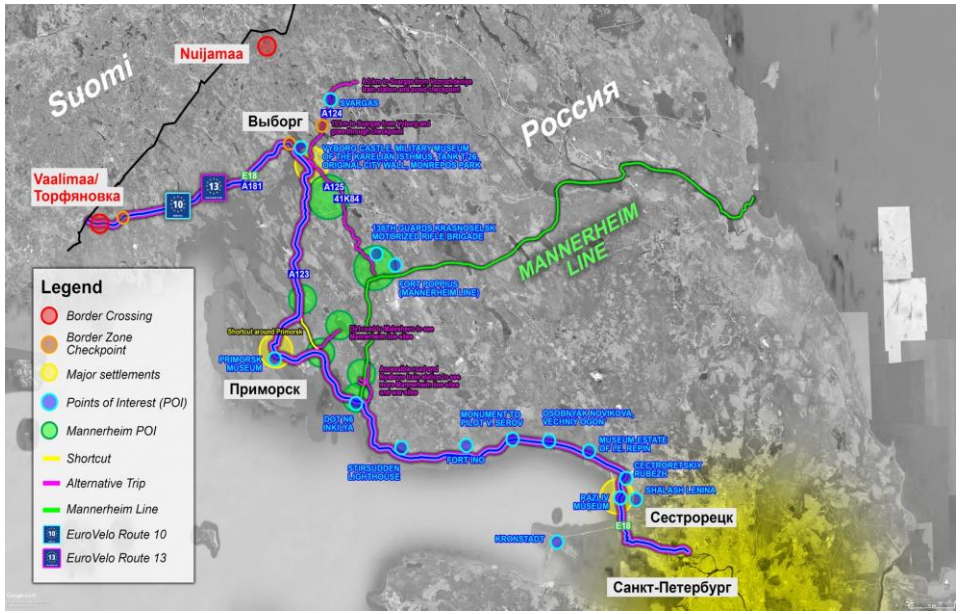


Figure 9: Schematic representation of the EuroVelo-routes

Figure 10: Schematic representation of all six routes

Proposed route (EuroVelo 10)

- Baltic Sea Route
  - Daily section 1 (40 km): St Petersburg (Olgino train station) – Zelenogorsk
  - Daily section 2 (77 Km): Zelenogorsk – Primorsk
  - Daily section 3 (48 Km): Primorsk – Vyborg
  - Daily section 4 (57 km): Vyborg – Finnish border (near Vaalimaa)

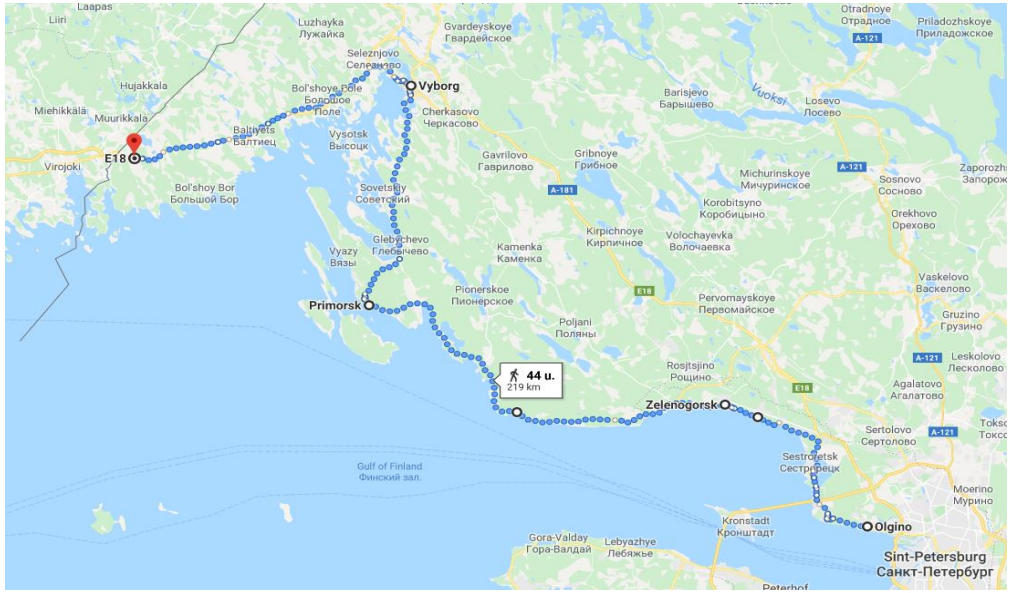


Figure 11: Schematic representation of the Baltic Sea Route

Proposed route (EuroVelo 13)

- Iron Curtain Trail
  - Daily section 1 (40 km): St Petersburg (Olgino train station) – Zelenogorsk
  - Daily section 2 (77 Km): Zelenogorsk – Primorsk
  - Daily section 3 (48 Km): Primorsk – Vyborg
  - Daily section 4 (39 km): Vyborg – Finnish border (near Nuijamaa)

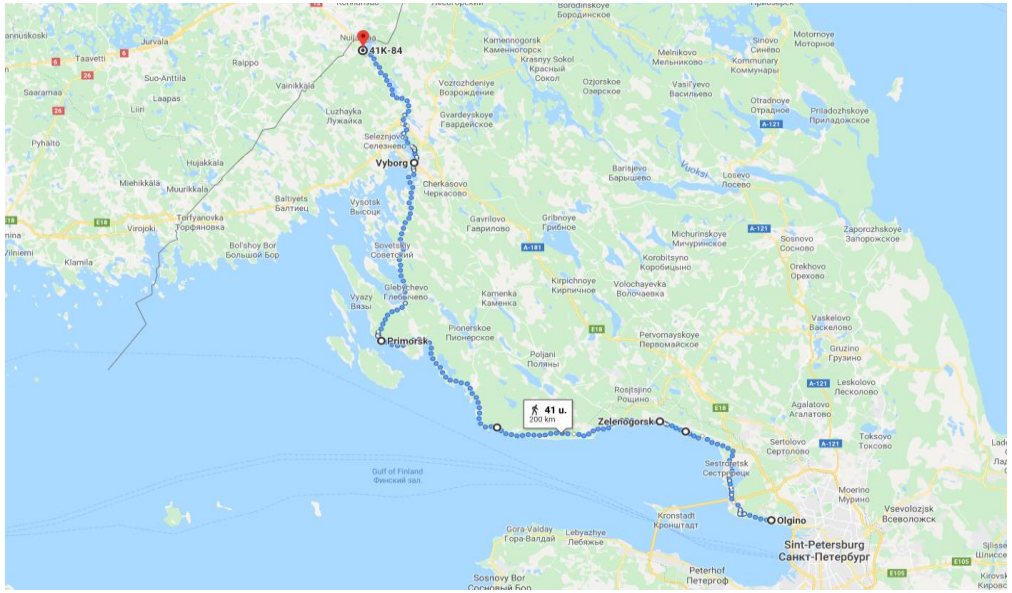


Figure 12: Schematic representation of the Iron Curtain Trail

Route infrastructure

- We advise to establish:
  - Easy train/bicycle connections
  - Mobility Hubs, which integrate:
    - Train transport
    - Rental bicycle services
    - Bicycle maintenance shops
    - Safe bicycle storage
    - Possibility of online booking (train tickets, rental bicycles)
- Hubs must be strategically located in large settlements

Figure 13: How to bring your bicycle in a Russian train

Accommodation and services

- Accommodation must be available between daily sections
  - Services in Zelenogorsk and Vyborg look promising
  - Options are rather limited in Primorsk
- Food and drink services must be available along daily sections
  - Services along second and fourth daily section are limited
- Bicycle rental/repair shops, rest areas and charging facilities for electric bicycles should be established
- Opportunity for local communities to provide wider range of services

Figure 14: Example of a rest area

Places of Interest

- POI’s can be used to further promote the route
- Historically interesting region
  - Mannerheim Line
    - Machine-gun bunkers
    - Mass grave of Soviet soldiers
    - Old shelters
  - Vyborg castle museum
  - Primorsk local history museum
  - Laskoviy Beach

Figure 15: The history of the Mannerheim Line

Safety

- In order to meet the EuroVelo criteria, infrastructure must be enhanced along the entire route
- Cross-sections and recommendation have been developed for all locations
  - Large settlements
  - Small settlements
  - Rural areas
  - Side street routes
- Cross-sections focus on improving continuity and signage

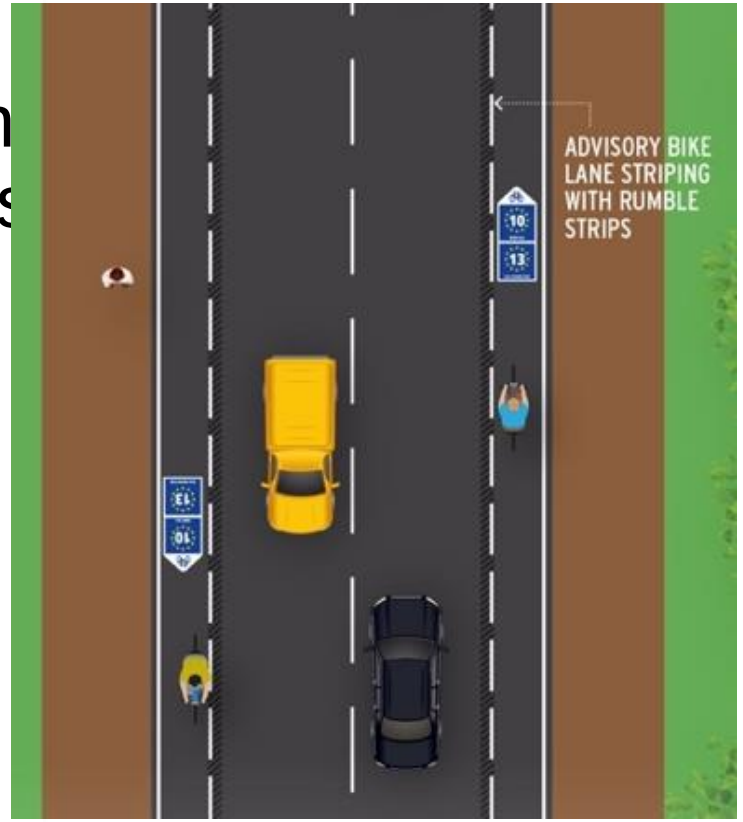
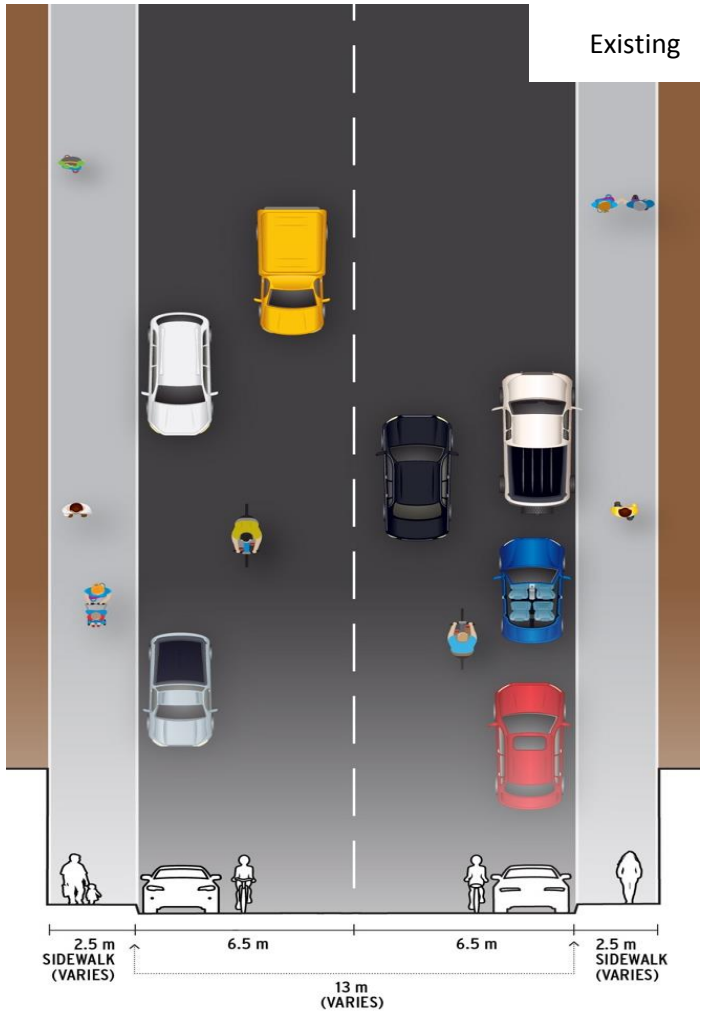
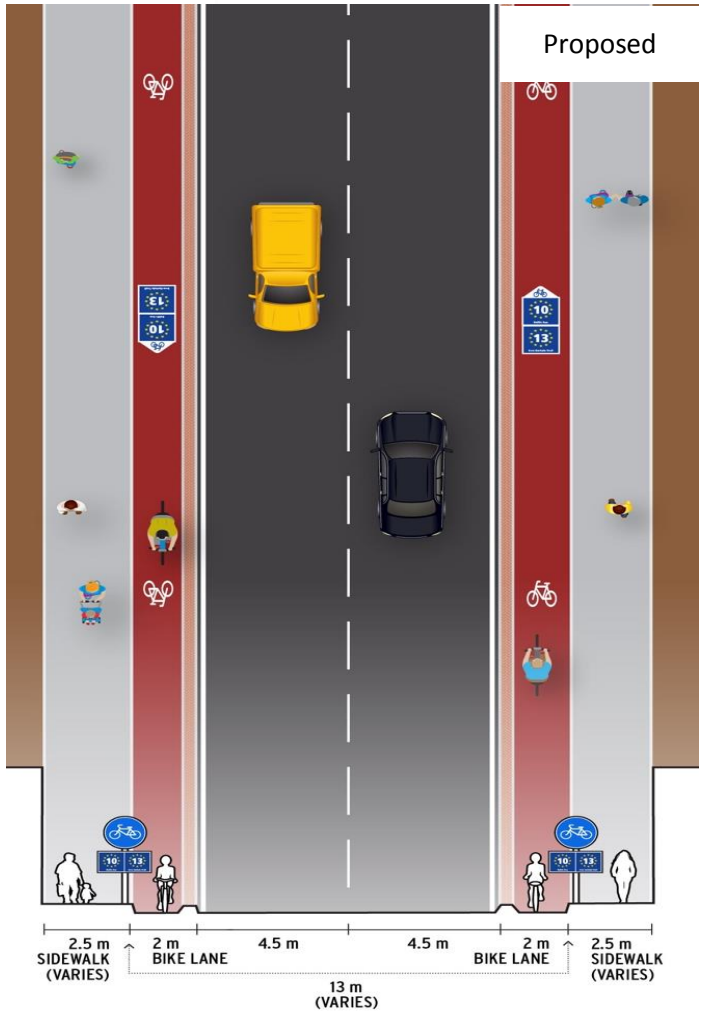


Figure 17: Cross-section with improved signing

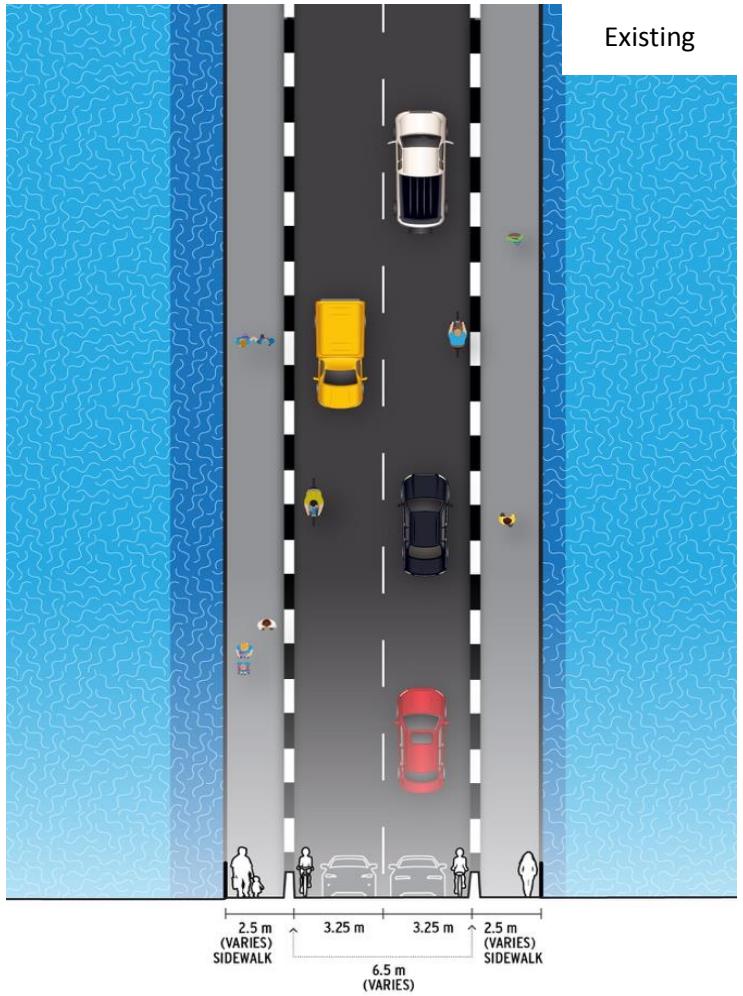
Cross-section examples (Vyborg)



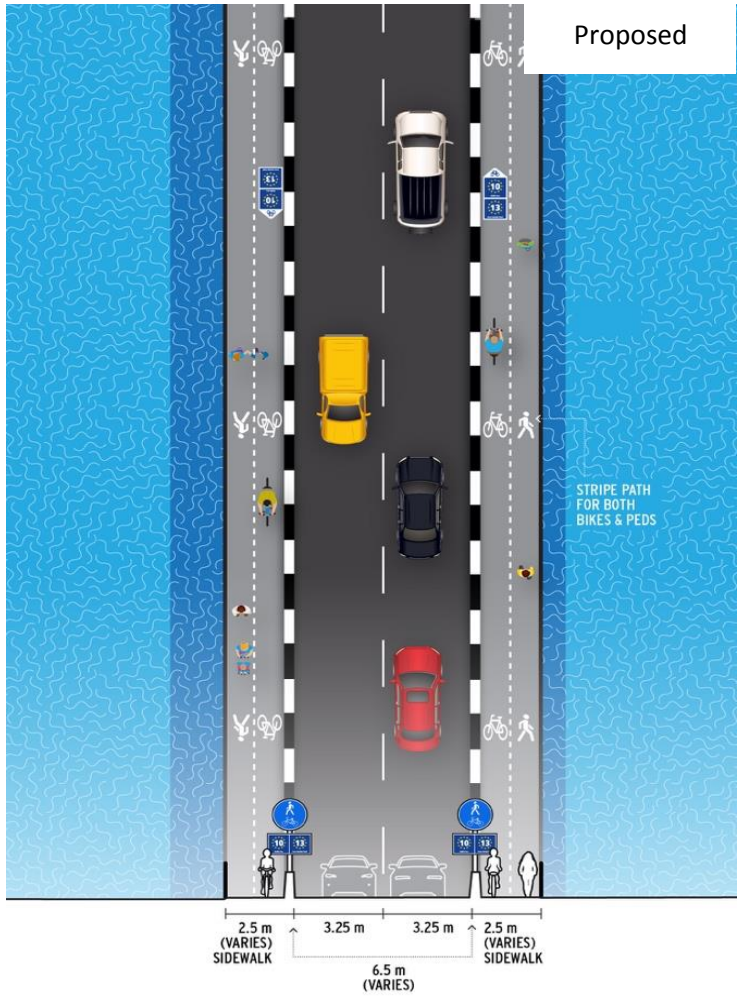


Cross-section examples (Vyborg bridge near castle)

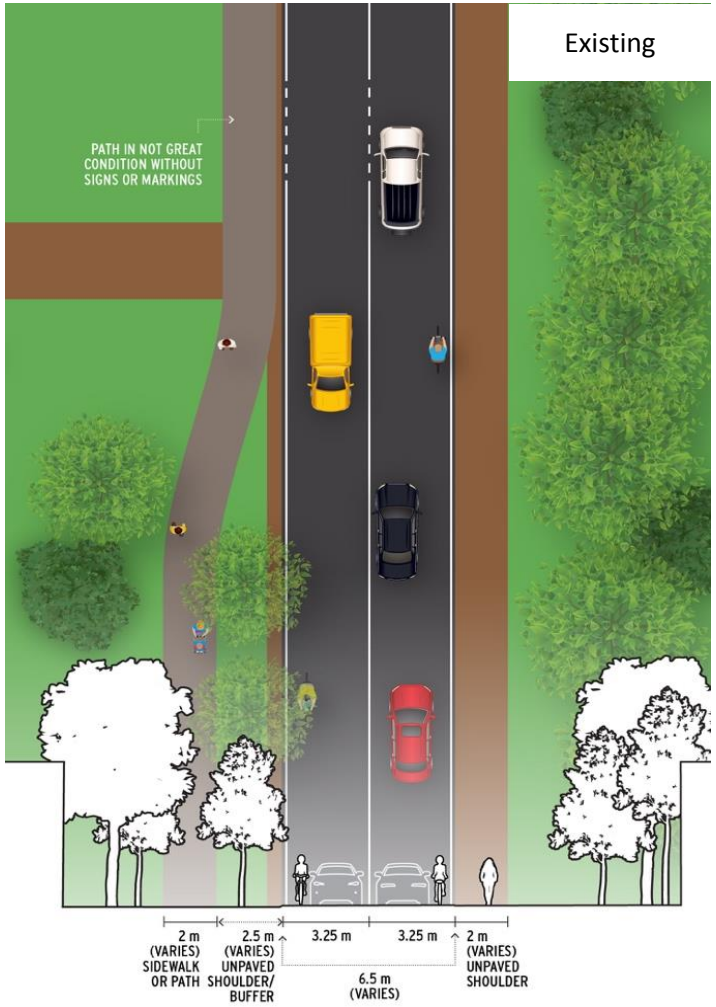
Existing

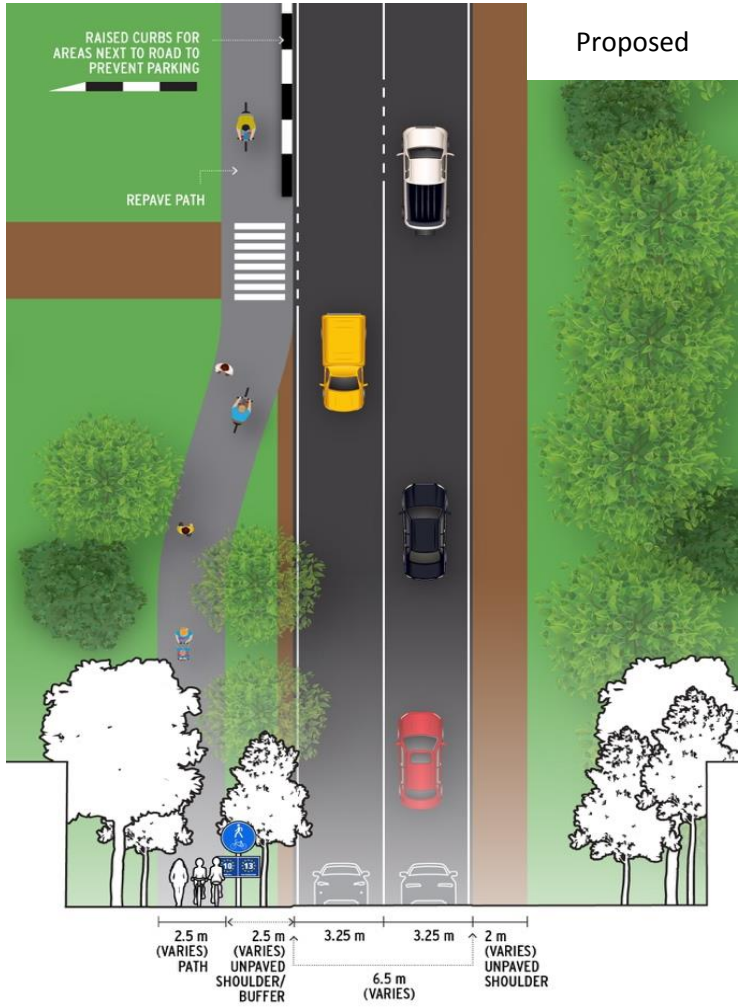


Proposed



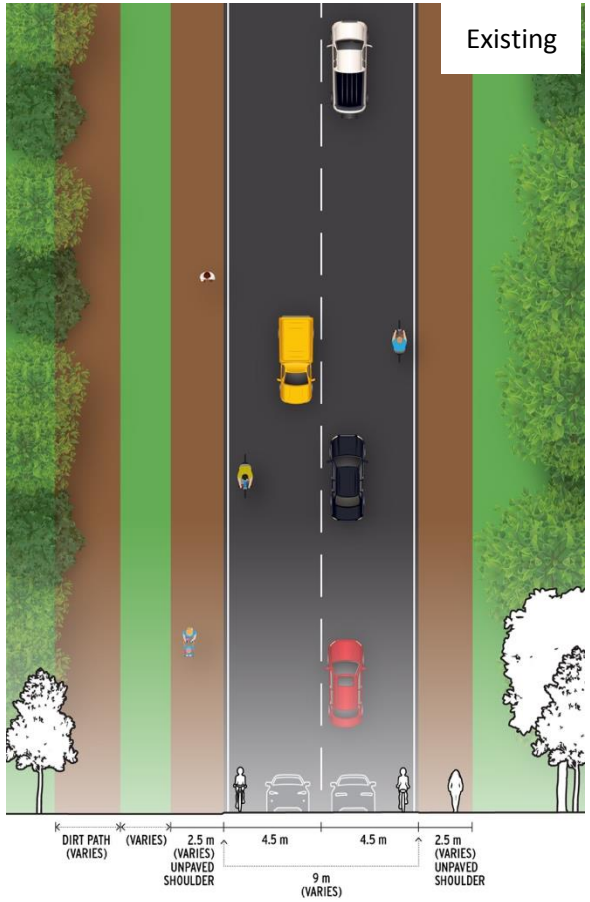
Cross-section examples (Primorsk)





Cross-section examples (Pesochnoye)

Existing



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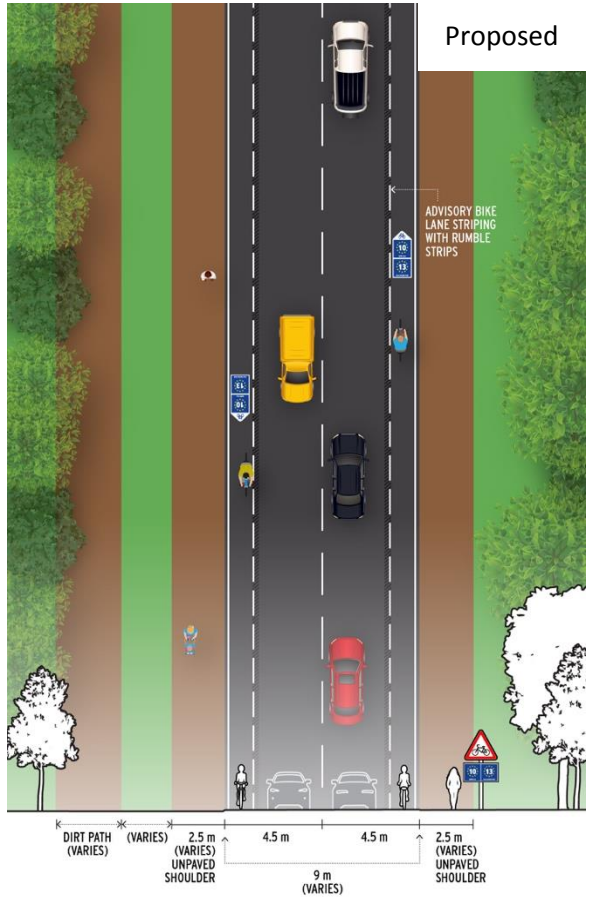
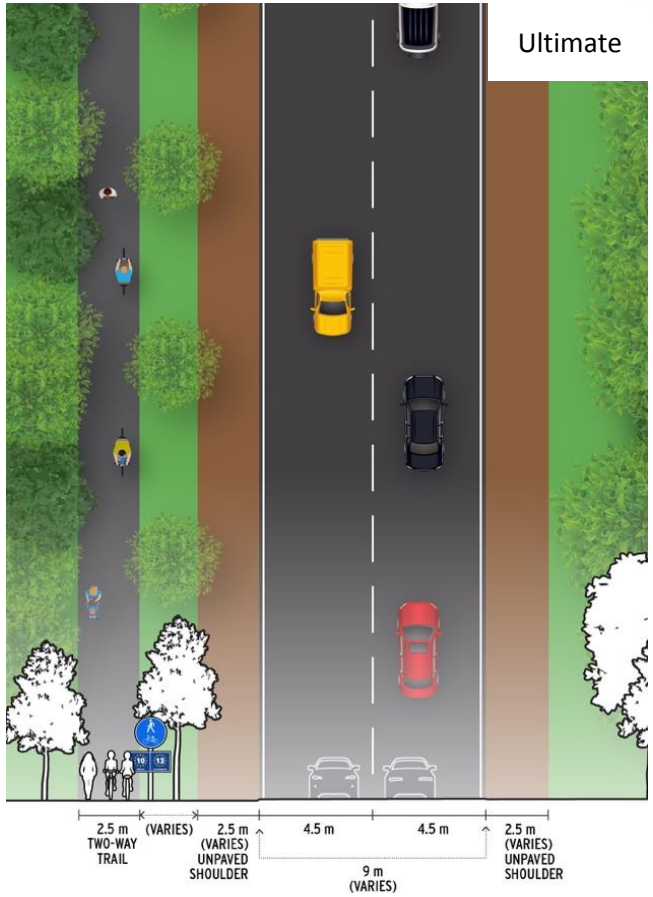
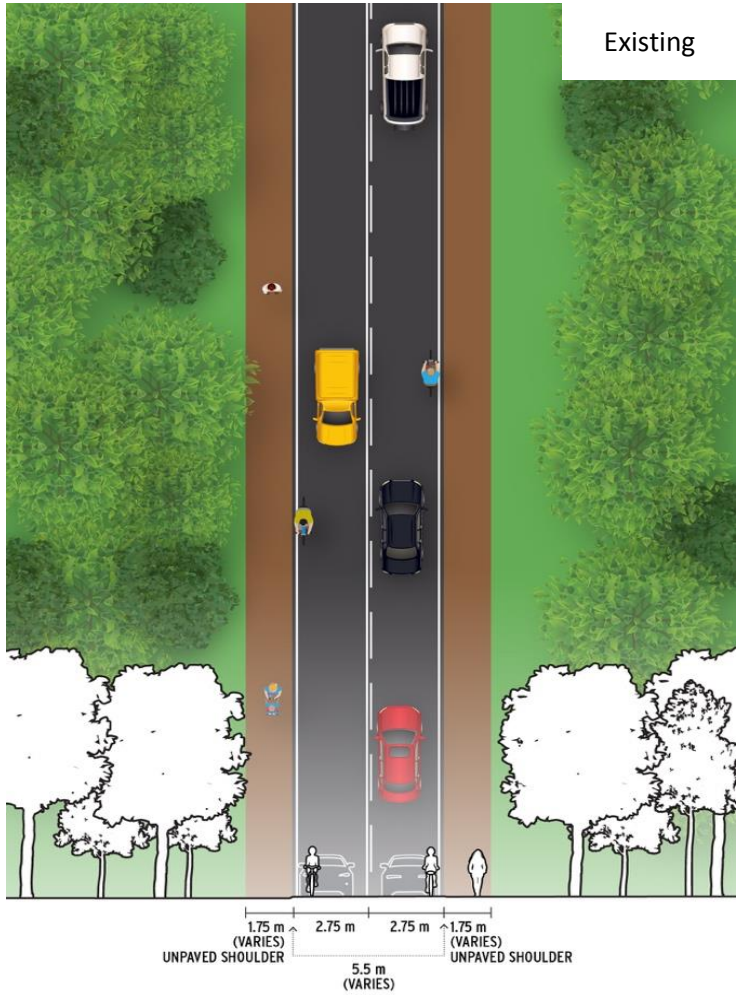


Ultimate



Cross-section examples (Rural area, south of Primorsk)

Existing



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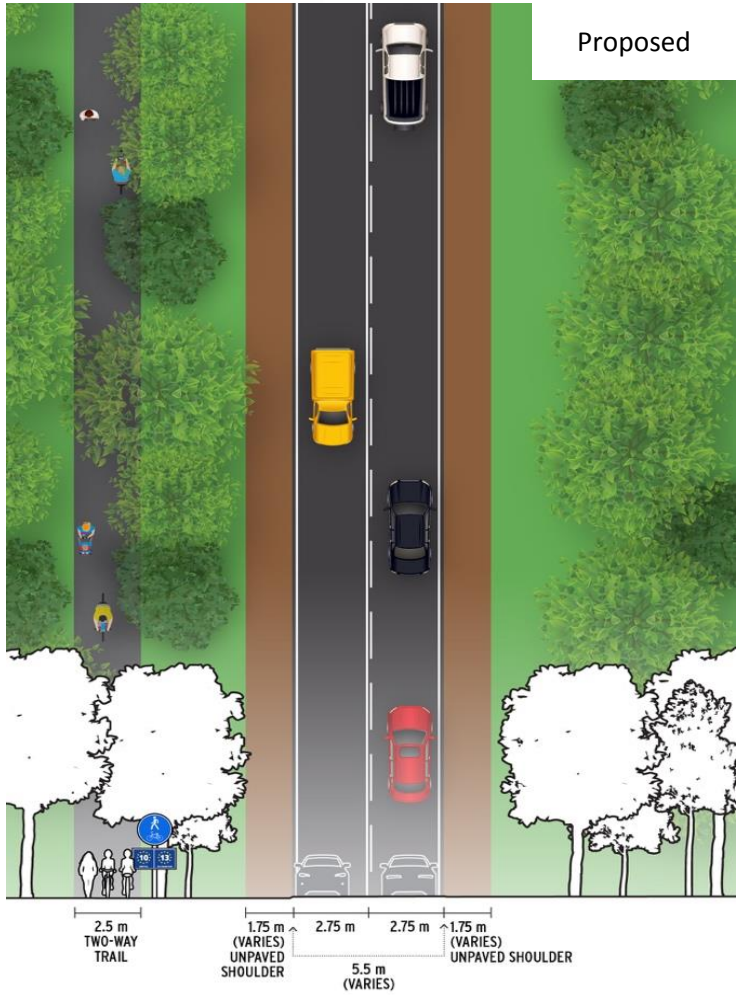
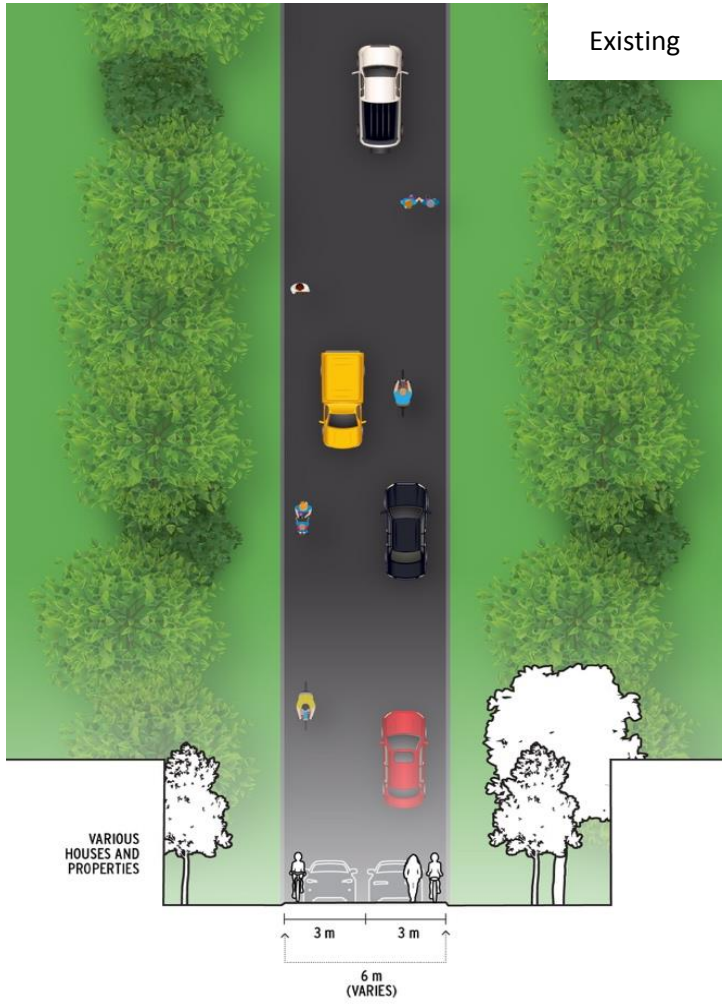


Cross-section examples (Lisy Nos, side street route)

Existing



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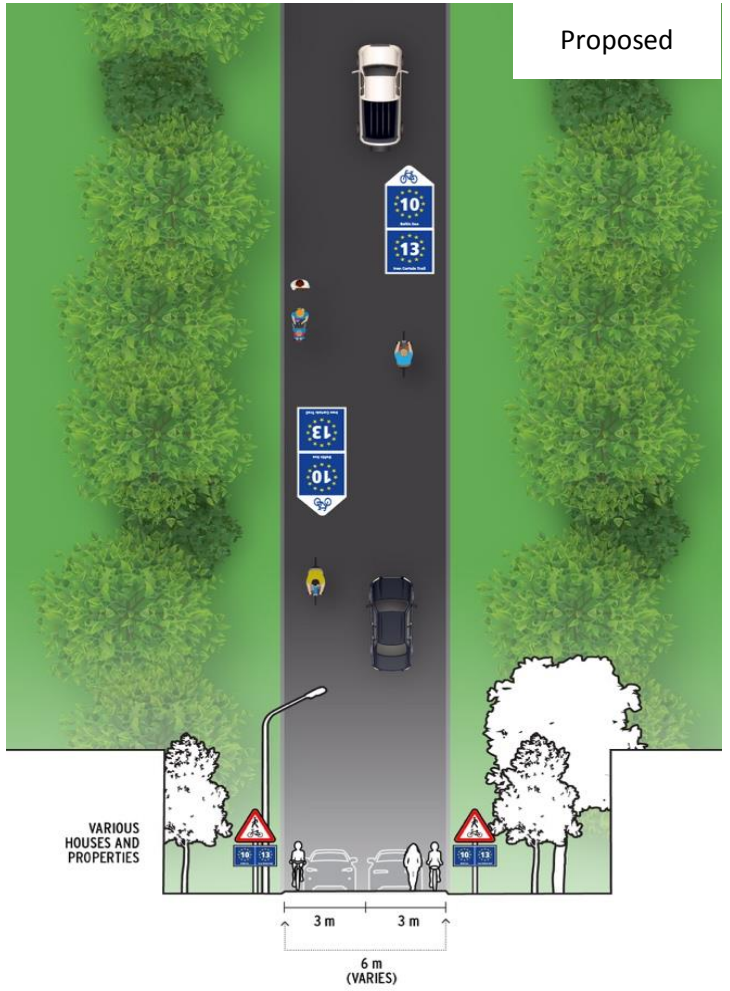
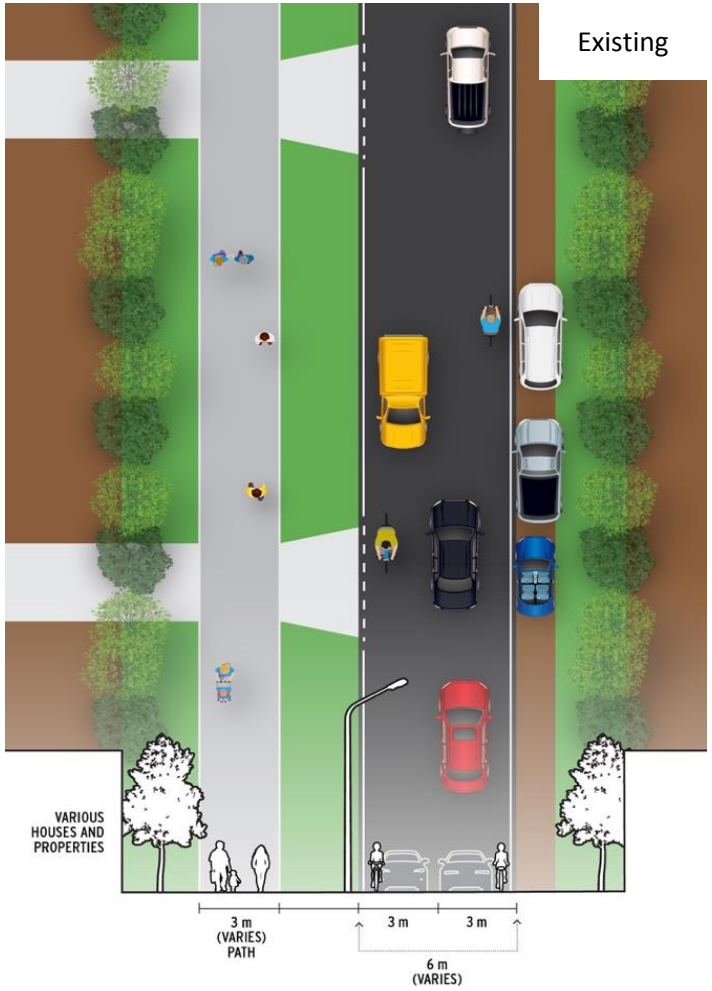
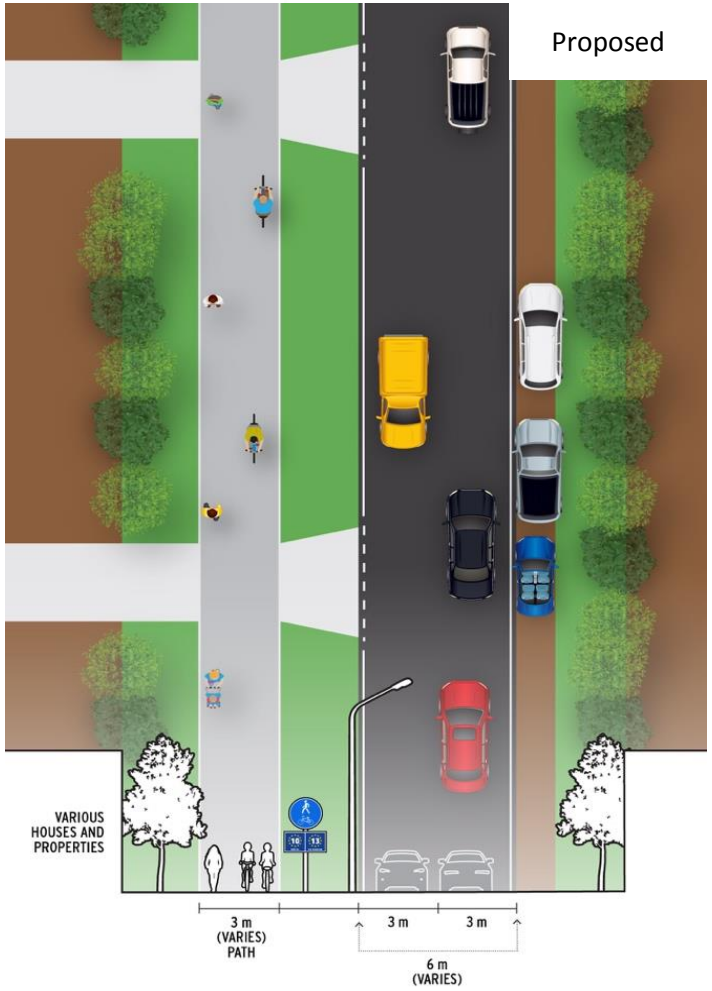


Cross-section examples (Razliv side street route)





Conclusion

- Leningrad region possesses great potential for developing bicycle tourism
- Implementing all suggested actions at once will not be feasible, so they are divided into three fases
- The suggestions are divided over th pillars of hardware, humanware and orgware

Actions for improving Hardware

- Phase 1: Improving the road profile by adding bicycle signage and marking in order to connect different segments and create
  a continuous route without physical barriers.
- Phase 2: Physically adjusting the road profile in order to give cyclists a separate lane.
- Phase 3: Constructing separate routes for cyclists.

Actions for improving Humanware

- Phase 1: Improving the cycling culture and cyclists' safety by adjusting the legislation and ensuring that cyclists are seen as proper members of the road.
- Phase 2: Improving the cycling culture by adjusting the legislation and introducing (bicycle) traffic education for children.
- Phase 3: Stimulating the development of rental bicycle systems and adding this service to mobility hubs.

Actions for improving Orgware

- Phase 1: Determining daily sections, the starting and finishing points of these sections (preferably in (relatively) large settlements) and adding bicycle repair facilities.
- Phase 2: Stimulating the development of facilities and services along the route. Also, combining services in large settlements to create mobility hubs (including bicycle maintenance shops, bicycle storage and connection with public transport).
- Phase 3: Adjusting the legislation in such a way that the cyclist is protected from the car, in order to promote the use of the bicycle over the car.

We are looking forward to further cooperation

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