

Visitor flow management along the Baltic Sea coast in Latvia

Identified changes over 10 years

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Visitor flow management along the Baltic Sea coast in Latvia: **situation in 2015**

- Between 2006 and 2015, at least 132 projects related to coastal public infrastructure development have been implemented.
- Provision and quality of public infrastructure (*pedestrian and cycling infrastructure, access roads to the sea, car parks, bathing facilities, etc.*) for access to the sea were assessed as inadequate/insufficient (**~80%**), significantly impacting the society and environment.
- **Beach holidaymakers** - most of the visitor flow, high concentrations (capacity problems, pressure on the environment).
- **Seasonality:** swimming season (15 May to 15 September): only ~20-25% optimal days for beach holidays (*when it is not raining, there are no strong winds, and the air temperature is above +20°C*).

A symbolic landscape of ~500 km (from ~8000 km of the Baltic Sea coast)

46% in *Natura 2000* areas





Coastal monitoring | Integrated study

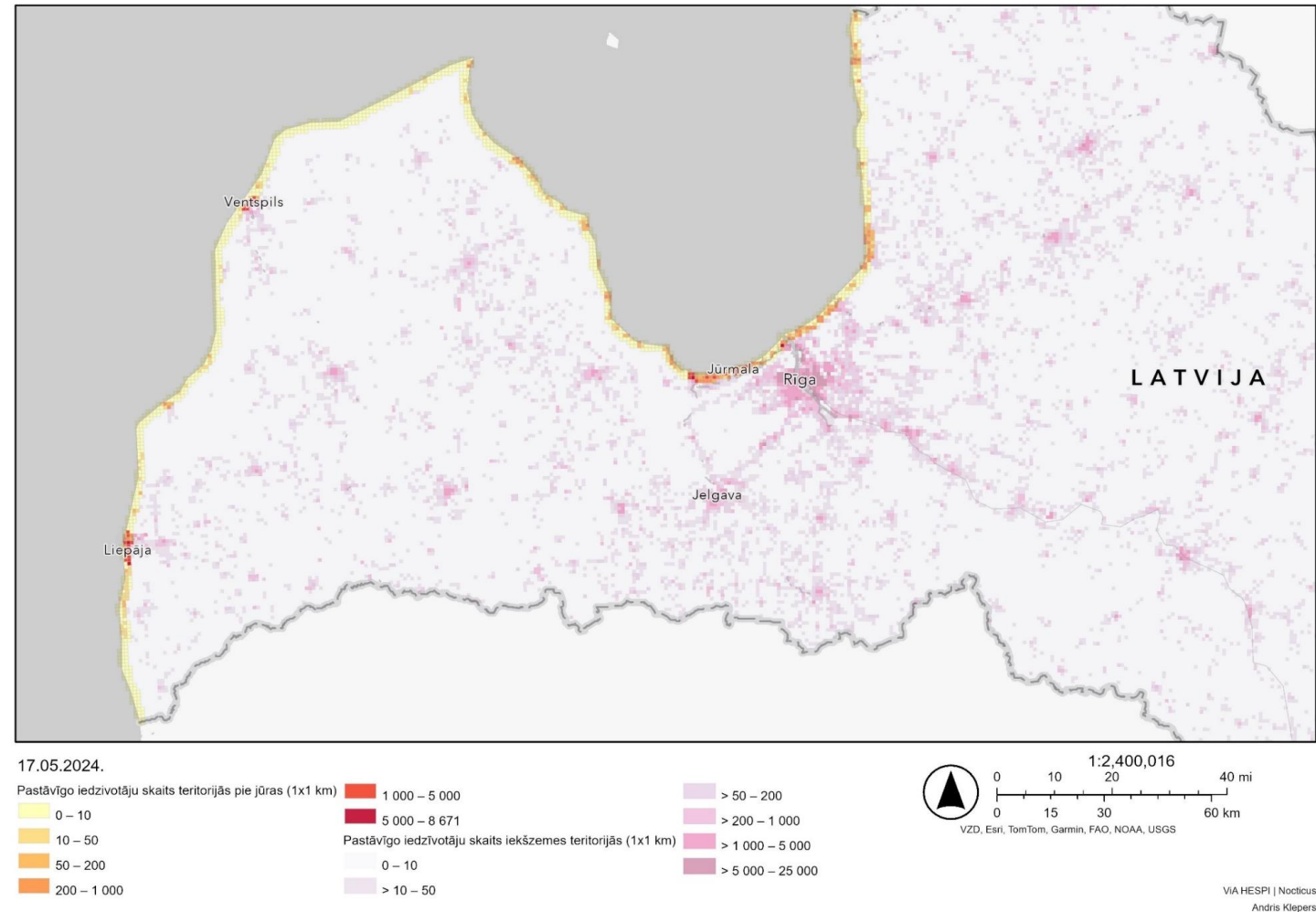
2015 | 2019 | 2023

- How much of the Baltic Sea coast is visited, and what is the impact on the coastal dune vegetation?
- What is the state of the coastal public infrastructure, and how can it be made more effective to manage visitor flow?
- **Methods:** use of automatic visitor counters, GIS analysis, secondary data analysis on tourism & mobility, visitor feedback analysis, and visitor surveys.
- The capacity and quality of the infrastructure, the negative impact of visitors on dune vegetation and the load of marine litter (FEE Latvia) were evaluated in the field.

Population density and recreational needs, accessibility

The total **population** in 2023 has **decreased by 2.5%** compared to 2015.

The number of permanent residents living within 2.5km from the sea (in the daily recreation area) in 2023 was **165 296**



Population / year	2018	2019	2020	2021	2022	2023
Up to 10 minutes' walk from the sea (833 m from the coastline)	43 491	43 543	43 490	43 683	43 185	42 993
10 to 30 minutes' walk from the sea (834-2500 m from the coastline)	123 964	123 728	123 741	123 535	122 655	122 303

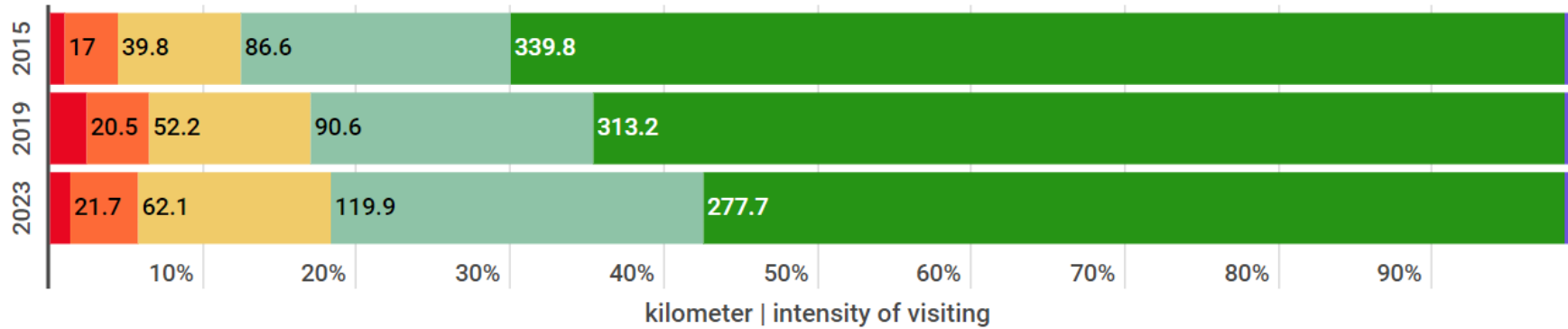
Reference: Poelman & Martens, 2016; Suárez et al., 2020



Key facts and trends

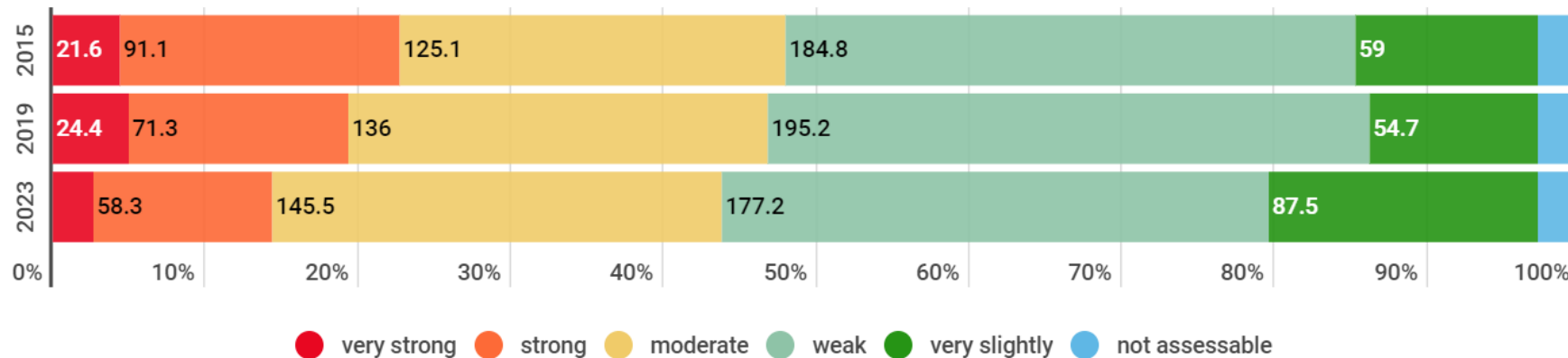
criteria	2015	2019	2023	change 15/23
Local population (<2.5km from the coast)	169,6K	167,2K	165,3K	-2,5%
Number of tourist accommodations	987	1176	1952	+98%
Number of rooms	6K	7,3K	11,2K	+86%
Number of beds for guests	16,1K	19,3K	27K	+67%
Number of tourist nights	1,2M	1,6M	1,8M	+47%
Proportion of foreign tourists (from overnight stays)	37%	51%	41%	+4%
Number of car entries in summer season in the most popular resort	0,9M	1,7M	1,9M	>100
Number of cars in 35 state roads (separate monitoring)	16,2M	22M	23,5M	+31%
Estimated total visits of the coast	4,7M	8,5M	7,97M	+69% /(-6%)
Length of stay at the seaside per visit (2-4h)	25,9%	31,1%	29%	+3,1%
Public infrastructure with good capacity / quality	~20%	39%	42%	+22%
Impact of visitor activities on coastal dune vegetation (very strong & strong)	22,7%	19,3%	14,4%	-8,3%

Baltic Sea visitation changes 2015-2023



Reduction of visitors in places with large crowds, wider dispersion

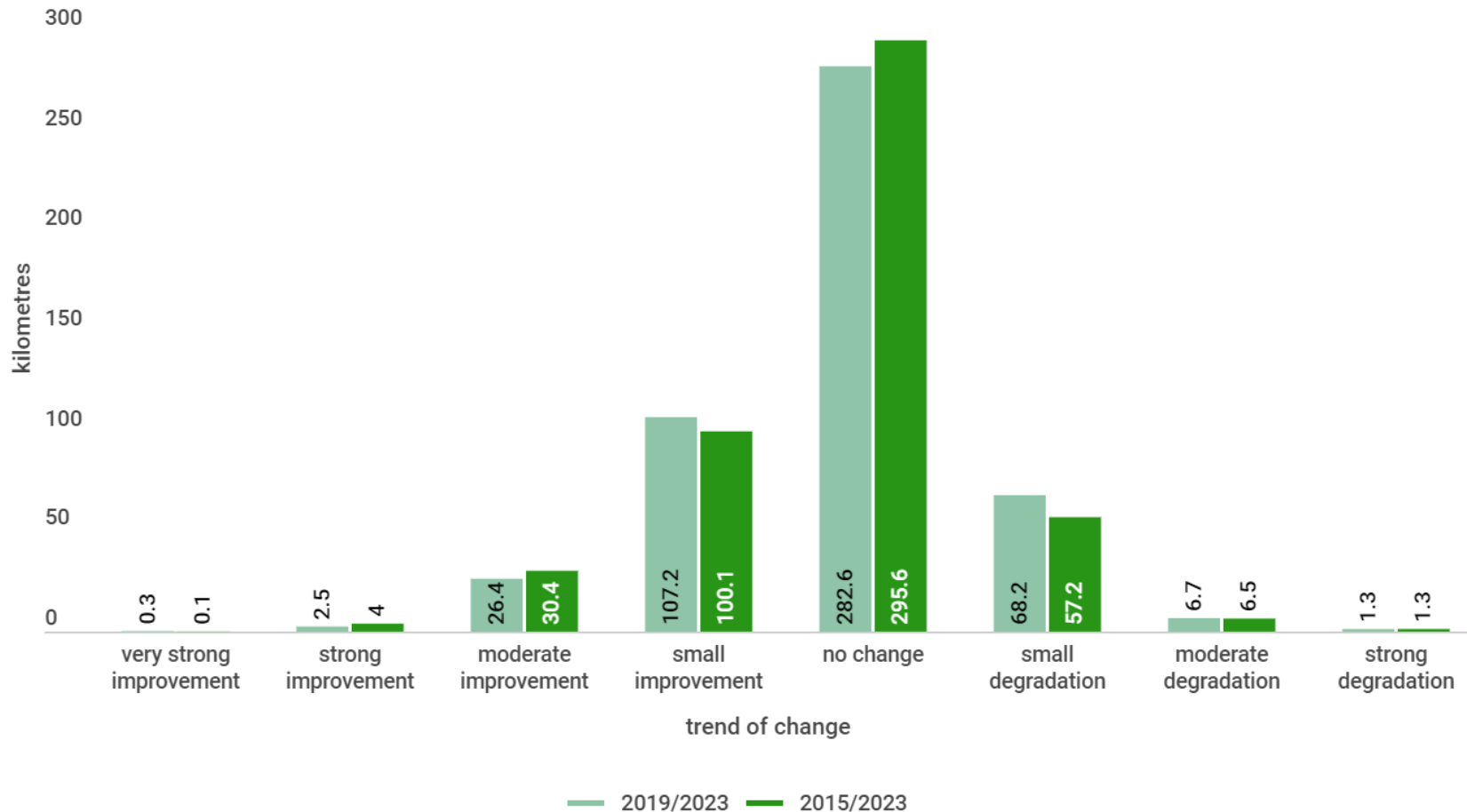
Impact of visitor activities on coastal dune vegetation



Achievement is reducing the «very strongly» impacted area (by 39.4%) and «strongly» impacted area (by 36%) as well as increasing in a very slightly impacted area (by 4.1%)

Changes in visitor pressure on coastal dune vegetation

Strong or very strong improvement has been seen in a very small proportion: 4.1 km overall since 2015 and 2.8 km since 2019.



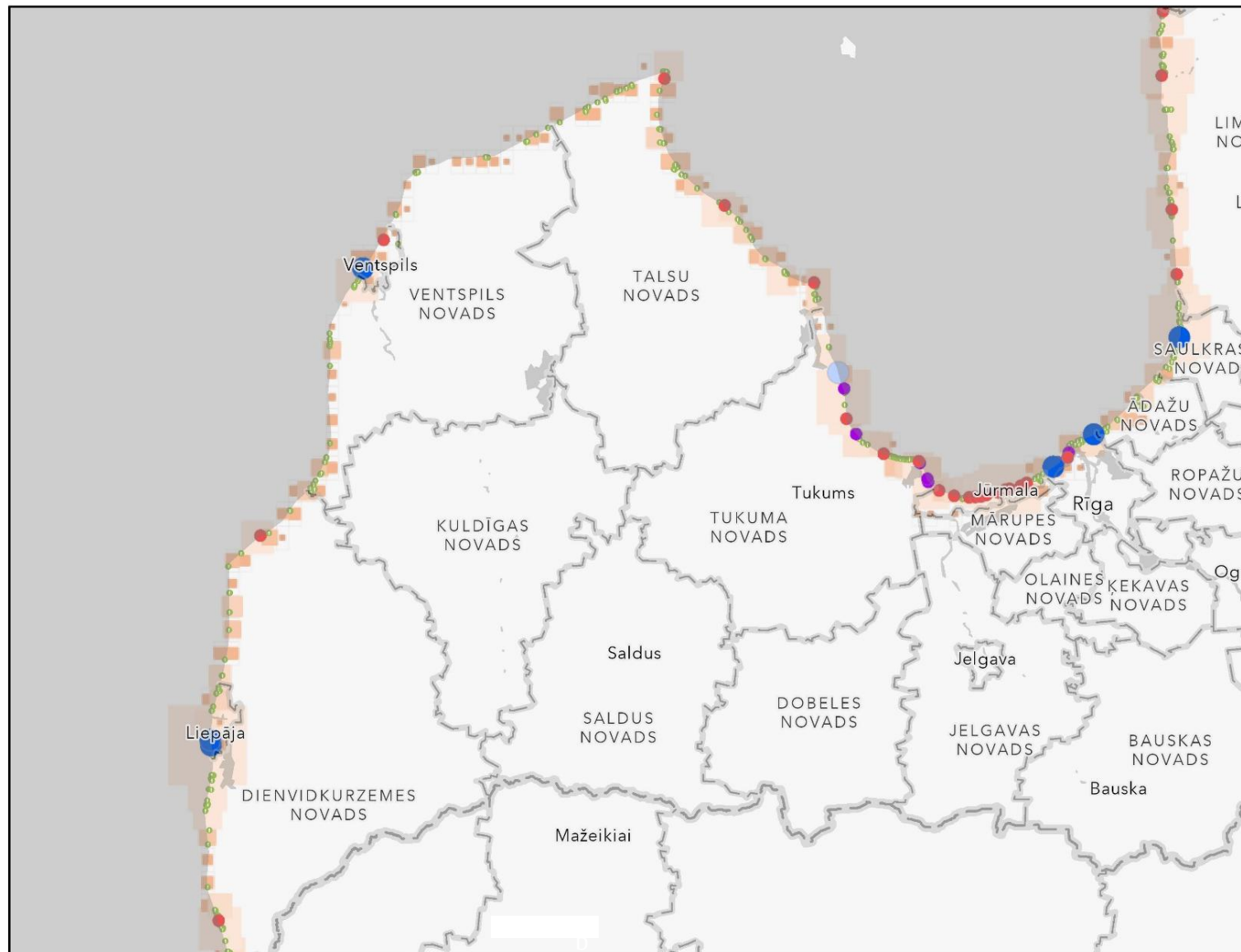
The average improvement has been 30.4 km. In the area of more than 100 km, there has been little improvement compared to previous periods.

In 59.7% of the coastal zone, no change in anthropogenic pressures (neither in the direction of deterioration nor improvement) has been detected.

However, an overall worsening (most of them slight) was observed in 65 km compared to 2015 or in 76.2 km compared to 2019

Car parking capacity

- ~500 parking lots
- Total surface: 399315 m² (~0,4km²)
- Cars at the same time: 17253 (potential for 5304 cars more in these with bad condition)
- The total potential capacity per day 135 342 people (calculating the number of car parking spaces, assuming two people per car and the average length of stay)
- With 5,5M cars per year, that creates 41 day



2.06.2024.

Zilā Karoga pludmales

● Zilā Karoga pludmale

● Zilā Karoga programmas ietvaros īstenotā Nacionālā peldvietu kvalitātes sertifikāta atzinības zīme

● oficiāla peldvieta

● neoficiāla peldvieta

● noēja uz jūru tūrismam

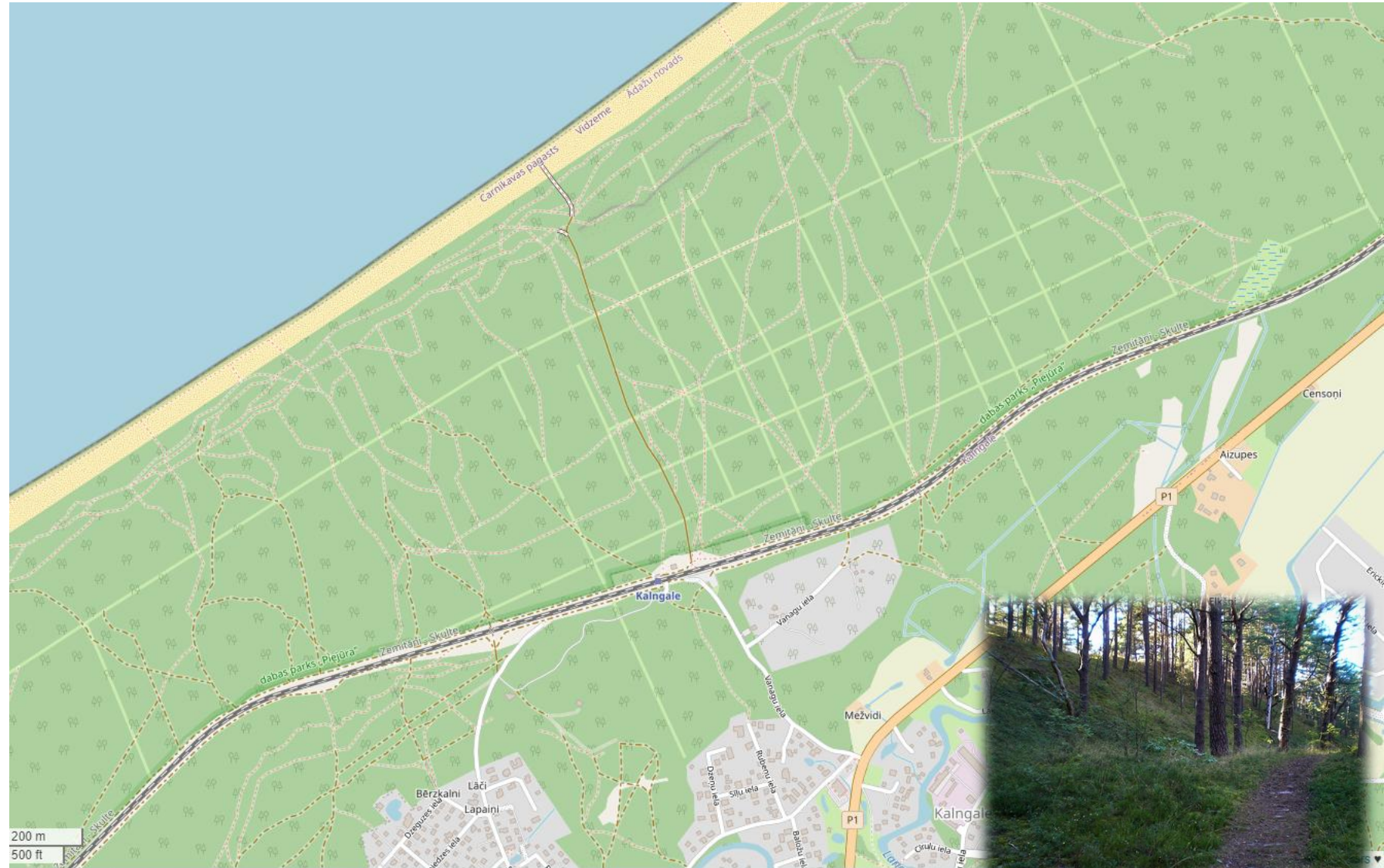
Autostāvlaukumu kapacitāte



VZD, Esri

For discussion

- Proactive regeneration - restoration of spontaneously / illegally formed paths is needed
- More effective solutions to manage seasonal and climate-induced crowding (7% or 25 days from 365) - in terms of infrastructure management, capacity and finance



Conclusions | Implications | Lessons learned

1. Regeneration of naturally formed trails in sensitive dunes after the construction of public access with infrastructure that concentrates visitor flows
2. Improvement of accessibility infrastructure (quality/capacity). Priority for soft mobility (*EuroVelo 13/10 ...*)
3. Capacity calculation and adjustment within the «customer journey»
4. Segmentation/separation of community and tourist access points (in spatial planning): changes in the legislation (public access for every 500m in dense settlements and in every 1km in other territories)
5. Technological solutions for coordinating, and optimising traffic flows in all public parking lots
6. Adapting site management (waste, services...) to climate data forecasts (visitor flows are predictable)



THANK YOU!

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