2020 CiViTAS
Cleaner and better transport in cities

PORTIS

SUMMARY REPORT

Testing (in living laboratory) of techniques to prioritize public transportation in order to increase its attractiveness comfort and speed

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Project partners

Organisation	Country	Abbreviation
1 City of Antwerp	BE	ANTWERP
2 Port Authority	BE	APA
3 Province Antwerp	BE	PROVANT
4 De Lijn	BE	DE LIJN
5 NMBS, Federal Road association	BE	NMBS
6 Traject	BE	Trajeck
7 Department Mobility and Public Works, Flemish Government	BE	BAM
8 City of Aberdeen	UK	ACC
9 Aberdeenshire Council	UK	A-Shire
10 Aberdeen Harbour Board	UK	AHB
11 Nestrans	UK	Nestrans
12 Robert Gordon University	UK	RGU
13 City of Trieste	IT	COM TS
14 Port Authority	IT	APT
15 Trieste research and science consortium AREA	IT	AREA
16 Trieste transport	IT	TT
17 University of Trieste - Department of Engineering and Architecture	IT	DIA
18 City of Constanta	RO	PMC
19 ADI Constanta metropolitan Area	RO	ADI-ZMC
20 Centre for European Development Association	RO	CED
21 Ovidius University	RO	OUC
22 Association for alternative energy MED Green	RO	MEDGreen

23 C.N. APM Constanta (Port)	RO	APM
24 City of Klaipeda LT	LT	KMSA
25 Klaipėdos keleivinis transportas	LT	KKT
26 Smart Continent LT	LT	SC LT
27 Ningbo University	CN	NBU
28 The University Court of the University of Aberdeen	UK	UNIABDN
29 Transport & Mobility Leuven (TML)	BE	Belgium
30 EIP	EIP	RO
31 Austrian Mobility Research, FGM-AMOR	BE	FgM AMOR
32 Vectos	UK	VECTOS
33 ISIS – Institute of Studies for the Integration of Systems	IT	ISIS

Document story

Date	Person	Action	Status	Diss. Level
13-01-2017	Andrius Jaržemskis Ieva Černeckytė	Identification of main public transport routes and attributes	draft	SC
21-04-2017	Andrius Jaržemskis Ieva Černeckytė	Analysis of public transport performance	draft	SC
21-06-2017	Andrius Jaržemskis Ieva Černeckytė	Testing the public transport priority lines	draft	SC

31-07-2017	Andrius Jaržemskis Ieva Černeckytė	Preparation integrated report	final	SC

Status: Draft, Final, Approved, and Submitted (to European Commission).

Dissemination Level: PC = Project Coordinator, SC=Site Coordinator, TC=Technical Coordinator, EM=Evaluation Manager.

Testing (in living laboratory) of techniques to prioritize public transportation, in order to increase its attractiveness, comfort and speed was conducted by Smart Continent during January – July 2017. Short summary report is presented here.

Currently several different street lighting technological solutions are used in Klaipeda: Stuhrenberg, Siemens, Peek Traffic, UK-2 and Swarco. Dominating manufacturer is Stuhrenberg in Klaipeda.

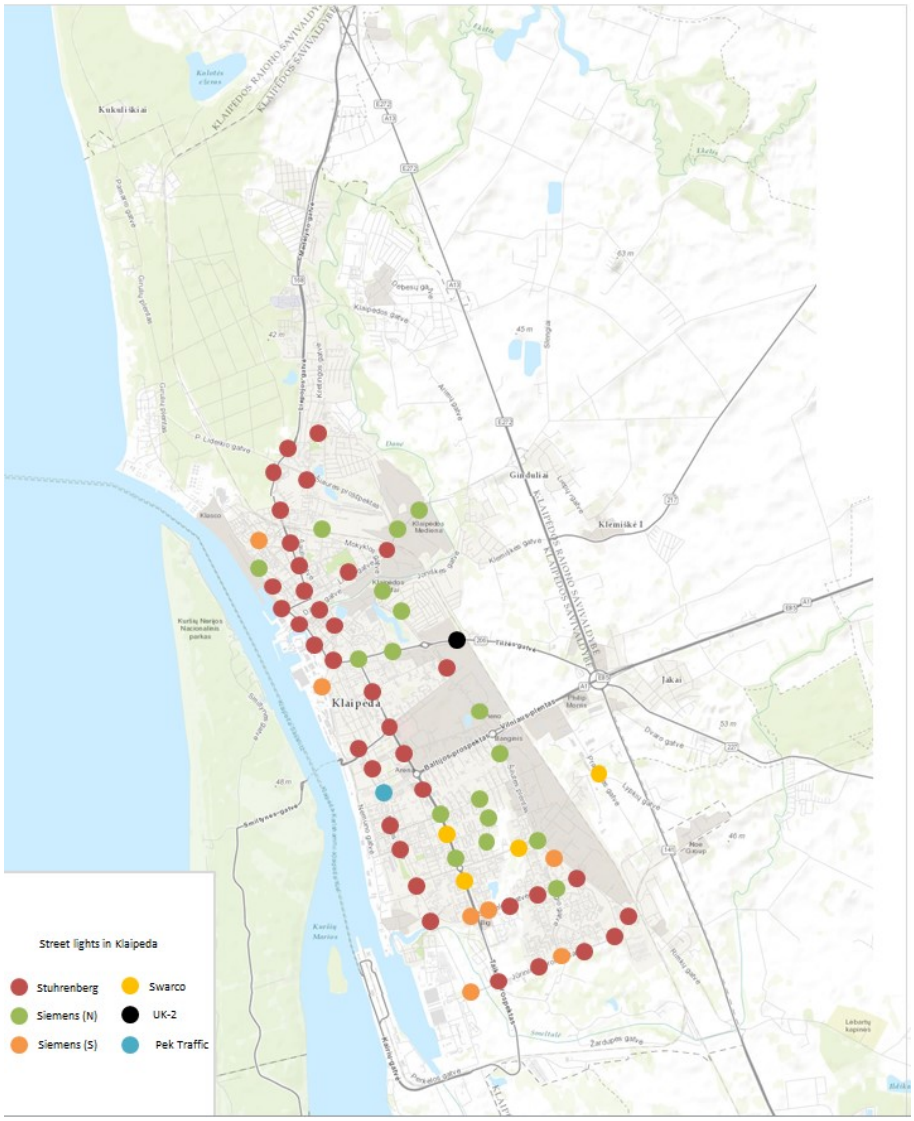

Figure 1. Street light network in Klaipeda

Source: designed by Smart Continent by data from UAB „Klaipėdos gatvių apšvietimas“

Street lights facilities designed by different manufacturers can‘t interact normally and ensure the integrated traffic management.

The public transport is organised by Klaipedos keleivinis transportas. The company belongs to Klaipeda municipality. Since 2010 there are implemented changes in route mapping. The high speed bus lines were designed in 2013.

Figure 2. Public transport in Klaipeda

Source: VšĮ „Klaipėdos keleivinis transportas“

There are selected several indicators representing main features of Klaipeda public transport system. .

Indicator	Change direction
Refreshed fleet	increasing
Passenger journeys	increasing
Public transport dedicated lanes	increasing
Average age of buses	decreasing
Route length	increasing
Number of routes	increasing
Km	increasing

Evaluation of public transport quality	Stabil, (6,8 – 7,3) of 10

Table 1: Public transport attributes in Klaipeda

Smart Continent implemented the test of public transport punctuality. There were obtained systematic delays during rush hours: morning peak 7.00-8.00 AM and evening peak 5.00-6.00 PM. The public transport causing delays especially in Taikos street which is on south – north connection.

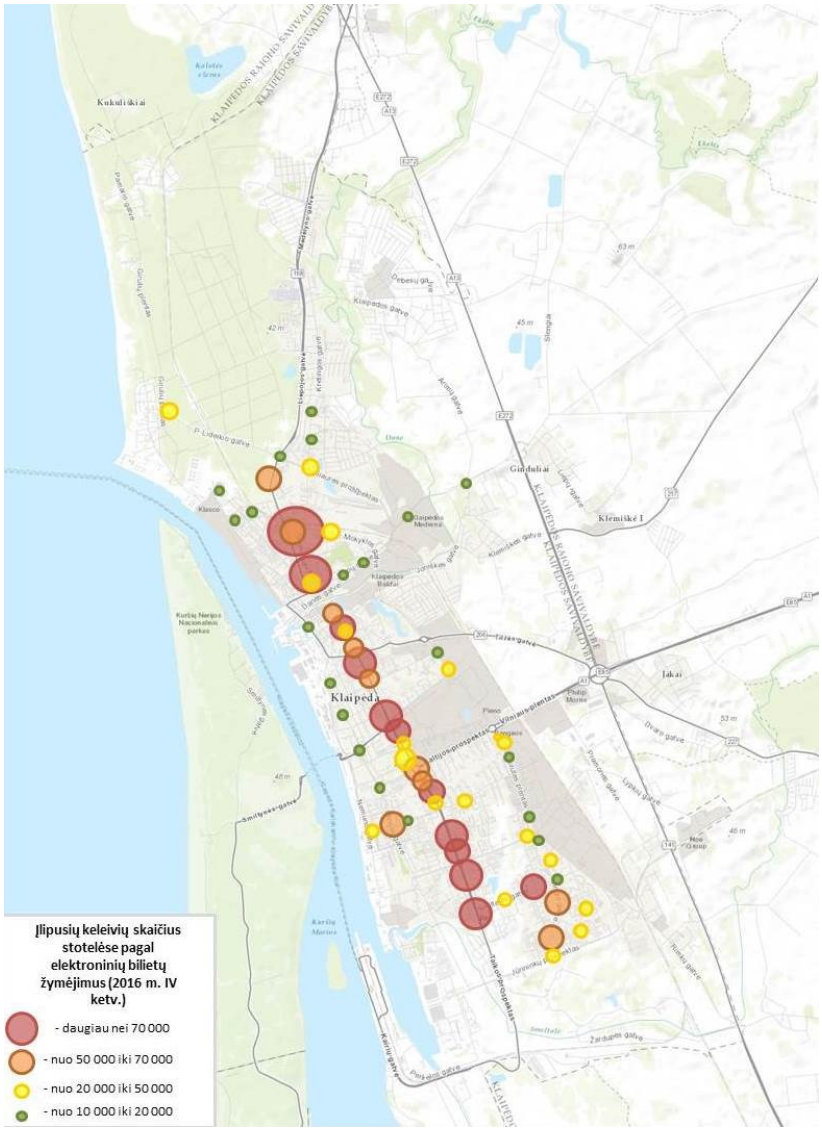

Figure 3. Number of passengers' stops

Source: Designed by Smart Continent, data by Klaipėdos keleivinis transportas

The main attributes of traffic also was defined during testing existing situation:

- The main demand of mobility services is in south – north direction (Taikos avenues mainly);
- More than 60 percent of delays in public transport comes in Taikos avenue;
- The traffic speed in north – south direction in 7 km/hour less than east-west direction.

Taikos street is situated in Figure 3 as most passenger crowded stops. In parallel to implementation of live test UAB „Gatvių apšvietimas“ has implemented central traffic monitoring and management system. System is integrated with all Siemens street lighters.

Having in mind that Taikos avenue is equipped by street lights of different manufacturer Smart Continent tested in live conditions the phases differs from 15 seconds to 36 seconds at the same day time in different cross roads on the corridor.

Figure 4. Director of Klaipeda Municipality (on the left) and Chairman of the Board at Gatviu apsvietimas Edvardas Simokaitis presenting new street lights monitoring system

In March 2017 installed system currently integrating remote control of 15 cross-roads. The failures or damages of the street light are reported online. System also has an option for remote control of traffic phases. The main challenge remains to integrate all cross-roads which are equipped by street lighters manufactured by other firms.

Another challenge remains to decide on which direction to upgrade the traffic management system. “Green wave” concept is opposite to “green public transport corridor concept”. The green wave concept is more personal car friendly. Synchronisation of street lighters along corridor definitely improves street and corridor throughput and reduces congestions. However it doesn’t fit to public transport prioritisation traffic management system. When public transport vehicle is approaching the cross-road the interactive system open the green corridor for bus, however interrupting the green wave for personal and freight traffic.

The only street where transport priority lines could find the place is the Taikos Avenue where most public transport is concentrated. However decision is needed on integration of Siemens and Stuhrenberg Street lights systems. Majority of street lighter on Taikos avenue is Stuhrenberg systems which are by estimation of Smart Continent not fully compatible with Siemens systems. Having in mind, that central traffic management systems are built recently for Siemens system is it the challenge to create transport priority line on Taikos avenue without replacement of existing Stuhrenberg street lights to Siemens on 12 crossroads along Taikos Avenue Corridor.

Another measurement of planned systems is planned by Smart Continent in May 2019 after integrations of systems will be implemented.

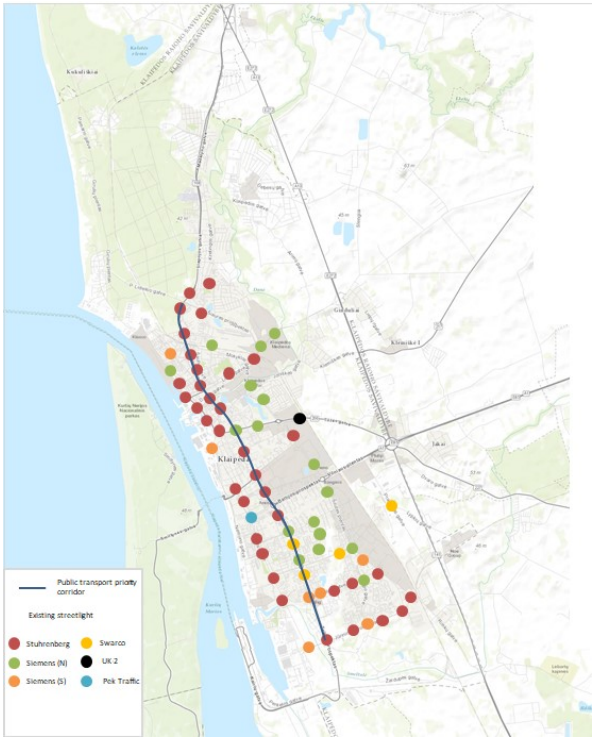

Figure 5. Recommended public transport priority corridor for Klaipeda

Source: Smart Continent.