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VELOSTRADA

SYNTHESIS PRELIMINARY STUDY OF BICYCLE ROAD VELOSTRADA - A Bicycle Connection of Mokotów with Al. KEN

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Introduction

Synthesis presents results of an analysis entitled “Preliminary Study Of Bicycle Road Velostrada - A Bicycle Connection Of Mokotów with Al. KEN” (“*Studium koncepcyjne budowy trasy rowerowej Velostrada - rowerowego połączenia Mokotowa (ciąg ulic Rolna – Bukowińska) z Al. KEN przy pomocy wiaduktu nad dolinką Potoku Służewieckiego*).

The project was prepared by *TransEko sp.j* on the order from the *Biuro Drogownictwa i Komunikacji m.st. Warszawy*.

Project is located in Warsaw, between the two southern districts Ursynów and Mokotów, in the area of Park Dolina Służewska. Location of the project is presented on the Pic. 1.

As **Velostrada** it is understand a bicycle road of a very high design parameters, enabling bicycle high travel speed. It is assumed that Velostrada will be designed in a plan and longitudinal profile taking into consideration minimisation of the number of collision points and as low as possible cyclists energy use. The aim of Velostrada construction is to create a possibility for a very attractive way of bicycle travel between Ursynów and Mokotów, as well as between those two districts and Warsaw city centre, a way competitive to travel by car.

It is assumed that Velostrada will strengthen attractiveness of the bicycle transport system not only in the corridor of Al. KEN street, but in the whole Ursynów and Mokotów districts as well. As a result it will help to change travel behaviours in the city and will limit car use.

Within the Study the three Velostrada alternatives were analysed with different route and geometrical solutions. A final proposal was preceded by a detail analysis including:

- bicycle traffic surveys,
- bicycle infrastructure inventory works,
- road and bicycle road development plans as well as spatial development plans,
- existing situation analysis (SWOT analysis),
- vertical and horizontal alignment,
- functional analysis,
- traffic safety analysis,
- technical design aspects,
- collision analysis with car traffic and pedestrians
- cost analysis.

Possible connections with other bicycle roads (existing and planned) and possibility of the construction of bicycle viaduct over Park Dolina Służewska were also taken into consideration.

Finally, recommendation of the best alternative was formulated on the basis of multi-criteria analysis, based on the following criteria:

- I. geometrical– plan and longitudinal profile,
- II. functional,
- III. traffic safety,
- IV. spatial – esthetical,
- V. economic.



Pic. 1 Location of the Velostrada project in Warsaw.

Velostrada – recommended alternative 2a

According to the recommended alternative 2a Velostrada starts at the Ursynów district at the crossing of Al. KEN and ul. Surowieckiego streets. Then, it goes inside separation lane of the two Al. KEN carriageways up to the Park Dolina Służewska. Then Velostrada crosses the Park on bicycle viaduct 180m long up to the opposite Park side and goes over Bacha street to crossing of Wałbrzyska and Rolna streets. Then cut across al. Wilanowska, and along Nowobukowińska street goes to Puławska street connecting with the existing bicycle road located on the east road side.

This alternative doesn't require major corrections of the existing infrastructure, because on the main sections Velostrada uses completely new corridor. The total length of Velostrada is 2530m, with the main section along Park Dolina Służewska, 765m long. Plan of the Velostrada road is presented on the Pic. 1



Wariant 2

Velostrada length: 2530 m

Average travel sSpeed : 16,5 km/h

Average Ravel time: 9,2 min

Corridor:

- Al. KEN from crossing with Surowieckiego,
- Park Dolina Służewska,
- Al. KEN planned extending,
- Rolna street
- Nowobukowińska street,

Main collison points:

- Crossing with Sonata and Batuty collector road,
- Crossing with Wałbrzyska street,
- Crossing with Niedźwiedzia street
- Crossing with Wilanowska street

Pic. 2

The plan of Velostrada

Velostrada will enable cyclists to drive the whole route with the average travel speed of 16,5km/h (with the assumption that in ideal conditions cyclists can drive with the speed of 25 km/h). Whereas the proposed solutions will enable to drive the section between Surowieckiego and Bacha street (including passing the viaduct) with the average travel speed of 23km/h

Taking into consideration all the factors influencing the travel speed and travel smoothness, the estimated travel time along Al. KEN, between Surowieckiego and Puławska street will be equal to 9 minutes.

Solution proposed in recommended alternative requires to be agreed upon with the other transport projects planned nearby Al. KEN and Surowieckiego street crossing. It mainly concerns the project of Al. KEN extending into the north of Warsaw (direction of Wałbrzyska street) and location of Park and Ride parking in the vicinity of Al. KEN/Surowieckiego crossing.

In case that, because of the two mentioned above project, location of Velostrada won't be possible in the separation lane of Al. KEN, the Study propose an alternative Velostrada run on the west side of Al. KEN (Alternative 2b)

Velostrada – cost estimation

Alternative 2a (including VAT):

- reconstruction of existing infrastructure - 0,5 MLN PLN,
- new sections including bicycle viaduct - 5,5 MLN PLN,
- **total investment cost - 6 MLN PLN.**

Alternative 2b (including VAT):

- reconstruction of existing infrastructure - 0,8 MLN PLN,
- new sections including bicycle viaduct - 6,0 MLN PLN,
- **total investment cost - 6,8 MLN PLN.**

Main Velostrada benefits

- new high quality inter district bicycle road connection,
- safe and comfortable new bicycle road system element,
- increase of bicycle road density,
- limitation of negative transport system impact to the environment,
- improvement of social health,
- stimulation of bicycle traffic increase,
- propaganda effect – thanks to use of high quality technical solution including construction of 180m bicycle viaduct.