



---

Palacký University  
Olomouc

**Bicycle Traffic in the Czech Republic:  
The Ways of Influencing the Behaviour of People  
Involved in It**

**ICTCT workshop, Beijing, China  
26. – 27. 4. 2016**



# 1. Smart Cycling City

A city needs to secure **mobility for everybody in order to be a pleasant place to live** – it needs to be accessible and easy to get around.

There are numerous groups of inhabitants, e.g. **children and senior citizens**, who face major **restrictions** in terms of their mobility.

The **development** of transportation should involve better conditions for **all** modes of transport, including non-motorised ones, represented by pedestrians and cyclists.



**United Kingdom**

Edinburgh

Manchester

Dublin

**Ireland**

North Sea

**Denmark**

Hamburg

Berlin

**Poland**

Warsaw

**Lithuania**

Vilnius

Minsk

Мінск

**Belarus**

Kiev

Київ

**Ukraine**

**Germany**

Amsterdam

**Netherlands**

Brussels

**Belgium**

Luxembourg

Frankfurt

Prague

**Czech Republic**

Munich

Vienna

**Slovakia**

Budapest

**Hungary**

**Austria**

Zagreb

**Slovenia**

**Croatia**

Belgrade

Београд

**Bosnia and Herzegovina**

Sarajevo

**Serbia**

Podgorica

**Kosovo**

**Macedonia (FYROM)**

Tirana

**Albania**

**Romania**

Bucharest

**Moldova**

Chisinau

Black Sea

Tyrrhenian Sea

Google

**Spain**

Madrid

Valencia

Barcelona

Andorra

Porto

**Portugal**

**Greece**

Istanbul

Bursa

Ankara



Palacký University  
Olomouc



## 2. The Czech Republic and cycling

The **Czech Republic** has approximately 10.5 million inhabitants and an area of some 80,000 square kilometres.

Czech households possess an estimated **four million bicycles** (a number similar to that of registered cars).

Cycling accounts for **7% of the average national transport capacity**.

The level of the use of bicycles is **increasing**, especially in large cities. In Prague, for example, **29%** of respondents reported that that they would use bicycles regularly if there were **satisfactory conditions for that, particularly as regards safety**.





### 3. Czech National Cycling Strategy

The key national document to promote cycling in the Czech Republic is the “**Cycling Strategy**”.

The **general objective** of the Cycling Strategy is to **popularise bicycles** in order for them to again become an **equivalent, natural, and integral component of urban transportation systems “on a short-distance basis”**, i.e. to show that bicycle traffic is competitive within five-km distances.

#### **Strategic objectives:**

1. to scale up the share of cycling in transport capacity to **10%** by 2020
2. to reduce the number of annual cycling fatalities and serious injuries by **50%** until 2020
3. to promote **construction of high-quality and safe cycling infrastructure** and the development of **suitable legal conditions** for the use of bicycles for both transport-related and recreational purposes.

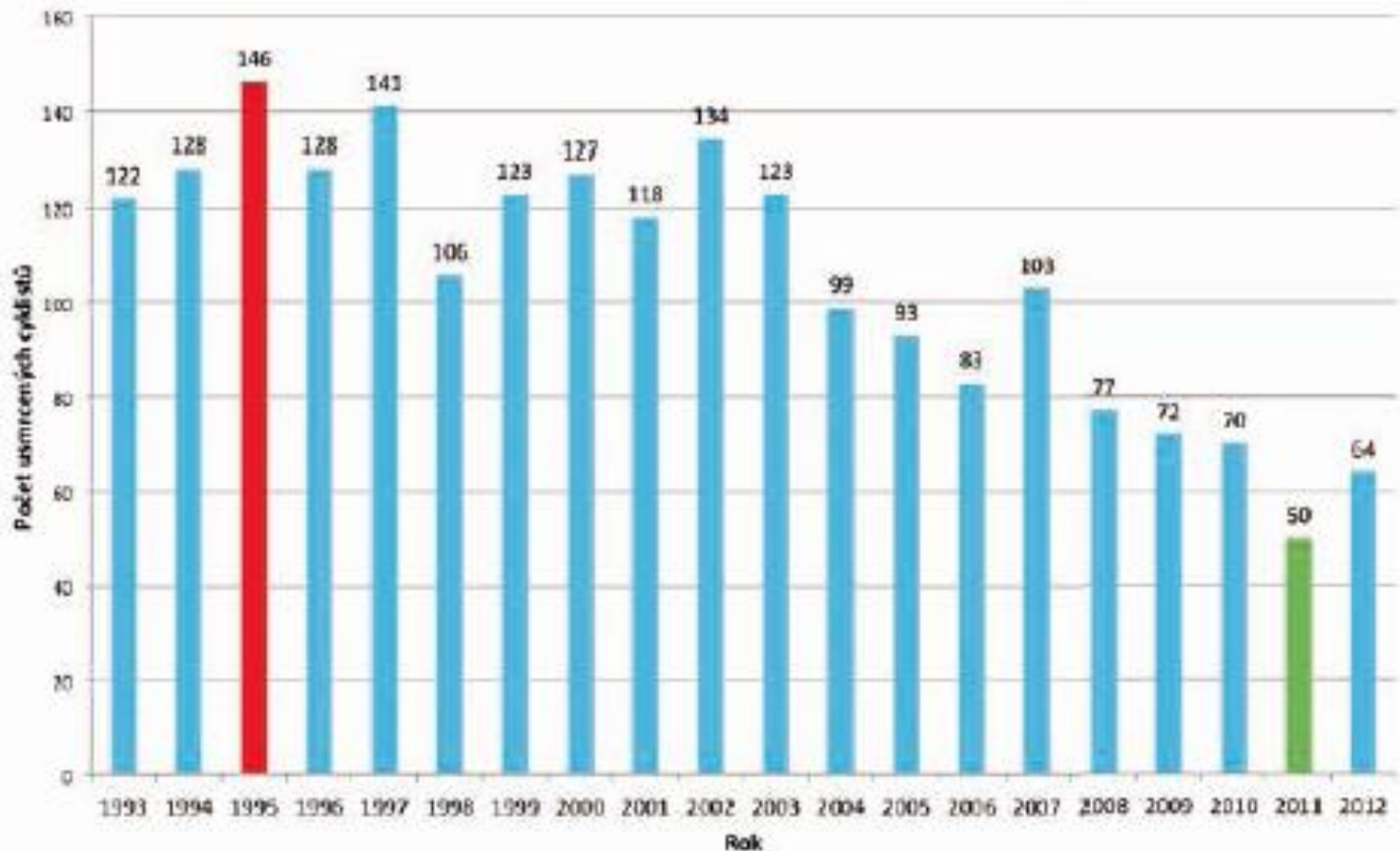


## 4. Safety figures: cycling in the Czech Republic

While the latest statistics in the Czech Republic suggest that the absolute figures for **cycling fatalities show a declining trend**, their share in the total number of fatalities remains **high**, particularly when compared to the European average in countries with advanced cycling cultures (e.g. the Netherlands, Denmark, and Germany).

A cyclist in the Czech Republic is at **4.5 times** greater risk of being killed in a traffic accident than one in the Netherlands.

The common denominator of the majority of cycling injuries is the **absence of a helmet**.



Graf 3. Vývoj počtu usmrcených cyklistů v ČR. Zdroj: ŘSDP PPCR, BESIP

Overall, these absolute figures demonstrate a **declining trend in the long term**, with the exception of the year 2007.

From 1993 to 2011 cyclists accounted for **9% of the total number of fatalities**, which means that there was one cyclist in every 11 fatalities.



## 5. Cycling in the Czech Republic: barriers

**Infrastructure-specific factors** that seem to hamper an increase in the rate of urban cyclists are:

- poor quality of the surface of cycling paths
- sections of the cycling network not being interlinked,
- lack of areas where bicycles can be parked safely,
- lack of facilities for people who use bicycles to commute to work (showers, no place to leave the bicycle, etc.)

**Nevertheless**, the main barrier to the greater use of bicycles as a means of transport seems to be the **cyclists' subjective feeling of low safety, especially on roads which they share with motorists.**





Palacký University  
Olomouc

## 5. Cycling in the Czech Republic: barriers

*When regulations and the rule of thumb won't get along.*





## 6. Cycling in the Czech Republic: safety concerns

### Frequent causes of accidents on roads with motorised traffic

- great differences in speed between cyclists and motor vehicles
- drivers (especially those of lorries) turning right have a limited view of cyclists going straight or positioned on their right
- conflicts between cyclists turning left and drivers of motor vehicles behind them or oncoming
- standstill traffic-related problems (e.g. car doors being opened, manoeuvres linked to parking and driving out of a parking place)
- too little lateral clearance between a cyclist and a motor car

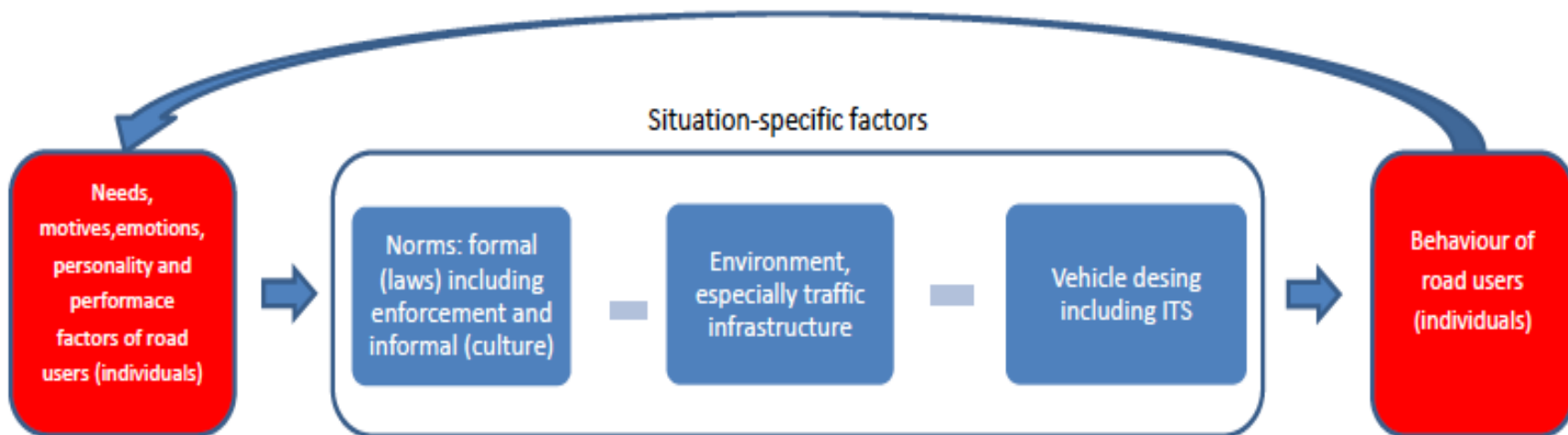


## 7. How-to-Influence-Behaviour model: introduction

The How-to-Influence-Behaviour model describes the options for influencing human behaviour in traffic.

The model is based on the assumption that **human behaviour is a consequence of people's efforts to satisfy their needs**. Behaviour is thus shaped by human needs, preferences, and motives.

**Nevertheless**, the form of behaviour a person engages in is also **influenced** by additional factors that may be **human-specific** (i.e. internal, such as individual personality structure, values, and norms) or **situation-specific** (i.e. external, such as the type of road or the power of their car).



Preconditions: Human-specific factors

Outcome: Individual responsible

Situation-specific factors: Responsibility of the society

Šucha, 2015



## 8. How-to-Influence-Behaviour model and the ways of influencing the behaviour of road users

### 1. Norms: formal (laws) including enforcement and informal culture

To adopt changes in legal regulations; when potentially relevant legislation is being amended, the needs of bicycle traffic should always also be taken into account. Any independent and separate approach to bicycle traffic can hardly work – the process of addressing cycling must become an integral part of other documents concerning traffic operations;

To achieve the adoption of primary laws for the protection of cyclists, particularly in terms of the mandatory use of safety helmets for all (currently in the Czech Republic they are only required for young people under 18);

To exercise consistent law enforcement highlighting the equal status of drivers and cyclists. The issue of cyclists riding under the influence of drugs should receive special attention.





## 8. How-to-Influence-Behaviour model and the ways of influencing the behaviour of road users

### 1. Norms: formal (laws) including enforcement and informal culture

To monitor traffic accidents involving cyclists and process the data using the central register of road accidents;

To launch campaigns promoting the observance of traffic rules and the use of cycle lighting, helmets, and reflective elements, including campaigns intended to appeal to drivers to pay more attention to specific situations, such as children cycling to school;

To provide all relevant institutions (such as municipal authorities) with guidelines and consultations pertaining to bicycle traffic, including local surveys and participation in strategic meetings concerning the development of bicycle traffic.



## 8. How-to-Influence-Behaviour model and the ways of influencing the behaviour of road users

### 2. Environment, especially traffic infrastructure

Further development of infrastructure for cyclists – roads shared by both motor and non-motor traffic – traffic lanes, crossings, separate paths for cyclists, the extension of 30-km/h speed limit zones.

Implementation of measures to help in integrating cycling into the public transport system in terms of both daily commuting to work and school and cyclotourism, including:

- a) accessibility of platforms and opportunities for bicycles to be parked on a Bike & Ride basis at train, bus, and other urban public transportation stops and stations;
- b) construction of cycle parks and cycle depositories being incorporated into the building of traffic terminals;
- c) possibility of bicycles being transported in other means of transport (especially trains and cyclobuses);
- d) support for public bicycle rental systems



## 8. How-to-Influence-Behaviour model and the ways of influencing the behaviour of road users

### 3. Bikes design and ITS

To ensure that all bicycles are sold equipped with standard safety elements (i.e. lights, reflectors, reflective elements, protective devices (especially for children), etc.).

Only certified (in terms of safety) bicycles should be allowed to be sold, with the age, height, and weight of the cyclist being taken into account

To promote the spread and sale of electrobicycles and pedelecs – the intention being especially to provide individuals with lower physical capacities (such as older citizens and women) with an alternative to a regular bicycle.

With electrobicycles, to ensure that a maximum speed is set in order to prevent the additional safety risk posed by high speed.

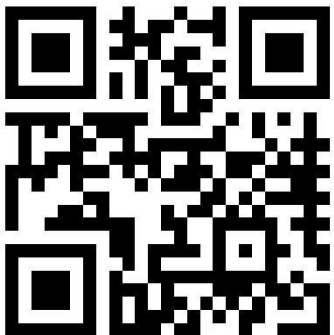


Palacký University  
Olomouc

# 謝謝



**Matúš Šucha**



**University of Olomouc**  
**[www.trafficpsychology.cz](http://www.trafficpsychology.cz)**