



# *Fit to Drive*

8<sup>th</sup> International Traffic Expert Congress  
08 to 09 May, 2014  
Warsaw

## **Pedestrians and drivers: their encounters at zebra crossings**

Thursday, 8th May 2014

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# Agenda

1. Aims
2. Study design
3. Focug groups results
4. Preliminary results of field study
5. Summary and implications for fitness to drive



# Aims

- Aim of this work is to **describe pedestrian and driver encounters, communication and decision strategies** on the zebra crossings.
  
- Further more to identify factors (accounting pedestrians, drivers, design of road system), which **may lead to risky situations and accidents.**



# Study design

## Mixed methods design was used.

- 1.Exploration of pedestrian and driver needs and conflict situations (identification of the problem) – focus groups with pedestrians and drivers (separately).
- 2.Pilot study (spots, questionnaire, observation sheet, camera recordings).
- 3.Data collection: on site observations (4 spots - zebra crossing, in urban area), camera recordings (24 hour), speed measurement, interviews (on site rapid interviews with pedestrians).
- 4.Exploration and generalisation – expert workshops



# Focus groups outcomes

## I. Pedestrians

### General attitude:

*“Pedestrians have no rights, always waiting somewhere, annoying drivers.”*

### Factors which pedestrians consider when deciding to wait/go:

- *speed of the approaching vehicle,*
- *distance of the vehicle (safety gap),*
- *vehicle deceleration,*
- *eye contact, familiarity of the place, view conditions, traffic density.*



# Focus groups outcomes

## II. Drivers

### General attitude:

*“It`s about toleration and respect. Pedestrians want to feel superior, not wanting to respect driver and wanting to make him stop”.*

### Factors which drivers consider when deciding to wait/go:

#### Giving priority to pedestrians:

- *when disturbed (SMS, phoning etc. – to have more time),*
- *depends on the pedestrian group (kids, mothers with pram),*
- *when pedestrian is “on the move” (won`t stop before crossing).*



# Focus groups outcomes

## II. Drivers

Factors which drivers consider when deciding to wait/go:

**Not giving** priority to pedestrians:

- *when traffic densities are low (“I consider safety of pedestrian and traffic flow.”, “I don’t stop so that I don’t slow down traffic flow”),*
- *when too close to the crossing (emergency breaking),*
- *when pedestrian doesn’t start to cross and waits,*
- *when expected that pedestrian will be slowly moving,*



# Focus groups outcomes

## II. Drivers

Factors which drivers consider when deciding to wait/go:

**Not giving** priority to pedestrians:

- *when place is familiar,*
- *when pedestrian takes a look and notice driver,*
- *when more crossings in a row,*
- *when other vehicle (in opposite direction) won't stop,*
- *with growing distance from city center the willingness to yield decline.*





## Focus groups summary – how they see each other

### *Pedestrians' behaviour (seen by drivers):*

- breaking traffic rules, not crossing at a designated crossing, and stopping crossing in the middle of the road;

### *Drivers' behaviour (seen by pedestrians):*

- not yielding to pedestrians when they should and approaching zebra crossings at an inappropriate speed.

Both of these behaviours (drivers speed choice and pedestrians wait/go strategy) are highly correlated and influence each other (described as drivers or pedestrians strategies to gain maximum – whether it means time, safe or comfort).



# Field study design and data

1. Four observation spots – zebra crossing in the urban area of Olomouc city (aprx. 100 000 inhabitants)
2. 3 observes at the same time – 1 observer observed driver behavior, 1 observer observed pedestrian behavior and 1 observed interview pedestrian (all data connected)
3. Observation situation: car approaching crossing **and** pedestrian is present (waiting), approaching or crossing the street.
4. Focus of observation:
  1. Pedestrians – their behaviour before and while crossing, awareness, strategies to cross (e.g. force driver to stop), communication with drivers
  2. Drivers – their strategies while approaching crossing (when pedestrian present – giving priority or not), communication with pedestrian
  3. Interview with pedestrians – their needs, perceived safety and comfort, habits and strategies while crossing the road



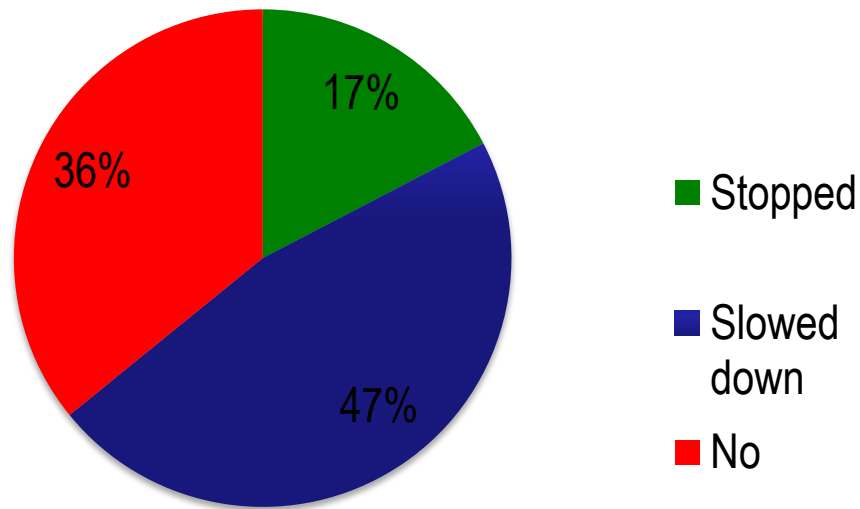
# Field study design and data

1. Date and time: data collected during December 2013 – March 2014, observation times: 7.00 – 9.00, 12.00 – 13.00, 16.00 – 17.00. No snow, ice or wet conditions.
2. Cameras recording – from selected spots, 24 hours, car and pedestrian densities were counted
3. Speed measurement at selected spots during observing times
4. All together **1584 observations** (observed situations at 4 spots)

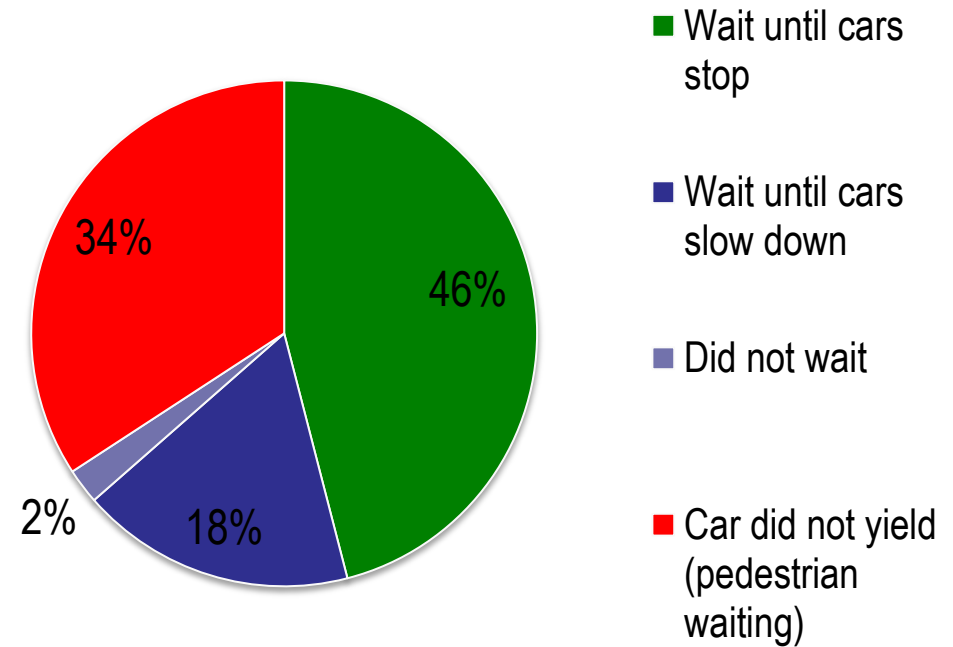


# Preliminary results of the field study

## Did driver yield to the pedestrian?



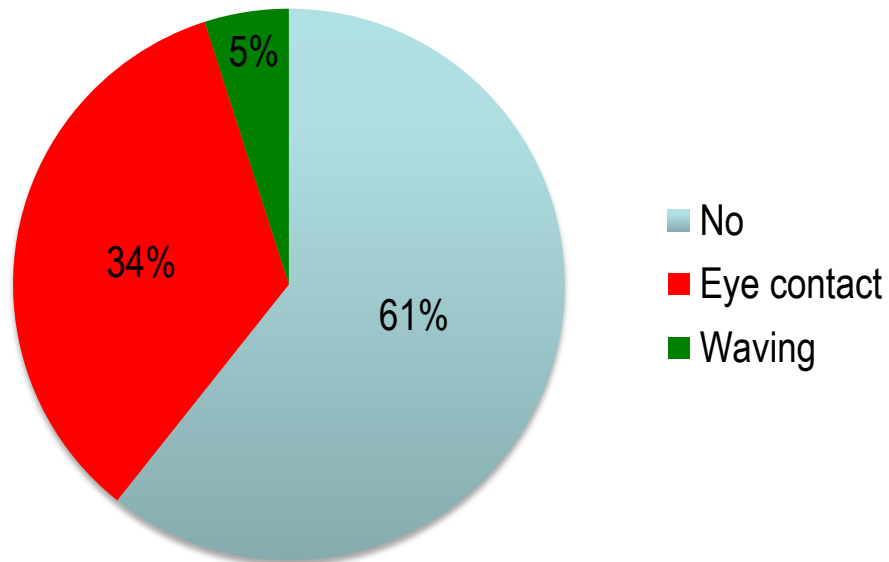
## Did pedestrian wait before crossing the road?



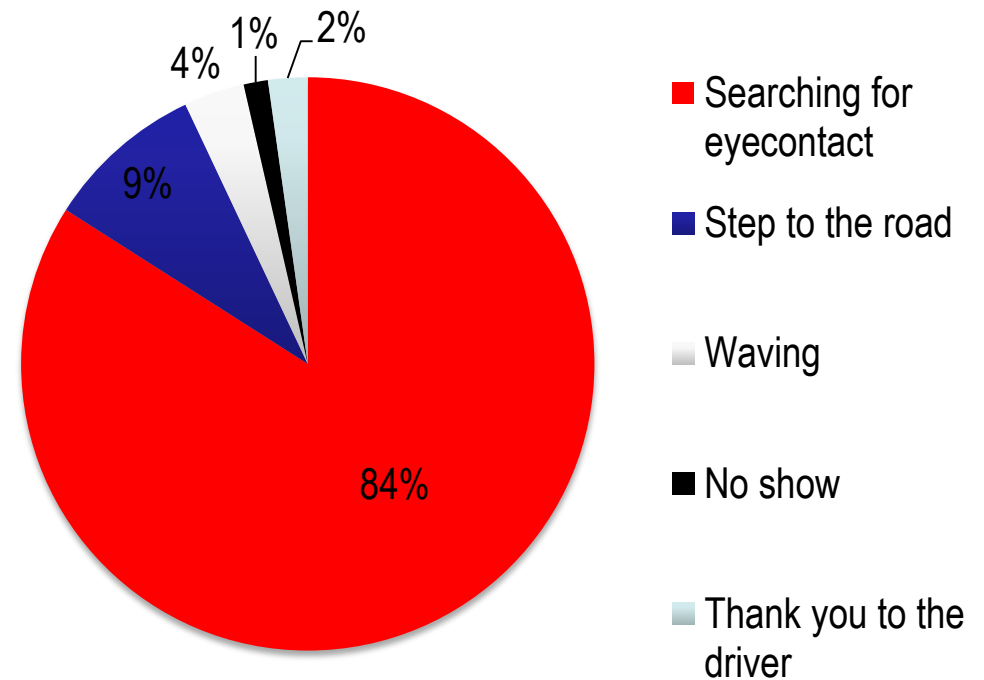


# Preliminary results of the field study

Did driver explicitly communicate with pedestrian?



Did pedestrian show his/her intention to cross (and how)?





## Summary and implications for fitness to drive

There is strong discrepancy how pedestrians and drivers perceive each other. Pedestrians feel as the second class road users who are disadvantaged and who annoy drivers. On the other hand, drivers describe pedestrians as non cooperative and arrogant, not respecting traffic rules.

Drivers in one third of the cases did not yield to the pedestrian, even though it was their duty, and when yielding to pedestrians, drivers prefer to slow down instead of stopping. On the other hand, pedestrians prefer drivers to stop (not only slow down) to feel safe and cross the road.

Approximately 1 out of 50 pedestrians cross the road even though car is approaching and driver is not yielding (forcing to driver to stop/ emergency breaking/ near misses).



# Summary and implications for fitness to drive

Majority of drivers did not actively search for the eye contact with pedestrian, on the other hand, great majority of pedestrians searched for eye contact and waited for confirmation from driver, before starting to cross.

**Presented empirical data might suggest, that majority of drivers is not fit to drive in the urban areas where pedestrians are present.**



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Thank you for listening!

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