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CIVIL ENGINEERING DEPARTMENT

Department of Civil Engineers Laboratory of Transport Techniques – Section of Transport and Organisation



DEPARTMENT OF RURAL AND SURVEYING ENGINEERING

Section of Transport and Hydraulic Works

HELLENIC INSTITUTE OF TRANSPORT – NATIONAL CENTRE OF RESEARCH AND TECHNOLOGY

**Project :** STudents Acting to Reduce Speed (STARS)

STARS camp

Monday 20th - Friday 24th September 2010

Brussels

**Main idea :**

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**Competitors :** Anastasios Koutoulas  
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## Structure - Context:

- Speed management issue – General speed management measures
- Case study presentation and characteristics of the study area
  - ✓ Speeding – Results - Fatalities
- The need of intervention
- Proposed idea
  - ✓ Features
  - ✓ Mapping
  - ✓ Expected results
- Stakeholders
- Evaluation



➤ Speed management and Road Safety – two features fully interconnected

➤ Speed management → Measures that can be taken:

- ✓ Construction measures (infrastructure)
- ✓ In-Car Intelligent Transport Systems
- ✓ Speed Calming (i.e. via appropriate traffic signs or traffic calming measures)
- ✓ Speed reducing and awareness campaigns
- ✓ Road policing

➤ Most of all ➡ young drivers' proper training





## Our case study: Georgikis Sxolis – Thessaloniki's ave.

- Two way street (bidirectional)
- 5 km length
- 3 – lane road per direction
- Coastal and level track
- Many junctions and roadside accesses due to commercial land use
- Bus stops and a wide network of public transport
- Low level of service for the pedestrians – low protection level
- Road congestion according to peak hours



## Study Area



*(Google Earth)*





## Photos from the research area





## Road Safety and Speeding:

- Road speed profile: from 70 to 90 km/h speed limit
- Research indicates : 72% of vehicles over speed limit
- Top speeds : up to 150 km/h

## Serious Issues:

- Speed Limit : 70 km/h
- Vehicle speed excess : 120km/h
- Low road congestion at night
- Public transport vs. Exaggerate speeding



# Results

...road accidents...



*(www.northday.gr)*





## ...fatalities



*(<http://eloris.pblogs.gr>)*



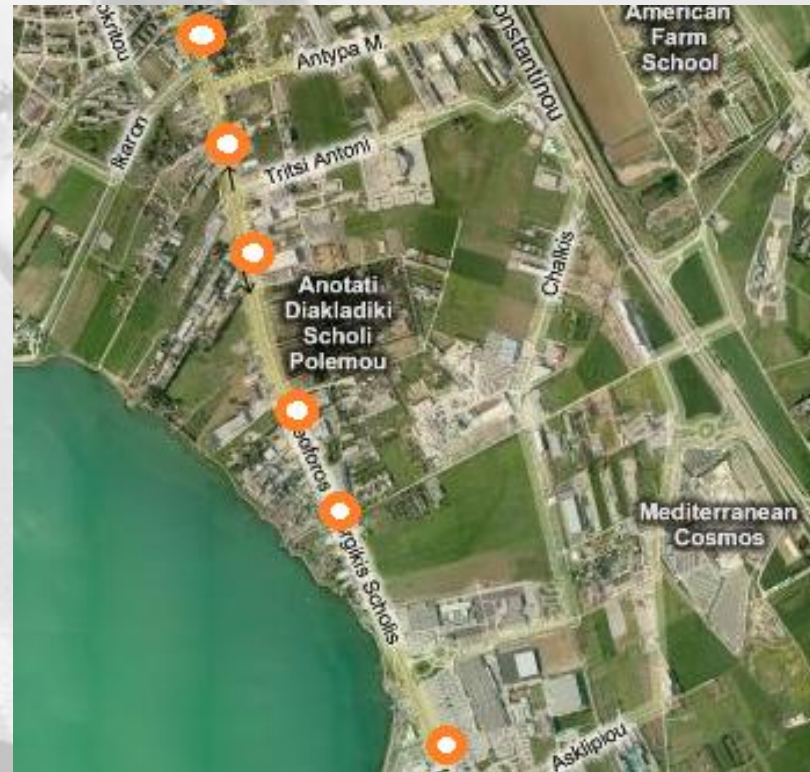
- Serious action need to be taken in order to reduce car accidents towards avoiding incidents involving bus stops and public transport passengers
- It is urgent to implement a speed management project including vehicles and public transport infrastructure so as to protect both sides as well as pedestrians





- Number of bus stops in the considered part of the road: 6

- ✓ Pronoia
- ✓ Loumidi
- ✓ Kalamari
- ✓ Biamyl
- ✓ Sasth
- ✓ Ikea



(<http://www.bing.com/maps>)





## ■ Characteristics:

- ✓ on both sides of the road
- ✓ in the middle of long straight routes, which are treated as high-speed areas



(<http://www.bing.com/maps>)



“This fact makes the speed management on this road of great importance in order to reduce speed in critical parts of the road ”



<http://www.panoramio.com>





## The main idea : different colours near bus stops

- ✓ 400m before the bus stop and for a distance of 200m → orange or yellow colour
- ✓ last 200m before the bus stop → red colour

HOW ???

- Use of asphalt in these colours on the surface of the road or special paints





...like bicycle routes !





**Along the bus stop** : raised surface of the road (2-4 cm.), like smaller «humps» + changes on the road surface

- «humps» : designed as a circular hump not higher than 5cm  
cars and buses :
  - ✓ desired speed
  - ✓ same comfort
- road surface : light brown concrete paving stones



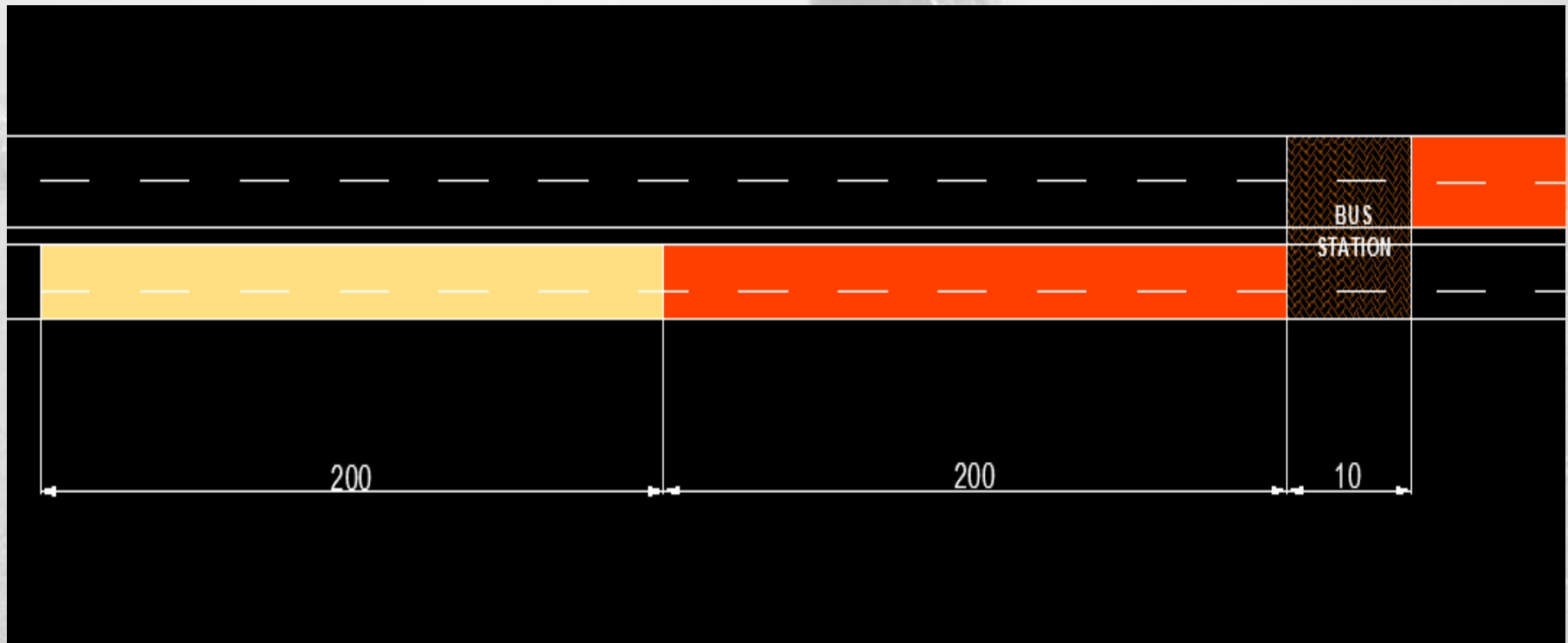
...like track !







## Schematic depiction of our idea





By this way drivers have the opportunity :



<http://www.panoramio.com>

- to recognize that they approach a bus stop
- to know which is the distance from them by the use of different colours
- to reduce their speed inchmeal



## Stakeholders :



Police → data  
enforcement



AUTh (Aristotle University of Thessaloniki)  
→ data  
technical background



Certh (Hellenic Institute of Transport – National centre of research  
and technologies)  
→ data  
experiences from past projects / practices





## Stakeholders :



Municipality of Pylaia

→ data  
authorization of the implement



Oasth (Organization of urban transportation of Thessaloniki)

→ information to bus drivers, car drivers and users



**PROMOTE THE IDEA!!!**



## Evaluation :

### • Accidents

- Before → No database
- After → Create a database of accidents for the considered area



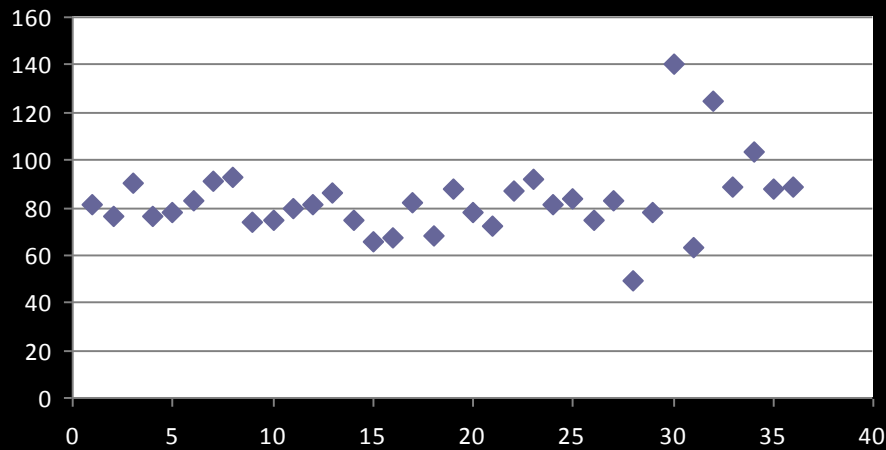
## • Speed

■ Before  
radar/laser

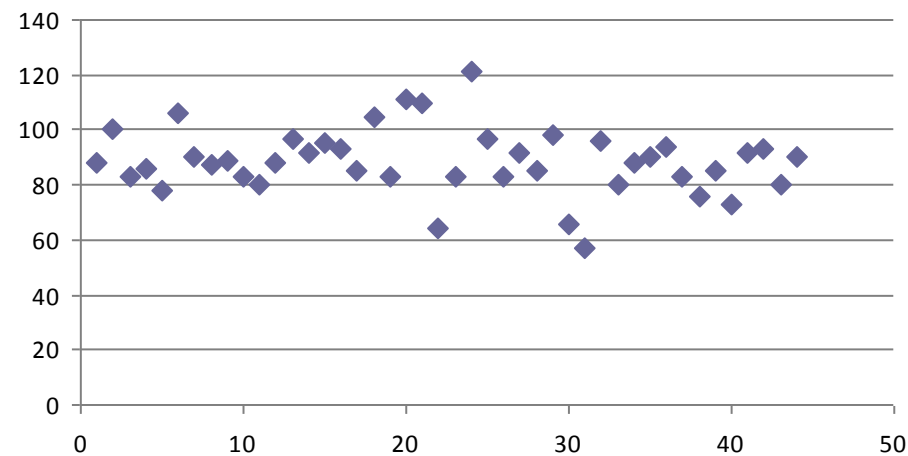


Measurements with speed

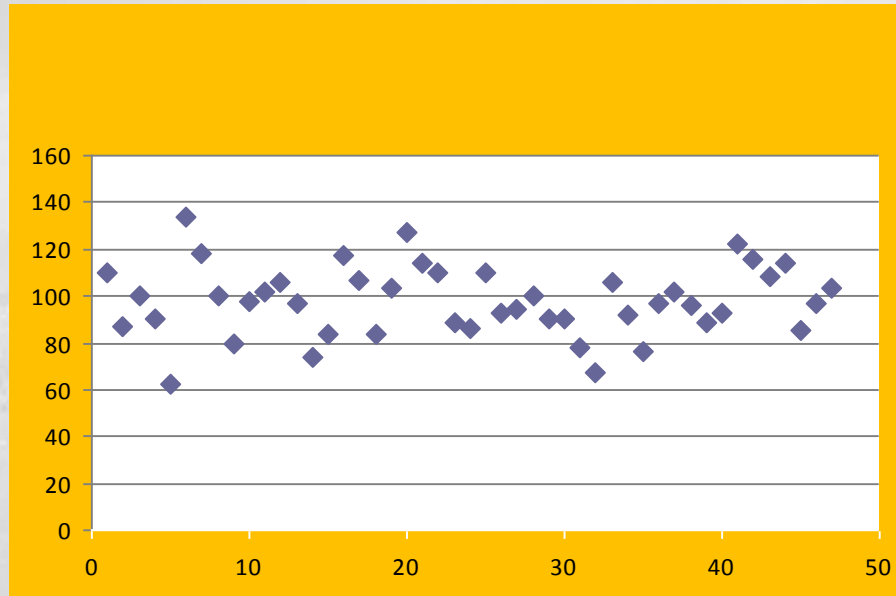
*Speed on bus stop Pronoia*



*Speed on bus stop Loumidi*

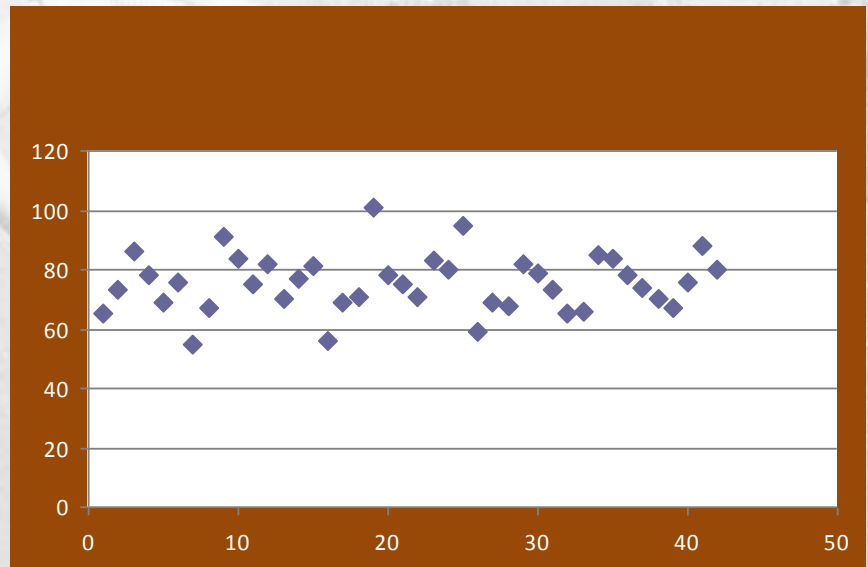






*Speed on bus stop Biamyl*

*Speed on bus stop Kalamari*



■ After radar/laser → Measurements with speed



Thank you for your attention !!!



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