




STARS PROJECT Group ANKARA

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1. Introduction

Statistics* of driver faults in accidents (2010)

DRIVER FAULTS	TOTAL	%
Unable to adjust vehicle speed to road due to road, air or traffic conditions	36.079	34,40%
Failure to yield the right of way	16.739	15,96%
Failure to turning regulations	15.042	14,34%
Tailgating	10.543	10,05%
Failure to other traffic safety regulations	6.236	5,95%
Frequent or unsafe lane changes	4.991	4,76%
Impaired driving	3.310	3,16%
Failure to traffic signals	2.860	2,73%
Entering to no entry roads	2.678	2,55%
Other	2.460	2,35%
Influence of alcohol	1.511	1,44%
Collision to safety parked vehicles	1.212	1,16%
Passing when it is restricted	808	0,77%
Unsafe parking	415	0,40%

*GDM, General Directory of Highways

1. Introduction

In the light of these results, it is necessary to control speeding behavior of the drivers.

- Excessive Speed (driving above the speed limit)
- Inappropriate Speed (driving too fast for the conditions, but within the limits)

1. Introduction

Speed reduction depends on different concepts :

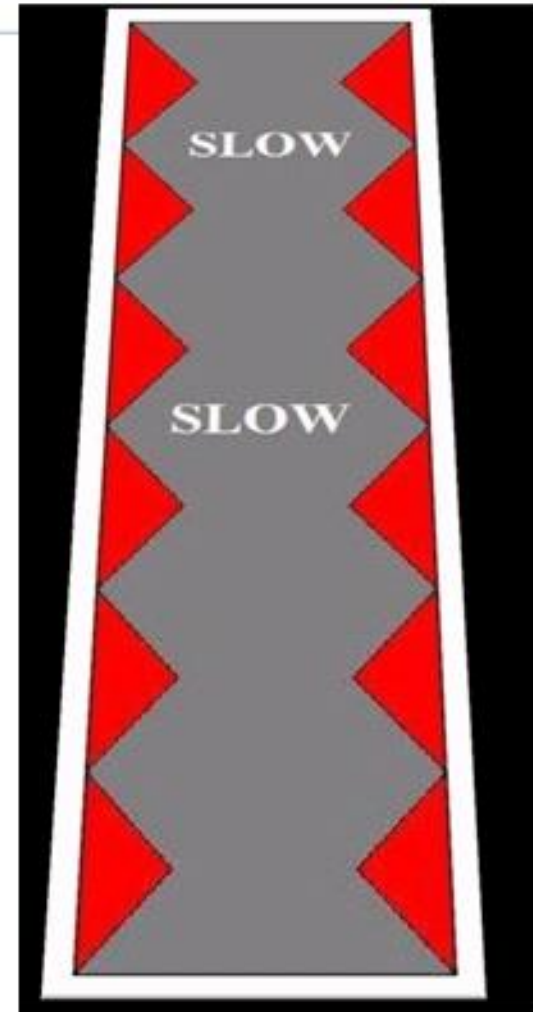
- Enforcement (Educating people)
- Infrastructure (Geometric Design, Sight Clearance)
- Taking Precautions (Signposts & technology)



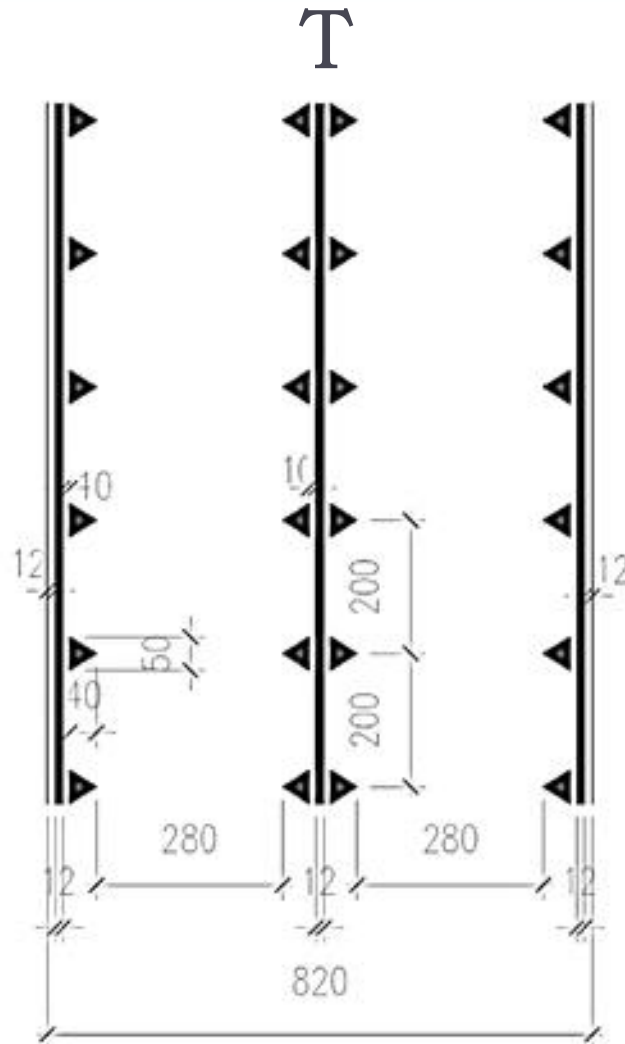


2. Project Idea

- Pavement painting with red color in zig-zag pattern
- Writing “SLOW” to warn drivers

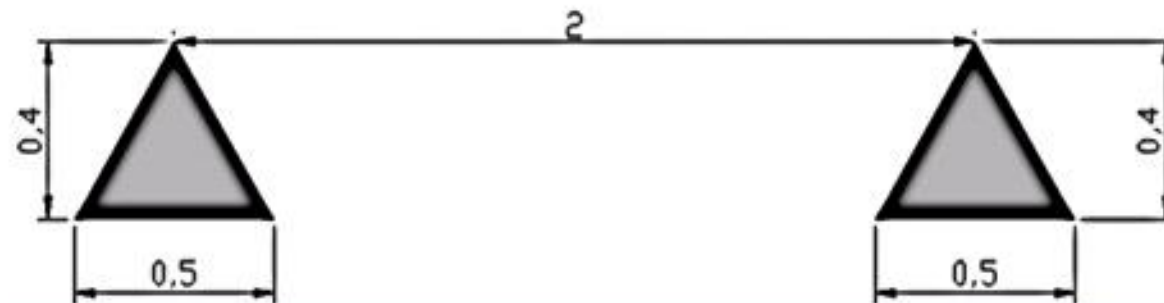


2. Project Idea



Dragon Teeth

- Increase road safety and awareness
- Cost-effective
- Increase road safety and awareness
- Do not affect vehicle operation (emergency sit.)
- Do not affect the passenger comfort
- Do not affect drainage of the road surface



3. Selection of Implementation Area

Previously Studied Area

Satellite image of the area

“ Our previous study area was a U-Turn over an arterial road with 4 lane.

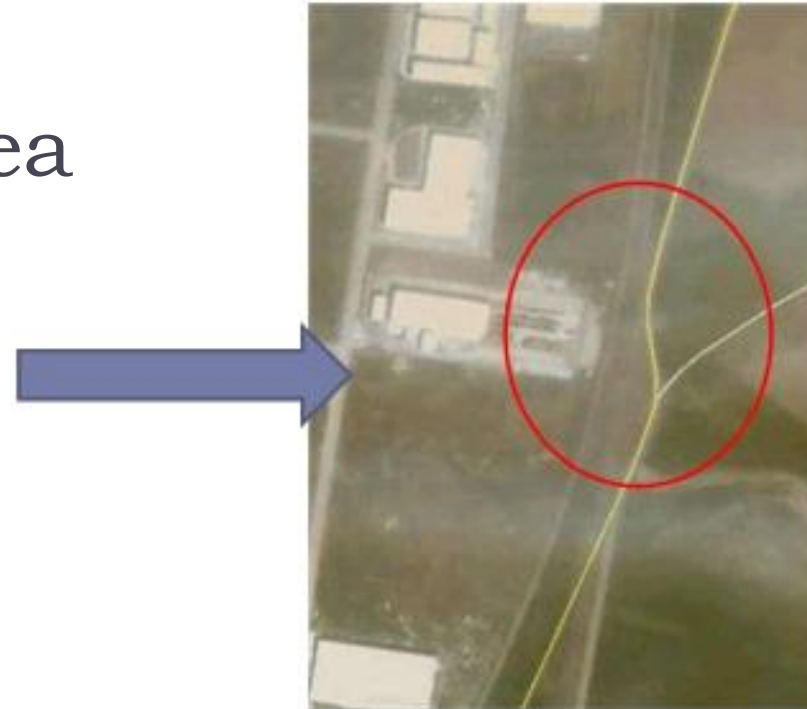
“ However, municipality built an under-pass here. But we do not change our zig-zag pattern idea called as Dragon Teeth.





3. Selection of Implementation Area

Final Study Area



“ Then we specified the Malıköy-Esenkent road where to many traffic accident happens.

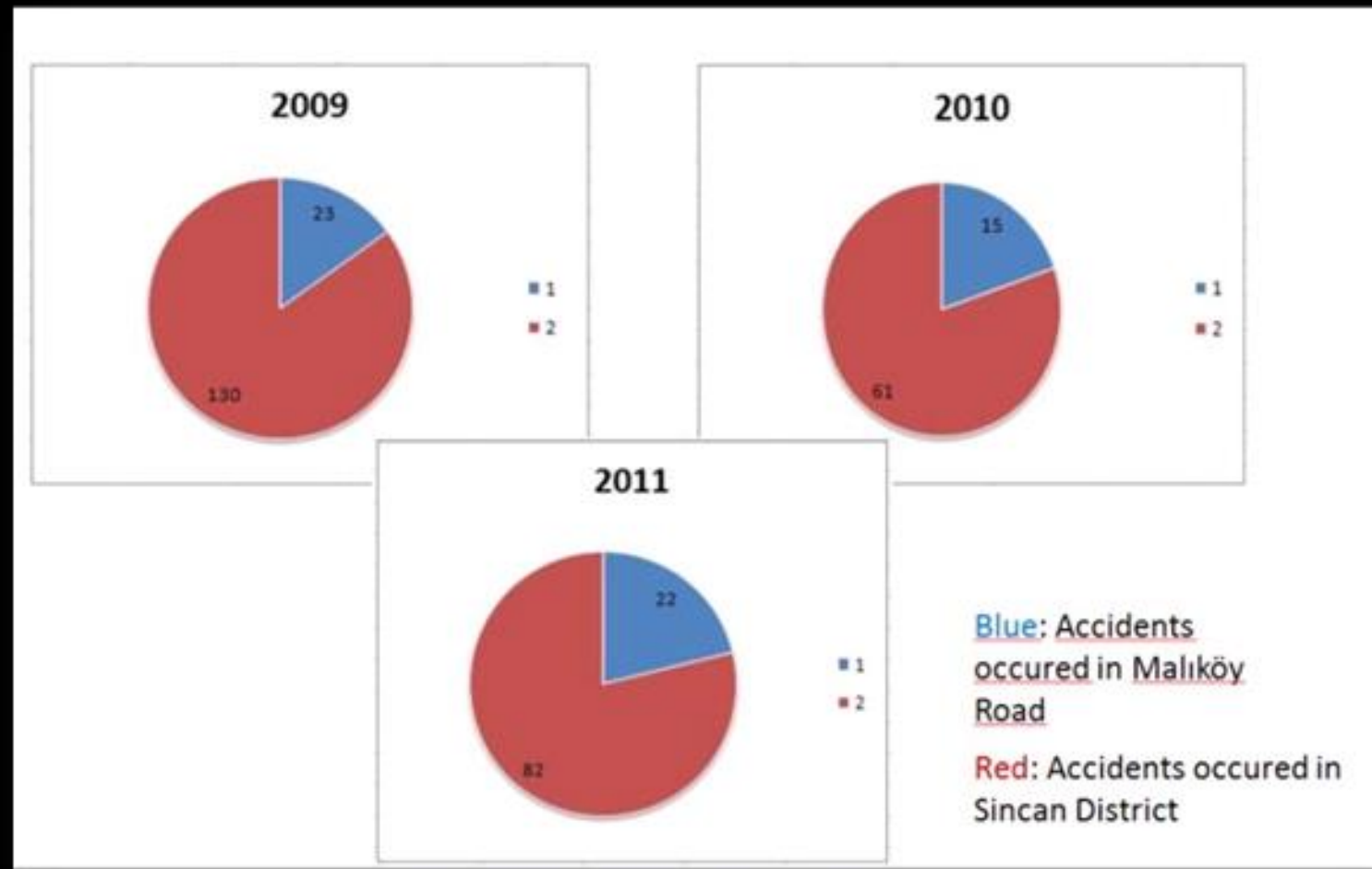
“ Malıköy-Esenkent Road is in a big industrial area and this road has a high volume of traffic especially heavy vehicles.





3. Selection of Implementation Area

Number of Accidents occurred in Malıköy-Esenkent road



- From 2009 to 2011, accident statistics in Malıköy increased from 17,7% to 26,8%



3. Selection of Implementation Area



Before Implementation

Before entering the continuous curves, there is only one sign which is not clearly visible because of vegetation.



3. Selection of Implementation Area

- 8,20 m road width



- No road marking
- Sharp S-curve
- Limited visibility



4. Implementation Stages of Project



- Firstly, road markings are completed along 3 km





4. Implementation Stages of Project



- In both directions, 400 m dragon teeth pairs were applied. In both directions, 400 m dragon teeth pairs were applied.

4. Implementation Stages of Project



Nightview of the Dragon Teeth markings

5. Communication



- In order to increase awareness and inform people, we created a Blog Page

www.ejderdisi.blogspot.com

5. Conclusion

Before Implementation

Date 02.10.2012	
Time	V(km/h)
13.35	65.26
13.35	61.89
13.35	71.05
13.36	58.38
13.36	77.70
13.36	73.97
13.37	74.74
13.39	76.87
13.40	71.76
13.41	76.06
13.41	66.87

V_{ave} = 70.41 km/h

After Implementation

Date 23.10.2012	
Time	V(km/h)
13.25	56.35
13.26	59.69
13.26	60.13
13.26	62.28
13.27	61.13
13.28	58.25
13.28	60.19
13.28	59.01
13.30	59.78
13.30	56.40
13.31	57.35

V_{ave} = 59.14 km/h



Partnership

From Middle East Technical University:

- Asst.Prof.Dr. Hediye Tuydes YAMAN
- Inst. Zerrin ARDIC EMINAGA

Associations:

- ETSC

Local authorities:

- General Directory of Highway
- Gendermerie



Sponsorship:

- **Filli Boya** (paint firm)
(www.filliboya.com.tr/en/)



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