“Road Safety Problems of the National Road Network in Greece, especially in the Area of Evia – Geotechnical Problems”

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• Generally, we have to say that for Greece it is difficult to achieve the common European target for reducing deaths from road accidents 50% until the year 2010. The first years after 2000 until 2002 a big reduction was achieved in Greece, but after that there is a resistance for further reducing.

• The biggest progress has been made in the Attiki Prefecture where the law enforcement is more strict. Seat belt, helmet and drunk driving violations have been reduced as the drivers have understood the necessity of changing their behavior. The following graphics are very characteristic.
EUROPEAN UNION COUNTRIES’ TARGET TO REDUCE THE DEATHS DUE TO ROAD ACCIDENTS PER 50% UNTIL 2010 - BASE YEAR 2000

SOURCE:
ESYET ELAS
ROAD SAFETY OBSERVATORY TCG
COMPARISON OF THE YEARS 2007-2008
ATTIKI PREFECTURE

DEATHS
-5.96%

SERIOUS INJURIES
-5.51%

SOURCE:
ESYE / ELAS
ROAD SAFETY OBSERVATORY
TCG
COMPARISON OF THE YEARS 2007-2008
GREECE

SOURCE:
ESYE / ELAS
ROAD SAFETY OBSERVATORY
TCG

DEATHS
-5.8%

SERIOUS INJURIES
4.9%
• As we can observe from these graphics for Greece it is difficult to achieve the common European target. Our estimation is that for the year 2010 the number of deaths will range between 1,350-1,400 deaths.

• Therefore our country has to try hard with a new strategic plan for the decade 2010-2020.

• The Road Safety observatory of the Technical Chamber of Greece is preparing a new platform in order to assist the Greek State to device a new realistic strategic plan, as the TCG is the official Technical Consultant of the Greek State.
Project:
Short-term Interferences with low cost at Black Spots and Improving the level of road safety for the main axis of Evia
– Halkida-Strofilia-Limni-Aidipsos
– Halkida-Lepoura-Kimi port.
The Ministry of Public Works elaborated a big project by the above title in order to improve the level of road safety in Evia by reducing the accidents. It was a big project considering the fact that the road maintenance was low, due to the serious Greek financial problems of the last years.

The total budget of the programme was 8 million € including VAT.
EVIA PERFECTURE has two major road axis

The northern one

• HALKIDA-STROFILIA-LIMNI-AIDIPSOS

and the southern one

• HALKIDA-LEPOURA-KIMI PORT.
• These two road axis belong to the National Highway network and a small section of them belong to the provincial road network. However this section is considered as national level due to the traffic volume and the developing value that it has for the whole EVIA island.
Northern Road axis
Halkida-Strofilia-Limni-Aidipsos
HALKIDA - AIDIPSOS AXIS

Geotechnical Problems

Geotechnical Problems
HALKIDA-AIDIPSOS AXIS

• The total length is 112km.

• The big traffic volume is located at the first section Halkida-Psachna.

• The section Psachna-Limni has a lower traffic volume.

• The last section Limni-Aidipsos has an increasing traffic volume due to the touristic coastal line Limni-Rovies-Ilia-Aidipsos. This section appears to be the most problematic because of the occurring serious geotechnical problems which will be referred later.
Basic Road characteristics

- High traffic volume for the section Halkida-Psachna which is considered as urban area.
- Intense relief for the section Psachna-Strofilia which has high altitude with a lot of maintenance problems during winter.
- Serious Geological problems such as landsliding and consolidation, which results in frequent closure of the road.
- High touristic traffic volume during summer.
- A big number of Intersections. There are 48 Intersections with allocation of 1 Intersection/2.3km. The majority of these I/S has no efficient channelization.
- A lot of roadside obstacles without appropriate protection in front of them:
  - Lighting Poles.
  - PPC or Communication Poles.
  - Big trees.
  - Illegal advertising Signs.
Black Spots

- According to the relevant design there are 24 Black Spots.
- The average allocation is 1 Black Spot / 4.6km.

Geotechnical - Geological Problems of the Limni-Aidipsos section

- The serious geological problems of this section need a Geotechnical research with drills in order to gain slope stability.
- The construction of one or two tunnels for the difficult sections may be necessary for permanent solutions.
Retaining walls with nets.
Section Psachna-Strofilia.
Retaining walls with nets.
Section Psachna-Strofilia.
Landsliding.
Section Rovies-Aidipsos.
Landsliding.

Section Rovies-Aidipsos.
HALKIDA-AIDIPSOS AXIS

Section Rovies-Aidipsos
Southern Road axis
Halkida-Lepoura-Kimi Port
HALKIDA- LEPOURA - KIMI AXIS

N. EYBOIA IS. EVIA Geotechnical Problems
• The total length is 82 km.

• The average AADT is about 5,000 veh/day.

• The highest traffic volume appears in the first section, Halkida-Amarynthos which includes the very famous touristic place of Eretria.

• The second section of Amarynthos-Lepoura has a lower traffic volume.

• The last section of Lepoura-Kimi port is a fully rural road which traverses a lot of villages.
Basic Road characteristics

- The first and the second section of the road traverses to urban areas with a lot of country houses, hotels and other touristic settlements such as restaurants, cafés etc.
- The main safety problem of this section is the pedestrians who cross the roads to go at the beach in combination with a lot of bus stations without safe crosswalks. Due to these problems a lot of road accidents occur.
- Furthermore the typical section of the road is too narrow (about 5.50÷6.00m) without the appropriate space of the shoulders for the safety barriers.
- There is not enough length to overtake, therefore a lot of head-on or side collisions occur.
- There is a big number of Intersections. There are 60 Intersections, the majority of which has no efficient channelization. The average allocation is of 1 I/S per 1.36km which is a very big number.
- Especially after Amarynthos the road traverses a lot of villages. The drivers, in general, don’t obey the speed limit of 50km/h.
Black Spots

- According to the relevant design, 32 Black Spots are located on the axis.
- The Average Allocation is 1 Black Spot / 2.6km.
- It is obvious that the allocation of Black Spots is enormous.

Geotechnical - Geological Problems for the section Platana-Kimi Port

- Very serious geological problems are located in this section for a length of about 5km at Platana’s area. Landslidings create problems to the road since there is no slope stability.
- Despite the efforts for about 20 years to solve the problems, there were no efficient results. Now it is clear that a very serious geotechnical research and design is necessary in order to give definite solutions to this longtime problem.
Pavement Consolidation – Barrier Problems
Section Platana-Kimi port
Pavement Consolidation
Section Platana-Kimi port
LEPOURA-KARISTOS AXIS
LEPOURA-KARISTOS AXIS

Landsliding.
Section Karistos-Marmari
LEPOURA-KARISTOS AXIS

Landsliding.
Section Karistos-Marmari
LEPOURA-KARISTOS AXIS

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