SAFETY INSPECTION UNDERTAKEN IN RESPECTO OF SPANISH FOMENTO MINISTRY ROADS IN OPERATION

Beatriz Molina Serrano
Project Manager. Sectorial Management of Road Safety
Prointec, S.A.
• Member States shall ensure that safety inspections are undertaken in respect of the roads in operation in order to identify the road safety related features and prevent accidents

• Safety inspections shall comprise periodic inspections of the road network and surveys on the possible impact of roadworks on the safety of the traffic flow

• Member States shall ensure that periodic inspections are undertaken by the competent entity. Such inspections shall be sufficiently frequent to safeguard adequate safety levels for the road infrastructure in question
ROAD SAFETY ANALYSIS

Road Safety Analysis is a procedure in which an expert road safety team looks through systematically infrastructure physical elements (physical and geometrical features and road equipment) to detect potential road safety risks.

1. It was undertaken in road network in service
2. It is a road safety management tool
3. Future studies would be based on it
STUDY STAGES

• Check lists
• Road safety inventory
• To identify “improvable elements” of road safety and to create a data base
• Geographical Information System (GIS)
• To make a critic analysis of pilot study and to refine check lists
• To check improvable element analysis
• To write final documents of road safety inspection
INITIAL CHECK LISTS

Road safety deficiency: Each road element which could became a concurrent aspect in a traffic crash

- Functional elements coherence
- Transversal section disposition
- Vertical and horizontal road alignment conditions
- Visibility
- Junction and intersection conditions
- Pavement and drainage conditions
- Signalizing and marking
- Road side conditions and barrier location
- Lighting conditions and other infrastructure equipment elements
- Access conditions
- Rest area and service area conditions
- Tunnel conditions
- Linear village conditions
- Other kind of road user traffic (cyclist, etc.)
LAND WORK EQUIPMENT
LAND WORK RESULTS
ROAD SAFETY GEOGRAPHICAL INFORMATION SYSTEM (GIS)

• Cartographic data base:
  - Road alignment from GPS
  - BCN-200
  - Ortophotos from Sigpac (E:1:5000)

• Georeferential Video: If you click on a road point, you will see video of this road point

• To reference by dynamic segmentation:

  Road point reference is made by road number (for example, A5), kilometre point and transverse position in road

• Data base: Geodatabases (.mdb data base with alphanumeric and graphic information)
Cartographic medium BCN-200

Ortophotos from Sigpac
Georeferential Video
Informatic processings are put into practice to:

- To calculate maximum safety speed
- To calculate maximum speed of heavy vehicles
- To calculate stop distance
- To calculate overtaken distance
IMPROVABLE ELEMENTS (ESM)

Each road element which could became a concurrent aspect in a traffic crash, and which could be the object of an action to be treated
CONCLUSIONS

• Road safety inspections have to be a systematic procedure to identify “in situ” road safety deficiencies. It would become a management and planning tool

• “Improvable element” (ESM) term was adopted to call road elements which could become a concurrent circumstance in a traffic crash

• Check lists are used. They are based on previous experiences and they have to be check before land work. Then they will be refined

• Compiled information volume needs computer management tools. GIS ia considered as the most suitable one because it organises all identified ESM in a geodatabase
THANK YOU FOR YOUR ATTENTION