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ORGANIZATION AND UPDATING OF DATABASES

1. Introduction

Road safety work is consisting mostly of the next phases: identification and classification of the problems, planning and evaluation. Different data are needed in all phases that qualify and quantify dangers in traffic.

Modern informational technology, even personal computers are very suitable for keeping almost unlimited data bases "at hand", as well as software to manipulate them.

Our idea was to make road safety work automatic to a certain extent. As the phases of traffic safety work are not equally "prescribed" and formalized, the problem of automation is of varying complexity. Concerning available knowledge, experience and possibilities the computer programme aimed to manage "safety" data bases and partly to carry out traffic safety analyses. The applied computer language is CLIPPER and the operating system is MS DOS 3.3.

2. Short description of the computer program

The programme is planned to have four modules but at the moment only two of them are ready. They are: organization and updating of data bases, and traffic safety analysis.

The programme consists of 6 data bases: road cadastre, traffic flow data, traffic accidents, traffic conflicts, speeds of different traffic flows, meteorological data.

The traffic conflicts module consists of three operations: registration and storage of traffic conflicts, traffic conflicts analysis and analysis of conflicts in relation to traffic accidents.

Traffic conflicts are put in manually and input data are:

- directions of conflict participants,
- observed speeds of conflict participants at the beginning of the avoiding action
- type of avoiding maneuver.

TTC is calculated by the programme and all relevant data (together with traffic flow data) are stored in case of a serious conflict in the traffic conflicts data base of the

relevant intersection of the network. That makes it possible to analyze traffic conflicts at specific intersections by type and frequency as well as the analysis of the entire road network comparing traffic conflicts with traffic accidents. Similar analyses are possible concerning other data bases, too, for instance speeds in free flow in relation to speed limits and accidents on a specific section.

The module Road Traffic Safety Analysis contains two types of analyses:

- spatial accidents analysis on the entire road network in order to identify hazardous locations by priority ranking, and
- analysis of accidents of different time periods.

The computer programme is 'user-friendly', with different menus and it is structured in about 50 subprogrammes that makes its modification and extension easy.

3. What is the next

Our first intention is practical implementation of the present configuration. The second step modules 'Planning of safety activities' and 'Evaluation of traffic safety measures' should be realized as expert systems. At the moment there is only chance of doing that in our present conditions. But, persistence may bear fruit.