PRACT
Predicting Road ACCidents - a Transferable methodology across Europe

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The Research Team


Project Manager: Elizabeth Mathie, Highways England - UK
Established a liaison and coordination group

NCHRP 17-63 “Guidance for the Development and Application of Crash Modification Factors” Team
Objectives

The PRACT project is aimed at developing a practical guideline and a user friendly tool that will allow the different road administrations to:

- adapt the basic APM function to local conditions based on historical data;
- identify the CMFs that could be relevant for the specific application;
- verify if the selected CMFs are transferable to the specific condition;
- apply the calibrated model to the specific location to be analysed.
Workplan

WP1 – Overview of existing APMs and data sources
*George Yannis (NTUA)*

- TK 1.1 Inventory and critical review of existing APMs (NTUA)
- TK 1.2 Inventory of existing Data Sources (TUB)

WP2 – Identification and prioritisation of CMF needs
*Daniel Graham (ICL)*

- TK 2.1 Inventory and critical review of available CMFs (TUB)
- TK 2.2 Identification of CMF needs (UNIFI)
- TK 2.3 Development of key missing CMFs (ICL)

WP3 – Development of the Guidance Document
*Francesca La Torre (UNIFI)*

- TK 3.1 Analysis of the transferability of selected APMs and CMFs (ICL)
- TK 3.2 Production of the Guidance Document (UNIFI)

WP4 – Implementation of an APMs and CMFs Repository
*George Yannis (NTUA)*

WP5 – Dissemination management and organization
*Thomas Richter (TUB)*
# Timetable

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<td>IMPLEMENTATION OF AN APMS AND CMFS REPOSITORY</td>
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<td>WP 5</td>
<td>DISSEMINATION MANAGEMENT AND WORKSHOP ORGANIZATION</td>
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* PROJECT MILESTONES
* Progress Report to CEDR TG on Road Safety
The modeling approach

Accident Prediction Model (APM) = a full model that allows an evaluation of the predicted number of crashes in a given condition

Safety performance function (full APM)

Base APM x CMFs x C

- In the inquiry phase we investigated both and these were all collected in the web repository;
- The PRACT Model is based on the second approach.
The modeling approach

- the idea that a unique Accident Prediction Model (APM) model and unique set of Crash Modification Factors (CMFs) can actually be developed, valid for all Europe and for all the different type of networks of motorways and higher ranked rural roads, is unrealistic;

- the development of a specific APM model and a set of CMFs based on local data is extremely time consuming and expensive and requires data and experience that most road administrations do not have;

- the development of “local” CMFs only based on historical local data prevents the possibility of evaluating the effectiveness of new technologies.
The modeling approach

The basic assumption on which the PRACT project is built is that APMs and CMFs can be transferred to conditions different from the ones for which they have been developed if selected based on scientifically valid criteria and adapted to local condition based on historical crash data.

- adapt the basic APM function to local conditions based on historical data;
- identify the CMFs that could be relevant for the specific application;
- verify if the selected CMFs are transferable to the specific condition;
- apply the calibrated model to the specific location to be analysed.
The progressive application approach

As far as different countries, as well as different designers within a country, have different level of expertise and different data availability, the system need to be structured with different possible application levels.

- **Very detailed data available**: Full PRACT Calibration (base APM and overall model)
- **Some data available**: Reduced PRACT Calibration procedure (only overall model)
- **No data available**: Default selection criteria (different sets)
The PRACT Workshop structure

09:30 – 09:45 Introduction (**F. La Torre** - **UNIFI**)

09:45 – 10:10 APM/CMF review and Questionnaire (**A. Dragomanovits*/ **A. Liaou*/ **G. Yannis** - **NTUA**)

10:10 – 10:35 APM/CMF modelling: data need, modelling methods and results of PRACT CMF development (**S. Ruhl** - **TUB**)

10:35 – 11:00 Statistical issues of APM/CMF transferability and recommendations (**R. Bradge-Ardao*/ **D. Graham** - **ICL**)

11:00 – 11:45 Project results for practitioners I: PRACT Repository (**A. Dragomanovits*/ **A. Liaou*/ **G. Yannis** - **NTUA**)

11:45 – 12:30 Project results for practitioners II: PRACT Tool & Guideline (**F. La Torre** - **UNIFI**)

12:30 – 13:15 Lunch Break

All the presentations will be available @ [www.practproject.eu](http://www.practproject.eu)
Predicting Road ACCidents - a Transferable methodology across Europe

Project Documents / Deliverables

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<td>Apr 2014</td>
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<td>Overview of existing Accident Prediction Models and Data Sources</td>
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Project Presentations

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Final workshop of PRACT and ESReT projects 3rd June 2016 in Manchester

For more information download our official invitation letter here (pdf, 0.29 MB)

Click here for information on event location (pdf, 0.52 MB)

PRACT repository now online

www.pract-repository.eu