

J. Monclus
FITSA Foundation, Madrid, Spain

A Proposal for a Coordinated In-Depth Crash Investigation Programme in Spain

Abstract

Vehicle crash research at different levels is currently being conducted by several investigation groups in Spain, in some instances within various EU-funded projects. However there is a clear opportunity for increasing compatibility and maximizing usefulness, both at national and European levels, of the information collected by these groups. After reviewing on-going activities and programs in different countries, a framework for a nationwide crash investigation project is proposed: an organizational scheme is suggested as part of a future National Road Safety Strategic Plan; a map of investigation teams located in technological centres, universities and police agencies in Spain is presented; alternatives for several practical aspects such as team composition, deployment and operational budgets and project developmental stages are also discussed.

Programme Concept and Traffic Safety Policy Frame

Every year dozens of crash investigations are being conducted in Spain but the lack of data aggregation substantially limits their usefulness. FITSA Foundation (a Spanish private foundation supported by public funds whose mission is the promotion of scientifically proven measures in the field of traffic safety) is proposing the setup of an in-depth crash investigation programme in Spain. The proposal has been included in the Spanish National R&D Plan 2004-2007 [1].

The definition of this National ACCidentology PROgramme (NACCPRO or PRONACC) has taken into account existing crash investigation programmes both in car manufacturers such as BMW (whose team was visited in 2003) and in universities and research center such as those existing in France, Germany, the United Kingdom and the United States of America, as shown in the summary table in the appendix [2, 3, 4]. From a European perspective, this programme would anticipate the definition of a possible in-depth crash investigation pan-European programme as final result of the chain of EC funded research projects STAIRS, PENDANT and SafetyNet. PRONACC is proposed, in order to maximize its private and societal usefulness, within a new traffic safety policy framework shown in figure 1.

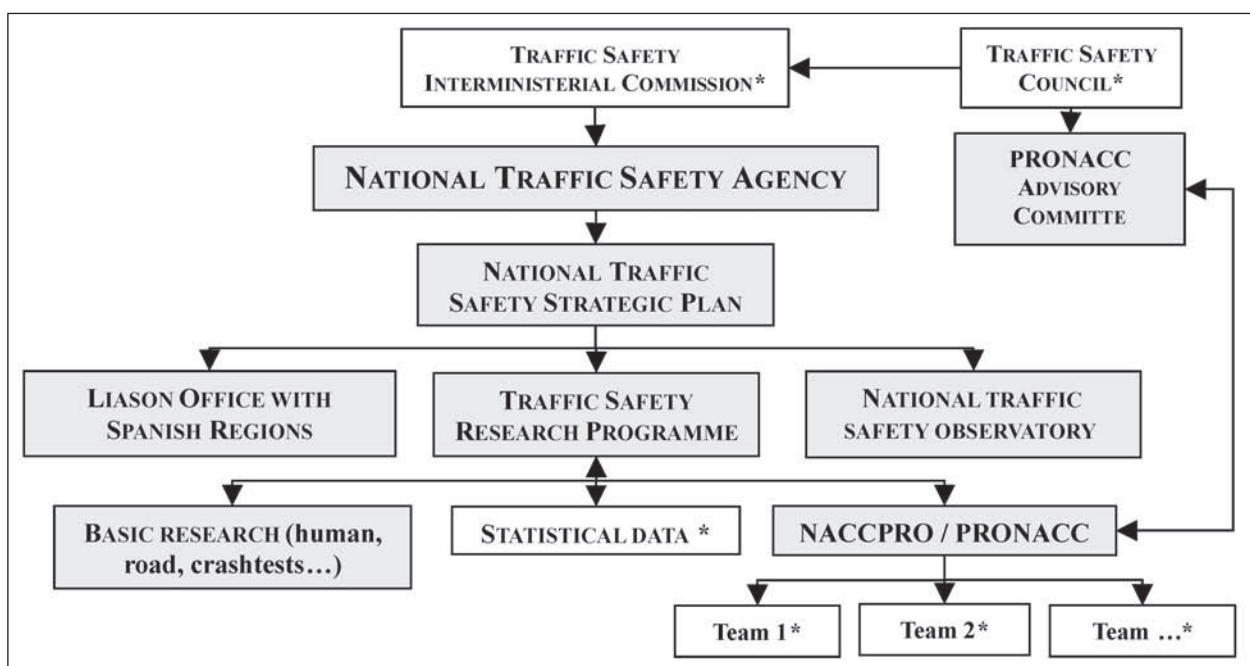


Fig. 1: Proposed traffic safety framework for NACCPRO (* = existing bodies)

At this stage of the proposal, all the items are still open to discussion with interested parties (administrations, crash investigation teams, sponsors, data users...). Therefore rather than a definitive design, this poster condenses the proposed starting point for necessary future debates. In fact, discussions have already started in the Accidentology Observatory (i.e. a group of accident data experts meeting regularly) coordinated by FITSA Foundation since the end of 2003.

Map of Crash Investigation Centers and Team Composition

The review of existing crash investigation activities in Spain has led to the map in figure 2 representing the location of available resources, many of them having accrued large experience in national and international accidentology studies (PENDANT, SARAC II, APPROSSYS, MAIDS, ROLLOVER...). Although the initial actual capabilities of the various centres might vary, they all could be brought to a homogenous minimum standard in a short period of time with the adequate training programme.

The map includes research centres such as Centro Zaragoza, CESVIMAP, CIDAUT, the recently established in Galicia CTAG, or IDIADA, university institutes such as Grupo SVyAT, INSIA or INTRAS,

car manufacturers such as SEAT, private consultant companies such as REGES and policy units such as Guardia Civil (ATGC) and Mossos d'Esquadra in Catalonia. The proposed minimum team composition consists of three members: one police officer, one technician and one physician. The participation of two technicians instead of one (one focusing on the infrastructure and the second one on the vehicle) and one psychologist is also suggested in a more comprehensive team design focusing on crash avoidance.

Timeline and Budget

The timeline for the development of a NACCPRO/PRONACC is coherent with the duration of the above mentioned National R&D Plan 2004-2007:

- Year 1 (2004): Final approval of the project (political/technical decision) and establishment of first institutional agreements and working groups.
- Year 2 (2005): Definition of details through the work of different working groups, barrier removal (data access, additional collaboration agreements), team training, database creation.
- Year 3 (2006): Pilot activities over approximately 150 crashes.

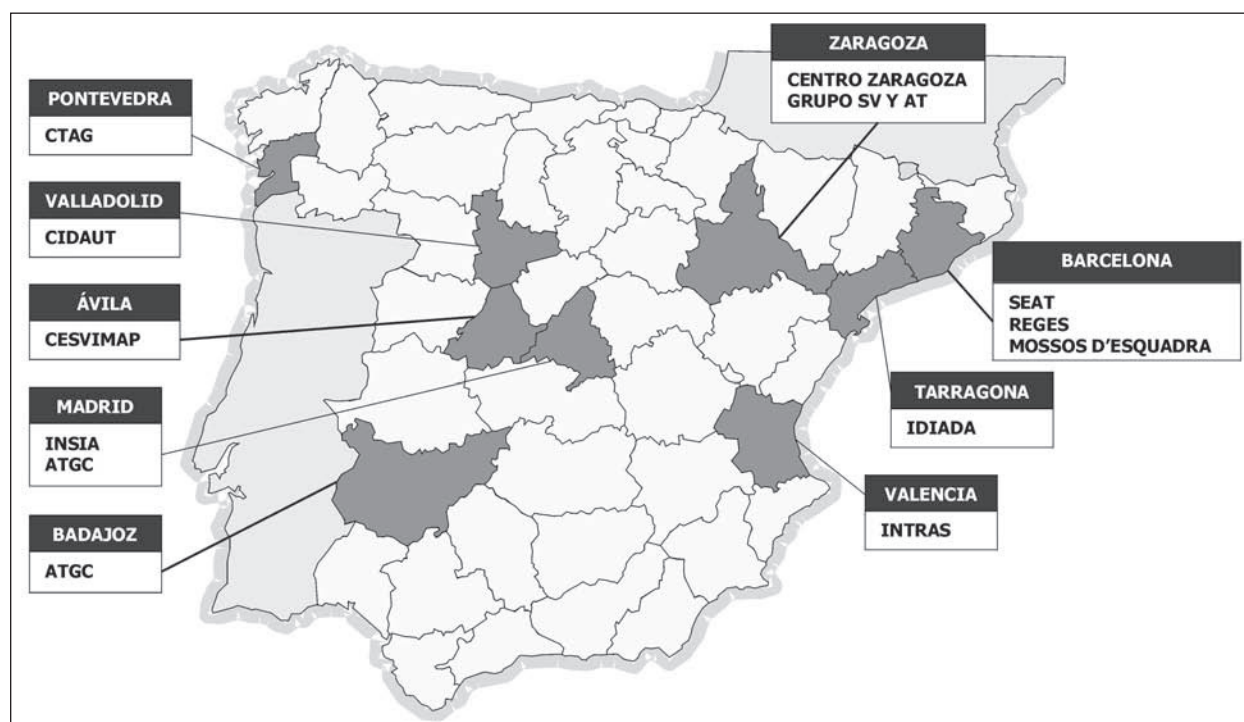


Fig. 2: Map of existing Spanish in-depth traffic crash investigation resources

- Year 4 (2007): Investigation of 1,000 accidents (same figure as for the “permanent” NACCPRO).

An estimated budget for years 1-3 has been calculated in 1.9 million euros and an estimated yearly budget for 1,000 investigations has been estimated in 3.4 million euros. A societal economical return of this activity is justified with the saving of two fatalities and their associated non-fatal casualties (using values developed by the European Transport Safety Council [5]). A mixed public (a large share of the returns are societal) and private financing scheme is being proposed at this stage.

Conclusion

This poster presents the basic concepts for a National ACCidentology PROGRAMME (NACCPRO) or a Spanish In-Depth Accident Study (SIDAS). This proposal is intended to provide a general framework for this type of investigations following the pattern of existing studies such as GIDAS in Germany in order

to maximize at national and European level the usefulness of on-going activities in Spain.

References

1. Plan Nacional de Innovación Científica: Investigación y Desarrollo 2004-2007. Ministerio de Ciencia y Tecnología. Madrid, 2003
2. Final Report STAIRS: Contract: RO-96-SC.204, 1999. www.lboro.ac.uk/research/esri/vsrc/stairs/
3. A. GEORGI: GIDAS-German In-Depth Accident Study. FISITA Congress 2004. Paper F2004V213
4. <http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/NASS.html>
5. Cost Effective EU Transport Safety Measures: European Transport Safety Council. Brussel 2003

Appendix

	CCIS	OTS	INRETS-CEESAR	MUH (GIDAS)	NASS/CDS
Country	UK	UK	France	Germany	USA
Period covered	Since 1983	2000-2003	Since 1993	Since 1973 (1999 GIDAS)	Since 1979
On the spot-retrospect.	Retrospective	On the spot	On the spot	On the spot	Retrospective
Primary focus	Injury causation	General	Crash avoidance	Legislative tool	General
Case selection	Stratified	Random	Random	Random	Stratified
Team activation	Police reports	Police call		Police call	Police reports
No of teams	2 (Universities) + 5 (Gov't)	2	4	1 (2)	24
No crashes/year	1,600	500	200-240	1,000 (2,000)	5,000
No crashes/year-team	215	250	50-60	1,000	200
Coordinator	TRL			MUH (BAST)	NHTSA
Team composition		Police officer, technician and coordinator. Optionally: physicians and psychologists	Technical team and psychologist	Coordinator, technicians (2) and physician	
Budget	2.9 Mill. € approx.	-	-	2 Mill. € approx.	-
Financing sources	Public+private	Public	Public+LAB (private)	Public (Mixed)	Public
Inclusion criteria 1	At least one injured occupant		At least one victim	At least one victim	At least one victim or vehicle damage
Inclusion criteria 2	Passenger cars <7years old	All types of vehicles	At least two vehicles involved	All types of vehicles	Vehicles <4,500kg
Inclusion criteria 3	Tow-away vehic.				
Note 1	Retrospective: loss of inform.	More expensive	More expensive	More expensive	Retrospective: loss of inform.
Note 2	Only passenger cars	Higher level of police cooper. required	Higher level of police cooper. required	Higher level of police cooper. required	