USER NEEDS INTERVIEW

Introduction



The objective of this interview is to collect the views of road managers and operators on:

- intelligent systems currently used to operate their road network
- solutions needed for the future.

Identity



Name of interviewee	Johann Gschoßmann PPO Herrmann Röllnreiter PPO Peter Günzel PFA
Name of organisation	***PPO Polizeipräsidium Oberbayern (Police head quarter Bavaria)*** ***PFA Polizeiführungsakademie Münster***

Type of organisation *(tick as appropriate)*	Public road authority	Toll road operator (public / private / semi-public)	
	Police	Other (please state : _____)	
Geographical Responsibility *(tick as appropriate)*	National	Local	
	Regional	Other (please state : _____)	
Responsibility for *(tick all that apply)*	**Motorways**	**Expressways**	Major roads (national or trunk roads)
	Secondary roads	Local roads and streets	Other (e.g. Tunnel, Bridge), please state: _____)

Position of interviewee *(job title)*	Polizeidirektor Polizeihauptkommissar Polizeidirektor
Roles of interviewee	Responsible for the traffic safety and control of the whole Autobahn and road network in upper Bavaria (DE) Responsible for the division Police Management at the police academy
Responsible for *(number of persons approx.)*	Member of the management team 500 persons for motorway control, 4000 persons in the whole Police Presidium Oberbayern

Open Questions

1 What are the main problems you currently face in managing your network (traffic and infrastructure)?
Give proposals and classify them by priority. For each problem: What measures are you taking, have taken in the past, are planning to take in the future?

Priority	Problem description	Measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
1a	Traffic density is in general too high and increasing further on – specially for heavy goods vehicles Problems at peak time combined with high traffic density. Rest and parking areas for HGV not sufficiently available.	Traffic quantities can not be influenced directly					
		New roads could be constructed					No planning
1b	Many over speeding drivers and violations due to missing safe distance. Traffic becomes often inhomogeneous due to different max speeds for HGV, busses and cars.	Stationary and mobile speed control		X			
		Tail gating control systems		X			
		Speed control in tunnels			X		

* Be as precise as possible, e.g.: *"Measure started in 2002 and ongoing", "Measure definitely planed to start in 2006", "Aim to implement around 2008 but not definite"*, etc

Open Questions (continued)

1

Priority	Problem description	Measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
1c	A high rate of overloaded HGV with axle weight, axle group weight and grass weight violations. Strong impacts on safety, traffic flow and road deterioration. Fixation of the goods and the loading is often not sufficient and safe. Oversized dimensions appear. Mixed transportation of dangerous and normal goods without declaration and official legalizing documents.	The first semi automatic weight control station in Bavaria for HGV was installed in 1995, the second in 2000. Future fully automatic control stations will be investigated in the next 5 years, if budgets will be available.		X		X	2008-2010
1d	Over speed driving violations during bad weather and bad road conditions on motorways. HGV are not equipped with winter tires during winter time.	Stationary speed control systems are in use.		X			
		Mobile speed control systems are used partially, but the captured images are sometimes not clear for drivers photo recognition and license plates are not readable based on the bad weather conditions.		X			

Open Questions (continued)

2 How will planned measures be financed? (Direct financing from own funds / BOT (Build Operate and Transfer / PPP (Public Private Partnership), etc.

Different control administrations (BAG, Länder Police und Bundesgrenzschutz) are in operation in Germany and are not easy to coordinate. Different budget set up procedures and priorities. No national regulation standards and homogeneous regulation in practise.

Measures are financed by the ministry of internal affaires using public money.

Fines received for violations can not be used for further investments and personnel and have to be transferred to the finance administration.

The budgets were reduced in recent years from 2003.

3 What is the approximate split of spending between road building, road maintenance and installation of new equipment on existing roads? / How has this split evolved?

No relevance for police.

Road building and maintenance is financed by the state – control technology is funded by the 16 Länder in Germany individually.

4 If you could choose one ITS or traffic management solution to improve safety, what would it be?

A combined multi purpose ITS and traffic control system for achieving efficient and visible results concerning safety and traffic flow. Enforcement systems should be a integral part of the overall concept.

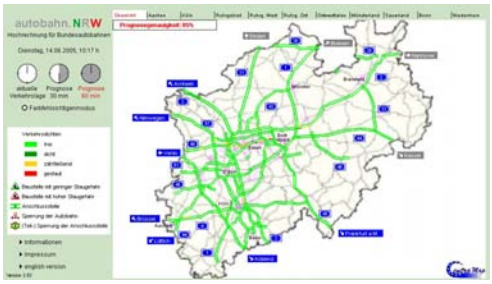
Systems are only partially/temporary available with a sparsely road section coverage.

Speed, overtaking and HGV control are core elements on the motorways.

5 If you could choose one thing to improve predictability of journeys (reliability of journey time information), what would it be?

For the region of Nordrhein Westfahlen a traffic and traffic jam prediction program is available via internet. It is well accepted, but effects of resulting driving behaviour are not always predictable.

http://www.verkehrsinfo.nrw.de/ort.asp?ort=NRW-Übersicht#2



No direct relevance for police. The use of the hard shoulder of the motorways was discussed in high traffic situations to improve the road capacity– but it was not allowed due to expected problems for the management of accidents and its access by emergency vehicles.

Open Questions (continued)

6 What degree of traffic control could you accept? (concerning speed enforcement, use of electronic toll tags to gather data, etc)

Fully, to achieve best safety and avoid casualties. The effects of safety improvements by better control are visible. Control rate is today very low (per mile) and target of 1-3% by EU not yet achieved.

Hot spot areas should be protected by permanent control.

A flexible control strategy should be possible and practiced: distribution in the fully road network space, time and intensity.

7 What causes the most damage to the your road network today?

Overloaded axles and increasing HGV traffic volume.

Stop and go of heavy loaded trucks.

8 What system(s) or process(es) do you currently use to reduce this damage?

In 1992 the Polcie Präsidium Oberbyern was a partner of the CITRA EU research project including HGV monitoring and control. The first German semi automatic WIM station was designed and built, a new system for slow motion enforcement of overloaded axles approved by weight and measures and is still successfully in operation.

The first semi automatic weight control station in Bavaria for HGV was operated in 1995, the second in 2000.

Future fully automatic control stations will be investigated in the next 5 years, if budgets will be available.

Different police control practice and equipment solutions. Portable wheel load weighers are not efficient and complicate in use.

9 What do you understand by “Intelligent Roads”?

An integration of traffic management systems (Verkehrsbeeinflussungsanlagen) for steering the traffic flows, inclusion of weather and environment data management and information systems and joint operation with a enforcement system for achieving higher safety.

Information concerning the driving optimum: road condition, humidity, ice and friction, traffic density and general safety factors

Targeted Questions

→ For each Item (which corresponds to a technical task in INTRO), please state what measures you are taking at the moment / have taken in the past / are planning to take in the future (tick appropriate box)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Stopping distance and skid resistance	**1** this is not the responsibility of the police. Partial problems are known concerning the skid resistance on the Autobahn A 95. A low HGV volume on this motorway section causes a longer lifetime of the motorway. A first layer repair is not necessary in short cycles like on mayor roads. The negative effect is, that the pavement surface becomes grinded and causes skidding.					
	2 A nice simulator is available and presented in the internet with public access to simulate and show the stopping distance and crash effects. New tests in preparation by the BASt (German Federal Road Authority).					
	3					

The INTRO project aims to develop models to link stopping distance to dynamic micro-slip data and to static skid-resistance measurements. This is to better understand these relationships for two pilot phases (information to drivers and to road authorities). This information could for example be used in winter to recommend variable speeds according to the measured conditions.	**Comments (if any):**

Targeted Questions (continued)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	Your measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
B. Real time information for maintenance data	**1** no relevance for police administrations					
	2					
	3					

The INTRO project aims to conduct a pilot demonstration of information on slippery roads to road maintenance authorities. This is to enable them to differentiate between ice/snow that needs clearing and bad surface conditions that need repaving. Data will be processed and displayed using a GIS (Geographical Information System) interface. The test will take place using probe cars near Vienna, Austria.	**Comments (if any):**

Targeted Questions (continued)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
C. Real time information to drivers regarding road surfaces	**1** no direct relevance for police administrations, as already stated, the weather and road surface conditions should be part of an future integrated traffic management and control system and drivers should be informed accordingly					
	2 Information concerning the driving optimum: road condition, humidity, ice and friction, traffic density and general safety factors					
	3					

The INTRO project aims to provide road surface-related information (mainly stopping distance) to drivers via an appropriate in-vehicle HMI (Human-Machine Interface). This will be based on data from floating cars with an on-board micro-slip measurement system (which provide this data to a central server), and also from static road surface data (for floating cars without micro-slip data).	**Comments (if any):**

Targeted Questions (continued)

11 **Pavement conditions and infrastructure production** *(INTRO WP3)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Intelligent pavements (pavement management, lifecycle and deterioration sensors)	**1** no relevance for police administrations					
	2					
	3					

The INTRO project aims to improve the management of the maintenance of the network (pavements and bridges) through smart methods of predicting the deterioration process and actual condition. The aim is to measure pavements in unobtrusive ways and make the information accessible at low cost. This includes a demonstration of sensor methods including in-situ sensors (such as loops, cameras and weigh-in-motion).	**Comments (if any):**

Targeted Questions (continued)

11 **Pavement conditions and infrastructure production** *(INTRO WP3)*

Problem description	Your measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
B. Remote pavement sensing from vehicles	**1** no relevance for police administrations					
	2					
	3					

The INTRO project aims to demonstrate the use of data provided by sensors fitted to standard vehicles ("probe vehicles") for improving the monitoring of pavement condition, and hence maintenance. This will concentrate on monitoring comfort and safety of the ride, as well as road defects such as rutting.	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Data sensing for road, weather and traffic including Probe Vehicle / FCD (Floating Car Data) Technology	**1** no relevance for police administrations					
	2					
	3					

The INTRO project aims to establish key traffic indicators, and to develop methods to calculate or estimate them using existing data sources for sensor-based measurement of traffic parameters. This includes analysis of data quality from using conventional single data sources and how this influences derived data (traffic flow, density, speeds, travel time, etc)	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
B. Data fusion of data from different sources for providing a comprehensive picture of network conditions	**1** no relevance for police administrations A system "SWISS" for weather monitoring is installed in Bavaria, but data are not reported directly to or in access with police.					
	2					
	3					

The INTRO project aims to design and develop a data fusion module accepting and combining information and data from traffic detectors and other sources, for assessing the traffic conditions on the road network and detecting critical traffic situations. This task involves fusion of travel time data and traffic data, link travel time correction, etc.	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
C. Safety indicators for monitoring traffic condition ***(inter-vehicle distance, speed variance, etc)***	**1** Today traffic management systems are not micro- but macro-cosmic and do not consider ***inter-vehicle distance, speed variance, etc.*** There is a initiative and R&D started concerning the detection of safe distance keeping violations and other speed related illegal driver behaviour.					2008-2010
	2 The accident reports should include more details concerning the scenario: situation, road and pavement condition, humidity, load, Sometimes these data are only added later in the database.					
	3					

The INTRO project aims to develop methods allowing relevant safety indicators to be estimated using traffic parameters. This will help traffic managers and drivers have a real-time overview of the safety level on different parts of the road network. This will be done by analysing accidents (only accidents linked to traffic conditions or road surface) on 6 sections of road network across Europe and using this data to build and validate models of safety indicators.	**Comments (if any):**

Targeted Questions (continued)

13 **General**

A. Which out of the above are in your opinion the most important/most useful approaches?

Optimise the road condition and construction (according newest guidelines)
Implement an integrated multi purpose control system
Automate the control measures
Achieve section control instead of point control
Build a network of control systems to achieve 3% rate

B. What risks do you see?

Financing
Much to long planning and realisation procedures
Public acceptance

14 **This is the end of the interview. Do you have any other comments?**