USER NEEDS INTERVIEW

Project acronym: INTRO
Project full title: Intelligent Roads
Proposal / Contract N°: FP6-012344
WP1 – Sub Task 1.1.3: User Needs

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	Louis Rance
Name of organisation	***ESCOTA (Autoroutes Esterel Cote d'Azur)***

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)*	Deputy Technical director In charge of the Computer Systems Service In charge of the coordination of European projects
Roles of interviewee	
Responsible for *(number of persons approx.)*	

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 jam prevention	MIGRAZUR tool	X	X			
		PASTRE tool		X	X		
		New scenario of PASTRE			X		
		TRAVEL TIME INFORMATION - given to users to help them choose the best route. Technology used is different depending on the context (urban or inter-urban motorways) WEB CAMS - for operators		X X			
1b	Operation of a congested network	PASTRE		X	X		
		New scenario of PASTRE: OPERATIONS SCENARIOS ADAPTED TO A CONGESTED NETWORK - for congestion forecast and treatment, the system manages the traffic considering that urban motorway network is under constant congestion, and adapts operations to this sort of traffic			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	Road weather monitoring	Road weather information system		X			
1d	Safety management	AUTOMATED RESPONSE PROCEDURE - automatic sequence of equipment activation started by the operator		X	X		
		AUTOMATIC WARNING VMS every 100m on urban motorways, automatically following the tail of the traffic jam, faster and more accurate than an in-situ warning vehicle					
		WEB CAMS - for operators					

* 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)

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

Concession: duty of maintenance of the holdings by the franchise holder

To note also: €500k of EU funding for research and studies

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?

Not relevant for the interviewee

Mostly for maintenance of existing equipment and for new operating equipments, rarely for building

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

Automated Speed Enforcement

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

Two completely different solutions according to the contexts for travel time prediction:

- Urban context with a lot of accesses to the network: measurements with toll beacons
- Long distance section with few junctions: measurements with counting loops (reduced accuracy)

Open Questions (continued)

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

Not relevant

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

HGV traffic

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

Preventative regular road surface maintenance is done. The frequency of such works is based on statistics depending on geographical and environmental situation (weather conditions) as well as traffic estimation of the section concerned.

9 What do you understand by “Intelligent Roads”?

General Management System for traffic management, weather monitoring, user information, automatic equipment activation procedures, and all road equipments management including cameras, AID, etc

Any solution, which automates repetitive tasks, and lets the operator have a general view of the situation.

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** Regular preventative resurfacing according to road section characteristics (environment, geographic situation, useful weather of the area, annual traffic)		X			

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** Road Weather Information System		X			
	2 INTELLIGENT WEATHER MEASURMENT STATIONS - national weather information not precise enough: the motorway company gives its own weather information measurements to the national meteorological office		X			
	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** Part of the INTEGRATED GLOBAL SYSTEM (“PASTRE”) - used for integrated traffic management and control system with user information interface (VMS)		X	X		
	2					
	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 particular measure known by the interviewee					

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 particular measure known by the interviewee					

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** TRAFFIC DATA COLLECTION NOETWORK: loop detectors on sections with ITS equipment. Data provided each 60 seconds Automated measures are initiated by traffic control computers and dedicated algorithms.		X			
	2 WEATHER DETECTION SYSTEM + use of data by national central radar weather service		X			
	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** Telecom, user information and equipment are related via the central system					
	2 Part of the "MIGRAZUR" INTEGRATED GLOBAL SYSTEM (becoming PASTRE) - data fusion for weather and traffic / pavement state not related					
	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** Part of the "PASTRE" INTEGRATED GLOBAL SYSTEM		X	X		
	2					
	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?

· Fusion of data from different sources to provide a comprehensive picture of network conditions; and

· Safety indicators for monitoring traffic conditions (inter-vehicle distance, speed variance, etc)

. Most useful tools are integrated solutions permitting the operator to have the widest view of the network

B. What risks do you see?

None

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