

ANNEX 1 - Selected User Needs

Number	Description
2.1.0.1	The system shall be able to exchange traffic and travel information between adjacent TICs to enhance local information.
2.1.0.3	The system shall be able to exchange traffic and travel information between adjacent TCC's to improve strategic planning.
2.1.1.1	The system shall be able to produce information for travellers on the traffic and travel conditions of all relevant transport modes.
2.1.1.3	The system shall be able to collect traffic data for road network use analysis and prediction calculations.
2.1.2.2	The system shall be able to develop and implement traffic environmental management strategies based on current and predicted traffic conditions.
2.1.3.1	The system shall be able to measure the effect of a strategy, and to modify it when necessary.
2.2.0.4	The system shall be able to support a database of maintenance operations.
6.1.0.3	The system shall be able to provide accurate, credible, timely, and easy to comprehend traffic and travel information where it may be of benefit to the user.
6.1.0.5	The system shall enable travellers to plan their trip using their own travel criteria (modes of transport, time of departure/arrival, road selection criteria, etc.).
6.1.1.2	The system shall be able to provide trip information on other modes of transport, e.g. for demand-spreading when major events occur, or when weather conditions, strikes, cultural or sports events etc cause problems for one mode.
6.1.2.5	The system shall be able to analyse, process and retrieve data from different combinations of sources (including floating car).
6.1.2.6	The system shall be able to provide road and traffic information adapted to different classes of users, e.g. travellers, radio broadcasters, service operators.
6.1.2.7	The system shall provide information using graphical representation or text. Graphical form shall include the use of maps as well as text.
6.1.2.8	The system shall provide information in the native language at the output location, and/or from a user selected choice of other appropriate foreign languages.
6.1.2.9	The system shall provide Information Management tools for the operator.
6.1.2.13	The system shall be able to provide information to travellers so as to influence their choice of destination and/or mode of travel, e.g. to protect the environment of a 'Point of Interest', or geographic area.
6.1.3.8	The system shall be able to provide customised pre-trip information to hand-held and in-vehicle devices.
6.2.0.3	The system shall be able to be activated automatically by another system, e.g. traffic management.
6.2.0.4	The system shall provide traffic information to the traveller during his/her trip in a timely manner, and include travel conditions, accidents, special events, car park status, etc.
6.2.0.5	The system shall be able to provide urban and inter-urban traffic and travel information to drivers about the domain they are not currently in.
6.2.0.7	The system shall be able to know where it is in the transport network, and hence provide the position of vehicle or person carrying it.
6.2.1.3	The system shall be able to provide information about other transport modes: e.g. location of P+R areas, PT timetable, etc.
6.2.2.1	The system shall be able to inform travellers on the current average travel time between fixed points.
6.2.2.9	The system shall be able to adapt the information to different classes of users, e.g. travellers, radio broadcasters, service operators.
6.2.2.10	The system shall be able to collect data from a variety of different sources, e.g. road/traffic management, police, weather services, floating car etc.
6.2.2.11	The system shall be able to provide operators with an overall view of all active events in an area.
6.2.2.12	The system shall provide Information Management tools for the operator.
6.2.3.2	The system shall normally provide messages from a finite set of well defined messages.
6.2.3.3	The system shall provide information in the native language at the output location, and/or from a user selected choice of other appropriate foreign languages, when applicable.
6.2.3.4	The system shall provide information using 'open' standard communication protocols.
6.2.3.5	The system shall be able to provide customised on-trip information to hand-held and in-vehicle devices.
6.2.3.6	The system shall enable drivers to customise the style and content of the information that they receive from hand-held and in-vehicle devices.
6.2.3.8	The system shall be able to provide road and traffic information using road-side equipment, e.g. VMS.
6.4.0.1	The system shall provide travellers with recommended routes to specified destinations.
6.4.1.6	The system shall provide information which is consistent with any other information being presented about the road.
6.4.2.2	The system shall contain menus which are structured in a logical manner and oriented towards the requirements of the driver (e.g. the most frequently used function shall be the easiest to select).
7.1.0.1	The system shall support the existing and new traffic management needs of authorities by providing a flexible yet comprehensive approach to determine traffic management strategies (including bridge and tunnel control).
7.1.0.2	The system shall be able to implement identified control strategies that conform with specified policy.
7.1.0.4	The system shall manage road traffic in such a way that levels of environmental (i.e. atmospheric and noise) pollution may be reduced.
7.1.0.5	The system shall manage road traffic in such a way that congestion (travel time) may be reduced.
7.1.0.7	The system shall be able to exchange information between TICs and TCCs, including across national boundaries.
7.1.0.12	The system shall be able to use different methodologies to control separate areas of the road network.
7.1.1.1	The system shall be able to monitor sections of the road network to provide the current traffic conditions (e.g. flows, occupancies, speed and travel times etc.) as real time data.
7.1.1.6	The system shall be able to monitor and record weather conditions (wind, fog, rain level, ice, etc.).
7.1.1.7	The system shall be able to monitor and record environmental (atmospheric and noise) pollution conditions, and provide an alarm when a certain threshold is exceeded.
7.1.2.1	The system shall be able to use consistent historical data to complement real-time data, when necessary.
7.1.2.4	The system shall be able to analyse road and traffic data to predict possible critical situations.
7.1.2.8	The system shall be able to produce new traffic management strategies from one or more of historic, current, or predicted road traffic data.
7.1.3.5	The system shall enable TCC operators to make temporary changes to the normal control strategy in real-time.
7.1.3.7	The system shall be able to support a database of all known (future) events.
7.1.4.4	The system shall be able to provide advice to drivers as they approach car parks (on-street and off-street, as well as motorway service area parking).
7.1.5.7	The system shall be able to recommend re-routing strategies to reduce congestion.
7.1.5.8	The system shall request confirmation of all exceptional measures before they are executed.
7.1.5.9	The system shall be able to recommend re-routing strategies to reduce atmospheric pollution.
7.1.6.1	The system shall be able to provide Origin/Destination computations, and route assignment estimations, for the road network.
7.1.7.2	The system shall be able to set variable speed limits on parts of the road network.
7.1.7.4	The system shall transmit recommended speed limits to equipped vehicles.
7.1.11.1	The system shall be able to monitor the current usage of the parking facilities.
7.1.11.4	The system shall be able to collect and store data from all car parks to provide a historical record.
7.2.0.1	The system shall detect and respond to various incidents on the road network.
7.2.0.6	The system shall minimise the time between the occurrence of an incident and its detection.

7.2.0.7	The system shall be able to validate that an incident has occurred in order to minimise false alarms.
7.2.2.1	The system shall be able to collect and store data on each incident, e.g. location, type, severity, number & type of vehicles involved, the emergency/rescue vehicles needed etc.
7.2.2.3	The system shall be able to provide information on each incident to TICs for onward transmission to travellers.
7.2.5.1	The system shall be able to detect 'non-vehicle' incidents before they can escalate into traffic accidents, e.g. bad weather conditions, objects on the road, ghost drivers, etc.
7.3.0.1	The system shall provide information that will influence travellers' decisions regarding their destinations, time, mode of travel, route etc.
7.3.0.2	The system shall receive up-to-date information on those factors that will influence the demand management strategy, e.g. traffic levels, car park usage, other modes usage, fares, tolls, etc.
7.3.0.3	The system shall be able to recommend a strategy to influence changes in demand for one or more modes of transport.
7.3.3.1	The system shall be able to implement parking strategies in specific areas, including P+R strategies.
7.3.4.1	The system shall be able to provide information to promote the use of cycles and walking.
7.4.1.3	(X)FCD - The system shall be able to determine the relative position of the host vehicle on a road (e.g. lane, distance from a datum point) at all times (urban, inter-urban, tunnels etc.).
7.4.1.5	(X)FCD - The system shall be able to determine the environmental conditions in the vicinity of the host vehicle.
7.4.1.8	(X)FCD - The system shall be able to maintain a database of dynamic fused XFCD from the host vehicle's systems and sensors.
7.4.1.15	(X)FCD - The system shall be able to send XFCD to the TCC from the host vehicle.
7.4.1.35	Hazardous Location Notification - The system shall be able to warn drivers in a timely manner of incidents ahead (e.g. road works, accident, traffic queue) via an in-vehicle display. Where available and relevant this information shall include lane(s)/road section(s) affected and expected delay.
7.5.1.3	The system shall be able to monitor the current inter-urban traffic and weather/environmental conditions, identify incidents, assess their impact, make short term predictions, and select and initiate an appropriate mitigation strategy.
7.5.1.8	The system shall enable the TCC to inform drivers, via an in-vehicle device, about (foreseen and unexpected) incidents on the driver's planned route.
7.5.1.9	The system shall be able to warn the driver, via an in-vehicle device, of incidents in the urban road network as they are detected.
7.5.1.28	The system shall enable the TCC to inform traveller information service providers of the current traffic management strategy.
7.5.1.29	The system shall be able to analyse traffic data using an off-line simulation tool.
7.5.2.1	The system shall enable a road-side device to receive information on the status of traffic signals.
7.6.2.4	The system shall enable the traveller information service provider to receive current inter-urban traffic management, and weather, conditions and planned events.
7.6.2.6	The system shall enable the traveller to request and receive (anticipated) weather/environmental conditions on, or before, a planned trip.
8.5.3.4	The system shall be able to collect information about the vehicle and its environment for other organisations to use, i.e. probe or floating car data.