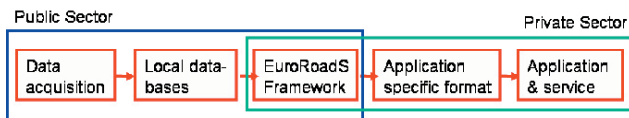




# Client application 'Speed advice'

## Introduction

The key output of the EuroRoadS project is the specification framework which enables the provision and exchange of harmonised, interoperable and quality assured road data. It provides a vital link between potential (public sector) data suppliers and (private sector) data users.



The EuroRoadS data chain

The specification framework needs to be implemented and tested in order to demonstrate and validate its usefulness. This is subject of the demonstration work in the EuroRoadS project, which establishes an exemplaric information chain for speed limit data from data acquisition to a final end user application.

This leaflet describes the end user application. Speed limit data have been chosen as showcase for the information chain and shall be tested in a mobile end-user application providing speed limit information while driving ('SpeedAdvice').

Furthermore, the demonstration activities are described in the leaflet 'demonstration overview' and leaflets describing 'data capture and maintenance', 'data processing' and 'client application SpeedAdvice'.

## Objectives

The demonstration service 'SpeedAdvice' shall offer on-trip information and warning services on current speed limits on the road as a stand-alone service.

The application has been developed to demonstrate the usefulness of the content delivered through the EuroRoadS information chain, via the EuroRoads data exchange framework from the different test beds.

## Use of Speed Limit Data

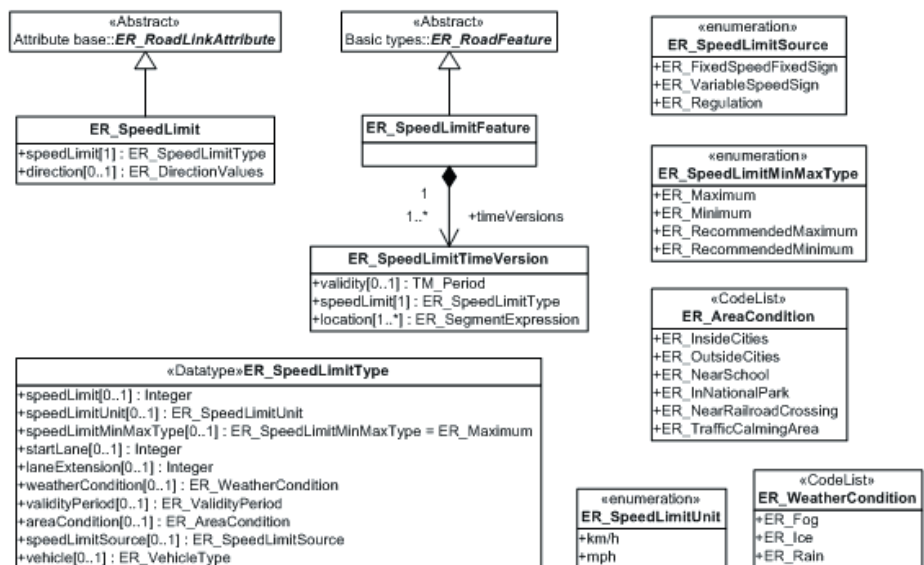
Apart from the speed limit value (and unit) itself, the EuroRoadS speed limit information model was created according to the requirements of the EU-Project SpeedAlert and includes a number of characteristics of speed limits, in particular:

- differentiation of minimum/maximum speed limit,
- lane reference,
- weather condition,
- validity period,
- area condition,
- source of information (fixed sign posts, variable message sign and Regulation),
- vehicle dependency.

For the EuroRoadS demonstration, five test areas supply data according to this data model though with different levels of attribute completeness. These data sets are processed into the format required by the SpeedAdvice application.

The SpeedAdvice application itself only supports a subset of these speed limit attributes available in the EuroRoadS data schema. In addition it requires a direct link attribute referencing of the speed limit (see respective leaflet on demonstration – data processing).

The client matches the available GPS-position data to the network (map-matching). This procedure requires routing capabilities on the network. As a result, the current link is identified and used for extracting the current speed limit(s) from the on-board database.

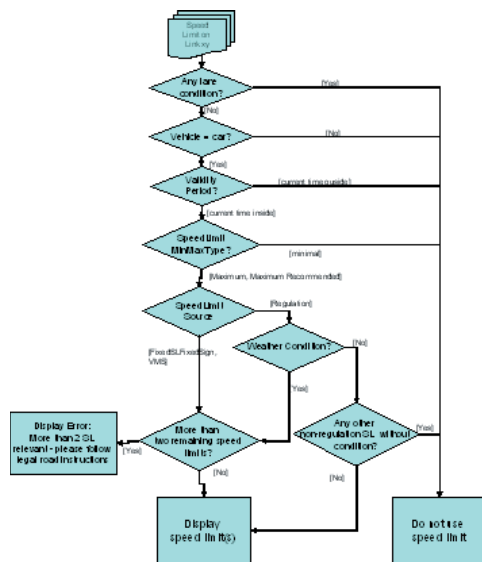


EuroRoadS speed limit data schema

For each link one or more speed limits can be available in the on-board data base. The SpeedAdvice application filters the available speed limits according to the a set of rules (see figure below). In particular:

- the validity period is used by the application to retain only currently valid speed limits for display,
- all speed limits specific to vehicle types other than cars are discarded,
- minimal speed limits are discarded,
- any speed limits pertaining to less than all lanes are discarded,
- implicit speed limits are only retained if no weather condition is given and no other explicit unconditional speed limit is given,
- if more than two speed limits have been retained in the steps above, an error message is displayed in order to avoid visual overload to the driver.
- area and weather conditions lead to the display of an additional icon next to the speed limit road sign.

The retained speed limits (not more than two) are displayed. If the current speed exceeds the speed limit by a certain threshold, a warning is issues (visually or by a beep).



Filtering rules followed by the client

## Demonstration Client Application

The client application is developed as a prototype for mobile applications with the WindowsCE operating system (typically PDAs). As external software standard it uses Java Micro Edition and OSGi, and is embedded in PTV's Mobile Client Framework, from which it uses certain standard modules.

The client is supplied to the partners responsible for the test either installed on the PDA hardware or as setup for installation on own hardware.

The client allows certain configurations mainly:

- Language of the HMI: German or English
- Type of display and warning: visual or audio signaling, setting of threshold for warning

Usual operation is with a online GPS device, but a pre-recorded GPS track can also be used for demonstration purposes.



The mobile application 'SpeedAdvice'

## Contact

For further information about the Client Application, please visit EuroRoadS on [www.euroroads.org](http://www.euroroads.org) or contact Work Package leader for WP7 Demonstration: Michael Landwehr, PTV AG  
E-mail: [michael.landwehr@ptv.de](mailto:michael.landwehr@ptv.de)

