- ParckR — Information system for truck parking

Key Words: ICT, innovative operational solution, modelling and forecasting.

ParckR helps truck drivers find the best spot, hassle-free and on time. The ParckR Android app gives an overview of all truck parking areas along the route. Per truck parking area, it indicates the expected occupancy at time of arrival, as well as useful information on facilities. It also shows what other truck drivers think of a particular truck parking area. ParckR is the first community for truck drivers to share information on truck parking areas, and the first smartphone app to predict occupancy rates for truck parking areas. From July to November 2012 ParckR has been trialled on the corridor Rotterdam – Venlo.

Benefits

• Reduce truck parking overcrowding
• Reduce incursions of parking and driving-time regulations
• Improve road traffic safety
• Improve safety/security on the parking lots
• Better planning of driving and resting times.

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Starting point/objectives/motivation:

What was the main problem, idea or motivation that led to the development and introduction of the new practice?
There is a shortage of truck parking places along highways in Europe, leading to dangerous situations and drivers risking high fines because they have to drive too long.

What was the common practice before the implementation?
Either drivers stop too early, just to be sure to find a parking place, or they drive until they have to stop due to driving legislation, and then they park at overloaded parking places or on the hard shoulder of the highway.

What was the purpose and the sustainability objective of the case?
Make parking more safe, reduce the risk of fines (driving time, parking fine) and ‘peace of mind’ for truck drivers who know in advance that they will find parking place.

Solution

ParckR forecasts the occupation of parking lots along the highway based on modelling and complemented with feedback from the user community. The modelling is based on Floating Vehicle Data, creating a historic pattern by time of day and day of the week.
Using the large archive of truck data of NOKIA, Adapticon has developed a Historic Parking Occupancy Model, which revealed parked truck patterns for the selected parking areas by time of day and day of the week. By combining this Historic Parking Occupancy Model with the Real-Time FVD Data and trucker feedback, the ParckR computer model estimates the current and near-term (up to 24 hours) use of parking spaces. This information is accessible through an Application Programming Interface (API). Several services (mobile, website, road side) can send a function call to this API to receive current and near-term Parking Occupancy estimations.

The success of the system is dependent on the willingness of truck drivers (or owners or truck parking places) to provide data on the occupancy rate of the parking places. If this willingness is not high, the system will not be successful. In addition you need a critical mass of users, otherwise the risk is that only one opinion becomes very important. The ParckR system is tested on a Dutch highway with several parking areas but the system can be transferred to other highways as well.

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