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POLICY LEARNING IN INFORMATION TECHNOLOGIES FOR PUBLIC TRANSPORT ENHANCEMENT

GOOD PRACTICES – PUBLIC TRANSPORT INTERCHANGES

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PUBLIC TRANSPORT DISPATCHING UNDER KORDIS INTEGRATOR / ORGANIZER: CED

General information

Description

CED dispatching centre is a part of the regional integrated multimodal PT system. The main CED aim is to ensure operational issues, to transfer information on real time transportation status towards information centres, to ensure transportation organizing during traffic closures etc.

CED also offers a long term monitoring and evaluating of PT regularity in the region to obtain a feedback for PT timetables, maintenance and development of routes and fleets, and also enables checking of standards compliance and quality control.

The regional PT subjects (mainly transporters) are coordinated by CED in the time of designing and planning of timetables. Centrally integrated regional CED functionalities are very important for PT controlling, necessary for a smooth operation and timely managing of exceptional situations.

Learn more on IDS JMK online http://www.idsjmk.cz/.

Backround and Context

Since January 2004, the first phase of the regional integrated multimodal PT system (IDS JMK) started in the city of Brno and its surrounding area.

The CED reach the full version by end of 2006 and after testing operation with support of CEDRIS system went into the regular operation in 2008.

The whole integration process was completed in the 2010 year and locally reaches or neighboring regions.

Some of the IDS JMK lines offer PT service internationally as to the Low Austrian Laa an der Thaya or via Skalica in Western Slovakia.

For dispatcher of the CED, the current positioning of all vehicles integrated in the system and also phone connection are available.

The CED dispatcher communicates also with dispatchers of specific transporters, including the Czech Railways.
The CED dispatcher is allowed in the case of journey failure to ensure alternative service also by certain vehicle (bus) of another transporter.
The Czech Railways, as the key partner, have two stand-by train sets allocated in Brno that could be used in a case of significant railway connection delay.

Policy design details

Policy Design Steps and Timing

The application for the project "Development of transport services in the South Moravian Region in the form of IDS" from SROP in the overall concept was based on the development of public transport in South Moravia. The project was also in line with the strategic plans for the development of the South Moravian Region and the City of Brno.
Project start date: March 2005.
Completion date: December 2006.
Project duration: 22 months.

Actors Involved

Key partners of the project were these stakeholders:

1) South Moravian Region (JMK)
   Receiver of the CED project
   As an ordering party of the regional PT
2) DPmB
   Partner in the project
   City multimodal PT provider
3) Czech Railways
   Partner in the project
   In the role of a core PT provider in the region
4) SŽDC
   Partner in the project
   Railway infrastructure manager
5) KORDIS JMK
   Partner in the project and project manager of the CED, leading the intensive cooperation with regional bus transport providers and multimodal city transport providers
   Regional multimodal PT organizer and integrator

Decision Making Process

When implementing the project CED IDS JMK decision roles were set as follows:

1. South Moravian Region: financial issues,
2. KORDIS JMK: technical issues.

Implementation details

Implementation Steps and Timing

First Stage (03-07/2005) - Implementation of tenders for suppliers Central dispatching.
Second Stage (08-12/2005) - Implementation of tenders for suppliers Central dispatching, in this phase was implemented Central dispatching equipment and furniture necessary technology, further establishing a dedicated software for central control room; began equipping vehicles carriers tracking device on the vehicle and built high-speed data link control center IDS JMK and dispatching IDS JMK.

Third Stage (01-12/2006) - Trial operation control center with focus on testing and debugging software and on clarifying the rules of communication between the central dispatching IDS JMK and dispatching of individual carriers.
Operation: Since 2006, the standard operation of a CED IDS JMK.

ICT/Infrastructures needed

Vehicle positioning from GPS: in information systems for rail traffic management understood the train position information from GPS rather as complementary. For traffic management in the IDS JMK but rather a key figure (due to frequent Following links not only at stations occupied by the dispatcher, but also stops).
All vehicles buses, regional transport are therefore equipped with terminal MSP for Mobile tracking, Public transport operator of Brno city(DPMB) vehicles are equipped with other devices. This terminal is the headquarters for communication with the driver's control center: in addition to the automatic position reports to the control center of the GPS are also on this device in the opposite direction of the transmitted information and instructions to various dispatching, inter alia, the connections and the associated delays waiting. Furthermore, the driver can, if necessary, transmit the selected predefined messages, such as notification of the expected delay, excessive frequency of passengers, requests for telephone connection etc.
The central dispatching of KORDIS JMK transmits position information on the vehicle to management information system (RIS) which is central dispatching of Public Transport Operator in Brno (DPMB) of the vehicles themselves, such information sent via radio.
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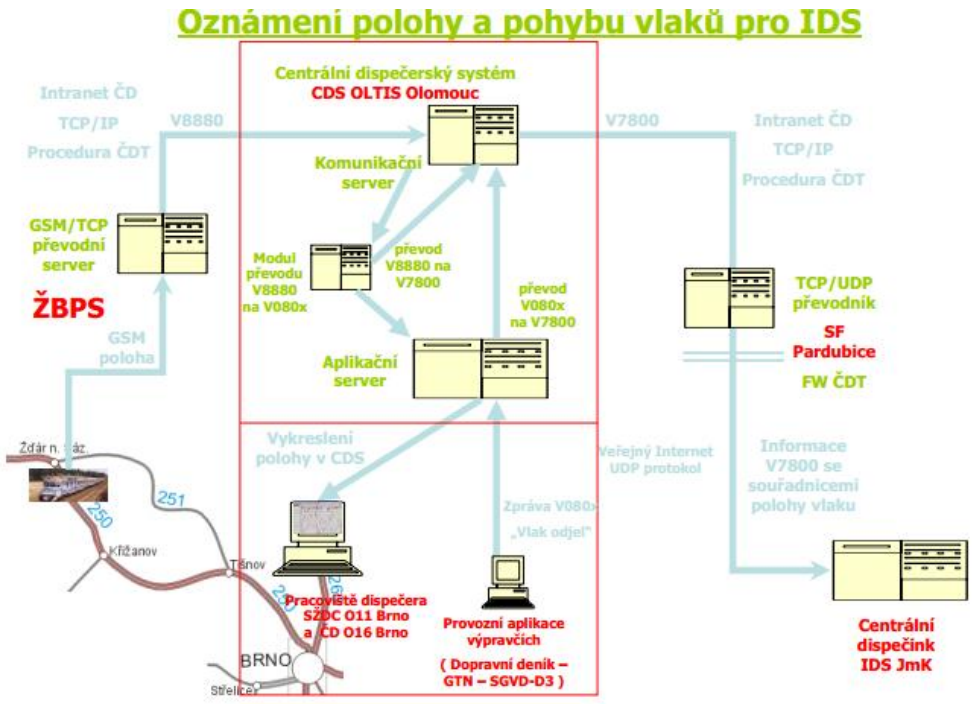

Regional transport vehicles are equipped with terminal MSP for Mobile tracking - responsible IDS JMK.

Human Resources

In the dispatching, there parallel work three dispatchers (out of peak hours only one dispatcher) plus a head person:

- one dispatcher controls operation of ca 590 buses and their connections with trains and Brno city transportation;
- another one dispatcher cares on travelers questions and supports the control in the time of higher operation.

Supporting Mechanism

Awareness/Information Campaigns

Workshops with stakeholders and public operators, Internet.

Partnerships/Key Supporting Stakeholders

Project was very intensively supported mainly by the regional political representatives.

Results

Expected vs Actual Benefits

Expected benefits: to establish and operate the central dispatch centre for the integrated multimodal regional transport.

Actual benefits: established, being operated and geographical service area extended to the maximum on the regional level; new linked services created (i.e. real time timetables for smartphones), planned (i.e. personal timetables creation available) and considered.

Quantitative Results Achieved

- CED includes information on positioning on about 1300 vehicles incl. ca 100 trains;
- Daily more than 130 phone calls;
- Daily over 30.000 connections ensured.

Qualitative Results Achieved

- Reliable operation of the dispatch centre achieved;
- Gradually more transport operators reliably included;
- Reliability of linked services achieved (as timetables vs. real time departures monitoring).

Key Considerations

Lessons Learned

Positive experience:

- Connection the Central Dispatching IDS JMK with the dispatching of Czech Railways;
- Realization of Central dispatching IDS JMK as a role model for other IDS in the Czech Republic;
- The verification that the implementation of the central control room IDS JMK achieve more accurate operation times and improved communications links;
- Positive attitude of Czech Railways, which set the rules for the transmission of the position information of vehicles;
- HW is reliable without the need of repairs.

Negative experiences:

- Occasional breaking the agreed terms for some suppliers;
- Lack of discipline drivers and carriers. Incorrect data pattern of the required data;
- SW system does not match, especially velocity, current needs;
- Faults conjunction with one of the operators, lack of data services.

Primary Obstacles

Goals of PT policy to be set up at the side of the self-governing regions.
Willingness of various actors to cooperate.

Critical Success Factors

As a critical factor during the implementation of the central control room IDS JMK appeared time and material delays in the approval process with the partner of Czech Railways.
Another problematic point was the cooperation with mobile operators, especially in terms of data transfer functionality.

Transferability Considerations

- Legislation support necessary.
- Harmonization of data formats necessary.
- Political demand for establishing the dispatch centre as multimodal necessary.
- Financial instruments for investment costs very welcome.
- Operational costs to be considered.

Up-scaling Considerations

What are we heading:

- Automatic generation of network and stops at the position of vehicles;
- Evaluation of lines, connections, and vehicle position deviations without driver input;
- Improvement of management continuity, particularly information about the arrival of connections to the node for a follow-up joint;
- Automatic monitoring of anomalies in the system;
- Improvement and process automation ELP;
- Stabilization and system backup.

Creating a universal interface for communication with similar systems in other regions.

Contact

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