

# CDV

## IDOS – THE BEST EU MULTIMODAL JOURNEY PLANNER



POLICY LEARNING IN INFORMATION TECHNOLOGIES  
FOR PUBLIC TRANSPORT ENHANCEMENT

Cosenza, 9. 10. 2014



This project is co-financed by the ERDF  
and made possible by the INTERREG IVC programme.

# IDOS IN THE CONTEXT OF POLITE

## INFOMOBILITY (WHAT WE HAVE LEARNED):

- STRATEGIC PLAN PRIOR TO INVESTMENTS.
- INVESTMENTS INTO INFORMATION PRIOR TO INFRASTRUCTURE.
- ORGANIZATION PRIOR TO TECHNOLOGY.

# INFOMOBILITY IN THE CONTEXT OF SMART CITY

- SUSTAINABILITY (OPERATIONAL SAVINGS)
- SHARING NOT OWNING (SOCIAL CHANGE)
- OPENNESS, SUPPORT OF PEOPLE'S ACTIVITY



# TRENDS IN TRAFFIC AND TRANSPORT

## INDIVIDUAL TRANSPORT IS STRONG, BACKED BY MANUFACTURERS

- BOOST OF CARS
- AUTOMATIZATION, COOPERATIVE SYSTEMS

## PUBLIC TRANSPORT IS WEAK AND CAN HARDLY COMPETE:

- RESTRICTIVE MEASURES – STRICT PARKING REGULATION - UNPLEASANT
- ENHANCING MEASURES – LONG TERM UNIFYING SUPPORT - PLEASANT



**VERSUS**



# PUBLIC TRANSPORT INCENTIVES

- EASY TO UNDERSTAND
- EASY TO PLAN A JOURNEY
- EASY TO EXCHANGE
- EASY TO PAY

- EXPENSIVE TO PARK
- NEW OFFERS FOR MOBILITY
- RESPONSIBILITY FOR QUALITY
- BUSINESS



### METER RISING

Median monthly parking cost in US dollars

1	London city	\$1020
2	London West End	\$956
3	Amsterdam	\$805
4	Hong Kong	\$748
5	Sydney	\$657
6	Manhattan	\$550
7	Brisbane	\$529
8	Tokyo	\$525
9	Perth	\$517
10	Zurich	\$516

SOURCE: CILLIUS INTERNATIONAL

# CZECH REPUBLIC BEST PRACTICE

## TWO REASONS OF THIS SUCCESS – HAVE TWO PARTS

### 1. WISE MINISTRY OF TRANSPORT

- DECREE (UNIFICATION AND DUTY OF PT TIMETABLE COLLECTION (ACT NO. 111/1994 COL) – „CIS“ SYSTEM
- EMPOWERS A COMPANY TO CARE (SLA AGREEMENT)
- NO MONEY SPENT

### 2. BUSINESS CASE

- NOT ONLY COLLECTION BUT THE JOURNEY PLANNER (IDOS)
- WEB PORTAL ADVERTISEMENT PAYS THE COST
- SUPERVISED MONOPOLY (THIS IS TO CHANGE, PSI DIRECTIVE)

# NATIONAL MULTIMODAL JOURNEY PLANNER

- CENTRAL INFORMATION SYSTEM OF TIMETABLES (CIS) IS USED IN THE NATIONAL JOURNEY PLANNER - IDOS

- 65 M PAGE VIEWS/MONTH, 1.9 M INDIVIDUAL USERS [www.IDOS.cz](http://www.IDOS.cz)

The screenshot displays the IDOS website interface for a multimodal journey planner. The top navigation bar includes the logos for 'Pražská integrovaná doprava', 'jizdnirady.iDNES.cz', and 'MHD IDOS BETA'. The search form on the left shows the origin 'Jesenice' and the destination 'Holešovice' for the date '30.11.2013 So' at '16:00'. A search button labeled 'HLEDAT' is visible. Below the search form, a list of suggested routes is shown, with the first route highlighted in orange. This route consists of two segments: 112 (16:01 - 17:03) and 332 (16:01 - 17:03). The route is visualized on a map of Prague, showing a path from Jesenice through Holešovice and other districts to the final destination. The map also displays various public transport lines and stations.

# INTERNATIONAL MULTIMODAL JOURNEY PLANNER

## Prague » Brussels; Belgium

from 28.11.2013 9:16



Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha hl.n.		9:38		Bus 1052 DB Expressbus 2.
	Nürnberg Hbf	13:17	14:00		ICE 826
	Köln Hbf	17:32	18:42		THA 9484 Thalys
	Bruxelles-Midi	20:32	20:37		

Overall time **10 hours 54 min.**

runs on ①-⑤

povinná rezervace (Bus 1052, THA 9484)  
globální cena (THA 9484)

Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha hl.n.		11:38		Bus 1054 DB Expressbus 2.
	Nürnberg Hbf	15:17	15:28		ICE 26
	Frankfurt(Main)Hbf	17:36	18:29		ICE 10 ICE International
	Bruxelles-Midi	21:35			

Overall time **9 hours 57 min.**

runs on ①-⑤,30.XI.,1.,14.XII.

povinná rezervace (Bus 1054)

Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha,,ÚAN Florenc	>	16:30		Bus 807822 1 ① ④ ⑤ ⑦
29.11.	Brussel,,EUROLINES Busstation	5:10	>		

Overall time **12 hours 40 min.**, distance **944 km**

Transport operator: Georgiev Trajčo - INTERBUS; Košice; 055/728 9616, + 421 948 877 705

runs on ①,④,⑤,⑦

Sings and symbols

① - Monday ④ - Thursday - metro interchange ⑤ - Friday ⑦ - Sunday 2. - train consists of 2st class coaches only - restaurant car - compulsory reservation



# INTERNATIONAL MULTIMODAL JOURNEY PLANNER



## Prague » Brussels

from 28.11.2013 9:19

Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha Letiště Václava Havla Brussels,National		10:55		Flight SN2810 319
		12:25			

Overall time **1 hours 30 min.**

Transport operator: Brussels Airlines

on ①-⑤

Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha Letiště Václava Havla München Brussels,National		13:15		Flight LH1691 E95
		14:15	15:25		Flight LH2290 319
		16:50			

Overall time **3 hours 35 min.**

Transport operator: Lufthansa

Date	From/Interchange/To	Arr.	Dep.	Note	Connections
28.11.	Praha Letiště Václava Havla Amsterdam,Schiphol Brussels,National		14:05		Flight KL1356 E90
		15:45	16:55		Flight KL1731 E90
		17:45			

Overall time **3 hours 40 min.**

Transport operator: KLM Royal Dutch Airlines

# INTERNATIONAL MULTIMODAL JOURNEY PLANNER – ON-TRIP PLANNING IN THE UK

Firefox | IDOS - Vlaky + Autobusy - Vyhledání sp... | jizdnirady.idnes.cz/vlakyautobusy/spojeni/#nextanchor | Google

Seznam - Najdu tam, ... | Ovladače a položky ke ... | Nový panel | Slovník dopravní termi... | Přihlášení | ZUNO onli... | ČSN online pro jednotl... | ENGLISH FLASH GAM... | Public consultations - ... | Welcome! | LinkedIn

### Přidaná spojení

18:00	Datum	Odkud/Přestup/Kam	Přij.	Odj.	Pozn.	Spoje
<input type="checkbox"/>	16.1.	London Euston Manchester Piccad.		18:00 20:04		Ex
Celkový čas <b>2 hod 4 min</b> jede do 16.V. v ①-⑤						
<a href="#">Detail spojení</a>   <a href="#">Vytisknout</a>   <a href="#">Poslat e-mailem</a>   <a href="#">Odstranit spojení</a>   <a href="#">Přidat do Mých spojení</a>   <a href="#">Mapa</a>						

18:20	Datum	Odkud/Přestup/Kam	Přij.	Odj.	Pozn.	Spoje
<input type="checkbox"/>	16.1.	London Euston Manchester Piccad.		18:20 20:25		Ex
Celkový čas <b>2 hod 5 min</b> jede do 16.V. v ①-⑤						
<a href="#">Detail spojení</a>   <a href="#">Vytisknout</a>   <a href="#">Poslat e-mailem</a>   <a href="#">Odstranit spojení</a>   <a href="#">Přidat do Mých spojení</a>   <a href="#">Mapa</a>						

18:40	Datum	Odkud/Přestup/Kam	Přij.	Odj.	Pozn.	Spoje
<input type="checkbox"/>	16.1.	London Euston Manchester Piccad.		18:40 20:46		Ex
Celkový čas <b>2 hod 6 min</b> jede do 16.V. v ①-⑤						
<a href="#">Detail spojení</a>   <a href="#">Vytisknout</a>   <a href="#">Poslat e-mailem</a>   <a href="#">Odstranit spojení</a>   <a href="#">Přidat do Mých spojení</a>   <a href="#">Mapa</a>						

Všechny výsledky: [Vytisknout](#) | [PDF](#) | [Poslat e-mailem](#) | [Přidat do Mých spojení](#) | [Nastavení](#)

[Změnit zadání](#) | [Nové zadání](#) | [Hledat zpáteční spojení](#) | [Trvalý odkaz](#)

[PŘEDCHOZÍ](#) | [NÁSLEDUJÍCÍ](#)



# INTERNATIONAL MULTIMODAL JOURNEY PLANNER – PLANNING IN ITALY

jízdnirady.cz

SPJOENÍ

ODJEZDY

ZASTÁVKOVÉ JŘ

SPOJE

Ministerstvo dopravy

IDOS  
Jízdní řády

Cosenza; Itálie » Lamezia Terme; Itálie

Nápověda

od 8.10.2014 St 14:50

Změnit zadání Nové zadání Hledat zpáteční spojení Trvalý odkaz

PŘEDCHOZÍ NÁSLEDUJÍCÍ

Všechny výsledky: [Vytisknout](#) [PDF](#) [Poslat e-mailem](#) [Přidat do Mých spojení](#) [Nastavení](#)

15:40	Datum	Odkud/Přestup/Kam	Přij.	Odj.	Pozn.	Spoje
<input type="checkbox"/>	8.10.	Cosenza		15:40		R 22480 2.
		Paola	16:05	16:22		IC 727 2.
		Lamezia Terme Centrale	16:51	16:54		
Celkový čas <b>1 hod 11 min</b>						
Trenitalia						
<a href="#">Detail spojení</a>   <a href="#">Vytisknout</a>   <a href="#">Poslat e-mailem</a>   <a href="#">Odstranit spojení</a>   <a href="#">Přidat do Mých spojení</a>   <a href="#">Mapa</a>   <a href="#">Přidat do kalendáře</a>						

REKLAMA

**Blízcí přátelé.  
Velké plány.  
Skvělá nabídka.**

Marseille tam + zpět  
od **4.350 Kč\***

→ Rezervujte hned

\* Cena je orientační a může být změněna dopravcem.

16:35	Datum	Odkud/Přestup/Kam	Přij.	Odj.	Pozn.	Spoje
<input type="checkbox"/>	8.10.	Cosenza		16:35		R 12700 2.
		Paola	16:59	17:37		IC 553 1.2.
		Lamezia Terme Centrale	18:09	18:12		

# UK PRECIOUS EXPERIENCE

- **TRANSPORT DIRECT – GOVERNMENT INITIATIVE TO PUT ALL THE JOURNEY PLANNING INTO ONE PLACE**
- **COST: 100 MILLIONS POUNDS**
- **PERFORMANCE: 160 MILLIONS REQUESTS FROM PEOPLE IN 10 YEARS**
- **THIS IS NOW SHUT DOWN ON 30TH SEPTEMBER 2014, (NO MORE SUPPORT)**
- **LACK OF INCENTIVE (E.G. BUY A TICKET FOR A LOWER PRICE OR OTHER SERVICES)**

England, Scotland and Wales. Since then, it has served more than 160 million travel information requests, as well as helping spectators plan their routes to the London 2012 Olympic Games. In the past few years, the government has worked with transport operators to make timetable data freely available to web developers. As a result, a number of journey planning websites have emerged, offering similar services to Transport Direct, such as:

- [Cyclestreets](#)
- [Google maps](#) (for public transport and car journey planning)
- [RAC route planner](#) (for car journey planning)
- [AA route planner](#) (for car journey planning)
- [Traveline](#) (for public transport)
- [Traveline south east](#) (for public transport)
- [walkit.com](#)
- [Ordnance Survey](#) (maps)
- [Royal Mail](#) (find a postcode or address)

These provide information such as:

- national journey planners for public transport, car and cycle
- rail and coach fares information
- maps of routes, areas and interchanges



# EU RESEARCH PRECIOUS EXPERIENCE

## EUROPEAN APPROACH:

THE AIM: IS TO COME UP WITH FRONT END SOLUTIONS

## THIS MEANS:

- THREE OR MORE TEST SITE CITIES
- PARTICULAR SOLUTION (NO NATIONAL SCALE)
- REGIONAL DATA (NO NATIONAL SCALE)

Project acronym	Name	From	To	Funding	Total cost	U contribution	Abstract
ENHANCED WISETRIP	Enhancing Intermodality of Content, Personalised Information and Functionality of WISETRIP Network of Journey Planning Engines	09/2011	08/2014	FP7- Transport	2 434 556 €	1 760 687 €	An attempt to integrate Journey Planning engines to form a unified intermodal planner for intermodal journeys, has been performed by the WISETRIP FP7 project. WISETRIP has addressed important needs of international traveller including the provision of personalized information...
WISETRIP	Wide scale network of e-systems for multimodal journey planning and delivery of trip intelligent personalised data	02/2008	11/2010	FP7- Transport	2 128 917 €	1 436 216 €	Mobility and demand trends of tourism, travel and citizen transport need data from various transport actors for information and route guidance. Getting the right information is complex and must consider alternatives and special factors like time and cost related user ...
MAPPED	Mobilisation and Accessibility Planning for People with Disabilities	09/2004	02/2008	FP6 - IST	2 895 000 €	1 500 000 €	Many disabled users are prevented from accessing functionally and socially important activities like shopping, visiting public parks, theatres etc. because of a lack of real-time accessibility knowledge. The simplest of excursions can involve military scale planning...
PEPTRAN	Pedestrian and public transport navigator	01/2000	12/2002	FP5 - IST	2 599 241 €	1 299 620 €	PEPTRAN will develop software to guide a user from point to point within a city, walking and using public transport in the most efficient manner. The software will be implemented on two platforms: a mobile device, and an existing car navigation system. In the second case, the software will guide the user to the best place to park and change to public transport, on the assumption that the user wishes to avoid the city centre. In either case, the system will share the duties...
TRANS-3	Multimodal Travel Information Service for Trinational Regional Transport	08/2000	08/2002	FP5	7 014 222 €	183 968 €	TRANS-3 implements a regional travel information Web service offering multi- and intermodal information based on real-time data. The service will cover the road and public transport networks of the agglomeration of Basel (700'000 inhabitants in CH/D/F). The project consortium is composed of transport operators, transport authorities, and technology providers. It aims at evaluating the value of multimodal real-time information for managing transport demand ...

# SUPERHUB PRECIOUS EXPERIENCE

- **A MARVELLOUS FRONT-END APP SUPPORTING ECO FRIENDLY AND ECONOMICAL MOBILITY INVOLVING NEW MULTIMODAL TRANSPORT MEANS (E.G. TAXI SHARING), PROFITING FROM CROWDSOURCING AND SOCIAL MEDIA USE**
- **3 PILOT CITIES – THOSE MOST ADVANCED IN EUROPE – MILANO, BARCELONA, HELSINKI**
- **DEDICATED TIME AND MONEY TO GET THE DATA FROM VARIOUS SOURCES (E.G. IMPACT OF METEO ON PEOPLE'S CHOICE OF TRAVEL)**
- **TRANSFERABILITY OBSTACLE – CITY READINESS**
- **NOT EASY TO TRANSFER (BRNO TEST SITE)**
- **LACK OF DATA,**
- **LACK OF LOCAL BUSINESS INVOLVEMENT,**
- **LOW WILL OF LOCAL ADMINISTRATIONS,**
- **TECHNICAL AND ORGANIZATIONAL READINESS**
- **EXISTING COMPETITORS**



# GOOGLE PRECIOUS EXPERIENCE

**JOURNEY FROM BRNO TO PRAGUE BY TRAIN (200 KM) THEN EXCHANGE FOR LOCAL TRANSPORT TO GO FOR A MEETING AT THE PERIPHERY OF PRAGUE.**

- **GOOGLE SEARCH RESULTS – 45 MIN. TRIP BY 3 PT LINES**
- **IDOS SEARCH RESULTS – 22 MIN. BY REGIONAL TRAIN AND A BUS**

## **PREREQS:**

- **MAP QUALITY**
- **DATA AVAILABILITY**
- **ALGORITHMS QUALITY**
- **WISE: REAL TRAFFIC SITUATION**



# IDOS PRECIOUS EXPERIENCE IN PORTUGAL

<http://test.idos.pt/>

The screenshot shows a web browser window with the URL [test.idos.pt/ligacao/](http://test.idos.pt/ligacao/). The page features the logo for "HORÁRIOS de TRANSPORTES" (HT) and a "Versão de teste!" (Test version!) label. The main search area is titled "LIGAÇÃO" and includes several input fields: "Horário de transporte:" with a dropdown menu showing "Trains Portugal"; "Origem:" with a text input field containing "Porto de Rei"; "Destino:" with a text input field containing "Lisbon"; and "Data e hora:" with a date selector set to "Hoje" and a time selector set to "Agora". There are also radio buttons for "Partida" (selected) and "Chegada". A "PESQUISAR" (SEARCH) button is prominently displayed in orange. Below the search fields, there are links for "Tempo total" and "Reiniciar". A green banner at the bottom of the search area says "Talvez procurar por" (Maybe search for) and shows a suggested route: "Porto de Rei » Lisbon". The footer contains a link "Escreva-nos" (Write to us) and language selection options for "Česky", "English", and "Deutsch".



# IDOS PRECIOUS EXPERIENCE IN PORTUGAL

Arup TSB Dem... x Pardubice\_Hra... x 2012\_4701\_sm... x Ganttovy diagr... x Superhub Project -... x PT Timetables ... x Pecha Kucha B... x HT - Trains Po... x

test.idos.pt/ligacao/

Google

BS player

expensive to park

Search

SUBTITLES GAMES MY IP

1.FM Dancer

15:41	Data	Origem/Mudança/Destino	Part.	Cheg.	Nota	Linhas
<input type="checkbox"/>	8.10.	Porto de Rei	>	15:41		<a href="#">R 4105</a>
		Rede	15:49	16:59		<a href="#">IR 878</a>
		Porto(Campanha)	18:35	18:47		<a href="#">IC 134</a>
		Lisboa Oriente	21:22	21:23		

Tempo total **5 hours 41 min.**

CP - Caminhos de Ferro Portugueses

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18:24	Data	Origem/Mudança/Destino	Part.	Cheg.	Nota	Linhas
<input type="checkbox"/>	8.10.	Porto de Rei	>	18:24		<a href="#">R 4108</a>
		Caide	19:26	19:38		<a href="#">R 15550</a>
		Porto(Campanha)	20:25	20:47		<a href="#">IC 136</a>
		Lisboa Oriente	23:22	23:23		

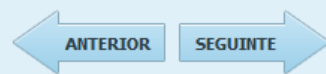
Tempo total **4 hours 58 min.**

CP - Caminhos de Ferro Portugueses

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Todos resultados: [Imprimir](#) [PDF](#) [Enviar e-mail](#) [Adicionar às Minhas ligações](#) [Configuração](#)

[Mudar pesquisa](#) [Nova pesquisa](#) [Pesquisar a ligação de regresso](#) [Link permanente](#)



Escreva-nos

[Česky](#) | [English](#) | [Deutsch](#)

Windows taskbar with icons for Internet Explorer, File Explorer, Firefox, Chrome, Excel, PDF Reader, PowerPoint, Calculator, Word, and Skype.

# IDOS PRECIOUS EXPERIENCE IN PORTUGAL

## TIME AND MONEY NEEDED FOR IMPLEMENTATION:

THEY WANTED TO SHOW TO PORTUGUESE ADMINISTRATION THEY ARE ABLE TO DO IT

- TRANSLATION OF WEB IDOS, MAP IDOS AND TOUCH IDOS (**NOT MORE THAN 14 DAYS**)
- USE OF INTERNATIONAL TRAIN DATA, GOOGLE EARTH LOCATIONS OF PT STOPS AND MANUALLY-MADE ALL THE TRAJECTORIES
- DEPLOYMENT ON THE INTERNET
- NOW WAITING FOR OPERATOR/ADMINISTRATION DATA
- A LOCAL PARTNER NEEDED (NO ENGLISH SOURCE)
- IF THE CONSISTENT DATA IS AVAILABLE THIS MEANS JUST THE MACHINE PROCESSING TIME TO DEPLOY (GTFS, JDF, DINO ETC.) OR TO PRODUCE CONVERTOR (**2 WEEKS OF A CODER WORK**)
- **API FOR 5 000 EUROS PER YEAR** (INCLUDES OPERATION AND DATA CLEANING)
- **FRONT-END** (ONLY THOUSANDS OF EUROS ONLY ONCE), CLIENTS ARE CHEAP
- THEY CAN HOST ANY PT TIMETABLES
- **GIVE THEM THE DATA AND SEE THE RESULTS SOON THEN YOU CAN DECIDE WHETHER TO USE IT OR NOT**

# RECOMMENDATIONS – WHERE TO INVEST MONEY AND TIME?

## DO!!!

- DATA AVAILABILITY + BUSINESS CHALLENGE = VERY GOOD SERVICE
- INFOMOBILITY – QUICK SOLUTION (MOBILE/WEB SERVICE)
- FRONT-END COULD BE AS DESIRED
- DATA COLLECTION AND PUBLICATION

## DO NOT !!!

- INVEST IN FRONT-ENDS (THERE ARE ALREADY GOOD ONES)
- CREATE REGIONAL JOURNEY PLANNERS
- INVEST IN INFRASTRUCTURE BEFORE INVESTING IN INFORMATION

# OPEN TO ANY QUESTIONS?

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