SETA South East Transport Axis

UN ECE WORKING PARTY 5 ON TRANSPORT TRENDS AND ECONOMICS
11.09.2013, GENEVA, CH
SETA South East Transport Axis

Project objectives & results
Current situation

- Landlocked countries (CZ, SK, AT, HU) need efficient rail transport connection for further economic growth
- Road freight traffic increasing constantly
- Railway connection along SETA corridor shortest in time (Vienna-Zagreb: 6 hours)
- Ports of Rijeka, Koper and Trieste are the only ports in the north Adriatic able to accommodate ships with PANAMAX size
- Shortest shipping distance from far east (7 days shorter than Rotterdam, 9 days shorter than Hamburg)
SETA partnership

City of Vienna
West-Transdanubian Development Agency
BMVIT
GYSEV
MTCRD
Burgenland
Lower Austria
City of Rijeka
Monfalcone
Port of Koper
City of Vienna

General project presentation, UNECE, Geneva, September 11th, 2013
Objective

Improve the accessibility and logistic work flows in South East Europe by
• the improvement of organisational framework conditions and
• the development and implementation of short/medium term infrastructure investment measures.

→ Competitive rail connections (freight & passenger transport) in the short-term!
Corridor analysis

SETA- Corridor: Railway Sections with needs of improvement Bottlenecks

- Missing loop Ebenfurth
- Missing side track Steinbrunn
- Missing electrification Wr. Neustadt - Sopron
- Reduction of waiting time (too much stops)
- Missing railway connection Körmend - Zalalóvő
- Missing loop Zalaszentiván - Hodos
- Missing electrification Hodos - Pragersko
- Missing electrification Zalaszentiván - Nsgykanisza
- Missing loop Gykenyes/Zakany
- Gykenyes: speed-up customs clearing (waiting time)
- Zagreb: Poor capacity for pass-through trains
- Koper: capacity restraint
- Rijeka – Sapjane: poor capacity, low speed
- Moravice – Rijeka: poor capacity, poor speed
- Rijeka: poor railway connection to port of Rijeka
- Villa Opicina – Triest/Monfalcone 2nd track missing
Development measures - Organisation

• reducing the waiting time in the stations;
  – improved efficient customs control at the borders
  – minimize changes of locomotives (diesel vs. electric)
  – better coordination with other trains passing the station

• reducing the number of stops;
  – clear differentiation between regional and international trains
  – better coordination between regional and international trains will provide good quality of service for all customers

• use modern rolling stock;
  – two system locomotives reduce changes on non-electrified sections
  – modern wagons increase comfort for customers
  – modern wagons reduce noise emissions
... without any infrastructure investments!

In times of huge infrastructure investments dominating the discussion in the news, SETA provides an alternative approach in improving rail transport connections.

On September 28th, 2012 the new electro-diesel train from the Croatian railways run the 371km long route in 5 hours instead of 6 hours 15 minutes.

It’s all about organisation!

The reduction of travel time has been achieved by overcoming the identified organizational bottlenecks like long waiting times, large number of stops, inefficient police and custom control, etc.

With the support of the railway companies, the responsible authorities it was possible to demonstrate the feasibility of the solutions developed in the project SETA.
The SETA demonstration train – more than 1 hour faster…
SETA demonstration train Monfalcone – Divaca – Rijeka

Objective:

• save travel time (from 6.01 to 4.52 hours with combined means to 4.15 hours without changing train);

• establish a complete railway connection between the two port cities of Monfalcone and Rijeka (with possible future extensions to Trieste and Koper) by overcoming infrastructural bottlenecks at the Italian-Slovenian border-crossing and at the Slovenian-Croatian border-crossing.
Development measures – infrastructure

1. Infrastructural measures included in national/regional/business development plans

2. Additional small scale infrastructure measures
   - Electrification of missing sections to avoid locomotive changes and improve speed and energy efficiency.
   - Modernisation of already existing but poorly maintained sections
   - Construction of minor missing links like loop lines, additional side tracks, extension of tracks in stations, etc.
Competitive rail connections in the short-term

- 2012
- 2012 demo
- 2020 (?)

- btto.travel time
- ntto travel time
- duration of stops

General project presentation, UNECE, Geneva, September 11th, 2013
Consolidated economic evaluation

Financial analysis

Economic analysis

Environmental and social analysis

Instruments:

- Multiregional Input-Output Tables
- Accessibility-Dependent Regional Econometric Model
- IHS-ESA Model

- Short and midterm
- Long term
Financial analysis
And: why public investment in transport infrastructure?

Example 1: profitable infrastructure project

FNPV: Financial Net Present Value
Evaluates cash inflows and outflows over different points in time

→ Project is profitable for railway operator after a certain time
Financial analysis
And: why public investment in transport infrastructure?

Example 2: transport infrastructure project

ENPV: Economic Net Present Value
Point of view of the society
Includes social and environmental externalities
Includes economic short and long term externalities

→ Project is not profitable for railway operator, but for society as a whole
Economic analysis: Short and Midterm effects
Multiregional Input-Output tables

Example: electrification of train path

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</table>

National Input-Output Table

Multiregional Input-Output Table

Output: economic effects
- Direct
- Indirect
- Induced

Economic analysis: Short and Midterm effects
Multiregional Input-Output tables

Example: electrification of train path

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Regional Input-Output Table
Economic analysis: long term effects
Accessibility-dependent regional econometric model

Changes in distance and economic weight induce changes in **Value Added**

Region 1
GDP 1000

Region 2
GDP 1000

Region 4
GDP 800

Region 3
GDP 500

Changes in Value Added in %
- > 0.005 %
- > 0.05 %
- > 0.1 %
- > 0.3 %

3h -> 8h
Environmental and Social Analysis

IHS-ESA model

Not all effects of transport infrastructure projects have a market value.

We therefore evaluate changes of the following externalities by monetizing their costs to society in accordance with EU and international guidelines:

- Accident rate
- Air pollution
- Noise
- Global warming
Consolidated Economic Evaluation
Social discounting

- GDP with infrastructure project
- Additional GDP: project measure 1
- Additional GDP: project measure 2
- Additional GDP: project measure 3
- GDP without infrastructure project

Present value of project
discounted

Year: 2010, 2015, 2020, 2030, 2040, 2050, 2060
Consolidated Economic Evaluation
Supports policy making

A consolidated economic evaluation facilitates identification of the best project or scenario:

- **Project A**
  - ENPV: 200 Mio EUR

- **Project B**
  - ENPV: 160 Mio EUR

- **Project C**
  - ENPV: 250 Mio EUR
SETA Corridor Development Plan

Coordinated transnational approach to accelerate and secure the implementation of the measures

With signing this MoU, the signatories agree to:

• Accelerate the implementation of the already planned development measures
• Integrate the additionally necessary measures defined in the project SETA into the regional/national development & business plans
• Support the implementation of the already planned and necessary additional measures even beyond the lifetime of the SETA project
Addendum to SETA Corridor Development Plan
Conclusion

Optimization and small scale investments
- improving railway connections for people and goods does not always need billions of Euros
- Process optimization and small scale investments may cause additional effort for transnational coordination, but generate huge value for money.

Benefits for people and businesses in the regions
• Businesses benefit from more and better connections between Zagreb-Vienna/Bratislava and further on to the Adriatic ports.
• Better quality of location boost economic development in the regions
Contact details

Project & programme
www.seta-project.eu
www.southeast-europe.net

SETA Lead Partner – Regional Government of Burgenland
Project management: info@seta-project.eu
Project coordination: a.friedwagner@verracon.at
Jointly for our common future