Access to Public Data for Digital Road Maps

The intermodal Transport Reference System for Austria (Graphs Integration Platform - GIP)

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Status Quo

Public graphs are held and maintained by a variety of institutions for different purposes. Each one different with its own "philosophy"

- Incompatibility issues - little exchange possible
- No common public reference system in transportation (eg for administrative purposes, accident databases)
- Need to rely on market solutions, however no "power" over identification of objects within the graph – IDs can change over time making them of little use for public referencing
Possible Solution

One Public graph that integrates the existing systems and provides for the additional services needed in public administration (correct km, unique and stable IDs, etc.)
Historic Development:

- Common public transport graph as a formulated measure in the Austrian Telematics Master Plan (2004)
- Project Kick Off „ITS Vienna Region“ (2006)
- First GIP deployment within ITS Vienna Region (2008)
- Start of the KLIEN (Austrian Climate and Energy fund) project GIP on the national level (2009)
• **One common GIS network for**
  
  • ITS Vienna Region
  • traffic administration of Vienna
  • traffic administration of Lower Austria and Burgenland
  • further projects in Styria, Carinthia, Salzburg and Tyrol
  • common basic data model and software development
  • decentralised update
  • E-Government applications collect incident records for the traffic management
• suits any requirements of an „official“ graph
• Provides a data model for all means of transport
decentralised updating (separated databases)
synchronisation of these databases when needed
• basis for e government processes
• historisation
• Stable sub networks (for example bike pathes)
• independent from commercially available graphs
• simple implementation of INSPIRE
• integration of planning networks
• Door to door routing becomes possible –
  – business location,
  – tourists,
  – emergency
  – influence on navigation systems without costs

• Bicycle routing,...

• Internet presence of cities and communities, always up to date planning basics

• Communities can use all ITS data (regional projects)
GIP – organisation in subnets

→ Separation within one database (e.g. GIP Vienna)
GIP export to VISUM

→ Basis for transport modelling
GIP export to DIVA
→ Simplified client for decentral graph maintenance (e.g. communities)
GIP as basis for e-government

Edicts, e.g. speed limits, refer to GIP edges
Project - GIP.at
• development of an common, intermodal traffic graph throughout Austria
• project partners:
  – all federal provinces
  – BMVIT, ÖBB infrastructure, ASFINAG
• Austria-licence for the GIP
• base for GIP.gv.at and Traffic Information Austria
common intermodal graph for traffic data throughout Austria (budget ca. € 2 mio.)

e-government processes ensure up to date data in the GIP (budget ca. € 2 mio.)

50% co-funding by the federal climate and energy fund
Public sector bodies have all data necessary for the „tool“ traffic telematics:

- major roads, addresses
- traffic signs, traffic markings
- §90 – construction sites
- events
- special transportations
- concessionen, …

but: all data is widely distributed!
The graph integration platform GIP is the common data platform of infrastructure operators as well as the responsible authorities:

**local**: local authorities, infrastructure, addresses, pedestrian traffic, bicycle traffic,…

**regional**: regional administrative authorities, traffic and construction site management, traffic signs, …

**provincial**: authorities, road networks, concessions, planning, …

**national**: ASFINAG, ÖBB infrastructure, BMVIT
until now: multiple data administration

future: the GIP will integrate all data
interdependent competences

railway network (Wiener Linien, ÖBB)

- motorways - ASFINAG
- footpaths - local authority
- bicycle paths - local authority
- roads - state authority
- roads - local authority
GIP.gv.at
• **targets:**
  – keeping basic data for traffic control and traffic information up to date with assistance of e-government processes
  – detection of provisional and definitive measures

• **highlights:**
  – database for traffic signs and markings
  – Junction editor, common road cross sections
  – construction sites and events
  – review of traffic logic
  – integration in administration processes (e-government)

• **common cartography**
Within the project GIP.gv.at the „tools“ for holding traffic data up to date are developed.

The „measure assistant“ is the core application: it allows to execute regulations according to the STVO (highway code) and store impacts in the GIP.

regulation texts will be created automatically.
displaying restricting measures
Next steps:

• Presentation of the Austrian GIP prototype at this years AGIT exhibition (Salzburg, 6th - 8th July 2011 - http://www.agit.at/)

• Official Release of the GIP-standard specification 3QU 2011 - RVS 05.01.14

• Continuing Deployment in Austria

• Development of a central GIP service provider für routing applications and interested Third parties

• GIP demonstration at the ITS World Congress 2012 in Vienna
Thank you for your attention!

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