

6th BESTUFS II-Workshop in
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Experiences of the freight transportation
planning
especially in relation
to the ports of Bremen



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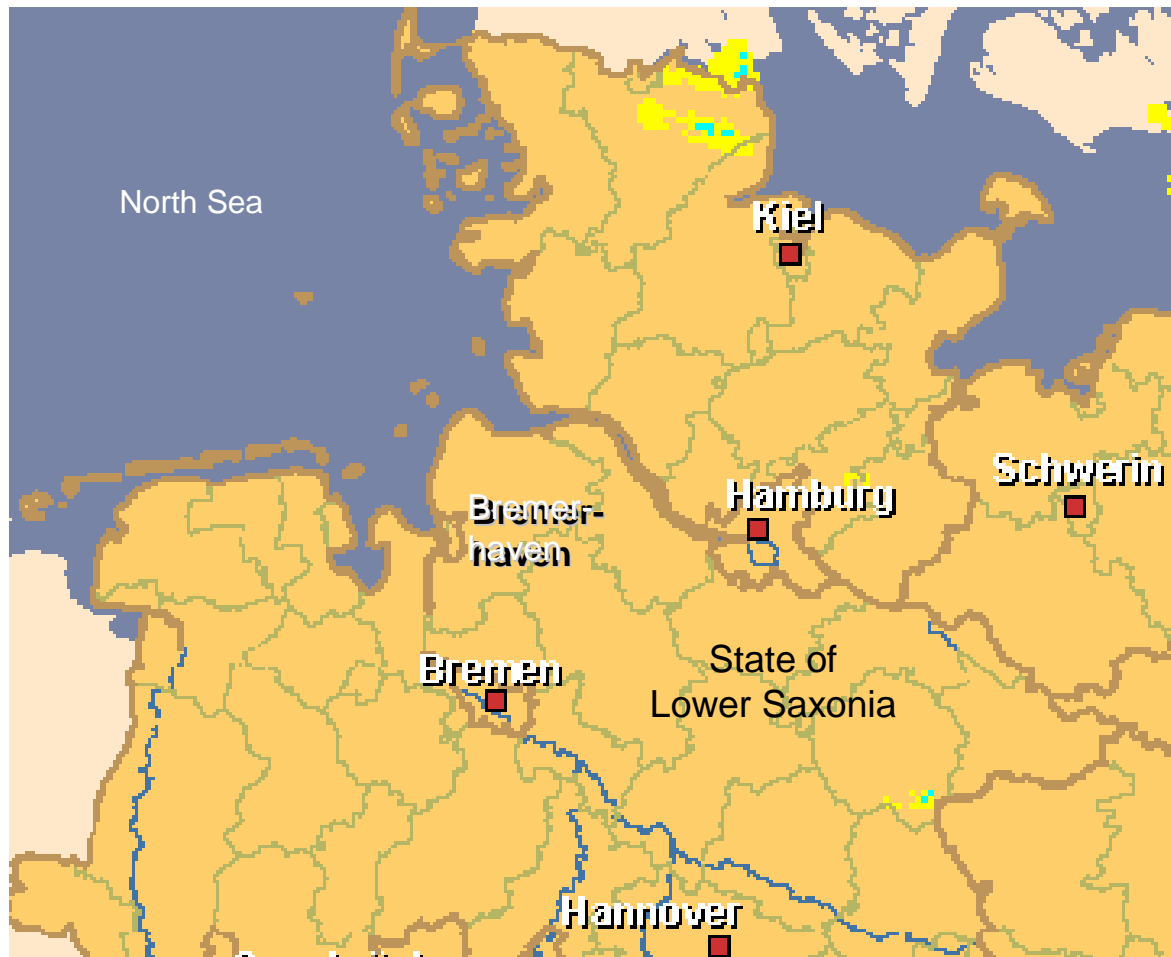
1. Introduction: state of Bremen

- State of Bremen:
 - city of Bremen (550.000 inhabitants / 82%)
 - city of Bremerhaven (120.000 inhabitants / 18%)
 - distance of 60 km (there's the state of Lower Saxonia between it)
 - Bremen is the smallest state in the Federal Republik of Germany
- Two ports – division of labor - different functions
 - the main port is in Bremerhaven with container and vehicle transship
 - in Bremen there's mainly timber, oil and grain transship, container only a little bit with feederships in relation to Bremerhaven
- Main industries
 - Bremerhaven: shipyards, fish-industry
 - Bremen: food-stuffs (Kellogg's, Kraft-Foods, Beck's), car-industry (DaimlerChrysler), wind energy

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1.1 State of Bremen: two cities Bremen *and* Bremerhaven



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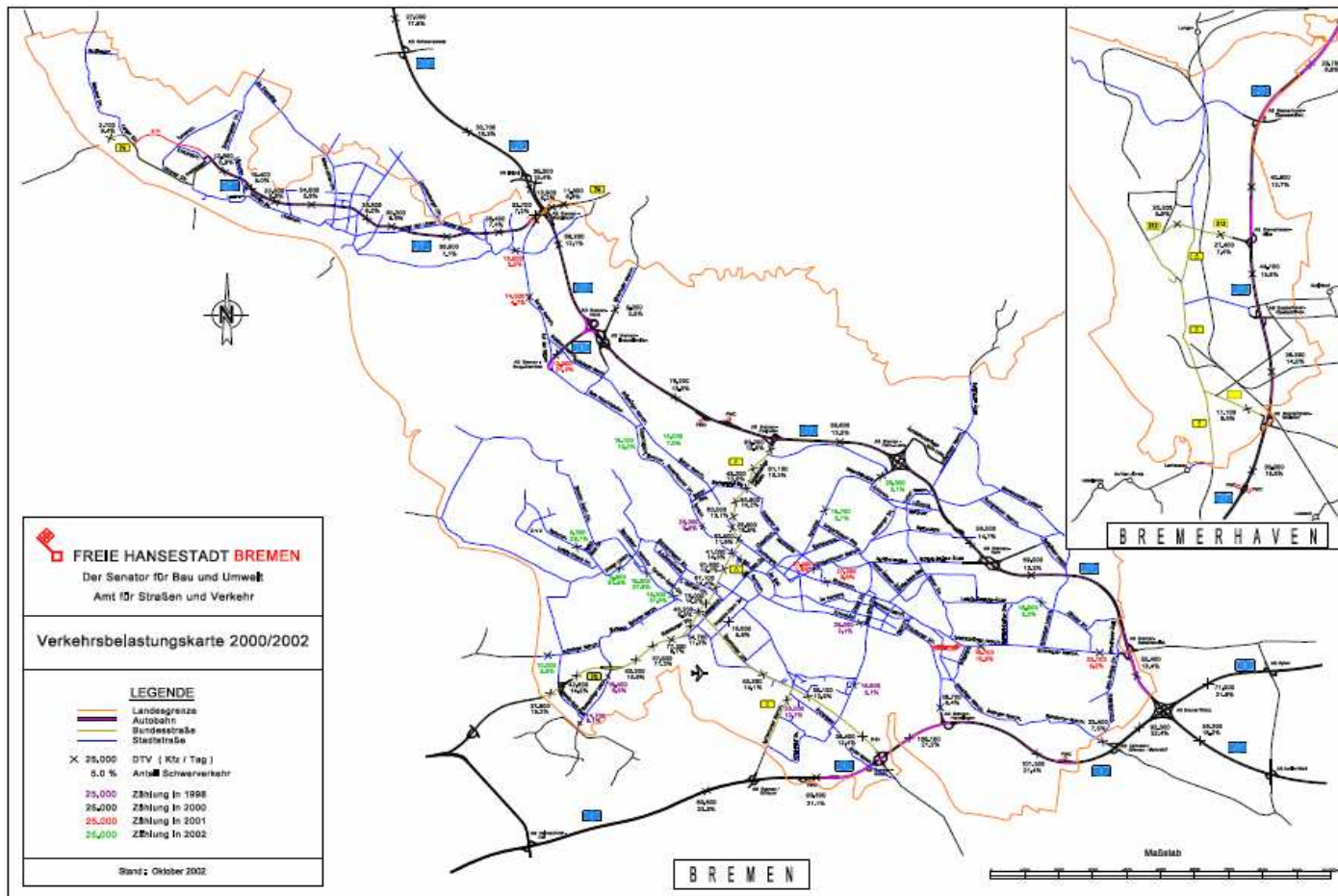
2. Existing infrastructure

- **Main Roads**
 - autobahn
 - for example max. traffic 120.000 vehicles and 22% part of lorries & trucks a day on the A1
 - roads in the city
 - For example max. traffic 55.000 vehicles and 25% part of lorries & trucks a day on the Neuenlander Street in relation to the GVZ
 - roads in construction for better relation and level of service
 - Bremen: A281 to relate the GVZ better
 - Bremerhaven: Cherbourger Street to relate the most port terminals better
- **Main Railways**
 - all ports and main industries are related by railway
 - Main freight traffic on railway is the container transport to / from the terminals in Bremerhaven
 - For terminal expansion the railways in Bremerhaven will extend for higher fit
- **Inland navigation on the Weser**
 - feederships
 - other shipping in relation to ports in inland
- **GVZ**
 - a platform for intermodal traffic (railway <> lorry and lorry <> lorry) in a network in Germany

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2.1 Main Roads in Bremen and Bremerhaven



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3. Reference Numbers

- Modal split of goods transportation (Germany, in Bremen similar parts)
 - in 2000 (387 thousand millions tkm)
 - road 69 % / railway 15% / inland navigation 13% / others 3%
 - prognosis 2015 (608 thousand millions tkm)
 - road 61 % / railway 24% / inland navigation 13% / others 2%
- Freight transport in Bremen
 - in 2000: 4,7 thousand millions tkm
 - prognosis 2015: 7,2 thousand millions tkm
- Transshipment in Bremen
 - in 2000 (million t)
 - container 27 / other freights 18
 - prognosis 2015 (million t)
 - container 52 / other freights 19
- Ranking of ports in Europe (million t in 2000)
 - 1. Rotterdam (323) / 2. Antwerpen (130) / 3. Hamburg (92) / 4. Bremen / Bremerh. (45)

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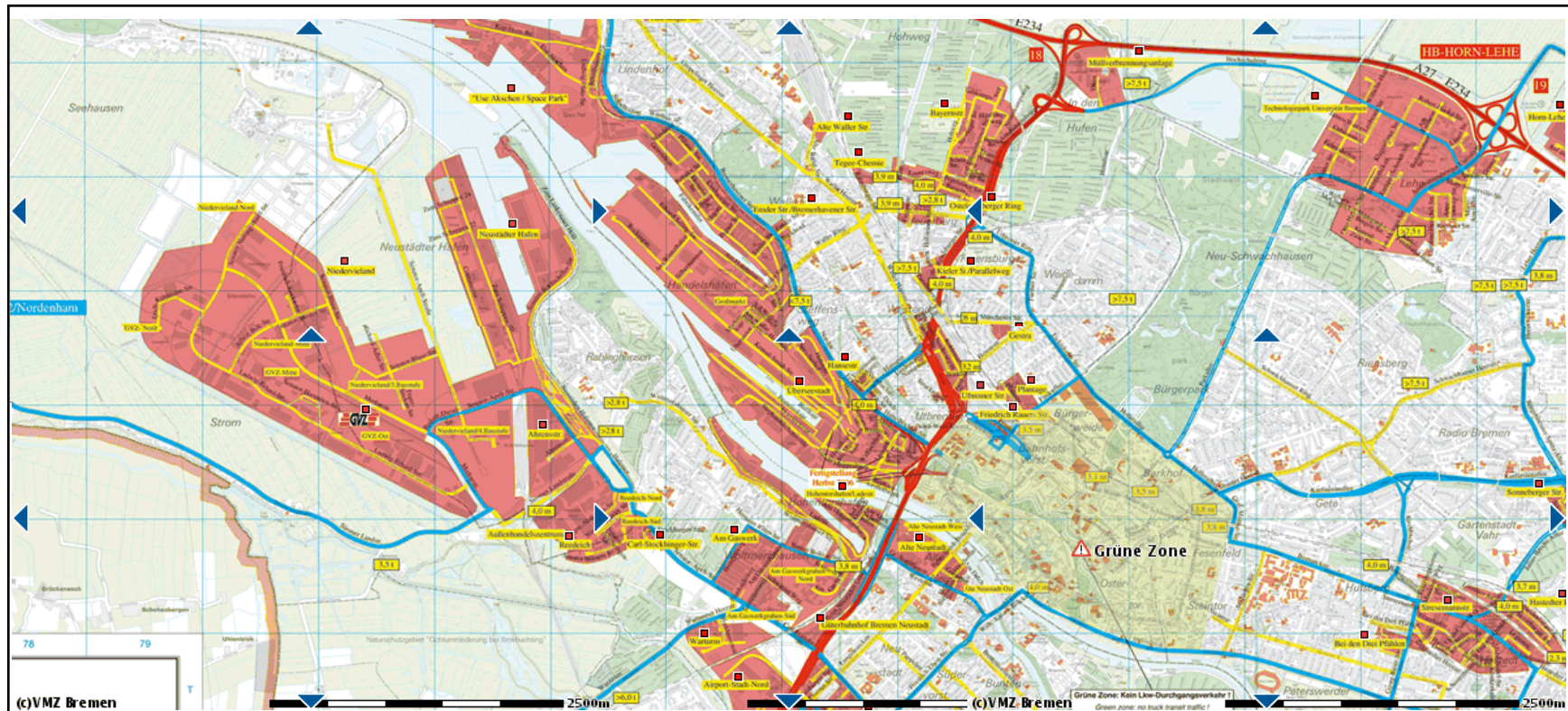
4. Instruments for best practice the freight traffic

- GVZ
 - a platform to transmiss goods (railway <> lorry and lorry <> lorry) in a network in Germany
- City Logistic
 - meet different freights to transport them in one lorry to customers in the city (from the GVZ or other points)
- Bremen Truck Routing System
 - bundle lorry and truck traffic on main roads in the city (recommended routes)
- Traffic Management System
 - operating in the actual traffic situation if it's necessary to avoid congestion
- Development of infrastructure
 - measures to optimize the traffic system (roads, railways, port expansion in Bremerhaven)
- Monitoring the traffic system
 - controlling the efficiency of measures and succeed of the prognosis

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4.1 Bremen Truck Routing System



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5. Pollution control

- Zone of pollution control
 - this zone is a project in the city of Bremen which is in very concrete discussion
 - only cars (diesel) up to euro 3 and lorries up to euro 4 are allowed to drive in or through the zone (plaque on the vehicle will show the exhaust fumes class)
- PM₁₀ and NO_x protection
 - measure is the zone of pollution control
- CO₂ protection
 - actual discussion (worldwide), but measures which take effect are not available yet
 - share of Bremen is in relation to Germany or Europe very low
- Noise level reducing
 - a concept is in development

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5.1 Zone of pollution control in the city of Bremen



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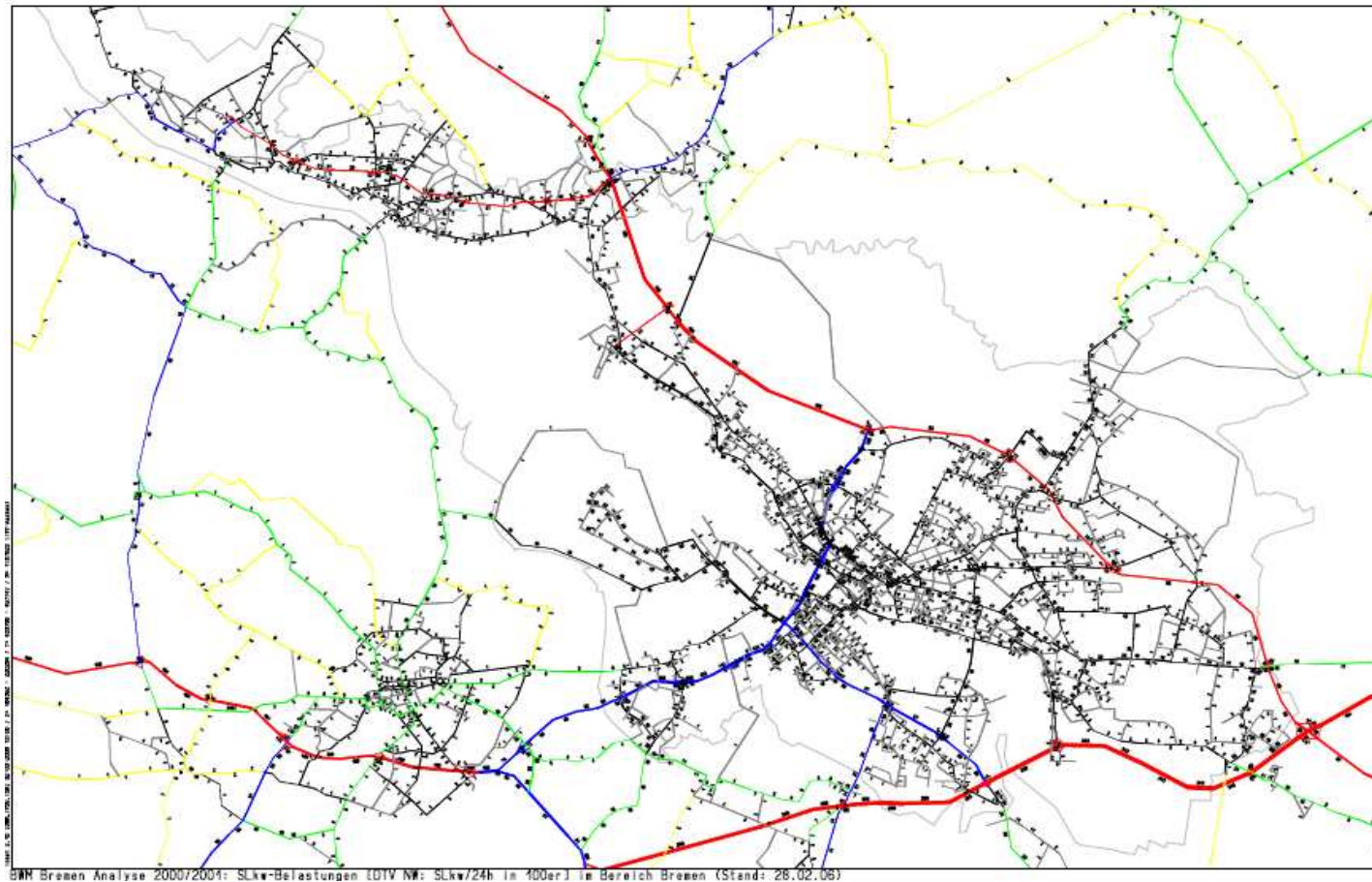
6. Traffic Model

- Simulation model VENUS
 - this system allows to check prognosis measures in the traffic systems
 - I'm using it to verify a lot of questions and ideas
 - includes since 2006 a new tool to simulate freight traffic and economy traffic

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6.1 Excerpt of the traffic model VENUS



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Discussion

Thank you for your attention!

