

THE ZUIDTANGENT BRT

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Agenda

- Background
- History
- System characteristics
- Bus lane and bus way
- Vehicles and stops
- Identity
- Patronage
- Problems
- Future developments
- Conclusions



Background

- Shift in town planning: new housing and office sites in suburban areas
- Increasing congestion on roads
- Growing major international airport (5th busiest in Europe)
- Priority to accessibility of this area for economical reasons
- Existing rail orientated towards Amsterdam
- Insufficient quality of existing orbital PT
- Major flower exhibition in summer 2002
- Urgent need for high quality orbital link

1st Zuidtangent route



History

- 1987 first study
- 1994-2001 construction
- Ownership and responsibilities shared by 3 regional and local authorities
- Total investment 270 million Euro (95-100% funded by national government)
- January 2002: start of 1st route
- Contract awarded to incumbent operator Connexxion
- 2007: Connexxion (Transdev) wins tender
- December 2007: start of 2nd stage: 2nd route, new buses, new 8 year contract

System characteristics (1)

- Ambition: high quality public transport
- 1st route: total length 41 km, core section 24 km
- In core section bus lanes and independent bus ways
- Elsewhere bus lanes where possible
- High flexibility: adapts to space constraints in historic town centre of Haarlem
- Several connections to heavy rail network



System characteristics (2)

- High service frequency (8-10 buses/h on weekdays)
- From December 2007 operational 24/7
- High commercial speed (>35 km/h)
- Long average distance between stops (1.9 km)
- ITS:
 - priority at traffic signals
 - dynamic passenger information system
- Short dwell times:
 - minimal horizontal and vertical gap
 - no ticket inspection when boarding
- Consistent identity (vehicles, stops, publicity)

Bus lane and bus way

- No technical guidance system
- Fully accessible to conventional buses, mixed operation possible
- Designed and built to enable future conversion to light rail
- Concrete surface
- Several elevated sections
- 1,8km tunnel section



Vehicles and stops

- Stop and bus floor at the same level (30 cm)
- Dedicated fleet of 100% articulated low floor buses
- 2nd generation: 45 Mercedes Citaro buses, Euro 5-emission level, capacity 46+55
- From regular production: no second hand market risk, no expensive peculiarities
- Horizontal gap at stops minimized using profiled kerbstones



Identity

- Buses in striking red livery
- Designer stops along core section
- Uncompromised identity: none of the design elements repeated elsewhere



Patronage (1st route)

- 40.000 passengers per day (March 2008)
- Every year 10-15% more passengers
- Heaviest loadings in Hoofddorp: almost 13.000 passengers per day (both directions)
- Patronage up to 99% higher than estimated
- Eastern section below estimates
- Use of PT increased since Zuidtangent operating (up to 47% in 3 years)



Problems

- Subsidence of bus way: physical guidance at some stops blocked
- Concrete surface less comfortable than asphalt
- Weather protection at stops not satisfactory
- Roofs at stops removed after problems during storm
- Slippery surface at stops
- Fare evasion
- Implementation of ITS took a long time
- Congestion on motorway section

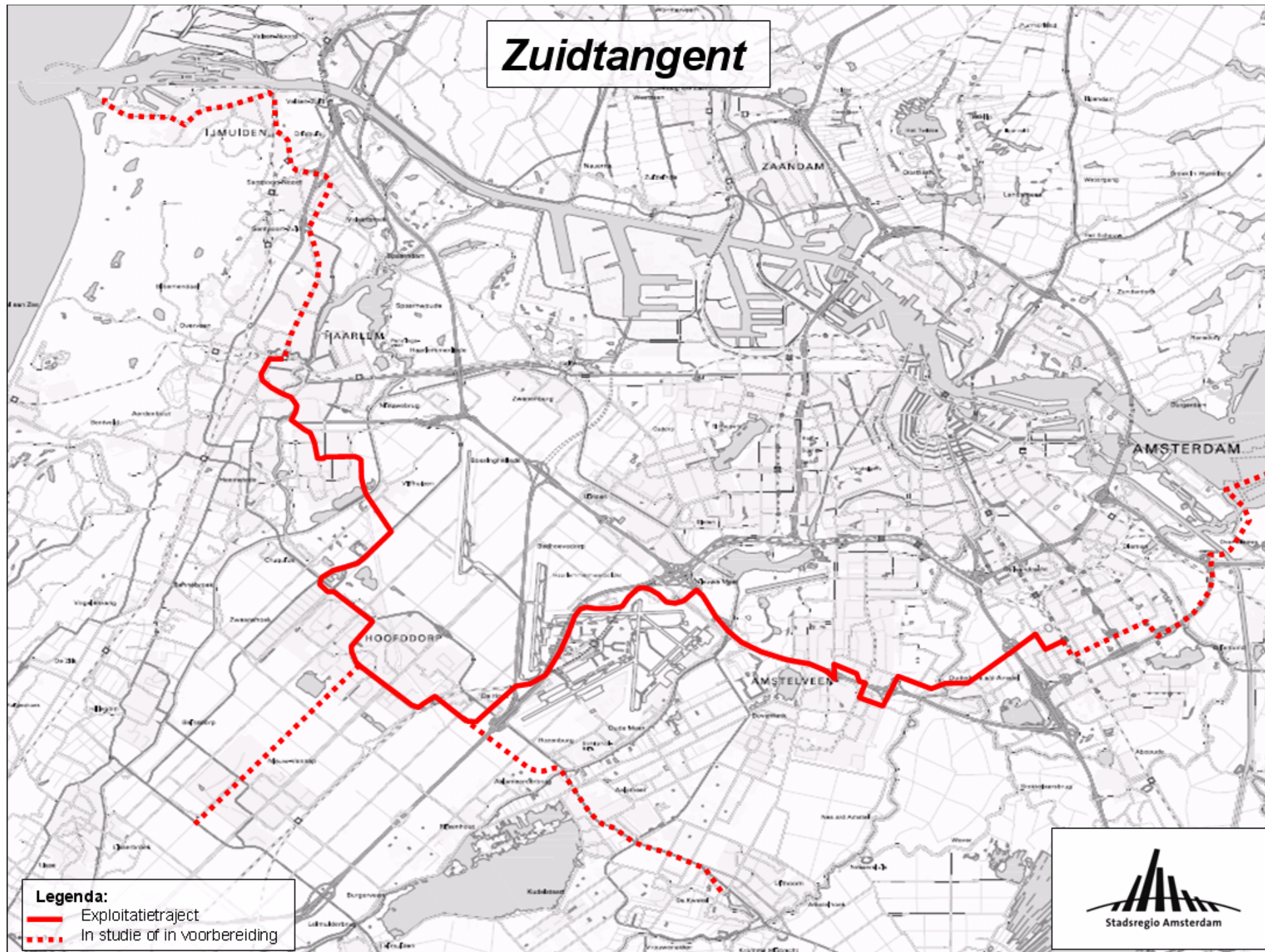


Future developments

- 2008 new branch to Nieuw Vennep fully open
- Upgrading of eastern section: more bus lanes
- New branches and extension planned (but longer route is risk to reliability!)
- Possibly tunnel in Haarlem city centre
- Conversion to light rail depending on patronage
- Tangential high quality bus routes to be introduced in other areas



Zuidtangent



Conclusions

- Successful concept: high commercial speed, high service frequency, high flexibility, high reliability
- Result: patronage higher than estimated
- Lessons:
 - Stops: functionality more important than design
 - More attention to quality of infrastructure needed
- BRT is able to increase the share of public transport
- BRT fills the gap between regular buses and light rail, BRT is not an alternative to light rail
- The choice for BRT with proven technology has been the right one!



**Thank you very much for
your attention**