

PRT Plans in Swedish Cities

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- Mega-study: 15 % higher modal share with PRT
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Many PRT activities in Sweden:

- Feasibility studies
- Research Projects
- Engineering study in Södertälje
- Test Tracks in Uppsala & Hofors

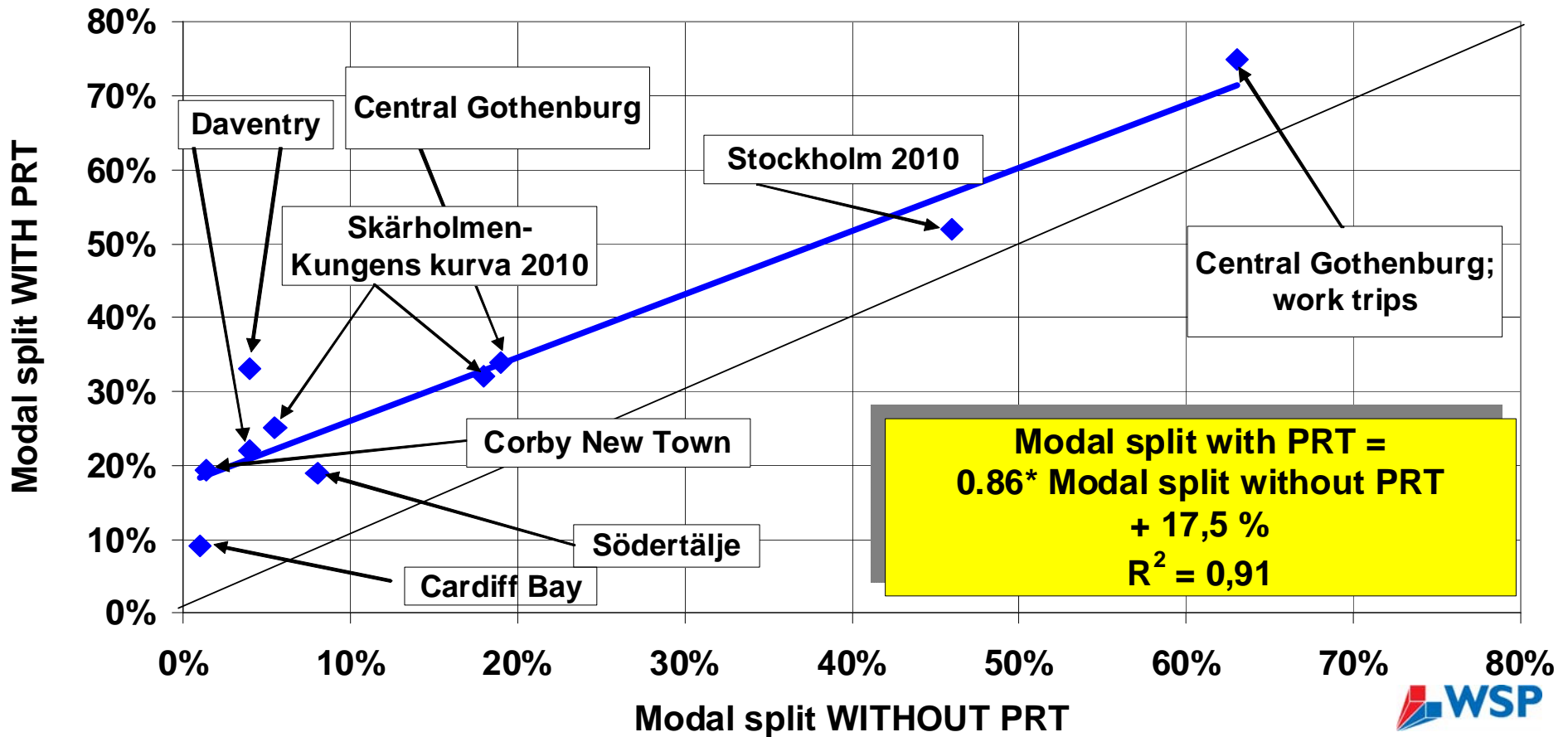
Many active forces promoting PRT in Sweden:

- 4 Governmental bodies
- 4 driving consultants
- KOMPASS
- 4 Suppliers:
- Hardware & software providers



A Meta-study: 15 %-units higher modal share with PRT

Transit mode share with PRT - as a function of mode share without PRT (relationship based on 10 case studies with demand models)

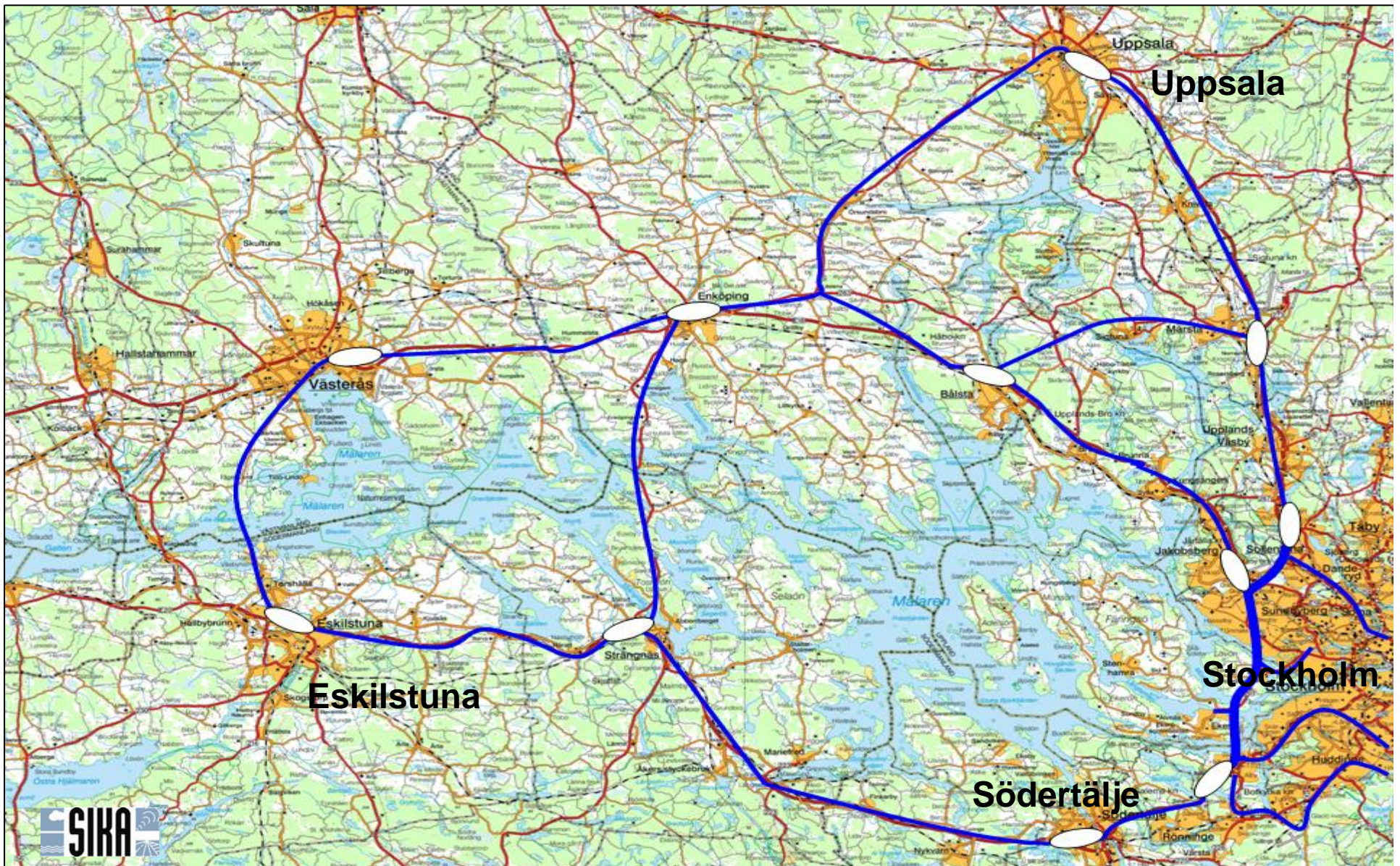


Some recent PRT studies in Sweden

- **A high-speed PRT inter-urban network for the Mälär Valley**
- **City of Stockholm**
- **City of Uppsala**
- **City of Södertälje**

The Mälaren Valley Inter-urban high-speed PRT network

Linking local networks, 470 km double track, 200 km/hour



The Mälars Valley high speed PRT network

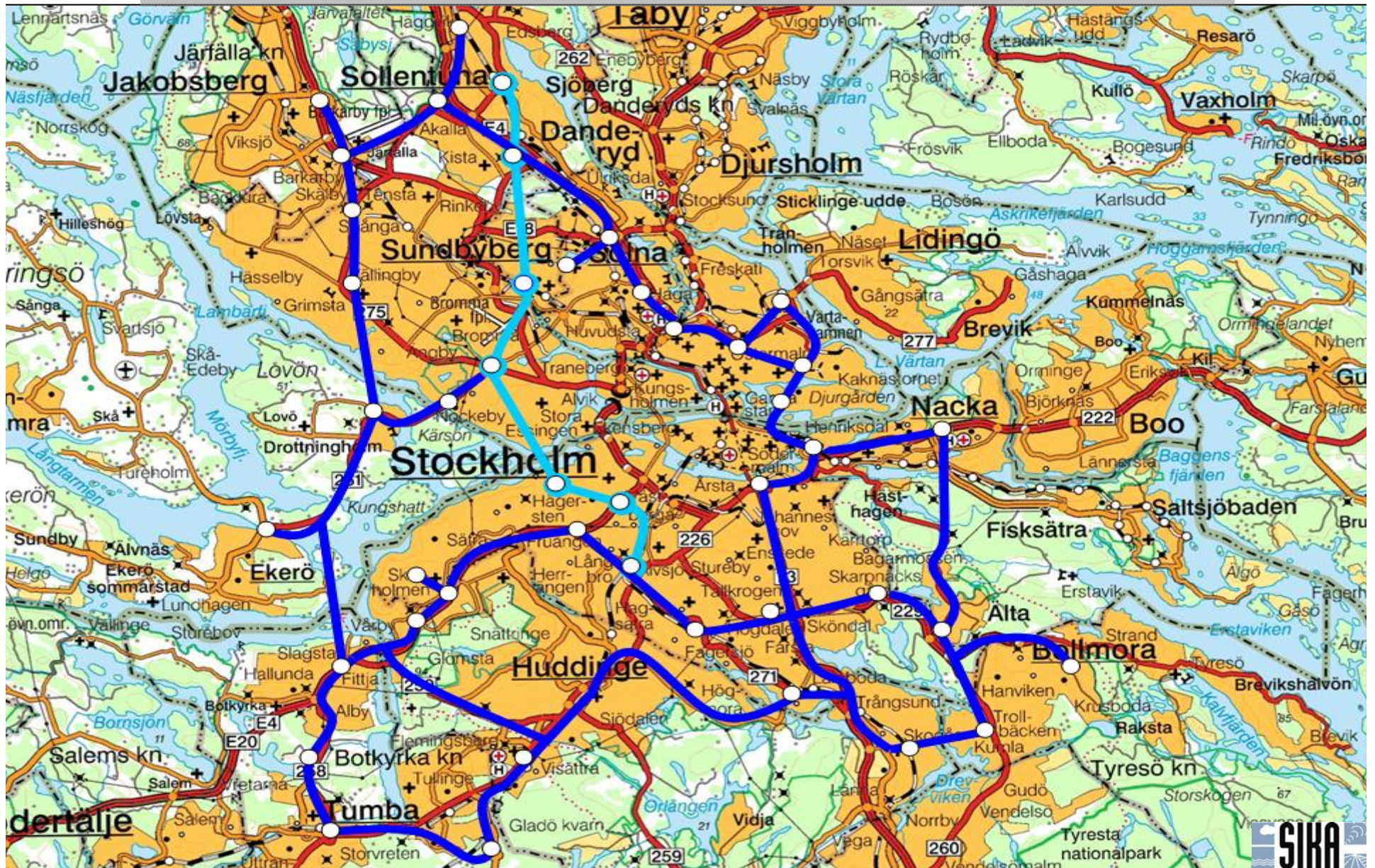
Major findings about PRT:

- Facilitates commuting
- Substantial travel time gains
- Social benefit-cost ratio:1.35
- Promotes CO2-goals
- Promotes traffic safety
- Promotes efficient land use



The Stockholm PRT system, by SIKA

Linking urban nodes, 160 km track, 75 km/hour



The Stockholm PRT high speed network

Purpose: Examine social Costs & Benefits

Scenarios:

■ **Commuter rail link + Road Pricing+ PRT net**

Results:

■ **Direct traffic impacts:**

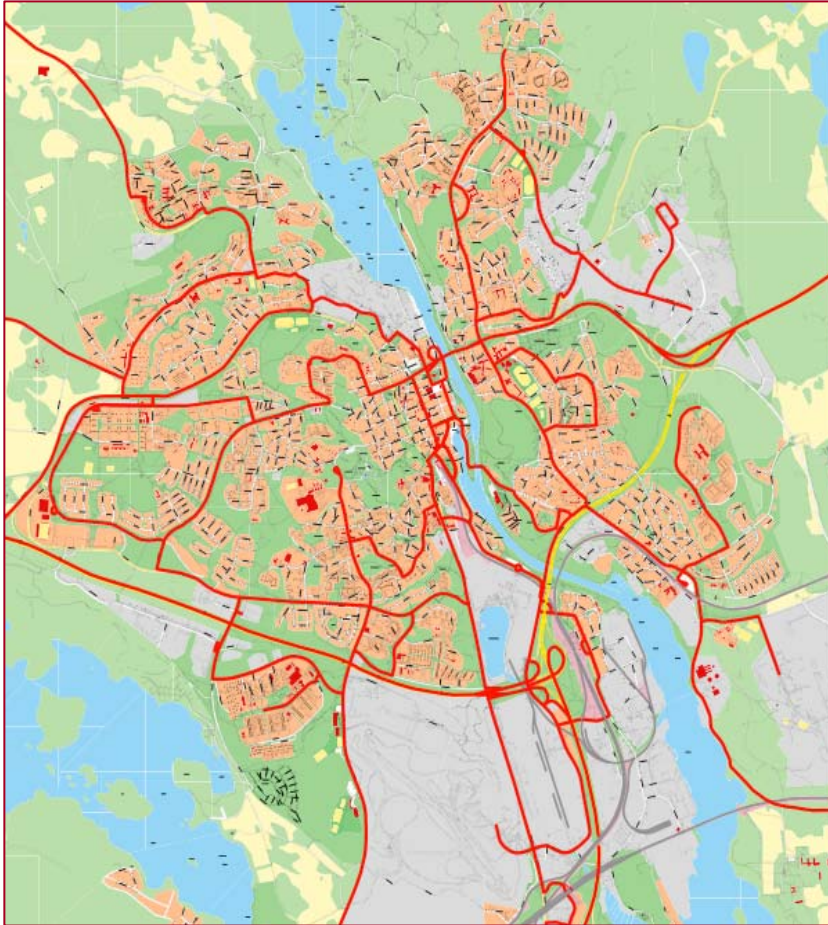
- Shorter travel times
- Shift from cars to podcars & commuter train
- 35 % less passenger car traffic in the morning rush hour

■ **Benefit-Cost Ratio: 0.97 to 1.21**

■ **More detailed analysis is required**

■ **Technology available, but needs development**

The City of Södertälje

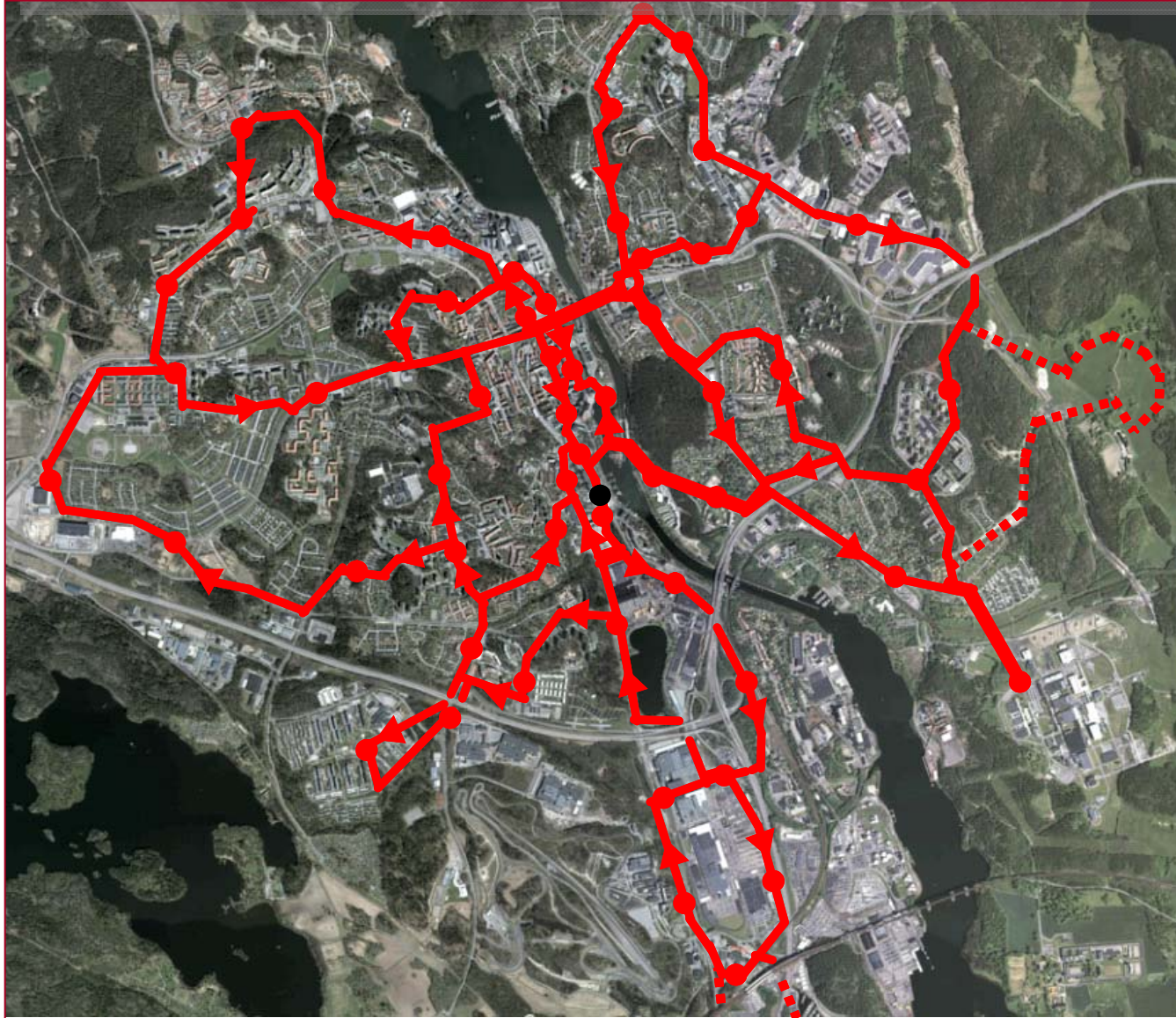


<= Today's Publ. Trp. in Södertälje:

- ❑ 4 railways stations
- ❑ 2 commuter rail lines
- ❑ 13 urban bus lines
- ❑ 16 inter-urban bus lines
- ❑ 3 night bus lines

- ❑ 162 line-kms
- ❑ 14 % publ-trp-modal share
- ❑ 8 % modal share locally
- ❑ 25 000 daily trips

PRT feasibility study for Södertälje



PRT-network:

- 43 km track
- 55 stations
- 700 vehicles
- 0-1 min wait time
- 45 km/hour speed

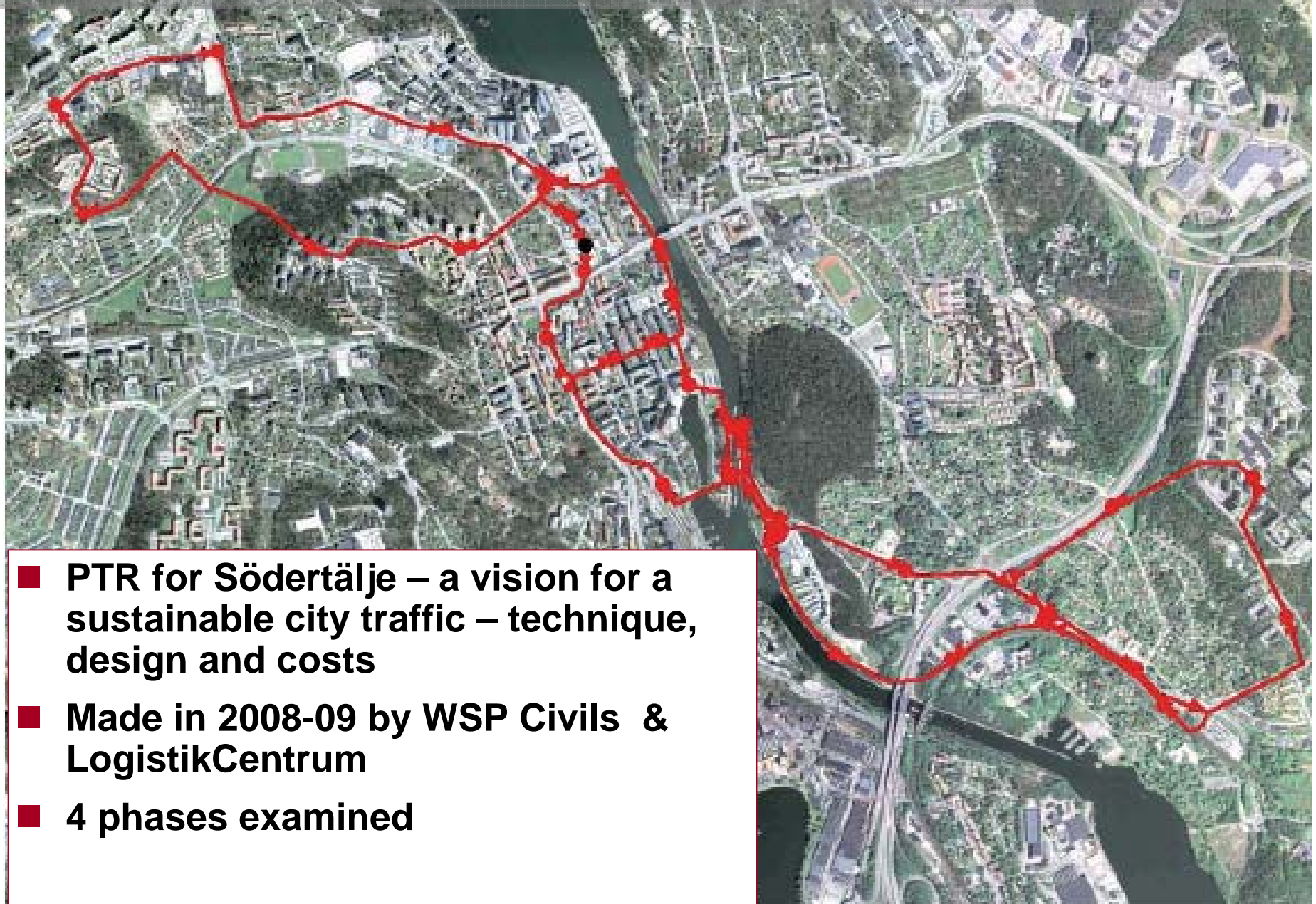
Impacts:

- Publ.Trp.modal share:
 - without PRT: 8 %
 - with PRT: 19%

To the year 2030:

From 25 000 to
67 500 daily
publ.trp.
trips by PRT

An engineering PRT study for Södertälje



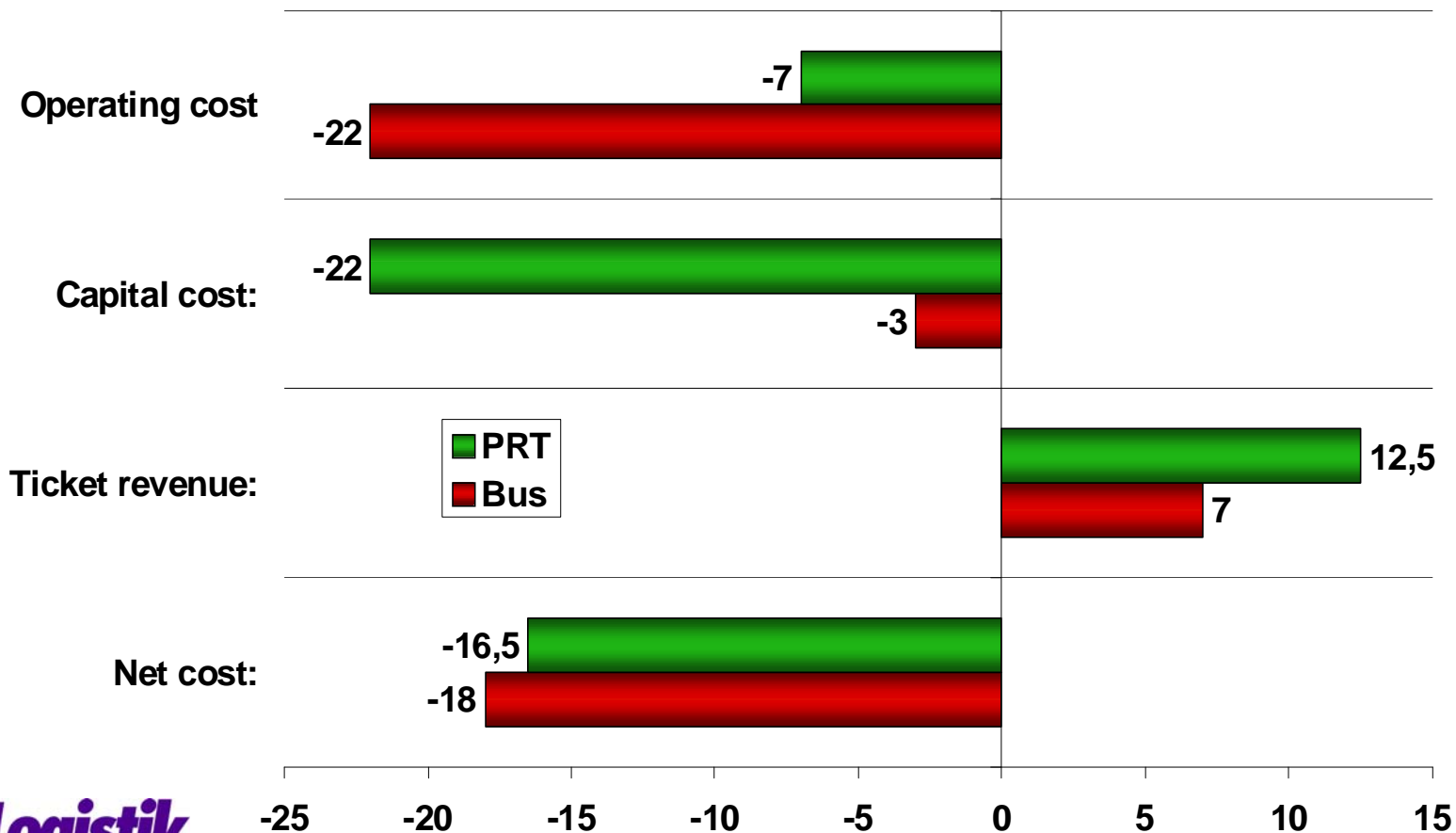
- PTR for Södertälje – a vision for a sustainable city traffic – technique, design and costs
- Made in 2008-09 by WSP Civils & LogistikCentrum
- 4 phases examined

Design of PRT in Södertälje



Södertälje BOT financing: PRT cheaper than bus: Capital cost: 6.6 m€ per km; total cost: 289 m€-43 km: Cost per trip: Bus: 1.64 € PRT: 0.82 €

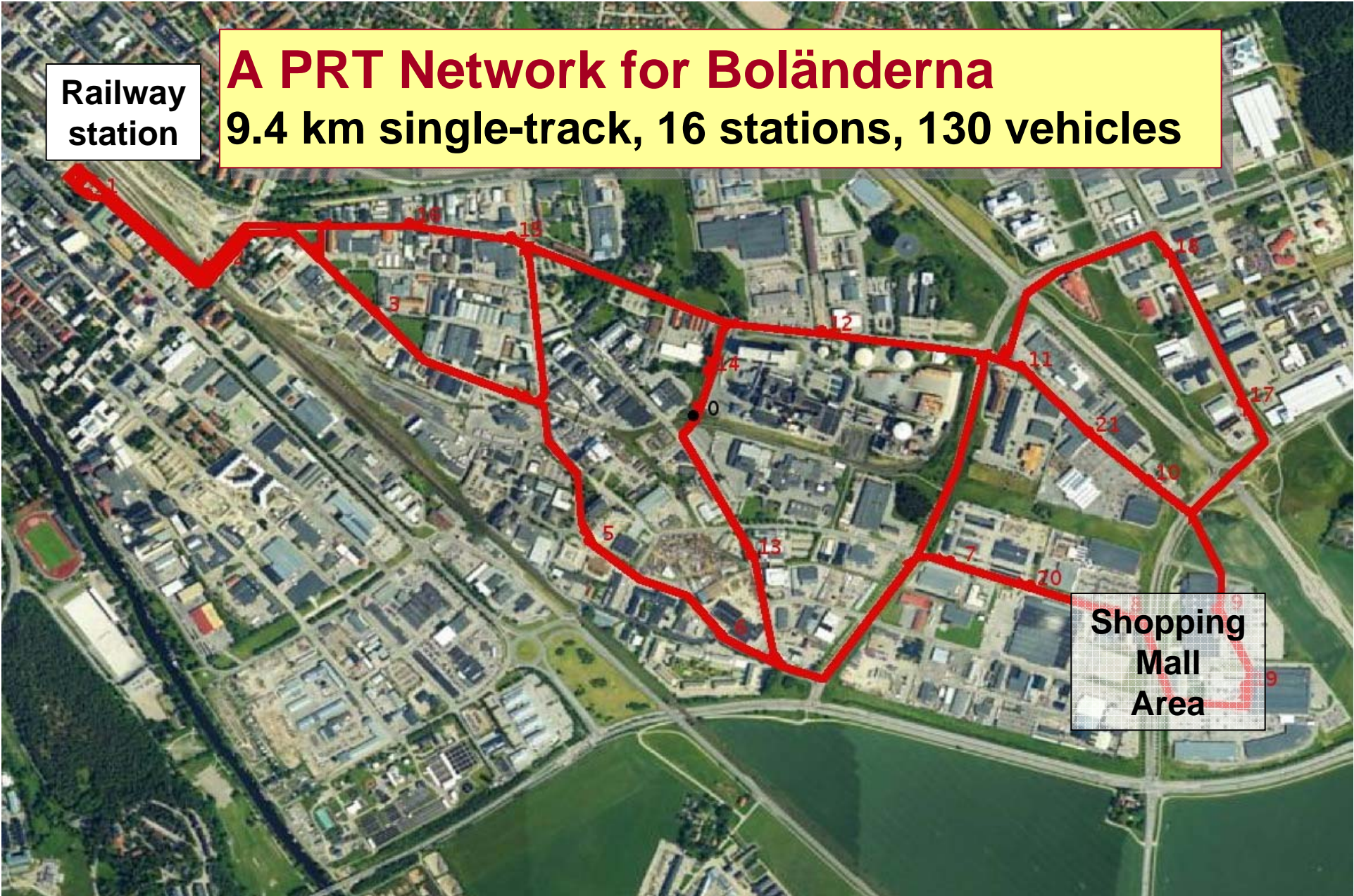
Södertälje annual costs & ticket revenue in M€





PRT Feasibility study for Boländerna, Uppsala





Railway station

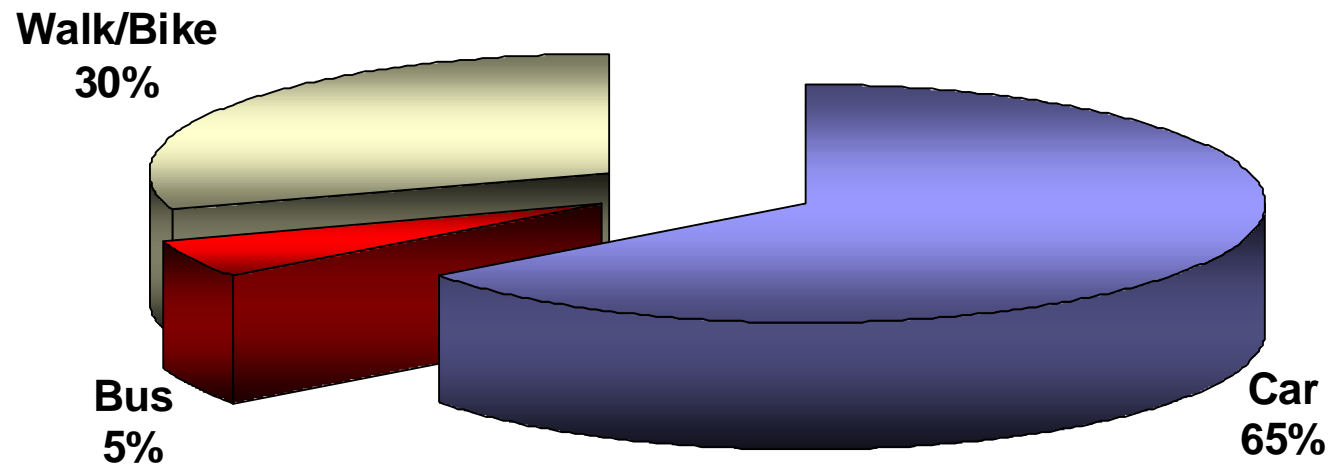
A PRT Network for Boländerna

9.4 km single-track, 16 stations, 130 vehicles

Shopping Mall Area

Only 5 % Bus trips in Uppsala today

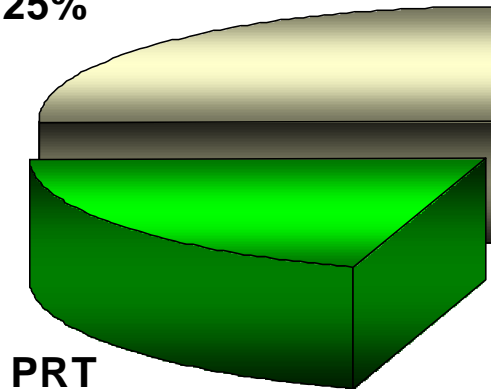
Modal split at Boländerna in Uppsala today



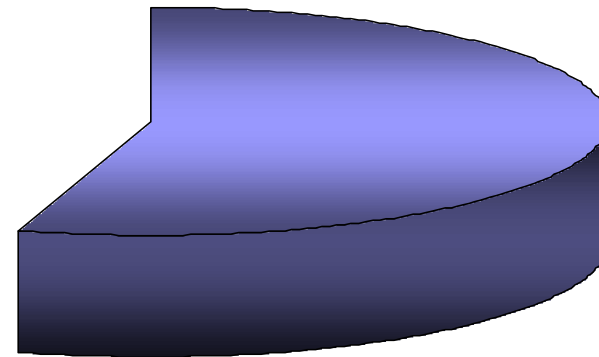
20 % (four times higher) modal split at Boländerna in Uppsala with PRT

Modal split at Boländerna in Uppsala in 2020 with PRT

Walk/Bike
25%



PRT
20%



Car
55%

Conclusions for Uppsala

- **Modal share up from 5 % to 20 %**
 - From 4 200 (by bus) to 16 000 daily trips (by PRT)
- **BOT financing proposed**
- **Cost per trip: Bus: 1.80 €, PRT: 1.30 €**
- **Benefit-Cost ratio: 1.1 to 2.1. Average: 1.4**
- **Forthcoming decision making:**
 - At present on public consideration
 - A new study will compare bus, LRT and PRT for the entire city of Uppsala

Conclusions: PRT Plans in Swedish Cities:

1. Many feasibility Studies
2. Several activities promoting PRT
3. Still: no political decision, yet, but:
A new governmental task to examine implementation of PRT in cities
4. Mega study shows: modal share up by 15 %- units on average with PRT
5. BOT-Build-Operate & Transfer financing proposed
6. Social benefits often higher than costs
7. Two comparative studies (Bus, LRT & PRT) going on, one for Uppsala, one more general