

# Testing potential solutions to control urban sprawl

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Which policies were tested  
in the 3 case cities ?

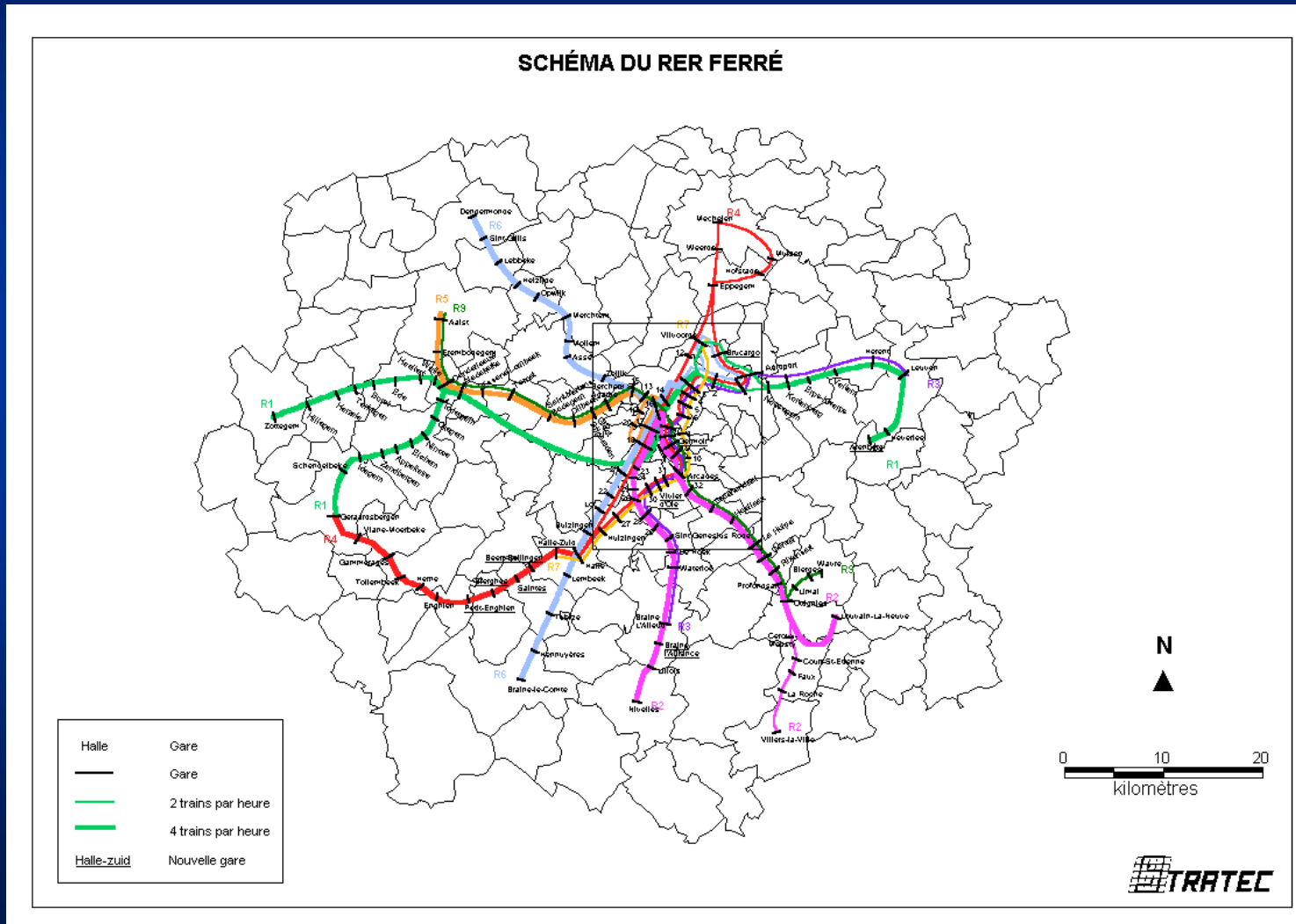
# Common policies tested in the 3 case cities

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- **1. Public transport investments:**
  - rail networks
  - radial or orbital networks
  
- **2. Policies to control urban sprawl or reduce its negative effects**

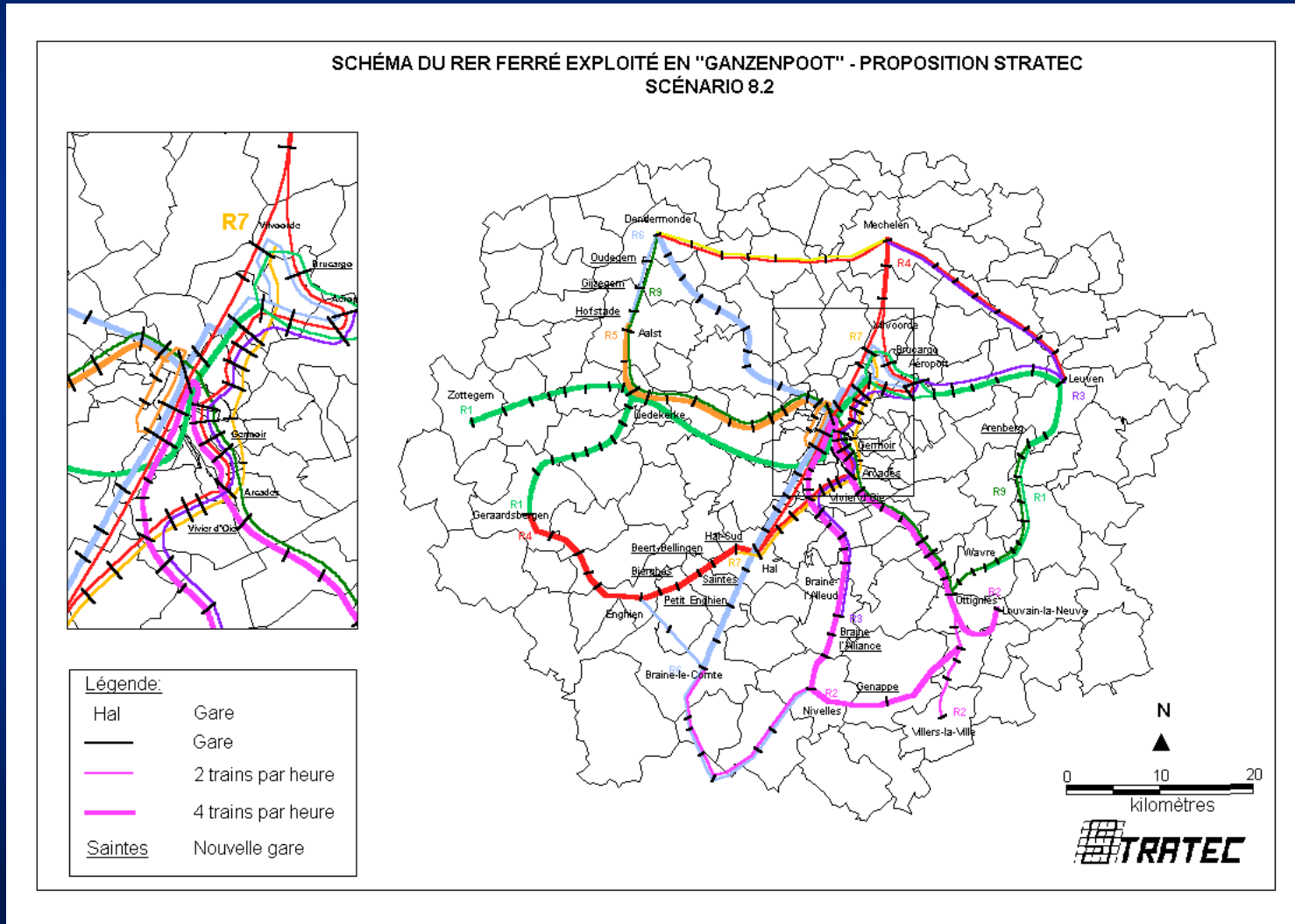
# The simulated public transport networks (1)

## Brussels – rail REN



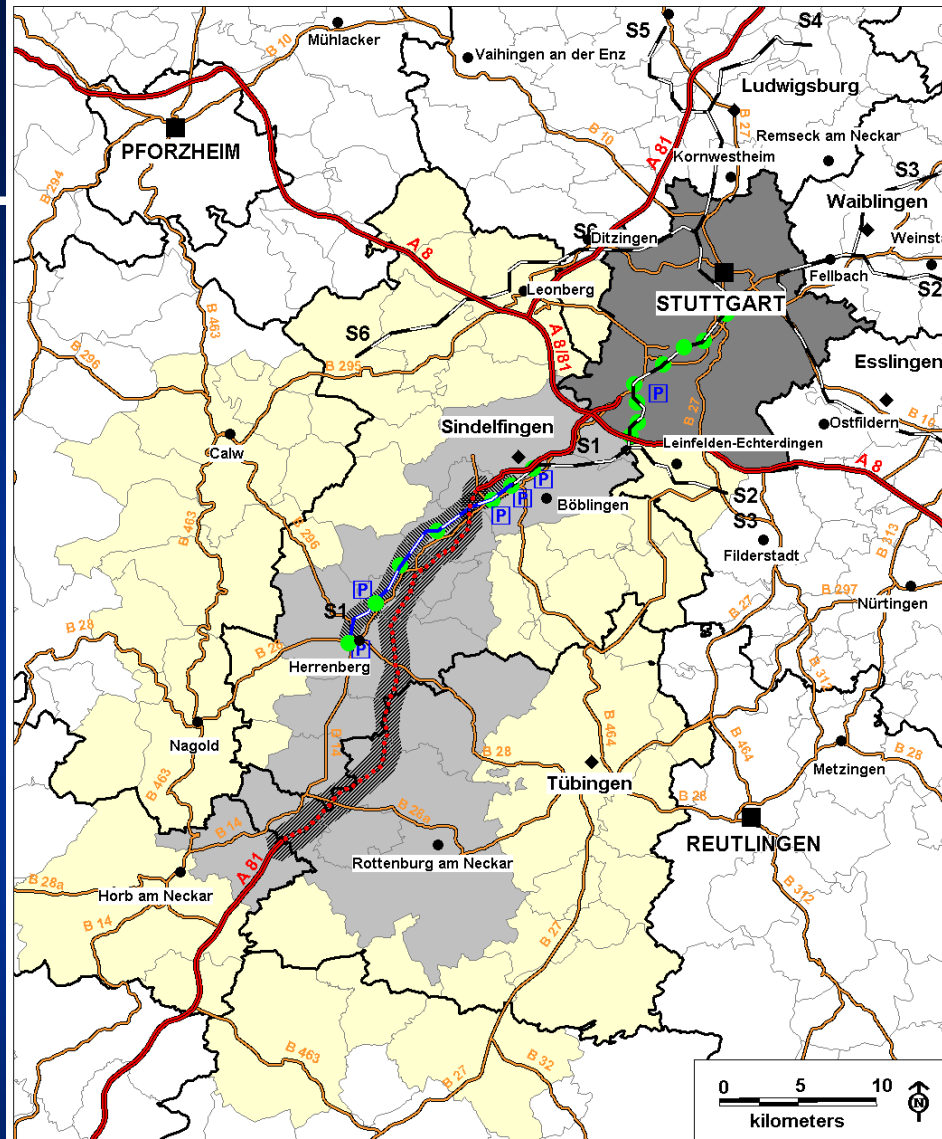
# The simulated public transport networks (2)

## Brussels – rail REN alternative



# The simulated public transport networks (3)

## Stuttgart S1 + A81



### legend of cities

- more than 100000 inhabitants
- ◆ 50000 to 100000 inhabitants
- 20000 to 50000 inhabitants

### legend of roads

- motorway
- motorway A81 (opened 1978)
- main roads

### legend of the light-rail system

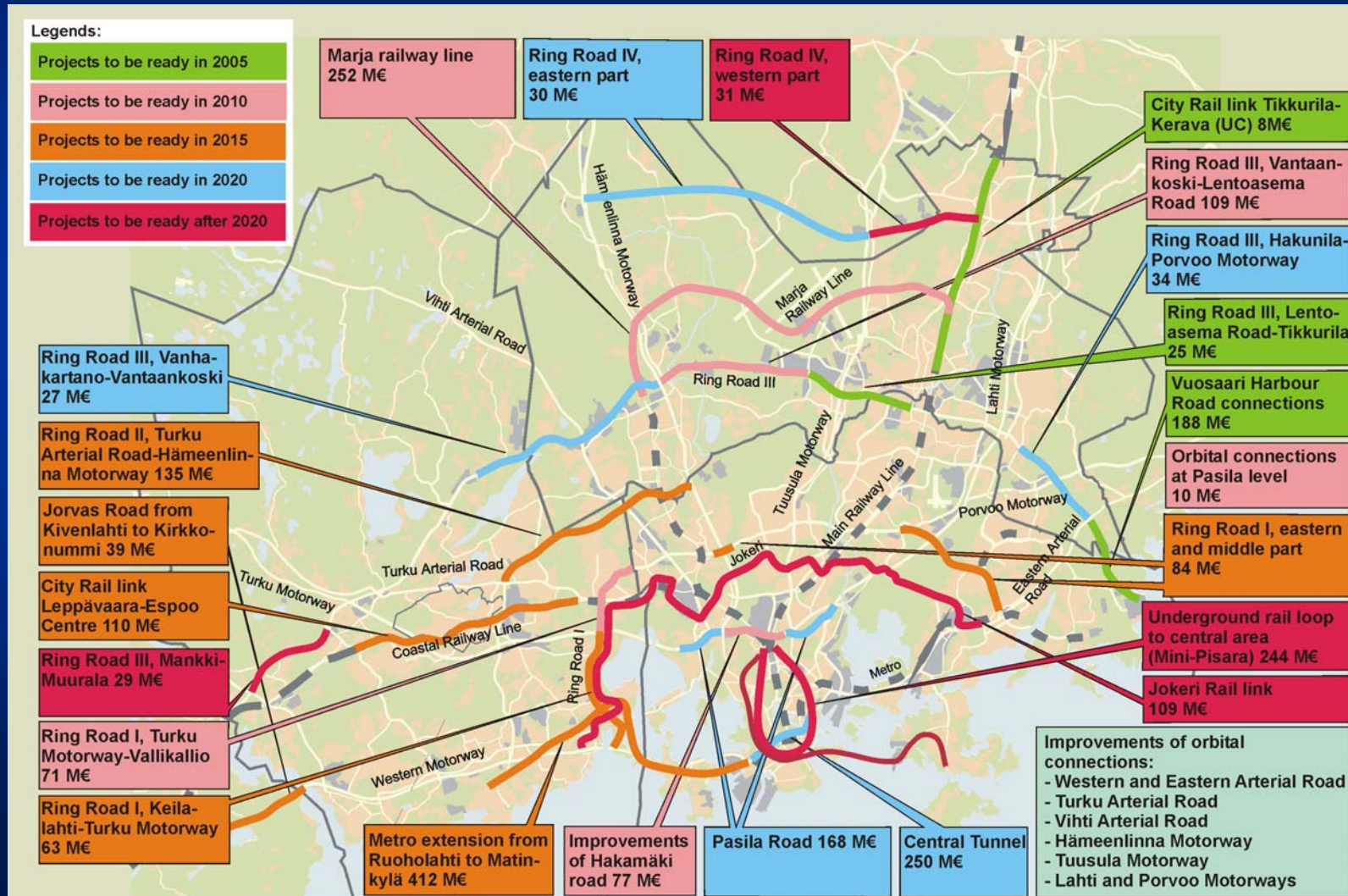
- stop of light-rail S1
- [P] Park & Ride
- light-rail system
- light-rail system S1 (opened in 1990)

### legend of regional areas

- NUTS 3 (Kreise)
- NUTS 5 (Gemeinden)
- Z2b study area Stuttgart
- Z2a corridor of the projects
- Z1 central city Stuttgart
- ▨ Z project (light-rail)
- ▨ Z project (motorway)

# The simulated public transport networks (4)

## Helsinki



# Policies to control urban sprawl or reduce its negative effects

SCATTER-SELMA joint workshop, 8 June 2004

## ■ **Land use policies:**

- impact fee on suburban residential developments
- regulatory measure on office location
- fiscal measure applied to offices

## ■ **Transport pricing:**

- road pricing (car use cost increase)
- cordon pricing
- PT fare decrease

## ■ **Combinations**

- of land use and transport policies

# Evaluation framework: is sprawl “bad” ?

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- **In other words: do the negative effects exceed the positive effects ?**
- **Negative effects related to fuel consumption and emissions:**
  - fuel consumption ✓
  - climate change ✓
  - air pollution ✓
- **Negative effects related to mobility:**
  - congestion ✓
  - increase of travel times ✓



# Evaluation framework: is sprawl “bad” ?

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- **Negative effects related to land consumption:**
  - land consumption ✓
  - loss of high quality open space and agricultural land
  - fragmentation of eco-systems
  - diminution of bio-diversity
  - increase of water streaming coefficient
- **Negative social effects:**
  - social segregation, reduction of social interactions
  - poor access to services for people with limited mobility ✓
  - decay of downtown areas

# Evaluation framework: is sprawl “bad” ?

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## ■ External costs:

- increased costs of new infrastructures and new public services

## ■ Positive effects:

- access to cheaper private residential developments and larger surfaces
- access to cheaper private non-residential developments (e.g. for young SME)
- lower exposure to air pollution and noise ✓