



Centro  
Nazionale  
Studi  
Urbanistici



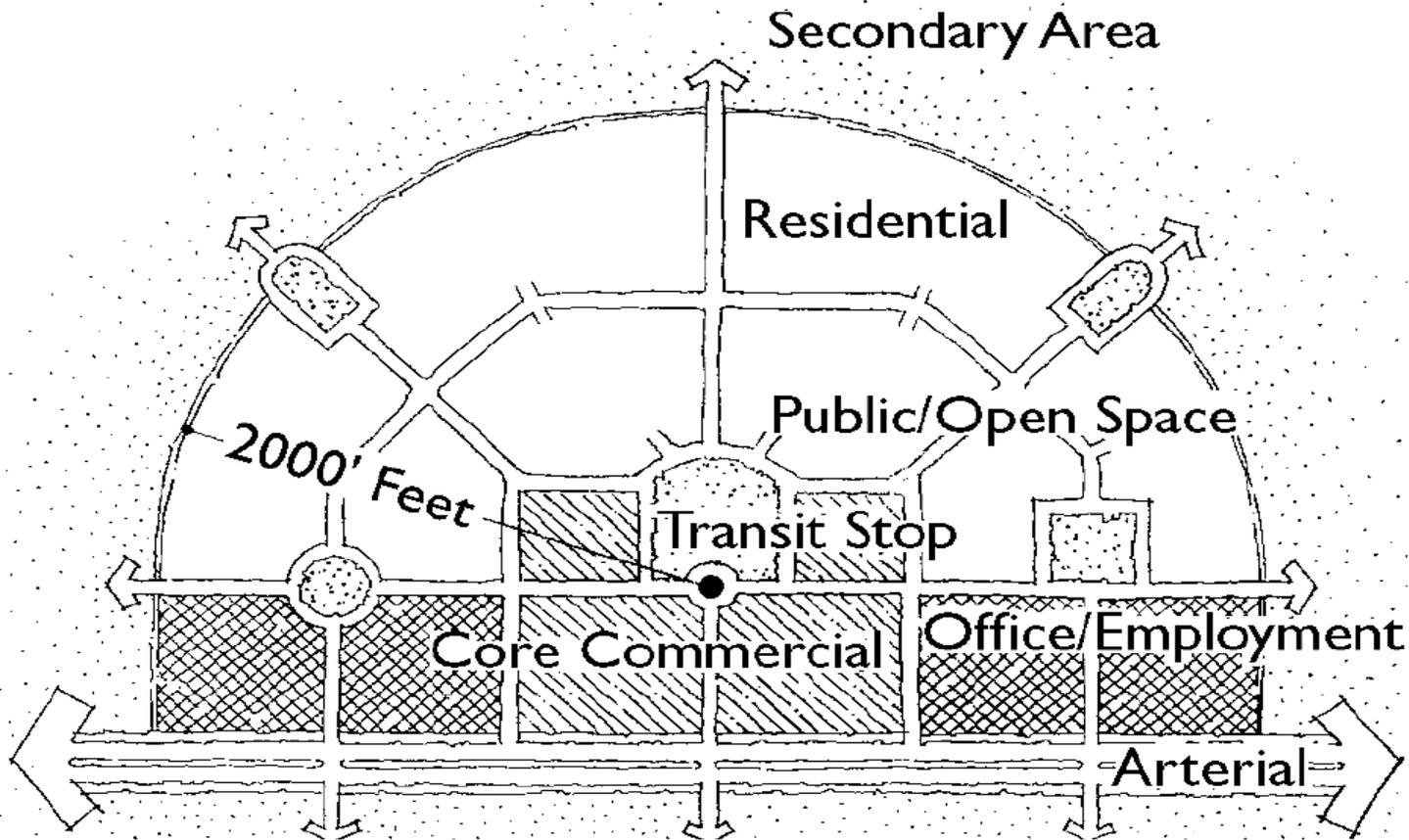
Co-funded by the Intelligent Energy Europe  
Programme of the European Union

## Relazioni e Integrazione tra Sistema dei Trasporti e Ambiente Urbano Matteo Ignaccolo, CeNSU

**Efficienza energetica per la pianificazione urbana e territoriale**

Ordine degli Ingegneri della Provincia di Catania, 10 luglio 2015

# TOD concept [Calthorpe]



Efficienza energetica per la pianificazione urbana e territoriale

# Amsterdam



Efficienza energetica per la pianificazione urbana e territoriale



Amsterdam



Efficienza energetica per la pianificazione urbana e territoriale

**SPECIAL**  
SPATIAL PLANNING and ENERGY for  
COMMUNITIES IN ALL LANDSCAPES

# Amsterdam



Efficienza energetica per la pianificazione urbana e territoriale

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# LIBRINO - CATANIA

MASIER PLAN  
DEL CENTRO URBANO  
DI LIBRINO - CATANIA

*Kenzo 1992*  
KENZO TANGE ASSOCIATES  
S. T. A. PROGETTI  
*for the future*

SCALA 1:1000

TOKIO - JAPAN

CATANIA - ITALIA



# FREIBURG GREEN CITY

APPROACHES TO SUSTAINABILITY

## Sustainable ECONOMY



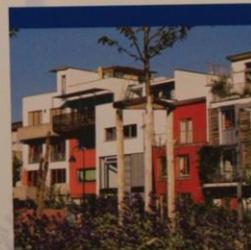
## Sustainable MOBILITY



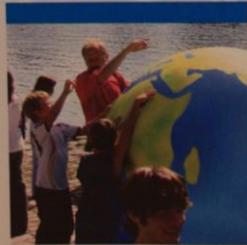
The City's Resource Capital:  
**NATURE**



## Sustainable Urban DEVELOPMENT



Citizen  
**COMMITMENT**



Freiburg   
IM BREISGAU

 **FWTM**  
Management and Marketing  
for the City of Freiburg

Verkehrsberuhigung – Umgestaltung von Straßen

# VAUBAN



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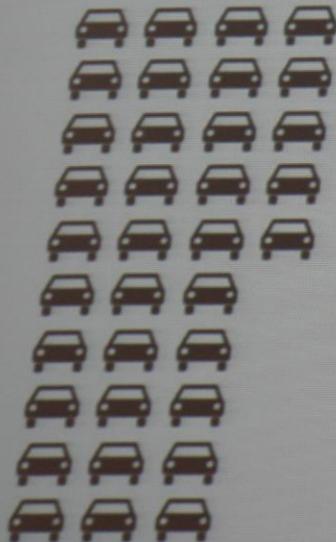
SPATIAL PLANNING and ENERGY for COMMUNITIES IN ALL LANDSCAPES

# Vauban - zones without parking space

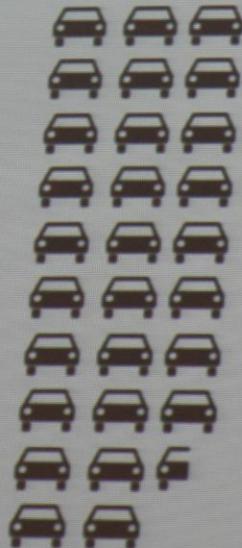


## Vauban - Density of private cars

**35 Cars/100  
inhabitants in  
Freiburg**



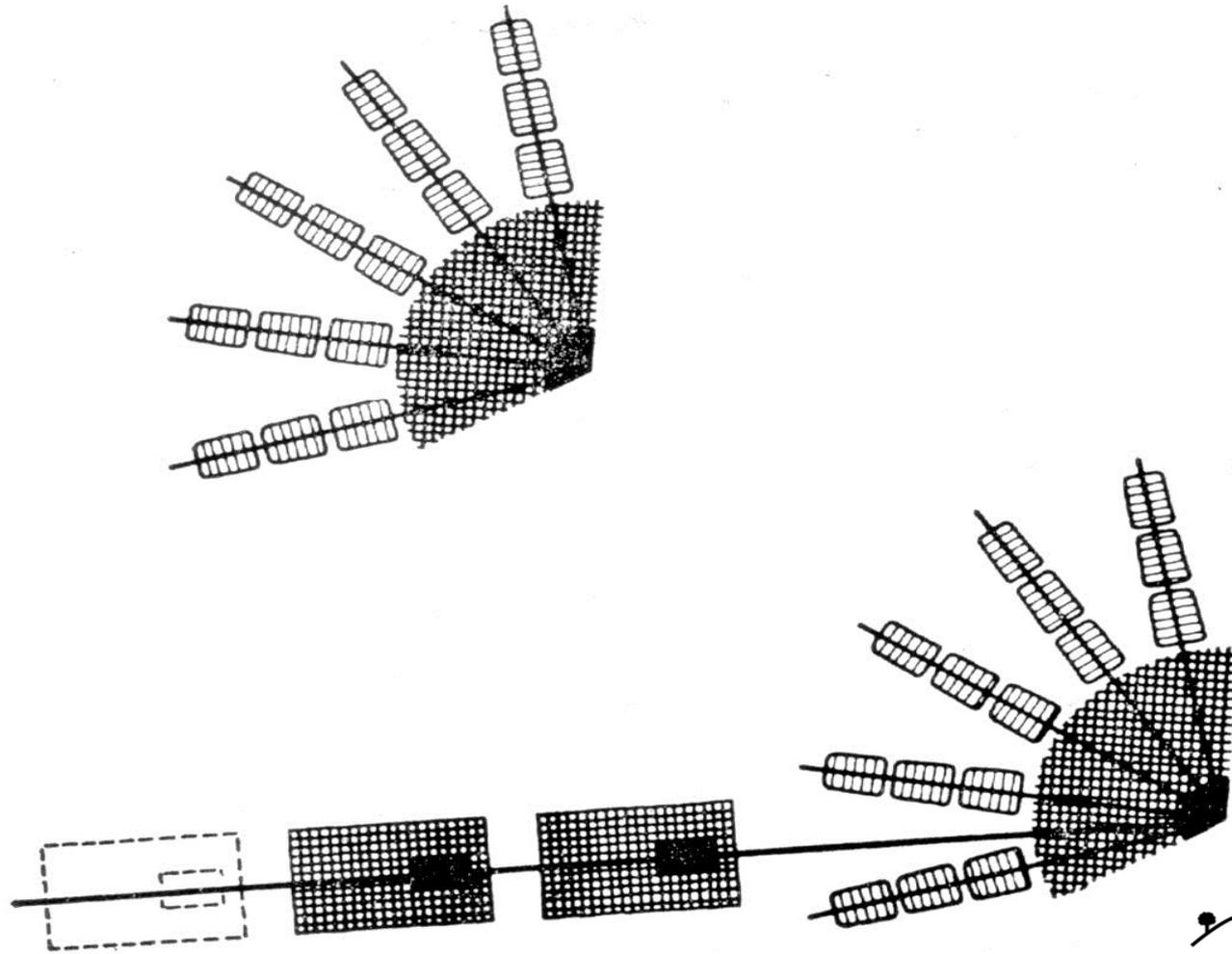
**28,5 Cars/100  
inhabitants in  
Rieselfeld**



**16 Cars/100  
inhabitants in  
Vauban**



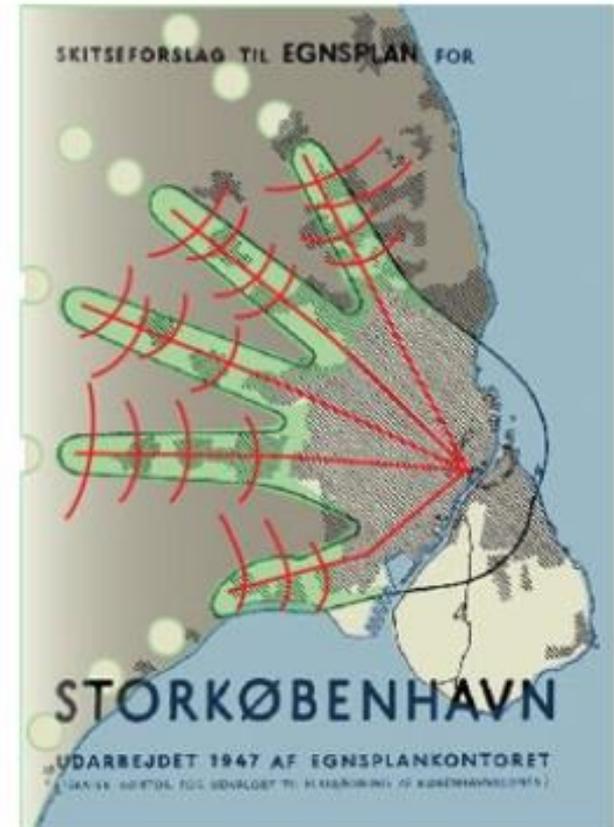
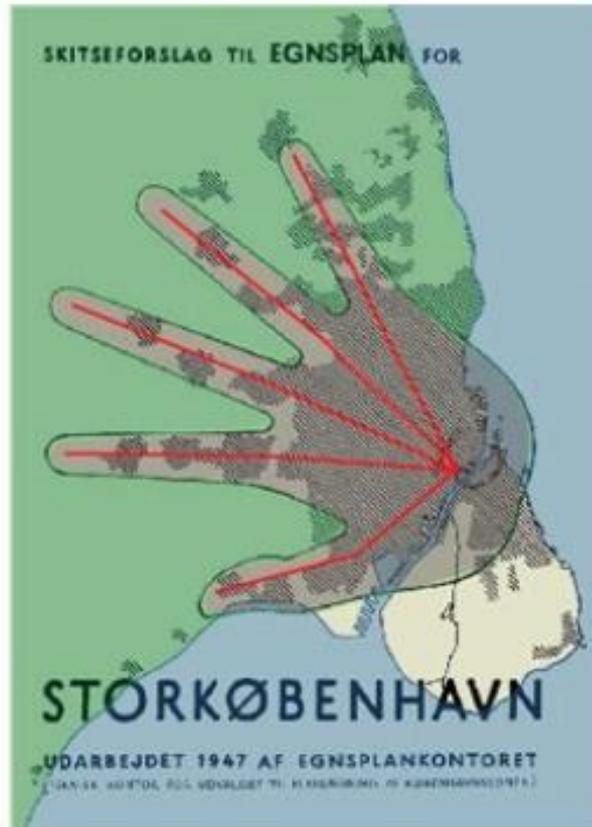
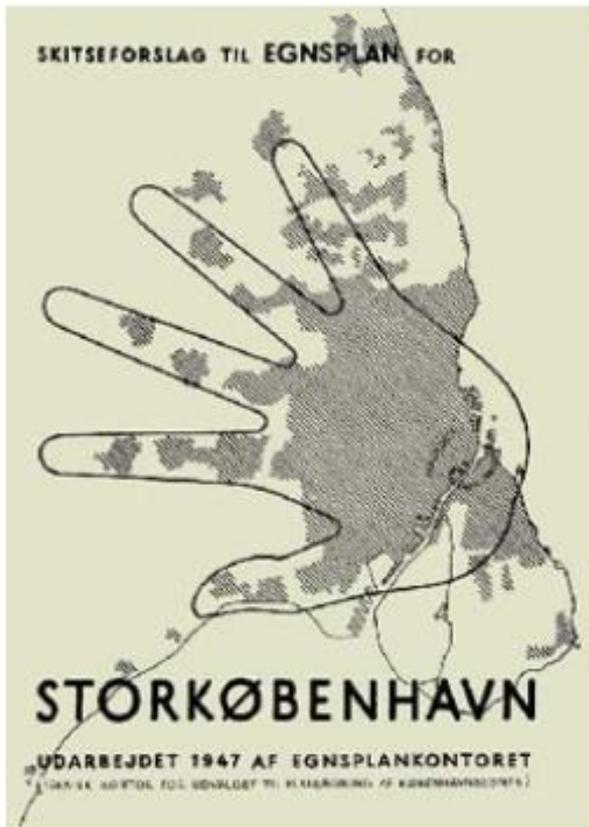
# COPENHAGEN



Efficienza energetica per la pianificazione urbana e territoriale



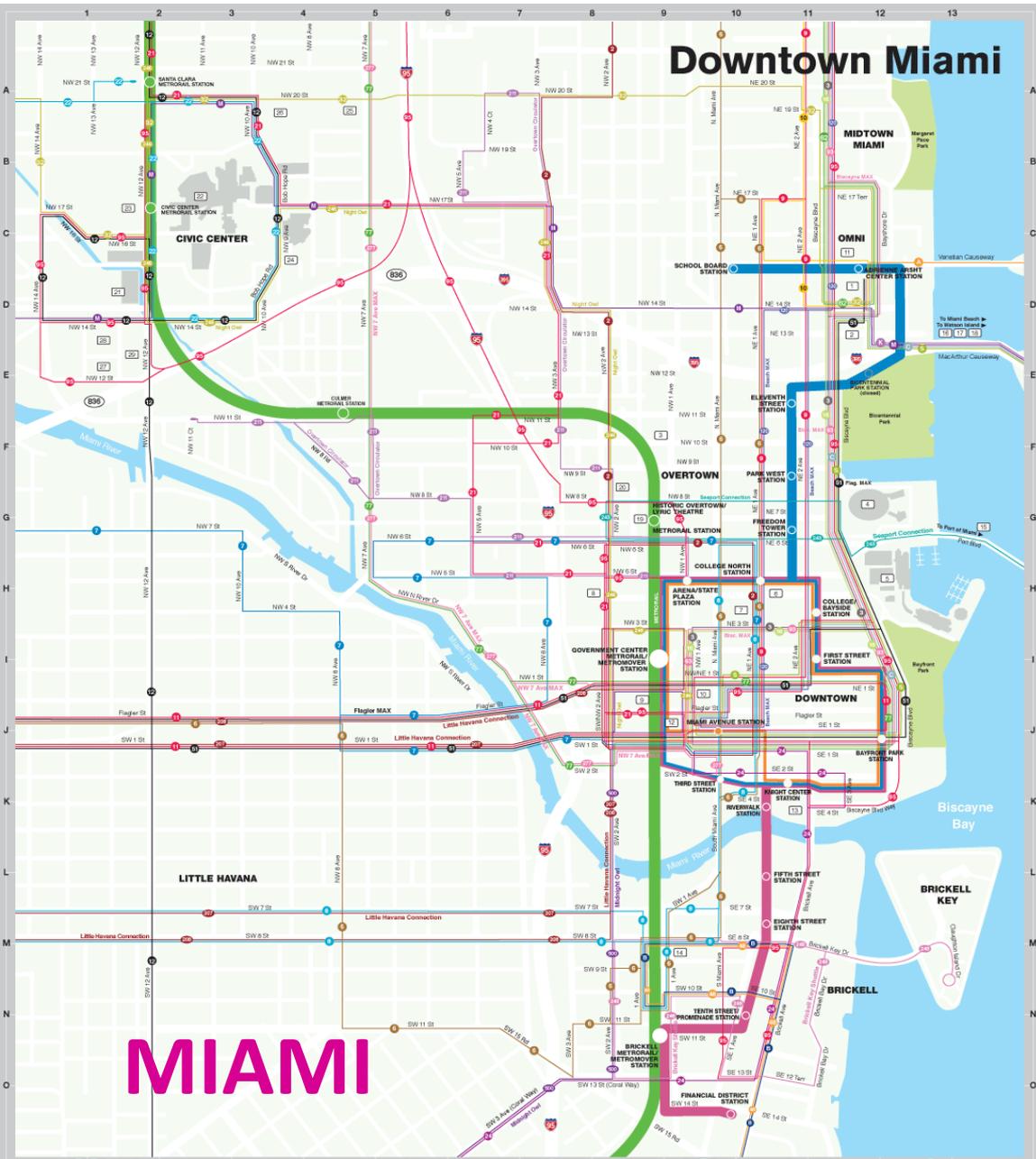
# COPENHAGEN



Da ACER (Roma, 2014)

# COPENHAGEN

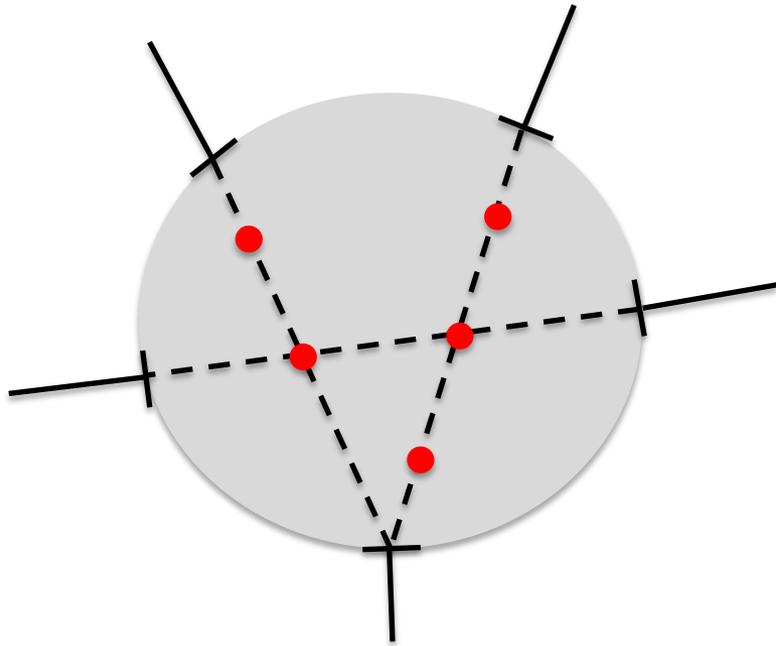




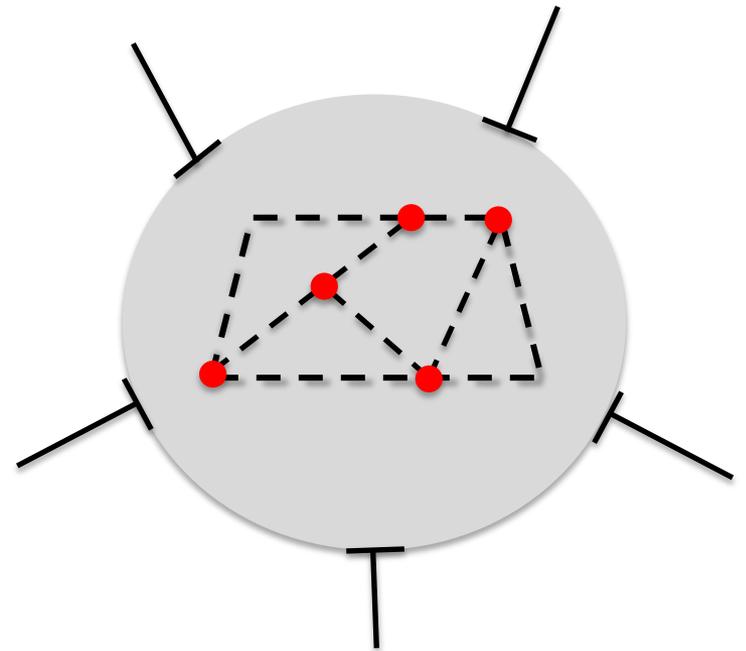
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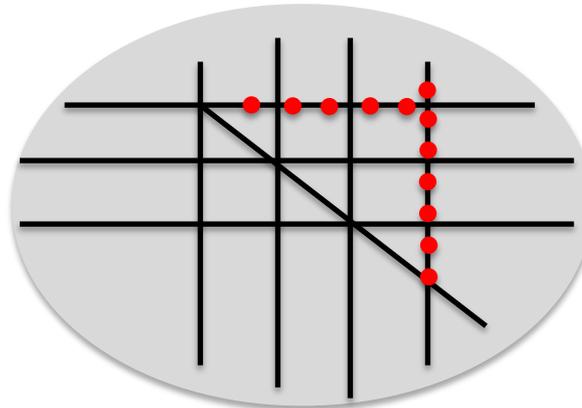
# Metropolitane



Underground - Londra



Metro - Parigi

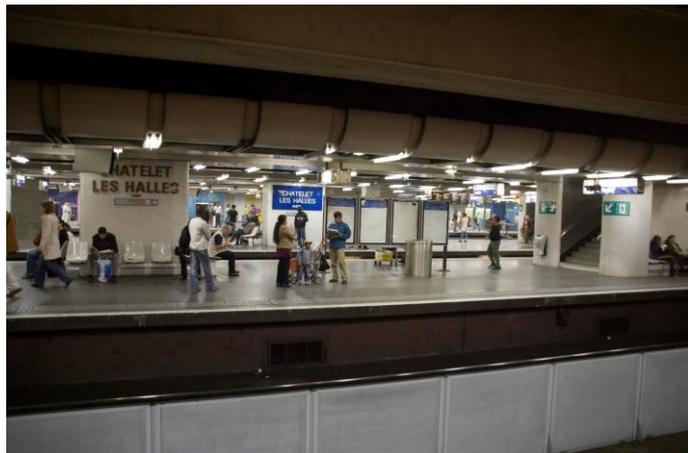
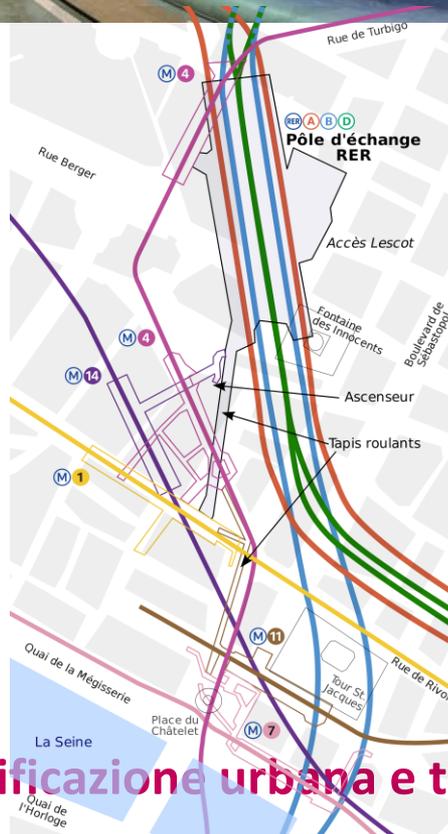
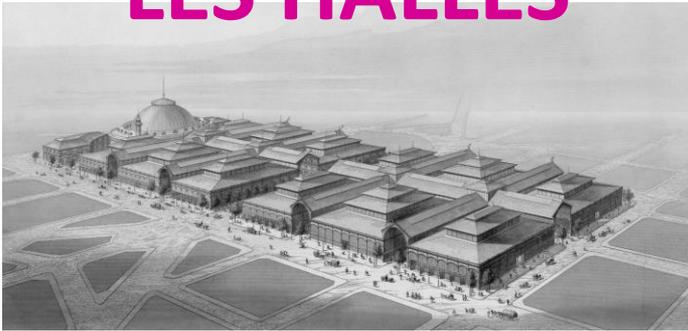


Subway - New York

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# LES HALLES



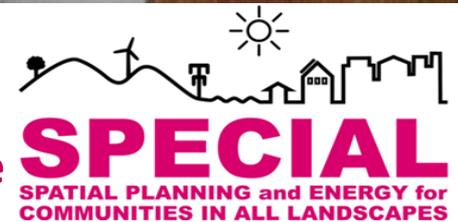
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# GRAZ- AUSTRIA STROLLING ZONES



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# PIANO RETE CICLABILE PER CATANIA

Via Marchese di Casalotto



Viale XX Settembre



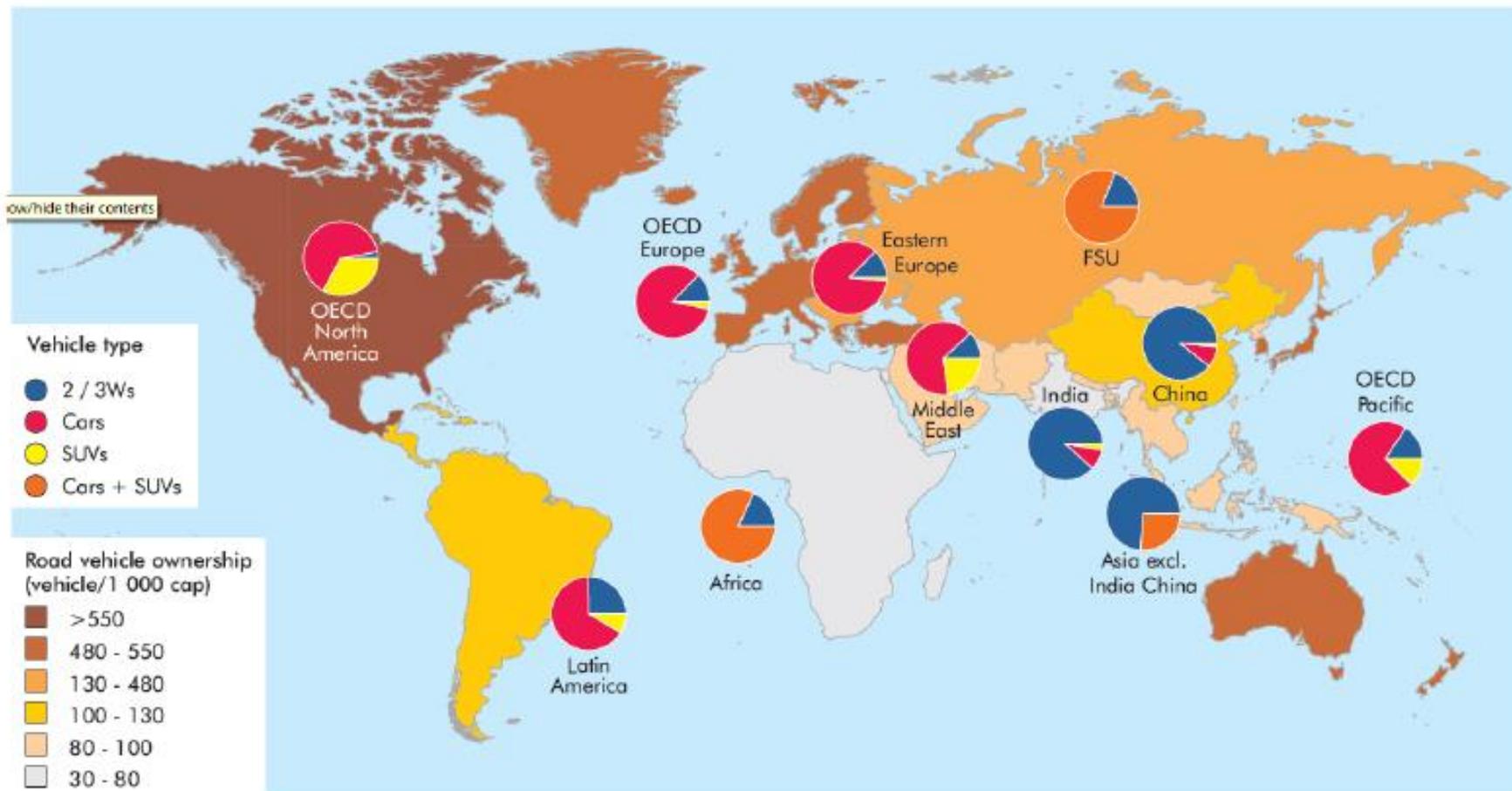
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# Car ownership rate

Figure 1.5 ▶ Passenger LDV stock, by type and region, 2005

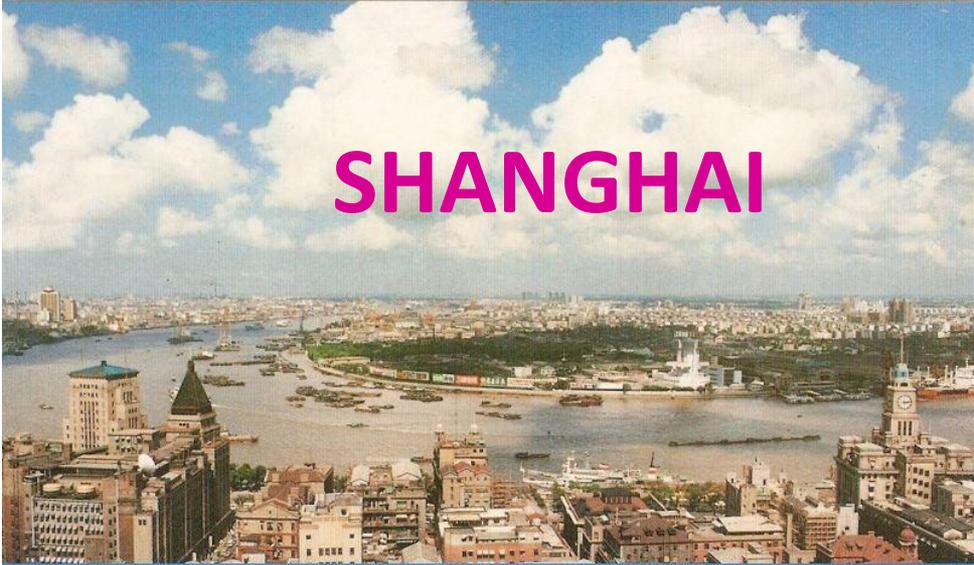


IEA/OECD 2009. Transport, Energy and CO<sub>2</sub>- Moving Toward Sustainability

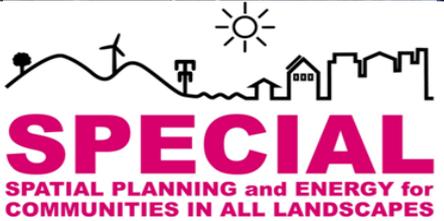


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# SHANGHAI



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Module 1: Climate Change and Sustainable Development

Module 2: Frameworks for Spatial Planning and Energy

Module 3: Strategies, Instruments and Tools

Module 4: Implementation of Sustainable Planning

4.1 Heat supply

4.2 Power supply

4.3 Mobility

1. Good Practice Example: Sustainable transports In Malmö

2. Good Practice Example: The first Bus Rapid Transit (BRT) line (Catania, Italy)

3. Good Practice Example: Sustainable Urban Mobility Plan (City of Judenburg / Styria, Austria)

4. Good Practice Example: Automatic light metro system (Brescia, Italy)

Module 4: Implementation of Sustainable Planning

## 4.3 Mobility

### Introduction -

[Introduction](#) [Summary](#) [Integration of Mobility and Climate Issues Sustainable Urban Mobility Plan \(SUMP\)](#) [City of Short Distances](#) [Finance related aspects](#)

Mobility and transportation are significant drivers of carbon dioxide emissions that is growing very rapidly. 23 percent of the world wide CO2 emission are related to traffic. To achieve significant reductions in greenhouse gas emissions, transport must be de-carbonised and mobility behaviour has to change.

### Summary +

[Introduction](#) [Summary](#) [Integration of Mobility and Climate Issues Sustainable Urban Mobility Plan \(SUMP\)](#) [City of Short Distances](#) [Finance related aspects](#)

### Integration of Mobility and Climate Issues +

[Introduction](#) [Summary](#) [Integration of Mobility and Climate Issues Sustainable Urban Mobility Plan \(SUMP\)](#) [City of Short Distances](#) [Finance related aspects](#)

### Sustainable Urban Mobility Plan (SUMP) +

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1. Good Practice Example: Sustainable transports In Malmö

2. Good Practice Example: The first Bus Rapid Transit (BRT) line (Catania, Italy)

3. Good Practice Example: Sustainable Urban Mobility Plan (City of Judenburg / Styria, Austria)



4. Good Practice Example: Automatic light metro

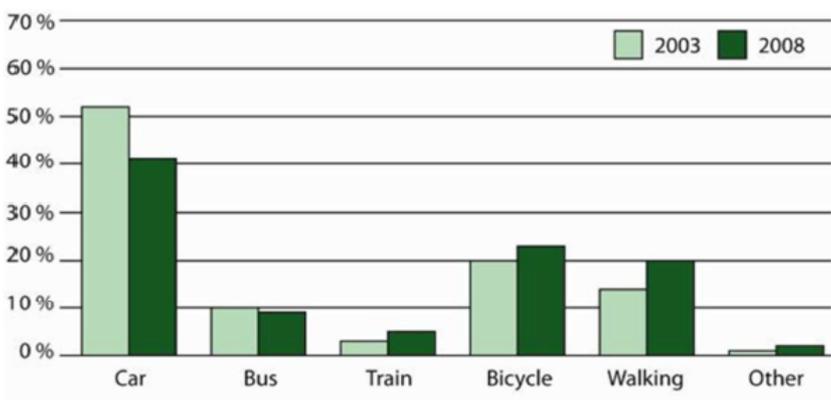
# GOOD PRACTICE EXAMPLE

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# modal split 2003-2008

## MALMO - SUSTAINABLE TRANSPORTS



Changes in modal split between 2003 and 2008.

- Mobility planning
- Mobility management
- Modal split
- SUMP

### pedestrians



### cyclists



### freight transports





public transport



car traffic

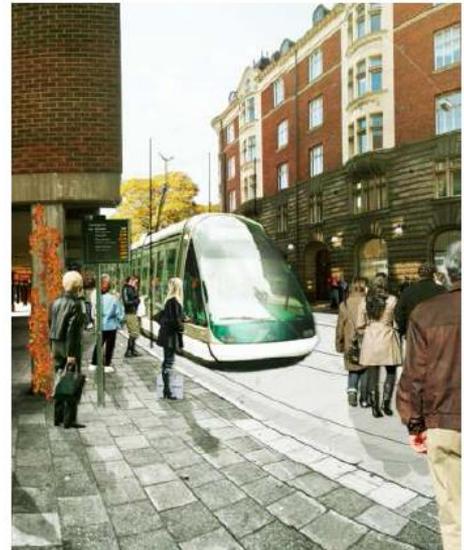
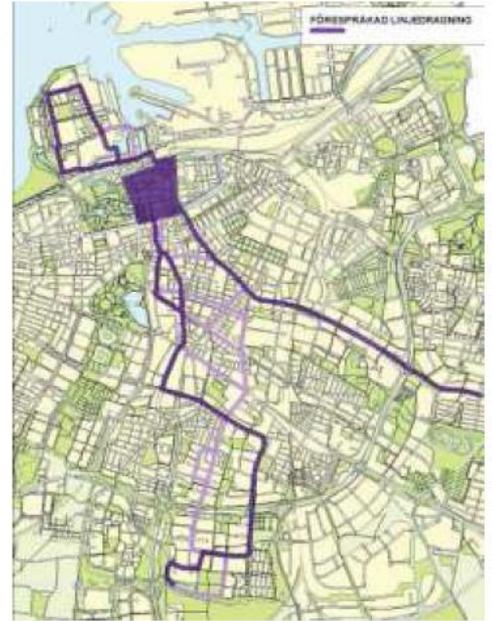


# Malmöexpressen



## MALMO - SUSTAINABLE TRANSPORTS

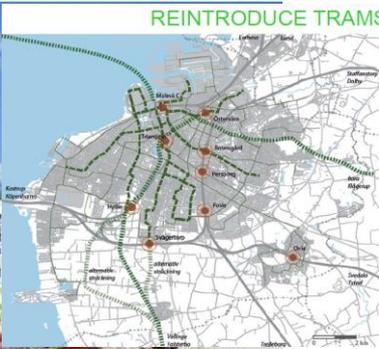
planning for the tram...



REINTRODUCE TRAMS

# MALMO

PUBLIC TRANSPORT



## COMPREHENSIVE PLAN FOR MALMÖ ÖP2012

A DENSER CITY

REORGANIZE

REDUCE BARRIER EFFECTS  
FOSIESTRÄKET

GREENERY &  
RECREATION

MEETING PLACES

MAGNETS

HOUSING DIVERSITY



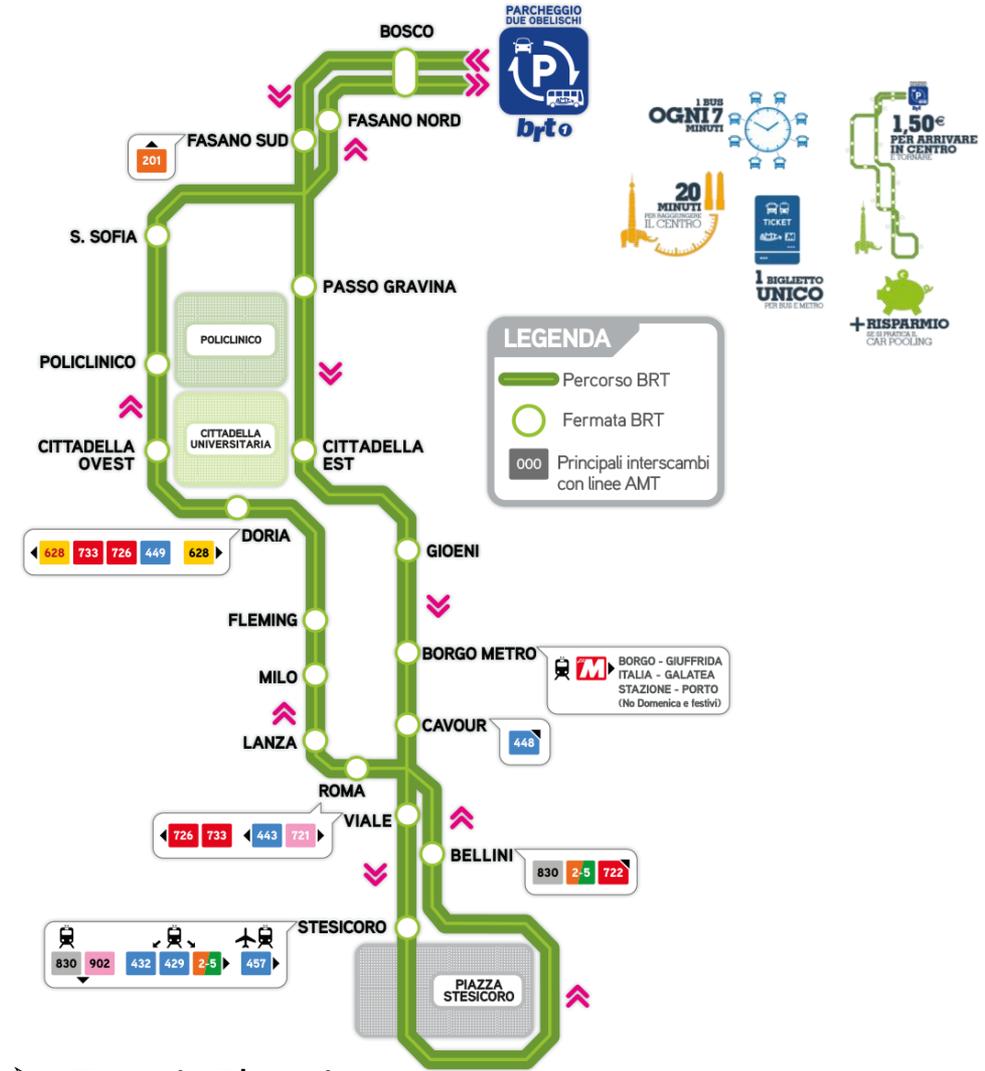
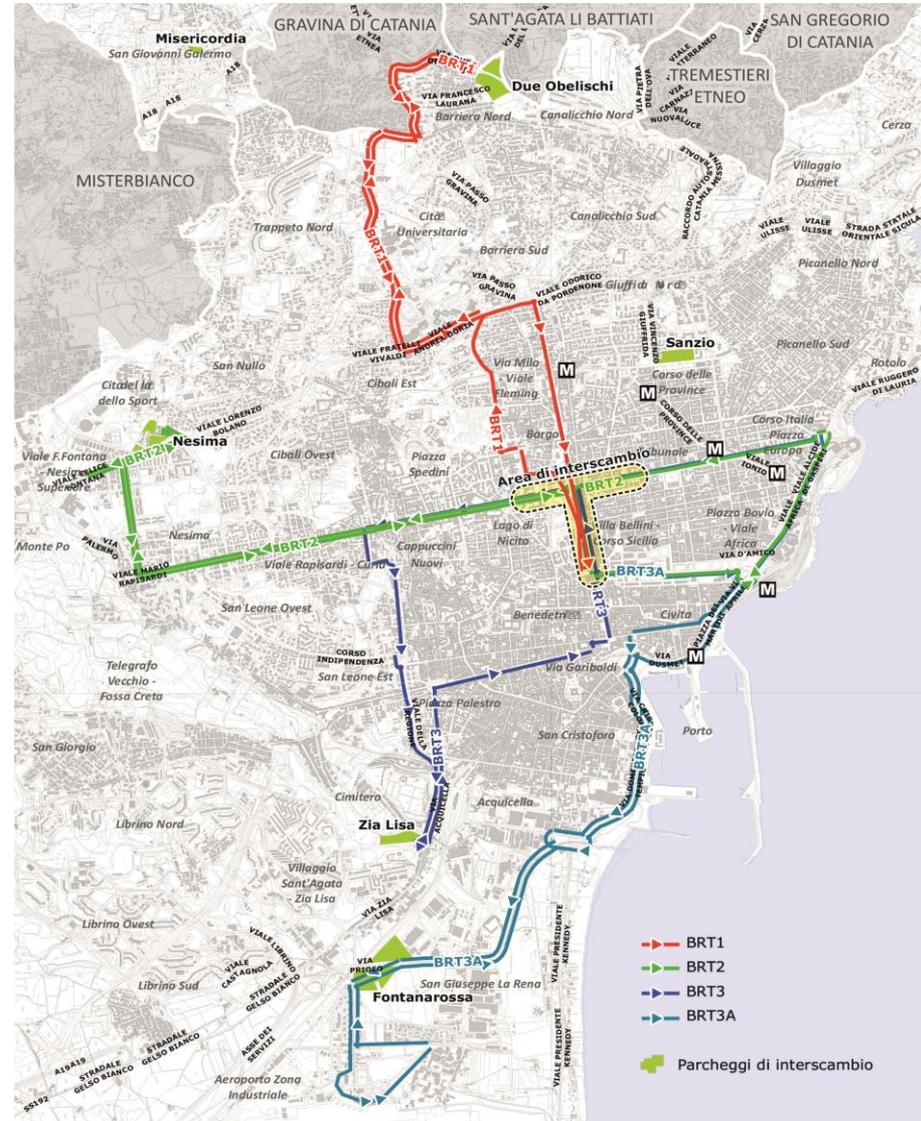
DENSE AND MIXED CITY



# CATANIA – BUS RAPID TRANSIT

Il Bus Rapido scambia con bus di linea urbana e metropolitana per raggiungere centro storico e commerciale.

## Rete BRT Catania (PGTU, 2013)



- Transit Planning
- Bus Rapid Transit
- Sustainable Mobility

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# Bus Rapid Transit (BRT)



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# CATANIA BRT 1



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# JUDENBURG – AUSTRIA

## Sustainable Urban Mobility Plan



- Sustainable Urban Mobility Plan
- Audit
- Certification
- Mobility



Graph of Audit Process



# GREIFSWALD – GERMANIA

## Transport Development Planning



- Climate protection measures
- Environmental alliance
- Residential building area development plan

District heating is climate protection! Green electricity is climate protection!



GREIFENGas is climate protection! Public transport is climate protection!

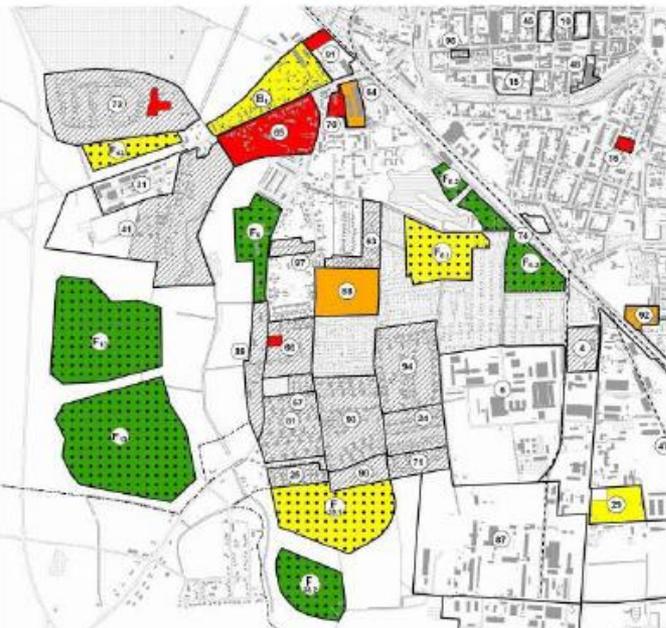


### Legend

- Binding land-use plan
- Binding land-use plan number
- Residential building areas according to the preparatory land-use plan
- Preparatory land-use plan number
- Inner-city brownfields (follow-up use)
- Brownfield number

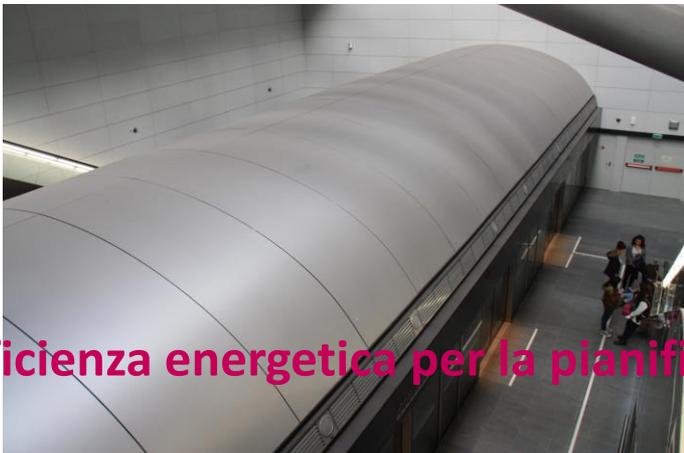
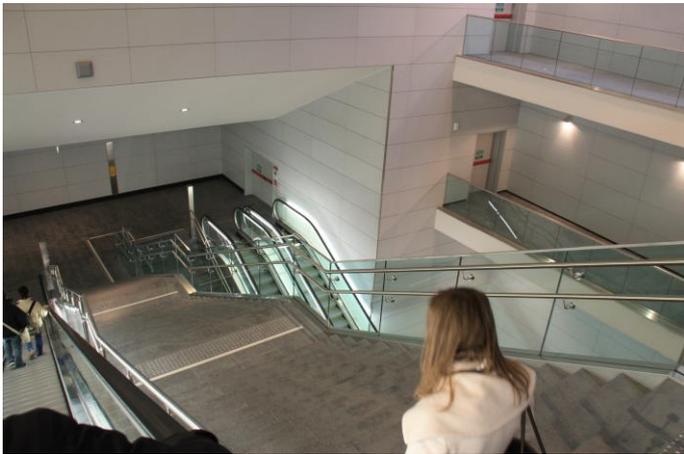
### Significance of the residential building areas

- Already realized
- Legally binding land-use plan resp. with procedural bindings
- 1. Priority
- 2. Priority
- No longer pursued



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[matig@dica.unict.it](mailto:matig@dica.unict.it)

Prof. Matteo Ignaccolo

Dip. Ingegneria Civile e Architettura, Università degli  
Studi di Catania

viale A. Doria 6 95125 CATANIA - ITALY

tel +39 095 7382217 fax +39 095 7382247

m +39 328 0087110

sk matteoignacolot

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