Digital India
Power To Empower
स्वच्छ भारत
एक कदम स्वच्छता की ओर
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
11th Urban Mobility India Conference & Expo 2018

Reducing GHG Emissions from Transport

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Nagpur, India, 03.11.2018

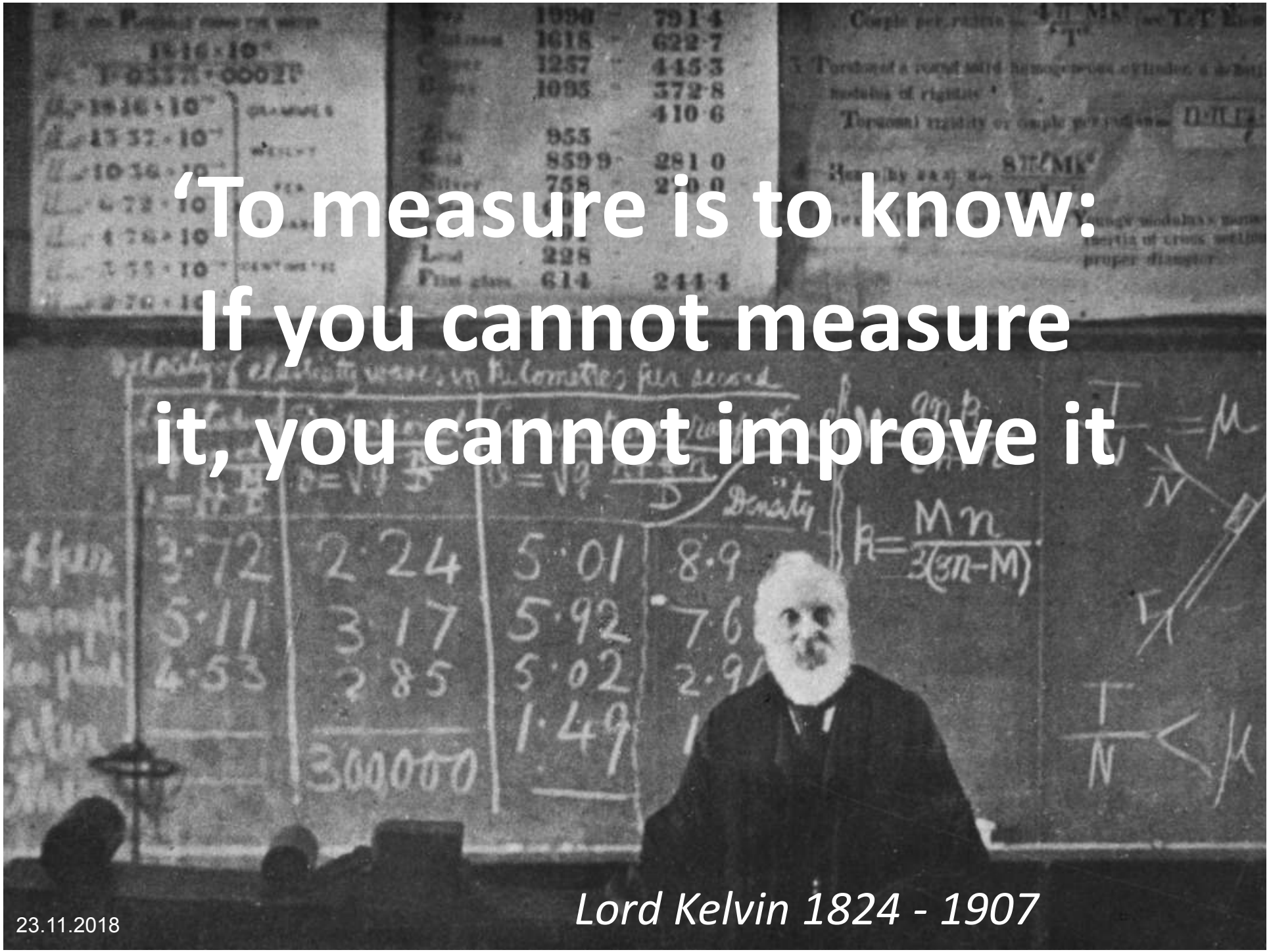
INSTITUTE OF URBAN TRANSPORT (INDIA)





Source: National Geographic, GIZ, Flickr,

Picture: Christian Hochfeld


‘To measure is to know:
If you cannot measure
it, you cannot improve it
Lord Kelvin 1824 - 1907

Reasons for Emissions Accounting

Understand the problem (in detail)

Support leaders in deciding on measures

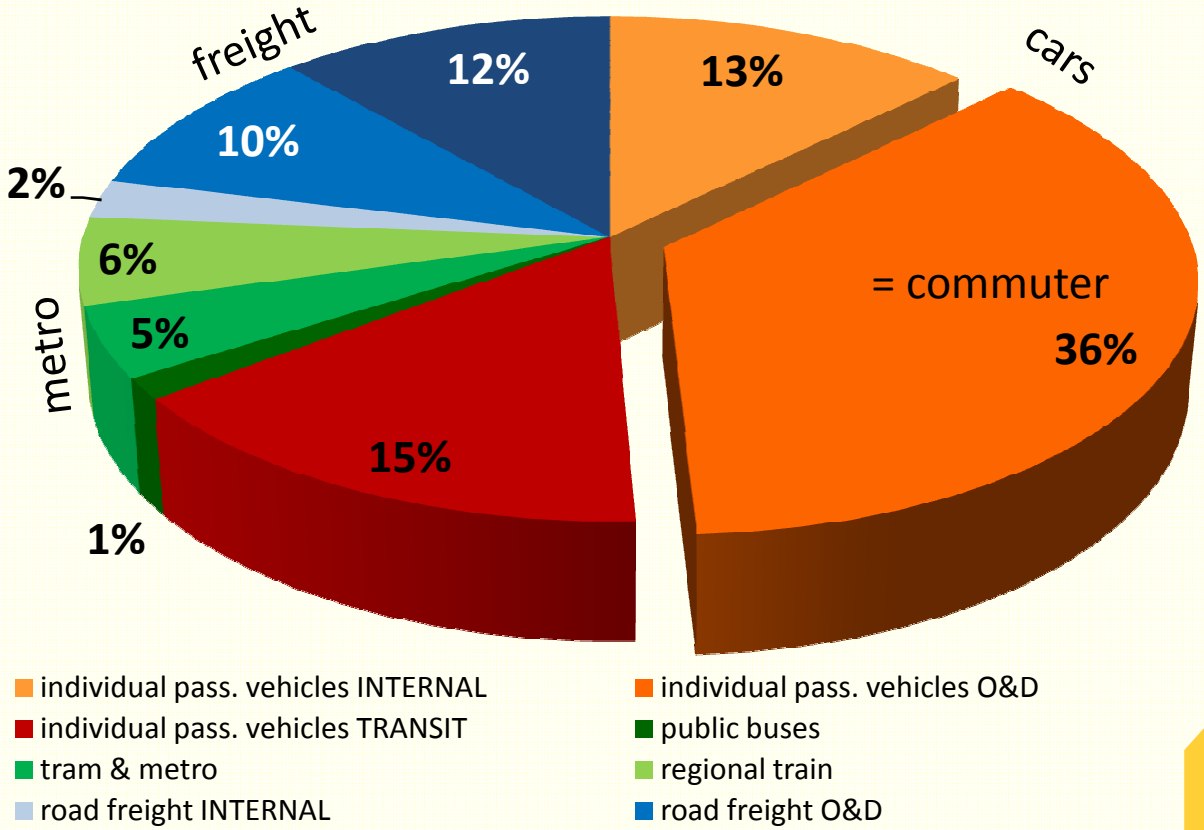
Emission Accounting

Monitor goal achievement and impact

Access to international support and funding

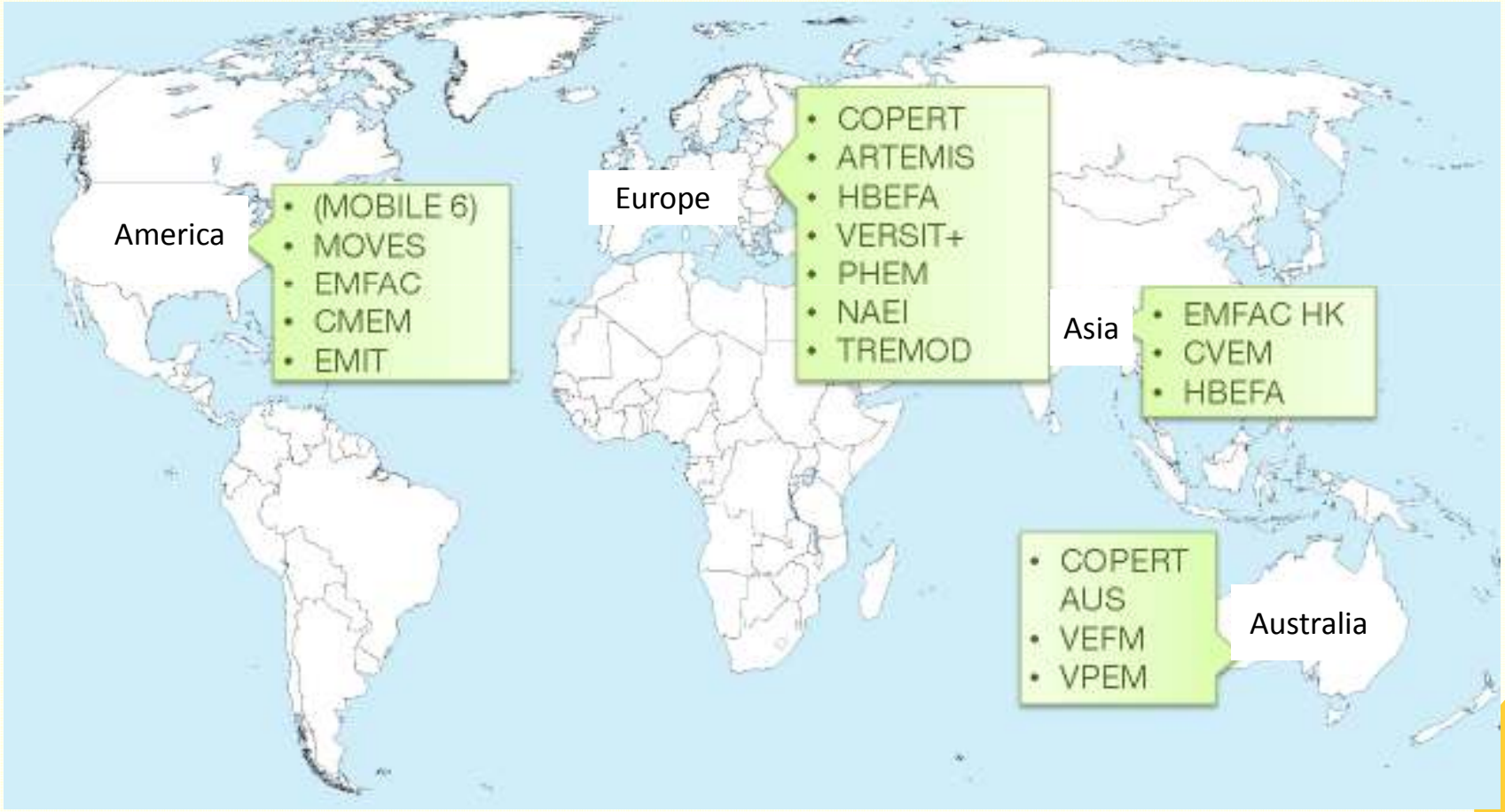
GHG balancing results for the transport sector of Frankfurt/M. (Germany)

- differentiated by traffic origin -



Conclusion:
Measures should focus on O&D passenger car traffic e.g. parking management & public transport

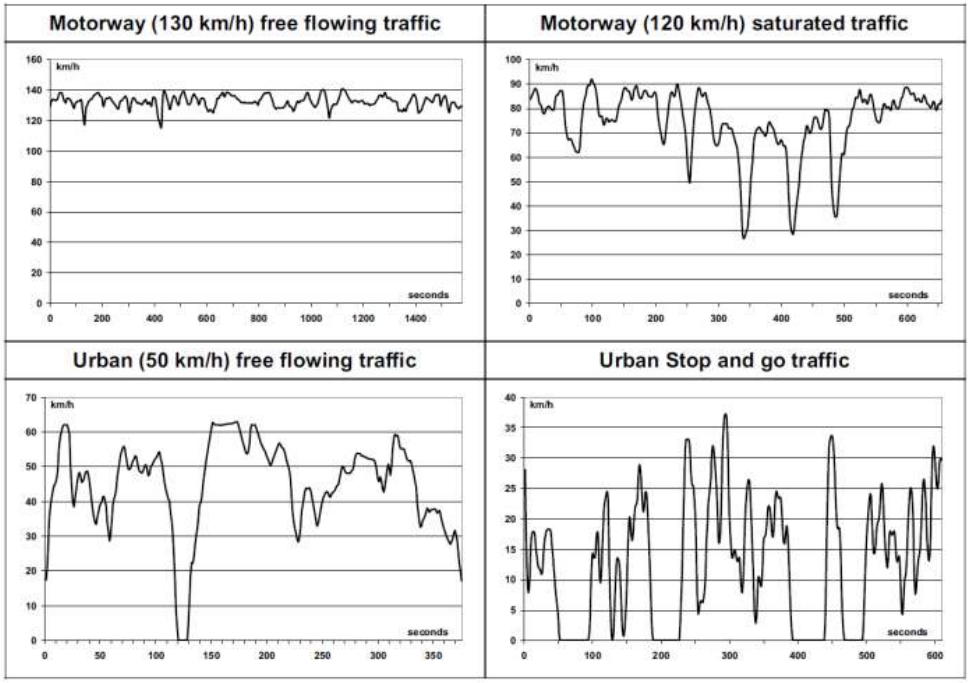
Variety of emissions calculation tools



Source: Arimbi Jinca 2013 .

European Handbook for Emission Factors (HBEFA) adopted to Chinese cities

- traffic situations of HBEFA are categorised by:
  - areas: urban/rural
  - road types: e.g. motorway, trunk road
  - speed limits: e.g. 50 km/h
  - levels of services: free flow, heavy traffic, saturated, stop & go



Source: INFRAS / Mario Keller.

与GIZ合作历程回顾
A review of project cooperation of Beijing with GIZ

合作成果 Project Results

合作进行拥堵收费政策情景分析
Scenario analysis on congestion charging policy

对于三个情景进行减排分析，结果如右图
Emission reduction analysis was made to the following scenarios:

- ✓ ▪ 三环路内区域收费20元；
  20RMB within 3rd Ring
- ✓ ▪ 三环路内区域收费40元；
  40RMB within 3rd Ring
- ✓ ▪ 三环路内进入收费20元
  20RMB entering 3rd Ring

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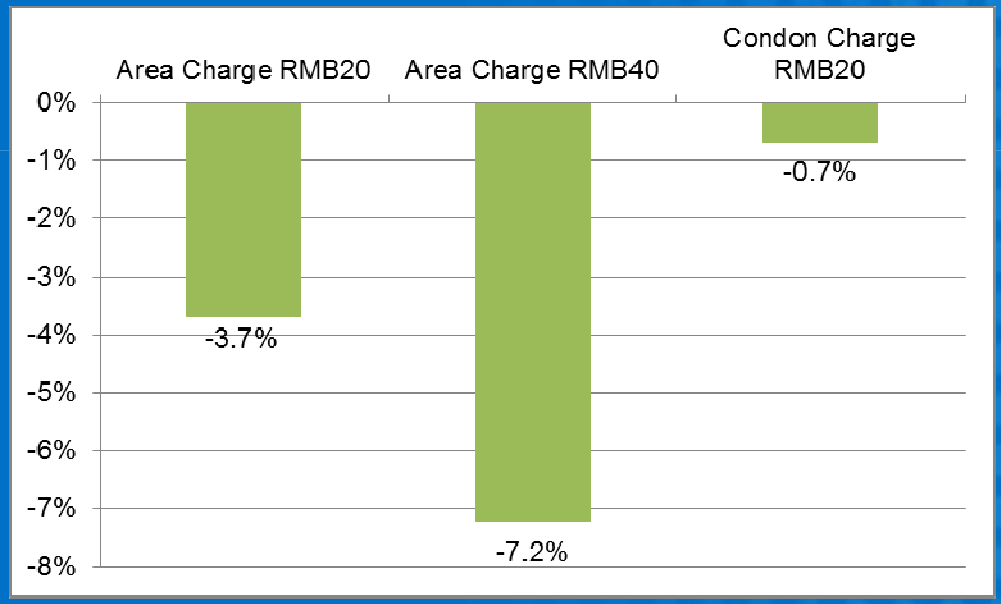
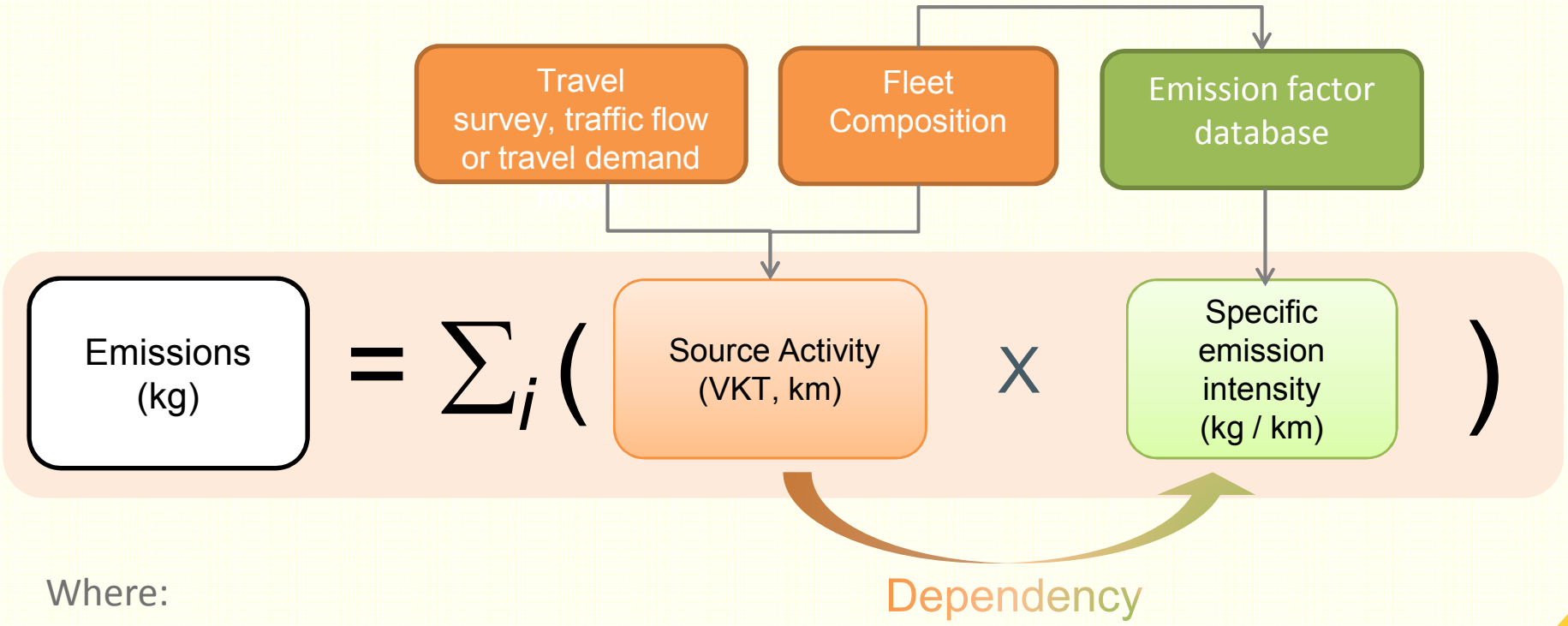
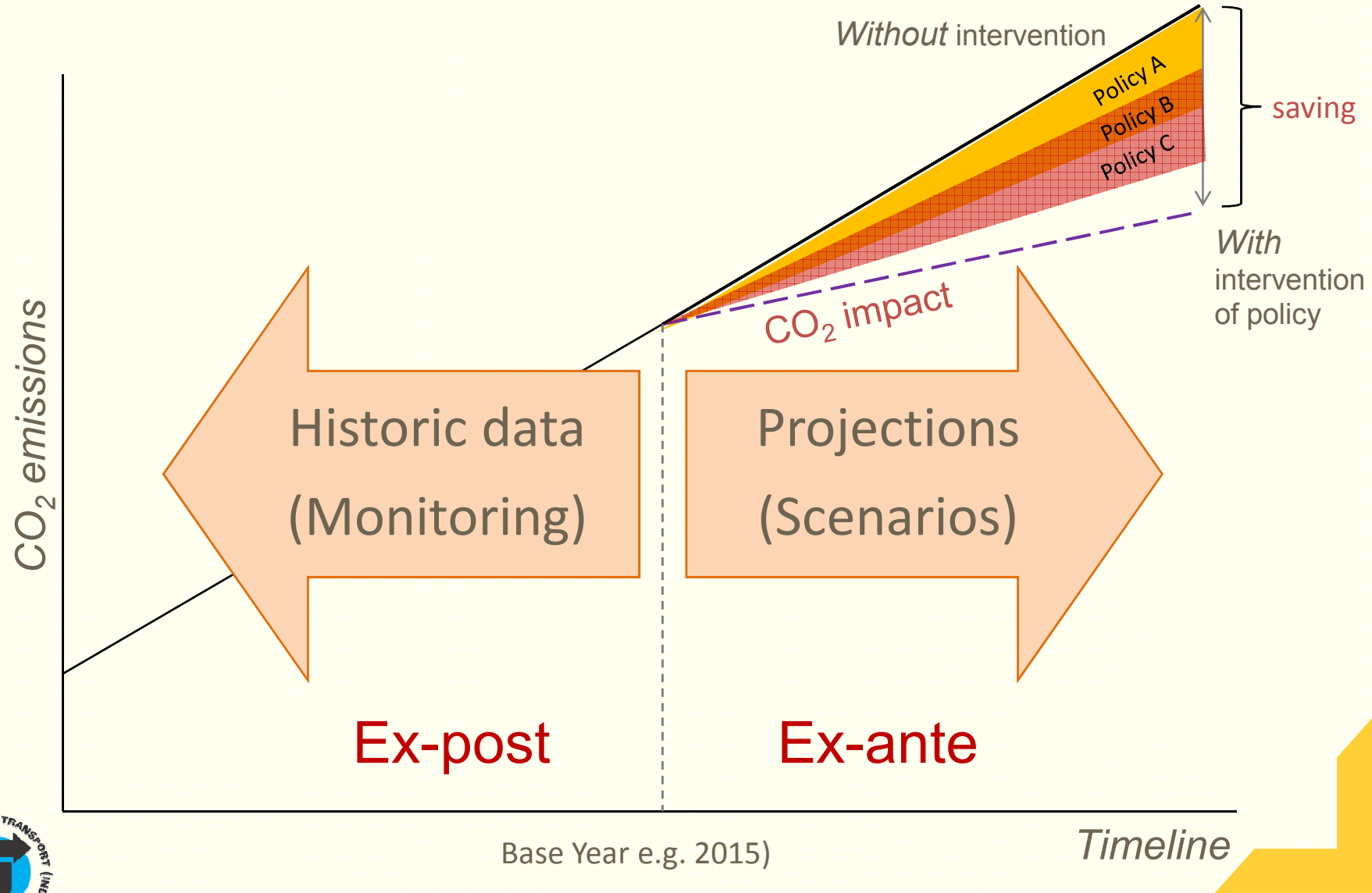


Fundamental formula for calculation of traffic related emissions

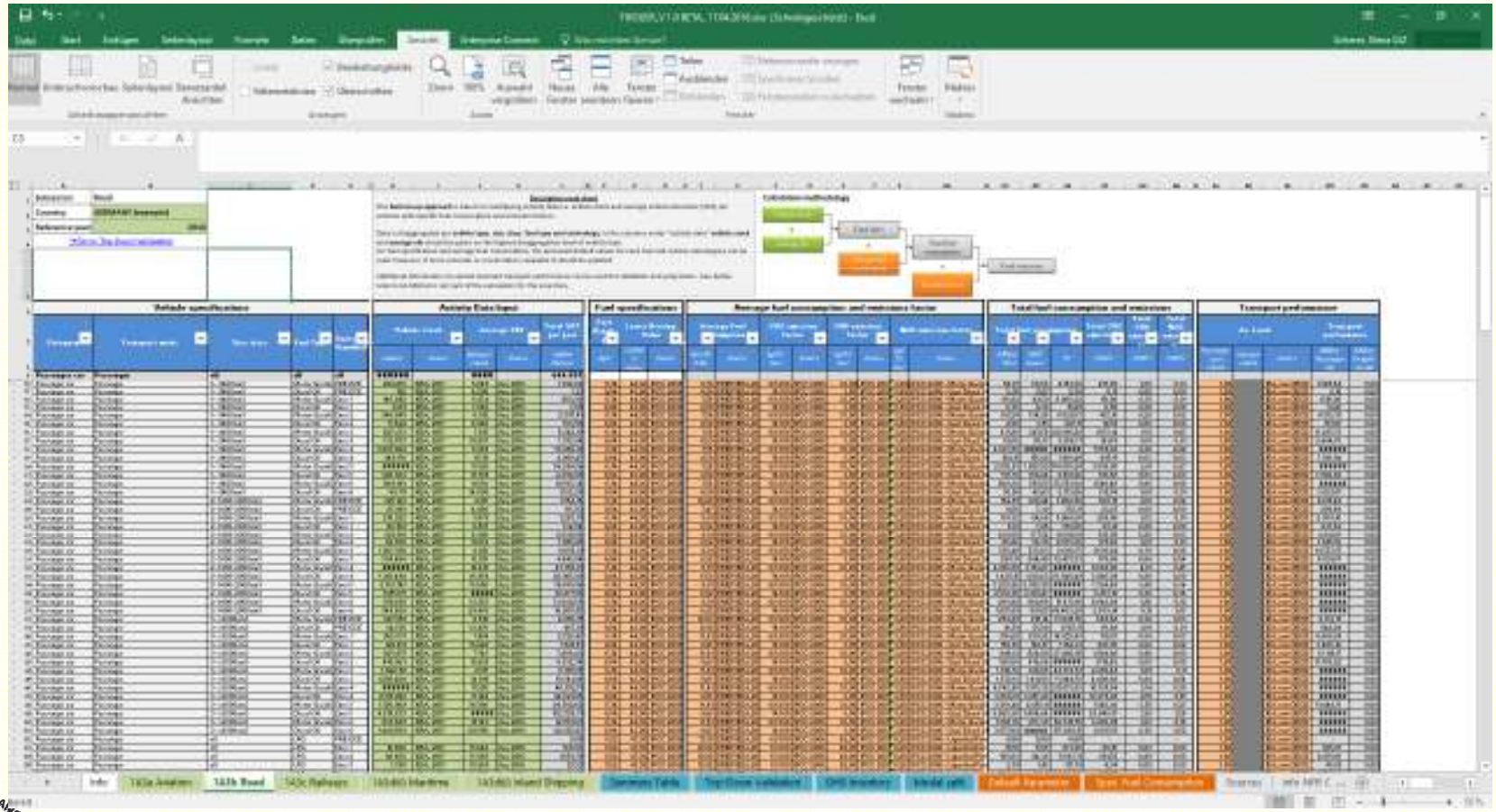


Where:

i: the type of activity, could be of multiple dimension

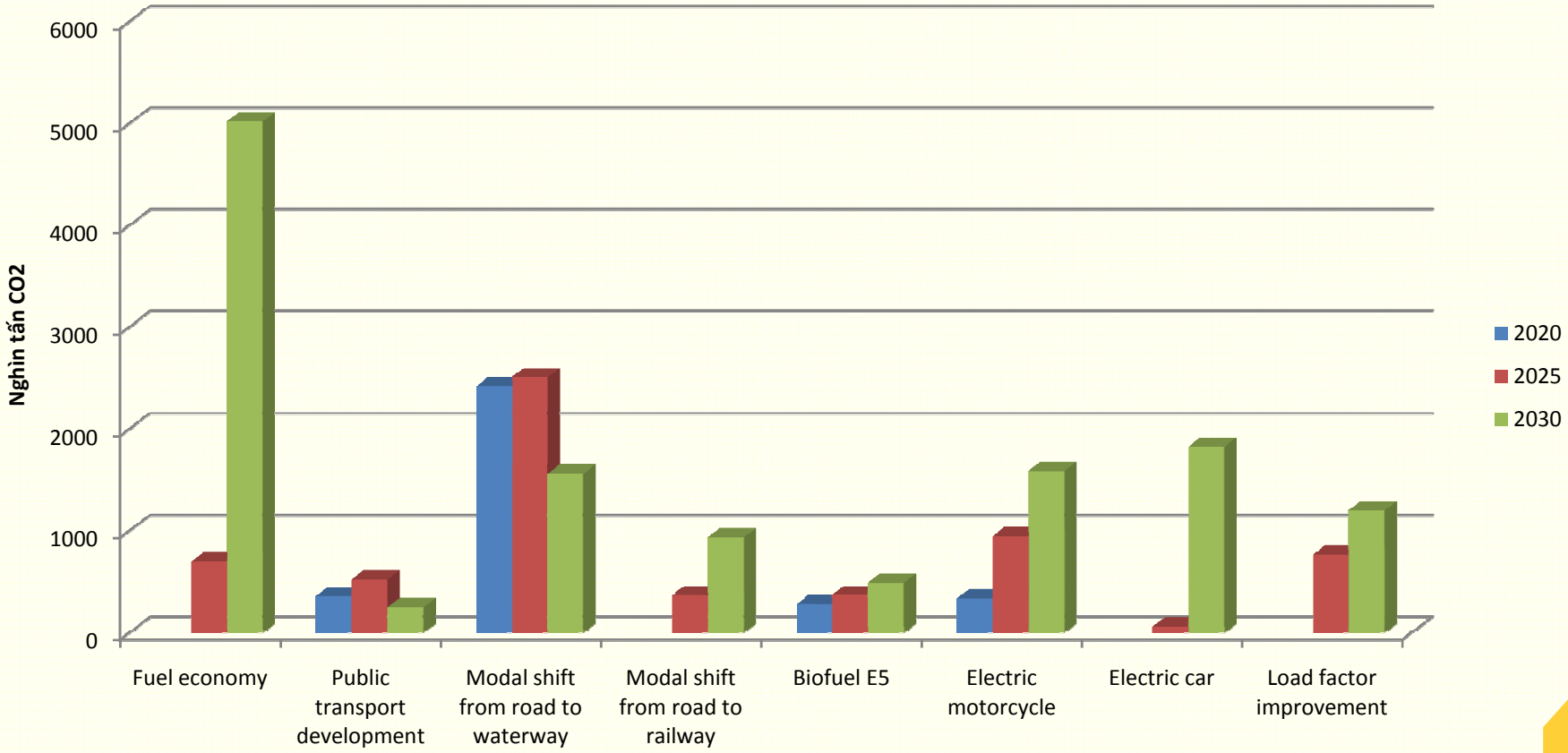

Without intervention
Policy A
Policy B
Policy C
saving
With intervention of policy
CO2 impact
CO2 emissions
Historic data (Monitoring)
Projections (Scenarios)
Ex-post
Ex-ante
Base Year e.g. 2015)
Timeline

Vietnam: TRIGGER & EFFECT Simplified and complex tools



TRIGGER: Road Module

Preliminary results from emission scenarios in Vietnam



∑ total CO2 emission reduction in 2030 = 12,370 thousand tons

Conclusions for Indian Cities ...

... towards low carbon transport systems

1. Analyse transport data and indicators to **monitor implementation** of policies.
2. Use the same data to **analyse greenhouse-gas impacts** in detail – tools are available.
3. Develop ambitious but feasible energy / **GHG saving targets** in transport and link to global UNFCCC agenda.

Mobilise Your City

100 cities engaged in sustainable urban mobility!

20 countries develop national urban mobility policies!

Version 4/2017

European Commission

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety of the Federal Republic of Germany

ADEME

AFD

Cerema

CODATU

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Thank you!

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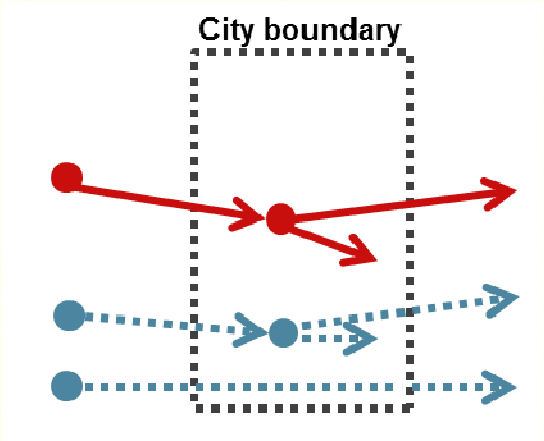
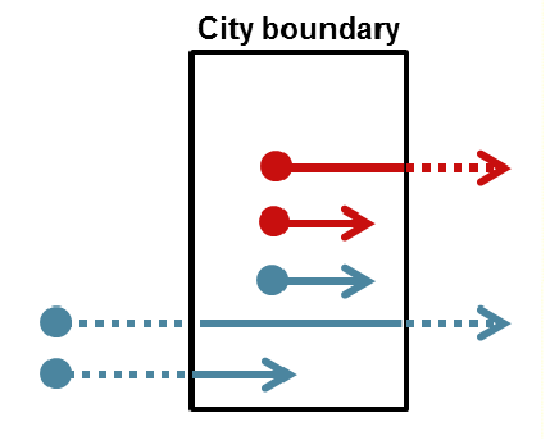
http://www.changing-transport.org

Boundaries: transport activities

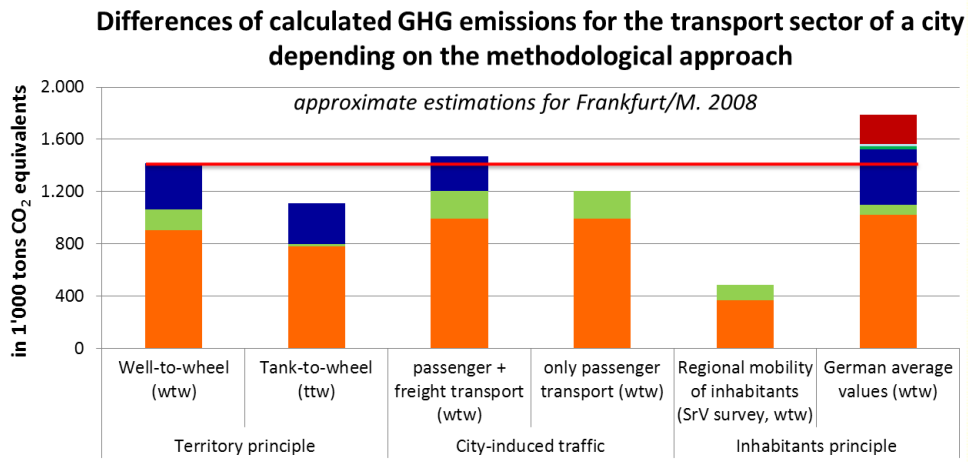
Traffic of **inhabitants**



Traffic in the **territory**

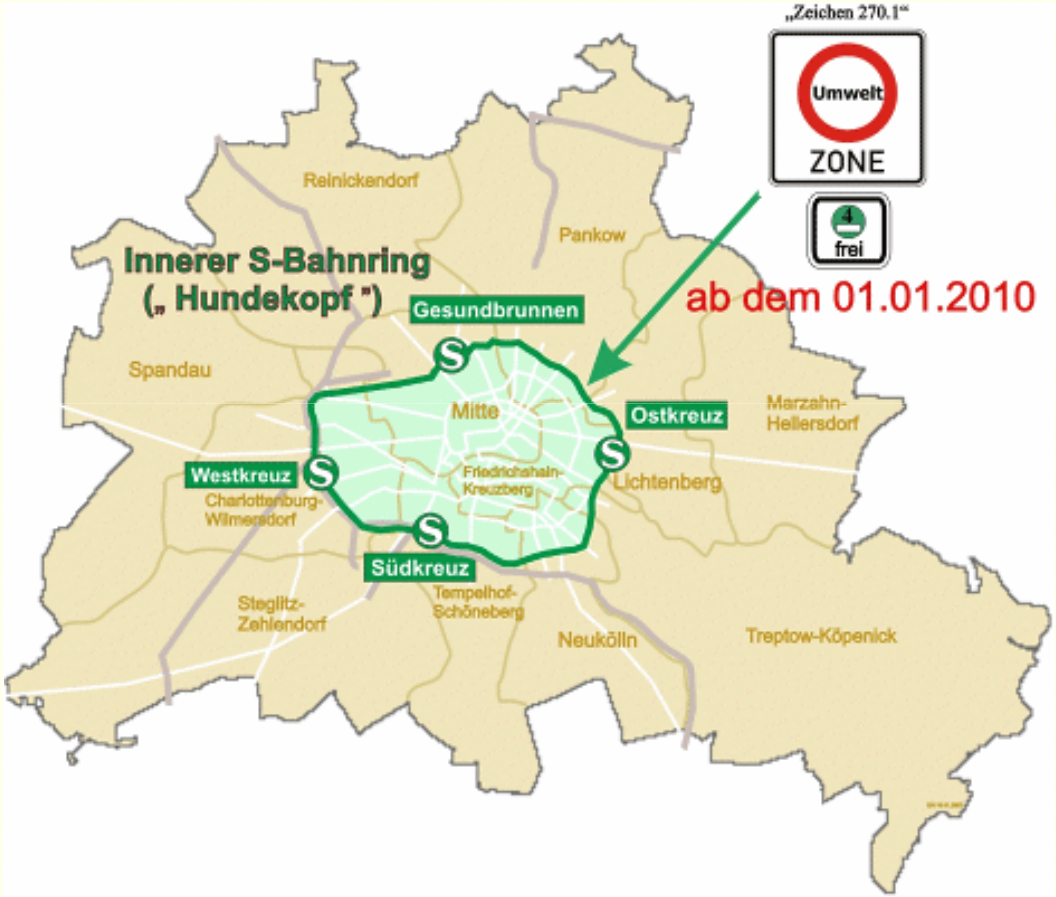


Differences of calculated GHG emissions for the transport sector of a city depending on the methodological approach



Accounted
Unaccounted
Inhabitant
Visitor

Environmental Zone in Berlin



Only EURO4 vehicles are allowed to the inner city!

Fleet modernisation

- New vehicles
- Retro-fitting of vehicles

Decrease of emissions

- Diesel exhaust particulates: - 58%
- NOx: - 20%
- NO2: - 5%
- PM10: - 7%
- Traffic induced carbon particulate matters: - 50%

Different levels of calculation of transport-related GHG emissions and air pollutants