

Key Performance Indicators for DRT: Scandinavian Experience

Presentation

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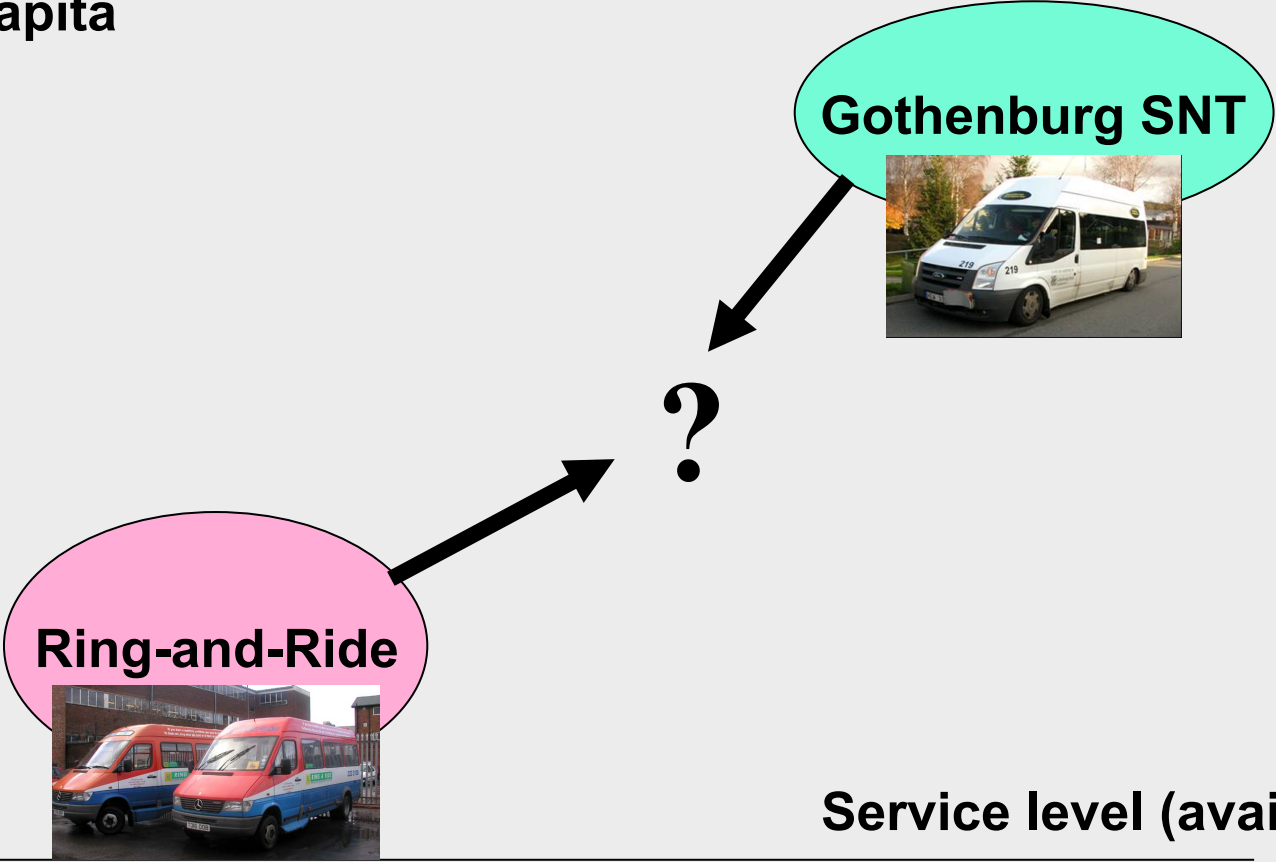
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Gothenburg vs. West Midlands (Birmingham region) - rough comparison of Mobility Services in 2002

Expenditures per capita

€40

€4

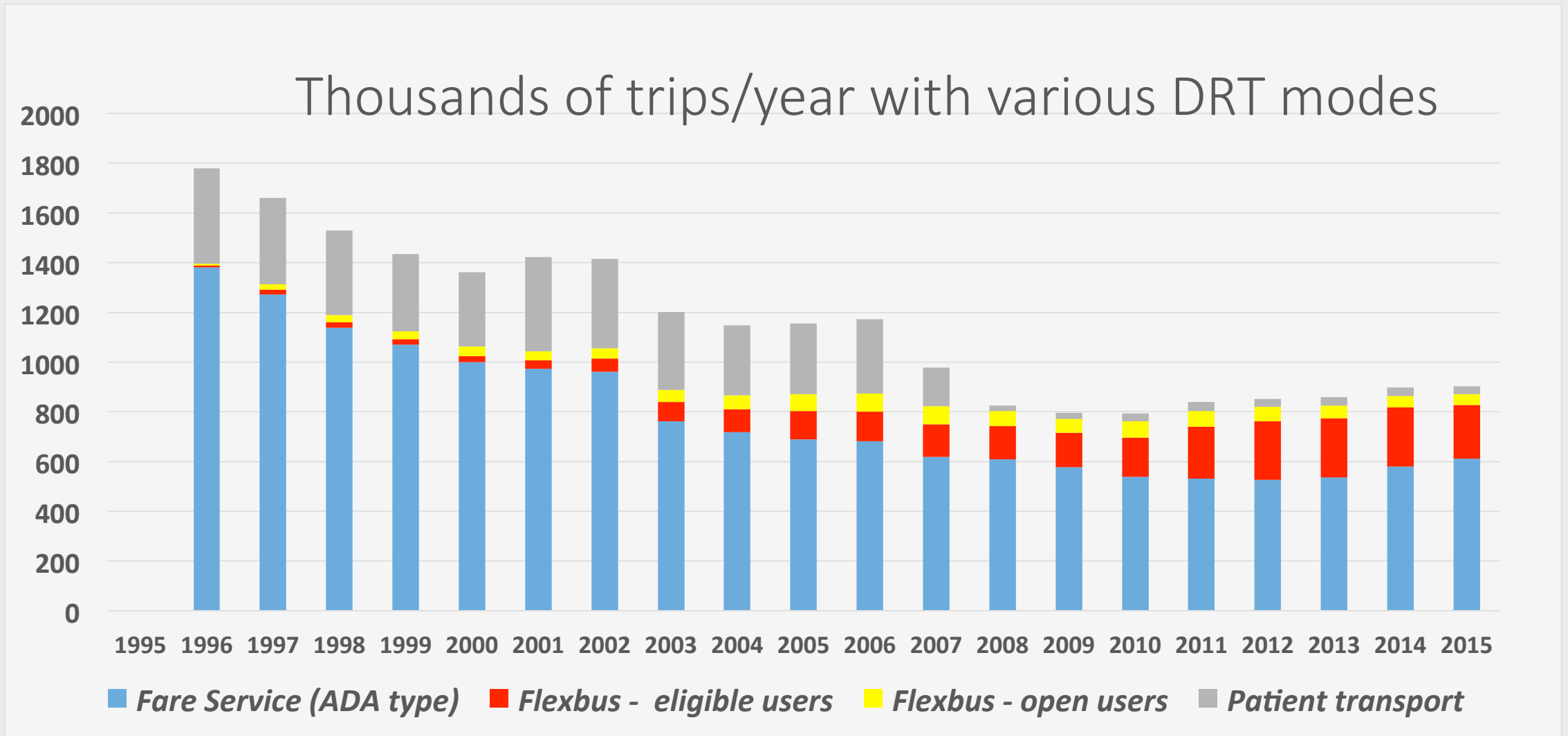


Municipal spending on Mobility Services for seniors (65+)

Comparison of two cities in Sweden 2015 - Preliminary

	Costs/year (M€)	Mobility share	Mobility per 65+ (€)
Gothenburg			
Expenditures for Elderly Care	400		
Expenditures for Mobility services (SNT/ADA type, Flexlinjen, Concessionary fares, 65+)	19	4 %	225
Lund			
Elderly Care	100		
SNT, concessionary fares, 75+	1.3	1.5 %	70

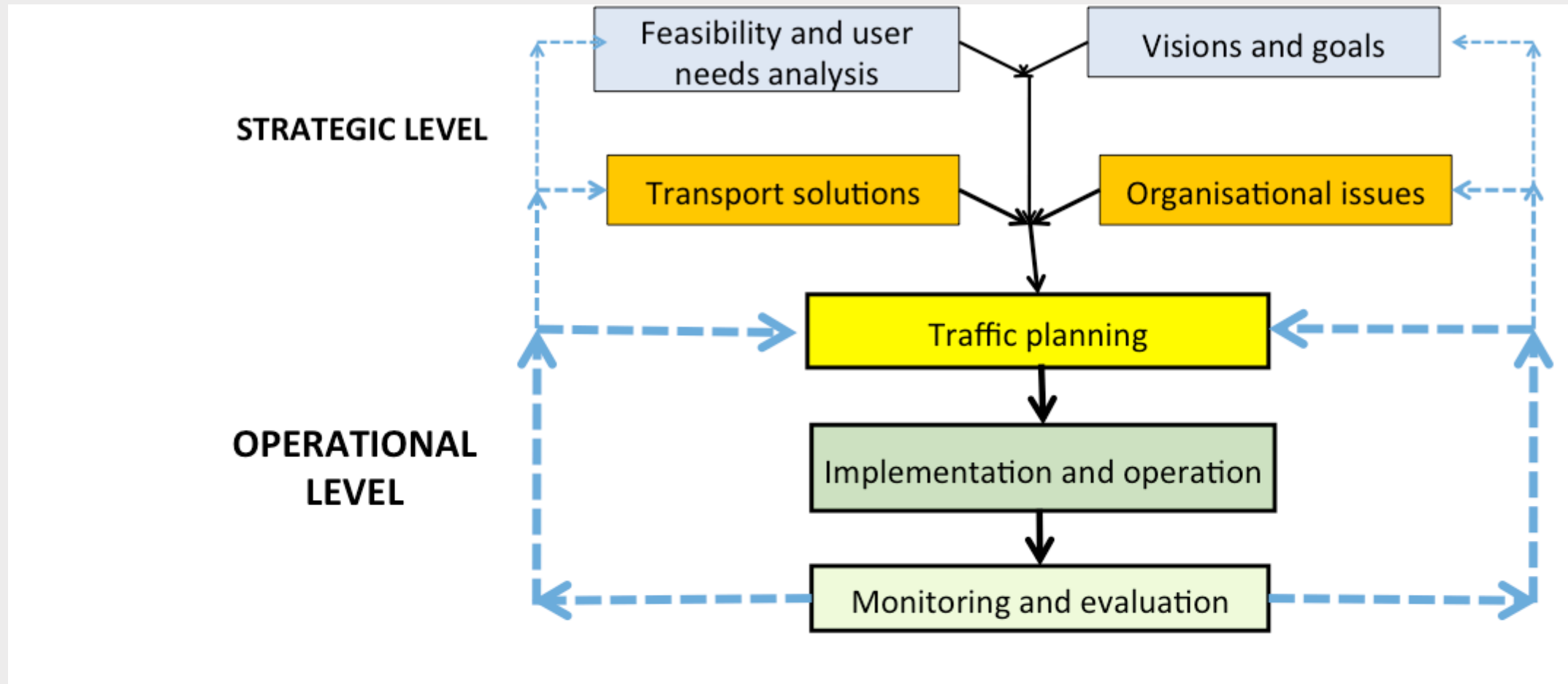
DRT ridership development in Gothenburg 1996-2015



Definitions (*partly from Litman, 2005*)

- **Performance monitoring** is an process to determine how well (or poorly) policies, programs, projects and systems perform with regard to their intended goals and objectives
- **Bench-marking** is a process to identify the best management practices that an organization can strive for (in comparison with its peers)
- **Open Comparison** is a transparent bench-marking effort where most or all of the outcomes are made available to the public
- **Performance indicators** are measures of effectiveness and specific measurable outcomes used to evaluate progress toward established goals and objectives.

Performance monitoring - an important element in the total planning process



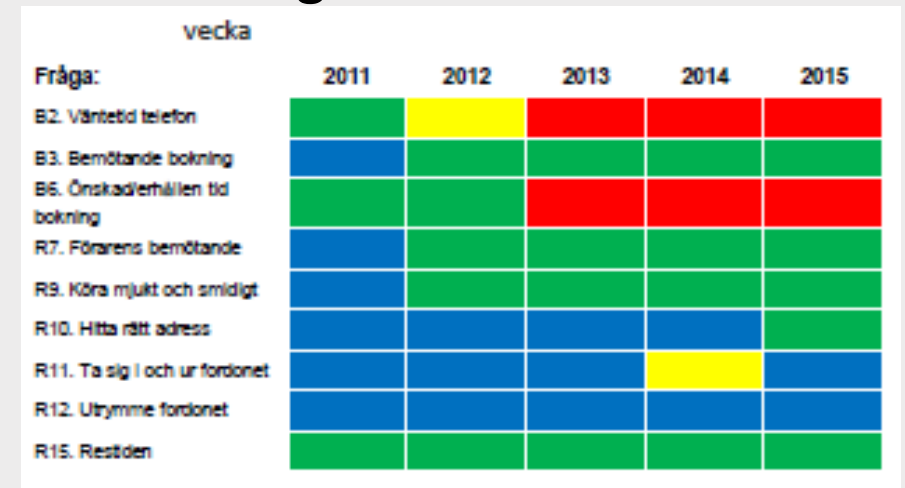
Common (and new?) KPIs for DRT

- Operational efficiency and effectiveness
 - Operating costs per passenger miles travelled (e g from NTD)
 - Operating costs per passenger trip
 - Operating costs per Direct Travel Minute (incl dwell-time)
- Operational productivity
 - Passenger trips per vehicle service hour or revenue hour
- Service quality
 - On-time-performance
 - Deviation time per total travel time
 - Systematic attitude surveys
- Safety and security (also in NTD)

ANBARO – The Quality Barometer

National DRT customer satisfaction benchmarking in Sweden

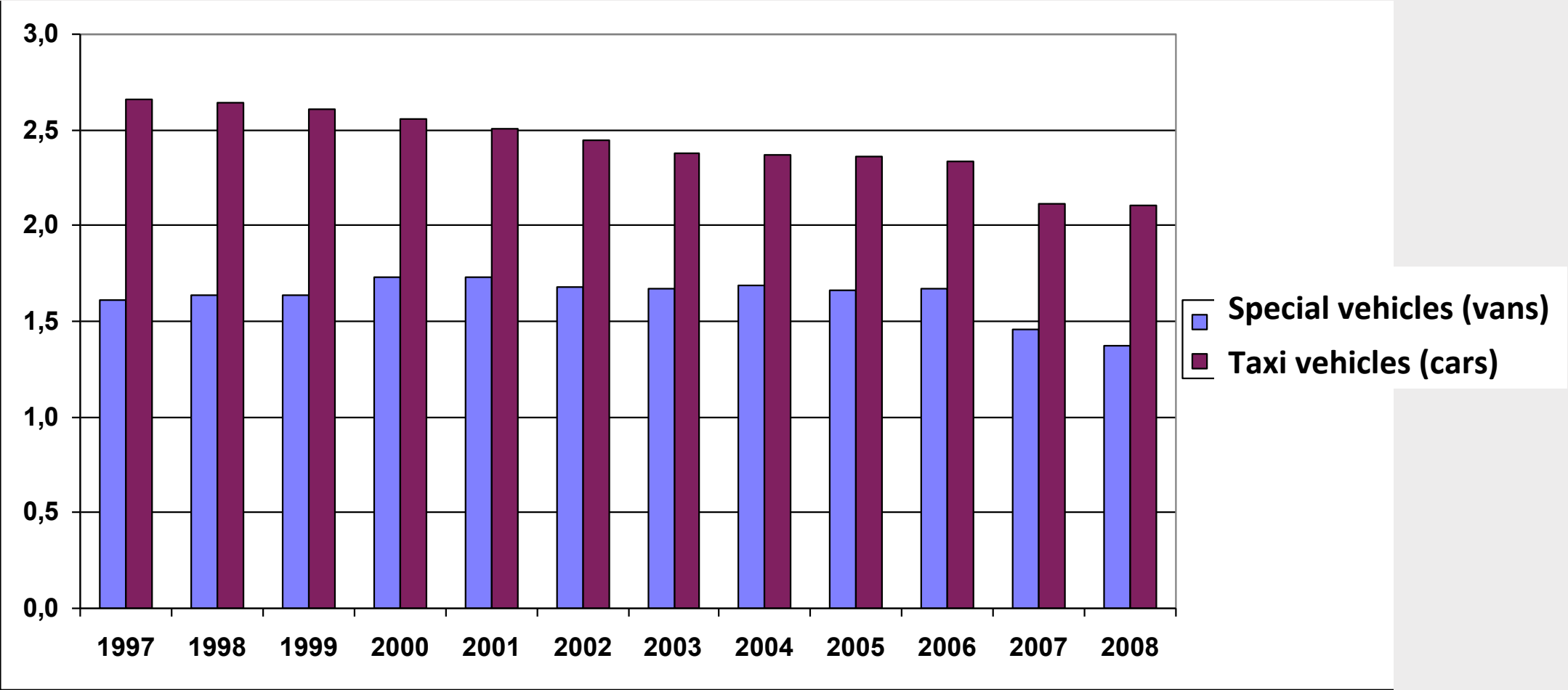
- Started 2004 with 9 agencies - now 19
- Managed by SPTA. Interviews by professional survey company
- Booking system data for sampling and background
- 2-8 interviews/day and agency, year round, (15 in Stockholm County)
- Circa 40 000 interviews/year (the day after trip)
- Perceived quality of latest trip – reflects the functional quality, not the overall assessment of brand.



Source: The Swedish Public Transport Association

Example – Productivity measurement over time

Passengers per vehicle service hour SNT in Gothenburg 1997-2008



Source: City of Gothenburg Special Needs Transport

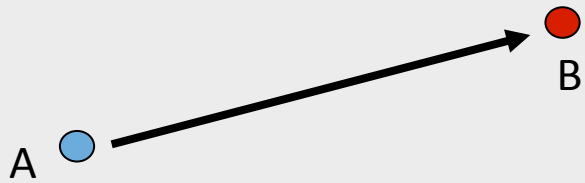
Roger's doubts...

“If Agency A has a productivity of 1.8 trips per hour, with a 6 mile average trip length, 25 % wheelchair users, and average travel speed (excluding dwell time) of 21 MPH, whereas Agency B has a productivity of 1.3 trips per hour, with a 10 mile average trip length, 40 % wheelchair users, and average travel speed of 15 MPH, so how do you benchmark services like that? How can you compare? “

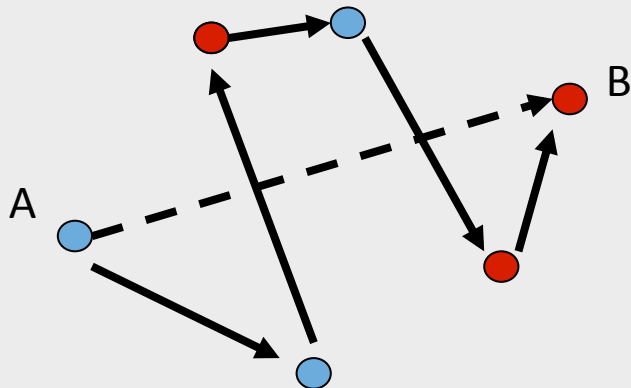
(Roger Teal, 2014)

Time based performance indicator(s)

Direct driving time A to B



Deviation time is extra time as a result of ride-sharing



Direct Travel Time is theoretical measure of times used in the planning process:

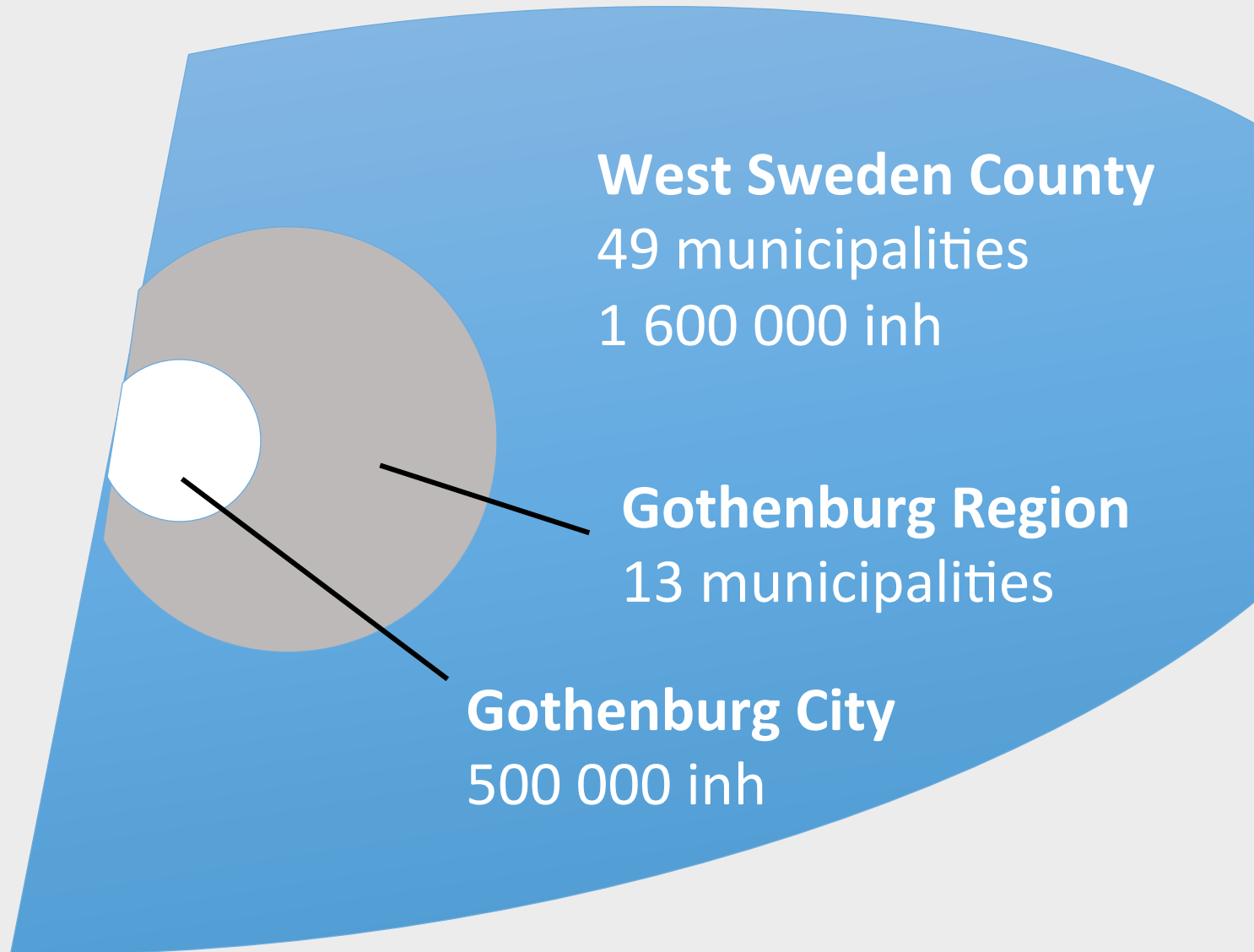
- **Driving time** from a travel time matrix or calculated from navigation database (can vary with time)
- **Service time (dwell-time)** for boarding and alighting according to customer needs (individual settings)

Deviation time can be used to calculate a quality measure:

Deviation Ratio =

deviation time/total travel time

West Sweden site description

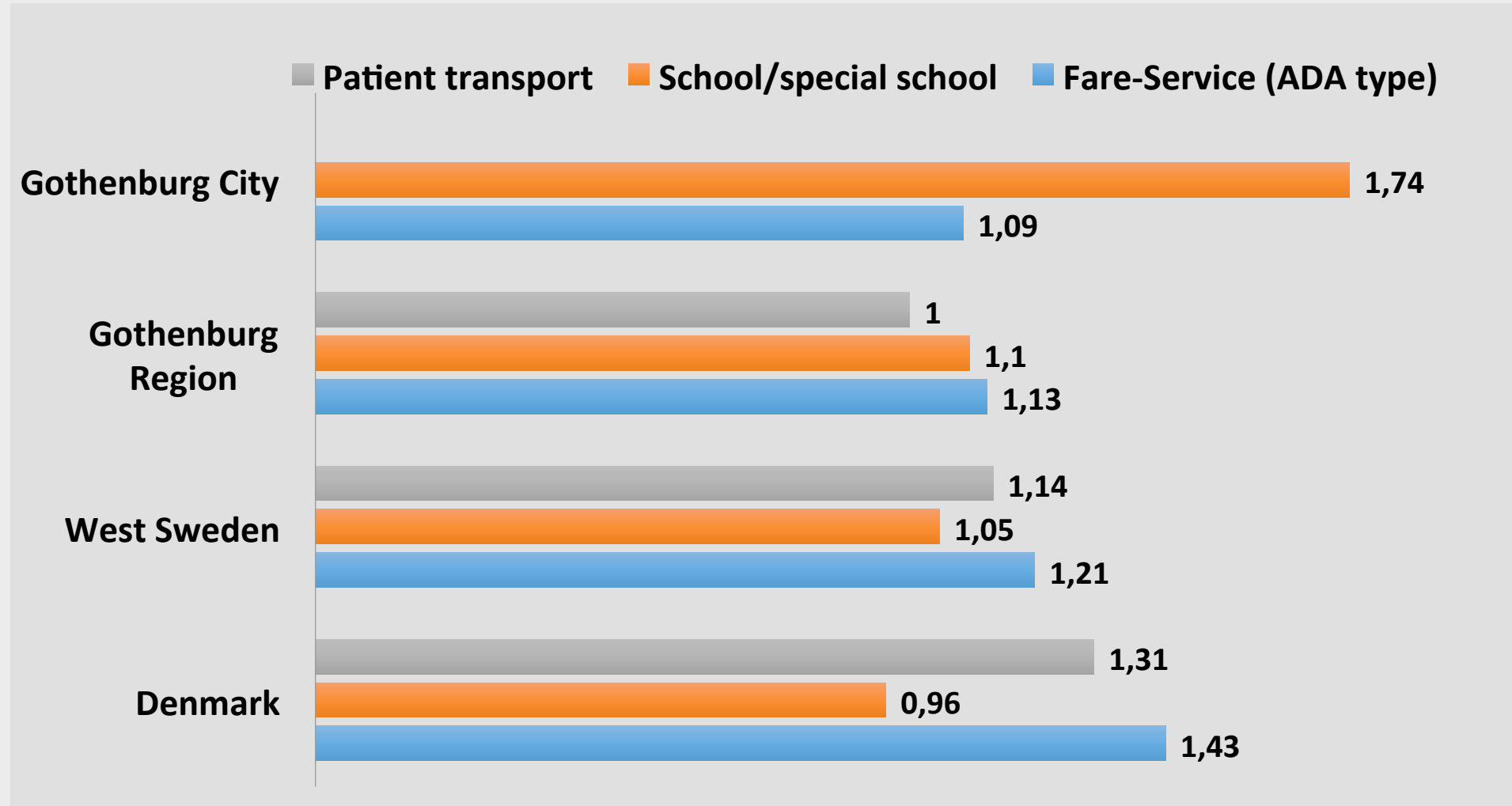


Västtrafik, the RTA, integrates (1) regional patient transport in all 49 municipalities and (2) Various DRT services for most other municipalities except

Gothenburg City, that has its own DRT organisation for municipal DRT services and the open Flexlinjen minibusservice for seniors operated jointly with Västtrafik

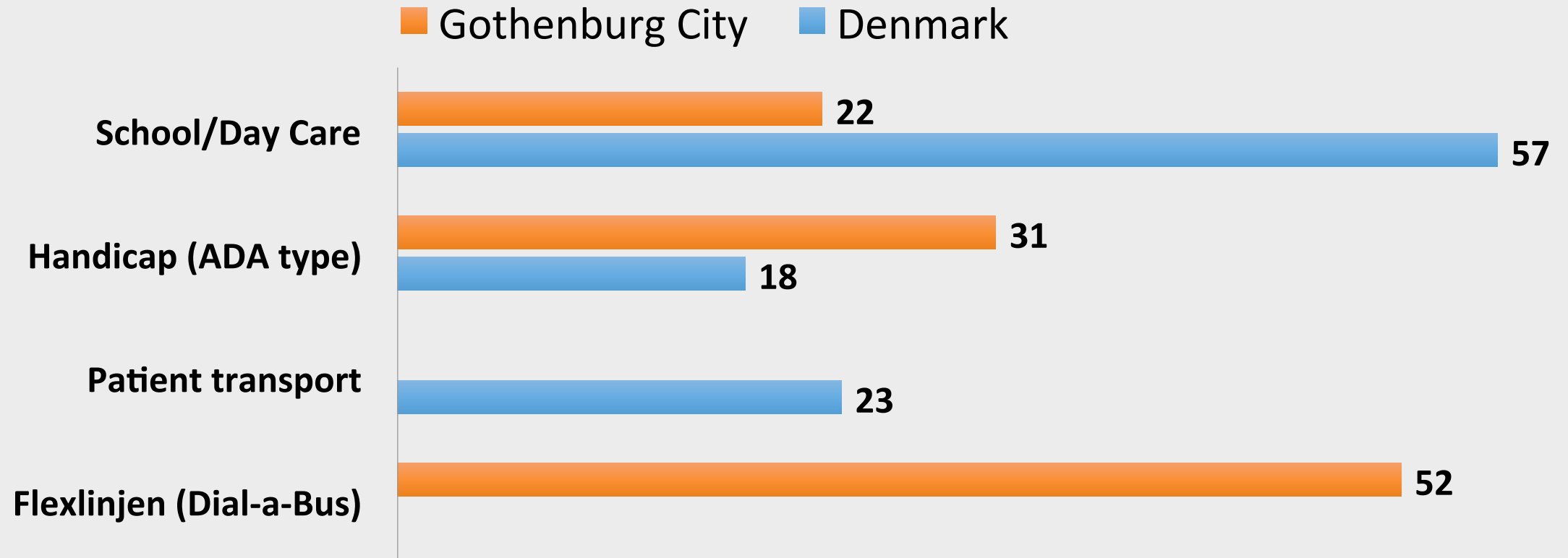
DRT Cost Efficiency– Examples of time based measurement

Operational costs per Direct Travel Minute (USD) - Sept. 2015 - Preliminary



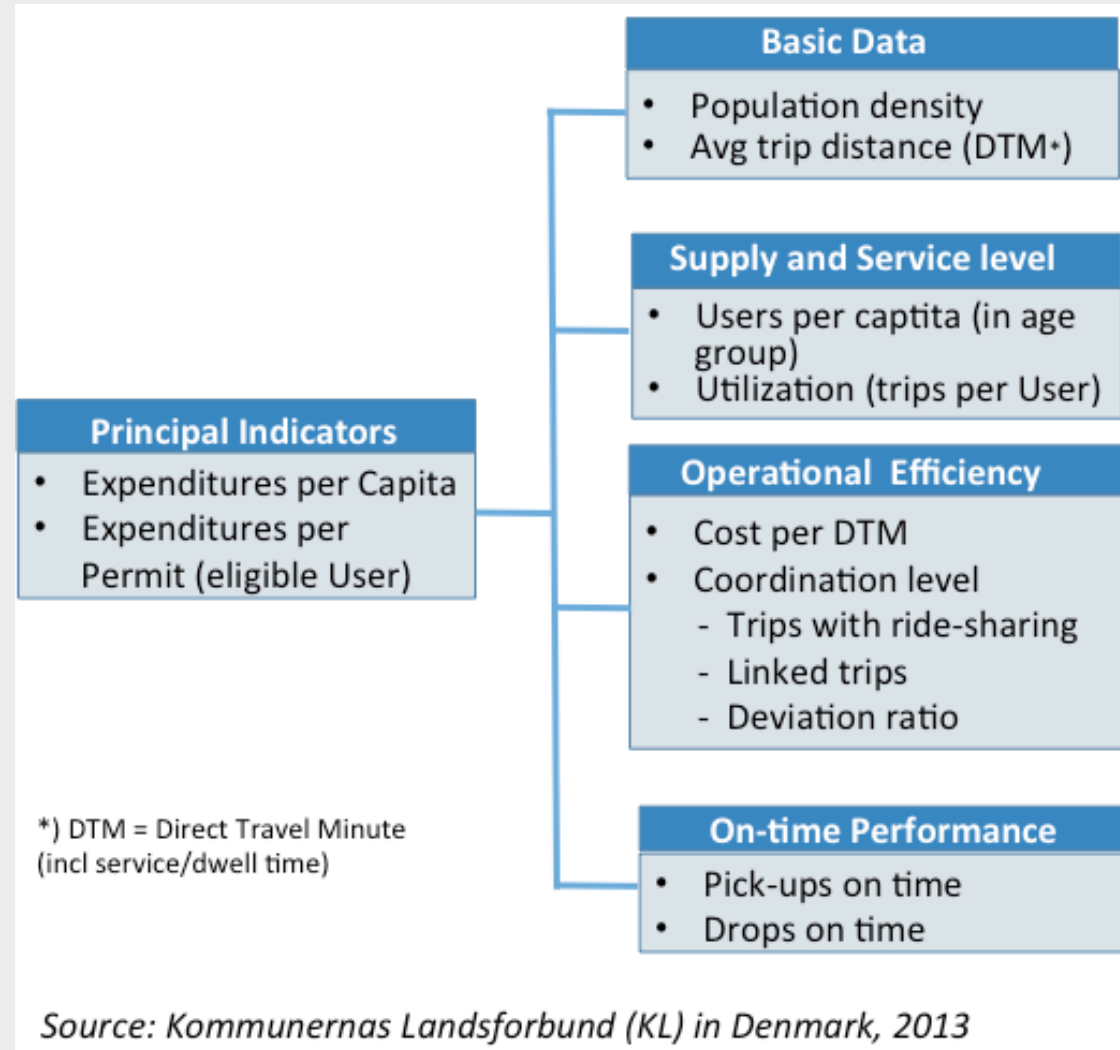
Deviation Ratio example - 2015- Preliminary

Deviation time/Total travel time (%)



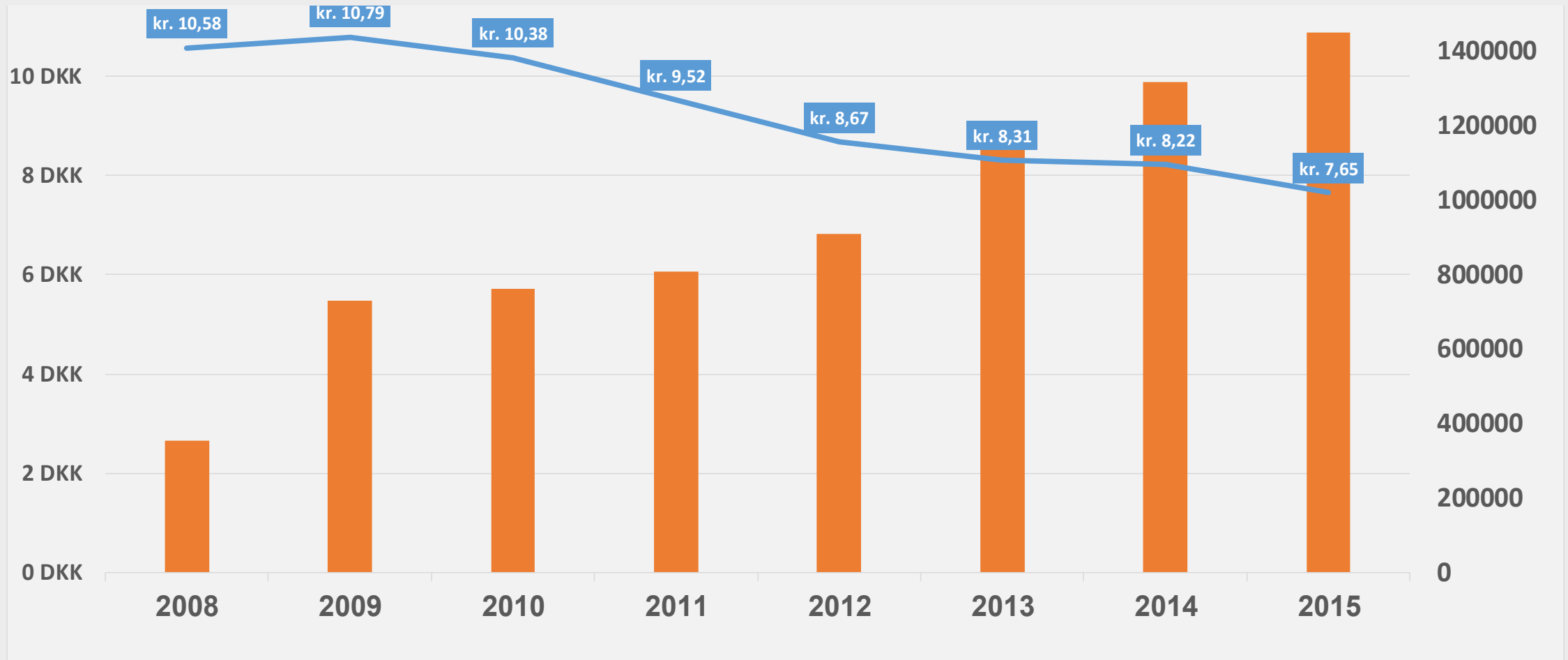
National Framework for KPI in Denmark

- Study committed by Finance Ministry 2012
- Developed by Deloitte Consultancy
- Managed (incl instructions) by National Municipal Association (KL)
- 13 selected indicators
- Data collection and presentations by FlexDanmark (or by individual Municipalities that are still not part of regional coordination efforts)



Example - Cost efficiency over time in Sjælland (Denmark)

Operating cost per Direct Travel Minutes and total DRT volume (trips per year) for Movia.



Source: Movia, the RTA of Sealand (Copenhagen region), 2016

Discussion

Potential for collaboration

- **Definitions and measurements.** What is a passenger? A direct travel minute? Operating costs?
- **Data collection – and standardization** – how to get system suppliers to deliver comparable data to NTD /other databases
- **Data quality** - right detail level to increase motivation/compliance

Closed bench-marking or open (transparent) comparisons?

How do we go forward?

- **Who are willing to cooperate?** Large providers of open and integrated DRT? Service- and/or system suppliers?
- **How, When and Where?**