



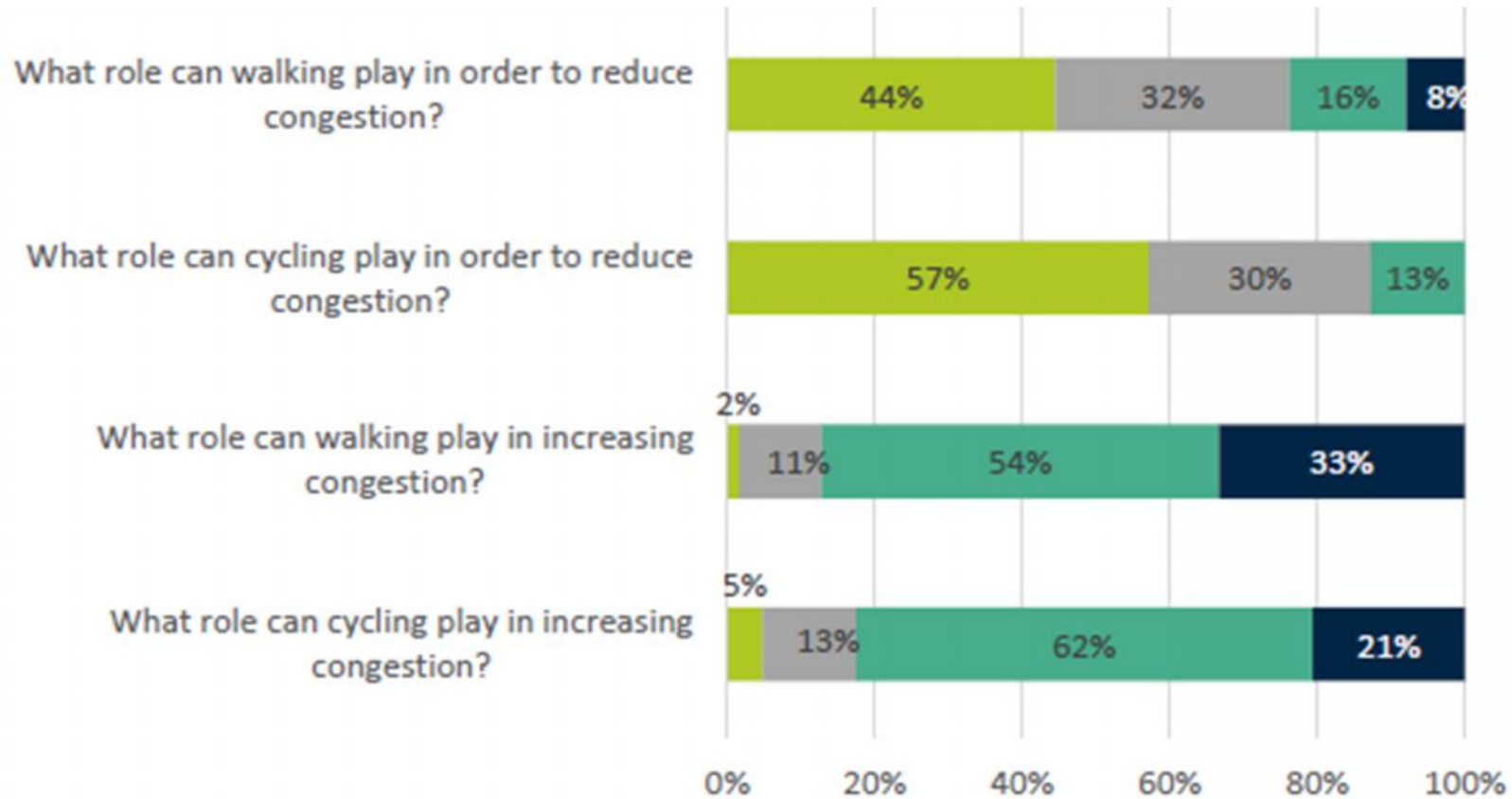
# The FLOW Conceptual Framework

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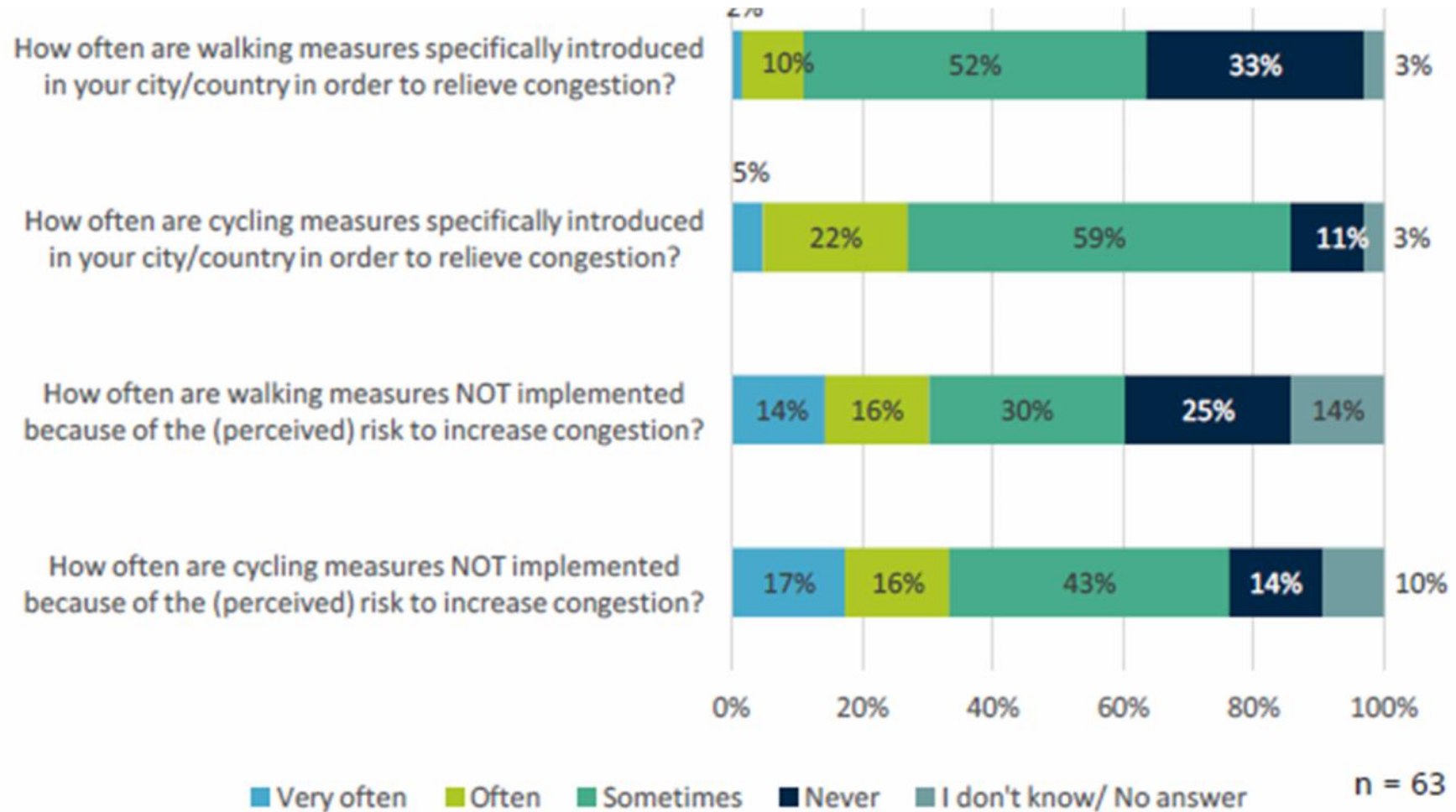
# Impacts of walking/cycling measures on congestion



n = 63

■ A very important role   ■ An important role   ■ Some role   ■ No role

# Actual implementation of congestion reducing walking/cycling measures



# Walking and cycling measures: A typology

## Infrastructure for moving traffic

- Cycling infrastructure (e.g. bike lanes, cycle highways)
- Walking Infrastructure (e.g. footpaths)

**Infrastructure for non-moving traffic** (e.g. bicycle stands, or benches and squares),

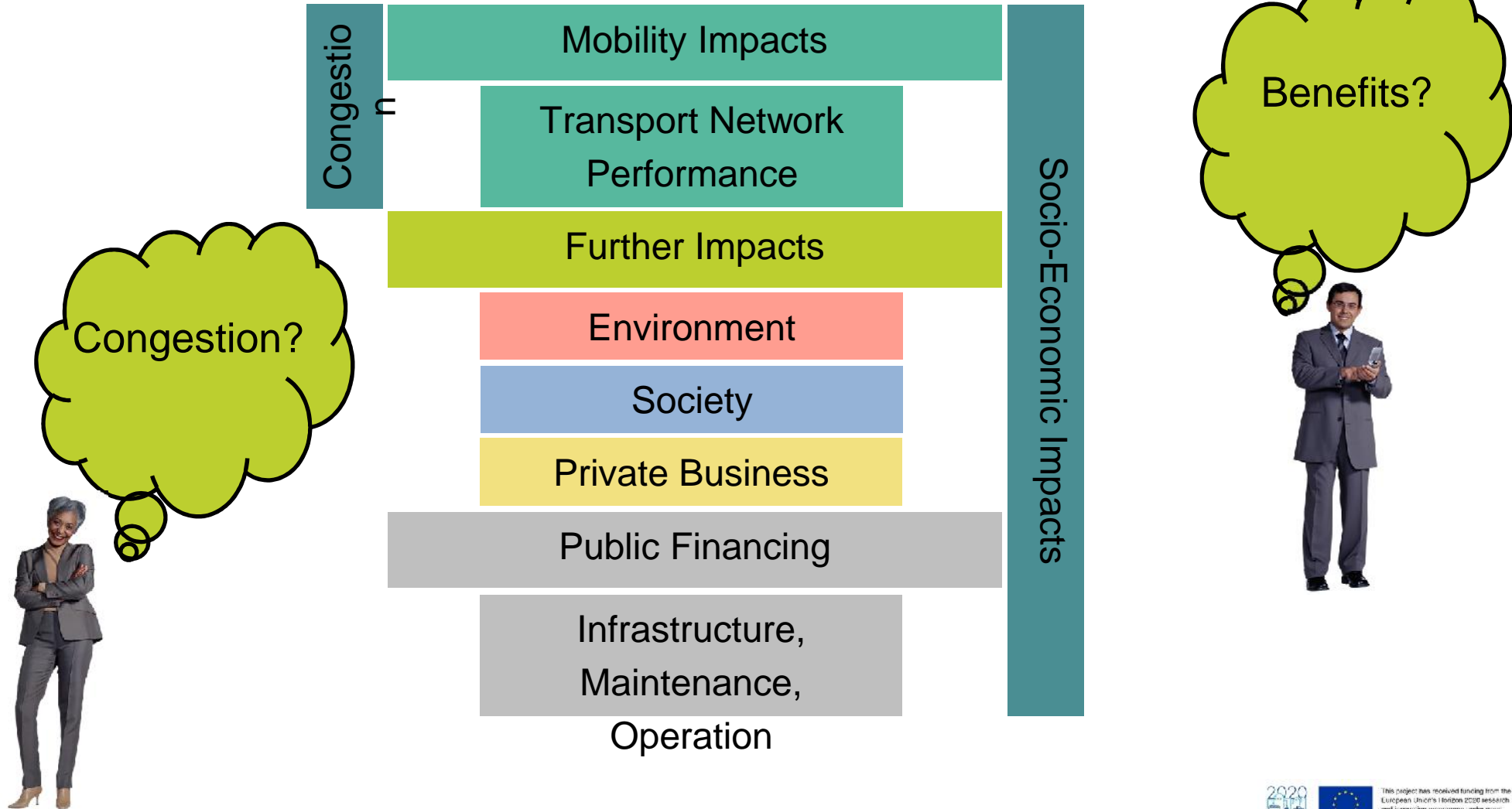
**Traffic management strategies** (e.g. traffic signals, access restrictions),

**Mobility management** (e.g. campaigns),

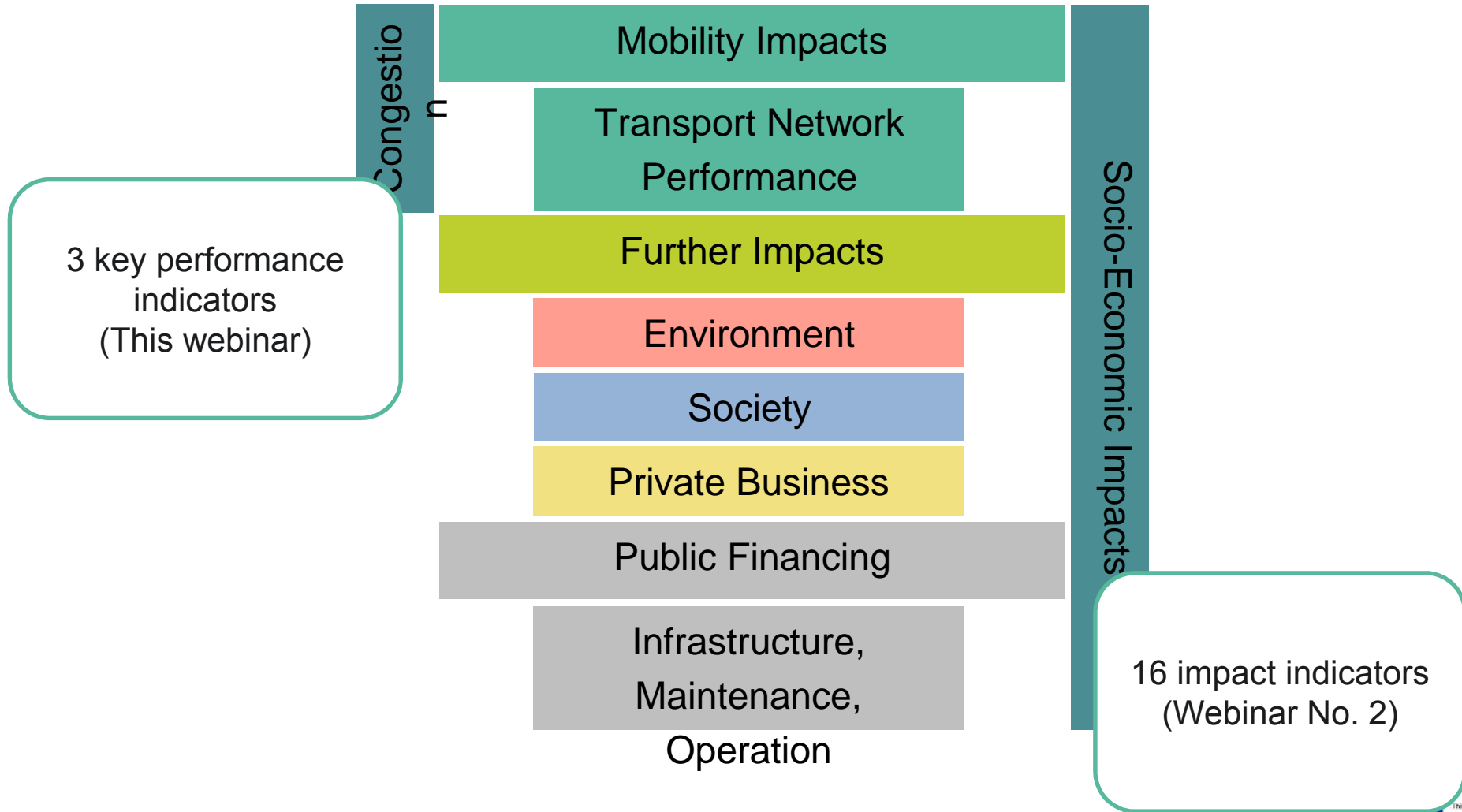
**Other measures** (e.g. road removal).



# FLOW impact assessment overview



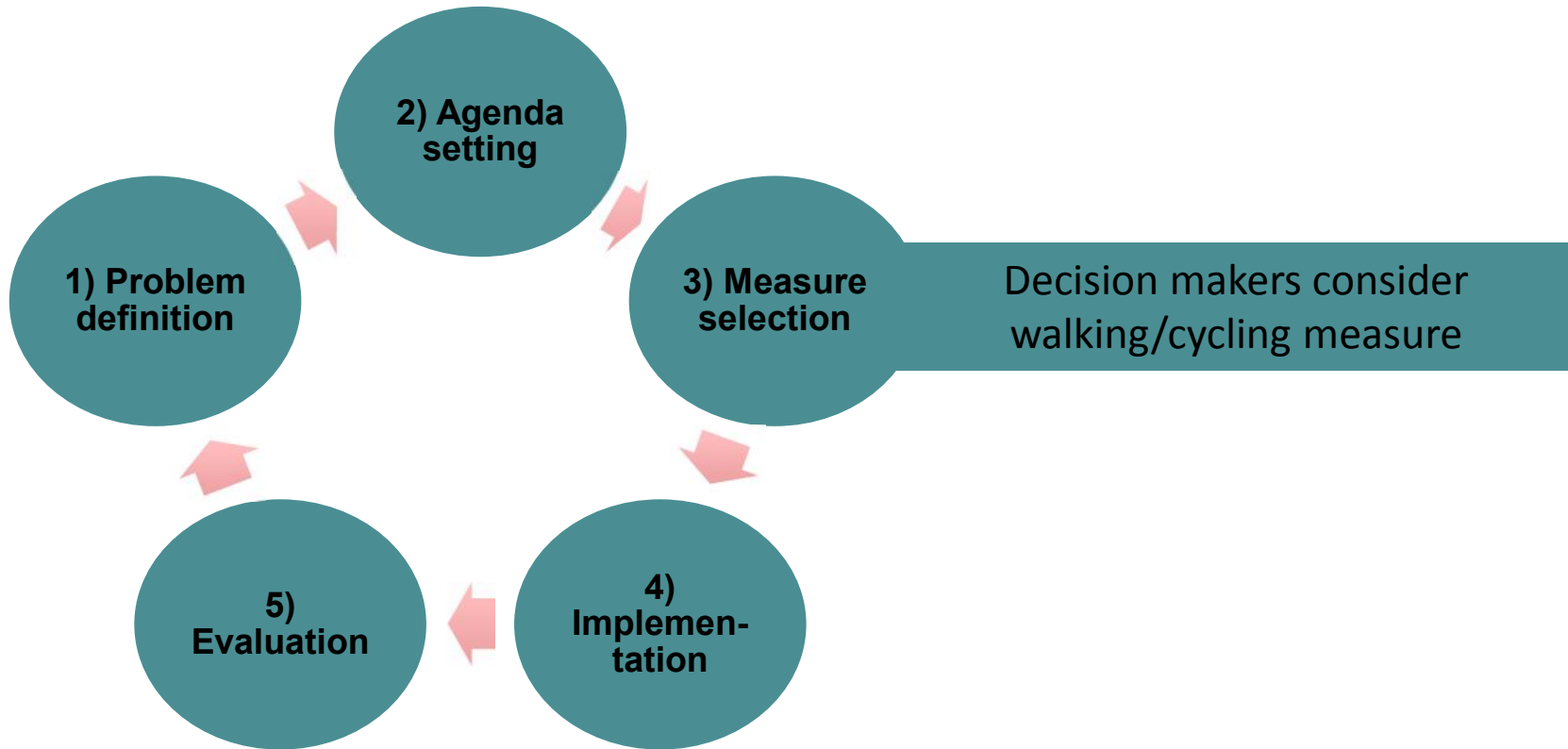
# FLOW impact assessment overview



# Indicators for impact assessment

Scope of target	3 performance indicators	16 impact indicators
Mobility impacts	Delay Density Level of Service	Total travel time
Environmental impacts		GHG emissions NOx emissions PM emissions Land consumption
Social impacts		Traffic safety: killed persons Traffic safety: injured persons Health benefits Increased access Social interaction
Economic impacts		Vehicle operation Energy consumption Commercial attractiveness Residential attractiveness
Cost avoidance		Investments Operation and maintenance

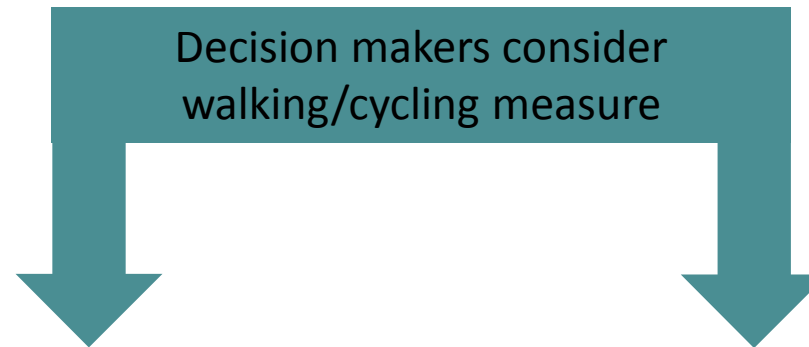
# Support for decision making



policy cycle of urban transport measures



# Support for decision making



## Congestion likely?

Calculate transport network performance

	Delay	LOS	Density
<b>Junction</b>	X	X	
<b>Corridor/ network</b>	X	X	
<b>Segment</b>		X	X

## Positive or negative wider impacts?

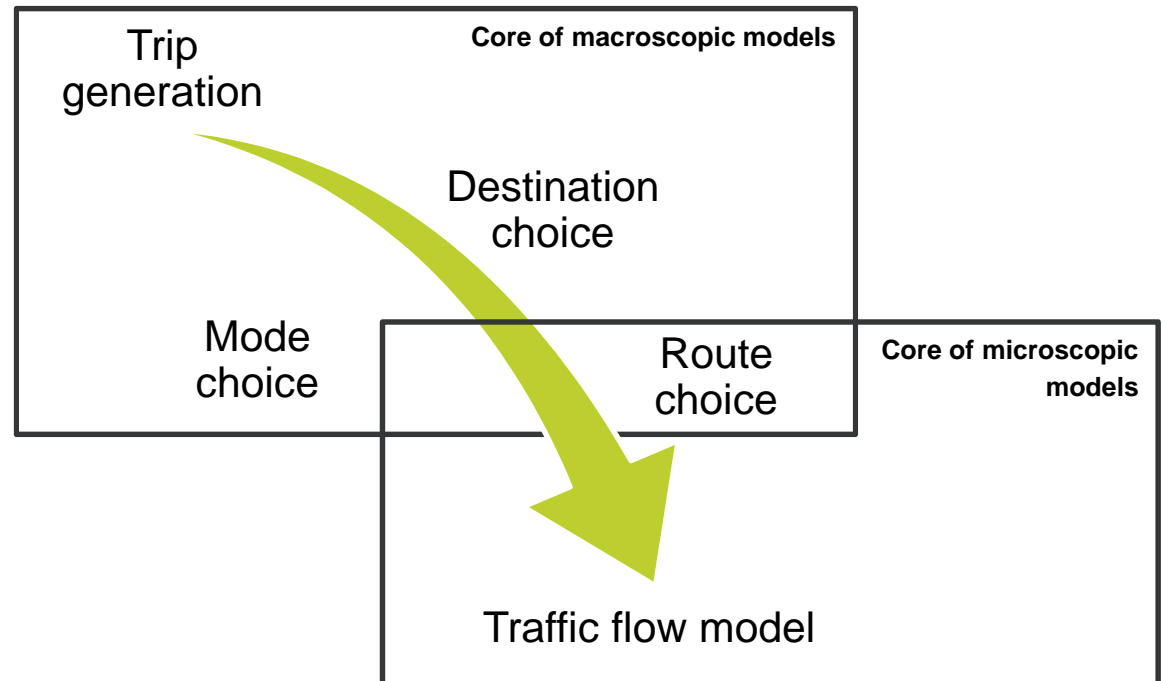
Calculate wider costs and benefits

Analysis of up to 16 impact indicators

# How does modelling fit in?

Transport models provide crucial input data for the impact assessment:

- travel time (delay)
- density
- CO<sub>2</sub> emissions, local pollutants
- other input, e.g. for economic and social indicators



# Data requirements & budget considerations

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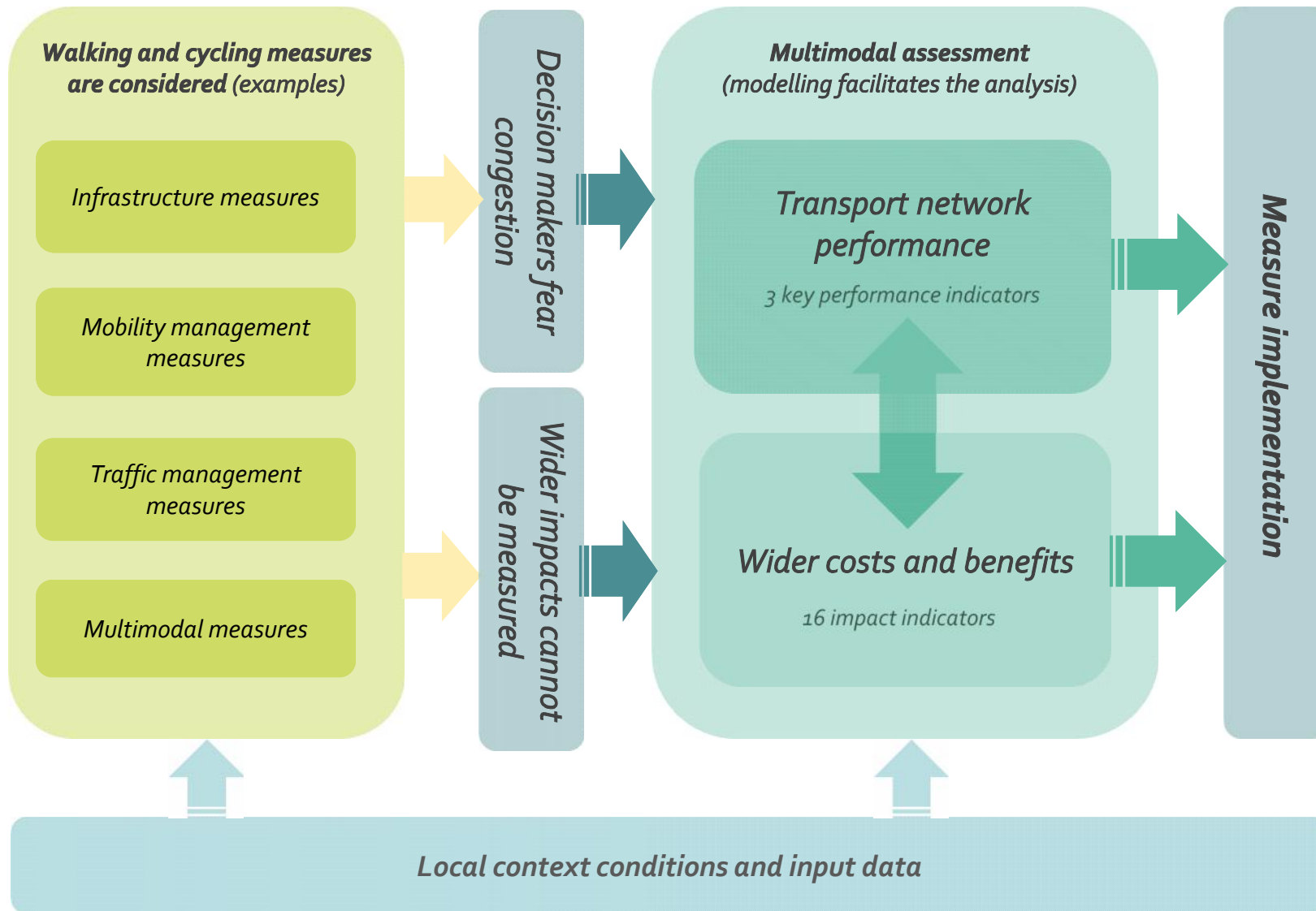
**Data** can be gathered from the following sources:

- Transport models
- Local statistics, including traffic counts and household surveys
- Official statistics from other private and public bodies
- Scientific studies and research projects
- National and international databases

**Budget** considerations may be relevant. A (walking/cycling) measure has to be in line with the municipality's household. Two out of the 16 indicators of the FLOW socio-economic analysis may be used to calculate a measure's direct cost:

- investment cost,
- operation and maintenance.

# The process: an overview



Questions?