



## Regulating Vehicle Access for improved Livability

# ReVeAL Building Blocks and Development Process

ReVeAL webinar, May 18  
Koos Fransen, Ghent University



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Separates  
the men from  
the boys.

There are boy-type cars. And there are man-type cars. And Toronado is all man, all the way. Its styling is bold, brawny and massively male. Its handling is authoritative—thanks to the pulling power of front-wheel drive. Its ride is revolutionary, sure, unique—different from any other car.



Toronado.  
Test drive the front-wheel-drive  
"youngmobile" from Oldsmobile.



THE NEW MG 1600



GOES FASTER

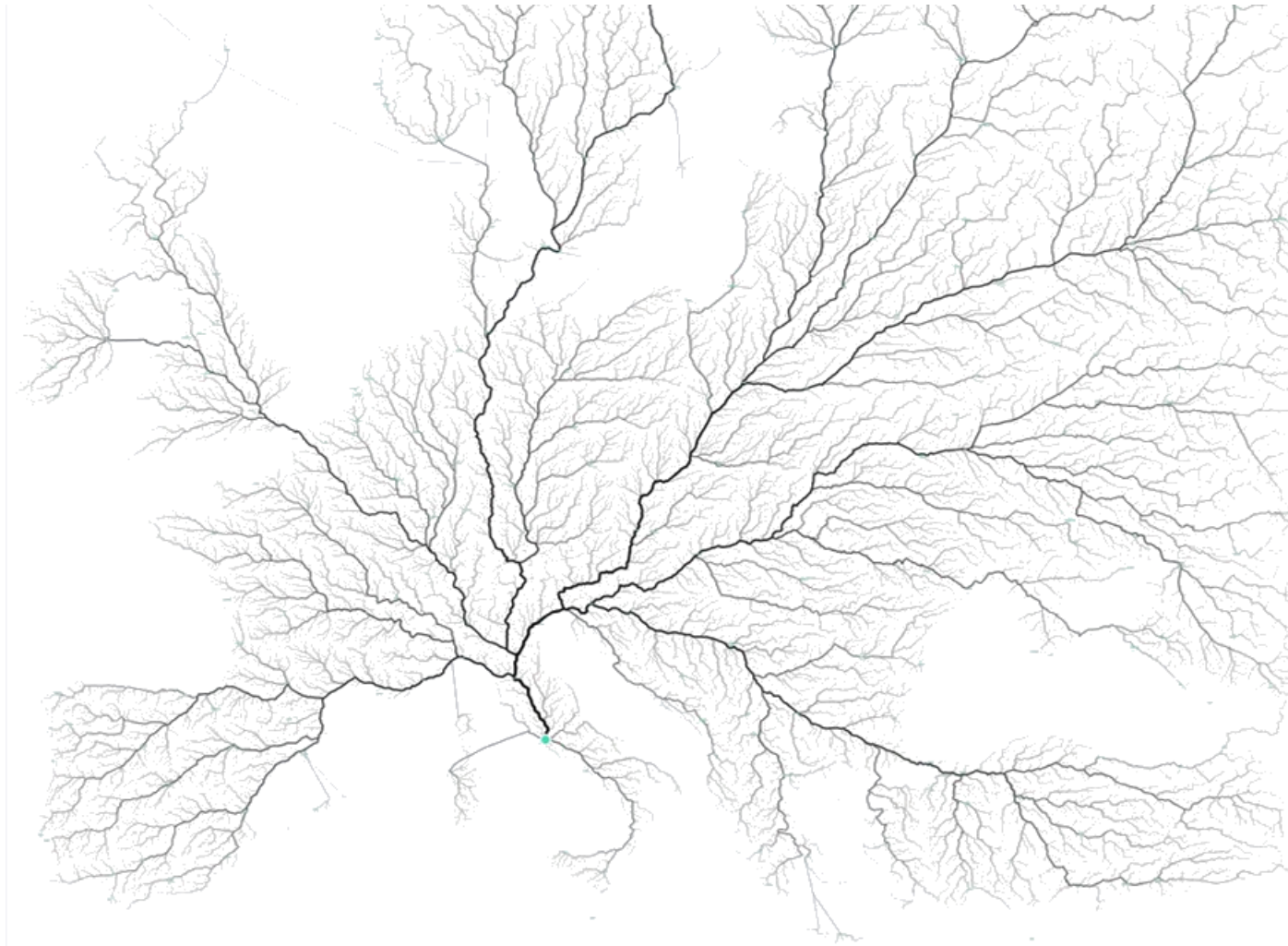
STOPS QUICKER!

Picks up five  
times  
more women  
than a  
Lamborghini.





leads to the maximization of personal mobility...



‘All roads lead to Rome’, a common proverb that illustrates our extensive road infrastructure network



The automotive city and suburban sprawl, leading to inefficient spatial planning, reduced efficiency/safety for alternative transport modes, (highway) road congestion and detrimental effects, such as smog





Congestion in kmh/day (blue lines, source: Verkeerscentrum Vlaanderen)



Distancing and public space (source: Post Corona Talks - VRP)



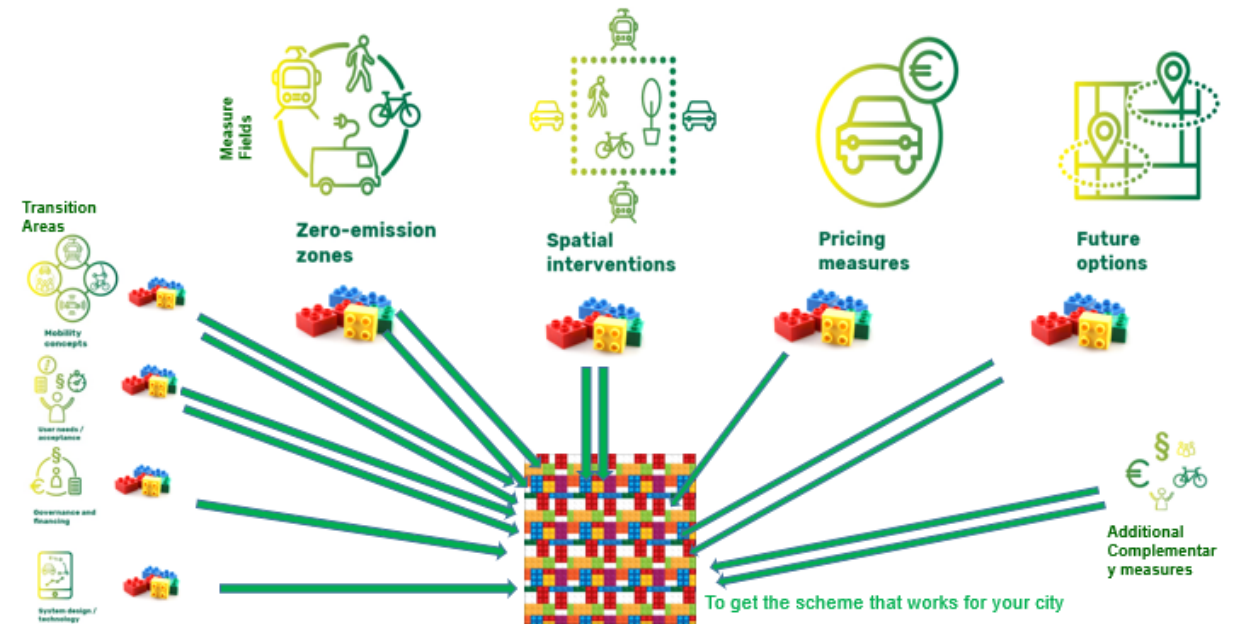
Pop-up cycling street Ghent (source: Filip Watteeuw)

## (1) Building block methodology (2) UVAR development process

Different UVAR strategies will be developed, implemented and tested in the cities of: Helmond (NL), Jerusalem (IL), London (UK), Padova (IT), Vitoria-Gasteiz (ES) and the project leader Bielefeld (DE)



## Urban change management through UVAR assessment



ReVeAL building block schematic (source: Lucy Sadler)





8 exemplary 'best' practice case studies: Barcelona (Ajutament de Barcelona), Ghent (city of Ghent), Mechelen (ReScape), Milan (ETSC), London (The Telegraph), La Rochelle (city of La Rochelle), Bologna (Parkimeter), Amsterdam (city of Amsterdam)

More information: ReVeAL website (<https://civitas-reveal.eu>) or Urban Access Regulations website (<https://urbanaccessregulations.eu/>)





Schoolstreet Kortrijk (source: De Morgen)



Vehicle emission regulation (source: Sunday



Dynamic traffic management system Hasselt (source: be-mobile)



Parklet Rotterdam (source: Humankind)

Long list 70 options  
In 26 building block categories

For example:  
Speed regulated school streets  
Distance-based congestion charge  
Regulations by vehicle emissions  
Dynamic traffic management  
Grants towards adaptation  
...



## Building block methodology: long list

### Spatial Interventions

1. School street
2. Cycling street
3. Traffic filter
4. Removing parking/road
5. Cycle lane
6. Pedestrian street
7. Bus/tram priority lane
8. Woonerf

### Pricing measures

9. Congestion charge
10. Pollution charge
11. Parking charge
12. Traffic flow management
13. Urban logistics charge

### Pathways to ZEZ/LTZ

14. Regulation by emissions
15. Regulation by vehicle type/dimension
16. Regulation by trip purpose
17. Scheme timescale
18. Regulation by permit
19. Regulation by other

### Future options

20. Enablers
21. Indirect UVAR
22. Promoting alternatives

### Complementary measures

23. Financial incentives
24. Exemptions
25. Increased mobility options
26. Individual solutions

### Spatial Interventions

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Spatial  
interventions

#### 1. School street

- a. Car-free school area
- b. Kiss&Ride
- c. Speed regulated

#### 2. Cycling street

#### 3. Traffic filter

- a. Road block
- b. Capacity restraint
- c. Visual barrier
- d. Through traffic ban
- e. One-way street

#### 4. Removing parking/road

- a. Parklet
- b. Widen pavement
- c. Drop-off zone shared mobility
- d. Logistics bay

#### 5. Cycle lane

- a. Redistribution of road space
- b. Conversion of parking lane

#### 6. Pedestrian street

- a. Mixed used cycling-pedestrians
- b. Residents only vs other groups
- c. Temporal

#### 7. Bus/tram priority lane

#### 8. Woonerf



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## Building block methodology: pricing measures

### Pricing measures

- 9. Congestion charge
- 10. Pollution charge
- 11. Parking charge
- 12. Traffic flow management
- 13. Urban logistics charge



Pricing  
measures

### 9. Congestion charge

- a. Applied to perimeter or area
- b. Applied to specific points
- c. Distance-based charge
- d. Workplace levy

### 10. Pollution charge

- a. Applied to perimeter or area

### 11. Parking charge

- a. Dynamic price (real time)
- b. Fixed price
- c. From on-street to off-street

### 12. Traffic flow management

- a. Time-based charge
- b. Distance-based charge
- c. Number plate regulation schemes

### 13. Urban logistics charge

- a. Mobility credits



## Building block methodology: pricing measures Ghent

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## Building block methodology: pathways to ZEZ/LTZ

### Pathways to ZEZ/LTZ

- 14. Regulation by emissions
- 15. Regulation by vehicle type/dimension
- 16. Regulation by trip purpose
- 17. Scheme timescale
- 18. Regulation by permit
- 19. Regulation by other



Zero-emission  
zones

#### 14. Regulation by emissions

#### 15. Regulation by vehicle type/dimension

- a. Vehicle type
- b. HDV/LDV
- c. Vehicle weight
- d. Vehicle length

#### 16. Regulation by trip purpose

- a. Delivery
- b. Residents and specific users

#### 17. Scheme timescale

- a. Programmed time window
- b. Reactive operation
- c. Phasing

#### 18. Regulation by permit

- a. Permit to travel
- b. Car park or ownership permit
- c. Permit to build car park space

#### 19. Regulation by other

- a. Load factor
- b. Vehicle safety features
- c. Company size
- d. Removing road space



## Building block methodology: pathways to ZEZ/LTZ Ghent

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### Future options

- 20. Enablers
- 21. Indirect UVAR
- 22. Promoting alternatives

#### 20. Enablers

- a. Geofencing
- b. Connected vehicles and infrastructure
- c. Autonomous vehicles
- d. Digital twins/data sharing platforms, stand. and systems

#### 21. Indirect UVAR

- a. Dynamic traffic signalling/management/ITS/rerouting
- b. Dynamic curbside management

#### 22. Promote alternatives

- a. MaaS system
- b. Mobility hub
- c. Easy access micro-mob renting
- d. Transit, waterways, freight consolidation center
- e. High occupancy vehicles

### Complementary measures

- 23. Financial incentives
- 24. Exemptions
- 25. Increased mobility options
- 26. Individual solutions

#### 23. Financial incentives

- a. Economic incentive for fleet renewal
- b. Economic incentive for mobility
- c. Grants towards adaptation

#### 24. Exemptions

- a. Essential exemptions
- b. User needs exemptions
- c. Retrofits
- d. Permit/exemption charge
- e. Time slots

#### 25. Increased mobility options

#### 26. Individual solutions

- a. Individual solutions based on the local situation

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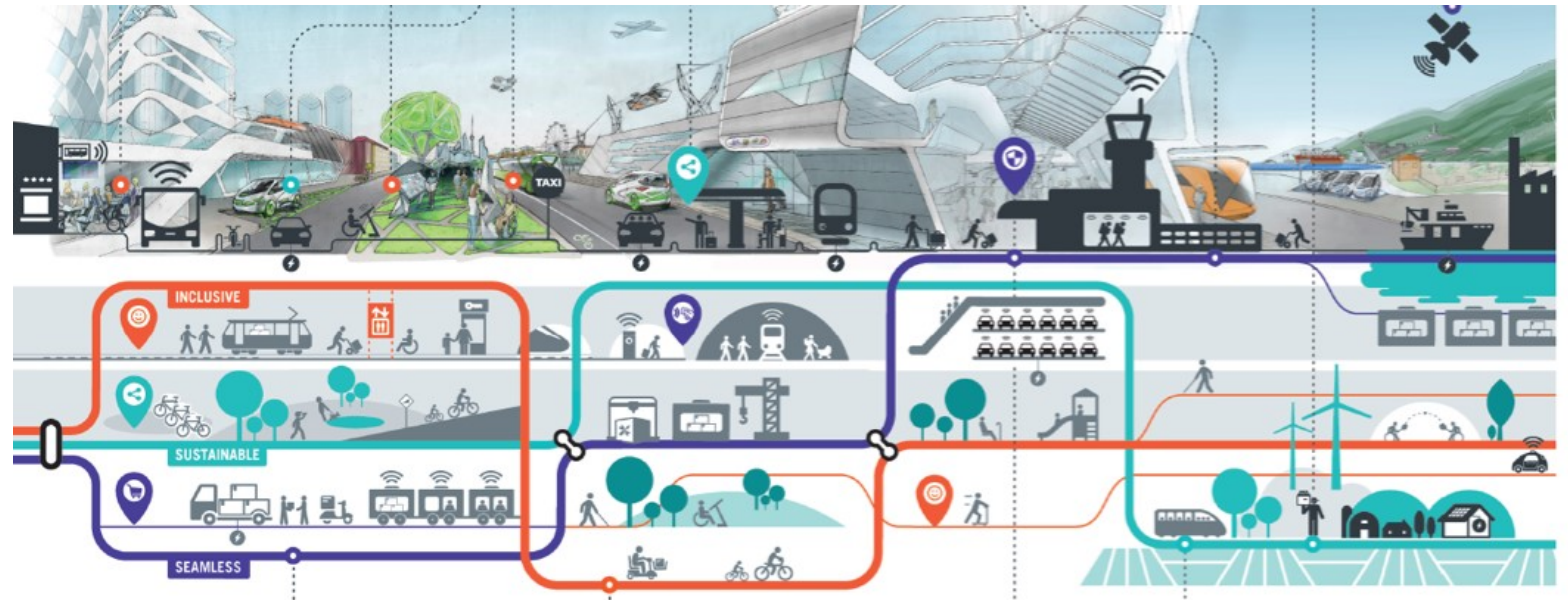
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### Why?

Exploration of the different pathways to implementation (and their effects during the process)

“Scenario planning techniques are increasingly gaining attention in the process of spatial and urban planning because of their usefulness in times of uncertainty and complexity. Scenario planning encourages **strategic thinking** and **helps to overcome thinking limitations** by creating multiple futures.” (Ljubenovic et al., 2014)



Scenario building example (MOBI in Mobility 4 EU + Flamenco)



## Development process for pilot support

Definition complementary to SUMP definition:

an UVAR scenario is a high-level plan, which starts from the current city context (e.g., existing mobility networks and services, population, city functions, spatial layout, political support, public opinion, plans) and sketches out **what a ReVeAL strategy could look like within the current city context** with high-level estimates on impact

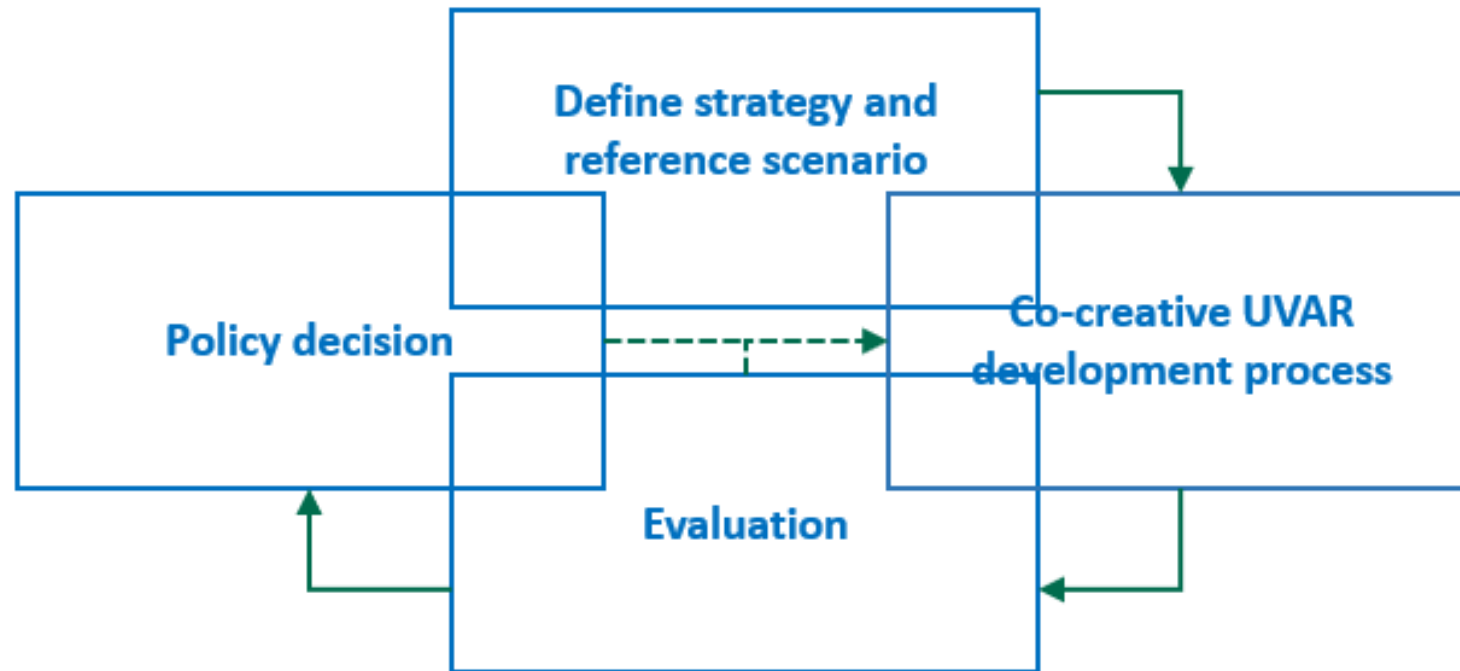
A strategy:

a combination of different UVAR measures (or building blocks) to make a complete and robust UVAR scheme

What?

Many different ways of achieving a similar aim are possible

- UVAR development process helps find the right one for your city
- herein, the development process is not linear, but co-creative, dynamic and interactive







## Define strategy and reference scenario

### Strategy description for ReVeAL pilot cities

⇒ area, challenges and chances, targets, indicators

### Differences in cities in early vs later phase of the UVAR process

Early phase (i.e., ideation)	Later phase (i.e., design, implementation)
<p>The <u>existing situation</u> considering the interventions <u>without UVAR</u></p> <p>UVAR scenario's</p> <p>Implementations of UVAR strategies that mix and match different building blocks at:</p> <ul style="list-style-type: none"><li>- different geographical areas</li><li>- different phasing parts of the project</li><li>- different foci of the strategy, ambitions or desired targets</li></ul>	<p>A description of the <u>situation based on</u> the decisions made in the <u>ideation phase</u></p> <p>UVAR scenario's</p> <p>Adaptations of the chosen UVAR strategies that can differentiate in:</p> <ul style="list-style-type: none"><li>- building block combinations</li><li>- location of interventions</li><li>- implementation conditions</li><li>- timing</li></ul>

		Pilot city					
Building block category		Bielefeld	Helmond	Jerusalem	London	Padua	Vitoria-Gasteiz
Spatial interventions	School street	E		P	E	E/P	E/C
	Cycling street	E/C	E/C	P	E/P	P	
	Traffic filter	P/C	E/P/C	E	E/P	E/P	E/P
	Removing parking/road	C	C		E/P	E/P	E/C
	Cycle lane	C		E	E	E/P	E
	Pedestrian street	E	P	E	E/P	E	E
	Bus/tram priority lane	E/P		E/P	E	E/P	E
	Woonerf		E				P
Pricing measures	Congestion charge				E		
	Pollution charge			E/P	E		
	Parking charge				E	E/P	E
	Traffic flow management						
	Urban logistics charge						
Pathways to ZEZ/LTZ	Regulation by emissions		P	E/P	E/P	P	
	Regulation by vehicle type			P	E/P	C	
	Regulation by trip purpose	C	P		E/P	E/P	E
	Scheme timescale			P	E	E	E
	Regulation by permit	C	P		E	C	E
	Regulation by other				E	C	E/P
Future options	Enablers		C	P	C	P/C	
	Indirect UVAR		C	E/C	E/C	P	C
	Promote alternatives	P	C	E/C	E/C	E/P	

Existing (E), planned (P) and considered (C) UVAR measures in the six ReVeAL pilot cities



## Co-creative UVAR development process

### Co-creation session workshops

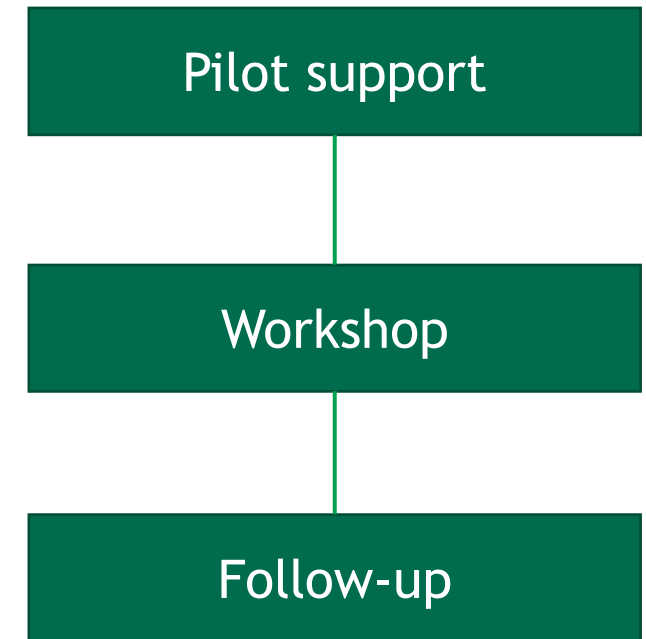
- Define (most) interesting building blocks
- Combine building blocks into possible strategies
- Envision impact of possible strategies

### Workshop with various stakeholders

Mobility, planning, energy, environment, communication, local police, local businesses, ...

+ follow-up meeting with various stakeholders and experts

(ReVeAL Toolkit when it arrives)







## Evaluation and policy decision

Policy support for the pilot city:

Support policy decisions for the UVAR implementation

UVAR development process:

Tested within ReVeAL

Many similarities to the SUMP process

⇒ holistic methodology for guiding cities through implementation and evaluation of UVAR strategies

⇒ feeds as much as possible into the ReVeAL Decision support tool for cities outside of ReVeAL



**Building blocks enable the development of complete UVAR Strategies, from neighborhood to citywide levels**

Some conclusions from the UVAR development process workshops

Been found really useful by pilot cities, bringing together departments into a joint process, as opposed to suggestions from one department, followed by reactions and resistance from others

- Gathering all stakeholders together for the UVAR process is crucial in discussing the possibilities and needed compromises = the most important step in the exercise was engaging in a **dialogue**
- Colleagues were keen to continue the discussion (**follow up workshops**)
- The building block methodology is more **flexible** than a scenario roadmap
- **Participants evolved** in their thinking during the workshop => the exercise supported unity in decision making, and a willingness to be (better) involved with the yet harder step of implementation
- Good **preparation** gave better outputs



**Building blocks enable the development of complete UVAR Strategies, from neighborhood to citywide levels**

## Some lessons learned from the UVAR development process

- The building block long list should be translated to the **local context, habits, rules and language** of the participating cities
- Not all stakeholders have the same knowledge, views and perspectives
- **Impact assessment** is difficult and confusing: what scale? What type of impacts? ...
- The **city's aims** need to be clear
- The selection of scenarios (as building block combinations) follows a **different process for different cities**
- **Making choices** is often not easy
- The BBs open up **other options**, not previously considered - particularly SI (often not considered UVARs), either as complementary measures, or additional/alternative UVARs
- UVAR development takes time => it is an **on-going process**





Watch out for our ReVeAL UVAR Development Toolkit when it comes!

Subscribe to our [newsletter](#)  
Visit our [website](#)

# Thank you for your attention

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