



Recirculation of traffic

This ReVeAL building block fact sheet is one of a series of 33, each describing one Urban Vehicle Access Regulation (UVAR) building block and providing an example of its use in a city. The ReVeAL building blocks can be combined with one another to create a structured UVAR package for a city. Try out the ReVeAL online tool, www.AccessRegulationsForYourCity.eu, to receive suggestions of appropriate UVAR building blocks for your city as well as guidance in their implementation.

The EU-funded research and innovation project, CIVITAS ReVeAL, aims to add Urban Vehicle Access Regulations and associated policies and technologies to the standard range of urban mobility measures in cities across Europe. The project mission is to enable cities to optimise urban space and transport networks use to improve urban accessibility, sustainability, and liveability.

For more information, please visit: www.civitas-reveal.eu.

Spatial Interventions

Spatial interventions are where the road layout has been altered to favor more sustainable mobility and prevent vehicles entering. Examples of these are removing road and parking space taken for vehicles and using the space for sustainable mobility or amenities (bus lanes, logistics hubs, parklets, restaurants and more)

Speed reduction

Traffic filter:

- **Recirculation of traffic**

- Road block
- Capacity restraint

Reallocating parking space:

- Parklet
- Drop-off zone shared mobility
- Logistics bay (mini-hub)
- Kiss & Ride (K&R)

Reallocating road space for pedestrians:

- Widen pavement
- Pedestrian priority street or zone

Reallocating road space for cycling:

- Cycle lane
- Cycling street

Reallocating road space for public transport:

- Bus or tram priority lane

Pricing Aspects

Pricing aspects are when the entry to an area or to the entirety of the city is given a price tag to encourage more sustainable transport. Pricing aspects also include the (differential) levels of penalty fees to encourage (and enforce) compliance.

Road charges / tolls:

- Charge applied to a perimeter or an area (congestion charge)
- Charge applied to specific points
- Distance-based charge
- Time-based charge
- Permit charge
- Charge based on emission standards (pollution charge)

Parking charge:

- Dynamic price (real time)
- Fixed price
- Charge based on emission standards (pollution charge)
- Workplace levy
- From on-street to off-street parking

Regulatory Measures

Regulatory measures are those where there is a legal instrument that states who can and cannot enter an area. They could often also be called "bans" and include Zero Emission Zones, Low Emission Zones, and Limited Traffic Zones.

Regulation by emissions:

- Euro standard
- Zero-emission vehicles

Regulation by vehicle type and dimensions:

- Vehicle type
- Dimensions

Regulation by trip purpose:

- Delivery and logistics
- Through traffic ban

Regulation by permit:

- Permit to travel
- Parking permit
- Planning permit conditions



Recirculation of traffic

Definition of the building block

Change in the traffic circulation pattern for motor vehicles in a specific area (e.g., one way streets).

Timing, phasing, scaling and replication

It is important to ensure that those who will be directly affected by the changes to the traffic circulation are informed about it, as well as about the timing of the implementation.

Time windows

Time differentiated access is generally not used.

Enforcement options

- Cameras with automated number plate recognition (ANPR)
- Manual enforcement through visual inspection
- Road sign

Gender and equity

Traffic recirculation may affect people with disabilities disproportionately if they are unable to walk or cycle. Exemptions may be an option.

Complementary measures

Exemptions

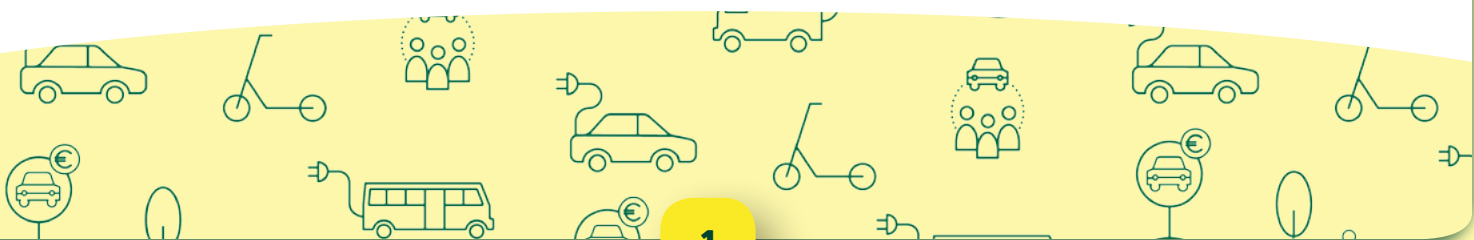
The types of exemptions will be different depending on the scheme type, but some examples are:

- Key exemptions for police, fire department, waste collection, etc.
- User needs exemptions, e.g. for people with disabilities with forced car dependency, taxis, classic car owners, residents, deliveries
- Exemptions for adapted vehicles (e.g., retrofitted or converted electric or hybrid vehicles)
- Limited numbers of purchased exemptions for entry (e.g., per day/month/year) to a specific zone
- Specified maximum amount of kilometre “credits” allocated to individuals or businesses

Increased mobility options

The types of increased mobility options will be different depending on the scheme type, but some examples are:

- Creation of mobility hubs
- Increasing/improving walking or cycling facilities
- Increasing/improving public transport
- Facilitating vehicle hire and/or car sharing
- Providing parking spaces in alternative locations (e.g., Park & Ride)



Recirculation of traffic

Consider combining with:

Spatial Interventions

Speed reduction

Traffic filter:

- Road block
- Capacity restraint

Reallocating road space for pedestrians:
Pedestrian priority street or zone

Reallocating road space for public transport: Bus or tram priority lane

Pricing Aspects

Road charges/tolls:

- Charge applied to a perimeter or an area (congestion charge)
- Charge applied to a specific point
- Distance-based charge
- Time-based charge
- Permit charge
- Charge based on emission standards (pollution charge)

Regulatory Measures

Regulation by trip purpose:
Through traffic ban

Traffic filters are often combined with the reallocation of road space for other purposes, with parking charge, with regulations by trip purpose or permit or with a through traffic ban.

Future considerations

In the future, dynamic traffic signs could enable changes in traffic circulation more flexibly, allowing for short-term changes to traffic directions, e.g., for specific events. But cities would need to be careful to communicate changes well - both to people and to navigation systems - to avoid unclear or dangerous situations.

Further guidance

- Communicating the aim of the scheme
- How to communicate the scheme
- Exemptions



A one-way road in Ghent (Het Nieuwsblad, 2021)

Recirculation of traffic

*Example: Circulation Plan, Ghent, Belgium*Description

This city of Ghent developed a Circulation Plan, which divides the city into six districts and one big car-free area. The six districts are restricted traffic areas with a permit system and access policy. The plan changed the direction of 77 streets to force motorised traffic out to the inner-city ring road rather than travelling directly from one district to the neighbouring one.

Enforcement methods

- Access points to the car free area is indicated by road markings and signs
- Some roads are closed with bollards
- Some closed roads are monitored via Automatic number plate recognition (ANPR)

Time windows

In effect at all times

Phasing and upscaling

- 1993. Bicycle plan to foster a cycling culture in the city
- 1997. The Mobility Plan sets a pedestrian area in the city centre
- 2017. Circulation Plan for the inner city

Other building blocks put in placeSpatial Interventions

Speed reduction

Traffic filter: Roadblock

Reallocating parking space: Parklet

Reallocating road space for pedestrians:

- Widen pavement
- Pedestrian priority street or zone

Reallocating road space for cyclists:
Cycle lane

Pricing Aspects

Parking charge:

- Fixed price
- From on-street to off-street parking

Regulatory Measures

Regulation by emissions: EURO standard

Regulation by trip purpose

- Delivery and logistics
- Through traffic ban

Regulation by permit:

- Permit to travel
- Parking permit



Recirculation of traffic

Circulation Plan, Ghent, Belgium

Complementary measures

Exemptions

- Hotels located in a car-free area
- Private transport of people with reduced mobility with a parking card
- Private transport of temporarily less-mobile persons (for example, following an injury)
- Execution of works
- Property renovations
- Loading and unloading for suppliers who have to deliver in the restricted areas

Increased mobility options

Park & Ride Facilities

Additional information

The Circulation Plan officially started on Monday, 3 April 2017. The weekend of the Easter holiday was used to take advantage of a quieter traffic situation. Some streets and intersections were painted red and urban furniture was placed during the transition. Filip Watteeuw, the deputy mayor of Ghent (who received death threats before the implementation of the plan), urges not to allow loud voices and vested interests to derail the process. He advises to "Talk to people, but be persistent, and don't give in on the plan's principal benefits".

Participation (meetings, consultation, Burgerkabinet) in the design and evaluation phase led to minor adjustments in the plan.

References

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