



## Road block

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](http://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](http://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



## Road block

### Definition of the building block

---

Barrier (e.g., bollards, blocks, visual markings) to prevent motor vehicle access or to indicate restricted access for motor vehicles that do not have a destination in the designated area.

### Timing, phasing, scaling and replication

---

This building block has no-timing related issues requiring specific attention.

### Time windows

---

- Allowing vehicle access at particular times of day
- Allowing vehicle access on given days of the week (e.g., weekends)
- Having no time differentiated vehicle access

### Enforcement options

---

- Physical barriers
- Road sign

### Gender and equity

---

There are no specific concerns to be aware of.

## Complementary measures

### Exemptions

---

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

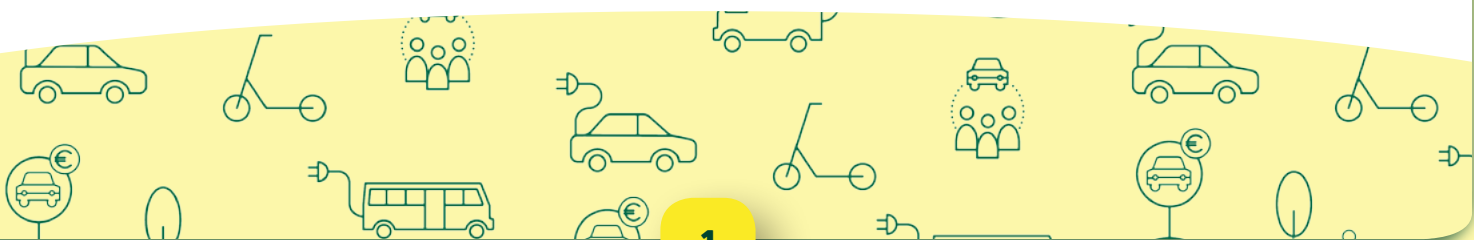
- Key exemptions for police, fire department, waste collection, etc.
- User needs exemptions, e.g. for people with disabilities with forced car dependency, taxis, classic car owners, residents, deliveries
- Exemptions for adapted vehicles (e.g., retrofitted or converted electric or hybrid vehicles)
- 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)



## Road block

## Consider combining with:

Spatial Interventions

Speed reduction

Traffic filter:

- Recirculation
- Capacity restraint

Reallocating parking space:

Kiss and ride (K&R)

Reallocating road space for pedestrians:

Pedestrian priority street or zone

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)

Parking charge: Workplace levy

Regulatory Measures

Regulation by trip purpose:

- Delivery and logistics
- Through traffic ban

Road blocks are often combined with the reallocation of road space for other purposes, with parking charge or with regulations by trip purpose or permit.

Future considerations

No specific effects are foreseen for this building block from future technologies.

Further guidance

How to communicate the scheme



Yellow pavement, raised street level, road signage (Google Maps, 2022)

## Road block

*Example: Traffic Circulation Plan, Groningen, The Netherlands*

### Description

In Groningen, access for motor vehicles is regulated by roadblocks and time windows. Through-traffic was banned in 1977 with the Traffic Circulation Plan, when the city was split into four sections and an outer ring road was built. Car drivers are required to go out to the ring road if they want to travel from one section of the city to another. Direct access from section to section by bicycle makes the travel time and distance shorter.

### Enforcement methods

Design of the road space using raised pavement and different coloured surfaces.

### Time windows

- Motor vehicle access is not allowed into the city centre daily from 12:00 to 17:00.
- Zero-emission delivery vehicles may access the city centre during this time window if actual need can be demonstrated.

### Phasing and upscaling

- 1977. Introduction of the Traffic Circulation Plan (Verkeerscirculatieplan)
- 1982. Final modification of the plan
- 1993. "A Better City Centre"
- 2015-2025. "Destination: city centre"
- 2022. Redesign of the Grote Markt (central square) removing bus access
- 2025. The city centre will become a zero-emission zone

### Other building blocks put in place

#### Spatial Interventions

Traffic filter: Recirculation of traffic

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 trip purpose

- Delivery and logistics
- Through traffic ban

Regulation by permit: Permit to travel



## Complementary measures

## Exemptions

Access for 5 days:

- Towing services
- Construction, installation and repair companies
- Removal vehicles
- Delivery vehicles

Annual exemption without time limitation:

- Emission-free vehicles
- Emergency vehicles
- Care providers
- Residents
- Companies and institutions owning parking spaces in the pedestrian area
- Garbage trucks
- Road sweepers

### Annual exemption with time limitation

- Security company cars
- Delivery vehicles

## Increased mobility options

Walking: improving proximity, attractiveness, accessibility

### Cycling:

- Improving bicycle network
- More parking facilities

Public transport:

- Additional train stations in the city
- Providing demand-responsive transport
- Making public transport more efficient

Parking:

- P&R facilities at the edge of the city
- Parking garages at the edge of the city centre
- Parking garage under the "Forum" (multi-purpose cultural centre)

## Development of Mobility Hubs

### Sharing:

- Cars sharing
- Bike sharing
- E-scooters sharing

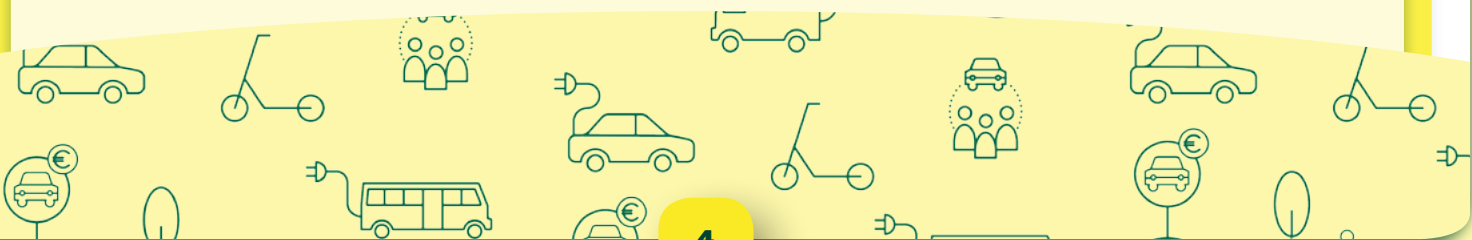
**Taxis:** In the future, taxis and registered social support vehicles can continue to use routes that bring them close to the Grote Markt.

### Traffic management systems:

- Collection and sharing of traffic data
- Real time information on traffic

### Charging stations:

- Electric vehicles
- Hydrogen vehicles





## Road block

## Traffic Circulation Plan, Groningen, the Netherlands



Improvements in bike parking is part of Groningen's policy objectives. From *Groningen*, by Dick Aalders, 2012, December 10 Flickr. CC BY-SA 2.0

### Additional information

In its 2021 Mobility Vision, the municipality of Groningen indicated future adjustments to the policy for deliveries in the city centre. By 2022, exemptions will be strengthened, access will be monitored through ANPR cameras, and the area of the delivery time window will be increased. There will be new regulations for local businesses and, starting in 2025, a zero-emission zone for city logistics will be established.

### References

Binnenstad Groningen. (n.d.). *Destination: city centre*. Retrieved June 27, 2022, from <https://ruimtevo-orjou.groningen.nl/en/>

City of Groningen (2021), *Groningen, Well on the way*. Retrieved June 14, 2022 from <https://gemeente.groningen.nl/sites/default/files/Mobiliteitsvisie---Groningen-ged-op-weg-English.pdf>

Dick Aalders (December 10, 2012) Groningen. Flickr, free commercial use. CC BY-SA 2.0. <https://www.flickr.com/photos/27702064@N02/8398585088/>

Duxfield, I. (2022, April 19). *Groningen acts to further take forward the active travel agenda*. Eltis. <https://www.eltis.org/in-brief/news/groningen-acts-further-take-forward-active-travel-agenda>

Sadler Consultants Europe GmbH (2022). *Groningen - carfree*. Retrieved June 27, 2022, from <https://urbanaccessregulations.eu/countries-mainmenu-147/netherlands-mainmenu-88/groningen-carfree>

van der Zee, R. (2015, July 29). *How Groningen invented a cycling template for cities all over the world*. The Guardian. <https://www.theguardian.com/cities/2015/jul/29/how-groningen-invented-a-cycling-template-for-cities-all-over-the-world>

