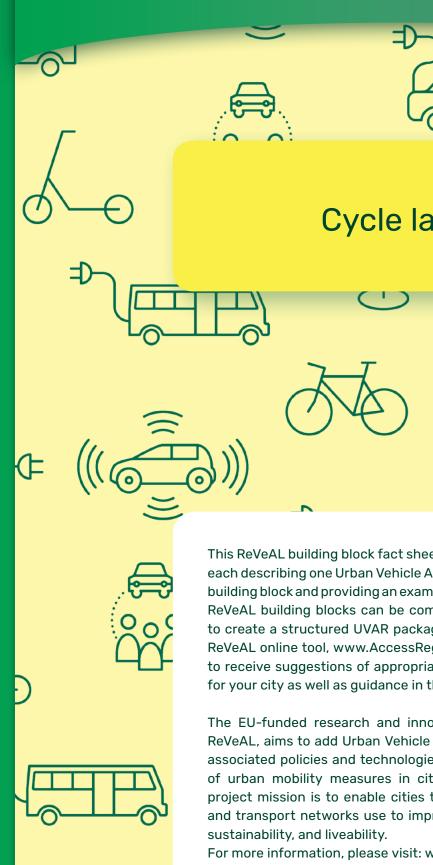
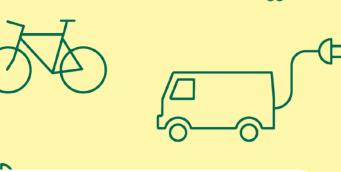


UVAR building blocks **Spatial Interventions**









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,

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:

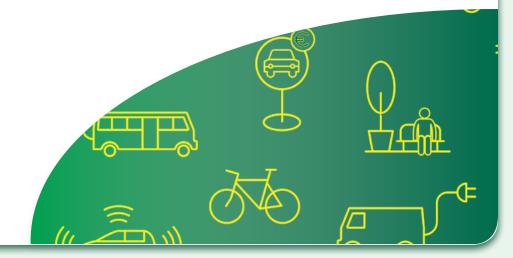
- · Vehicle type
- Dimensions

Regulation by trip purpose:

- Delivery and logistics
- · Through traffic ban

Regulation by permit:

- Permit to travel
- Parking permit
- Planning permit conditions





Definition of the building block

Part of the road is converted to space fully dedicated to cyclists (or other types of micro mobility, such as (e-)scooters).

Timing, phasing, scaling and replication

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

Time windows

Time differentiated access is generally not used.

Enforcement options

Physical barriers

Gender and equity

Women are generally more concerned about safety when cycling than men are. Well designed cycle lanes should help increase the feeling of safety, meaning more women are likely to cycle.

Future considerations

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

Further guidance

- · Communicating the aim of the scheme
- · How to communicate the scheme
- · Enforcement options

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)



Consider combining with:

Spatial Interventions

Speed reduction

Traffic filter: Capacity restraint

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 specific points
- · Distance-based charge
- Time-based charge
- · Permit charge
- Charge based on emission standards (pollution charge)

Parking charges: From on-street to off-street parking

Regulatory Measures

Regulation by trip purpose: Through traffic ban

Regulation by permit: Permit to travel



A cyclist on a section of the Wankdorf main cycle route in Bern. Stadt Bern. (n.d.)





Example: Bern, Switzerland

Description

The city of Bern has continually extended the cycle route network since 2016, in some cases through conversion of road space. Changes started with the city-led initiative Velo Offensive, for which a regular participation process was established. The Masterplan for Cycling Infrastructure, published in 2020, comprises the implementation of new cycle routes and bike stations.

Enforcement methods

No available information

Time windows

No time differentiation for access

Phasing and upscaling

2015. Start of Velo Offensive

2016:

- Opening of the first bike station next to the main station
- Opening of the main bike route from the central station to Wankdorf district (3 km)

2018:

- Start of bike rental system "Velo Bern"
- Opening of the main cycle route between Bern and Köniz
- Expansion of the Bollwerk bike station

2020:

- Masterplan for Cycling Infrastructure
- · Construction of the bike path Burgernziel
- Ostring Freudenbergplatz



Access to the PostParc bike station. Stadt Bern. (n.d.).



















Bern, Switzerland

Other building blocks put in place

Spatial Interventions

Speed reduction

Traffic filter: Road block

Reallocating road space for pedestrians:

- Widen pavement
- Pedestrian priority street or zone

Reallocating road space for cycling: Cycling street

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

Pricing Aspects

Parking charge: Fixed price

Regulatory Measures

Regulation by emissions: EURO standard

Regulation by permit: Parking permit

Complementary measures

Increased mobility options

Cycling:

- · Bike stations and bike parking
- · Bike rental

References

- Stadt Bern. (n.d.). Velostationen.
 Retrieved June 2, 2022, from https://www.bern.ch/velohauptstadt/infrastruktur/velostationen
- Stadt Bern. (n.d.). Velohauptrouten.
 Retrieved June 2, 2022, from https://www.bern.ch/velohauptstadt/infrastruktur/velohauptrouten
- Stadt Bern. (2022, March 25). Die bisher grösste Begegnungszone von Bern entsteht. https://www. bern.ch/mediencenter/medienmitteilungen/aktuell_ptk/die-bisher-groesste-begegnungszone-von-bern-entsteht
- Stadt Bern. (2020, December 10).

 Richtplan für sichere und attraktive Fusswege genehmigt.

 https://www.bern.ch/mediencenter/medienmitteilungen/
 aktuell_ptk/richtplan-fuer-sichere-und-attraktive-fusswege-genehmigt
- Stadt Bern. (2020). Masterplan Veloinfrastruktur. https://www.bern. ch/velohauptstadt/infrastruktur/ masterplan-veloinfrastruktur
- Stadt Bern. (2018). Neuer Richtplan für sichere und attraktive Fusswege. https://www.bern.ch/mediencenter/medienmitteilungen/aktuell_ptk/neuer-richtplan-fuer-sichere-und-attraktive-fusswege



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 815008.