



## Time-based charge

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



## Time-based charge

### Definition of the building block

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Time-based road charges are based on the amount of time a vehicle is inside the regulated zone. When vehicles leave the zone, the system calculates the time the vehicle spent inside the boundary and computes the fee due for access (and parking).

### Timing, phasing, scaling and replication

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

### Time windows

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- Allowing vehicle access at particular times of day
- Allowing vehicle access on given days of the week (e.g., weekends)
- Allowing seasonal vehicle access

### Enforcement options

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- Cameras with automated number plate recognition (ANPR)
- Radio frequency identification (RFID)
- Dedicated short-range communication (DSRC)

### Gender and equity

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There are no specific concerns to be aware of.

### Future considerations

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

### Further guidance

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- Communicating the aim of the scheme
- Signage to communicate UVARs
- Complementary sustainable mobility measures
- Enforcement options
- Camera enforcement and privacy issues

## 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)

## Financial incentives

These will differ depending on the planned UVAR measures, but some options include:

- Financial incentives for fleet renewal, e.g., for the purchase, renting or leasing of greener vehicles (including tax exemption)
- Membership or vouchers for sustainable mobility options (e.g., public transport and shared mobility services) such as discount cards, free rides or annual passes for public transport or consolidation centres
- Monetary incentives for cycling trips (e.g., for bike-to-work) or for (e-)cycle or (e-)cargobike purchases
- Grants towards retrofits (e.g., diesel particulate filters, new engine or fuel conversion)
- Compensation for scrapping an old vehicle (either financial or through a voucher), often differentiated by emission standards, vehicle type or owner income.



## Time-based charge

## Consider combining with:

Spatial Interventions

## Speed reduction

## Traffic filter:

- Recirculation of traffic
- Road block

## Reallocating parking space:

Logistics bay (mini-hub)

## 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

## Parking charge:

From on-street to off-street parking

Regulatory Measures

## Regulation by vehicle type and dimensions:

- Vehicle type
- Dimensions



The system of Controlled Vehicle Access in Valletta, Malta, includes a time-based charge. (The Malta Independent, 2015)



## Time-based charge

*Example: Controlled Vehicular Access (CVA), Valletta, Malta*Description

The Controlled Vehicular Access (CVA) system in Valletta was launched on 1 May 2007 and the area covers the city centre.

The system calculates the duration of the visit and computes the fees for access and parking based on the tariffs issued by Transport Malta. Dedicated camera systems monitor and photograph vehicles entering and exiting the CVA boundary. For delivery vehicles a distinction applies for accessing the charging zone and the pedestrian area.

Payment methods

- Bills are sent by post, SMS, and email
- Vehicle owners can check their CVA account status by helpdesk or website.
- Payment for access and parking can be done by post, online, and bank transfer.
- Pre-payment incentives and penalties for late payment apply

Enforcement methods

Automatic number plate recognition (ANPR)

Time windows

In effect Monday to Friday, from 8:00 to 14:00. No fee on Saturdays and public holidays

## Deliveries allowed as follows:

- Access free of cost in the charging zone
- Monday, 14:30-16:30; 18:00-9:30
- from Tuesday to Friday, 13:00-16:00; 18:00-9:30
- Saturday and Sunday, all day

Access free of cost in the pedestrian zone:

- Monday, Thursday, Saturday, 00:00-9:30; 14:30-16:30; 19:00-20:00
- Tuesday, Wednesday, Friday, 00:00-9:30; 19:00-20:00
- Sunday, 00:00-9:30

Phasing and upscaling

The CVA was launched on May 2007

## Other building blocks put in place

Spatial Interventions

Reallocating road space for pedestrians:  
Widen pavement

Pricing Aspects

Road charges/tolls: Permit charge





## Complementary measures

### Exemptions

Complete exemptions:

- Residents
- Direct descendants of residents over the age of 61
- Vehicles for infrastructure works and services
- People with disabilities working in Valletta
- Sellers on the Valletta public market

### Increased mobility options

Parking: Park & Ride facilities

### Financial Incentives (1/2)

For residents of Malta, local councils, voluntary organisations (including NGOs), and businesses established in Malta:

- Scrappage of old vehicles and purchase of new or used electric vehicles / plug-in hybrid vehicle (car, coach, van, minibus, small truck, truck)
- Scrappage of old vehicles and purchase of pedelecs
- Scrappage of old mopeds, motorcycles, tricycles, and quadricycles and purchase of petrol fuelled substitutes
- Scrappage of old passenger cars and purchase of low emitting diesel and petrol fuelled substitutes

### Financial Incentives (2/2)

For residents and businesses in Malta:

#### Retrofitting to LPG

Retrofitting of approved battery electric powertrains on motor vehicles (passenger cars, vans, delivery vehicles, minibuses, buses and, coaches)

For businesses in Malta:

- Installation of solar panels on buses, coaches, and Minibuses.
- Retrofitting of Diesel Particulate Filters (DPFs) and Selective Catalytic Reduction (SCR) systems on heavy duty vehicles (buses, coaches, minibuses, trucks, big vans)
- Owners of new bicycles and used bicycles in a good state
- Conversion of bicycles to pedelecs

For any vehicle:

Discounts on the access fee to the CVA for payments before invoice is sent and for automatic debit: 10% discount



## Time-based charge

## Controlled Vehicular Access (CVA), Valletta, Malta



The CVA area in Valletta, Malta, last updated March 2011 (Sadler Consultants Europe GmbH, 2022).

### Additional information

The CVA system forms an integral part of the Maltese government's commitment to increase accessibility in the capital city. It found a wide consensus among residents, non-residents, and business owners.

Non-resident owners of vehicles using private garages and off-street parking areas need to register both the garage/parking area and vehicles using that space to be exempt from the CVA charges.

Residents owners of vehicles are obliged to use the garage space or the space directly in front of the garage space, and therefore may not park on-street other than in front of the garage space, except for drop-off and pick-up for not more than 10 minutes, during which the vehicle may not be left unattended.

### References

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