



Charge based on emission standards (pollution 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, 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



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Definition of the building block

Vehicles are charged to occupy parking spaces. Prices are fixed according to the area of the city and/or time of the day.

Timing, phasing, scaling and replication

Phasing is often used to tighten regulations based on new car technologies. All planned phases of the measure should be announced at the beginning to allow users to make informed decisions about their long-term options.

Time windows

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

Enforcement options

- Cameras with automated number plate recognition (ANPR)
- Manual enforcement through visual inspection
- Physical barriers

Gender and equity

Consider an allocation of free parking spaces for people with disabilities

Future considerations

In a future with mostly zero or low emission vehicles, this type of charge would become less effective at reducing parking in general, as there would be fewer polluting vehicles in the city.

Further guidance

- Signage to communicate UVARs
- Financial or in-kind incentives
- Managing permits (and exemptions)
- Enforcement options

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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:

Pricing Aspects

Parking charge: Charge based on emission standards (pollution charge)

Regulatory Measures

Regulation by emissions:

- EURO standard
- Zero-emission vehicles

Regulation by vehicle type and dimensions:

- Vehicle type
- Dimensions

Regulation by permit: Parking permit



The ECO label from the Directorate General for Traffic (DGT) in Madrid (Seat, 2016, in La Vanguardia, 2021)

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Example: Regulated Parking Service (SER), Madrid, Spain

Description

The regulated parking service (Servicio de Estacionamiento Regulado, SER) in Madrid has established parking prices that vary depending on the area and the characteristics of the vehicle. The distinction by area is made between low-emission zones and other SER zones. Parking zones in the city are differentiated by colour, with “blue” indicating parking allowed for a maximum of four hours, and “green” unlimited parking for residents and two-hour maximum stay for non-residents.

Vehicles are required to display a sticker on the windscreen that is based on vehicle type, propulsion system, and the date of registration. The rates for the vehicles may include either discounts or bonuses, be free or involve penalties. There are fixed fees in long-stay car parks and in the parking zone next to the city hospital of La Paz. Finally, there are Park & Ride facilities at the city outskirts, most of which are free of charge.

Enforcement methods

- Automatic number plate recognition (ANPR)
- Enforcement officers

Time windows

- September–July: Monday to Friday, 9:00 – 21:00; Saturday, 9:00 – 15:00
- August: Monday to Saturday (holidays excluded), 9:00 – 15:00
- 24–31 December, 9:00 – 15:00

Phasing and upscaling

- 2016. The Directorate General for Traffic (DGT) introduces the national system of stickers
- 2019. The system becomes part of the programme “Madrid Central”
- April 2022. Extension of the parking charge area to other neighbourhoods beyond the city centre

Other building blocks put in place

Pricing Aspects

Parking charge:

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

Regulatory Measures

Regulation by emissions: EURO standard

Regulation by permit: Permit to travel

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Regulated Parking Service, Madrid, Spain

Complementary measures

Exemptions

- Two-wheelers and three-wheelers
- Vehicles parked in areas reserved for their category or activity
- Taxis
- Vehicles for people with reduced mobility
- Touristic vehicles
- Public transport
- Administration staff vehicles (National, Autonomous Communities, Local and their public bodies, of which they are owners or have them under leasing or rental, during the provision of the services)
- Healthcare vehicles (Public Health System Organisms, the Spanish Red Cross, and ambulances; social services of the Madrid City Council, such as tele-assistance, laundry, food delivery and day-care centres, during the provision of their services and with clear external signalling for identification)
- Diplomatic representatives accredited in Spain, externally identified with diplomatic plate and in principle of reciprocity.

Financial incentives

Stickers and relative financial exemptions:

- B (yellow sticker), no discount
- C (green sticker), 10% discount
- ECO (blue and green sticker), 50% discount
- Zero emissions (blue sticker), free parking

Additional information

The system of Environmental Stickers is organised as follows:

B (yellow sticker)

- Petrol-driven, Euro 3 emissions level family cars and lightweight commercial vehicles.
- Diesel-driven with Euro 4 or Euro 5 family cars and lightweight commercial vehicles.
- Euro 4 or Euro 5 without regard to the type of fuel vehicles with more than eight places, goods vehicles
- Euro 2 motorcycles and mopeds

C (green sticker)

- Petrol-driven, Euro 4, 5, 6 family cars and lightweight commercial vehicles.
- Diesel-driven, Euro 6 family cars and lightweight commercial vehicles.
- Euro 6 without regard to the type of fuel vehicles with more than eight places, goods vehicles
- Euro 4 and Euro 3 motorcycles and mopeds.

ECO (blue and green sticker):

- Plug-in hybrid family cars, lightweight commercial vehicles, vehicles with more than eight seats, goods vehicles
- Motorcycles and mopeds with an HEV or PHEV category and a range of under 40 km

Zero emissions (blue sticker):

- Battery powered (BEV) vehicles,
- Electric vehicles with an extended range (REEV),
- Plug-in hybrids (PHEV) with a minimum range of 40 km or a fuel-cell vehicle.

Without environmental sticker:

- Petrol-driven family cars before Euro 3 and diesel-driven family cars before Euro 4
- Euro 1 motorcycles and mopeds



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Regulated Parking Service, Madrid, Spain



On the left, Madrid Central markings on the ground indicating the entrance to its boundaries, by Diario de Madrid, 2018, November 29. CC BY-SA 4.0. Wikimedia Commons

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