

Guidelines Display of Charging Locations with Restricted Access

Date: June 2025
Version: 1.4 Final
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Introduction

Charging locations are a group of EVSEs and can consist of multiple charging stations or a single charging station. Charging locations which are technically accessible via roaming for eMSPs are not always accessible to the public. Examples of such locations are:

- Company parking areas accessible only for customers/guests
- Hotel parking area accessible only for guests

The access to the charging location can be restricted by a physical barrier or indicated by a sign.

Such a charging location should not appear in the same way as a normal public charging location on maps in eMSP mobile applications to prevent drivers being directed/routed to a location which they are not allowed to use.

Problem

Some CPOs are not sharing the location data with eMSPs, although eMSPs can technically access the EVSEs through roaming. This leads to the problem that an eMSP cannot display a price in its mobile application before charging, which in many cases is obligatory for price transparency. Additionally, this can cause problems with applying correct VAT if the address of location was not shared with eMSP.

On the other hand, some CPOs are sharing the location with eMSPs with EVSEs flagged with parking/access restrictions, but many eMSPs display the location as a normal public location. This can lead to bad user experience for the driver, e.g. driver arrives at a location which is behind a barrier and can't be used.

Current roaming protocols have the possibility for CPOs to indicate parking or access restrictions for EVSEs. However, there is no guideline on how eMSPs should deal with the restrictions.

Solutions

CPO – sharing data with eMSPs

Provide additional POI data indicating the access restrictions to eMSP through common roaming protocols.

The following data fields should be used:

OCPI 2.1.1

For EVSE Object use ParkingRestriction “CUSTOMERS” to indicate “Restricted Access”. Additional ParkingRestrictions can still be used and shared with eMSPs.

8.4.18 ParkingRestriction enum

This value, if provided, represents the restriction to the parking spot for different purposes.

Value	Description
EV_ONLY	Reserved parking spot for electric vehicles.
PLUGGED	Parking is only allowed while plugged in (charging).
DISABLED	Reserved parking spot for disabled people with valid ID.
CUSTOMERS	Parking spot for customers/guests only, for example in case of a hotel or shop.
MOTORCYCLES	Parking spot only suitable for (electric) motorcycles or scooters.

OCPI 2.2.1

For EVSE Object use ParkingRestriction “CUSTOMERS” to indicate “Restricted Access”. Additional ParkingRestrictions can still be used and shared with eMSPs.

8.4.17. ParkingRestriction enum

This value, if provided, represents the restriction to the parking spot for different purposes.

Value	Description
EV_ONLY	Reserved parking spot for electric vehicles.
PLUGGED	Parking is only allowed while plugged in (charging).
DISABLED	Reserved parking spot for disabled people with valid ID.
CUSTOMERS	Parking spot for customers/guests only, for example in case of a hotel or shop.
MOTORCYCLES	Parking spot only suitable for (electric) motorcycles or scooters.

OCPI 2.3

For EVSE Object use ParkingRestriction “CUSTOMERS” to indicate “Restricted Access”. Additional ParkingRestrictions can still be used and shared with eMSPs.

8.4.21. ParkingRestriction OpenEnum

This value, if provided, represents the restriction to the parking spot for different purposes.

Value	Description
CUSTOMERS	Parking spot for customers or guests only, for example in case of a hotel or shop.
DISABLED	Reserved parking spot for disabled people with valid ID.
EMPLOYEES	Parking only for people who work at a site, building, or complex that the Location belongs to.
EV_ONLY	Reserved parking spot for electric vehicles.
MOTORCYCLES	Parking spot only suitable for (electric) motorcycles or scooters.
PLUGGED	Parking is only allowed while plugged in (charging).
TAXIS	Parking only for taxi vehicles.
TENANTS	Parking only for people who live in a complex that the Location belongs to.

OICP 2.3

For EvseDataRecordType use AccessibilityType “Restricted Access”.

AccessibilityType

Option	Description
Free publicly accessible	EV Driver can reach the charging point without paying a fee, e.g. street, free public place, free parking lot, etc.
Restricted access	EV Driver needs permission to reach the charging point, e.g. Campus, building complex, etc.
Paying publicly accessible	EV Driver needs to pay a fee in order to reach the charging point, e.g. payable parking garage, etc.
Test Station	Station is just for testing purposes. Access may be restricted.

OCHP 1.4

For Types for the Exchange of Charge Point Information use RestrictionType “CUSTOMERS” to indicate “Restricted Access”. Additional RestrictionTypes can still be used and shared with eMSPs.

RestrictionType enum

This value, if provided, represents the restrictions to the usage of the charging station or parking spot for different purposes.

Value	Description
evonly	reserved parking spot for electric vehicles
plugged	parking allowed only while plugged in (charging)
disabled	reserved parking spot for disabled persons with valid ID
customers	charging / parking for customers / guests only, for example in case of a hotel or shop
motorcycles	parking spot only suitable for (electric) motorcycles, scooters or bicycles
carsharing	charging / parking only for carsharing vehicles

eMIP (04/02/2025)

For Charging Pool use 2 - “Restricted access” and in the Charging Station use Value 2, 3, 4, 5, 6, or 7.

7 Data Types

7.1 AccessibilityValue

7.1.1 Description

The AccessibilityValue is an integer value describing the accessibility for Charging Pool and Charging Station elements.

7.1.2 Accepted Values for Charging Pool

Value	Meaning
0	Unknown accessibility
1	Free access
2	Restricted access

7.1.3 Accepted Values for Charging Station

Value	Meaning
0	Unknown service accessibility
1	Free public access
2	Controlled access
3	Car-Sharing Only
4	Only for employees
5	Public access with Key/Ticket ...
6	Only for residents
7	Only for clients

eMSP – Receiving data from CPO and display data to customer

If eMSP receives the EVSE (OCPI, OICP, OCHP)/Charging Pool (eMIP) data flagged with the above suggested ParkingRestriction (OCPI)/AccessibilityType (OICP)/RestrictionType (OCHP)/AccessibilityValue (eMIP) the access restriction must be easily visible and understandable for the customer. Usually, eMSP mobile applications display general information on aggregated location level and therefore, parking restrictions shared on EVSE level often will be summarized in the location information.

The following approach is recommended for display of locations with restricted access in eMSP applications:

1. **Minimum indication:**
 - a. Map view: location shown as normal public location (no differentiation of location types in general, i.e. all available locations are displayed the same)
 - b. Location view: indication that access restriction applies (this should be visible for customer with max. one or two clicks)
2. **Medium indication:**
 - a. Map view: UI indication on access restriction for specific location (e.g. color or different icon)
 - b. Location view: indication that access restriction applies
3. **Advanced indication**
 - a. Map view – two suggestions below (different approaches possible):
 - i. Location initially hidden, can be found by searching address/EVSE-ID – or if zoomed in very closely on the map. Additional UI indication on access restriction (e.g. color or different icon) is recommended.
 - ii. Geo-fencing, locations with restricted access only show up if user's GPS location is near the location. Additional UI indication on access restriction (e.g. color or different icon) is recommended.
 - b. Location view: indication that access restriction applies

Approach 2. and 3. deliver a better user experience, but the indication in the map view is highly dependent on the eMSP mobile application's user interface. Therefore, the recommendations only should provide guidance on potential solutions.

Location view: The indication of access restrictions should be prominently displayed and easy to understand for the customer. It is recommended to explain what access restrictions can mean for the customer, e.g. "location might be behind barrier, and/or is only available for guests/customers of the location owner, and/or only for a special user group (employees, taxi, carsharing)".

Filter-Options

Depending on the eMSP's approach of indicating the access restrictions, it might be useful to provide a filter for customers which by default only shows locations without access restrictions. This can further enhance the user experience, especially in combination with "1. Minimum indication".

Disclaimer & Edge Cases

Edge Cases

There will be cases where the above suggestion is not fully applicable and useful. The following edge case was identified:

- Location has multiple EVSEs - some EVSEs can be used by public while other EVSEs can only be used by a special user group, e.g. car sharing.