The Air Quality (Taxi and Private Hire Vehicles Database) (England and Wales) Regulations 2019

Annex A – Technical specification

July 2019

Contents

1. Centralised taxi and PHV database data maintenance (API)

1.1 Interface specification

Overview

Name: Centralised Taxi and PHV Database Data Maintenance (API) – POST data

Description: This interface enables integration, via a RESTful API, between local authority business processes and systems and the Clean Air Zone (CAZ) Service for the purposes of allowing licensing authorities to provide details of licensed taxis and Private Hire Vehicles (PHVs) held within the Centralised Taxi and PHV Database – this holds certain information on taxis and PHVs licensed in England and Wales.

Publisher: Joint Air Quality Unit

Consumer: Taxi / PHV Licensing Authorities and their IT/Software Vendor (where these contracts exist)

Interface type: RESTful API

Protocol: HTTPS

Test URL: To be confirmed

Pre-production URL: To be confirmed

Production URL: To be confirmed

Security: Official

Authentication: OAuth 2.0 framework

Note: URLs for Test, Pre-Production and Production environment authorization services will be supplied at a future date.

Content type: application/json

Content encoding: UTF-8

Methods

Name: POST

Description: The POST method allows the submission of requests that allows licensing authorities to maintain details of licensed taxis and Private Hire Vehicles (PHVs) held within the Centralised Taxi and PHV Database.

Input data type: JSON

Input data structure:

Header parameters

Field Name	Data Type	Min Length	Max Length	Optionality	Notes
x-api-key	String			Required	API key used to identify the caller.
X-Correlation-ID	String	40	40	Required	UUID formatted string to track the request through the enquiries stack.
Authorization	String	-	-	Required	OAuth 2.0 authorisation token.
timestamp	String	15	25	Required	ISO 8601 formatted datetime string indicating time that the request was initialised

Body parameters

Field Name	Data Type	Min Length	Max Length	Optionality	Notes
vehicleDetails	Object array	1	N/A	Required	Array containing vehicle detail objects
vrm	String	1	7	Required	String containing Vehicle registration mark without whitespace
start	String	8	10	Required	ISO 8601 formatted date string indicating the date from which a license is valid
end	String	8	10	Required	ISO 8601 formatted date string indicating the date until which a license is valid
taxiOrPHV	String enum	3	4	Required	String to indicate if the vehicle is a taxi or PHV. Must be equal to one of "taxi" or "PHV"
licensingAuthorityName	String	1	50	Required	String containing the name of the submitting Licensing Authority
licensePlateNumber	String	1	50	Required	String containing the unique reference number granted (by the Licensing Authority) to a vehicle.
wheelchairAccessibleVehicle	boolean	-	-	Optional	Boolean to indicate if the vehicle is wheelchair accessible or not

Example request payload

```
{
  "vehicleDetails": [
    {
      "vrm": "BD51SMR",
      "start": "2019-02-27",
      "end": "2019-03-01",
      "taxiOrPHV": "PHV",
      "licensingAuthorityName": "Leeds",
      "licensePlateNumber": "PCO 1",
      "wheelchairAccessibleVehicle": false
    },
    {
      "vrm": "BD51UAT",
      "start": "2019-01-02",
      "end": "2019-01-03",
      "taxiOrPHV": "taxi",
      "licensingAuthorityName": "Leeds",
      "licensePlateNumber": "PCO 7",
      "wheelchairAccessibleVehicle": true
    }
  ]
}
```

Input data scope: When invoking this API, the request body must contain details of all taxis and/or PHVs that are currently licensed by the Licensing Authority. Licensing Authorities should not supply a request body containing only those taxis and/or PHVs that have been added or changed since the last update.

Requests to this API will be limited to 20,000 vehicle details per request. For consumers who wish to supply vehicle data which exceeds this limit, please contact the project team at TaxiandPHVCentralised.Database@defra.gov.uk for further information.

Output data type: JSON

Output data structure:

Response parameters

Field Name	Data Type	Min Length	Max Length	Optionality	Notes
detail	String	-	-	-	String containing detail of the successful response

Example 201 (created) response payload

```
{
  "detail": "Register updated successfully."
```

```
}
```

Example error response payload

```
{
  "errors": [
    {
      "status": 400,
      "vrm": "",
      "title": "Mandatory field missing",
     "detail": "Vehicle  at  position  19  does  not  include  the  vrm
     field which is mandatory"
    },
    {
      "status": 400,
      "vrm": "BD51UAT",
      "title": "Value error",
      "detail": "startDate must be before endDate"
    }
  ]

}
```

Error codes:

HTTP Code	errorMessage.detail
500	System error message will be populated
503	Service unavailable
400	Bad request
401	Unauthorised
405	Method not allowed
422	Unprocessable entity
429	Too many requests

Schema: To be confirmed

1.2 Quality of service

Item	Value
Service Level Agreement	To be confirmed
Average transactions per second	To be confirmed
Peak transactions per second	To be confirmed
Frequency Distribution	To be confirmed
Average Size (KB)	To be confirmed
Peak Size (KB)	To be confirmed
Size Distribution	To be confirmed
Response Time	To be confirmed
Rate Limit	To be confirmed

1.3 Monitoring, audit and non-repudiation

Item	Value
Monitoring	To be confirmed
Audit	To be confirmed
Non-Repudiation	The use of OAuth 2.0 credentials paired with X-Correlation-ID headers will be used to uniquely identify an API invocation for non-repudiation purposes.

2. Centralised taxi and PHV database data maintenance (CSV)

2.1 Interface specification

Name: Centralised Taxi and PHV Database - Data Maintenance (CSV)

Description: This interface enables integration, via a CSV file uploaded to a secure cloud hosted file share, between local authority business processes and systems and the Clean Air Zone Service for the purposes of allowing licensing authorities to provide details of licensed taxis and Private Hire Vehicles (PHVs) held within the Centralised Taxi and PHV Database – this holds certain information on taxis and PHVs licensed in England and Wales.

Publisher: Joint Air Quality Unit

Consumer: Taxi / PHV Licensing Authorities and their IT/Software Vendor (where these contract exist)

Interface type: File transfer (CSV)

Protocol: HTTPS (CSV file upload to secure file share)

Test URL: To be confirmed

Pre-production URL: To be confirmed

Production URL: To be confirmed

Security classification: Official

Authentication: Username and password (to be confirmed)

Content type: Comma Separated Value (CSV) file

Content encoding: ASCII

Methods

File upload

Name: N/A

Description: This interface enables integration, via a CSV file uploaded to a secure cloud hosted file share, between local authority business processes and systems and the Clean Air Zone Service for the purposes of allowing licensing authorities to provide details of licensed taxis and Private Hire Vehicles (PHVs) held within the Centralised Taxi and PHV

Database – this holds certain information on taxis and PHVs licensed in England and Wales.

Input data type: File (CSV)

File naming: CAZ-yyyy-mm-dd-XXXX-#.csv

where:

- yyyy-mm-dd represents the date the file was generated

- XXXX is the agreed identifier for each Licensing Authority (to be confirmed)

- # is the total number of records included in the file.

Example:

CAZ-2019-06-18-AuthorityID-4242.csv

Input data structure:

Body parameters

Field Name	Data Type	Min Length	Max Length	Optionality	Notes
vrm	String	1	7	Mandatory	String containing Vehicle registration mark without whitespace
start	String	8	10	Mandatory	ISO 8601 formatted date string indicating the date from which a license is valid
end	String	8	10	Mandatory	ISO 8601 formatted date string indicating the date until which a license is valid
taxi_or_phv	String enum	3	4	Mandatory	String enumeration to indicate if the vehicle is a taxi or PHV. Must be equal to either 'taxi' or 'PHV'
licensing_authority_name	String	1	50	Mandatory	String containing the name if the submitting Licensing Authority
license_plate_number	String	1	15	Mandatory	String containing the unique reference number granted (by the Licensing Authority) to a vehicle.
wheelchair_accessible_vehicle	Boolean	4	5	Optional	Boolean to indicate if the vehicle is wheelchair accessible or not. Must be equal to either 'true' or 'false'

Input data formatting conventions:

- The records are supplied in comma separated value format.

- No header row is included

- No trailing row is included

- There is no trailing comma for the last field

- All characters comply with the 'accepted characters' below

- No field contains a newline character

- A field containing a comma or double quote must be quoted in double quotes ("…")

- Double quotes that form part of a field must be escaped with a double quote (i.e. a single " in a field becomes "")

- No spaces should be used between field values and separating commas

- No padding should be applied to fields, unless leading or trailing space is a legitimate part of the field's value

- Each record is separated by a newline (ASCII carriage return)

- Optional fields with no values will be separated by a comma

Accepted characters

Only the following characters may be included in the CSV file:

- A to Z (upper case)

- a to z (lower case)

- 0 to 9 (numeric)

- Space & '( ) *,. / % ! + - : ; = ? @ [ ] ^ _ { } ~

- Ampersand (&) and apostrophe (') characters must be transmitted in escaped format

Pound (£), dollar ($) and hash (#) characters are not permitted

Input data scope: Each CSV file must contain details of **all** taxis and/or PHVs that are currently licensed by the Licensing Authority.

Licensing Authorities must **not** supply a CSV file containing only those taxis and/or PHVs that have been added or changed since the last update.

Output data type: Other (please specify)

Notification emails will be sent to a specified email address to inform a Licensing Authority of whether the Centralised Taxi and PHV Database has been successfully updated, or if

an error was encountered (e.g. due to the supplied CSV file not conforming to this interface specification). A notification email will be sent in the following instances:

Case	Description	Email title	Email content
Accepted submission	If a file is submitted and accepted, an email will be sent indicating the successful submission.	National Taxi Register accepted submission: <filename>	The submission of <filename> has been accepted and the National Taxi register updated.
Rejected submission – invalid title	If an error is encountered with the filename of the submission, an email will be sent indicating that the submission was received and rejected, the content of which is the error encountered. The records will not be updated.	National Taxi Register rejected submission: <filename>	There were <number_of_errors> in the <filename> submission. The submission has been rejected. The errors are as follows: <errors>
Rejected submission – invalid data	If there are any errors encountered with the data, an email will be sent to	National Taxi Register rejected submission: <filename>	There were <number_of_errors> in the <filename> submission. The submission has been rejected.

	indicate that the CSV was received and rejected. The records will not be updated.		The errors are as follows: <errors_by_vrm>
Unable to process submission – Internal system error	If an error is encountered whilst processing the submission, an email will be sent to indicate that an internal system error occurred, preventing the submission from being accepted.	National Taxi Register internal error: <filename>	An internal system error was encountered whilst processing the submission <filename>. The error has been logged. The submission has not been accepted.
Unable to process submission – Service unavailable	If the service is unavailable when a submission is made, an email will be sent to indicate that the service cannot handle requests, preventing the submission from being accepted.	National Taxi Register service unavailable: <filename>	The National Taxi Register service is currently unavailable. The submission <filename> cannot be accepted at the current time.

Output data structure: N/A

Error codes:

errorMessage.message
National Taxi Register internal error
National Taxi Register rejected submission
National Taxi Register service unavailable

Schema: N/A

2.2 Quality of service

Item	Value
Service Level Agreement	To be confirmed
Average transactions per second	To be confirmed
Peak transactions per second	To be confirmed
Frequency Distribution	To be confirmed
Average Size (KB)	To be confirmed
Peak Size (KB)	To be confirmed
Size Distribution	To be confirmed
Response Time	To be confirmed
Rate Limit	To be confirmed

2.3 Monitoring, audit and non-repudiation

Item	Value
Monitoring	To be confirmed
Audit	To be confirmed
Non-Repudiation	The combination of: (1) the filename of the CSV file; and, (2) details of the authenticated user who uploaded the CSV file will be used to uniquely identify each CSV uploaded operation for non-repudiation purposes.