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Imperial College London Urban Systems Lab

Chenyang Wu, Aruna Sivakumar, Scott Le Vine **Urban Systems Lab** Imperial College London

Data Standard (CLADS)

Better Data for Smarter Decision-Making: A Car Club-Local Authority









Overview

- Objectives
- Methodology
- The CLADS framework
- Example use cases
- Conclusions









Objectives

- To standardise data exchanges between car clubs and local authorities in the UK, so as to increase the efficiency of this relationship and create new value
- Specifically
 - Co-create and build consensus for a data standard, in partnership with experts and key stakeholders
 - Address inefficiencies in delivering car clubs services where and when they are most valuable
 - Make it simple for decision-makers to understand and analyse impacts of car clubs
 - Specify a standard format for data-flows, reducing the effort and uncertainty in generating the data for the car club operators



Methodology

- Reviewed existing data sharing frameworks (GTFS, GBFS, MDS, etc.)
- Series of 3 workshops: Local Authorities, Operations, 3rd-party stakeholders
- Interviewed staff at cities abroad re their data sharing experience
- Draft data sharing framework (continuous stakeholder engagement)
- Designed use cases with the draft data sharing framework (synthetic data)



Imperial College London The CLADS framework

File name	Spatial granularity	Temporal granularity	Set of necessary contents
User Information	LSOA; Quarterly	Quarterly	Operator name; LSOA; anonymised user ID; user type; age.
Parking Location (for Round-Trip car club)	Street address	Quarterly; updated only if there are any changes since the previous quarter.	Operator's name; local authority; street address; parking type (local authority concession or third- party parking); number of vehicle parking spots allocated.
Vehicle Distribution (for FFCS)	LSOA	Daily (mid- morning, noon, mid-afternoon, midnight); reported quarterly.	Operator's name; number of available FFCS vehicles within the local authority; update date; update time (mid-morning, noon, mid-afternoon, midnight).
Trip Information	Street level (for Round- Trip car club) or lat/long (for FFCS);	Trips made daily; reported quarterly.	Operator's name; trip ID; user ID; licence plate number; trip start/end time and date; trip start/end location (latitude/longitude for FFCS); parking bay street address (for RT); trip length (mileage); state of charge at pick-up and drop-off plus charging episodes during trip (for electric vehicles).

+ SUMMARY STATISTICS FILE



Example use case: How are car club Origins/Destinations changing over time?





Imperial College London Example use case: Car clubs and residential parking permits



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Example use case: For trips made in car club vehicles, how competitive are other modes of travel (in terms of journey times)

Mode of transport	Average duration of journey itinerary	
Car club (Drive-n-Go)	28.3 min (calculated from observed CLADS data).	
Public transport	106 min (estimated from processing CLADS origin/destination/day of week/ time of day through the Google Maps API).	
Walking	234 min (also estimated via the Google Maps API).	
Cycling	47 min (also estimated via the Google Maps API).	



Thank you!

Chenyang Wu: <u>c.wu15@imperial.ac.uk</u> Aruna Sivakumar: <u>a.sivakumar@imperial.ac.uk</u> Scott Le Vine: <u>s.le-vine@imperial.ac.uk</u>