

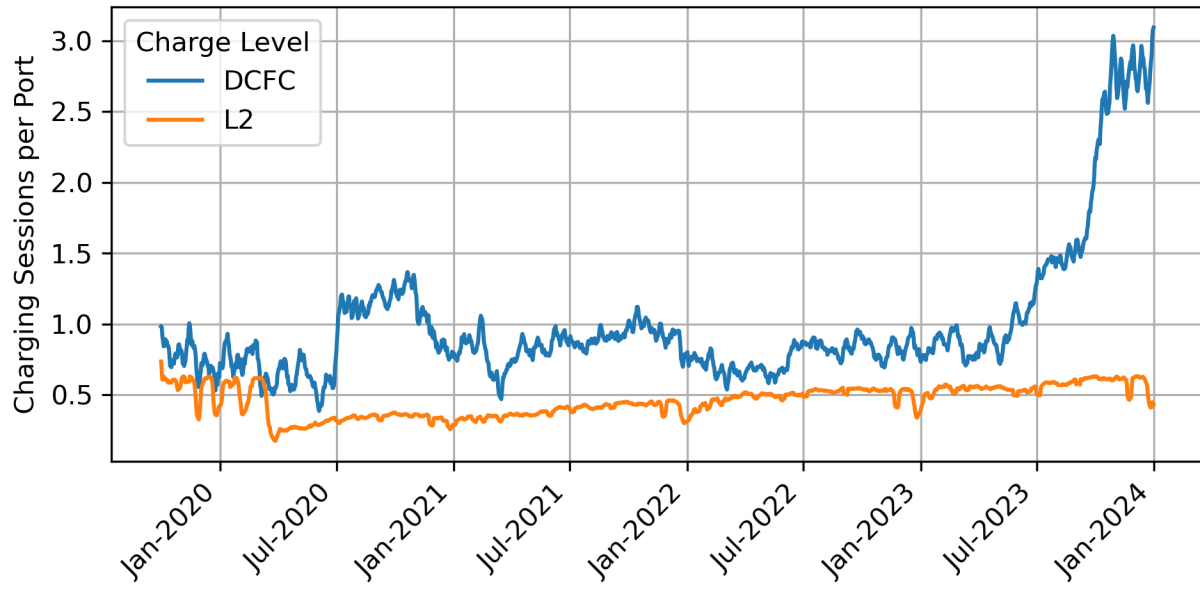
EV WATTS Bi-Annual Activity Update

This report provides a benchmark of EV WATTS national charging station data. EV WATTS (Electric Vehicle Widescale Analysis for Tomorrow's Transportation Solutions) addresses a growing need for practical information about vehicle electrification. The EV WATTS project team collects charging station (electric vehicle supply equipment, or EVSE) data from many partners across the U.S. The project applies proven data collection and analysis methodologies to collect, validate, clean, anonymize, analyze, and summarize data from both existing and new EVSE deployments. Analyzing this data helps create a better understanding of charging patterns and infrastructure performance to inform the U.S. Department of Energy's research. For more information or to access an interactive interface that displays statistics and findings from the entire EV WATTS dataset visit www.ewatts.org.

Daily Session Count

Station utilization is impacted by both the duration of sessions and the number of sessions. An active station can have numerous sessions or charging events per day. Charging session counts are normalized on a sessions-per-port basis for comparing regional and national data (next pages).

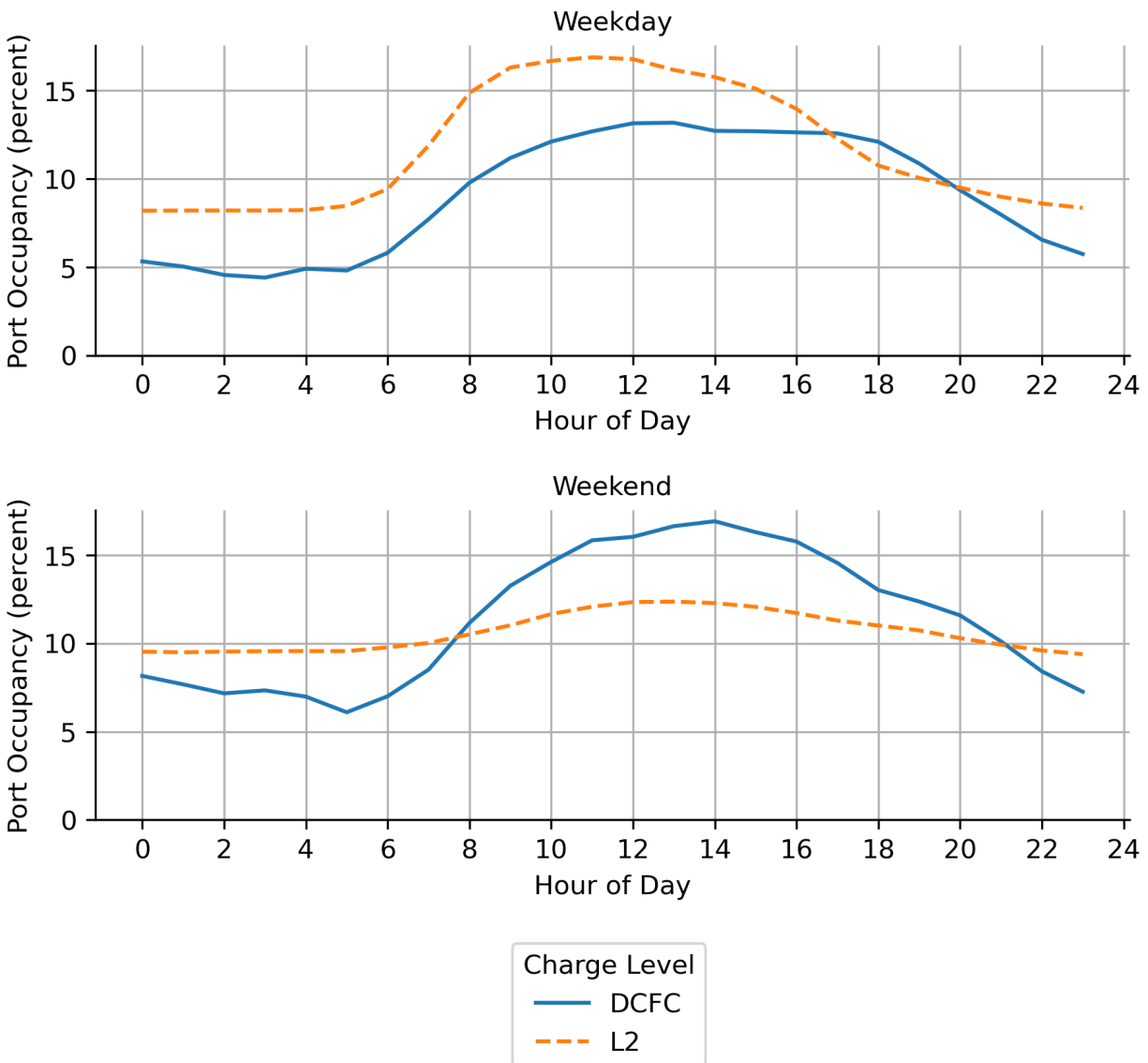
EV WATTS National - Daily Charging Sessions

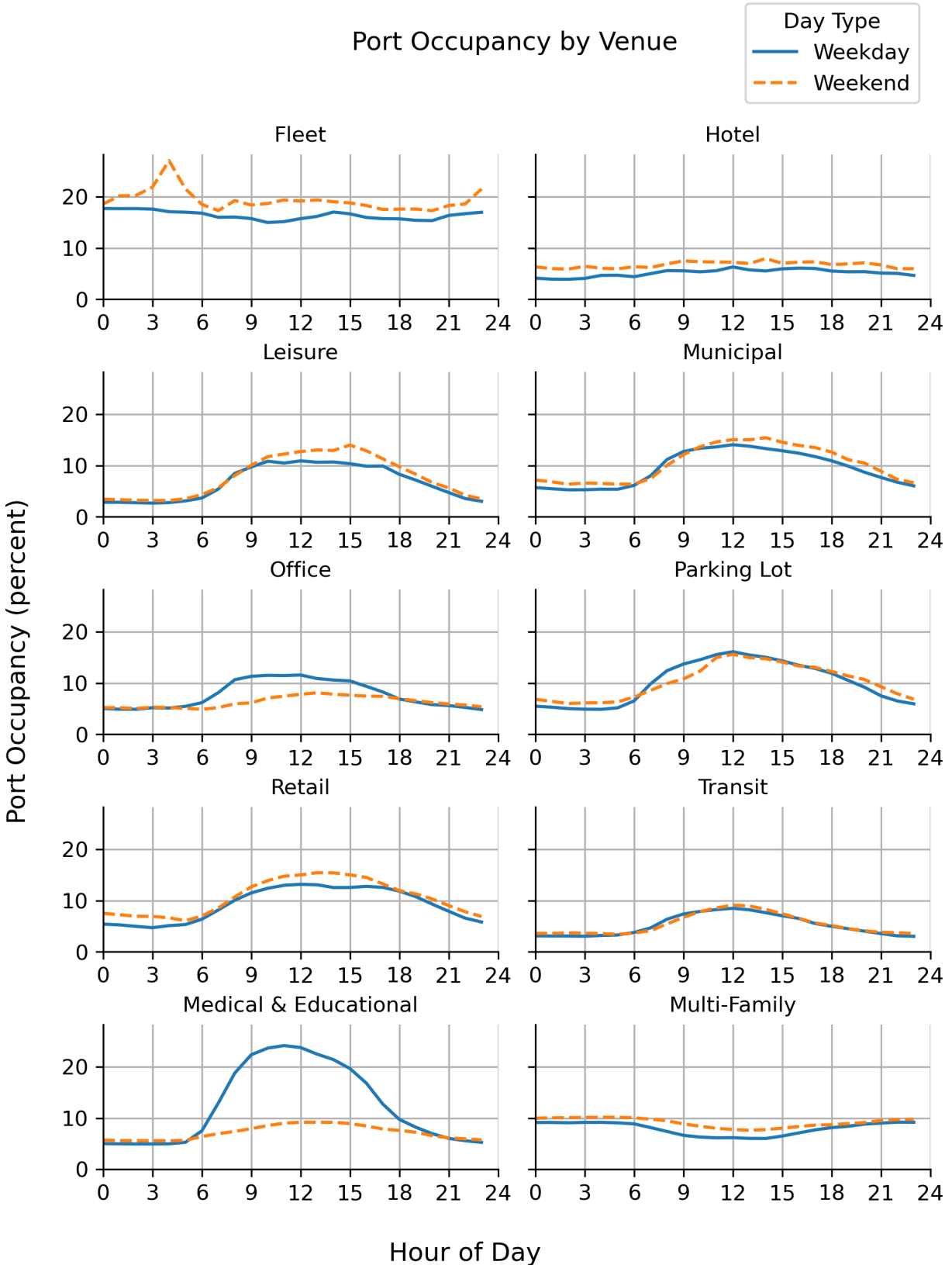


Utilization

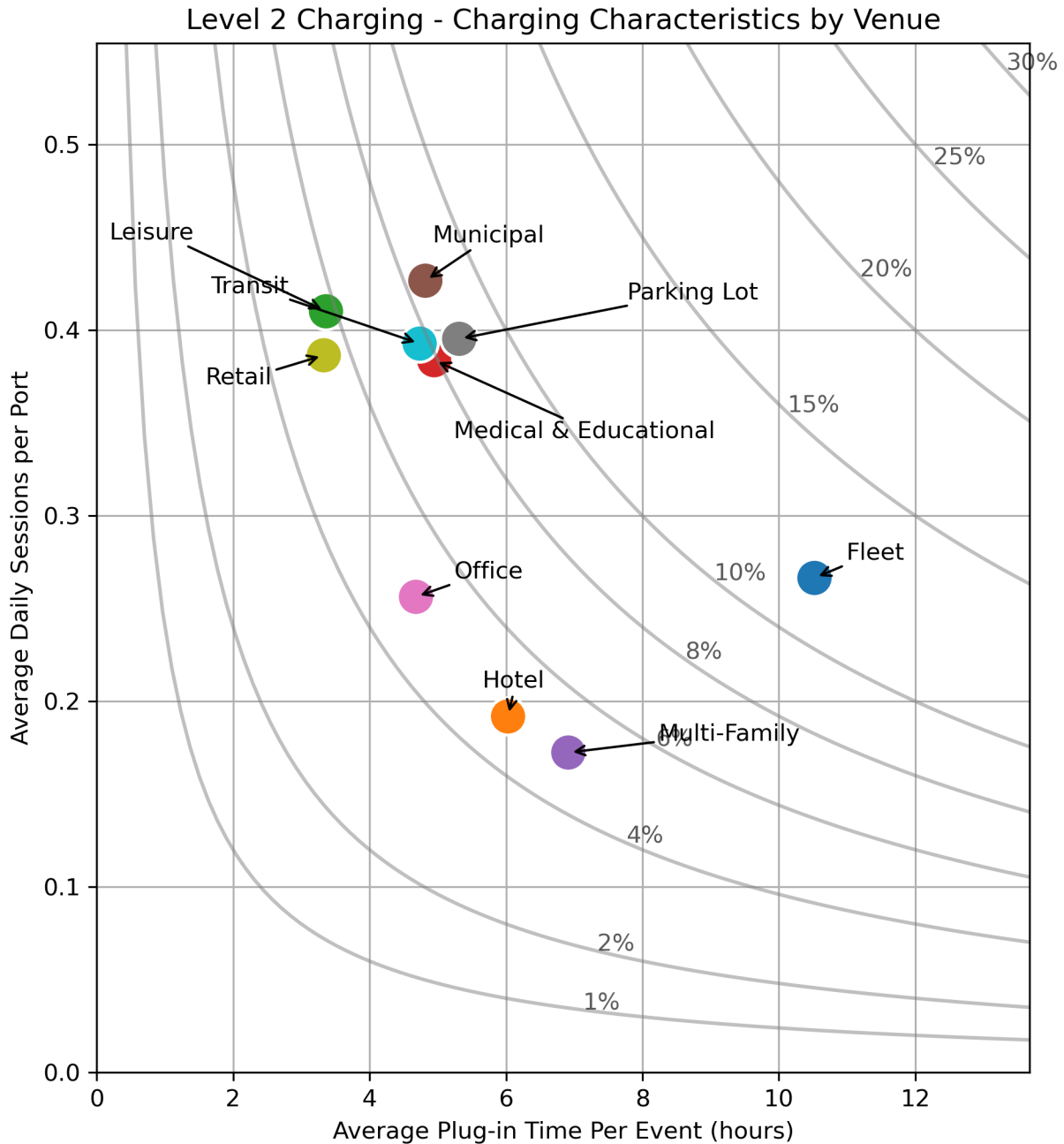
Utilization or occupancy is when an electric vehicle (EV) is plugged into a charging port. Few stations are used both day and night on both weekdays and weekends, so less than 25% occupancy is typical. Higher station utilization usually results in EV drivers searching out other stations that are less likely to be in use.

Port Utilization by Time of Day

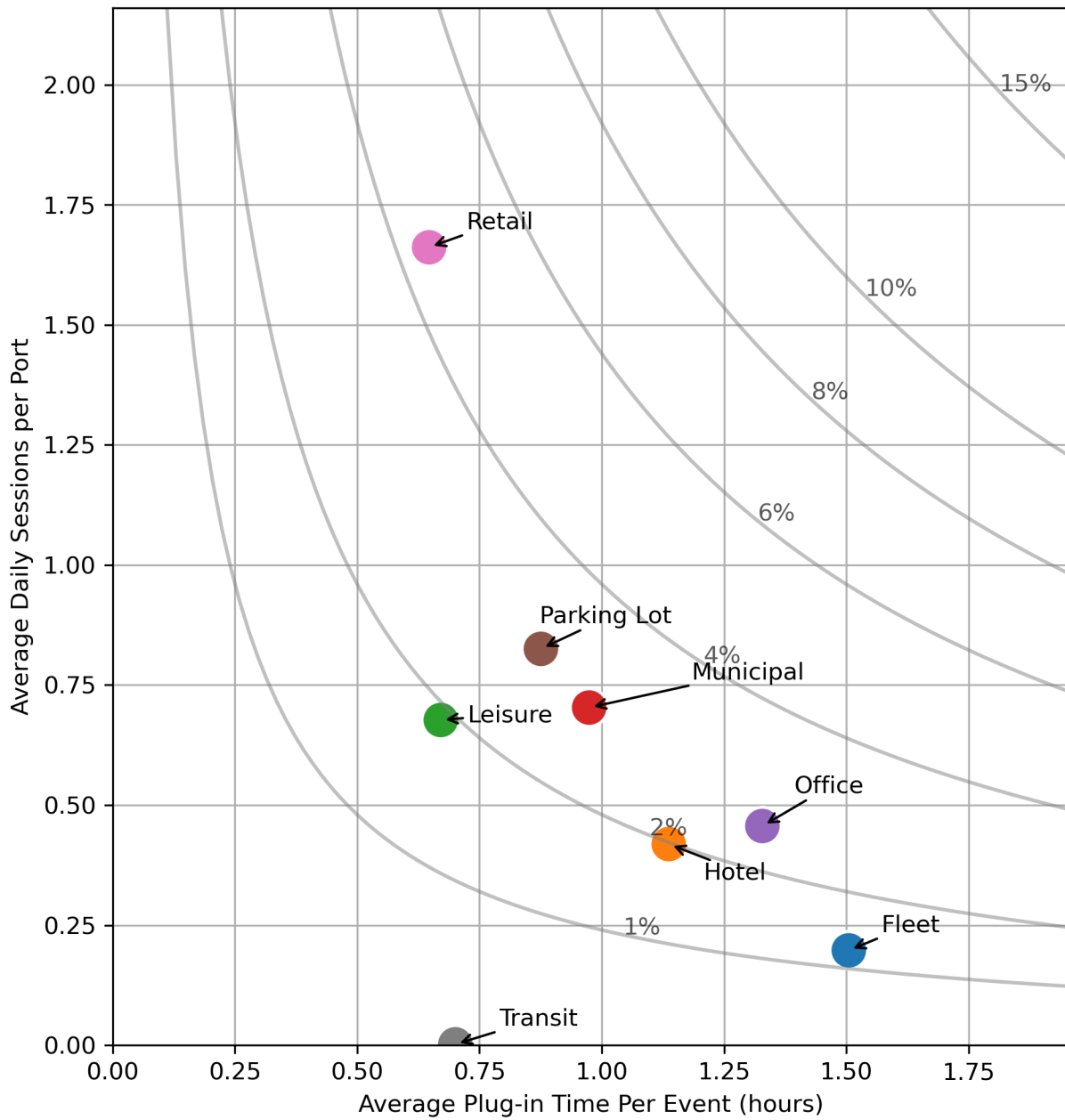




The average plug-in time plotted against the average number of daily charging events shows utilization characteristic differences. The isolines on the following chart with percentages represent an average port occupancy rate.



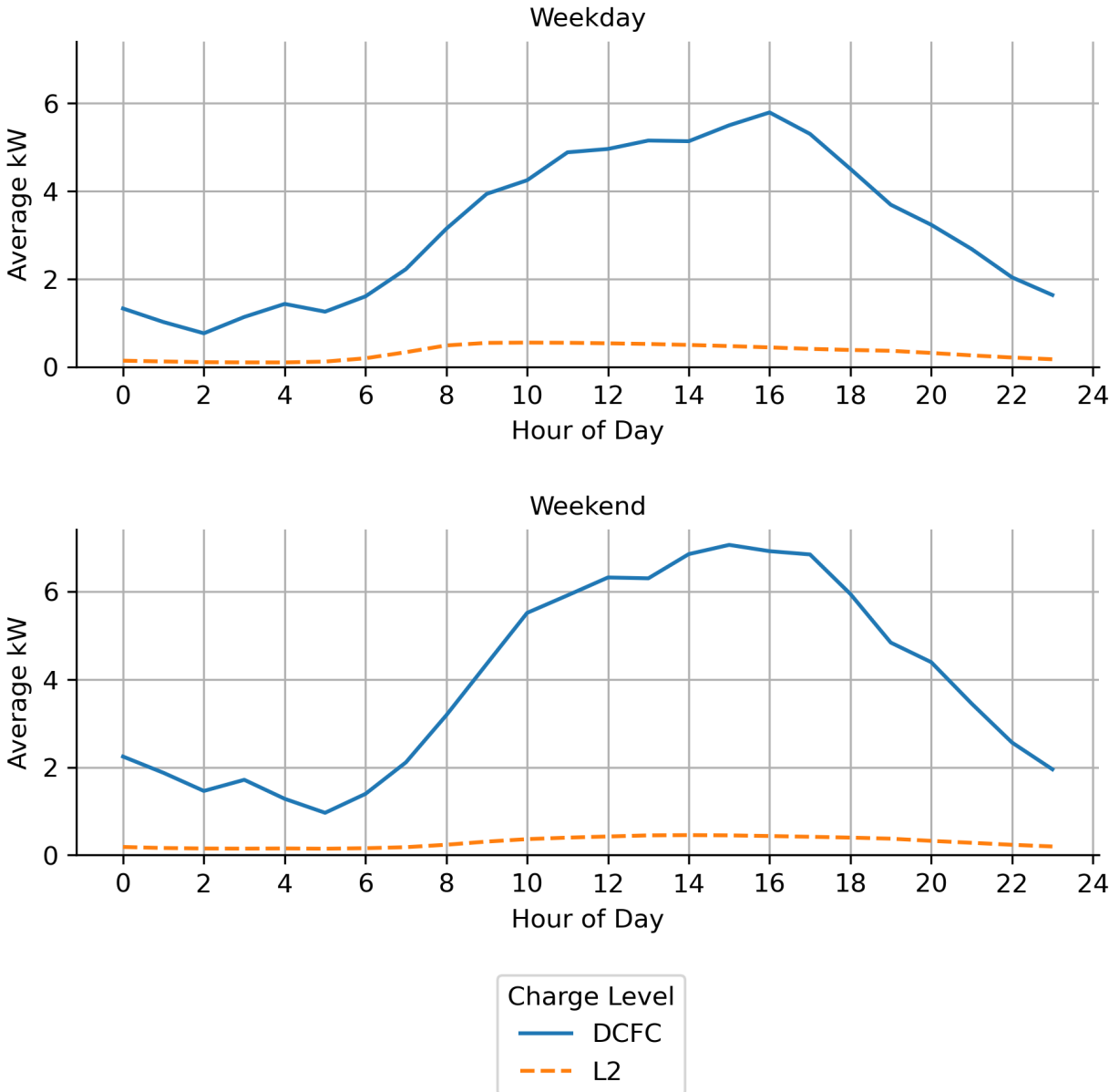
DC Fast Charging - Charging Characteristics by Venue



Energy

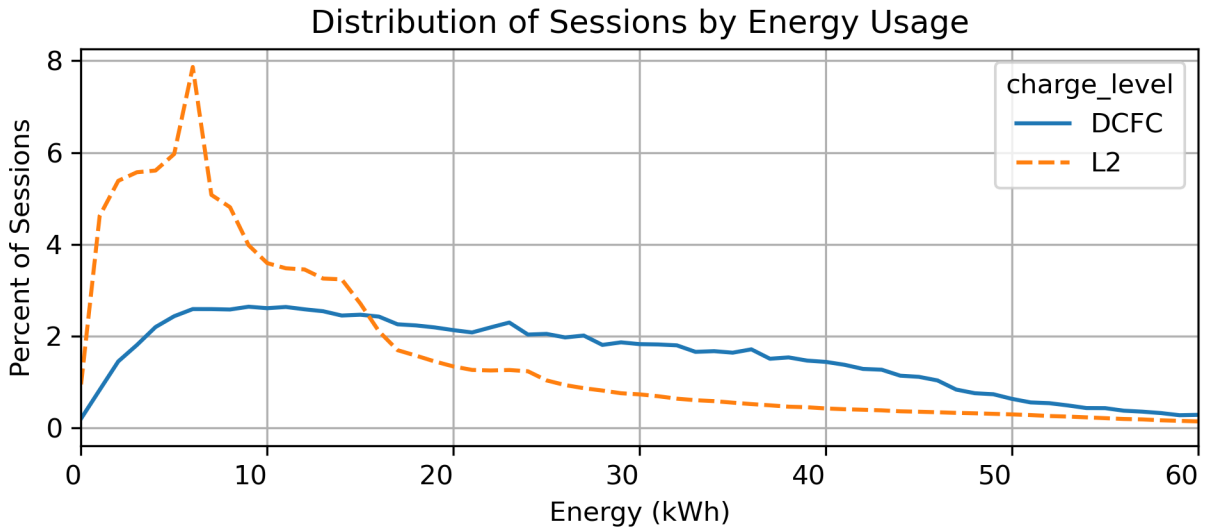
Electricity consumption indicates the impact of regional charging patterns on the overall grid (averaged across all stations for comparison purposes).

Energy Demand by Time of Day



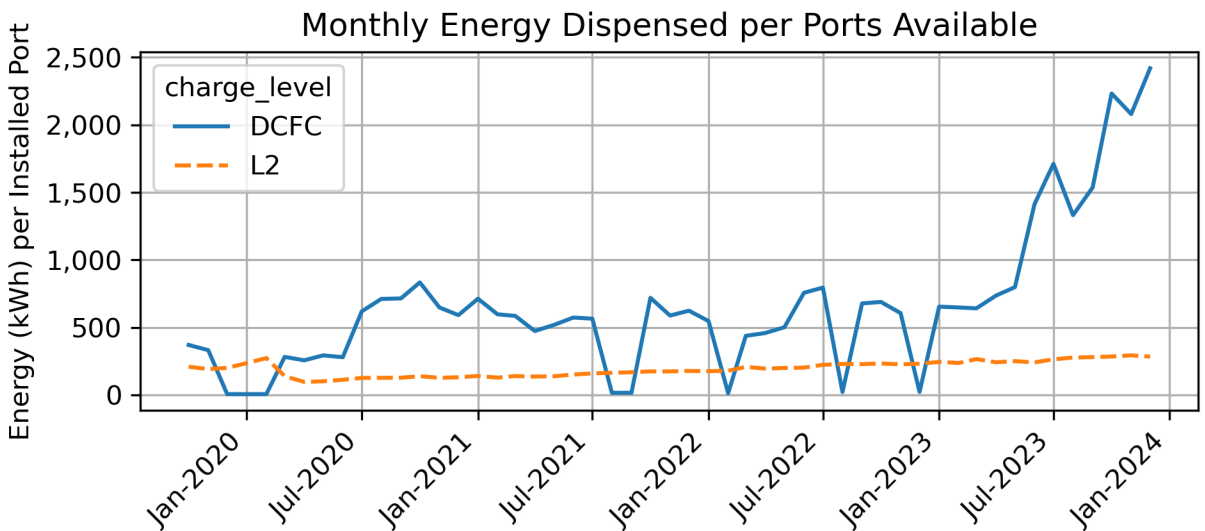
The median amount of energy (kWh) per charging session.

Data Set	Median Port Energy (kWh)
EV WATTS National	10.2



The average weekly energy dispensed per port.

Data Set	Median Port Energy (kWh)
EV WATTS National	64.8

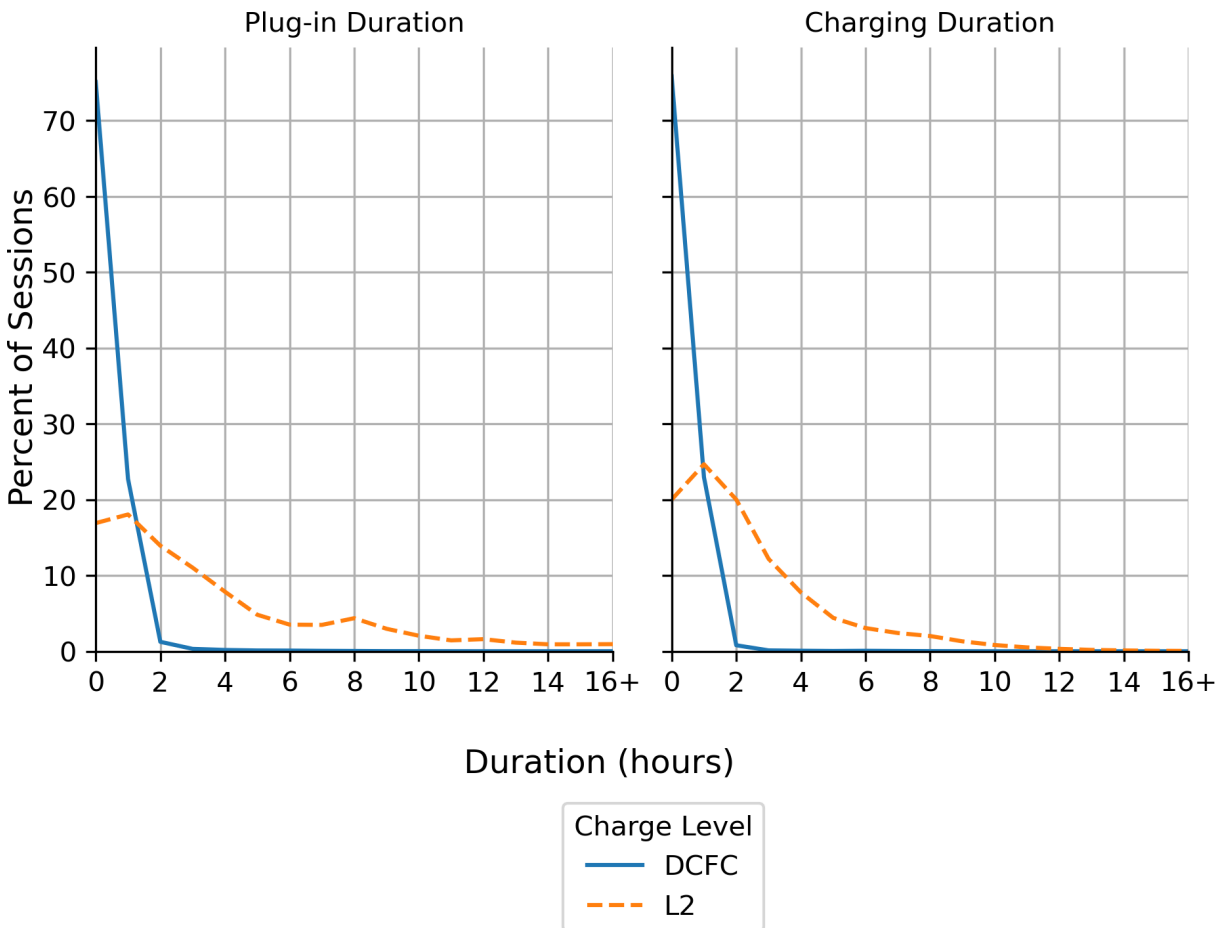


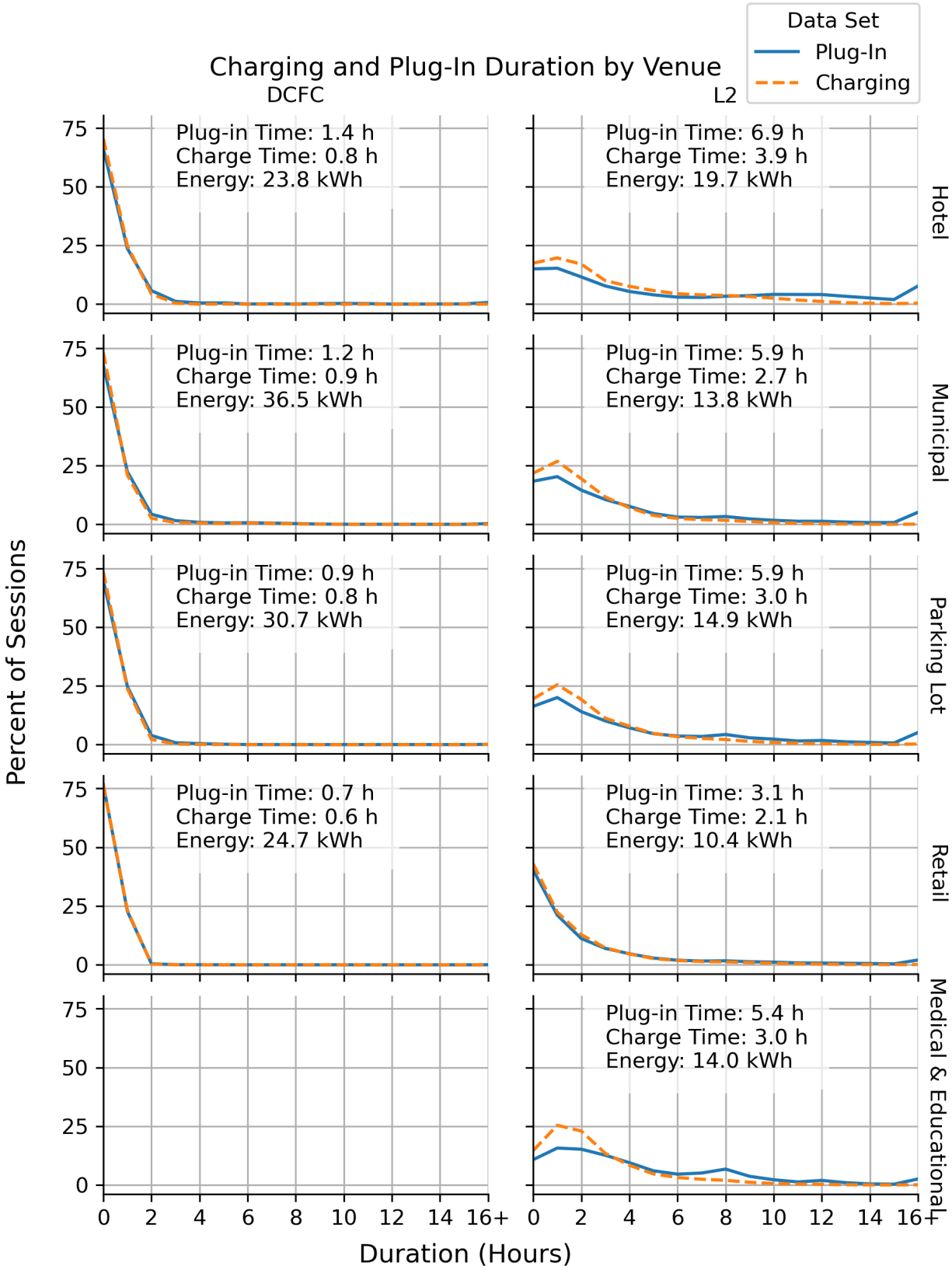
Duration

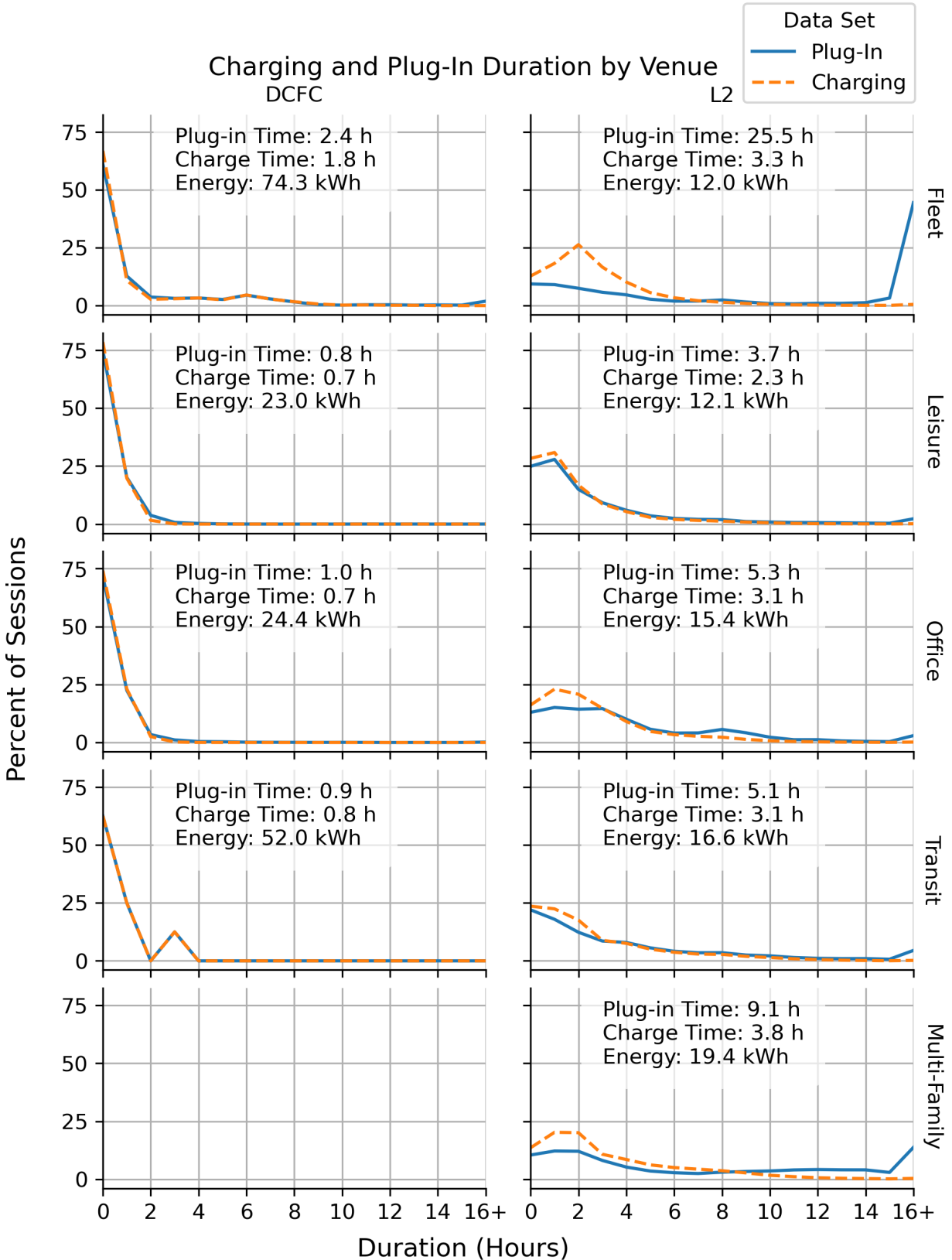
Each session has a plug-in duration or period when the station is occupied as well as an active charging duration. The difference between those represent an opportunity to optimize station use.

Data Set	Median Plug-in Duration (hours)	Median Charging Duration (hours)
EV WATTS National	2.8	2.1

Distribution of Charging Session Durations







Range in Utilization and Time Spent Charging

Individual charger performance can vary greatly among a group of chargers. A lower percentage of plug-in time spent charging reveals more opportunity to move the fully charged vehicle so the station can be used by others.

Data Set	Median Weekly Charging Sessions	Median Plug-in Time Spent Charging (percent)
EV WATTS National	4.3	98.2

