

SoC Occupancy Analysis

This report measures how long the battery spends in different SoC ranges during charging and discharging. Each timestamp is assigned a bucket (0–10%, 10–20%, ..., 95–100%) and time is aggregated within those ranges.

What is being computed?

- dt = time difference between consecutive records
- dt is summed inside each SoC bucket
- Percentage = $dt_{\text{bucket}} / dt_{\text{total}} \times 100$

Fleet-level tables summarise SoC exposure of all vehicles. Vehicle-level tables show SoC distribution for each bus individually.

Fleet-Level SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.01	0.11
10-20	0.03	0.11
20-30	0.6	0.98
30-40	3.43	4.25
40-50	9.94	12.48
50-60	14.68	12.58
60-70	18.32	13.81
70-80	22.52	15.28
80-85	8.64	6.34
85-90	7.28	8.47
90-95	4.96	10.34
95-100	9.57	15.24

Vehicle 11 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.0
10-20	0.0	0.0
20-30	0.2	0.22
30-40	3.37	5.25
40-50	11.49	15.19
50-60	15.23	14.13
60-70	20.33	16.06
70-80	23.38	17.9
80-85	7.23	5.63
85-90	5.43	6.27
90-95	4.51	9.8
95-100	8.81	9.56

Vehicle 12 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.17
10-20	0.0	0.0
20-30	0.03	0.02
30-40	3.59	2.43
40-50	7.82	10.25
50-60	15.72	10.87
60-70	15.36	9.45
70-80	21.89	12.1
80-85	11.5	8.28
85-90	9.99	10.71
90-95	6.11	12.06
95-100	7.99	23.66

Vehicle 13 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.02
10-20	0.0	0.0
20-30	0.24	0.26
30-40	2.05	3.09
40-50	10.7	14.28
50-60	16.49	14.71
60-70	20.25	16.72
70-80	25.13	17.94
80-85	7.92	5.68
85-90	5.74	7.26
90-95	3.75	9.71
95-100	7.74	10.33

Vehicle 14 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.0
10-20	0.0	0.0
20-30	0.34	0.45
30-40	4.88	6.38
40-50	11.38	13.39
50-60	17.62	15.47
60-70	20.69	16.92
70-80	20.48	17.22
80-85	5.73	5.07
85-90	5.01	7.41
90-95	3.53	8.23
95-100	10.33	9.46

Vehicle 15 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.04
10-20	0.0	0.0
20-30	0.1	0.17
30-40	3.2	4.37
40-50	11.11	14.85
50-60	14.76	13.34
60-70	20.34	16.68
70-80	23.45	16.86
80-85	6.4	5.72
85-90	5.52	6.91
90-95	4.86	10.25
95-100	10.27	10.81

Vehicle 16 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.12
10-20	0.28	0.46
20-30	4.82	5.48
30-40	8.35	7.43
40-50	13.21	12.68
50-60	15.59	10.68
60-70	12.37	9.63
70-80	16.86	11.09
80-85	7.14	5.76
85-90	5.9	11.0
90-95	5.2	9.49
95-100	10.27	16.15

Vehicle 18 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.14
10-20	0.34	0.48
20-30	2.56	3.29
30-40	7.63	5.05
40-50	13.75	11.88
50-60	10.42	6.83
60-70	15.61	10.73
70-80	15.12	19.81
80-85	6.55	6.55
85-90	7.67	8.06
90-95	5.67	12.08
95-100	14.68	15.1

Vehicle 19 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.01
10-20	0.69	1.62
20-30	5.65	4.77
30-40	12.86	8.69
40-50	10.96	9.23
50-60	12.75	6.73
60-70	12.52	11.95
70-80	17.97	17.48
80-85	6.05	11.55
85-90	6.07	9.54
90-95	5.45	9.77
95-100	9.04	8.67

Vehicle 20 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.41
10-20	0.0	0.0
20-30	0.0	0.0
30-40	1.43	1.2
40-50	8.27	12.71
50-60	11.8	15.2
60-70	26.83	10.46
70-80	21.89	13.0
80-85	11.03	7.88
85-90	9.87	10.32
90-95	4.79	10.63
95-100	4.08	18.19

Vehicle 25 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.23
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.32	0.56
40-50	5.78	11.36
50-60	10.17	11.48
60-70	11.75	13.61
70-80	36.68	15.78
80-85	9.27	7.74
85-90	10.97	10.13
90-95	6.21	10.47
95-100	8.84	18.65

Vehicle 27 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.31
10-20	0.0	0.0
20-30	0.0	0.0
30-40	2.29	2.91
40-50	6.65	9.55
50-60	13.75	11.79
60-70	18.18	10.24
70-80	20.94	12.37
80-85	12.33	7.58
85-90	8.06	10.31
90-95	4.99	11.78
95-100	12.81	23.17

Vehicle 28 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.19
10-20	0.0	0.0
20-30	0.15	0.86
30-40	1.45	4.83
40-50	8.62	10.33
50-60	15.37	12.24
60-70	16.69	12.01
70-80	23.53	15.53
80-85	12.93	7.36
85-90	12.55	10.08
90-95	3.09	8.99
95-100	5.62	17.58

Vehicle 29 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.04	0.24
10-20	0.0	0.0
20-30	0.51	0.49
30-40	2.03	1.53
40-50	8.4	11.9
50-60	12.06	10.28
60-70	14.49	12.43
70-80	21.91	12.16
80-85	10.59	6.79
85-90	9.04	10.5
90-95	5.48	12.22
95-100	15.45	21.44

Vehicle 3 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.02
10-20	0.0	0.0
20-30	0.7	1.98
30-40	7.23	8.26
40-50	14.27	14.87
50-60	14.16	11.48
60-70	13.52	11.16
70-80	17.32	11.17
80-85	7.58	4.05
85-90	7.12	8.13
90-95	6.57	11.03
95-100	11.53	17.84

Vehicle 30 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.03	0.19
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.0	0.0
40-50	0.0	0.0
50-60	3.87	2.44
60-70	12.13	29.53
70-80	28.72	10.38
80-85	13.03	2.69
85-90	13.23	3.79
90-95	16.88	20.95
95-100	12.1	30.04

Vehicle 31 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.22
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.87	1.3
40-50	7.64	8.83
50-60	13.93	11.07
60-70	19.4	13.59
70-80	25.06	14.09
80-85	13.31	9.86
85-90	10.52	10.46
90-95	3.95	11.5
95-100	5.3	19.08

Vehicle 32 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.45
10-20	0.0	0.0
20-30	0.0	0.0
30-40	4.4	15.76
40-50	10.93	13.48
50-60	20.88	11.83
60-70	21.98	16.61
70-80	17.38	11.22
80-85	7.81	5.88
85-90	5.95	7.04
90-95	6.85	5.0
95-100	3.82	12.73

Vehicle 33 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.07	0.42
10-20	0.0	0.0
20-30	0.31	0.95
30-40	0.92	3.35
40-50	6.92	9.43
50-60	11.5	13.05
60-70	17.24	13.26
70-80	23.14	13.04
80-85	12.7	8.36
85-90	10.23	8.4
90-95	4.75	10.06
95-100	12.23	19.68

Vehicle 42 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.05
10-20	0.0	5.07
20-30	0.32	15.95
30-40	3.31	10.27
40-50	8.02	4.8
50-60	17.58	8.9
60-70	15.22	11.5
70-80	18.02	9.2
80-85	10.21	6.15
85-90	8.19	12.23
90-95	4.8	4.66
95-100	14.33	11.23

Vehicle 46 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	1.69	0.24
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.0	0.0
40-50	5.48	17.4
50-60	11.43	16.23
60-70	18.62	8.66
70-80	24.3	6.19
80-85	11.58	2.31
85-90	13.13	7.15
90-95	5.15	9.51
95-100	8.62	32.3

Vehicle 6 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.04
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.72	1.04
40-50	7.68	9.4
50-60	13.17	12.95
60-70	20.16	14.47
70-80	26.61	19.45
80-85	9.59	6.67
85-90	7.8	8.36
90-95	5.49	12.38
95-100	8.78	15.23

Vehicle 7 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.01
10-20	0.0	0.0
20-30	0.47	0.49
30-40	3.14	3.66
40-50	10.88	14.19
50-60	14.72	13.74
60-70	20.04	16.77
70-80	23.13	17.53
80-85	7.18	5.29
85-90	5.78	7.03
90-95	4.78	9.92
95-100	9.89	11.36

Vehicle 9 — SoC Occupancy (%)		
SoC Bucket	CHARGING	DISCHARGING
0-10	0.0	0.02
10-20	0.0	0.0
20-30	0.0	0.0
30-40	3.4	4.21
40-50	10.88	14.74
50-60	15.93	14.22
60-70	21.17	16.62
70-80	24.35	18.06
80-85	5.7	5.48
85-90	5.04	6.36
90-95	4.71	8.81
95-100	8.81	11.48