EV Project Electric Vehicle Charging Infrastructure Summary Report

Region: ALL

98

Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 2394

Number of EV Project vehicles in region. 2394	Desidential	Private	Publicly	Publicly	
Charging Unit Usage	Level 2	Nonresidential Level 2	Level 2	Available DC Fast	Total
Number of charging units ¹	2,413	0	170	0	2,583
Number of charging events ²	118,239	0	2,258	0	120,497
Electricity consumed (AC MWh)	852.17	0.00	14.15	0.00	866.31
Percent of time with a vehicle connected to charging unit	29%	0%	7%	0%	28%
Percent of time with a vehicle drawing power from charging unit	6%	0%	2%	0%	6%

Number of Charge Events



Electricity Consumed

98%



Charging Unit Utilization

Project



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Region: ALL

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	86,398	31,841	118,239	
Electricity consumed (AC MWh)	625.10	227.06	852.17	
Percent of time with a vehicle connected to EVSE	28%	30%	29%	
Percent of time with a vehicle drawing power from EVSE	6%	5%	6%	
Average number of charging events started per EVSE per day	0.71	0.68	0.70	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





11/7/2011 5:22:14 PM INL/LTD-11-22097 2 of 43

Region: ALL

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%	0%	
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per char	ging event (hr)	9.9	10.0	9.9
Average length of time with vehicle drawing power per	charging event (hr)	2.0	1.8	2.0
Average electricity consumed per charging event (AC k	:Wh)	7.5	6.5	7.2



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







Region: ALL

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	1,927	331	2,258	
Electricity consumed (AC MWh)	12.41	1.74	14.15	
Percent of time with a vehicle connected to EVSE	8%	5%	7%	
Percent of time with a vehicle drawing power from EVSE	2%	1%	2%	
Average number of charging events started per EVSE per day	0.29	0.13	0.25	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





20:00

Weekend

Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days Min electricity demand across all days

Electricity demand on single calendar day with highest peak





11/7/2011 5:22:14 PM INL/LTD-11-22097 4 of 43

Region: ALL

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	39%	3%		57%
Percent of electricity consumed	38%	2%		59%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charg	ing event (hr)	6.6	8.1	6.8
Average length of time with vehicle drawing power per cl	narging event (hr)	1.8	1.4	1.7
Average electricity consumed per charging event (AC kWh)		6.4	5.3	6.3



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

Destail and

Region: Phoenix, AZ Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 156

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total	
Number of charging units ¹	159	0	21	0	180	
Number of charging events ²	9,293	0	156	0	9,449	
Electricity consumed (AC MWh)	58.52	0.00	0.60	0.00	59.11	
Percent of time with a vehicle connected to charging unit	29%	0%	6%	0%	27%	
Percent of time with a vehicle drawing power from charging unit	6%	0%	1%	0%	5%	



Residential Level 2 Private Nonresidential Level 2 Publicly Available Level 2

999

Electricity Consumed

Charging Unit Utilization

Desire Parts



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days Min percentage of charging

units connected across all days Percentage of charging units

connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

 $^{\mathbf{3}}$ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Max electricity demand across all days

Region: Phoenix, AZ Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	6,572	2,721	9,293	
Electricity consumed (AC MWh)	42.26	16.26	58.52	
Percent of time with a vehicle connected to EVSE	28%	30%	29%	
Percent of time with a vehicle drawing power from EVSE	6%	6%	6%	
Average number of charging events started per EVSE per day	0.78	0.83	0.79	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Weekend Weekday 0.171 0.171 Electricity Demand (AC MW) 0.137 0.137 0.103 0,103 0.068 0.068 0.034 0.034 0.000 0.000 0:00 4:00 8:00 12:00 16:00 20:00 0:00 4:00 8:00 12:00 16:00 20:00 Time of Day Time of Day

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴

Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Phoenix, AZ Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per char	ging event (hr)	9.1	8.3	8.8
Average length of time with vehicle drawing power per	charging event (hr)	1.8	1.5	1.7
Average electricity consumed per charging event (AC H	(Wh)	6.6	5.5	6.3



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







Region: Phoenix, AZ Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	125	31	156	
Electricity consumed (AC MWh)	0.48	0.11	0.60	
Percent of time with a vehicle connected to EVSE	5%	7%	6%	
Percent of time with a vehicle drawing power from EVSE	1%	1%	1%	
Average number of charging events started per EVSE per day	0.23	0.15	0.21	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Phoenix, AZ Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	44%	0%		56%
Percent of electricity consumed	41%	0%		59%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charge	ging event (hr)	5.9	11.6	7.0
Average length of time with vehicle drawing power per of	charging event (hr)	1.1	1.0	1.1
Average electricity consumed per charging event (AC kWh)		3.9	3.7	3.8



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







....

. . .

EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

D. . I. I'. . I

Region: Tucson, AZ Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 50

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	53	0	7	0	60
Number of charging events ²	2,905	0	150	0	3,055
Electricity consumed (AC MWh)	17.00	0.00	0.90	0.00	17.90
Percent of time with a vehicle connected to charging unit	31%	0%	17%	0%	29%
Percent of time with a vehicle drawing power from charging unit	5%	0%	2%	0%	5%



Charging Unit Utilization

DURIN



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





20:00

Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

 $^{\mathbf{3}}$ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Region: Tucson, AZ Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	2,151	754	2,905
Electricity consumed (AC MWh)	12.66	4.34	17.00
Percent of time with a vehicle connected to EVSE	30%	31%	31%
Percent of time with a vehicle drawing power from EVSE	5%	4%	5%
Average number of charging events started per EVSE per day	0.76	0.69	0.74

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per cha	rging event (hr)	9.6	11.3	10.0
Average length of time with vehicle drawing power per	charging event (hr)	1.6	1.4	1.6
Average electricity consumed per charging event (AC I	‹Wh)	6.1	5.2	5.9



Distribution of Length of Time with a





Distribution of Length of Time with a Vehicle Drawing Power per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 12 of 43

EV Project Electric Vehicle Charging Infrastructure Summary Report

Region: Los Angeles, CA Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 217

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	216	0	4	0	220
Number of charging events ²	9,219	0	33	0	9,252
Electricity consumed (AC MWh)	67.06	0.00	0.16	0.00	67.22
Percent of time with a vehicle connected to charging unit	26%	0%	5%	0%	26%
Percent of time with a vehicle drawing power from charging unit	5%	0%	2%	0%	5%

— ·



Electricity Consumed



Charging Unit Utilization

D. . I. I'. . I

Project

D. . I. I'. . I



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days Min percentage of charging

units connected across all days Percentage of charging units connected on single calendar day with peak electricity

demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





11/7/2011 5:22:14 PM INL/LTD-11-22097 13 of 43

Region: Los Angeles, CA Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	6,711	2,508	9,219
Electricity consumed (AC MWh)	49.10	17.96	67.06
Percent of time with a vehicle connected to EVSE	26%	28%	26%
Percent of time with a vehicle drawing power from EVSE	5%	5%	5%
Average number of charging events started per EVSE per day	0.61	0.58	0.60

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per cha	arging event (hr)	10.6	10.3	10.5
Average length of time with vehicle drawing power per	r charging event (hr)	2.0	1.8	2.0
Average electricity consumed per charging event (AC	kWh)	7.5	6.7	7.3

WD

WE



Distribution of Length of Time with a

Length of time connected per charging event (hr)





Distribution of Length of Time with a Vehicle Drawing Power per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 14 of 43

WD

WE

EV Project Electric Vehicle Charging Infrastructure Summary Report

Region: San Diego, CA Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 442

Number of EV Project venicles in region. 442		Private	Publicly	Publicly	
Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	441	0	20	0	461
Number of charging events ²	26,178	0	502	0	26,680
Electricity consumed (AC MWh)	199.47	0.00	3.30	0.00	202.77
Percent of time with a vehicle connected to charging unit	31%	0%	8%	0%	31%
Percent of time with a vehicle drawing power from charging unit	6%	0%	3%	0%	6%

Number of Charge Events





Electricity Consumed

Charging Unit Utilization

Project



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days Min percentage of charging

with percentage of charging units connected across all days Percentage of charging units connected on single calendar day with peak electricity

demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





11/7/2011 5:22:14 PM INL/LTD-11-22097 15 of 43

Region: San Diego, CA Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	19,253	6,925	26,178
Percent of time with a vehicle connected to EVSE	31%	33%	31%
Average number of charging events started per EVSE per day	0.77	0.71	0.75

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand







Region: San Diego, CA Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per cha	rging event (hr)	10.1	10.3	10.1
Average length of time with vehicle drawing power per	charging event (hr)	2.1	1.9	2.1
Average electricity consumed per charging event (AC	kWh)	7.9	6.9	7.6



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 17 of 43

Region: San Diego, CA Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	357	145	502	
Electricity consumed (AC MWh)	2.45	0.85	3.30	
Percent of time with a vehicle connected to EVSE	9%	7%	8%	
Percent of time with a vehicle drawing power from EVSE	3%	3%	3%	
Average number of charging events started per EVSE per day	0.42	0.44	0.42	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





11/7/2011 5:22:14 PM INL/LTD-11-22097 18 of 43

Region: San Diego, CA Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	61%	0%		39%
Percent of electricity consumed	62%	0%		38%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per char	rging event (hr)	4.8	4.7	4.7
Average length of time with vehicle drawing power per	charging event (hr)	1.9	1.6	1.8
Average electricity consumed per charging event (AC I	‹Wh)	6.9	5.8	6.6



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







EV Project Electric Vehicle Charging Infrastructure Summary Report

Region: San Francisco, CA Metropolitan Area

Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 597

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	602	0	2	0	604
Number of charging events ²	24,089	0	5	0	24,094
Electricity consumed (AC MWh)	187.63	0.00	0.01	0.00	187.65
Percent of time with a vehicle connected to charging unit	28%	0%	0%	0%	28%
Percent of time with a vehicle drawing power from charging unit	6%	0%	0%	0%	6%



ned

Private

Charging Unit Utilization

Publicly

Project

Publicly



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

 $^{\mathbf{3}}$ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Region: San Francisco, CA Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	17,584	6,505	24,089
Electricity consumed (AC MWh)	137.07	50.56	187.63
Percent of time with a vehicle connected to EVSE	27%	29%	28%
Percent of time with a vehicle drawing power from EVSE	6%	5%	6%
Average number of charging events started per EVSE per day	0.66	0.63	0.65

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per cl	narging event (hr)	10.4	10.2	10.4
Average length of time with vehicle drawing power p	er charging event (hr)	2.2	1.8	2.1
Average electricity consumed per charging event (A	C kWh)	8.2	6.7	7.8

Average electricity consumed per charging event (AC kWh)



Distribution of Length of Time with a





Distribution of Length of Time with a Vehicle Drawing Power per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 21 of 43

EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

Publicly

Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 254

Region: Oregon

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	254	0	32	0	286
Number of charging events ²	12,773	0	364	0	13,137
Electricity consumed (AC MWh)	87.90	0.00	1.46	0.00	89.36
Percent of time with a vehicle connected to charging unit	27%	0%	7%	0%	26%
Percent of time with a vehicle drawing power from charging unit	5%	0%	1%	0%	5%

Private

Number of Charge Events

Residential Level 2 Private Nonresidential Level 2 Publicly Available Level 2



98%

Electricity Consumed

Charging Unit Utilization

Publicly



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days Min percentage of charging

units connected across all days Percentage of charging units connected on single calendar

day with peak electricity demand







Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Region: Oregon

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	9,336	3,437	12,773
Electricity consumed (AC MWh)	63.79	24.11	87.90
Percent of time with a vehicle connected to EVSE	26%	28%	27%
Percent of time with a vehicle drawing power from EVSE	5%	5%	5%
Average number of charging events started per EVSE per day	0.69	0.65	0.68

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand



Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Region: Oregon

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charge	ging event (hr)	9.6	9.8	9.7
Average length of time with vehicle drawing power per of	charging event (hr)	1.9	1.8	1.9
Average electricity consumed per charging event (AC k	Wh)	7.0	6.5	6.9



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 24 of 43

Region: Oregon

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	304	60	364	
Electricity consumed (AC MWh)	1.29	0.17	1.46	
Percent of time with a vehicle connected to EVSE	7%	7%	7%	
Percent of time with a vehicle drawing power from EVSE	2%	0%	1%	
Average number of charging events started per EVSE per day	0.30	0.16	0.26	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Oregon

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	34%	0%		66%
Percent of electricity consumed	25%	0%		75%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charg	ing event (hr)	5.8	11.6	6.8
Average length of time with vehicle drawing power per cl	harging event (hr)	1.3	0.8	1.2
Average electricity consumed per charging event (AC kV	Vh)	4.3	2.8	4.0



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event











11/7/2011 5:22:14 PM INL/LTD-11-22097 26 of 43

EV Project Electric Vehicle Charging Infrastructure Summary Report

Region: Chattanooga, TN Metropolitan Area

Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 24

Number of EV Project vehicles in region. 24	Posidontial	Private	Publicly	Publicly	
Charging Unit Usage	Level 2	Level 2	Level 2	DC Fast	Total
Number of charging units ¹	25	0	4	0	29
Number of charging events ²	970	0	14	0	984
Electricity consumed (AC MWh)	7.79	0.00	0.05	0.00	7.84
Percent of time with a vehicle connected to charging unit	27%	0%	1%	0%	26%
Percent of time with a vehicle drawing power from charging unit	6%	0%	1%	0%	6%



Electricity Consumed



Charging Unit Utilization

Project



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





11/7/2011 5:22:14 PM INL/LTD-11-22097 27 of 43

Region: Chattanooga, TN Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	719	251	970
Electricity consumed (AC MWh)	5.87	1.92	7.79
Percent of time with a vehicle connected to EVSE	26%	29%	27%
Percent of time with a vehicle drawing power from EVSE	7%	6%	6%
Average number of charging events started per EVSE per day	0.72	0.67	0.71

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per ch	narging event (hr)	9.1	9.7	9.3
Average length of time with vehicle drawing power p	er charging event (hr)	2.3	1.8	2.2
Average electricity consumed per charging event (A	C kWh)	8.5	6.7	8.0

WD

WE

Vehicle Connected per Charging Event

Distribution of Length of Time with a

per charging event (hr)





Distribution of Length of Time with a Vehicle Drawing Power per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 28 of 43

EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

D. . I. I'. . I

Region: Knoxville, TN Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 44

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	44	0	24	0	68
Number of charging events ²	1,957	0	598	0	2,555
Electricity consumed (AC MWh)	13.60	0.00	5.32	0.00	18.92
Percent of time with a vehicle connected to charging unit	31%	0%	11%	0%	23%
Percent of time with a vehicle drawing power from charging unit	6%	0%	3%	0%	5%

. .



Electricity Consumed

28%

Charging Unit Utilization

D. . I. I'. . I



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days Min percentage of charging

units connected across all days Percentage of charging units connected on single calendar

day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





11/7/2011 5:22:14 PM INL/LTD-11-22097 29 of 43

Region: Knoxville, TN Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	1,426	531	1,957	
Electricity consumed (AC MWh)	10.11	3.49	13.60	
Percent of time with a vehicle connected to EVSE	29%	34%	31%	
Percent of time with a vehicle drawing power from EVSE	6%	5%	6%	
Average number of charging events started per EVSE per day	0.72	0.70	0.71	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand



Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Region: Knoxville, TN Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per cha	rging event (hr)	10.7	9.8	10.5
Average length of time with vehicle drawing power per	charging event (hr)	2.0	1.7	1.9
Average electricity consumed per charging event (AC	kWh)	7.2	6.2	6.9



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 31 of 43

Region: Knoxville, TN Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	575	23	598	
Electricity consumed (AC MWh)	5.07	0.25	5.32	
Percent of time with a vehicle connected to EVSE	14%	3%	11%	
Percent of time with a vehicle drawing power from EVSE	4%	1%	3%	
Average number of charging events started per EVSE per day	0.44	0.05	0.33	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Knoxville, TN Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	39%	0%		61%
Percent of electricity consumed	37%	0%		63%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charge	ging event (hr)	7.5	25.2	8.2
Average length of time with vehicle drawing power per of	charging event (hr)	2.4	2.8	2.4
Average electricity consumed per charging event (AC k	Wh)	8.8	10.4	8.9



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 33 of 43

EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

D. . I. I'. . I

Region: Nashville, TN Metropolitan Area Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 164

Charging Unit Usage	Residential Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	166	0	16	0	182
Number of charging events ²	6,935	0	145	0	7,080
Electricity consumed (AC MWh)	46.62	0.00	0.96	0.00	47.58
Percent of time with a vehicle connected to charging unit	28%	0%	8%	0%	26%
Percent of time with a vehicle drawing power from charging unit	6%	0%	1%	0%	6%



Electricity Consumed



Charging Unit Utilization

Destruction



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

 $^{\mathbf{3}}$ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





11/7/2011 5:22:14 PM INL/LTD-11-22097 34 of 43

Region: Nashville, TN Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	5,006	1,929	6,935	
Electricity consumed (AC MWh)	34.19	12.42	46.62	
Percent of time with a vehicle connected to EVSE	27%	31%	28%	
Percent of time with a vehicle drawing power from EVSE	6%	6%	6%	
Average number of charging events started per EVSE per day	0.79	0.80	0.79	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Nashville, TN Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per char	ging event (hr)	8.7	8.6	8.7
Average length of time with vehicle drawing power per	charging event (hr)	1.9	1.7	1.9
Average electricity consumed per charging event (AC I	(Wh)	7.0	6.1	6.7



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 36 of 43

Region: Nashville, TN Metropolitan Area Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	130	15	145	
Electricity consumed (AC MWh)	0.88	0.08	0.96	
Percent of time with a vehicle connected to EVSE	9%	6%	8%	
Percent of time with a vehicle drawing power from EVSE	1%	0%	1%	
Average number of charging events started per EVSE per day	0.17	0.05	0.14	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Nashville, TN Metropolitan Area

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	18%	0%		82%
Percent of electricity consumed	13%	0%		87%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per char	ging event (hr)	14.5	6.5	13.7
Average length of time with vehicle drawing power per	charging event (hr)	1.9	1.3	1.9
Average electricity consumed per charging event (AC k	(Wh)	6.8	5.6	6.7



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







EV Project Electric Vehicle Charging Infrastructure Summary Report

Project

Region: Washington State

Report period: July 2011 through September 2011

Number of EV Project vehicles in region: 440

Number of EV Project vehicles in region. 440		Private	Publicly	Publicly	
Charging Unit Usage	Level 2	Nonresidential Level 2	Available Level 2	Available DC Fast	Total
Number of charging units ¹	445	0	28	0	473
Number of charging events ²	23,554	0	196	0	23,750
Electricity consumed (AC MWh)	163.98	0.00	0.96	0.00	164.94
Percent of time with a vehicle connected to charging unit	29%	0%	1%	0%	28%
Percent of time with a vehicle drawing power from charging unit	6%	0%	1%	0%	5%



Electricity Consumed

99%



Charging Unit Utilization



Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak

¹ Includes all charging units that were in use by the end of the reporting period

² A charging event is defined as the period when a vehicle is connected to a charging unit, during which period some power is transferred

³ Considers the connection status of all charging units every minute

⁴ Based on 15 minute rolling average power output from all charging units





Region: Washington State

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall
Number of charging events	17,367	6,187	23,554
Electricity consumed (AC MWh)	123.09	40.89	163.98
Percent of time with a vehicle connected to EVSE	29%	31%	29%
Percent of time with a vehicle drawing power from EVSE	6%	5%	6%
Average number of charging events started per EVSE per day	0.73	0.67	0.71

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand



Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





11/7/2011 5:22:14 PM INL/LTD-11-22097 40 of 43

Region: Washington State

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	100%	0%		0%
Percent of electricity consumed	100%	0%		0%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charge	ing event (hr)	10.0	10.2	10.0
Average length of time with vehicle drawing power per c	harging event (hr)	2.0	1.7	1.9
Average electricity consumed per charging event (AC k)	Wh)	7.2	6.3	7.0



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event







11/7/2011 5:22:14 PM INL/LTD-11-22097 41 of 43

Region: Washington State

Report period: July 2011 through September 2011

EVSE Usage	Weekday	Weekend	Overall	
Number of charging events	155	41	196	
Electricity consumed (AC MWh)	0.76	0.20	0.96	
Percent of time with a vehicle connected to EVSE	2%	1%	1%	
Percent of time with a vehicle drawing power from EVSE	1%	1%	1%	
Average number of charging events started per EVSE per day	0.15	0.11	0.14	

Charging Availability: Range of Percent of Charging Units with a Vehicle Connected versus Time of Day³





Max percentage of charging units connected across all days

Min percentage of charging units connected across all days

Percentage of charging units connected on single calendar day with peak electricity demand

Charging Demand: Range of Aggregate Electricity Demand versus Time of Day⁴





Max electricity demand across all days

Min electricity demand across all days

Electricity demand on single calendar day with highest peak





Region: Washington State

Report period: July 2011 through September 2011

Vehicles Charged	Nissan Leaf	Chevrolet Volt		Unknown
Percent of charging events	58%	0%		42%
Percent of electricity consumed	67%	0%		33%
Individual Charging Event Statistics		Weekday (WD)	Weekend (WE)	Overall
Average length of time with vehicle connected per charge	ging event (hr)	2.3	2.6	2.4
Average length of time with vehicle drawing power per of	charging event (hr)	1.4	1.3	1.4
Average electricity consumed per charging event (AC k	Wh)	4.9	4.8	4.9



Distribution of Length of Time with a Vehicle Drawing Power per Charging Event



Distribution of Electricity Consumed per Charging Event





