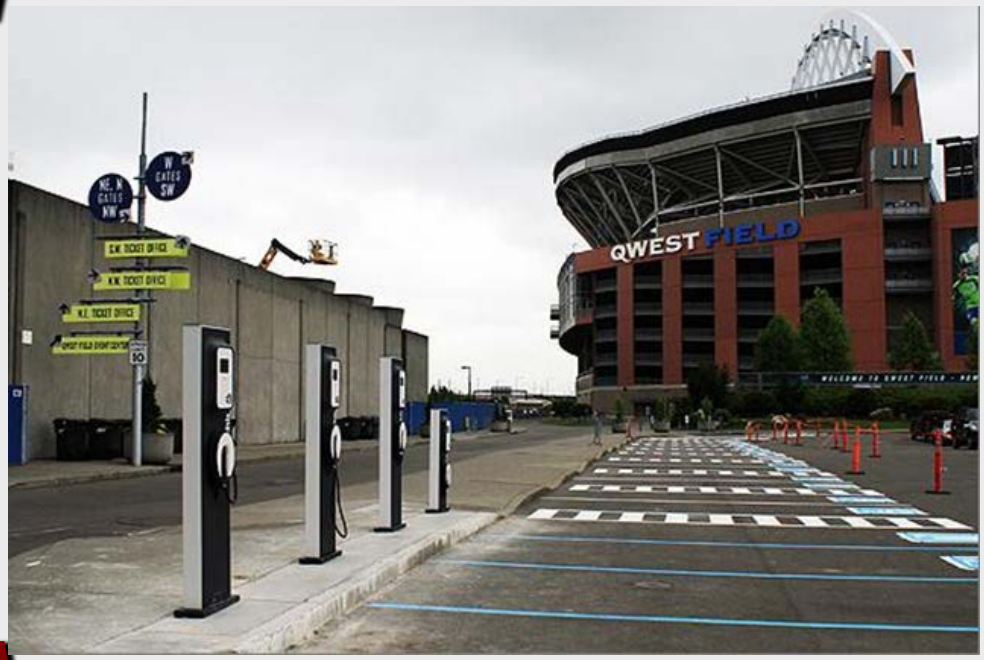
Metropolitan Washington Council of Governments

EV Policy and Processes Group

Lessons Learned - ADA



November 29, 2011

THE EV Project

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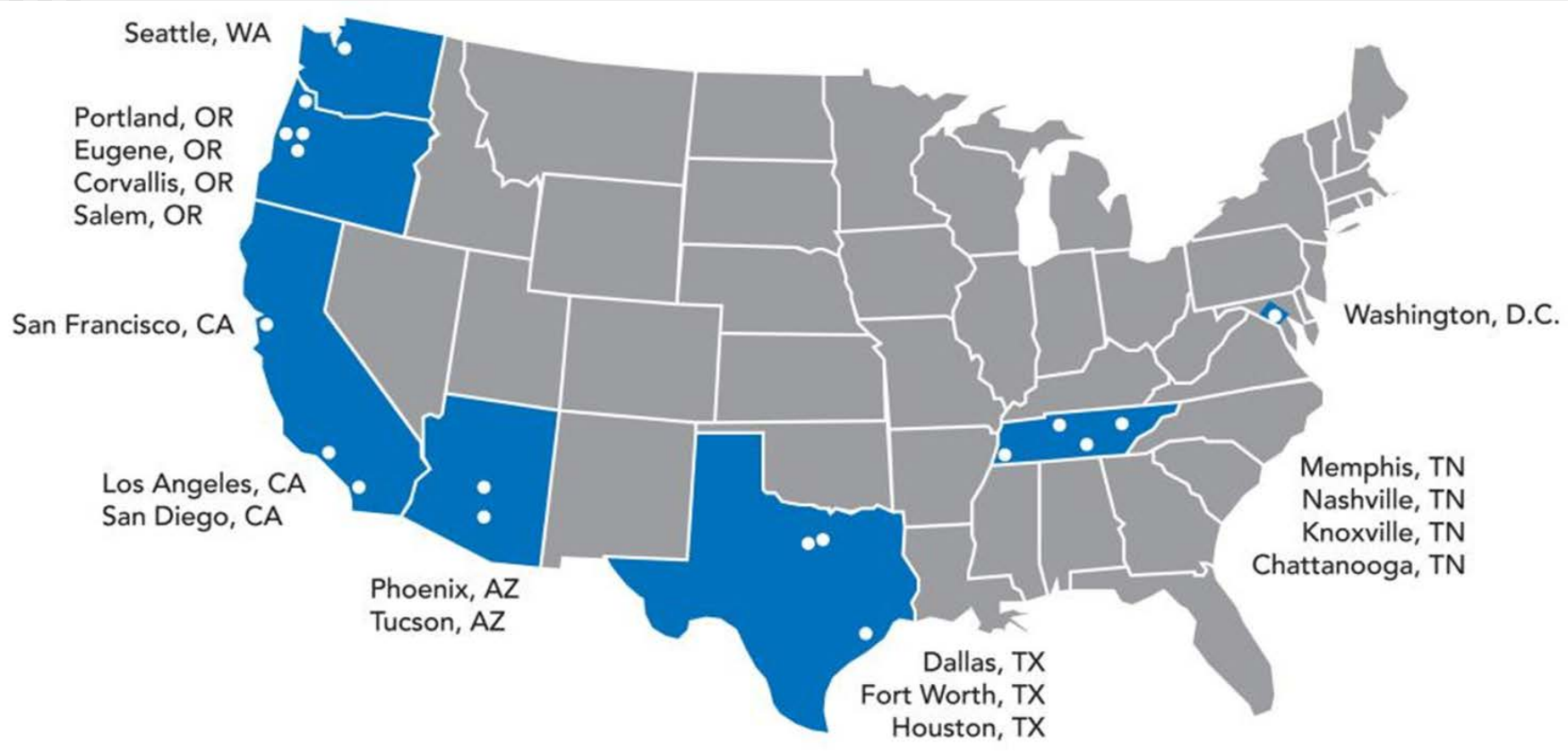
The EV Project

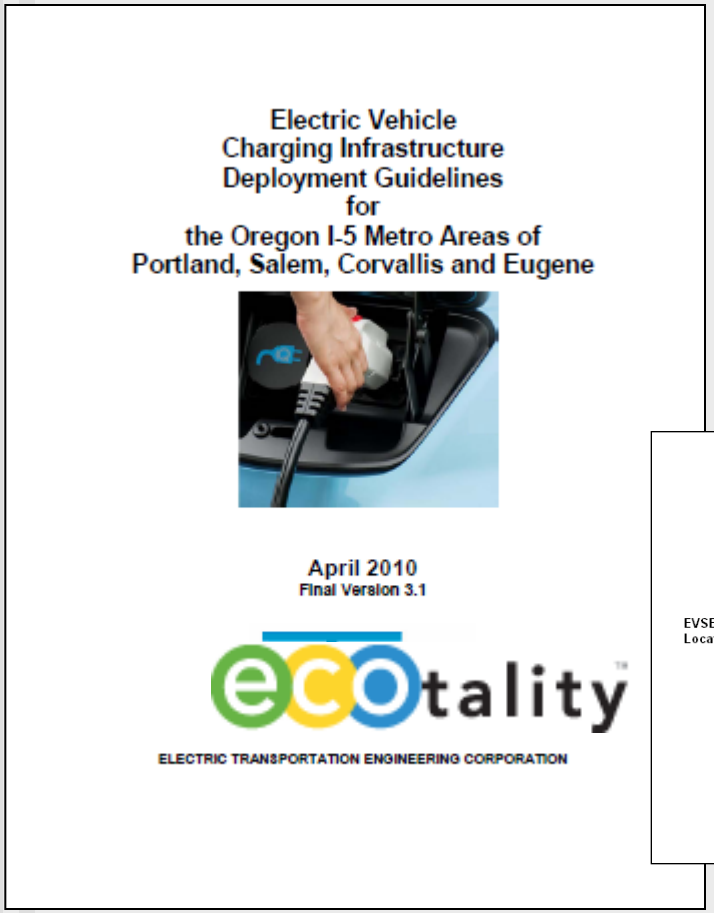
- **$230 million project**
  - **$115 million grant from US Dept. of Energy**
  - **$115 million match**
- **Purpose: To plan, build, study, and evaluate mature electric vehicle charging infrastructure in six states plus the District of Columbia**
- **Product: Lessons learned**

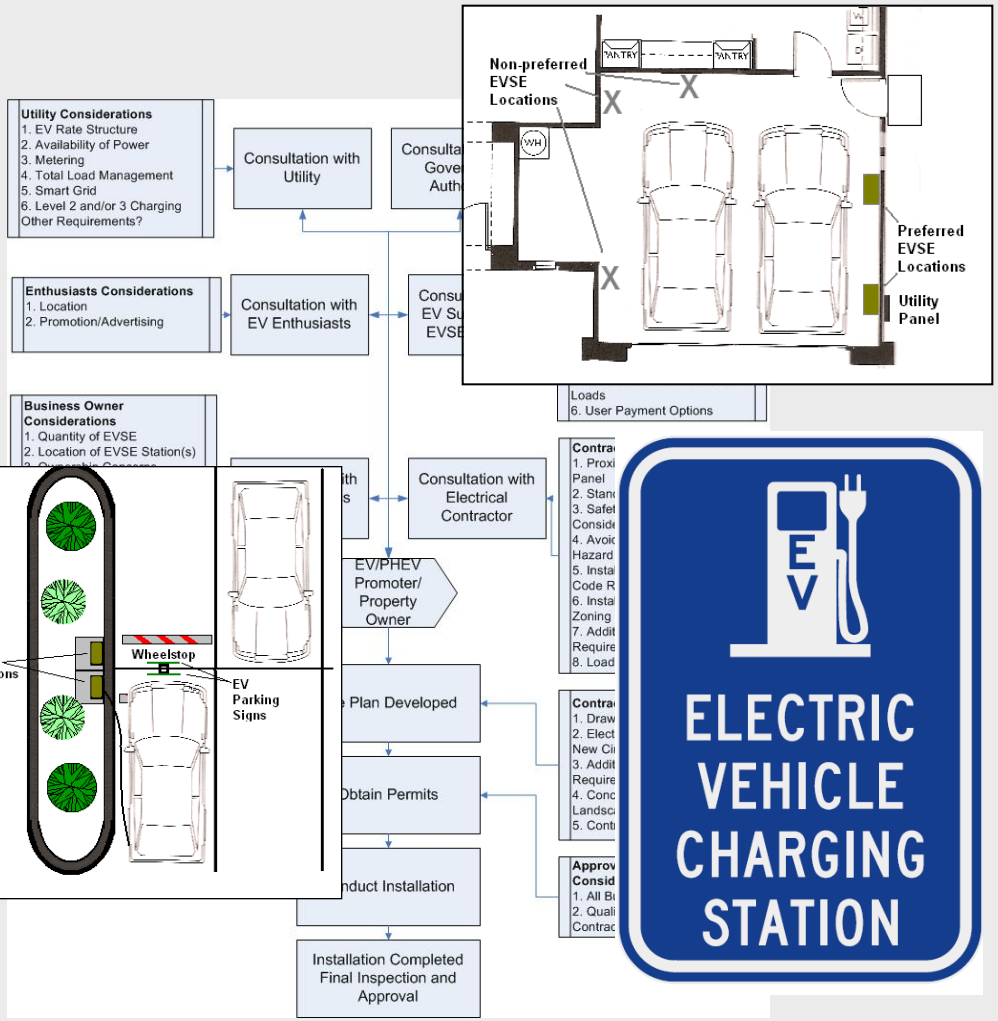
The EV Project



Up to 8300 Residential EVSE (Nissan Leaf and Chevrolet Volt)
Up to 5000 Publicly Available AC Level 2 EVSE
Up to 225 Dual Port DC Level 2 EVSE

Deployment Guidelines





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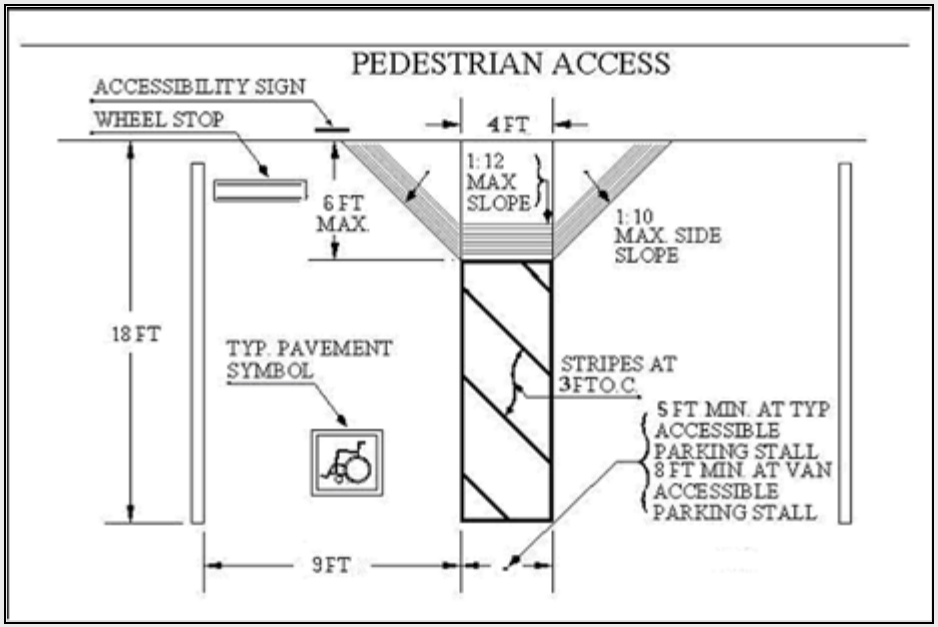
General Parking Accessibility

- **Elements**
  - **Location**
    - Shortest Access Route to Facility Entrance
    - Typically Grouped
  - **Spaces**
    - Exclusive to ADA
    - Side Access Aisle
    - Accessible Van Requirements
    - Marking
    - Required Quantity
  - **Route**
    - Marked route
    - Specified width
    - Slope and obstructions
    - Cross traffic restrictions



Typical Parking Accessibility

Element	ADA/ABA 2004/ANSI A117.1 2003	CA Building Code 2010
Accessible Route Width	Minimum 36” wide	Minimum 48” wide
Accessible Route Slope/Cross Slope	Maximum 1:20 (5%) running slope and 1:48 (2%) cross slope; Accessible vehicle spaces 1:48 (2%) in all directions	Maximum 1:20 (5%) running slope and 1:50 (2%) cross slope; Accessible vehicle spaces 1:50 (2%) in all directions
Reach Range	48” front and side;	54” side reach range and 48” front reach range;
Accessible Controls	Operable with one hand, and not requiring grasping, pinching, or twisting of the wrist or force more than 5 lbs. Exception: Gas pumps.	SAME
Side Access Aisle	Side access aisle of 60” wide	Side access aisle of 60” wide
Accessible Card Reading Devices		One card reader and two card readers if multiple to be within 54” reach range; Accessible route; 30”x48” clear floor space centered on the reader (+-9”), with the face of the reader maximum 10” deep.

Challenges for EVSE Installations

- **Design for ADA Required**
  - Federal Law
  - Local Enforcement - Permitting
- **No Federal or Official State Guidelines**
  - Many Interpretations
  - Overly Restrictive Requirements
- **Location near Facility Entrance**
  - Not Ideal for EVSE and EV Image
  - High Cost for Installation
- **Exclusivity for EV Charging**
  - Ensure EVSE is Available
  - Local Ordnance Enforcement
- **Exclusivity for Disabled**
  - Cannot add EVSE to existing ADA Space
  - May add to Adjacent Space

Challenges for EVSE Installations

- **New Accessible EVSE Space**
  - Not Exclusive to Disabled - Similar to an accessible hotel room – dimensions are accessible but anyone can use
  - Location near Power Supply – reduce Install Cost
  - May not be with Other ADA Spaces
  - ADA Stall requires Redesign Parking Area
  - May Eliminate Spaces
  - Increases Installation Cost
- **Accessible EVSE**
  - EVSE Design Requirements
  - Affects Brand
- **Accessible Route**
  - May Require Curb Cuts
  - May not be able to comply with slope, obstructions or traffic
  - May Eliminate Potential Sites
- **Costs/Risks May Exclude Great Potential Sites**

Regulatory Guidance

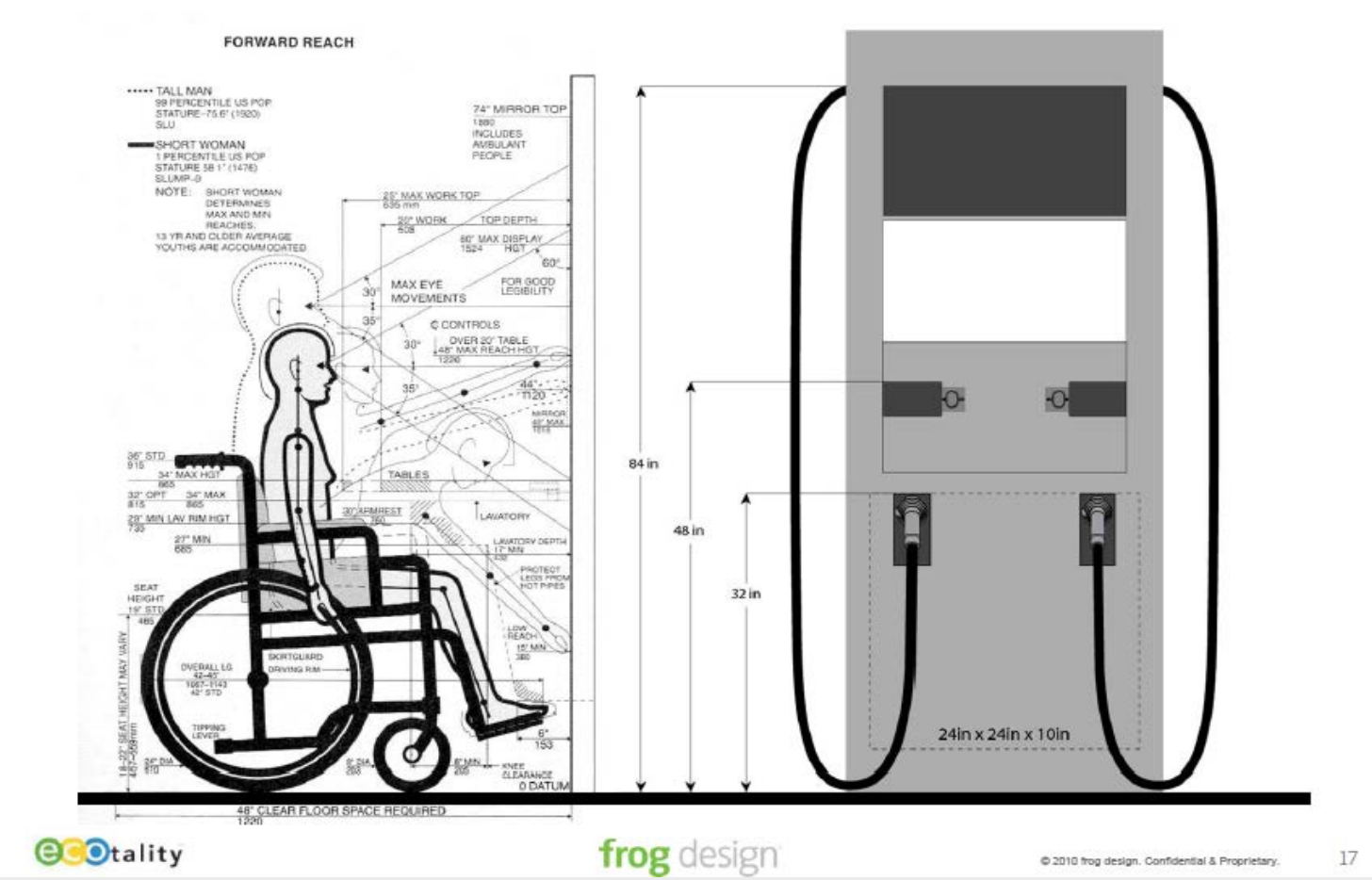
- **Disproportionality**
- **Alterations made to provide an accessible path of travel to the altered area will be deemed disproportionate to the overall alteration when the cost exceeds 20% of the cost of the alteration to the primary function area. (Subpart D of 28 CFR Part 36, § 36.403(f))**

- **Maximum Extent Feasible**
- **"The phrase "to the maximum extent feasible," as used in this section, applies to the occasional case where the nature of an existing facility makes it virtually impossible to comply fully with applicable accessibility standards through a planned alteration. In these circumstances, the alteration shall provide the maximum physical accessibility feasible. Any altered features of the facility that can be made accessible shall be made accessible. If providing accessibility in conformance with this section to individuals with certain disabilities (e.g., those who use wheelchairs) would not be feasible, the facility shall be made accessible to persons with other types of disabilities (e.g., those who use crutches, those who have impaired vision or hearing, or those who have other impairments)." (Subpart D of 28 CFR Part 36, § 36.402(c))**

ECOtality Guidance for ADA

- Provide an Accessible EVSE
  - Design the EVSE to be Compatible
- Provide a Path to the EVSE
  - Allow Disabled to Get to EVSE
- Provide Accessibility to EVSE
  - Allow Connecting EVSE to EV
- Provide Accessible Route to Facility
  - Allow Access to Facility
- Disproportionate Space
  - Costs for Creating Accessible Space
- Disproportionate Route
  - Allow Access to Facility
- "Maximum Extent Feasible"

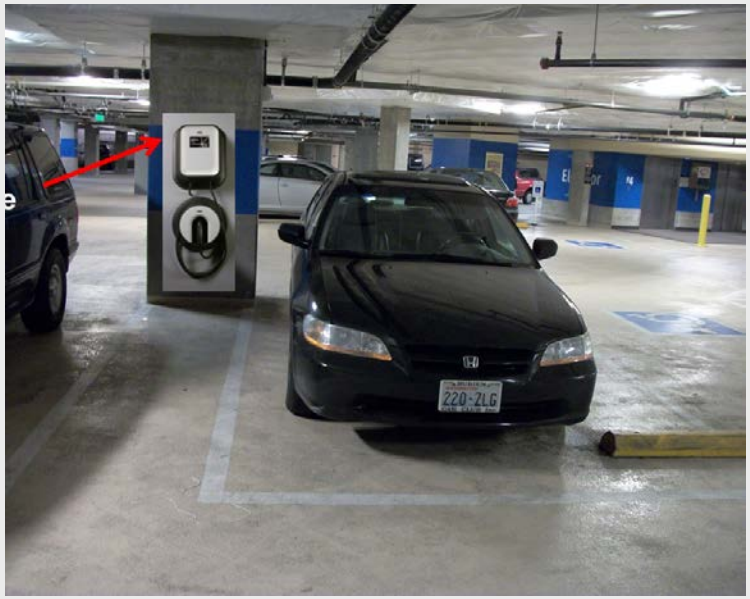
EVSE Design for Accessibility



- **Note: CHAdeMO connector exceed 5 lb limit. Exception similar to gas pump dispensers**

ECOtality Guidance for ADA

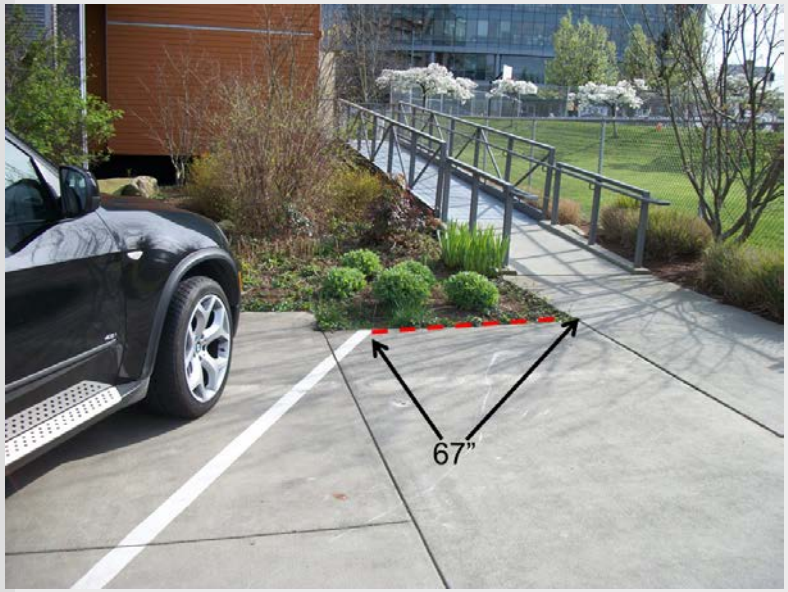
- Share with ADA Space

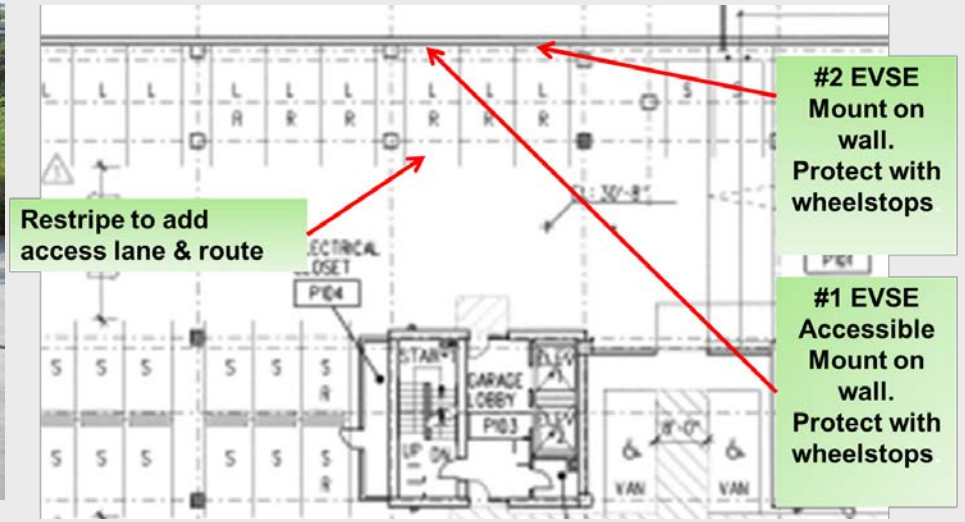


- Use “Dead” Space

ECOtality Guidance for ADA

- Use End Space





- Restripe Closed Area

Accessible EVSE Quantities

EV Parking Spaces	Accessible EV Spaces	Accessible EV Van Spaces
1	1	1
2-25	1	1
26-50	2	1
51–75	3	1
76–100	4	1

- **NOTE: Quantities of accessible EVSE spaces are independent of the non-EVSE accessible spaces.**

Thank You

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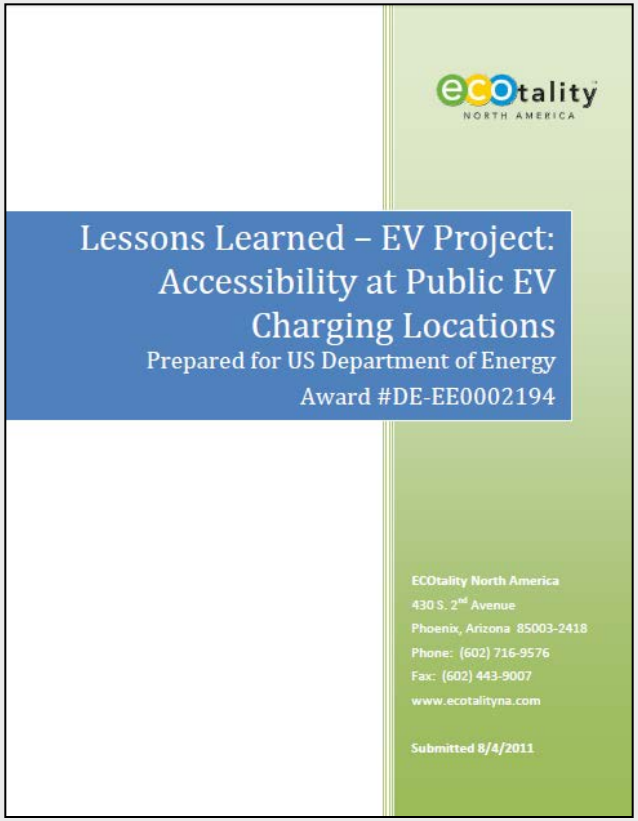

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