ACT Virtual - Best Practices in Scaling EV Charging Infrastructure for Fleet Operations

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The Electrification Coalition

The Electrification Coalition (EC) is a nonpartisan, non-for-profit group of business leaders committed to promoting policies and actions that facilitate the deployment of electric vehicles on a mass scale in order to combat the economic, environmental, and national security dangers caused by our nation’s dependence on oil.

Key Fleet Factors for Considering EVs

- Available light-, medium-, and heavy-duty EVs
- Total cost of ownership
- Fleet vehicle utilization
- Infrastructure needs and considerations for fleet electrification
- Best practices for employee training on EV use

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Utilizing EVs in Fleets

Advantages of Fleets and Fleet Operators for EV Development

Total Cost of Ownership Approach	• Fleet managers rank TCO as the most significant factor in acquisition decisions
Route Predictability	• Lower infrastructure investment; known impact of transition to new technology
High Utilization Rates	• High VMT/vehicle increases ROI and lowers cost per mile
Use of Central Parking Facilities	• Lower infrastructure investment; economies of scale in installation
Importance of Maintenance Costs	• Lower maintenance costs of new technology = substantial cost savings
Lower Fuel Prices	• Electricity, Natural Gas, and Propane are all less expensive than petroleum
Return on Investment	• In the right applications, AFVs will generate an ROI during their useful life
Sustainability Initiatives	• AFVs contribute to sustainability initiatives around reduced GHG emissions and/or petroleum use

Workplace and Fleet Charging

- Majority of consumer charging occurs at home
- Workplace often next most popular
- Rarely charging from empty to full

Developing an EV Charger Policy

- Will chargers be designated Fleet only? Will they be available to non-fleet vehicles?
- Will drivers need to charge on route? Who sets up and owns charging network accounts?
- Where are questions and maintenance requests directed?

Future Proofing EV Charging

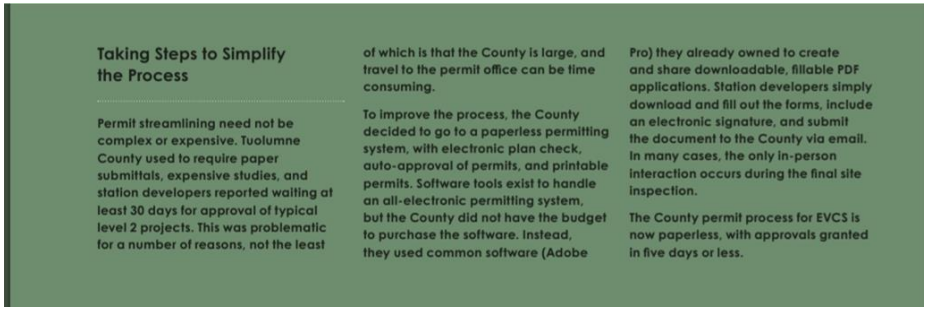
- Align charging installation and EV deployment – Consider internal timelines such as procurement and building renovations.
- Plan ahead – How many EVs will your fleet have in 5 years? 15 years? Does your number of chargers and electric supply meet these needs?
- EV Readiness – What electrical work can be done now to lower costs and prepare for chargers that will be purchased later?

Step by Step permitting process

ELECTRIC VEHICLE CHARGING IN THE PUBLIC RIGHT OF WAY (EVCROW) PILOT PERMIT PROGRAM – Seattle

Simplifying the Process

STREAMLINING THE PERMITTING PROCESS - California Governor's Office of Business and Economic Development

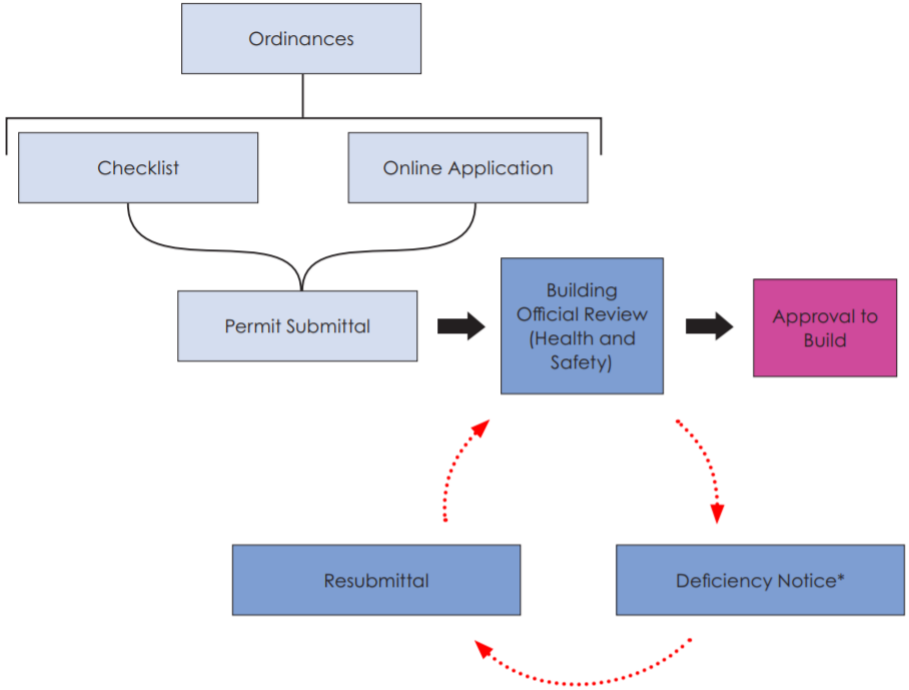


Taking Steps to Simplify the Process

Permit streamlining need not be complex or expensive. Tuolumne County used to require paper submittals, expensive studies, and station developers reported waiting at least 30 days for approval of typical level 2 projects. This was problematic for a number of reasons, not the least of which is that the County is large, and travel to the permit office can be time consuming.

To improve the process, the County decided to go to a paperless permitting system, with electronic plan check, auto-approval of permits, and printable permits. Software tools exist to handle an all-electronic permitting system, but the County did not have the budget to purchase the software. Instead, they used common software (Adobe Pro) they already owned to create and share downloadable, fillable PDF applications. Station developers simply download and fill out the forms, include an electronic signature, and submit the document to the County via email. In many cases, the only in-person interaction occurs during the final site inspection.

The County permit process for EVCS is now paperless, with approvals granted in five days or less.



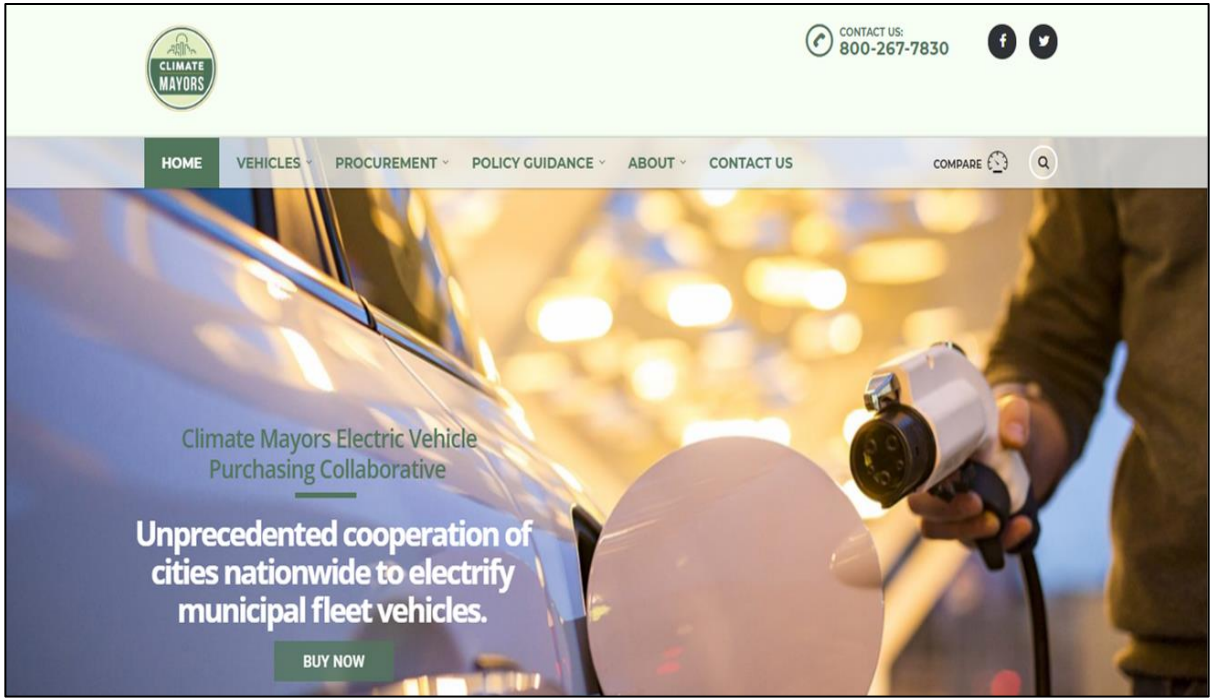
* The deficiency notice should include one complete set of comments.
Note: It may take station developer multiple rounds to address the AHJ comment set.

Develop guidance for EVSE installations

- Determine and share guidelines for charging at District owned parking structures and leased lots used by fleet vehicles
- Charging in the ROW (being led by DDOT)
- Streamline permitting (Level-2 and DCFC)
- Set standards for design and technology when appropriate

Slide courtesy of Forth Mobility

Climate Mayors EV Purchasing Collaborative



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