USDN EV Renter Access Project

Ingrid Fish & Marty Stockton
Portland Bureau of Planning & Sustainability
January 29, 2020

Agenda

- Welcome, Meeting Purpose, Discussion Guidelines
- Introductions
- Framing Presentation and Group Discussion
- Q & A
- Next Steps

Meeting Topics

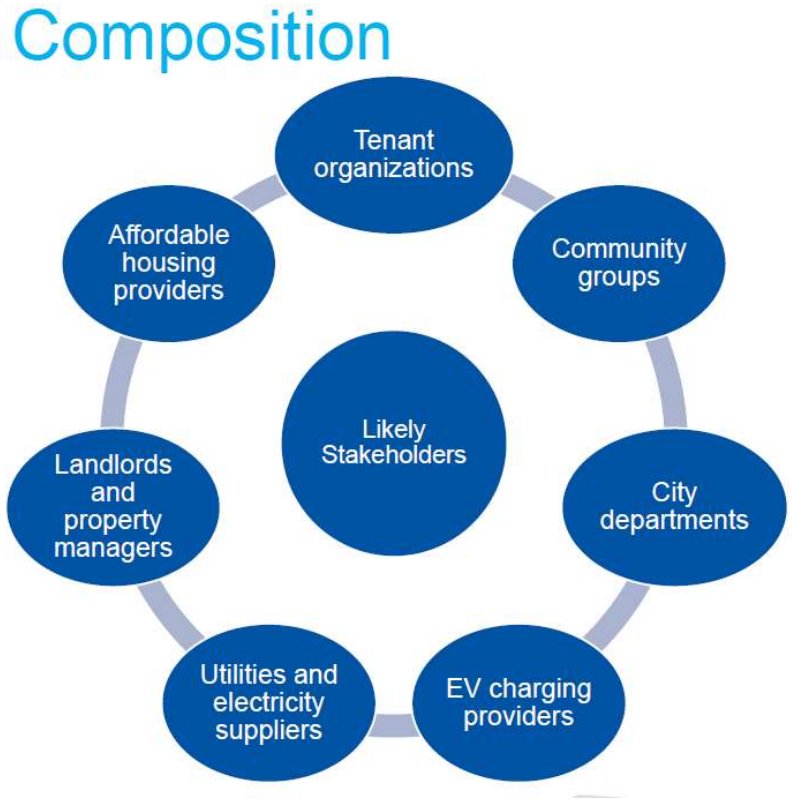
Anticipated Meeting Topics

Today	Feb. 26, 2020	Mar. 18, 2020
Meeting 1	**Meeting 2**	**Meeting 3**
• Introduction to project and participants • Review Preliminary Analysis findings • Discussion and refinement of barriers	• Discussion and selection of 1-3 strategies to ground truth	• Workshop each strategy's implementation pathway, stakeholders, challenges, budget needs, and other details

Introductions

Round-robin introductions:

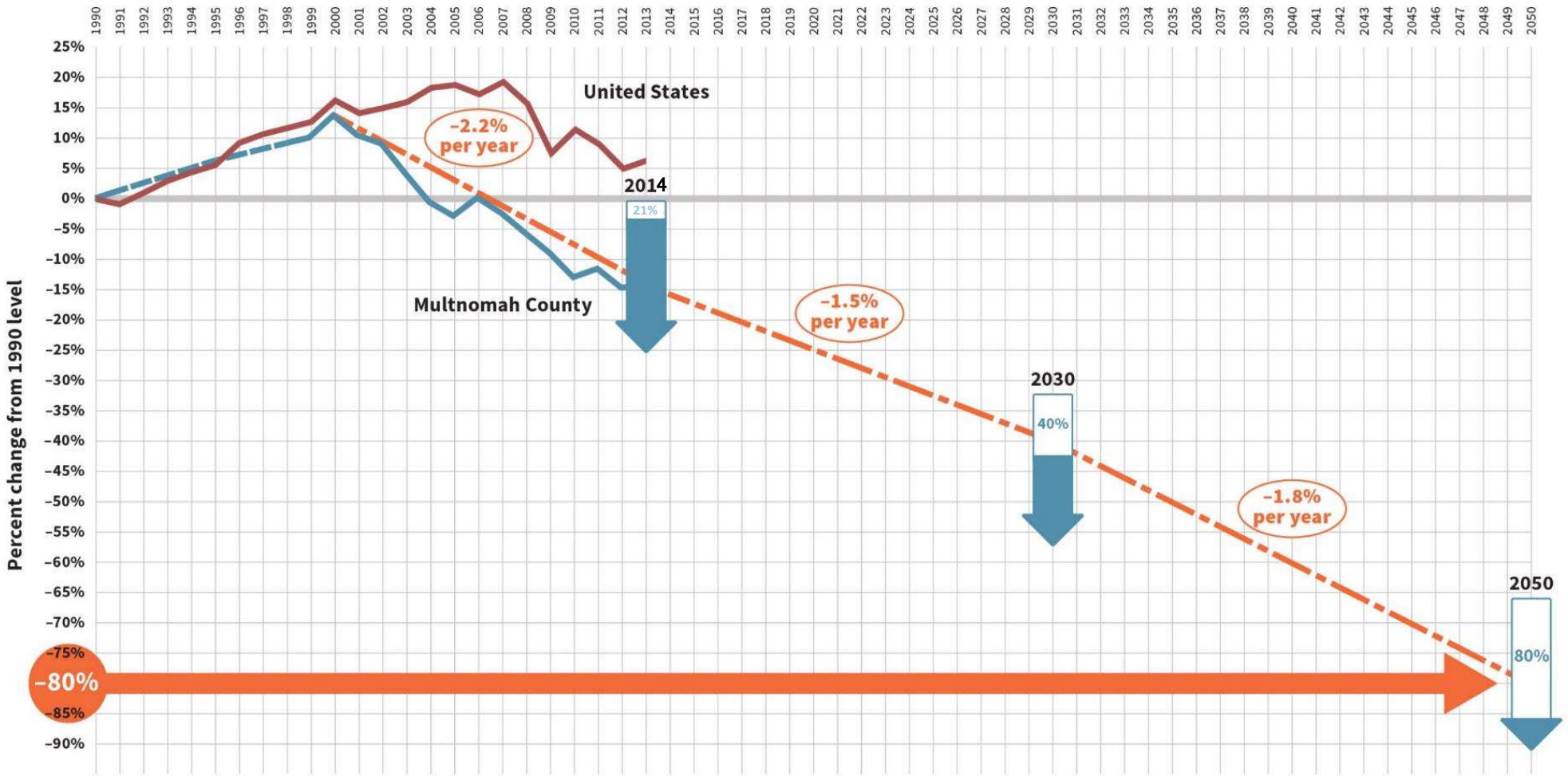
- Name and organization
- Brief overview of experience with housing and/or electric vehicles



Framing Presentation: Tenant EV Charging for Portland

- Portland's EV planning and charging work to-date and goals (Ingrid)
- Background Context (Ingrid)
- Known barriers to tenant EV charging and group discussion (All)
- Q&A (All)

PORTLAND CLIMATE ACTION GOALS

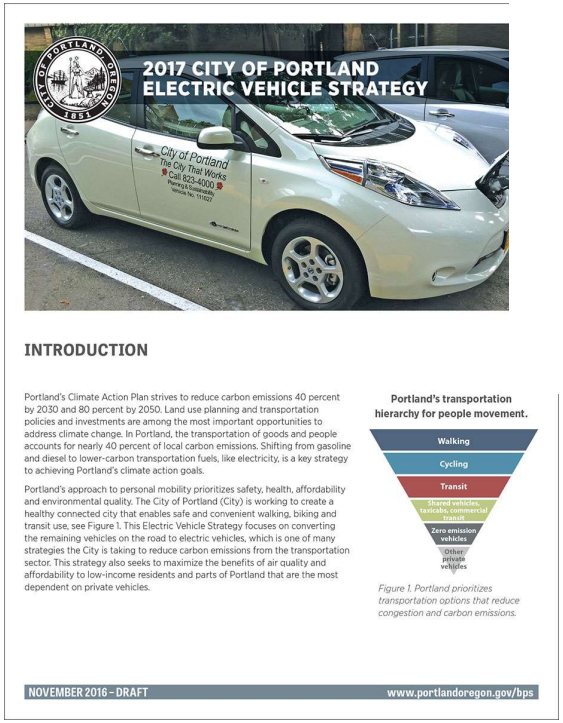


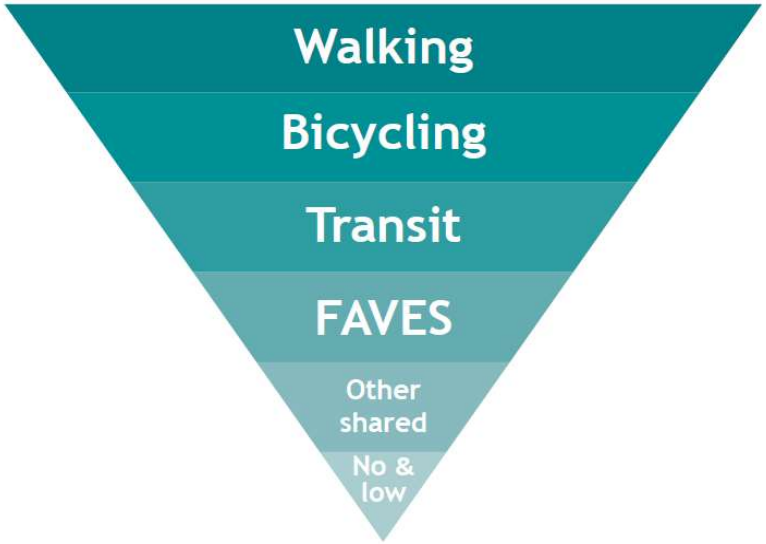
100 PERCENT RENEWABLES BY 2050 RESOLUTION

- Unanimously Adopted by Council & County in 2017
- Championed by Mayor
- Community Wide 100% by 2050, Including Transportation
- Vehicle Fuel Switch: From Fossil Fuel to Electric

100% RENEWABLES/DECARBONIZATION TRANSPORTATION SECTOR TRANSITION PLAN

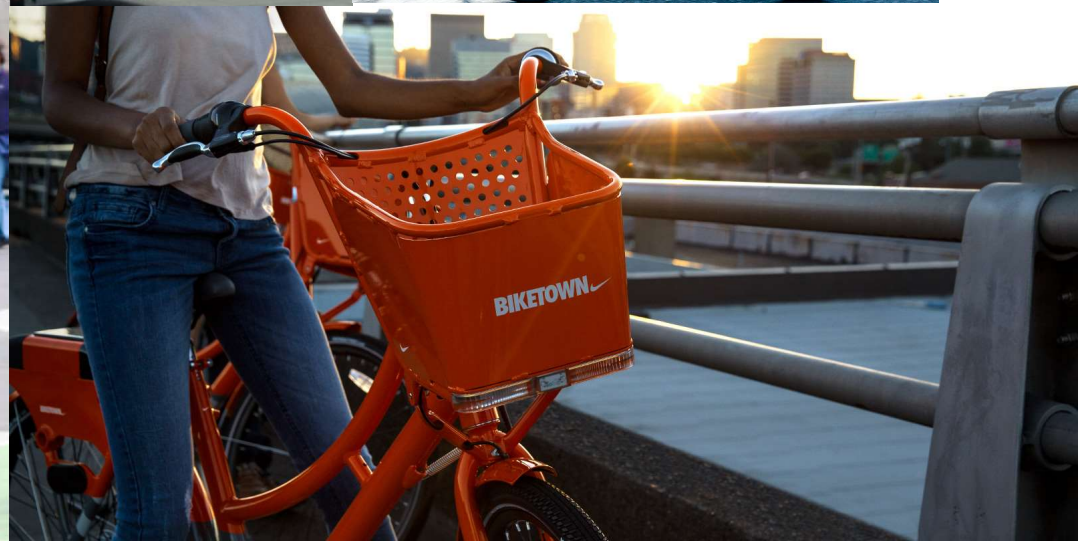
- Densification/Strategic Land Use Policies
- Commute Mode Shift
- Fuel Switching Strategy:
  - EVs
  - Renewable Diesel
  - Renewable Natural Gas





Sources: City of Portland Climate Action Plan, Comprehensive Plan, and Transportation Systems Plan.

ELECTRIC TRANPORTATION OPTIONS



PORTLAND EVs & EQUITY APPROACH

Background Context

Demographics:

- Transportation is often the 2nd highest household cost for African Americans
- 31% of African American households do not have access to a vehicle
- Average work commute time for African Americans is 20% longer than for whites.

Built Environment

- Multi-dwelling units make up 42% of residential units (~116,550)
- Condos make up 6.7% of residential units (18,506)
- Approx. 2,000 Home Owners Associations (HOAs)

Transportation

- As of Dec. 2018, 1.1% of the registered vehicles in Mult. Co. were EVs
- State Goal: 50,000 EVs by end of 2020

Background Context

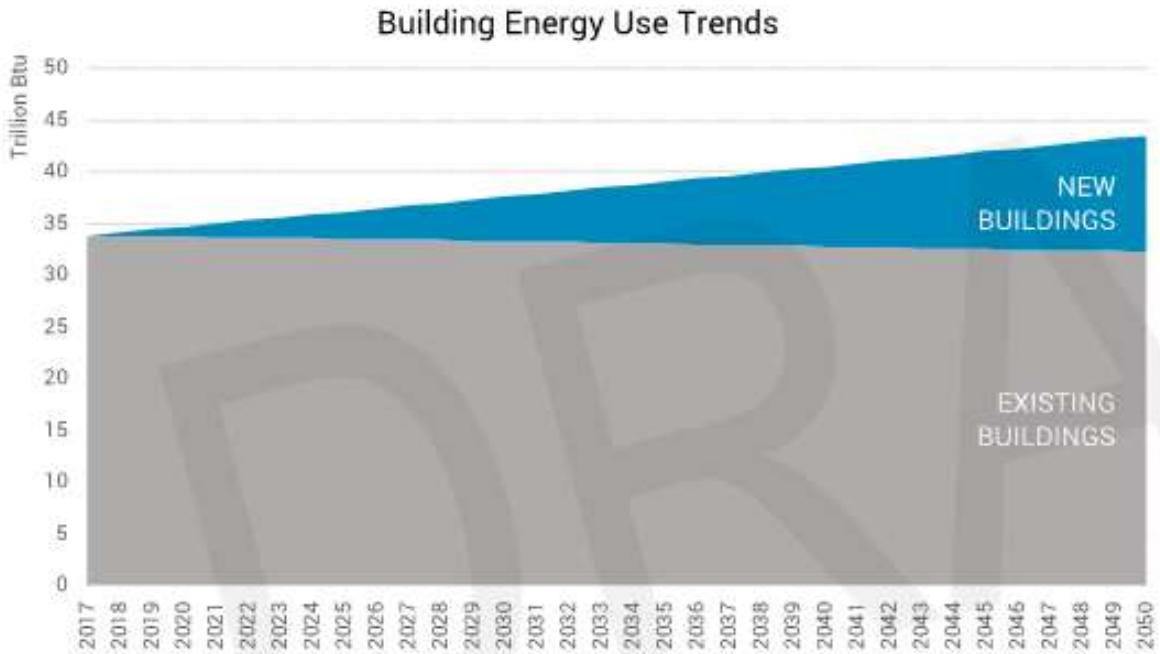
Governance

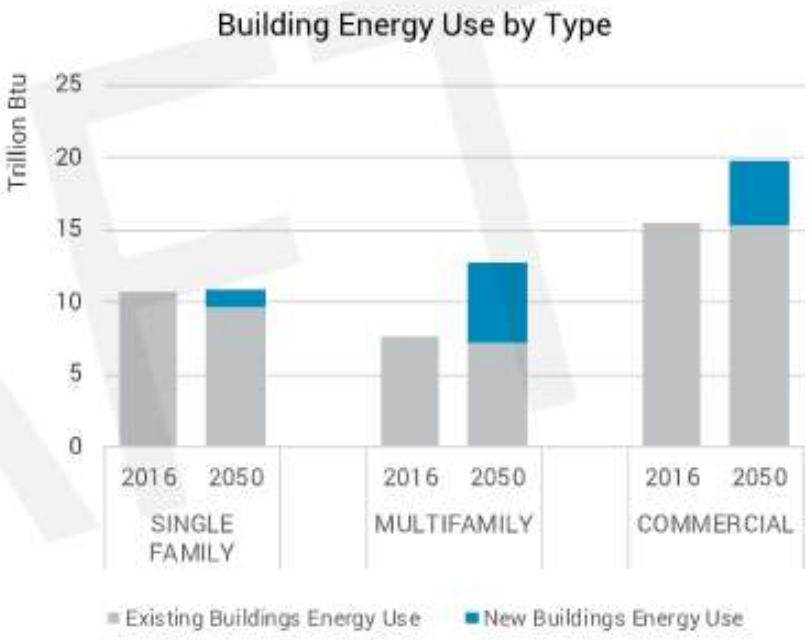
- The State controls the building code
- By Oregon law, HOAs and landlords cannot prohibit the installation of an electric vehicle charging stations

Incentives

- Resources and programs are available for purchase and charging infrastructure installation
- Used market & lower cost EV options are increasing

Architecture 2030 Building Energy Projections





USDN Project: Enabling Tenant Access to Charging

- ***Project Objective:***
  - Identify scalable, city-based strategies and pathways to implementation that enable access to EV charging for renters in existing buildings.

Core	Observer
• Somerville, MA • Cambridge, MA • Burlington, VT • New Orleans, LA • Portland, OR	• West Hollywood, CA • Vancouver, BC • Alexandria, VA • Surrey, BC • Santa Monica, CA • Boston, MA

EV Charging Access Barrier Categories

- Technology
- Policy
- Regulatory
- Equity
- Logistical & Practical
- Financial
- Transition

CADMUS

Group Discussion: EV Charging Access Barriers

- In Portland, which barriers to tenant EV charging presented resonate with you?
    - Can you tell us more about what the barrier looks like where you work/live?
    - Who does it impact the most?

- Are there any barriers missing that we should add? Please tell us about them.

- Of the barriers presented and discussed, which do you think are most important to address in our EV charging planning? Why?

EV Charging Access Barriers Overview

Technology Barriers	Policy Barriers	Regulatory Barriers	Equity Barriers	Logistical and Practical Barriers	Financial Barriers	Transition Barriers
• Electrical capacity • Rate of innovation • Inconsistencies in EV design • Metering • Plug & play infrastructure	• Tenant charging policy • Rental data • Local sensitivities	• Rights for charging • Limited role of municipality • Building codes	• Adequate demand • Community awareness • Internet access • Community uniqueness	• Lack of parking spaces • Lack of access to an outlet • Parking space configuration • Extreme weather preparedness • Parking/car culture • Stakeholder engagement • Parking enforcement	• Cost • Cash-based communities • Upfront cost and a split incentive	• Permitting coordination • Unclear regulation & liability • ADA compliance • Ownership of EVSE • Implementation understanding • Lack of commercial solutions

CADMUS

Technology Barriers

Technology Barriers	
Electrical capacity	Installing electric vehicle supply equipment (EVSE) in some buildings can require expensive electrical and infrastructure upgrades and coordination with the utility
Rate of Innovation	EV and battery technologies are still very new and expected to change/evolve quickly, leading to caution about investment in EVSE
Inconsistencies in EV Design	Charging port location across EV models is not consistent and designing charging to accommodate a number of different designs is difficult
Metering	There are a number of different ways to meter EVSE in shared parking scenarios and this can affect cost allocations
Plug & Play Infrastructure	Few charging solutions that can be readily deployed in public EVSE scenarios

Policy Barriers

Policy Barriers	
Tenant Charging Policy	Policy to address legal and governance barriers, e.g. right-to-charge policies.
Rental Data	Lack of information on rental properties location and parking availability
Local Sensitivities	Every city has different priorities and any new policy to aid charger buildout should be sensitive to that (ex. Parking in green spaces, avoiding crowding around 1 charger, unique parking constructs)

Regulatory Barriers

Regulatory Barriers	
Rights for charging	Some EV drivers have encountered legal barriers to installing a charger or to accessing an outlet in a common area in their rental home
Limited role of the Municipality	Local roles for EV charging are still unclear and municipalities often have limited authority to move unilaterally on these issues
Building Codes	Every city has different authority on building codes and zoning ordinances, could be regulated at the state or local level

Equity Barriers

Equity Barriers	
Adequate Demand	Most low-income households don't consider clean vehicles as an option (due to cost and awareness) when purchasing a car and without demand in these communities it may be difficult to make the argument for public investment in charging
Community Awareness	Lack of community awareness of and access to EV models available and location of charging stations
Internet Access	Lack of access to internet can limit low-income communities' awareness about EVs and locations for public charging
Community Uniqueness	Barriers vary significantly between communities and each solution has to be unique to a community's context, ideally involving impacted community members' input and empowerment

Logistical & Practical Barriers

Logistical/Practical Barriers	
Lack of Parking Spaces	Many renters do not have access to a dedicated parking space
Lack of access to charging outlet	Most renters do not have access to a regular outlet in their parking space to use Level 1 charging
Parking Space Configuration	Renters with EVs might not have parking spots next to each other to make charging easier
Parking/Car Culture	In many cities, cars have long dwell times in their parking spots which is not conducive to limited EVSE parking/charging spots
Extreme Weather Preparedness	local weather preparedness will vary between communities (hurricanes vs wildfires vs blizzards) and will affect hardware and installation requirements
Stakeholder Engagement	Changes in multi-family buildings generally require cooperation among more stakeholders
Parking Enforcement	How can MUD owners ensure that parking spots for charging are only used by EVs and do not get "iced" - when an ICE Vehicle parks in a charging parking spot

Financial Barriers

Financial Barriers	
Cost	EVs and EVSE cost more than traditional options available
Cash-Based Communities	A reliance on cash or lack of credit history can make it difficult to pay for charging or register with a charging service
Upfront cost and a split incentive	Many renters are likely to face cost barriers to installing EVSE or be unable/unwilling to invest in a capital improvement when it's not their own home. Landlords may also be unwilling to invest in charging infrastructure on their properties.
Utility Rate Structures	Different electricity rates and how the EVSE is metered can significantly impact the cost to charge for residents

Transition Barriers

Transition Barriers	
Permitting Coordination	Lack of clarity on who has jurisdiction to install public EVSE, who can administer permits, and if inspections are necessary
Unclear Regulation & Liability	In some states, property owners cannot forbid residents from installing EVSE, but issues arise when determining cost allocations and residents being expected to have $1M of umbrella liability insurance
ADA Compliance	ADA compliance for EV parking spots is unclear and code requirements can reduce total space available for charging infrastructure
Parking/Car Culture	In many cities, cars have long dwell times in their parking spots which is not conducive to limited EVSE parking/charging spots
Ownership of EVSE	It is difficult to decide who should own (and therefore pay) for EVSE installation and who is responsible for operations and maintenance (like snow removal in winter)
Implementation Understanding	Rental property managers and site-based facility personnel do not always understand the systems on their properties for deploying electric vehicle system equipment projects
Lack of Commercial Solutions	In the current state of the market, there are few commercial solutions economically viable for public and MUD housing parking and EV charging

Next Steps

- **February 26 (Meeting 2):** Present on and discuss tenant EV charging strategies. Select 1-3 strategies to ground-truth with the advisory group
- **March 18 (Meeting 3):** Workshop each strategy's implementation pathway, identifying key stakeholders, budget needs, and other details

Thank you