



Electric Vehicle  
Ready Code Project  
Technical Advisory  
Series – Meeting #1  
January 26, 2021

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# Agenda

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

# Meeting #1 Purpose

- Review the purpose and timeline of the Technical Advisory Series
- Review the key equity goals and recommendations from the Enabling EV Access to Renters Community Stakeholder Group (Winter-Spring 2020)
- Review project overview and cover:
  - Definitions
  - Regulatory strategies and considerations
- Discuss and refine regulatory strategies for the city's context and different demographic groups

## BPS SHARED GROUND RULES

### 01 LISTEN TO UNDERSTAND, NOT TO RESPOND

Listen for learning opportunities. Do not prepare a response; just listen.

### 02 W.A.I.T.

Use self-awareness by asking yourself "Why Am I Talking?" Remember everyone has the right to share their ideas, but not everyone always has the opportunity.

### 03 ASSUME GOOD INTENTIONS, BUT ATTEND TO IMPACT.

We are all good people looking to collaborate for better outcomes.

Not all good intentions lead to good outcomes: If someone is hurt, focus on listening and understanding the impact, not on the intent.

### 04 BE WILLING TO MAKE MISTAKES AND BE FORGIVING OF THOSE WHO DO.

Forgiveness fosters safety so we can all take risks. We make mistakes, even with good intentions. By making mistakes, we ultimately learn how to do things better.

### 05 ALLOW FOR, AND APPRECIATE, DISAGREEMENT OF OPINIONS, IDEAS, METHODS – RESPECTFULLY.

Don't interrupt someone just because you disagree with them. Listen to understand; you may find you have something in common. Critique ideas, not people.

### 06 PERSONAL STORIES STAY, LESSONS CAN BE SHARED.

After the meeting, comments, ideas and thoughts will not be attributed to any individual – this is a group learning process. If you share a personal story, let people know if or how your story can be shared.

### 07 \_\_\_\_\_ (FILL IN THE BLANK.)

This can be meeting- or team-specific, should the group want to include one or more additional Ground Rules.




# Discussion Guidelines

# Introductions

## Round-robin introductions:

- Name and organization
- In one sentence, please describe interest in participating in this topic area discussion
- **Note:** As this is a public meeting, both likely stakeholders and members of the general public may be in attendance





# EV Ready Code Project Framing Presentation and Group Discussion

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# Project Purpose

The project will explore electric vehicle charging infrastructure requirements for multi-dwelling and other residential development.

Code changes being considered could:

- Require electric vehicle charging infrastructure in new multi-dwelling and other residential development in off-street parking spaces.
- Expand the nonconforming development upgrade options to include electric vehicle charging infrastructure.
- Develop a definition of what a mobility hub is and identify areas of the city where mobility hubs are practical.

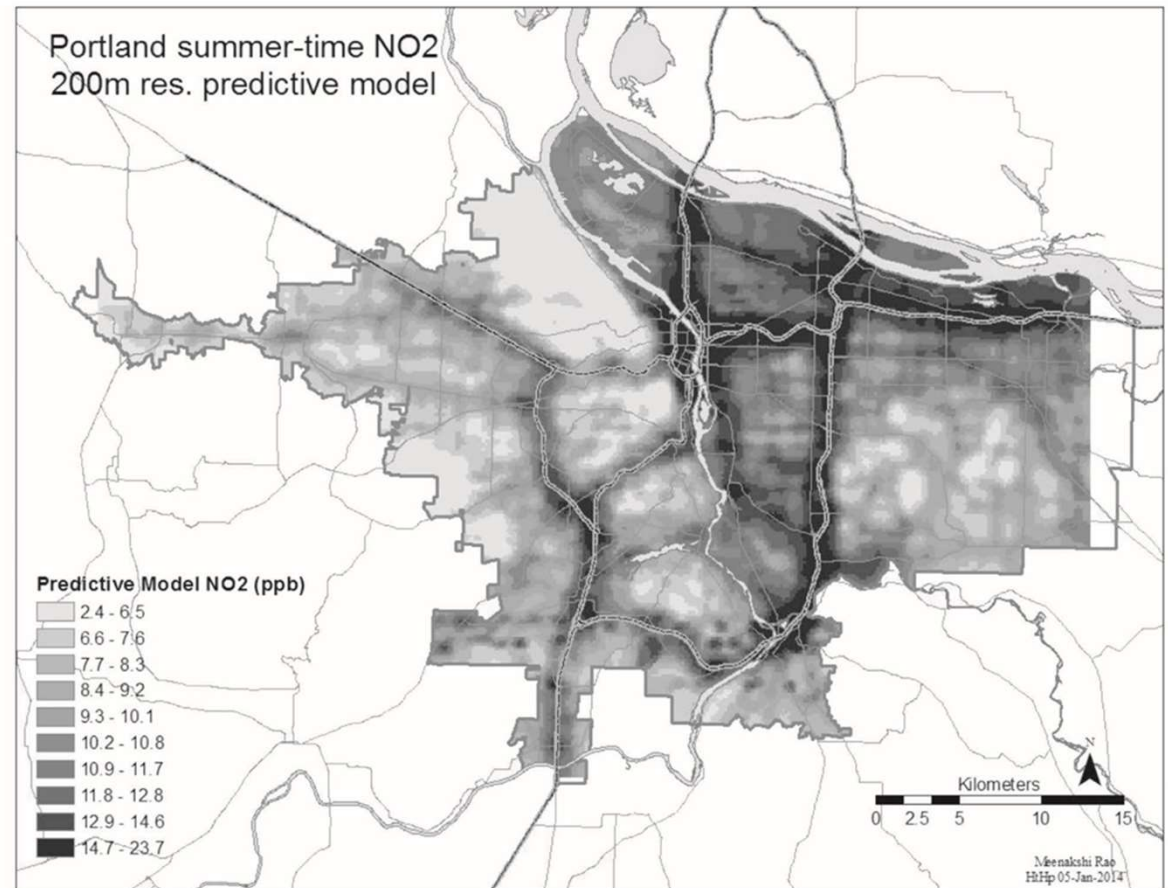
# Project Goals

- **Who:** This project will prioritize the renter community
- **What:** new and existing multi-dwelling buildings and other residential development
- **Why:** Transportation contributes significantly to carbon emissions.





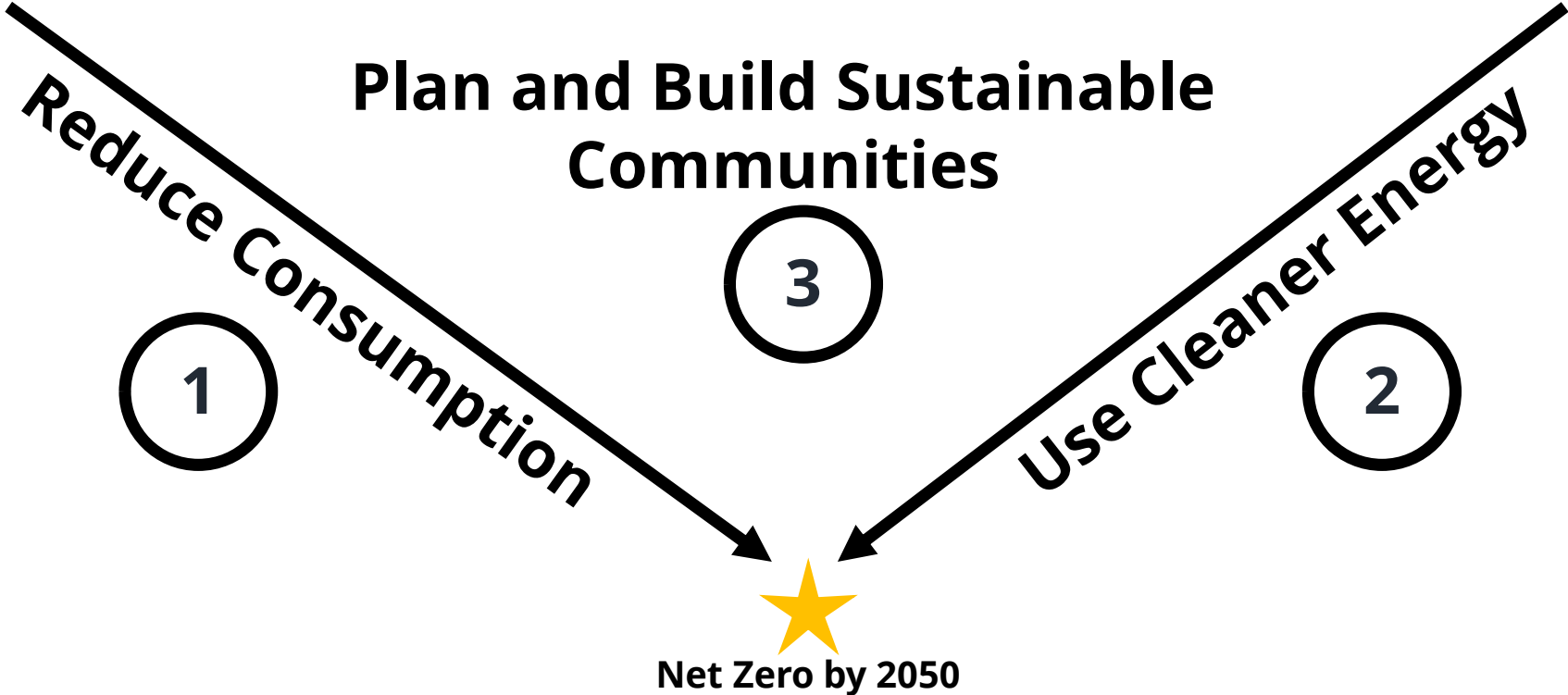
# Uneven pollution... uneven health risks



*M. Rao et al. Environmental Pollution 194 (2014) 96-104)*

# Portland's strategy for reducing emissions

**Lead with Climate Justice**  
*Transportation Justice & Energy Justice*



# Los Angeles Times

CALIFORNIA

## Newsom orders 2035 phaseout of gas-powered vehicles, calls for fracking ban



# Key Equity Goals

- Expand EV access
- Inclusion in technology advances
- Public health and air quality
- Reduced household costs

# USDN Grant

## **Project scoping -- External**

**Urban Sustainability Directors Network (USDN) Grant** funded external stakeholder conversation about increasing access of EV charging to renters. The information gathered from this process informed the community engagement plan and the project scope.

Beyond Black, Hacienda, Portland Tenants United, Verde received stipends paid for by the grant to contribute to the external stakeholder conversations of four meetings (Spring 2020).

# Previous Stakeholder Process Take-A-Ways

- **USDN EV Charging Access to Renters Guide For Cities**
- **Utility Investment** (7 votes) – in the “Reduce Financial Barriers” grouping and
- **Publicly owned charging stations in publicly-owned parking lots** (5 votes) – added new by community stakeholders within the “Considerations for Public Infrastructure” grouping.
- **Community Data Gathering and Understanding** (5 votes) – in the “Understand Community Needs to Design Effective Programs” grouping and
- **Education and Outreach Targeted towards MUD Owners** (5 votes) – in the “Education and Awareness” grouping.

# Potential State Legislation – HB 2180

Draft bill could amend the state building code to require newly constructed buildings to include, at a minimum, provisions for electrical service capacity at no less than 20 percent of the vehicle parking spaces in the garage or parking area for the building. This bill, as written, would only apply to:

- Multi-dwelling buildings with five or more units
- Mixed use buildings with five or more units

Local jurisdictions would be permitted to require electrical service capacity to accommodate more than 20% of vehicle parking spaces on onsite parking for the building categories listed above.

# Potential State Legislation – HB 2180 (continued)

As written, local jurisdictions, would not be permitted to develop EV-Ready requirements for buildings that fall into categories outside of what is listed on the previous slide:

- Single-dwelling homes
- Townhouses
- Multi-dwelling residential buildings with four or less residential dwelling units



# Definitions – Vehicles and Equipment

**Electric Vehicle (EV):** Any vehicle that is licensed and registered for operation on public and private highways, roads, and streets and that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries, producing zero tailpipe emissions or pollution when stationary or operating.

**Plug-In Hybrid Electric Vehicle (PHEV):** A hybrid electric vehicle whose battery can be recharged by plugging it into an external source of electric power, as well as by its on-board engine and generator.

**Electric Vehicle Supply Equipment (EVSE):** Equipment for the purpose of transferring electric energy to a battery or other energy storage device in an electric vehicle. There are 3 different standardized indicators of electrical power and voltage, at which an electric vehicle's battery is recharged. The terms Level 1, Level 2, and Direct Current Fast Charging are the most common charging levels.

*Source: Electric Vehicle Readiness Policy, City of Boston*

# Definitions - Infrastructure

**EV-Ready:** EV-Ready shall mean providing raceway to every parking space, adequate space in the electrical panel and space for additional transformer capacity to accommodate the future installation of the transformer, if necessary, and the associated Level 2 EVSE.

*Source: Electric Vehicle Readiness Policy, City of Boston*

# Definitions – Charging Levels and Specifications

**Level 1** is considered slow charging and operates on a 15 to 20 amp breaker. The voltage is a single phase 120 volt AC branch circuit.

**Level 2** is considered medium charging and operates on a 40 to 50 amp breaker on a single phase 208/240 volt AC circuit. Approved Level 2 chargers must be able to charge EVs produced by multiple manufacturers.

**DCFC** is considered fast or rapid charging. DCFC operates on a 100 amp or higher breaker on a 480 volt three phase AC with special grounding equipment. DCFC stations are typically characterized by industrial grade electrical outlets that allow for faster recharging of electric vehicles. For fast charging, the charger must be able to charge EVs produced by multiple manufacturers.

*Source: Electric Vehicle Readiness Policy, City of Boston*

# Regulatory Strategies – #1

Require electric vehicle charging infrastructure (EV Ready) in **new** multi-dwelling and other residential development in off-street parking spaces.

## Considerations:

- These regulations would only apply to projects that include off-street parking.
- Determine percentage or # of off-street parking spaces.
- Potential preemption by State legislation.

# Regulatory Strategies – #2

Expand the nonconforming development upgrade options for **existing development** to include electric vehicle charging infrastructure.

# Regulatory Strategies – #3

Develop a definition of what a **mobility hub** is and identify areas of the city where mobility hubs are practical.

Considerations:

- Define what a mobility hub is and what activities may be included.
- Determine where mobility hubs make sense to go in the city.

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# Q & A and Discussion Questions

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# Discussion Questions – #1 and #2

From your perspective, which **regulatory strategies** presented resonate with you?

Does focusing on residential developments and prioritizing multi-dwelling development make sense?



# Discussion Questions – #3

How would this **type of regulation** decrease the most barriers to accessing EV charging?

# Discussion Questions – #4

Are there **best practices** specific to residential development that you recommend we research? Please tell us about them.

# Discussion Questions – #5

What are most important strategies to implement with the **goal of increasing EV access to low-income and multi-dwelling residents** with respect to this code project? Why?

# Next Steps

- **Feb. 23 (Meeting 2):** Present on and discuss EV Ready code concepts and best practices
- **April TBD (Meeting 3):** Review Discussion Draft
- **May/June TBD (Meeting 4):** Review public feedback on the Discussion Draft and BPS staff proposed edits



# Project Webpage

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<https://www.portland.gov/bps/ev-ready>

