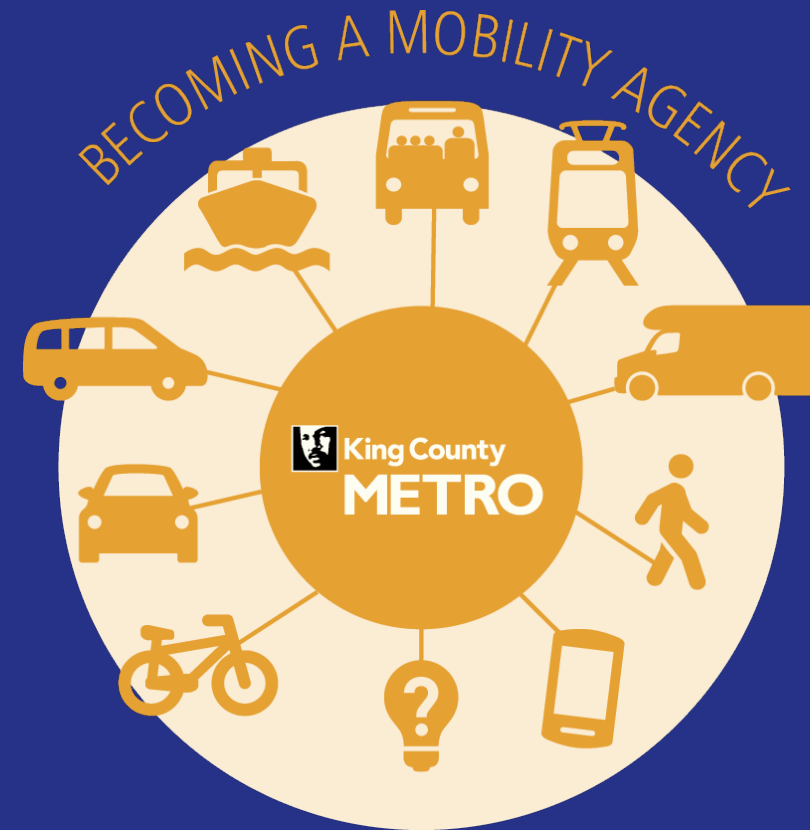


# King County Metro: Moving to Zero Emission Transportation

Regional Transit Committee  
April 19, 2023



# Topics Today

1. Review of Policy and Climate Goals
2. Update on progress:
  - Bus Fleet
  - Non-Bus Fleets
3. Risks and Mitigations
4. Connecting with others – community engagement and statewide efforts

# Metro Policy and Climate Goals

## Strategic Climate Action Plan Targets for Metro



70%  
↓

REDUCTION IN GREENHOUSE GAS  
EMISSIONS FROM FLEET BELOW  
2017 LEVELS BY 2030



100%

ZERO-EMISSION REVENUE BUS FLEET  
BY 2035



100%

LIGHT-DUTY ELECTRIC VEHICLE (EV)  
BY 2030



90%  
↑

INCREASE IN UTILIZATION OF  
TROLLEYS ON WEEKENDS  
BY 2025

## Strategic Plan: Sustainability Goal

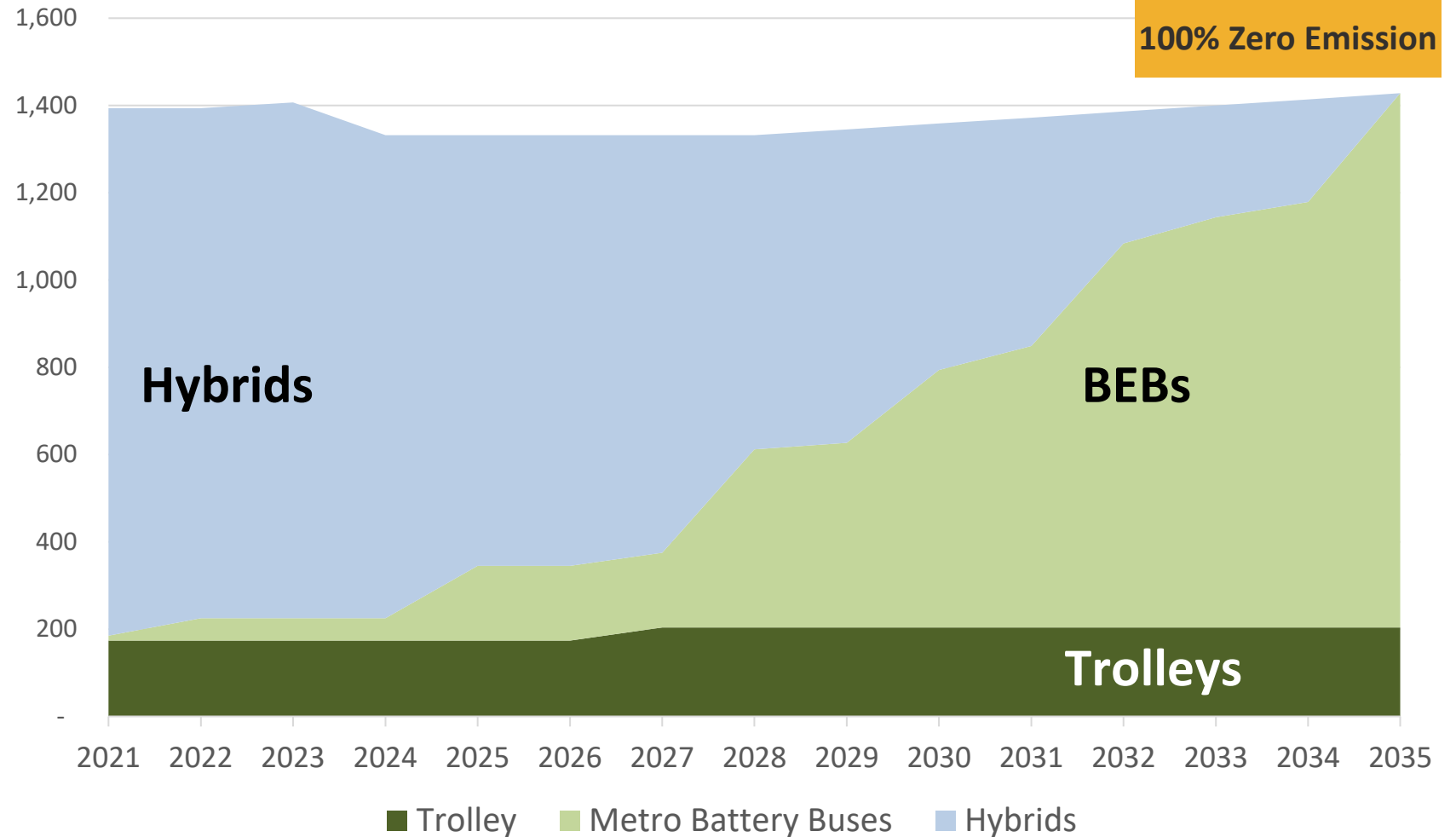
- *Strategy: Reduce vehicle emissions in all of Metro's fleets through transition to zero-emissions, efficient operations, and other strategies.*
- *Strategy: Consider and reduce climate justice impacts of Metro's actions on communities disproportionately affected by climate change by deploying zero emission buses first to communities that have experienced disproportionate burdens from air pollution.*

# Metro Connects: Getting to a zero-emission bus fleet



Metro will transition to a zero-emission fleet, powered by renewable energy, by 2035. Metro will use a phased approach to:

- Acquire more zero-emission buses
- Build the necessary charging infrastructure and supportive information technology
- Convert transit operations
- Train and recruit workforce



# Moving to Zero Emission – Key Bus Fleet Milestones



We  
are  
here

2023

South Base Test  
Charging Facility  
40 BEBs arrived  
Transit system  
electrification study

2025

Open Interim Base  
to support 120 BEBs

2026-2028

Five layover  
charging projects

2028

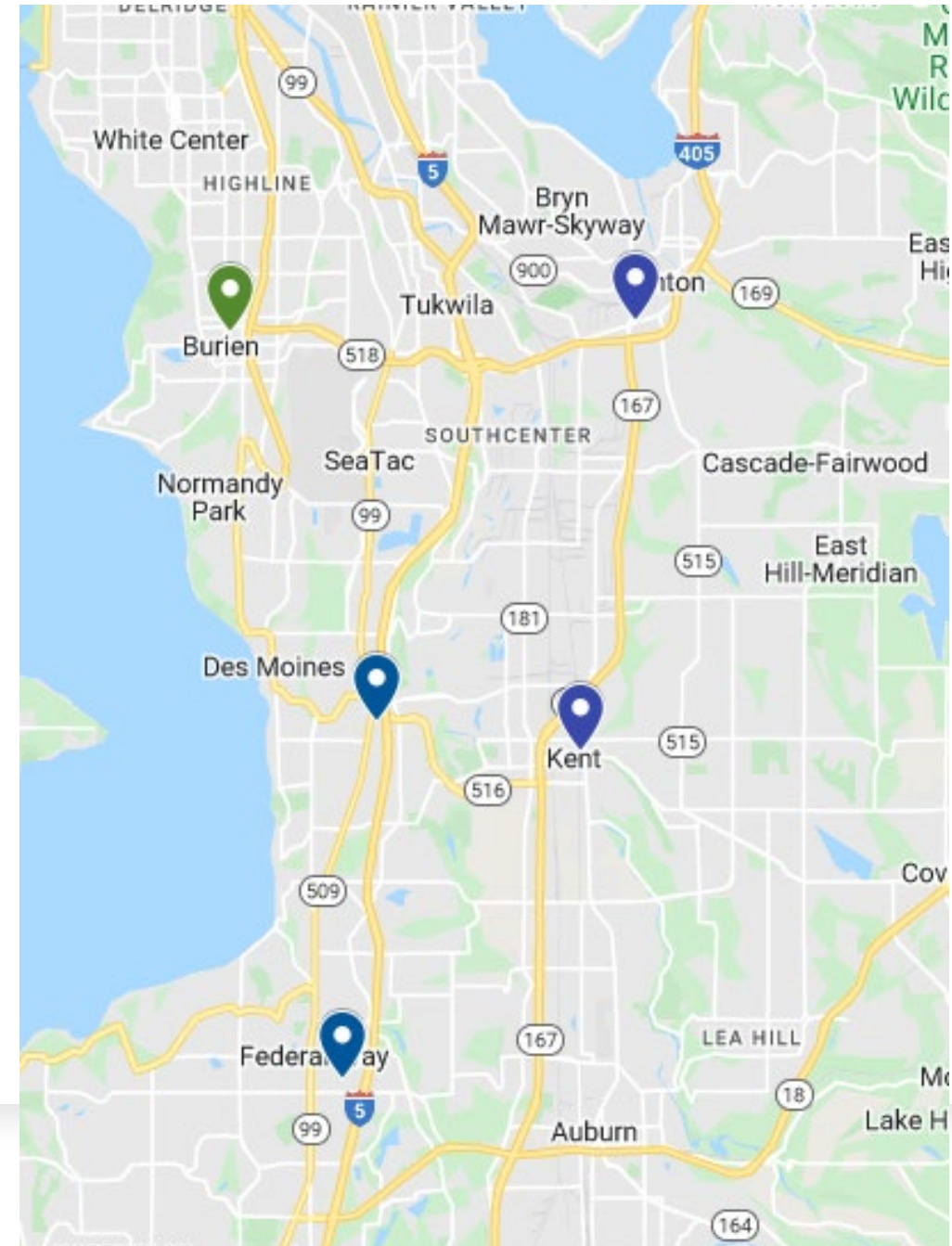
Open South Annex  
Base to support 250  
BEBs

# Layover Charging

## Coordinating with Sound Transit - Five Sites By 2028

1. Burien Transit Center
2. Kent/Des Moines Link Station
3. Kent Transit Center
4. South Renton Transit Center
5. Federal Way Transit Center

A&E Contract Procurement Q3/4 2022  
Construction Contract Procurement ~2024



# Routes with Battery Electric Bus trips

- Battery Electric Buses are currently operated on identified trips on routes 101, 102, 105, 107, 111, 150, 153, 156, 160, 161, 162, 165, 168, 177, 181, 182, 183, 184, 187, 190, and 193, 226, 241.
- Routes and trips serving priority populations have been prioritized for BEB operations

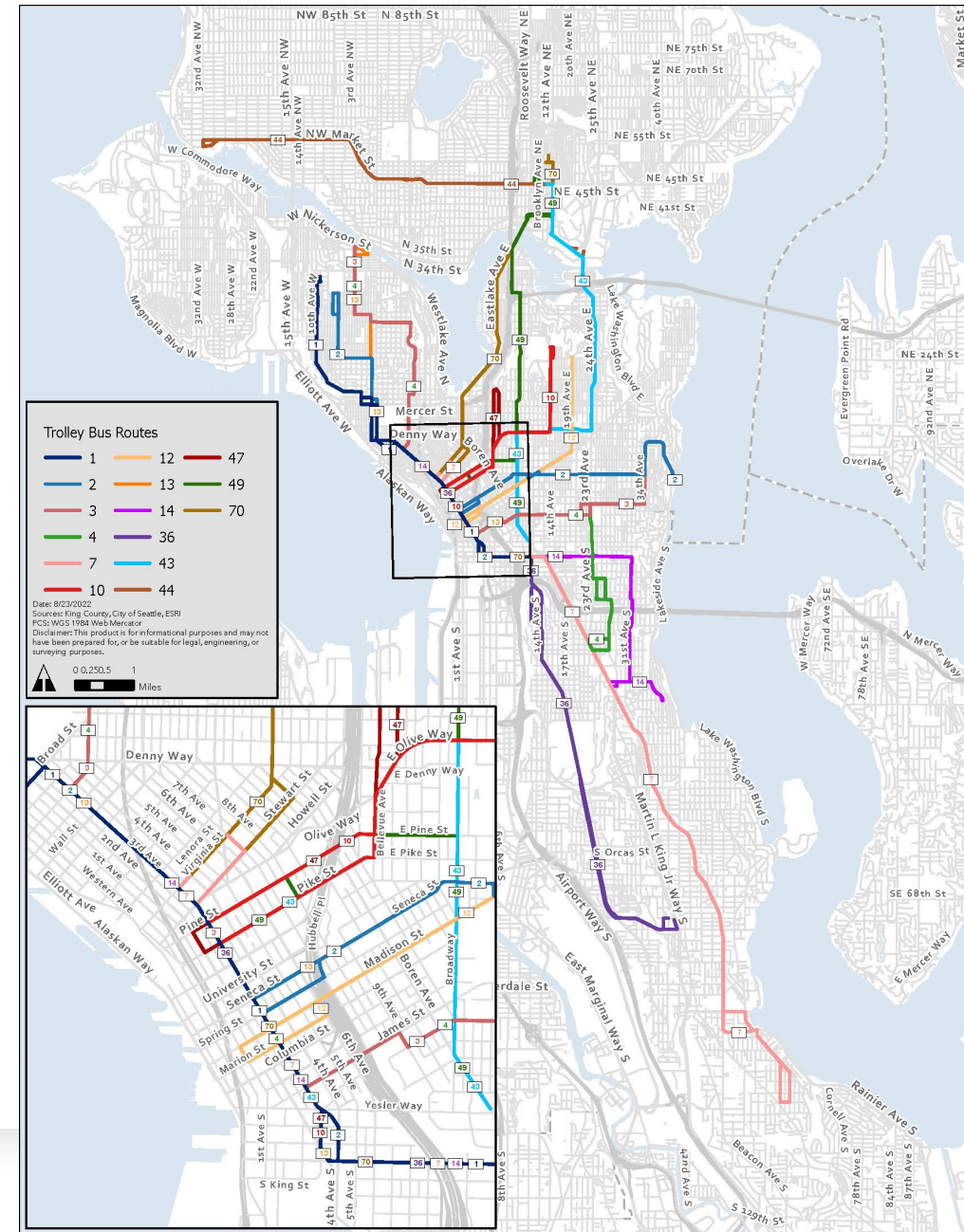


# Trolleys are an important part of zero emissions strategy

- 14 routes with more than 70 miles of two-way overhead wire
- Trolley system carries about 14% of Metro riders

## Key strategies to optimize trolley network:

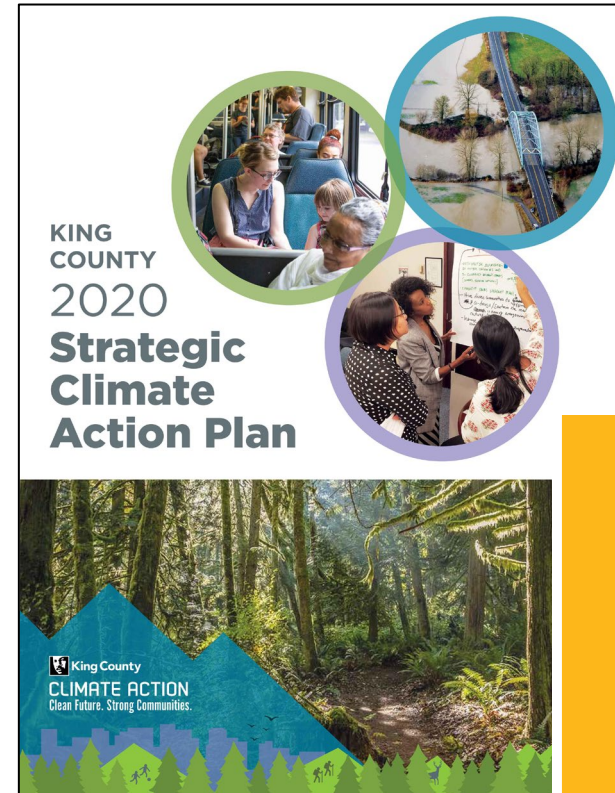
- Completed Trolley Expansion Strategic Plan in 2022
- Developing implementation plan for system expansion
- Increasing weekend trolley usage through holiday blackout weekends
- Conducting planning study to evaluate strategies for increasing trolley usage
- Piloting longer range battery (Q4 2023) to test flexibility and off-wire operation





# Non-Bus Electrification Targets from King County Council Ordinance 19052:

Target	% Zero Emissions	Year
ADA Paratransit	67%	2030
Rideshare	100%	2030
Light-duty vehicles	50% 100%	2025 2030
Medium-duty vehicles	50% 100%	2028 2033
Heavy-duty vehicles	50% 100%	2038 2043



# Metro's Non-Bus Fleets

- Non-revenue vehicles (NRV)
  - Sedans to tow trucks (675)
- Access Paratransit (379)
- Mobility Services
  - Rideshare (1089)
  - DART (102)
  - Alternative Services (78)
- Water Taxis (3)





# Fleet Updates

- **Rideshare**
  - At Home Charging Pilot
- **Access Paratransit EV Pilot**
  - 4 EV Access vehicles on order – Q3 2023
- **Metro Support Fleet (NRV)**
  - Continue to increase EV fleet
- **Water Taxi**
  - Marine electrification feasibility study underway



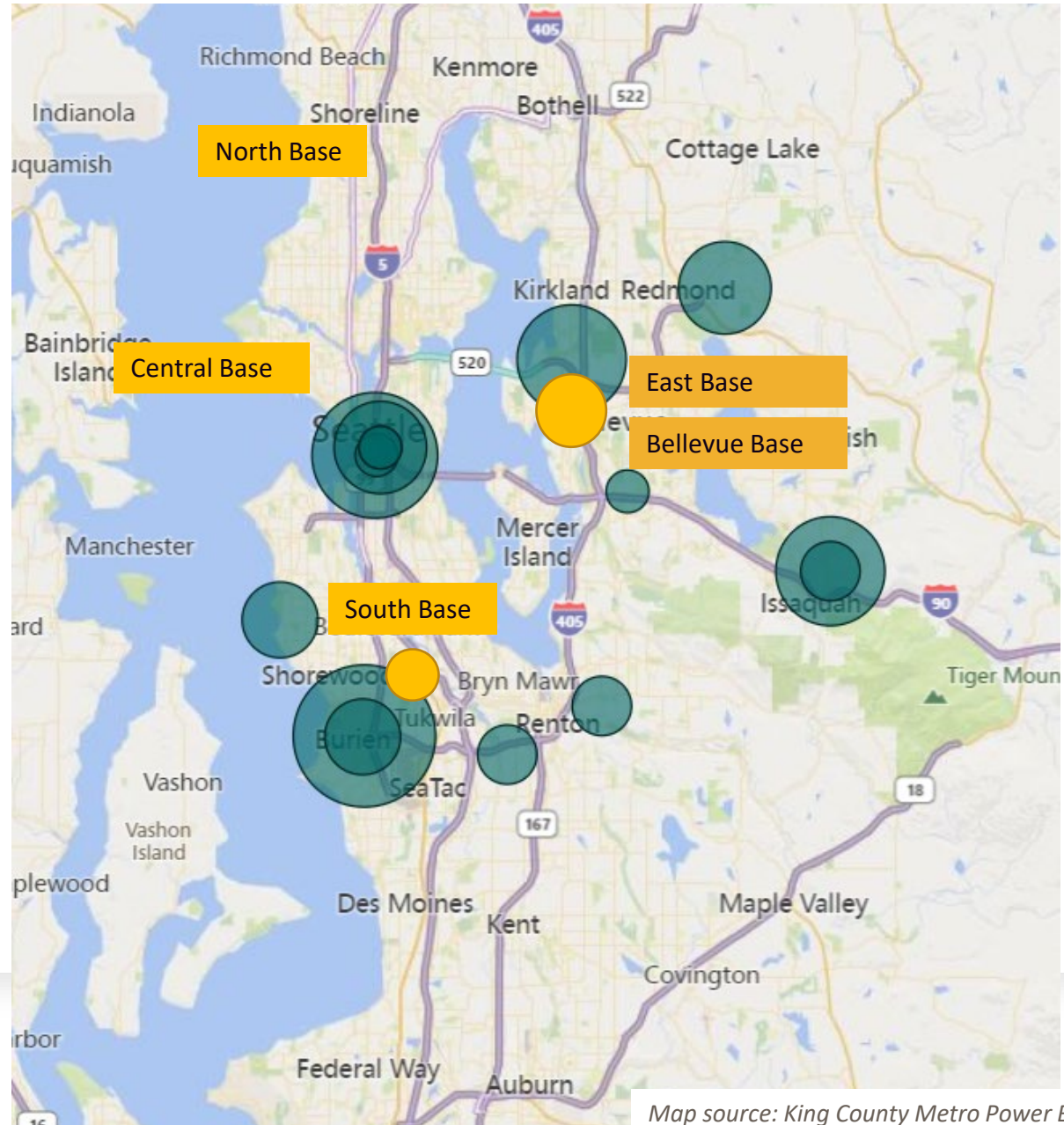
# Charging Infrastructure: Non-Bus Fleet and Public-facing

## Existing

- Park and Rides and other King County facilities
  - Issaquah Highlands
  - South Kirkland
  - Burien

## Underway

- Installing fleet chargers at Metro facilities



# Current risks and mitigation strategies underway

- Managing complexity and scale of electrification
  - Workforce training and recruitment
  - Cost over runs and on-time delivery
  - Specialized contracting mechanism for construction, site inspection, site preparation, installation, repair, permitting, and maintenance
  - Partner agency coordination and jurisdiction support
  - Partner with Seattle City Light and Puget Sound Energy to plan for sufficient grid capacity and build out of power infrastructure for operations.
- Supply chain vulnerability resulting in long lead times
- Lack of standards and interoperability issues between charger, bus, and battery manufacturers
- Technology to support charge management, dispatch, and yard management is in its early maturity



# Community Engagement

Committed to sharing information with the community, building relationships through transparent and consistent two-way communication.



## Update: South Campus expansion

We're upgrading our bus bases to support a zero-emission fleet by 2035.

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ለበዙ ደህን፡ [www.kingcounty.gov/metro/bases](http://www.kingcounty.gov/metro/bases) ይጎብኙ

## ACTUALIZACIÓN DEL CAMPUS SUR

Estamos actualizando nuestras bases de autobuses para poder contar con una flota de cero emisiones en 2035. Para ver el contenido completo, visite: [www.kingcounty.gov/metro/bases](http://www.kingcounty.gov/metro/bases)

## Aqbaar: Balaarinta Xarunta Koonfur

Waxaan horumarinaynaa saldhigyada basas yadeena si aan u taageerno gaadiid gaari ahaanba hawada qee aan kuzi daynayn xaradda marka uu yahay 2035. Si aad u hesho nuur dhammaystiran booqo: [www.kingcounty.gov/metro/bases](http://www.kingcounty.gov/metro/bases)

## TIN CẤP NHẬT: MỞ RỘNG CƠ SỞ PHẠM NAM

Chúng tôi sẽ nâng cấp các bãi đậu xe buýt để hỗ trợ đội xe không khí thải vào năm 2035. Để xem nội dung đầy đủ, vui lòng truy cập: [www.kingcounty.gov/metro/bases](http://www.kingcounty.gov/metro/bases)



Moving forward together

KSC-TR-0415  
201 S Jackson St  
Seattle, WA 98104-3856

## More from Metro in Tukwila



### Via to Transit in Tukwila

Via to Transit connects you to your community. With Via to Transit, you can book rides straight from your phone and travel around Tukwila for the same cost as a bus ride. Your Via trip can begin or end anywhere within the service area and take you to/from Tukwila International Boulevard Station and the Tukwila Community Center.



1. Download the Via app.
2. Book an on-demand ride with the app or by calling 206-258-7739.
3. Ride and connect to your Tukwila community today!

For more information, visit [kingcounty.gov/metro/via](http://kingcounty.gov/metro/via)



Moving forward together

### Start your Metro career!



Our South Campus expansion is leading our push to a zero-emission bus fleet by 2035. As our region continues to grow, we are committed to creating new jobs, providing job training, and continued community workforce agreements.

We need talented employees to help fulfill this vision—are you ready?

[kingcounty.gov/careers](http://kingcounty.gov/careers)

Questions? Contact us at [BaseExpansion@kingcounty.gov](mailto:BaseExpansion@kingcounty.gov) or call 206-263-1585. Learn more and sign up for project updates at [kingcounty.gov/metro/bases](http://kingcounty.gov/metro/bases)

## Growing and improving our Tukwila bus bases

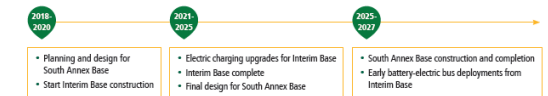
Metro is transitioning to a zero-emissions fleet by 2035. To meet this goal, we must update our bases to support the electric buses. We're starting this work at our South Campus in Tukwila to bring the environmental and health benefits associated with battery-electric bus operations to the communities that need it most.

The transition is in motion at our South Base with the construction of the test-charging facility for our next generation of battery-electric coaches.

Our first project, the Interim Base, sits next to our South Base on East Marginal Way. It will support our early battery-electric bus operations in 2025/2026. Design and construction of the electric charging upgrades will happen over the next few years.



## Project schedule



## South Annex Base: Metro's game changing all-electric base

When completed, South Annex Base will house up to 250 battery-electric buses, one of the largest zero-emissions bus bases in the country. Metro's pursuit of the Living Building Challenge certification will also make it one of the greenest facilities possible!

By restoring two sections of Riverton Creek, Metro will also improve the salmon habitats contained in pipes below the site.

We're currently in early stages of the design process, which will last around three years. In early discussions with the community, we've heard that Metro should make South Annex Base less industrial and more beautiful than existing bases, with a focus on green spaces.



## Upcoming opportunities to share your thoughts on South Annex Base

Metro is committed to engaging our Tukwila neighbors in the design process for South Annex Base. There will be several opportunities for the public to comment on Metro's design process—stay tuned!

## Construction notes for the public

As we upgrade the site fencing and landscaping at Metro's South Campus Office and Storage Auxiliary property at 12677 East Marginal Way South, the community may see vehicles and equipment coming and going. We hope to have more information on our effort to daylight the stream under this property in the next year.



Moving forward together

Questions? Contact us at [BaseExpansion@kingcounty.gov](mailto:BaseExpansion@kingcounty.gov) or call 206-263-1585. Learn more and sign up for project updates at [kingcounty.gov/metro/bases](http://kingcounty.gov/metro/bases)

Fall 2022: community mailer available in Ahmaric, Somali, Spanish, Vietnamese and English. Also posted on the Metro Matters Blog.

# Opportunity for Input: Accelerating Electric Vehicles in WA State

- WA State EV Council is developing a statewide transportation electrification strategy by Jan 2024
- King County Metro Transit – Representative of WA Dept of Commerce EV Council Advisory Committee
- **What are the main barriers you face as local governments to transitioning your fleets and to supporting publicly accessible EV charging?**
- **What barriers do you hear from your constituents?**
- **How can the State ease these barriers?**
- Cities have the opportunity to send their comments directly to the Dept of Commerce via oral comments at an EV Council meeting or written comments to the EV Council at [EVCouncilFeedback@cascadiaconsulting.com](mailto:EVCouncilFeedback@cascadiaconsulting.com)



# Closing and Questions