ACCELERATE YOUR CITY

DRIVING CONSUMER EV ADOPTION THROUGH PUBLIC/PRIVATE PARTNERSHIPS
AccelerateYourCity.com

Best Practices and Lessons Learned on:

- EV Adoption & Charging
- Community Engagement ‘The Columbus Way’
- Mobility Shift & More

From the $10 million Smart Columbus Electrification Program
Matt Stephens-Rich, Program Manager, Electrification Coalition
Jordan Davis, Director, Smart Columbus, Columbus Partnership
Allegra Wiesler, Sustainability Manager, OhioHealth
The Electrification Coalition (EC) works to accelerate the adoption of electric vehicles to reduce the national security, economic and environmental threats caused by our nation’s oil dependency.
Electrification Coalition
Our Motivation: National & Energy Security

92% of U.S. transportation powered by oil...

...a resource with volatile prices that the US spends $80 billion per year to protect...

...that is a leading emissions source

Source: EIA
A productive collaboration:

- Proves concept
- Drives to scale
- Creates a national model
- Supports regional/local vision
- Reinforces national leadership
SMART COLUMBUS ELECTRIFICATION PROGRAM
## ELECTRIFICATION PROGRAM

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<td>TRANSIT, AUTONOMOUS, MULTIMODAL MOBILITY OPTIONS</td>
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OUR GOAL:
SHIFT THE TRAJECTORY OF ELECTRIC VEHICLE ADOPTION
IN CENTRAL OHIO

PEV Adoption Rate by Quarter

Goal: 1.8%
Baseline: 0.37%
PROGRESS THROUGH PARTNERSHIPS

Installed 552,000+ Smart Meters

Installed 419 workplace chargers

Purchased 313 electric fleet vehicles

Opened world-class EV showcase facility

Forged unprecedented partnerships to increase e-mobility options

Engaged 40% of regional car dealerships

Conducted 12,400+ EV test drives

Influenced 3,458 people to buy an EV in 3 years
CONSUMER EV ADOPTION
SMART COLUMBUS ELECTRIFICATION PROGRAM

1. DECARBONIZATION & GRID MODERNIZATION
   - 905 MW of utility scale renewable energy generation through solar and wind
   - 1.2 TeraWh of renewable energy & save 480 GWh consumed through energy efficiency

2. FLEET ELECTRIFICATION
   - 755 Electric Fleet Vehicles in Operation by 2020

3. TRANSIT, AUTONOMOUS, MULTIMODAL MOBILITY OPTIONS
   - 6 Electric Autonomous Vehicles in Operation by 2020
   - 50 Electric Bikes

4. CONSUMER ADOPTION OF ELECTRIC VEHICLES
   - 1.8% of all new vehicle sales in 2020 are electric
   - 50 Executives are driving electric by 2020

5. CHARGING INFRASTRUCTURE
   - 925 new electric vehicle chargers are installed by 2020
EARLY ADOPTER STRATEGY

EV EARLY ADOPTERS = HIGHER EDUCATION AND/OR MAKE $100K+

STRONG EMPLOYER RELATIONSHIPS

REACH EARLY ADOPTERS AT MED-LG EMPLOYERS

HIGH CONCENTRATION OF FORTUNE 1000 COMPANIES
ACCELERATION PARTNERS PROGRAM
70 LARGE EMPLOYERS

1. EMPOWERED LEADER
2. BUY ELECTRIC
3. INSTALL CHARGING INFRASTRUCTURE
4. SMART MOBILITY EDUCATION
5. INCENTIVIZE BEHAVIOR CHANGE
CHARGE AN EMPOWERED LEADER

Designate a talented, energized senior leader to lead an internal cross-functional team that fulfills your Acceleration commitments.

Our Goal
100 active companies by 2020

Partner Ask
Assign a Senior Sponsor and a Mobility Ambassador
60 MOBILITY AMBASSADORS
BUY ELECTRIC

Encourage your senior leaders to lead by example and adopt EVs for personal use. Invest in low total cost of ownership assets by adopting Electric Vehicles within your corporate fleet.

Our Goal
• 50 executives drive electric by 2020
• 500 Electric Vehicles in operation in corporate fleets by 2020

Partner Ask
• Report the name of at least one executive committed to driving electric
• Conduct a free Smart Columbus fleet assessment within three months to determine EV opportunities
50 EXECUTIVES DRIVING ELECTRIC
PRIVATE FLEET ELECTRIFICATION

Overview

- 350 Committed EVs
- 45 Fleet Analyses Completed
- 200+ businesses and organizations engaged
INSTALL CHARGING INFRASTRUCTURE

Break down barriers to Electric Vehicle adoption by installing chargers at your employment locations for employees.

Our Goal
• All corporate campuses have Electric Vehicle charging stations by 2020

Partner Ask
• Install charging stations at 2% of parking spaces on each of your properties
• Lay conduit in all new parking structures to prepare for the future
WORKPLACE CHARGING

394 PORTS DEPLOYED OR COMMITTED AT 63 SITES
$9.5 million program

141 applications for Level 2 charging
• 255 stations, 494 ports
• $3.1 million incentives reserved

45 applications for DC Fast charging
• 73 stations, 88 ports
• $4.6 million incentives reserved
EDUCATE ON SMART MOBILITY

Get smart on our shared vision. Join us for a Smart Columbus Live interactive gallery walk to learn more about our goals and how we’ll get there. Offer your employees the opportunity to get behind the wheel of the latest Electric Vehicles by hosting a Smart Mobility Ride and Drive at your location.

Our Goal

- 1,500 community leaders attend a Smart Columbus Live gallery walk session in 2017
- Host 50 Ride and Drive events per year through 2020

Partner Ask

- Send at least 20 people to attend a Smart Columbus Live session
- Conduct at least 3 Ride and Drives at each major campus/location by 2020
SMART COLUMBUS LIVE
96 sessions engaging 1,526 residents, community leaders and corporate partners

Topics:
• Future of Mobility/ CASE
• Columbus Story
• USDOT Smart City Challenge
• Smart Columbus Initiative & Grant Projects
• Future of our City and their place in it.

Post-event surveys showed an increased likelihood to consider owning an EV after participating
RIDE & DRIVE ROADSHOW

FLAGSHIP EV AWARENESS & CONSIDERATION BUILDING PROGRAM

Conducted nearly 12,000 educational EV test drives
PARTICIPANT EXPERIENCE

STEP 1: CHECK IN
STEP 2: PRE-DRIVE EDU
STEP 3: THE DRIVE
STEP 4: SURVEY & SWAG

SIGN-UP ONLINE
LEAD NURTURING
DRIVE LESS

OPPORTUNITY TO EDUCATE ABOUT ALL MODES
EVENTS: 120 in 24 months
HOSTS: 57
LOCATIONS: 71
DRIVES: 11,956
Average drives per event: 99
DEALER LEADS: 1,528
% opt-ins: 13%
INCENTIVIZE
BEHAVIOR
CHANGE

Treat mobility as an employee benefit like healthcare or retirement to improve access to mobility, boost morale and enable mode shift.

Our Goal
• Decrease single occupant vehicle commuter traffic by 10%
• Increase employee Electric Vehicle ownership by 4x
• 50 companies offer Mobility Benefit Packages by 2020

Partner Ask
• Establish employee mobility benefits — may leverage the Ignite Action Fund
MOBILITY AS A BENEFIT

31 PARTNERS DEPLOYED

1,000 EMPLOYEES DIRECTLY USING NEW BENEFITS (EXCLUDING C-PASS)

Our carpool crews had a successful week of ridesharing! Nearly 25% of our #bus associates participated and they reduced their single occupancy vehicle (SOV) commutes by almost 50% which lessened SOV miles by nearly 1,400. Even better news is that 70% of participants say they’re planning to continue carpooling on a continuous basis.

#accelerationpartner 🚗 @ Columbus, Ohio

DEPLOYED
A&R Creative Group
Advanced Drainage Systems
AEP
Alliance Data
AT&T
Battelle
Cardinal Health
CAS
Columbus Zoo
CoverMyMeds
Deloitte
Denison University
Dispatch Media Group
Encova
Fahlgren Mortine
Fifth Third
Hexion
Huntington
IBMix
JadeTrack
JPMorgan Chase
Lifestyle Communities
Nationwide
OhioHealth
PNC
Squire Patton Boggs
State Auto
Steiner + Associates
U.S. Bank
Vorys
White Castle
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<td>70 EMPLOYERS COMMITTED</td>
<td>50 EXECUTIVES DRIVING ELECTRIC</td>
<td>88% OF PARTNERS INSTALLED CHARGING</td>
<td>120 RIDE &amp; DRIVE EVENTS</td>
<td>43% OF PARTNERS CREATED BENEFIT PROGRAMS</td>
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<td>60 MOBILITY AMBASSADORS - 51 COMPANIES</td>
<td>26% OF PARTNERS DEPLOYING EVS</td>
<td>219 CHARGING PORTS</td>
<td>11,900+ TEST DRIVES</td>
<td>1,000+ PARTICIPATING RESIDENTS</td>
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<td>Acumulus</td>
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WHO WE ARE & WHAT WE DO

WE are a faith-based, not-for-profit healthcare system.

3,800 PHYSICIANS

380+ RESIDENTS & FELLOWS

2,200 VOLUNTEERS

25,100 ASSOCIATES

30,000+ strong

3.2m OUTPATIENT VISITS

525,944 ED VISITS

169,998 ADMISSIONS & OBSERVATIONS

108,538 SURGERIES

14,758 BIRTHS

500 CLINICAL TRIALS

Represents Fiscal Year 2018 Data
WHERE WE ARE

care site locations

hospital
1. OHIOHEALTH RIVERSIDE METHODIST
2. OHIOHEALTH GRANT MEDICAL CENTER
3. OHIOHEALTH DOCTORS HOSPITAL
4. OHIOHEALTH GRADY MEMORIAL
5. OHIOHEALTH DUBLIN METHODIST
6. OHIOHEALTH HARDIN MEMORIAL
7. OHIOHEALTH MARION GENERAL
8. OHIOHEALTH O’BLENESS HOSPITAL
9. OHIOHEALTH MANSFIELD HOSPITAL
10. OHIOHEALTH SHELBY HOSPITAL
11. OHIOHEALTH GROVE CITY METHODIST
12. OHIOHEALTH BERGER HOSPITAL

managed
1. MORROW COUNTY HOSPITAL
2. SOUTHEASTERN OHIO REGIONAL MEDICAL CENTER

affiliate
1. BLANCHARD VALLEY MEDICAL CENTER
2. SOUTHERN OHIO MEDICAL CENTER

60+
OUTPATIENT LOCATIONS

Represents Fiscal Year 2018
Why We Care

• Increasing number of electric vehicles on the road will:
  – Reduce GHG emissions and improve air quality
  – Decrease vehicle owner’s fuel costs and vehicle maintenance

• Associate and Community Benefits
  – Free charging
  – Visible locations
OhioHealth Steering Team

• Senior Leader designated to lead efforts
• Formed internal Steering Team
  – Sustainability
  – Marketing and Communications
  – Human Resources
  – Legal
  – Community Relations
  – Logistics
OhioHealth Initiatives

• Associate Engagement
  – How do we reduce our SOV usage (carpooling, vanpooling, biking, public transportation)

• Fleet Assessment
  – What does our fleet look like? How do we decarbonize our fleet? How do we integrate this with our procurement policies?
OhioHealth Initiatives

- Workplace Charging
  - Develop EV deployment plan
  - Install charging stations across system
Associate Engagement
SOV Reduction

• Mobility survey to Riverside Methodist Hospital associates
• Commuter Heat Map
• SOV Reduction Pilot
  – Multi-modal transportation platform
  – Incentives to promote commuting behavior change
  – In 3 month period, over 200 associates signed up and 15% stayed actively engaged
Ride and Drives

• 3 Ride and Drives
  – Hospitals & Office
• 212 EV test drives
• 32 Associates (15%) Asked to be Contacted by a Dealer
Fleet
Fleet Assessment

- Telematics installed in lab vehicles for 90 days
  - Targeted our vehicles with high mileage & city routes
  - Ability to charge overnight
Fleet Procurement

- Used electrification feasibility data to purchase EV
- Procurement policy that requires all new vehicle requests to be assessed for electrification opportunities
Workplace Charging
EV Charging Stations

- Utility Rebates
- Standards
  - Charging station vendor
  - Public + Workplace
  - Signage + stenciling
  - New construction + renovations
- Parking lot stencil share program
Looking Ahead
Future Priorities

• Continue fleet efficiency efforts
• Expanding fleet charging infrastructure
• Mobility/Commuting education to associates
In March 2018, Smart Columbus and research firm Navigant, published the findings of a survey of 900 people in the Columbus region who were identified as early adopters or early majority users for EVs, and who were looking to buy a new car in the next four years. The survey measures respondents’ vehicle preferences, EV awareness, considerations when buying a car, barriers to purchase and other consumer characteristics.

The same survey was repeated in March 2020 to illustrate the impact of the Smart Columbus program.
Have Driven a PHEV or BEV

Pre-Survey

PHEV: 10%
BEV: 7%

Post-Survey

PHEV: 32%
BEV: 30%
Favorable Impressions of PHEVs and BEVs

- Pre-Survey
  - PHEV: 57%
  - BEV: 48%

- Post-Survey
  - PHEV: 65%
  - BEV: 62%
Intent to Purchase a PHEV or BEV: Somewhat Likely - Extremely Likely

- Pre-Survey:
  - PHEV: 33%
  - BEV: 33%

- Post-Survey:
  - PHEV: 57%
  - BEV: 55%
WHAT’S NEXT IN FOR CONSUMER EV ADOPTION
SHORT TERM, NEW MODELS STILL EXPENSIVE

2020
- Aston Martin Rapid-e
- BMW iX3 EV
- Mercedes-Benz EQC
- Ford SUV EV
- Rivian R1T
- Rivian R1S
- Tesla Model Y
- VW ID Buzz
- VW ID Vizzion
- MORE

2021
- BMW i4
- BMW i-next
- VW ID Buzz
- VW ID Vizzion
- MORE

2020
- Audi e-tron
- Kia Niro EV
- VW ID Buzz
- BMW X5
- Volvo Polestar 2

2021
- BMW i4
- BMW i-next
- VW ID Buzz
- VW ID Vizzion
- MORE
NEED FOR INTERVENTIONS TO DRIVE EQUITY

UNTAPPED OPPORTUNITY IN USED MARKET

• 70% of US Car Purchases are Used
• Many used EVs can be purchased under $12,000
• Longer range options from 2018 and 2019, come off lease in 2021 and 2022 respectively

ELECTRIFYING SHARED MOBILITY

• A single car shared can impact 10 people per vehicle in a neighborhood or more, rather than just 1 person with a personal vehicle. Requires public charging infrastructure in low income areas.
• Federal, state and local financial incentives are making it feasible for COTA to introduce electric buses and Columbus Yellow Cab to transition their fleet to electric.
Batteries in new EVs will hold longer and longer charge, making it more desirable by customers and also changing charging use and need.

Time to charge at a fast charger will substantially decrease as technology enables higher voltage transfer.
More than just EVs, it’s about Climate Leadership

>>We have the collective capacity to go beyond ‘cars’ to achieve greater prosperity

**ENERGY**
- Energy Generation
- Renewable Development & Energy Purchasing
- Modernization
  - Smart Street Lights & Connected Infrastructure
- Energy Efficiency
  - Smart Building & Smart Home
- Innovation
  - Micro-grids, V2G, & Battery Storage

**TRANSPORTAION**
- Electrify Options
- SHARED MOBILITY
- Increase Adoption

**Dedicated Infrastructure**
- Benefits & Incentives
  - New & Expanded Options
  - Education & Marketing
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Best Practices and Lessons Learned on:
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- Mobility Shift & More

From the $10 million Smart Columbus Electrification Program
THANK YOU

Please join us on September 8th at 3pm for the next webinar, Fortifying Regional EV Charging Infrastructure.