



Go Further

EVS30 Symposium
Wednesday, October 11 2017
Stuttgart, Germany

The Positive Effects Of Workplace Charging On EV Ownership And Utilization

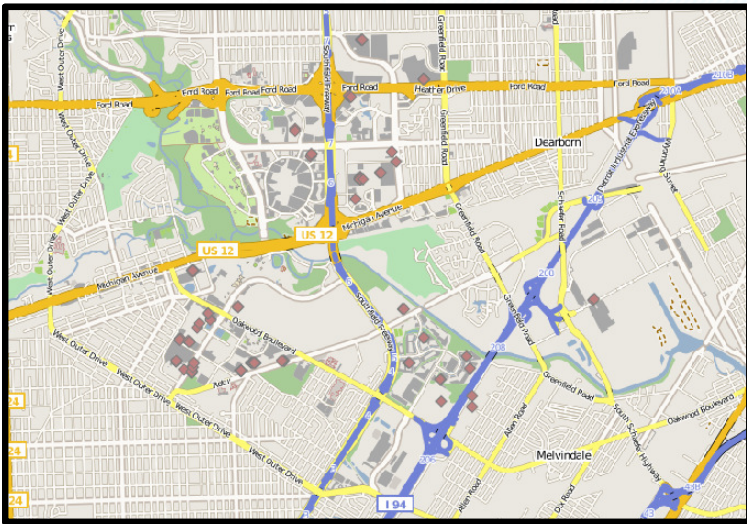
A large, white, stylized script logo of the word "Ford" is centered on a background of blue, wavy, abstract shapes that resemble water or motion. The logo is the classic Ford script font.

Outline



- The Ford Workplace Charging Network
- Data Sources
- Ford Workplace Charging Network Utilization
- Workplace Charging Impact On Electric Vehicle Miles Traveled (eVMT)
- Workplace Charging Impact On EV Purchase Decision
- Workplace Charging Benefits
- Next Steps & Opportunities

Ford Workplace Charging Network



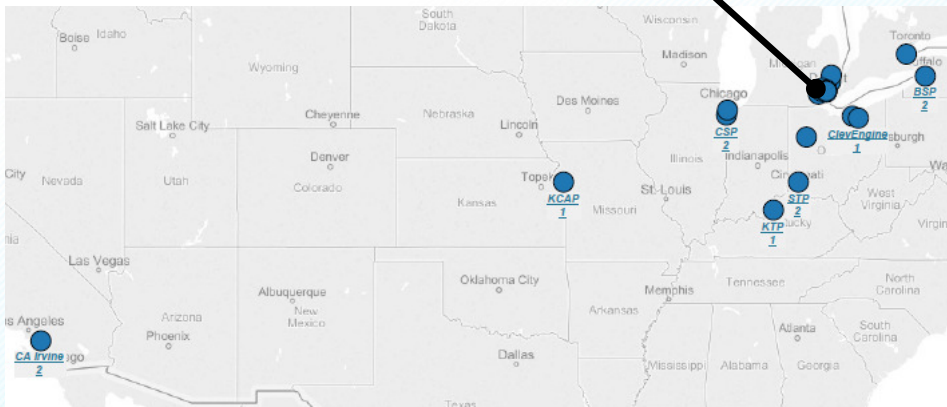
Ford Motor Company has installed over 200 workplace charging stations at 40 locations in US and Canada

The Ford Workplace Charging Network was installed to encourage EV ownership and usage by Ford employees

As of Q3 2017, all chargers are GE level 2 stations managed via the GE control network

Usage Rules

- Registration required for network access
- Only open to Ford plug-in vehicles owned by Ford employees
- Four hours of charging per day provided without fee. A \$1/hour fee applies thereafter
- Abide by standard shared-charger etiquette (don't unplug someone else's car, always move your car when charging complete, etc)



Data Sources

GE Control Network



Station Utilization Stats

MyFord Mobile



Key On/Key Off Snapshot
Charging Rate
eVMT*

Employee Surveys



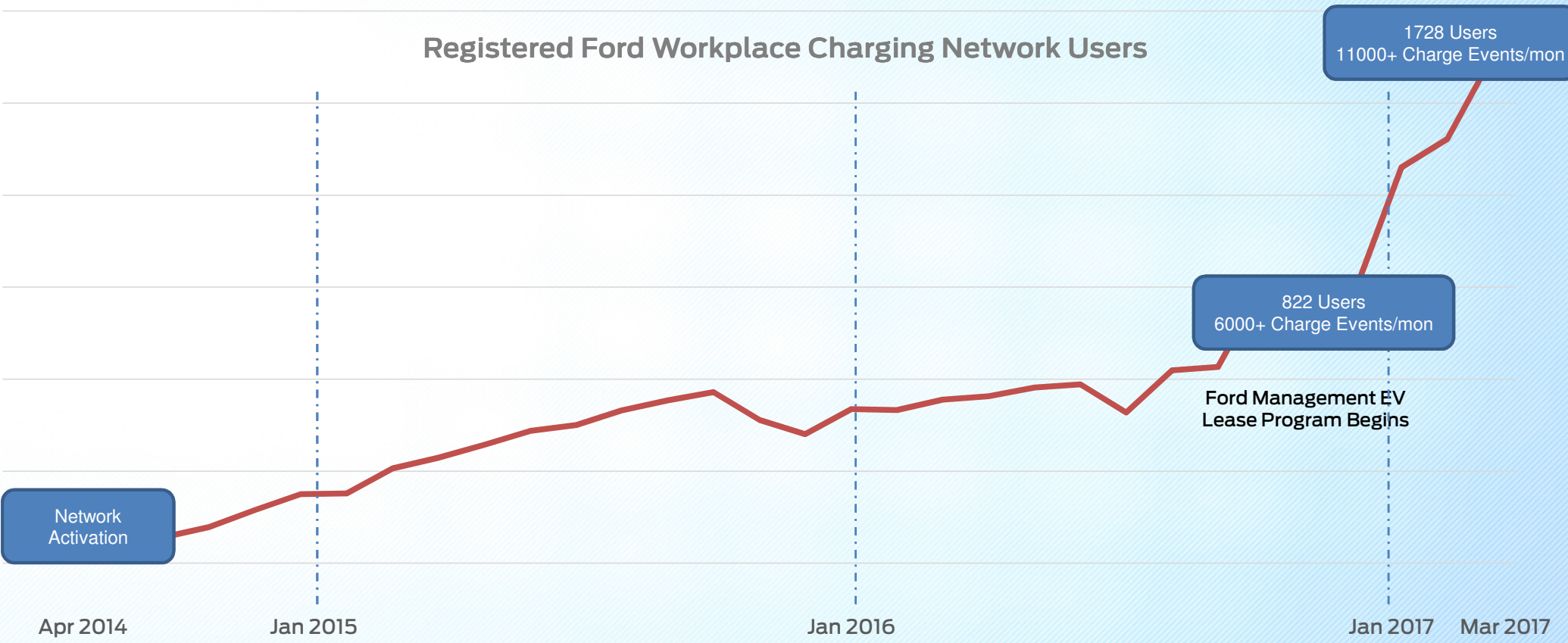
Usage Preferences
Impact On EV Purchase

* Electric Vehicle Miles Traveled

Network Usage Growth

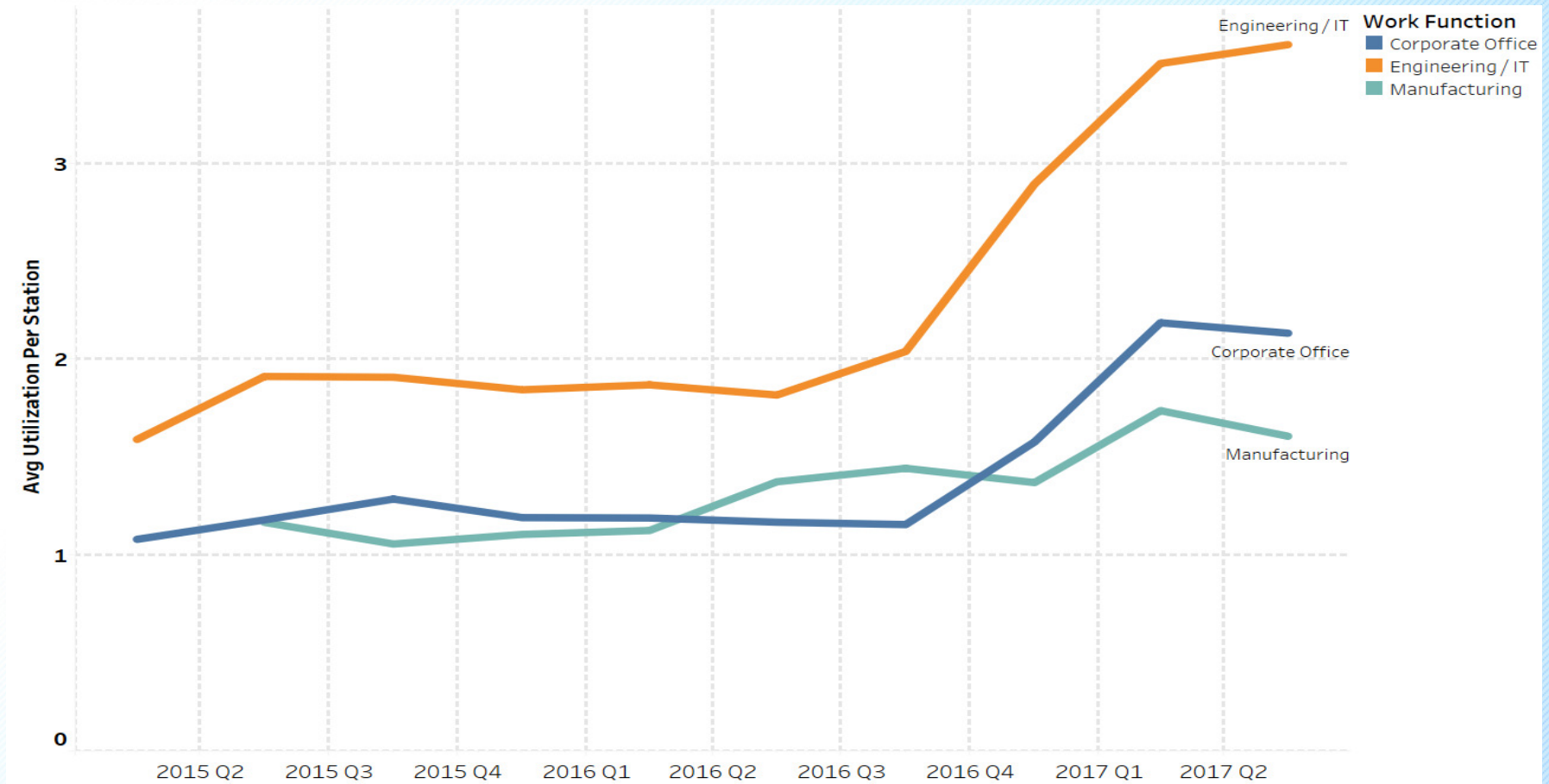


Registered Ford Workplace Charging Network Users



Registered Users And Network Usage Increased Rapidly

Network Station Utilization



Ford Engineering Centers Saw The Greatest Increase In Station Utilization

Ford Plug-In Electric Vehicles



Ford Focus Electric
Battery Electric



Ford Fusion Energi
Plug-In Hybrid

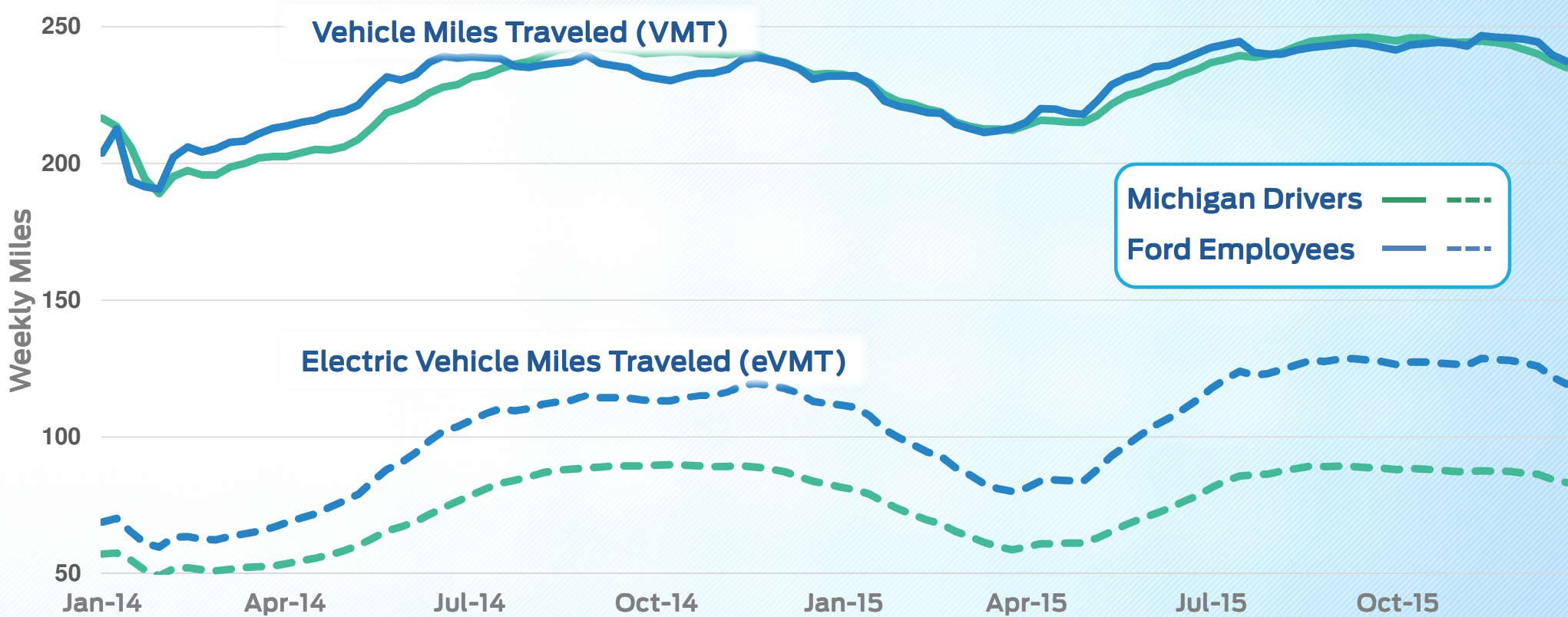


Ford C-Max Energi
Plug-In Hybrid



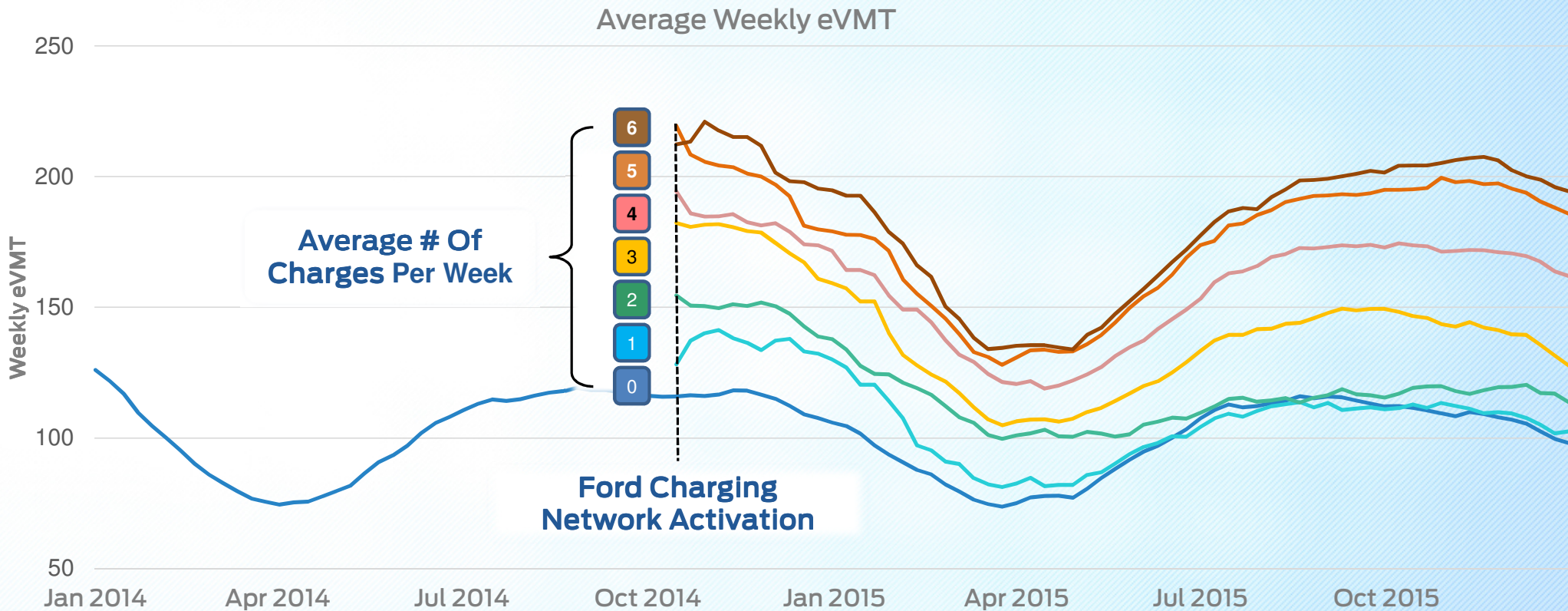
Usage Data From 1,823 Drivers Of Ford EVs Was Analyzed

Weekly Usage Statistics For Ford EV Drivers



All Michigan EV Drivers Have Similar VMT, Ford Employee Drivers Maximize eVMT

Workplace Charging Weekly eVMT Impact



Users Who Charged More Frequently Saw Higher eVMT Benefit

eVMT Impact For Frequent Chargers



Employees who charged 3 or more times per week experienced:

45%

Average Increase In eVMT
vs EV Drivers Not Using
The Network

3400 Miles

Average Annual eVMT
Uplift After Network
Activation

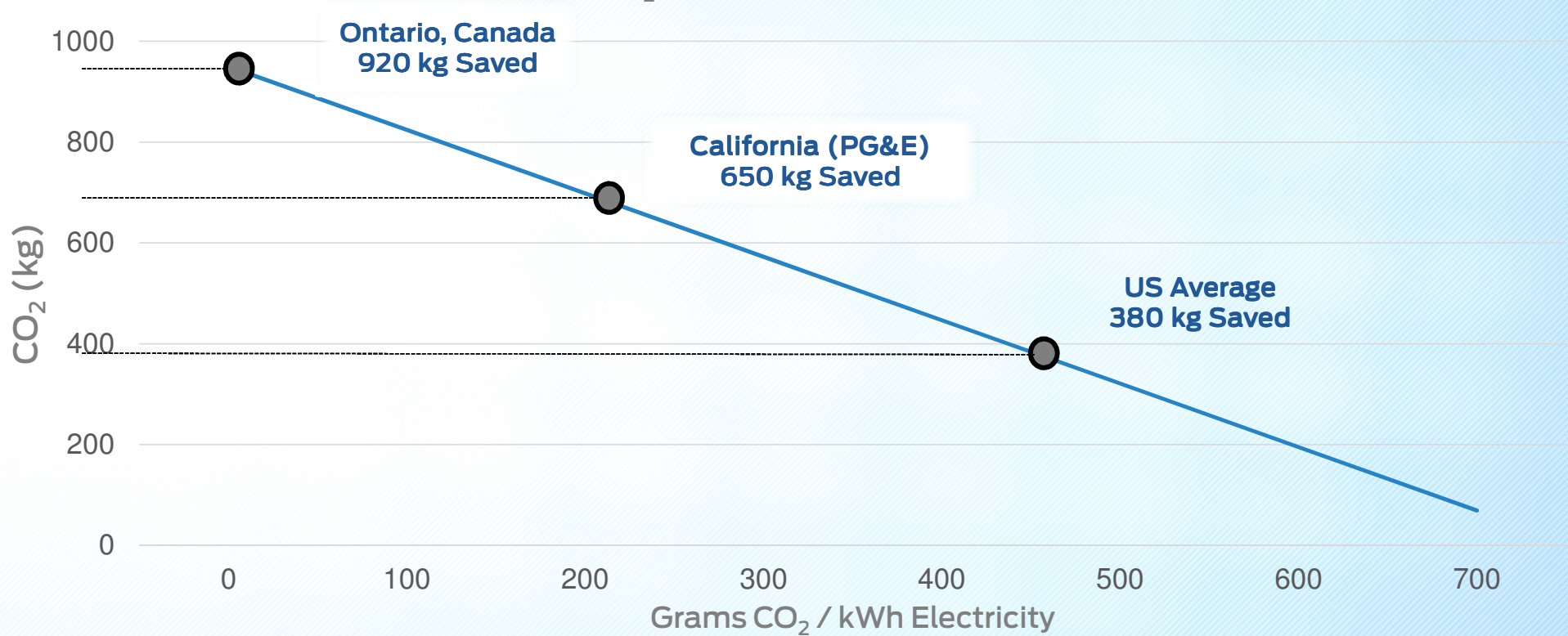
Ford is now working to triple the capacity of its Workplace Charging Network to ensure all employee EV drivers can enjoy these benefits

Ford Employees Who Used The Charging Network At Least 3 Times Per Week Experienced Significant Benefits

CO₂ Savings Potential



Annual CO₂ Savings For 3+ Weekly Charge User



Source: www.electricitymap.com, www.pge.com

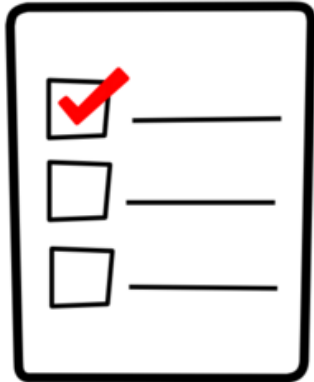
CO₂ Savings Potential Depends On Carbon Intensity Of Power Source

Ford Employee Workplace Charging Network Survey



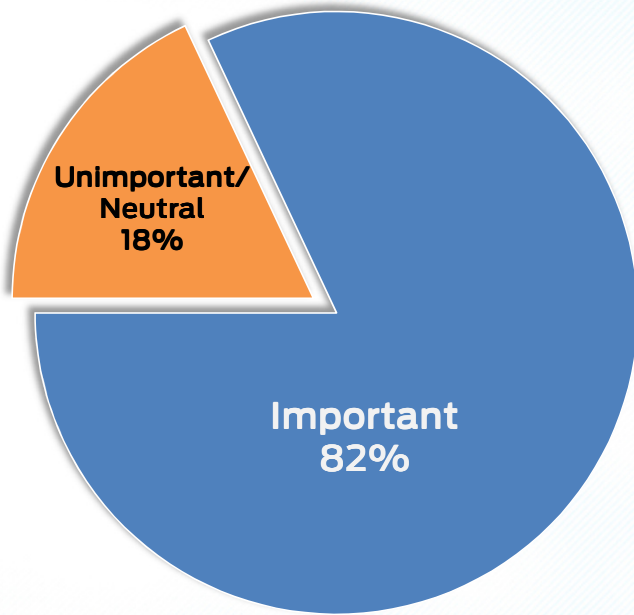
A survey of Ford Employee EV drivers was conducted in April 2017.
Over 800 employees responded

Survey Questions Explored:

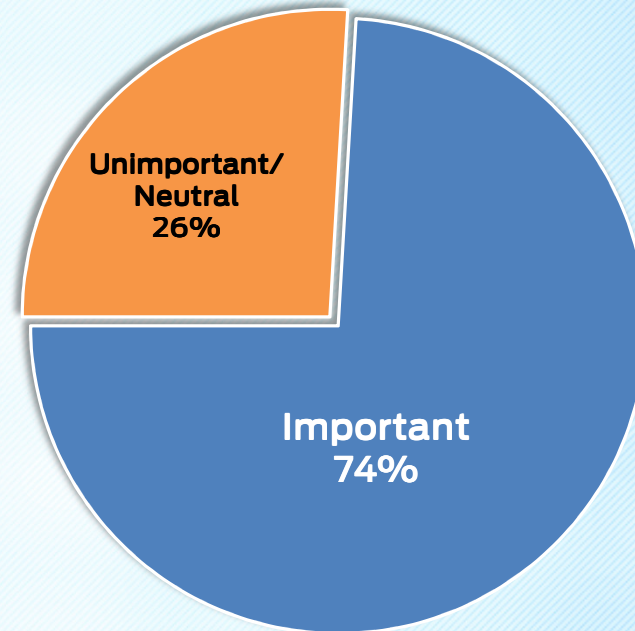


- Charging Fee Attitudes
- Charger Location Preferences
- EV Vehicle Satisfaction
- Workplace Charging Impact On Purchase Decision
- Impact On Ability To Recommend To Others

Workplace Charging Fee And Location Preferences



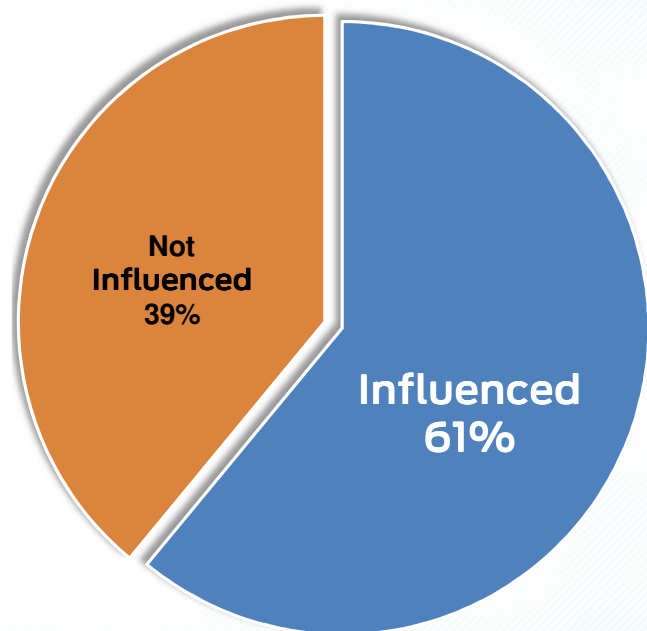
Importance Of No Fee Charging



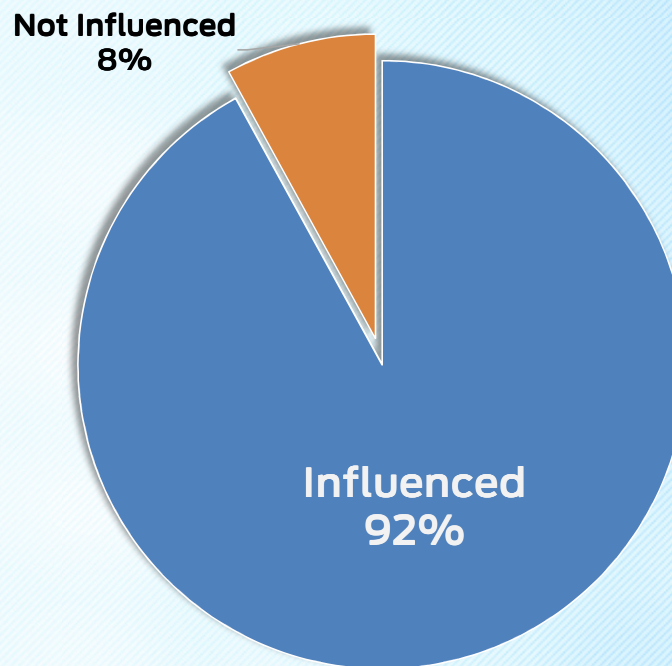
Importance Of Close Proximity to Office

EV Customers Want Free Charging, With Chargers Close To Their Offices

Workplace Charging Impact On EV Purchase Decision



Initial Purchase Decision



Ability To Recommend To Others

See also: <https://energy.gov/eere/vehicles/workplace-charging>

Workplace Charging Boosts Purchase Decision, Ability To Recommend To Others

Workplace Charging Benefits: Employees & Employers



- Increased acquisition of EVs by **Employees**
- **Employees** become enthusiastic advocates for EVs to their friends and families
- **Employee** EV drivers save more money and reduce CO₂ emissions by increasing electric miles traveled
- Enables EV usage for **Employees** without access to overnight/home charging
- **Employers** attract and retain a cutting-edge workforce
- **Employers** demonstrate Leadership in CO₂ reduction, and in adoption of advanced technologies



Workplace Charging Benefits Both Employees & Employers

Workplace Charging Benefits: Government & Utilities



- By promoting and incentivizing Workplace Charging, **Governments** can impact the adoption and utilization of EVs, furthering the goals of CO₂ reduction, fuel economy improvement, and energy security
- Workplace Charging will speed the transition of Transportation to electricity as 'fuel', benefitting **Utilities** through increased asset utilization
- **Utilities** benefit as Workplace Charging shifts charging times towards renewables peak generation, and away from late afternoon peak demand
- Workplace Charging is a key enabler for EV adoption by apartment / multi-unit dwelling residents, and others without access to overnight charging



Workplace Charging Will Speed The Adoption Of Electricity As Transportation Fuel

Next Steps & Opportunities



- **Ford is working to triple the size of its Workplace Charging Network**, with plans for over 600 chargers and protection for further growth
- **City, State, and Federal Governments have the ability to incentivize installation of charging near workplaces**, thus promoting adoption and utilization of EVs
- **Utilities can partner with Employers to install workplace charging**, accelerating the transition to Electrified transportation

