

Preparing for the Electric Vehicle Transition

A practical playbook for commuter charging and fleet electrification



Please take this quick poll while we wait for folks to join.

Menti.com Code: 7723 0977



Housekeeping



**All attendees are in
listen-only mode**



**This webinar is being
recorded and will be
available following the
session.**



**Submit questions using at
any time using the Q&A
panel**

Introductions

EV Charging & Fleet Transition Planning for Higher Education



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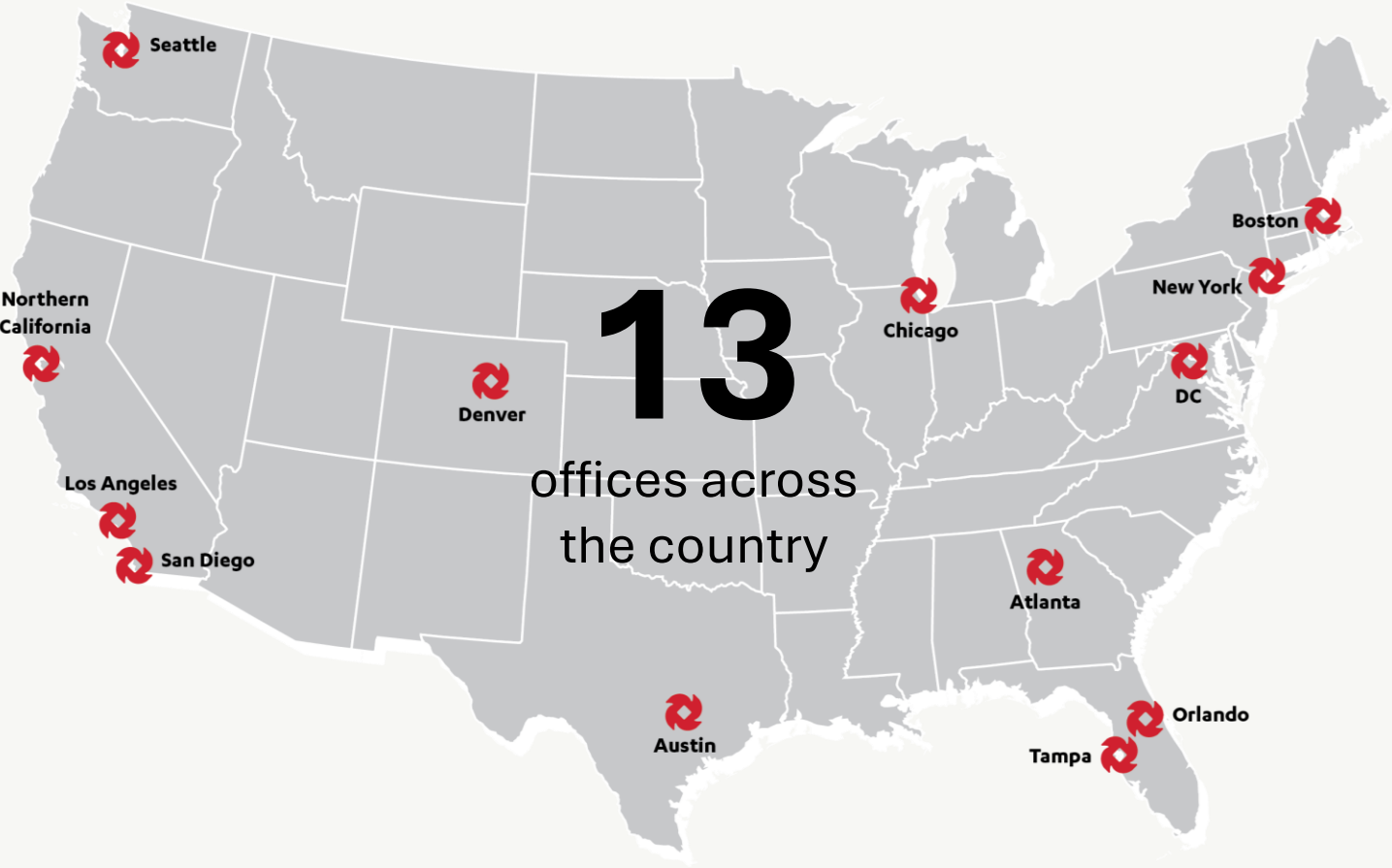
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About B&D



32+

Years in the industry

\$75B+

In developed projects

2,000+

Completed projects

Top 20

ENR Program Management
Rankings

400+

Professionals

5X

P3 Awards Finalist

Trusted Advisor to Colleges & Universities Since 1993



Student
Housing



Workforce
Housing



Recreation



Unions &
Cultural Centers



Health &
Wellness



Food Service



Athletics



Venues



Academics &
Research



Innovation
Districts



Campus Edge



Energy &
Sustainability



Hotel / Office



Retail



Parking



Management
Advisory



PK-14
Facilities



Municipal
Development



Parks &
Recreation



Entertainment
Districts



Communication
& Public
Engagement

Agenda

EV Charging & Fleet Transition Planning for Higher Education



1

Macroeconomic Trends



2

**Implications for
Campuses**



3

Planning for tomorrow

Where are you at in transitioning your fleet vehicles? (larger than golf carts)

Responses are hidden

We haven't transition any yet

We have some EVs

We have a fair amount of EVs

We have mostly EVs

Not sure



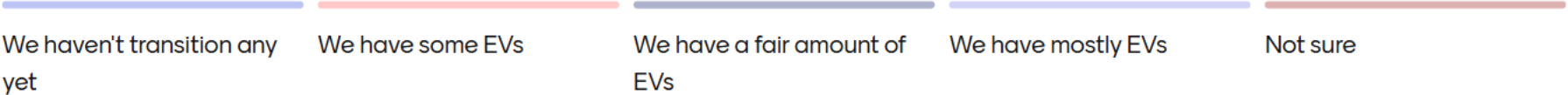
menti.com
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Waiting for participants



Where are you at in transitioning your fleet vehicles? (larger than golf carts)

🔒 Responses are hidden



menti.com
3954 3971

Waiting for participants



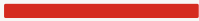


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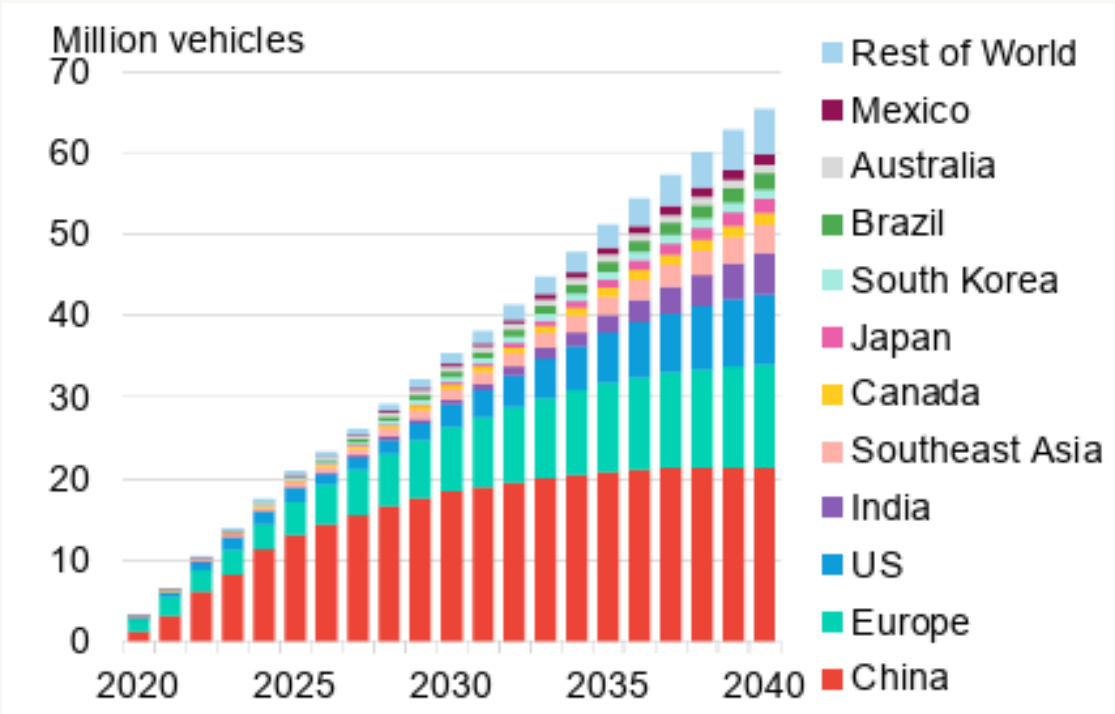
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Macroeconomic Trends

Global Electric Vehicle Sales Forecast



Global long-term passenger EV sales by market –
Economic Transition Scenario



Bloomberg NEF 2026 Electric Vehicle Outlook

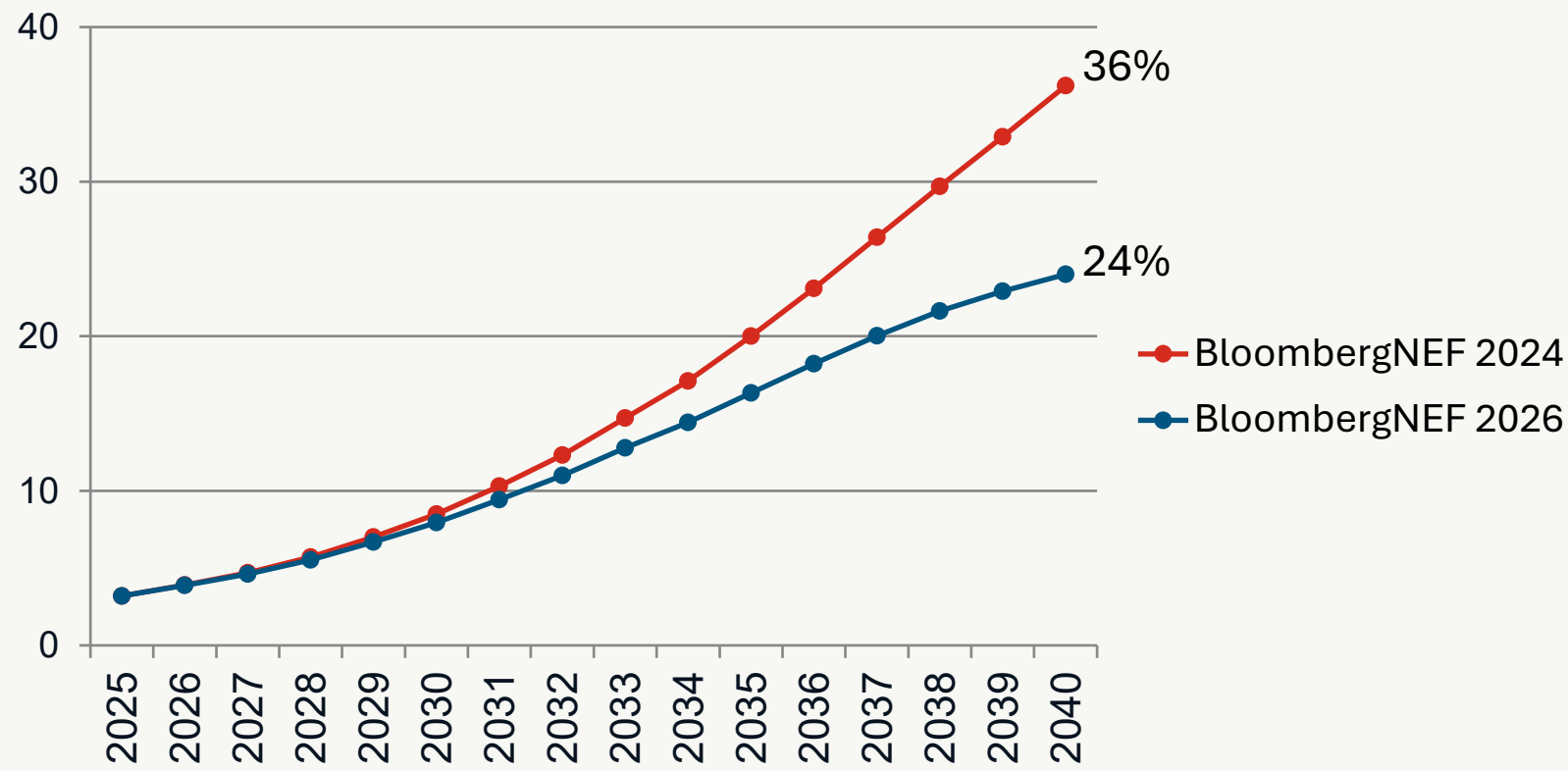
Battery Electric Vehicles (BEV) sales are forecasted to continue to increase globally.

35% of the global passenger-vehicle fleet is electric by 2040. (today = ~6%)

The fleet electrification rate is highest in the Nordics (76%), China (64%), and the UK (58%).

US Electric Vehicles Forecast

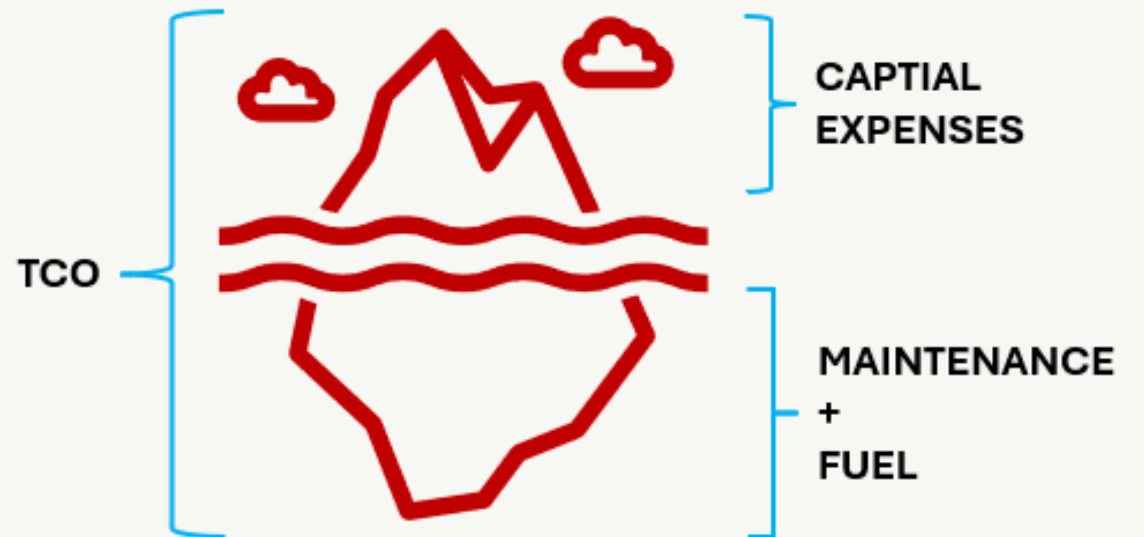
The significant slowdown in US EV sales led to BNEF adjusting their US 2040 forecast from 36% to 24% of the country's fleet being electric.



Sources: Bloomberg NEF 2024 & 2026 Electric Vehicle Outlook

What is driving EV Adoption Growth?

- More choices
- Excellent Performance
- Phase out mandates
- Voluntary phase outs
 - Climate action / decarbonization goals
 - Total Cost of Ownership perspective



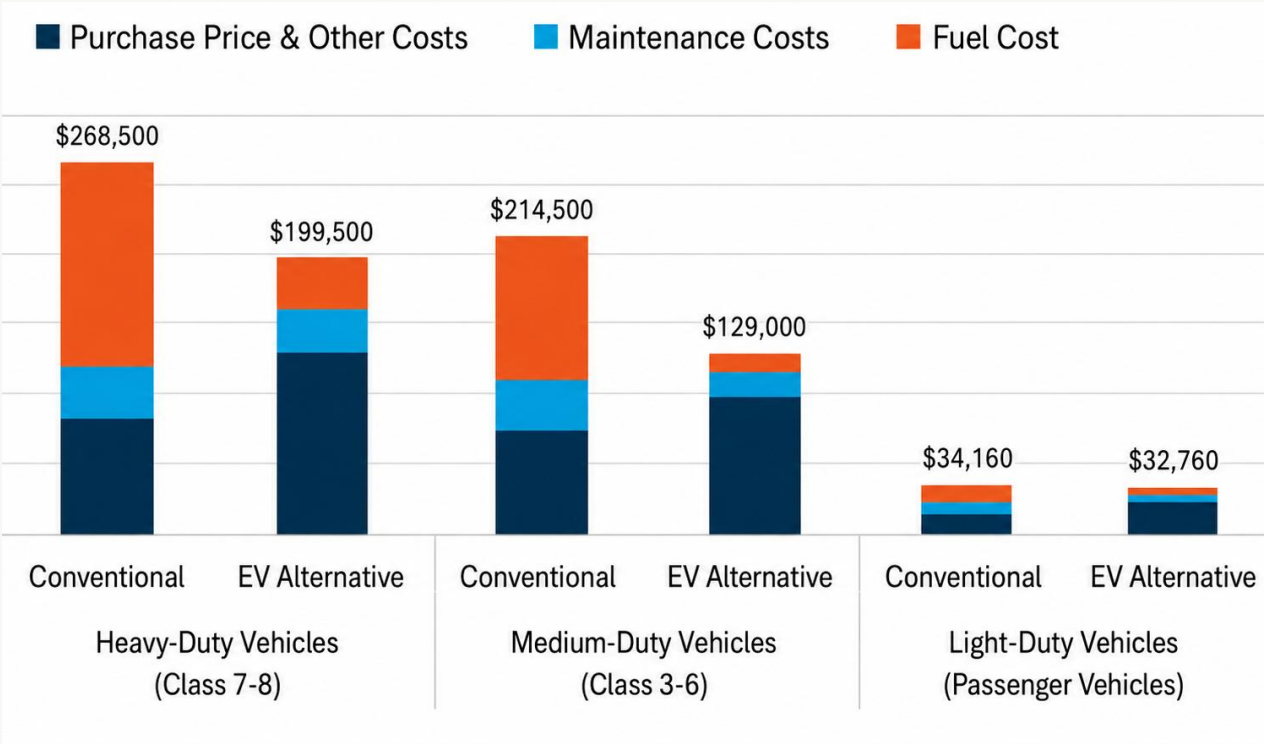
EV vs. ICE Total Cost of Ownership by Class

Fuel Cost



Source New York Times analysis, accessed August 2026 (Based on AAA and EIA) “How Much It Costs to Drive an E.V. and a Gas Car in Every State”

TCO by Vehicle Size



Source: Electrification Coalition, Total Cost of Ownership for Public Fleets: How Cities are Saving Money by Going Electric, May 2026

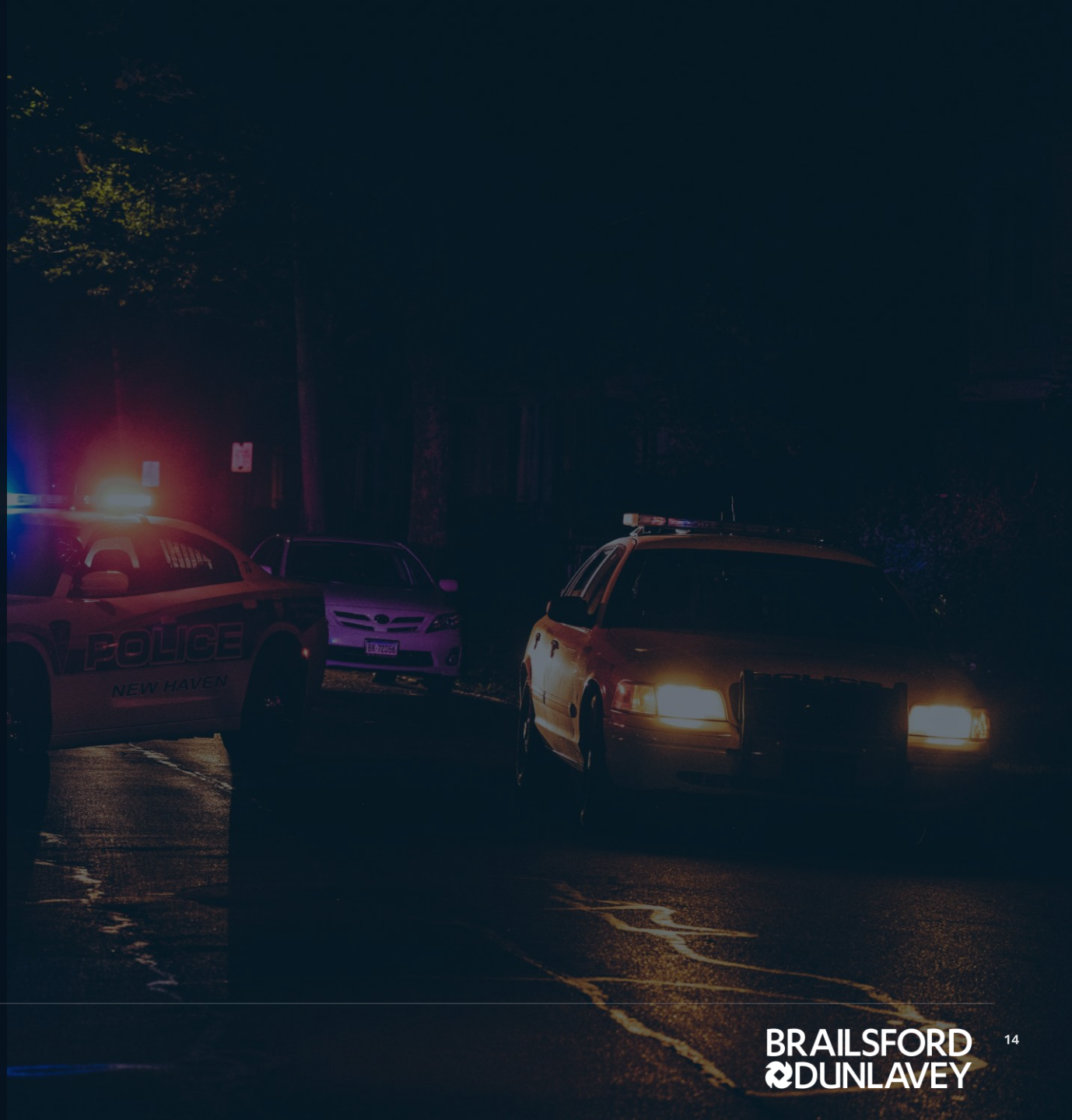
Idling Mileage

Police cars often spend **4 to 6 hours per shift idling** to keep communication laptops, radar equipment, emergency lights, and climate control running.*

A gas-powered cruiser burns about **½ gallon of fuel per hour** just sitting still.*

EVs eliminate fuel consumption and engine wear from idling. While stationary, onboard electronics and climate control draw power directly from the traction battery rather than requiring an engine to remain running.

*Source: Ford 2020 Police Interceptor Utility brochure (PDF)



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Implications for Campuses

How Transportation Trends Impact your Campus



Growing demands for public charging stations



Opportunity to reduce Scope 1 & 3 GHG emissions



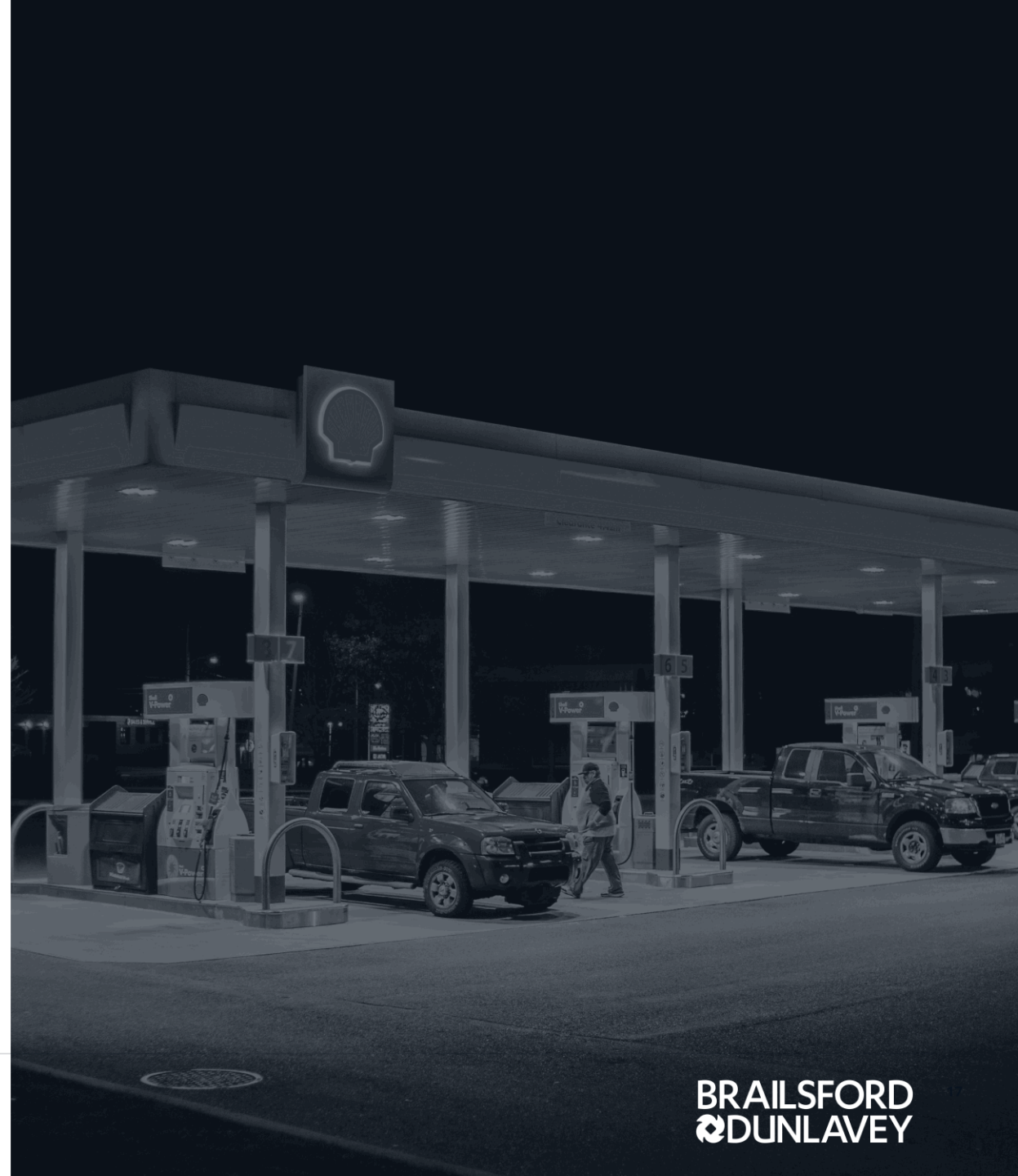
Opportunity to approach infrastructure and fleet changes proactively & strategically

“Why should we invest in charging stations? We’ve never provided gas stations...”

How to gain institutional buy-in

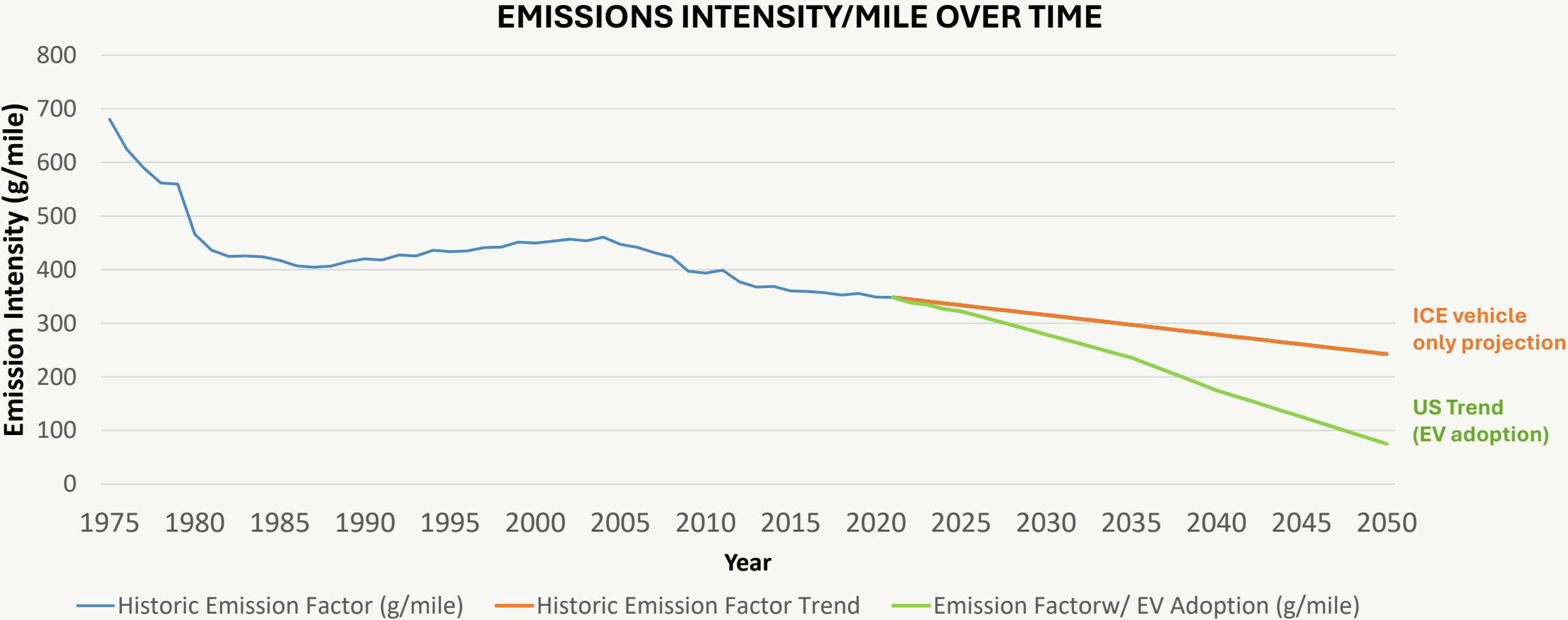
- EVs refuel where people dwell and work, not where they buy gas
- Campuses become natural hubs as the vehicle market shifts
- Promotes student access to campus
- Thus, promotes equity and improves the student experience
- Promotes sustainability goals

*“Provide enough electric vehicle charging infrastructure on campus to **encourage demand**” –UCLA Sustainability Plan*



Impacts of EV Adoption

How will EV adoption impact commute-related emissions on your campus?



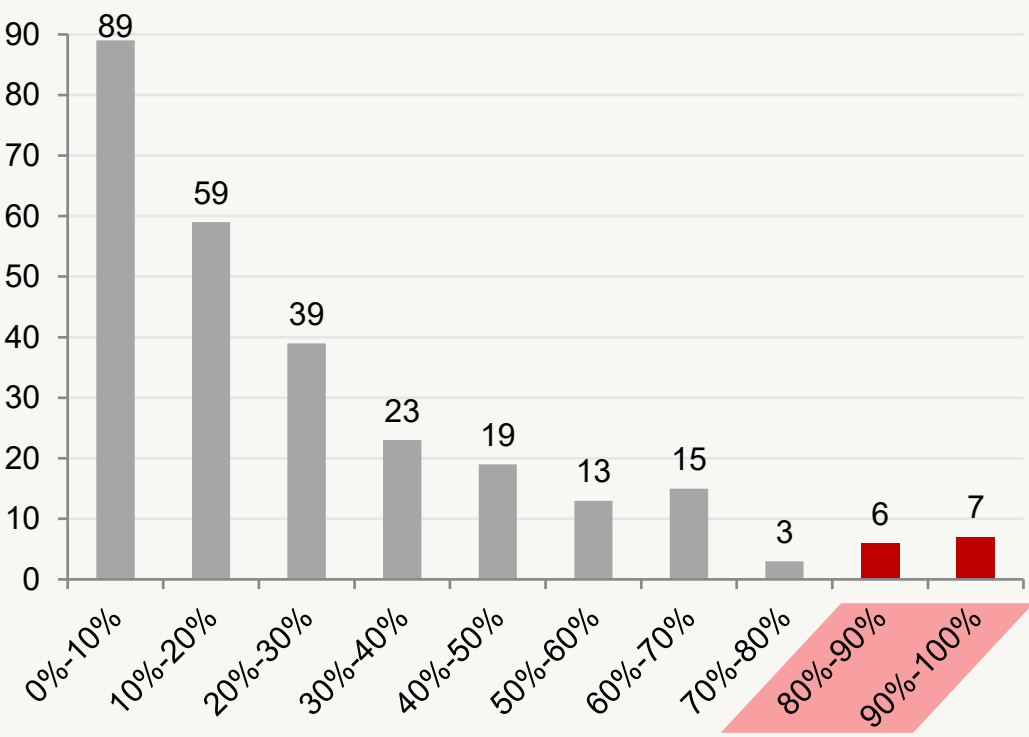
EV Infrastructure Success Stories

Fleet Conversion across Higher Ed



Of the American institutions that reported to STARS 2.2, **13 institutions** reported fleets with **at least 80%** of the fleet transitioned away from gas- or diesel-fueled engines.

Institutions such as **Oklahoma State University**, the **University of Louisville**, **Colorado College**, and many universities within the **California State system** are leading the charge in transitioning their fleets away from internal combustion engine vehicles.



Source: The Association of Advancement of Sustainability in Higher Education (AASHE)

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Planning for Tomorrow

Campuses are managing two EV systems at once

Commuter charging and fleet charging share electrical infrastructure — but they have different users, service expectations, and economics.

COMMUTER CHARGING

Serve many private vehicles with long dwell times and uneven demand.

- Optimize access and utilization — not maximum charging speed
- Integrate permits, pricing, turnover, and enforcement
- Design for future expansion without overbuilding today

FLEET ELECTRIFICATION

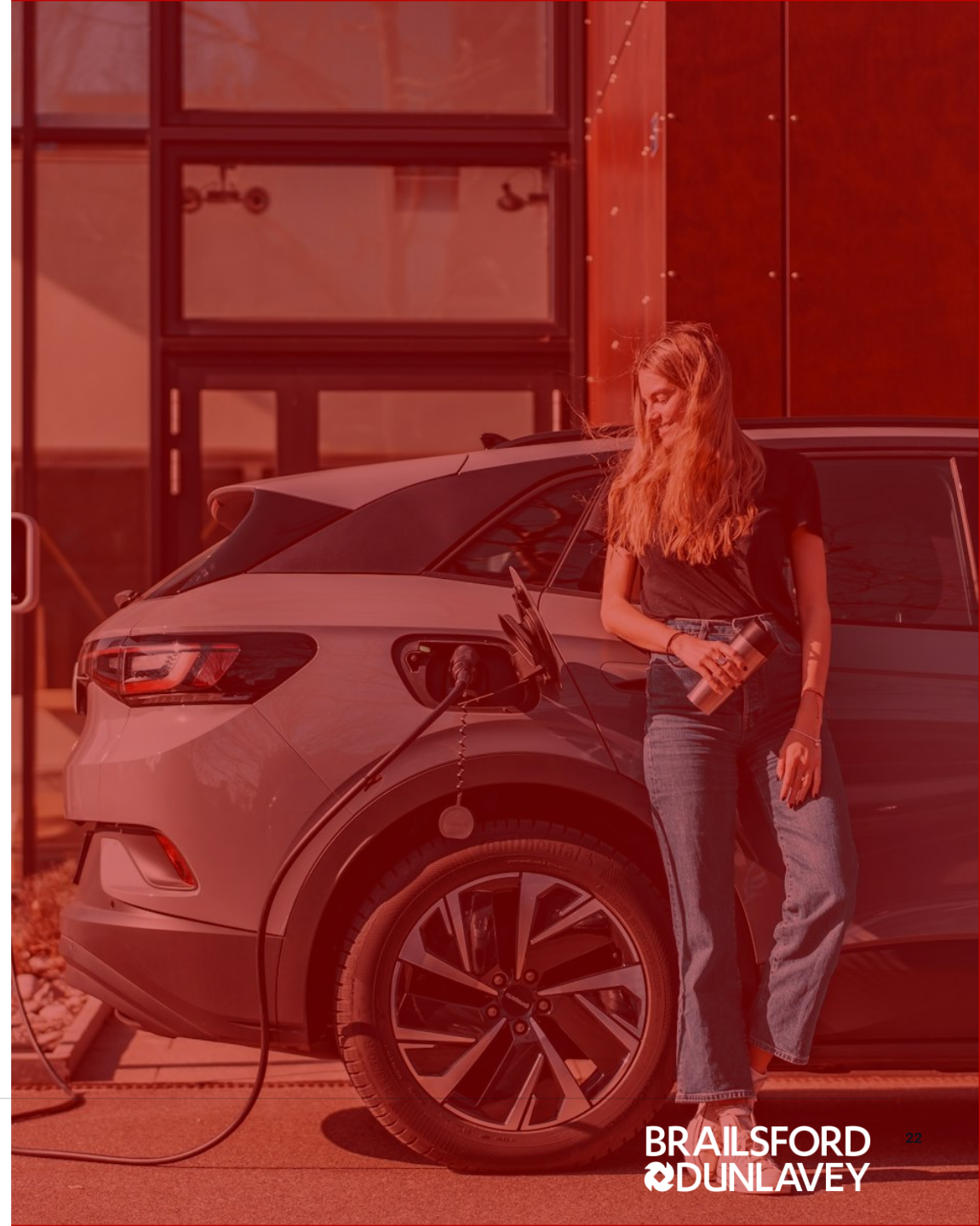
Meet mission needs with predictable charging and lifecycle economics.

- Start with duty cycle, route, payload, and downtime
- Align vehicle replacement and charger construction schedules
- Reserve higher-power charging for use cases that truly need it

Stations for Campus Commuters

Planning Considerations

- › **How many ports**
- › **Where**
- › **Grid capacity**
- › **Project bundling**
- › **Policy**



Size commuter charging around “need to charge,” not EV ownership

A campus EV count is only the starting point. The planning variable that matters is how many drivers will need campus charging on a typical day.

1

DAILY COMMUTERS

How many people drive to campus on a typical weekday?

2

EV SHARE

What share of commuter vehicles are EVs today and in planning scenarios?

3

HOME-CHARGING GAP

Who lacks dependable charging at home or near home?

4

ENERGY NEED

How much energy must be restored during the campus dwell window?

5

PORT UTILIZATION

How many sessions can each port serve under your parking policy?

Planning principle informed by NREL, The 2030 National Charging Network: demand varies with adoption, home-charging access, behavior, and community type.

Use current / medium / high adoption scenarios and make the electrical design expandable across all three.

A full parking day can replace a typical commute's energy

Slower charging can work well when a vehicle is already parked for most of the day.

**30
miles
round-trip
commute**

**× 0.30
kWh / mile
illustrative
efficiency**

**≈ 9
kWh
energy to
restore**

LEVEL 1 | 1.4 kW

~6.4 hours

Works when the vehicle stays most of the day

LEVEL 2 | 6.6 kW

~1.4 hours

Creates capacity for multiple sessions if drivers move

9 kWh ÷ charging power = approximate charging time

Illustrative calculation. Actual energy use varies by vehicle, weather, terrain, and driving. AFDC gives roughly 2–5 mi/hr for Level 1 and 10–30 mi/hr for Level 2.

Dwell time is your most important charging resource

University parking is different from a gas station. Most cars sit for hours — so slower charging can be sufficient and less costly.

LEVEL 1

120 V

~2–5 mi/hour

Best fit:

Long-dwell staff / student lots

LEVEL 2

208–240 V

~10–30 mi/hour

Best fit:

General workplace / campus charging

DC FAST

High-power DC

Fast, vehicle-dependent

Best fit:

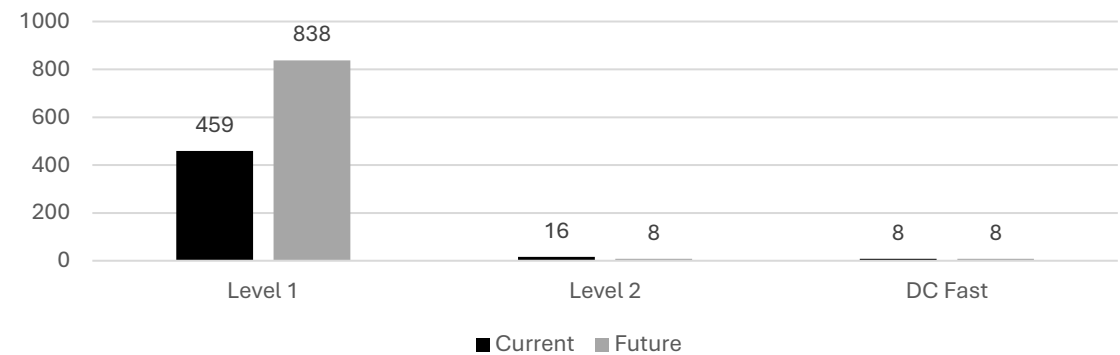
High-turnover / special use cases

For commuters, the question is rarely “**How fast can we charge?**”
It is “**How much energy must be delivered during the time the car is already parked?**”

Source: U.S. DOE Alternative Fuels Data Center (AFDC), workplace charging and charging-level guidance.

Charging Infrastructure at UCLA & UMass

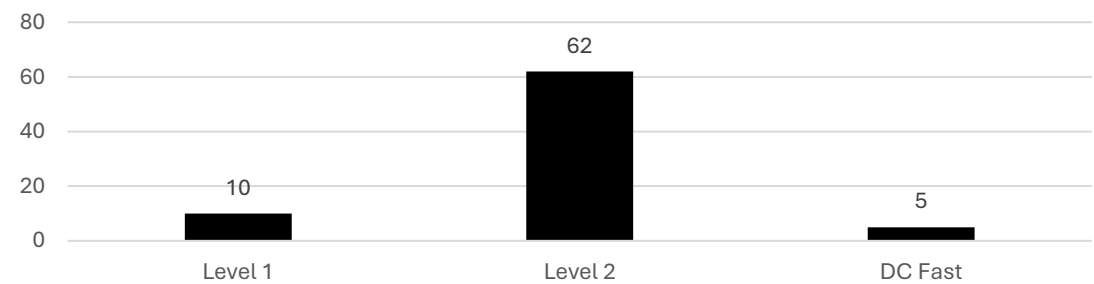
UCLA’s Current and Future Port Counts



UCLA offers free level 1 charging. The campus uses building/parking-structure-level smart metering and selected smart/networked outlets to monitor Level 1 charging demand, rather than requiring every Level 1 outlet to operate like a conventional networked Level 2 charger.

Enrollment: 47,000

UMass Amherst’s Current Port Counts



UMass Amherst’s chargers are managed through ChargePoint. They do not offer free charging, but do offer below market rates to campus community members \$0.18/kWh.

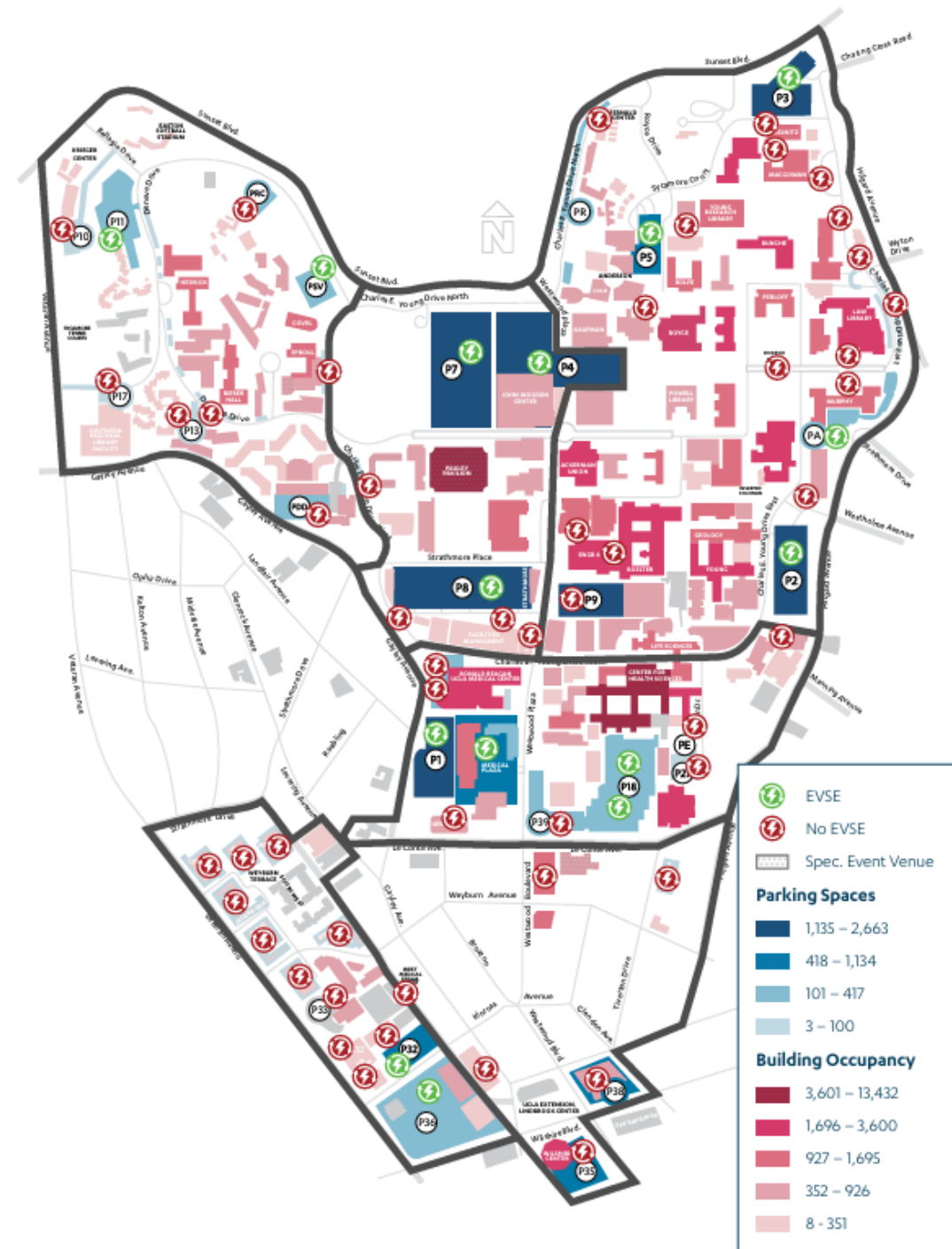
Enrollment: 31,000

Sources: <https://sustain.ucla.edu/wp-content/uploads/2023/09/EV-Readiness-Plan.pdf> & https://www.researchgate.net/publication/358418466_Planning_and_Optimizing_Electric-Vehicle_Charging_Infrastructure_Through_System_Dynamics?utm_source=chatgpt.com

Where should public stations be located?

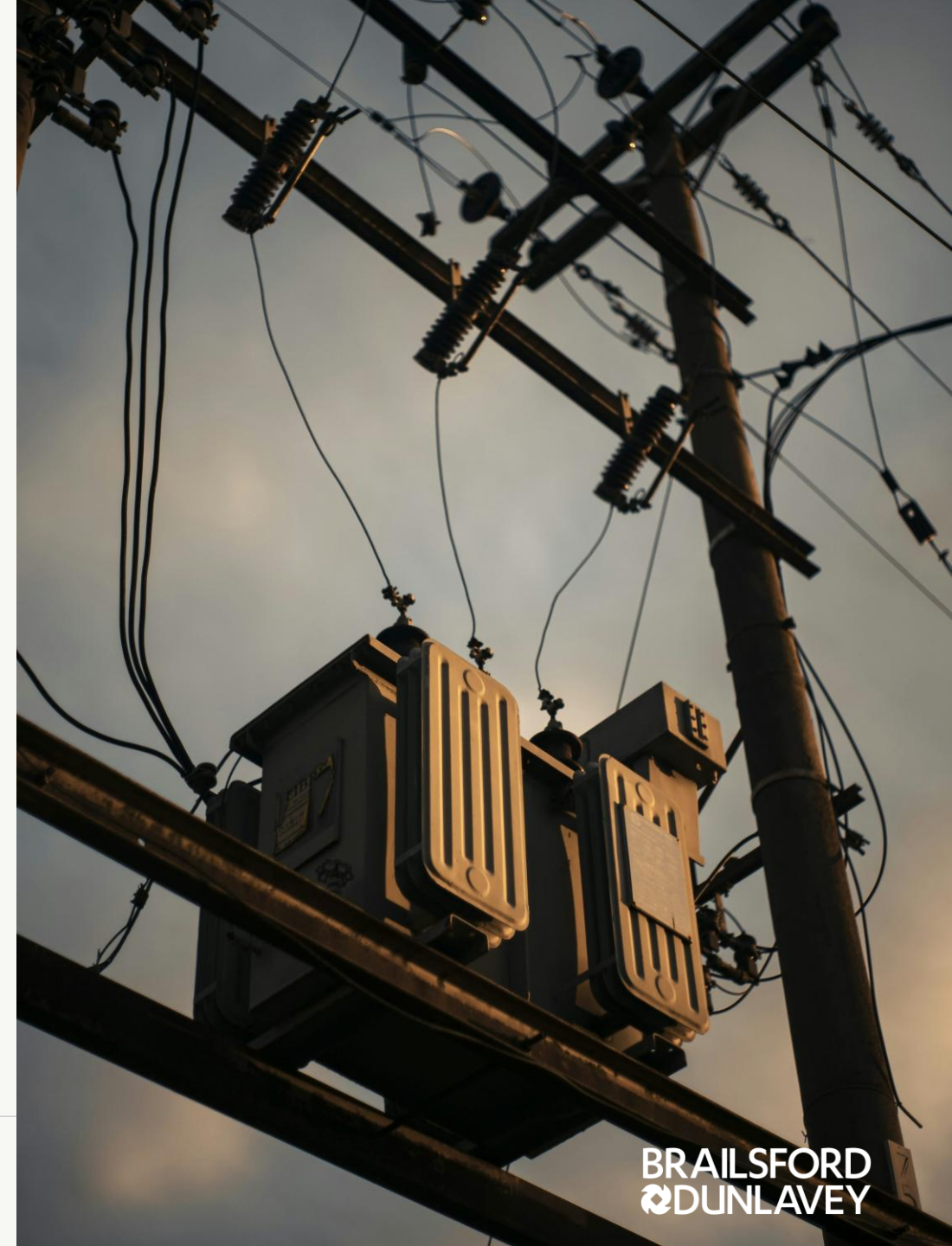
- › Proximity to electrical infrastructure
- › Charge ready locations
- › Survey to understand demand by parking lot
- › Incentivizing EV transition through access to favorable parking locations

Image Source: <https://sustain.ucla.edu/wp-content/uploads/2023/09/EV-Readiness-Plan.pdf>



Considering grid capacity

- › Is additional capacity needed?
- › Can software for peak shedding at the stations suffice?
- › Where are transformer / switchgear constraints?
- › Can chargers share a fixed site power budget?
- › Can charging shift into lower-load / lower-cost hours?



Project Bundling

- › Can the project be combined with upcoming capital projects to support LEED goals?
- › Can solar/battery be paired?



Setting supportive charging policies

› **Who gets access?**

- › Employees, students, visitors, fleet — and whether priority is given to drivers without home charging.

› **What do they pay?**

- › Free, electricity pass-through, subscription, or pricing that combines parking + charging.

› **When must they move?**

- › Time limits, idle fees, waitlists, or charger sharing based on parking duration

› **How is it enforced?**

- › Permits, signage, citation policy, app notifications, and responsibility for blocked or broken ports.

Fleet Transitions

PLANNING CONSIDERATIONS

**WHICH VEHICLES SHOULD BE
PRIORITIZED?**

**WHAT TYPE OF CHARGERS ARE
NEEDED?**

WHERE SHOULD THEY CHARGE?



Which vehicles should be prioritized?

Planning Considerations

Dashboard for Rapid Vehicle Electrification: DRVE Tool

DATA REQUIRED:

- › Vehicle Identification Number (VIN)
- › Annual mileage
- › Years of use
- › Electricity cost assumption
- › Gas cost assumption
- › Diesel cost assumption

<https://electrificationcoalition.org/resource/drve/>

For support, contact drve@electrificationcoalition.org



Results Dashboard

[View PDF Report](#)[Save Results](#)

Key Indicators

39

Vehicles with

9

Vehicles with

25

Vehicles with

66%

Percent of Fleet with EV

\$1,816,774

Total Estimated

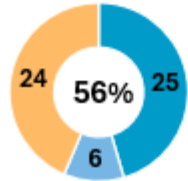
Vehicles with EV Savings or Cost Parity by Vehicle Class

EV Savings

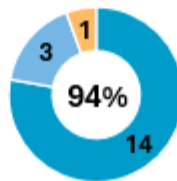
Cost Parity

EV Costs

Light-Duty Vehicles



Medium-Duty Vehicles

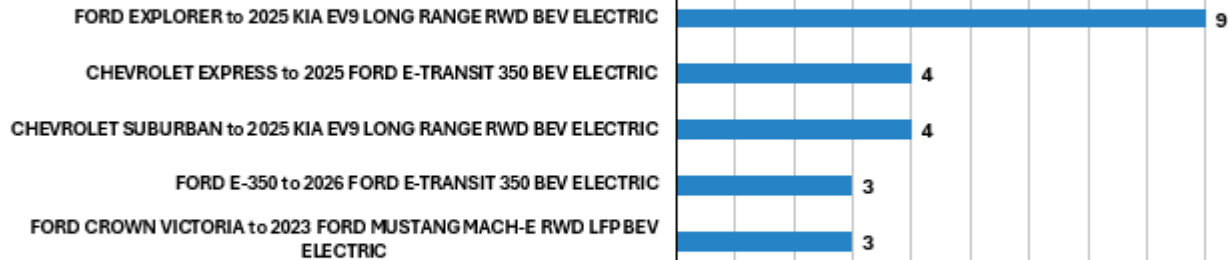


Heavy-Duty Vehicles

0
0%

Top 5 Models to Procure

Vehicles with EV Savings or Cost Parity

[View Savings by Vehicle](#)[View Breakdown of Costs](#)[View Charging Infrastructure Needs](#)[View Emissions](#)

Inputs Dashboard

Include Cost of Charging Infrastructure

No

Yes

Charging Cost (\$/kWh)

\$0.21

Depot

\$0.50

Public

\$0.25

En Route

\$4.94

Gas Price

\$8.44

Diesel Price

100%

Depot

Share of

0%

Public

0%

En Route

Fuel Price Scenario

CSU Scenario

Charging Strategy

CSU Charging Strategy

Inflation Rate

0.02

Procurement Scenario

Default

Discount Rate

0.02

Forecast Scenario

2025 Low Technology P...

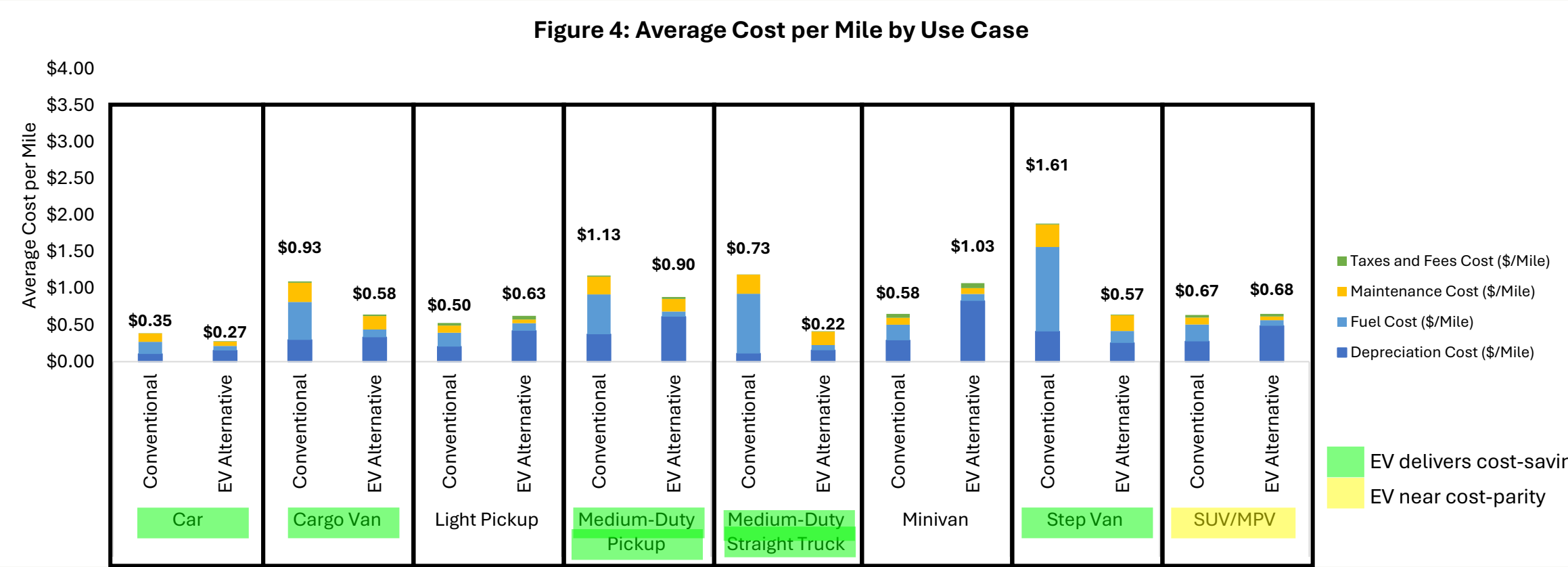
Cost of Carbon ...

0

Source: Electrification Coalition & Altas Public Policy DRIVE Tool
Assumptions: California, Medium duty Miles: Light-duty miles: Gas cost:
electricity cost:

Fleet Transitions

Which vehicles should be prioritized?



Source: Electrification Coalition & Altas Public Policy DRIVE Tool
Assumptions: California, Medium-duty annual miles: 15,000, Light-duty annual miles: 12,000, Gas price: \$4.94, Diesel price: \$8.44, Electricity price: \$0.208/kWh

Fleet Transitions

Common Electric Vehicles



Passenger EV



Chevrolet Bolt EV / EUV

Motor pool, parking, admin travel



Cargo Van



Ford E-Transit

Facilities, maintenance, service van



Electric Pickup



Ford F-150 Lightning

Grounds, utilities, campus operations



Crossover SUV



Ford Mustang Mach-E

Administrative travel, security, motor pool



Passenger EV



Nissan Leaf

Parking, admin, general fleet use

Match fleet charging power to the duty cycle

Every mission-critical vehicle must be ready by its next departure — at the lowest practical infrastructure cost.



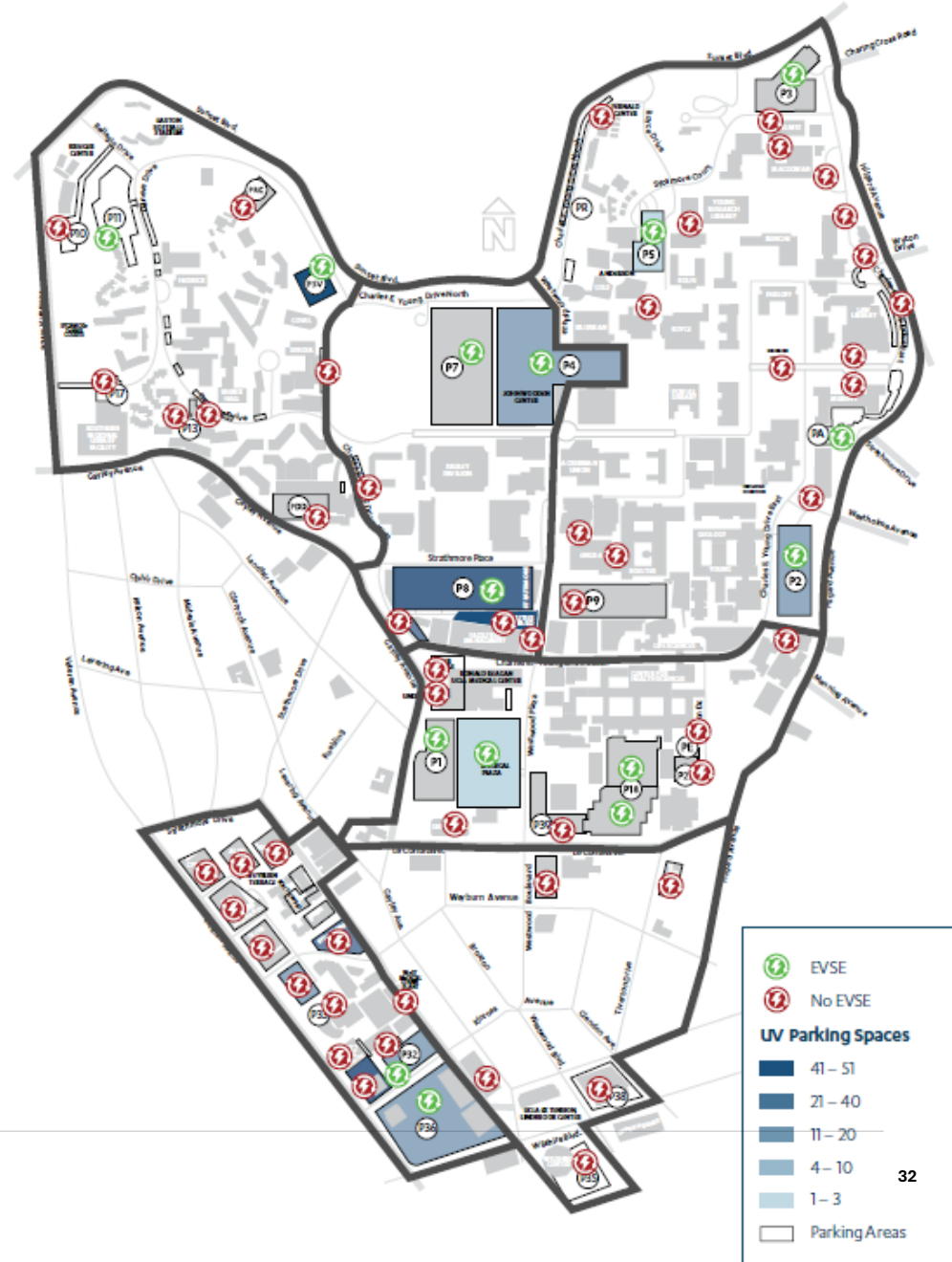
POOL / ADMIN	FACILITIES / TRADES	PUBLIC SAFETY / 24×7
› Low-to-moderate miles › Predictable return › Overnight dwell	› Moderate miles › Tool / cargo needs › Daily home-base return	› High idle / accessory load › Shift turnover › Mission-critical uptime
LIKELY CHARGING	LIKELY CHARGING	LIKELY CHARGING
Level 1 or Level 2	Level 2	Higher-power / redundancy
Often easiest first wave	Validate payload + winter range	Plan backup + contingencies

Avoid “one charger per vehicle” as the default. Shared charging, power sharing, and staggered duty cycles can reduce infrastructure.

Where should fleet vehicles charge?

- › Can community charging stations be leveraged during off-peak hours?
 - › Leveraging software to provide priority access during peak hours
- › If additional stations are needed, best locations based on operations and existing utility infrastructure.

Image Source: <https://sustain.ucla.edu/wp-content/uploads/2023/09/EV-Readiness-Plan.pdf>



Notes on Funding

Current State

THE BAD NEWS

- › Federal clean vehicle purchase credits no longer available
- › National Electric Vehicle Infrastructure (NEVI) funding freeze
- › Some state Charger grants rescinded
- › Production and Manufacturing subsidies frozen

THE GOOD NEWS

- › NEVI funding freeze has been challenged in court and is likely to be reversed
- › Some state charger grants remain!
- › TCO perspective will still support financial-based argument for many fleet vehicles
- › Utility fleet charging and solar incentives

Funding Options

Pros and Cons

Funding Type	Pro	Con
Federal Charging and Fueling Infrastructure Grants	Fleets qualify	Long lead time; complex application; must be turnkey
DOE Alt Fuels Data	Many states have funding that can offset lost federal funds and tax - credits	Varies by state
State Funding	Business, Fleet Operators, Public Agencies, Non-Profits. Provides clean tech, replace polluting vehicles, emissions reductions	Only in CA. Managed regionally. Fills up fast.
Cooperative Purchasing	Can speed up timelines when your agency can purchase previously publicly bid products and services at a negotiated rate	Varies by state and agency. Must use vendors provided by contracting service
Utility Funding	Good long – term partner, usually provides advisory services, broad purchase options. Easier application. Can include transformers	Not universal – only in service area, Can be slow

Funding Options

Pros and Cons

Funding Type	Pro	Con
Leasing or Fleet as a Service	Avoids large Capex. Can benefit from tax – exempt municipal leasing. Can cover all aspects of the electric fleet	Renting v owning. No depreciation. Ongoing payments could be more expensive overall.
Mobility as a Service	Can include vehicle, charging, software, and service agreement	Can be expensive. Reliant on one company

Collaboration is Key in Driving EV Readiness



Create one cross-functional steering group, but keep commuter-charging and fleet workstreams distinct.

Five principles for an EV-ready campus

The goal is not the most chargers. It is the right transportation-energy system for your campus.

- 1 PLAN FOR UNCERTAINTY**
Build an expandable backbone and add ports as demand becomes visible.
- 2 USE DWELL TIME**
Match charging speed to how long vehicles are already parked.
- 3 MANAGE THE LOAD**
Treat charging as a controllable energy resource, not a fixed peak.
- 4 STAGGER FLEET TRANSITION**
Sequence fleet conversions using duty cycle, TCO, and replacement timing.
- 5 OPERATE IT LIKE A SERVICE**
Set access, pricing, uptime, data, and governance standards from day one.

Plan the system. Build the backbone. Scale with demand.

Wrap-up

- › Despite federal incentive changes, EV market share will continue to grow
- › Universities have the unique opportunity to catalyze EV adoption
- › Get ahead of new ICE fleet vehicle purchases by creating your fleet transition plan now
- › Identify a campus champion to drive this work



Discussion



Thank you



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Resources: Slide deck and session recording, the Electrification Coalition / Altas tool, Bloomberg's 2026 Electric Vehicle Outlook Report, UCLA's EV Readiness Plan