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Preparing For EV Adoption in Multifamily: The Coming Wave

IN PARTNERSHIP WITH: COX Communities

Preparing for EV Adoption in Multifamily: The Coming Wave

EV charger adoption in multifamily properties is set to accelerate, as regulatory tailwinds and decreasing installation costs meet with growing resident demand. This white paper examines new trends in EV and EV charger adoption among multifamily owners, operators, and residents, sharing the plans of key decision makers for new installations and retrofits. It identifies key resident pain points with EV charging in multifamily, as well as best practices and resolutions for properties. It also examines the role of grant funding opportunities in EV charger deployments.

Study Methodology

This white paper draws on the results of a 300-respondent survey of key decision makers with leading multifamily owners, operators, and management companies across the United States, representing a diverse mix of company sizes, building types, and geographies across the US market. It also draws on the results of a study of 8,000 demographically representative heads of US internet households, including over 2,000 MDU residents.

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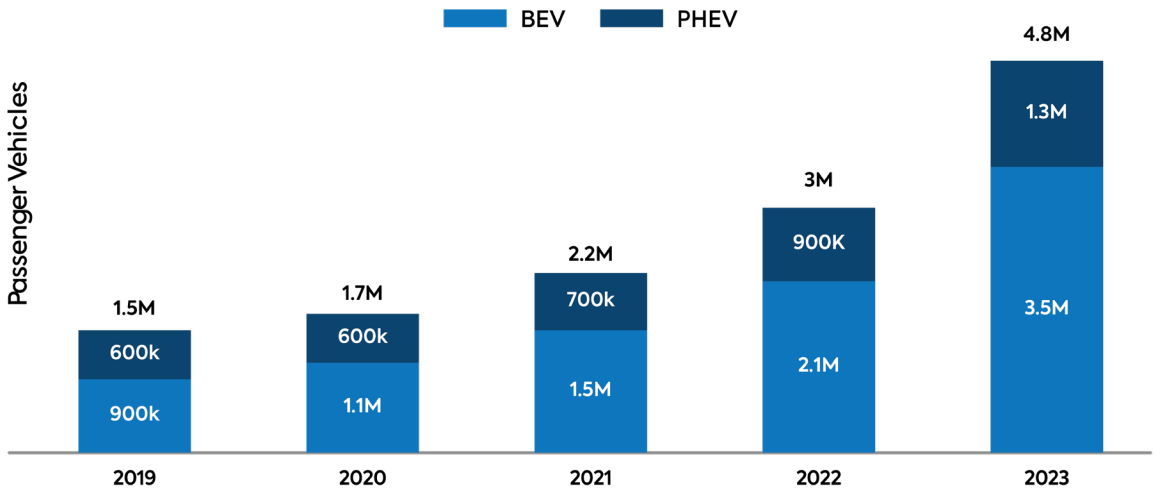
EV Chargers in Multifamily Properties: Market Trends

As of the end of 2023, roughly 5% of US internet households report owning at least one battery electric vehicle (BEV), with 10% owning a hybrid of some form, including plug-in hybrid electrics (PHEV). Current resident demand for EV chargers is set to grow, with the International Energy Agency (IEA) projecting that one in nine cars sold in the US will be electric by the end of 2024 , and with regulators setting a goal of 50% of new car sales being carbon neutral by 2030.

Growth is fastest in states that have promoted EV adoption through regulatory initiatives, buyer incentives, and infrastructure projects, with California leading the way.

Excluding Tesla, new BEV sales grew by an estimated 36% YoY in the second quarter of 2024[1]. While Tesla's popularity has waned, consumers are hungry for new EV models with market leaders Ford and Kia growing by 61% and 131%, respectively.

EV Adoption in the US Market: 2019-2023 (#M)



Source: IEA (2024), Global electric car stock, 2013-2023, IEA, Paris https://www.iea.org/data-and-statistics/charts/global-electric-car-stock-2013-2023, Licence: CC BY 4.0

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The Biden-Harris administration has set a goal of having 50% of new car sales be BEV, PHEV, or hydrogen fuel cell, by the year 2030. The Advanced Clean Cars II regulation, already adopted by California and 12 other US states, has a more aggressive plan of entirely phasing out new sales of gas-powered internal combustion engine (ICE) passenger vehicles by 2035. California has already achieved 25% BEV new car sales as of 2023.[2]

While new vehicle sales represent less than a quarter of total annual vehicle sales, and a smaller percentage of the overall vehicle fleet, pre-owned electric vehicles will increasingly become available to more cost-conscious consumers, resulting in greater overall EV adoption.

US Multifamily Housing Stock: 2023	
US Apartments	28.55M Units
US Condos	9.96M Units

US Smart MDU Market Estimates © Parks Associates 2024

Multifamily owners and operators recognize this coming rise in EV ownership and are preparing for it, by deploying EV chargers across their property portfolios, numbering over 38M residential units as of the end of 2023. While at present only 8% of MDU owner/operators reporting currently having EV chargers installed in the largest property in their portfolio, 32% report that they plan on deploying, upgrading, or replacing EV charging stations within the next 12 months.

The number of communities with onsite chargers is about to grow rapidly to meet this coming wave of demand over the next few decades.

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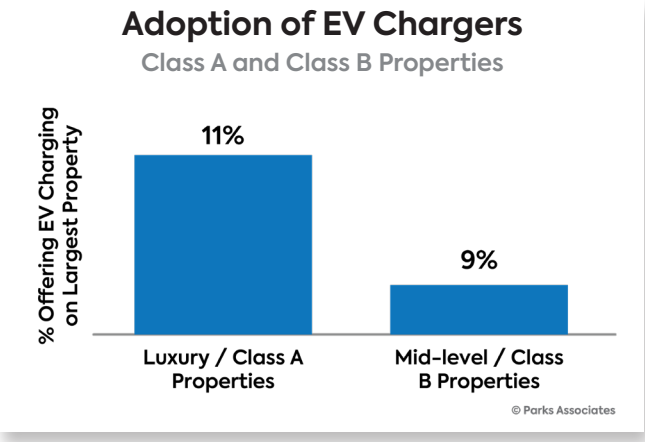
EV Owners: A Desired Resident Demographic

With EVs and EV chargers set to grow in adoption, properties will increasingly compete for EV-owning residents. EV owners as a whole tend to be both younger and higher-income than non-owners, as seen in the table below. In urban environments, young professionals, commuters, and the environmentally conscious are particularly likely to adopt EVs, drawn by lower cost of ownership compared to internal combustion engine (ICE) vehicles, greater acceleration and handling capabilities, and their many environmental benefits.

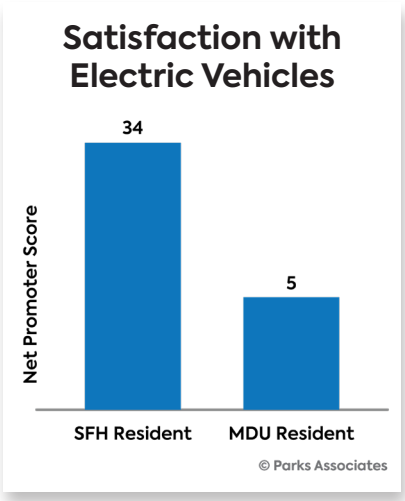
Demographics of EV Owners and Non-Owners		% of EV Owners	% of Non-Owners	NET <>
Income	$100K+ annually	48%	33%	15%
	$50-99K annually	28%	34%	-6%
	<$50K annually	24%	33%	-9%
Age	<35	42%	22%	20%
	35 - 54	41%	38%	3%
	55+	17%	40%	-23%
Worker Status	Works Remotely	57%	32%	25%
	Does Not Work Remotely	43%	68%	-25%
Area	Urban Area	40%	26%	14%
	Suburban Area	47%	53%	-6%
	Rural Area	13%	20%	-7%

At present, multifamily owners and operators are readying themselves for this demographic by focusing their immediate efforts on offering EV charging as an amenity in their Class A and Class B properties, where they see the highest concentrations of EV owners.



Resident Demand for EVs and Chargers

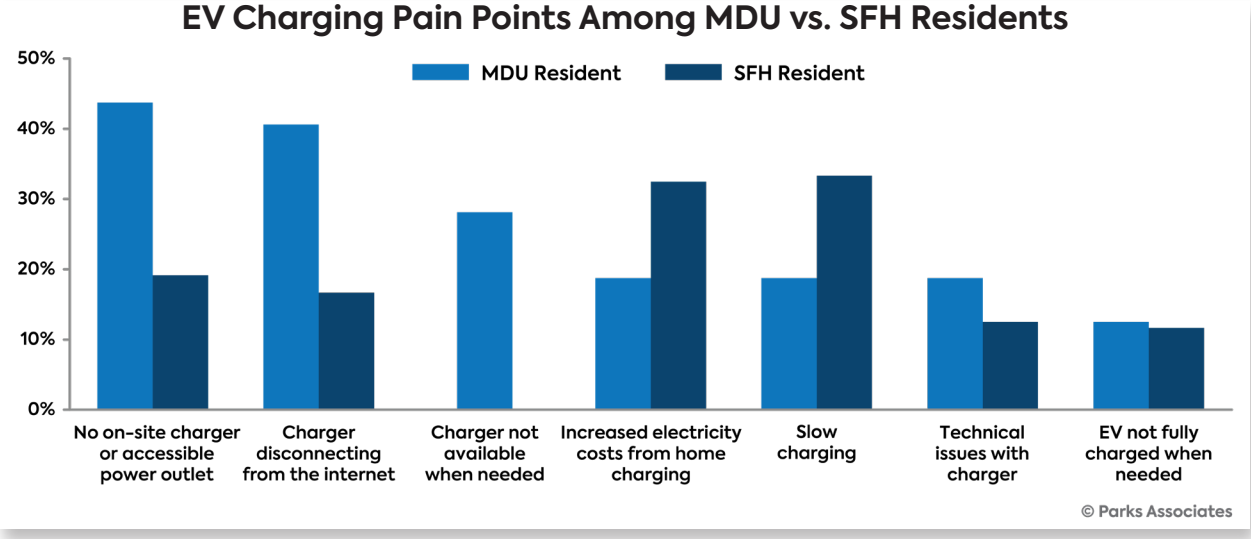
A primary goal of EV charging station deployment in multifamily housing is attracting EV owners as new residents, as well as better supporting current residents who also own EVs. However, EV owners living in apartments and condos report lower levels of satisfaction with their EVs than those living in single family housing. In Parks Associates' Q4 2023 survey of US internet households, there was a **29-point difference in net promoter score**, a measure of consumer satisfaction and willingness to recommend a product. This low satisfaction among MDU residents is primarily driven by residents' charging experience.



Multifamily residents experience a multitude of pain points with EV charging.

- Many multifamily communities lack on-site chargers entirely
- Internet disconnections are highly common among communities that do have chargers
- Shared charging infrastructure commonly introduces frustrations when EV adoption exceeds the number of available chargers.

Residents commonly experience technical issues when they are able to charge – blank screens, broken plugs, and charge initiation failures, that are causing further difficulties. A poor EV charging experience reflects badly on the community and, as EV chargers are primarily installed by properties as a way to entice and keep EV owners, result in wasted investment dollars and frustrated residents who will look elsewhere for their next home.



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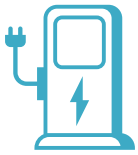
EV Charging Requirements: Reliable Connectivity

It is vital for communities deploying EV chargers to have reliable onsite internet connectivity, so as to avoid resident frustration with their charging experience. Wi-Fi, and especially managed Wi-Fi, offer high degrees of reliability for connected devices, monitoring data traffic and protecting connected devices from potential cyberattacks. Wi-Fi also supports connectivity in more areas of the property, including parking garages where cellular signals cannot penetrate, enabling more choice and flexibility in terms of deployments.

Limited charger availability will become an increasingly common difficulty for MDU residents as BEV and PHEV adoption grows. The most common method communities use to deploy EV chargers are dedicated locations – most commonly near already wired infrastructure, such as the main office - that multiple residents share on a regular basis. This is a more economical way for properties to begin supporting EV owners but quickly introduces challenges once EV ownership exceeds the number of available chargers.

Location of EV Chargers among MDUs with Stations



60%
Dedicated location that multiple residents may use throughout the day

38%
Parking spots assigned to specific residents/not available for others to use

24%
Traveling charger that goes around the parking lot

Owners and operators in areas with higher EV adoption are looking for solutions to this challenge. Many have introduced scheduling software or limited the time a vehicle can use a charger. However, these stopgaps are still a frustration for residents. Some properties are experimenting with deploying EV chargers to designated resident parking spots, so that EV owners will always have access to a charger when needed. Others are experimenting with traveling chargers that go around the parking lot as needed, though these have their own challenges.

EV Charging Frustrations: Challenge and Opportunity

While properties deploy EV chargers to increase current resident satisfaction and attract EV owners as new residents, these same residents report high levels of challenges with EV charging, suggesting that this can be a key area of differentiation for properties.

Properties that offer a superior charging experience are much more likely to attract and retain EV owners as residents.

Offering EV chargers to residents provides MDUs with a way to attract and retain valuable residents, both today and well into the future. Providing an exceptional charging experience differentiates properties, ensuring that EV charging is more than a checkbox on a list of amenities to offer residents.

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EV Impact on Multifamily: Headwinds and Tailwinds

The environment around EV charger adoption is changing. The headwinds remain much as they were in the past: high potential cost of installation in retrofit environments, disruption to residents and staff, the workload required to orchestrate and organize a retrofit, and perceived low usage if EV chargers are installed too soon for a particular market.

The tailwinds, however, are growing in their intensity: snowballing adoption of BEVs and PHEVs among consumers, increased funding opportunities in the form of grants, tax credits, and rebates as regulators and key decision makers recognize the opportunity in supporting EV charger deployment in multifamily housing.

Efforts to increase EV charger deployment in today's market include the following:

- **Federal tax credits and rebates:** The Inflation Reduction Act of 2022 increased federal tax incentives for property owners to install charging stations as part of the Alternative Fuel Vehicle Refueling Property Credit – increasing the value of the tax credit from 6% to 30% of cost per charger and raising the rebate cap from $30,000 to $100,000. However, properties must be in specific low-income and non-urban census tracks to qualify.

- **Government grant funding opportunities:** Federal, state, local, and tribal grant funding opportunities, to build out EV charging capabilities in compliance with required standards. Federal initiatives such as the $4B *National Electric Vehicle Infrastructure* (NEVI) formula grant funding program and the Bipartisan Infrastructure Law's $2.5B *Charging and Fueling Infrastructure* discretionary grant program[3], award grant funding to participating state governments to deploy EV chargers to targeted locations. While these programs are largely aimed at creating a "backbone" of high-speed EV chargers across highways, as of early 2024 some $311M was awarded to 36 community EV charging projects, including multifamily housing.

- **Private funding opportunities:** Environmental coalitions, nonprofits, electrical utilities, CCAs (community choice aggregations), and other organizations offer expertise and funding to multifamily communities seeking to deploy EV chargers. Many have committed to environmental action goals, including free or reduced charger installation or thousands of dollars in rebates.

- **Regulations requiring EV charger installation:** 10 states have implemented right-to-charge laws, requiring that owner/operators or HOAs allow residents to install their own EV chargers. Cities are increasingly requiring that new residential and commercial buildings add chargers to a certain percentage of parking spaces and install electrical wiring capable of enabling future EV charger deployments to a certain percentage of parking spaces.

As regulators and other key stakeholders increasingly recognize the need for funding and incentives for EV charger deployment in multifamily, owners and operators are finding new ways to reduce the cost of retrofitting EV chargers into the existing properties that make up most of the multifamily housing stock.

Examples of Cost-Effective EV Charger Deployment Strategies

- **Pair with managed Wi-Fi:** Managed Wi-Fi deployments support EV charger installation in a variety of locations, including parking garages, while ensuring a high quality of service. This ensures that multifamily properties fully capture the benefit of their investments into EV charging, while also supporting other investments into property technology such as video surveillance and access control.
- **Charging an amenity fee for designated parking spots with EV chargers:** Charging EV owners an additional amenity fee for a designated charger allows properties to offset installation costs, finance maintenance and upgrades, and offer EV owners a more convenient charging experience.
- **Make efficient use of renovation resources:** Including EV charger installation when undergoing major renovations can defray installation costs; installing chargers at multiple spots at once reduces the cost per-space.
- **Plan ahead:** When initially installing EV chargers it is more cost-effective to pre-wire for future deployments, reducing both the future cost and future timeline for the next round of installations.
- **Working with residents:** In select scenarios, condo owners or apartment residents with long-term leases may be willing to contribute to the cost of EV charger installations if the charger is installed at their designated parking space. In certain states, this is already becoming legally required.
- **Choosing mixed charger deployments when expanding access:** Level 2 charging stations are less expensive to install than fast chargers and are well-suited for designated parking spots where residents can charge overnight. Level 1 chargers are another potential option, if more expensive Level 2 chargers aren't viable, but provide the slowest charging experience: over 10 hours on average. Paired with a limited number of shared fast chargers, located in a convenient location, properties can offer residents a variety of convenient charging options.

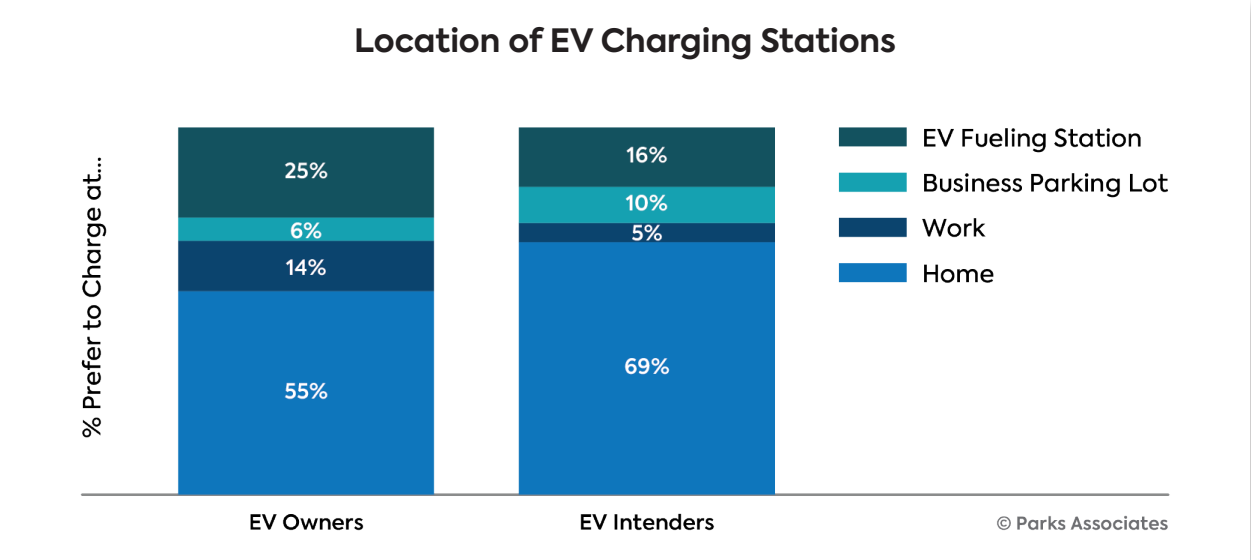
Meeting Resident Demand

The timeline and trajectory of EV adoption is likely to depend on both state and market segment, with areas rapidly adopting BEVs and PHEVs and others taking a longer and more measured approach. Much of this timeline will be driven by regulatory initiatives such as Advanced Clean Cars II, which has already been picked up by California and other states on the West Coast, East Coast, and American Southwest.

Regulators are increasingly recognizing that multifamily residents need access to home charging in order to adopt EVs *en masse*. Many multifamily residents are hesitant to purchase a vehicle they will be unable to charge at home and hesitant to purchase a vehicle if they think the charging experience will be difficult or frustrating. Funding and incentives are increasingly available to support this transition, provided by government bodies, nonprofits, and industry initiatives.

EV owners and intenders overwhelmingly prefer to charge at home. As EV adoption grows, multifamily properties will increasingly need to compete both on charger availability and on the charging experience itself. EV owners living in multifamily housing commonly do not have chargers available for them to use – and those living in communities that do have onsite chargers oftentimes experience EV charger internet disconnections and a lack of available chargers when needed.

For this next generation of EV charger deployments, reliable broadband connectivity and finding a cost-effective way to densify EV charger deployments are sorely needed.



About Cox Communities

www.cox.com/communities

Cox Communities is the division of Cox that delivers solutions, value, and trust for MDU owners, managers and developers, SFU developers, and the residents and owners within their communities. The Cox Communities team acts as their client's trusted advisor by supporting them in reaching their business goals of optimizing rents, occupancy, and making their properties future ready.

Cox Communications is committed to creating meaningful moments of human connection through technology. The largest private broadband company in America, we proudly serve nearly 7 million homes and businesses across 18 states. We're dedicated to empowering others to build a better future and celebrate diverse products, people, suppliers, communities and the characteristics that make each one unique. Cox Communications is the largest division of Cox Enterprises, a family-owned business founded in 1898 by Governor James M. Cox.

About Parks Associates

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Parks Associates, a woman-founded and certified business, is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services. Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, primary studies, consumer research, custom research, workshops, executive conferences, and annual service subscriptions.

The company's expertise includes new media, digital entertainment and gaming, home networks, internet and television services, digital health, mobile applications and services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security.

About the Author

Kristen Hanich, Director of Research, **Parks Associates**

Kristen Hanich heads Parks Associates' consumer electronics and mobility research, with expertise in other verticals including connected cars, mobile networking, healthcare, wellness, and independent living. She leads a mix of custom and syndicated research projects throughout the year, with a focus on major players and emerging trends. Kristen specializes in bridging the gap between data-driven and narrative approaches to understanding the consumer markets via a mix of qualitative and quantitative research approaches.

Kristen has dual master's degrees in applied anthropology and public health from the Universities of North Texas in Denton and Fort Worth. She earned her BSc in health at the University of Texas at San Antonio and has a graduate certificate in Geographic Information Systems.

[1] https:// www.iea.org/news/the-worlds-electric-car-fleet-continues-to-grow-strongly-with-2024-sales-set-to-reach-17-million
[2] https:// www.iea.org/news/the-worlds-electric-car-fleet-continues-to-grow-strongly-with-2024-sales-set-to-reach-17-million
[3] https:// www.transportation.gov/rural/ev/toolkit/ev-infrastructure-funding-and-financing/overview

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