



2021 – Wave II Update

ALTERNATIVE ENERGY & MOBILITY

Know Your Customer. Shape Your Future.™

Prepared For:





BRIEF SUMMARY

Main themes of Alternative Energy & the Customer Story

KEY OBSERVATIONS:



Most current BEVs owners are “better” than the rest of the population. They have more education, wealth and opportunities.

However, many of these “better” people still have some difficulty remaining loyal to the BEV powertrain.



BEV owners love the product, but many compromises must be made.

KEY OBSERVATIONS

- ✓ BEVs are out of reach for most US buyers.
 - ✓ While many aspire to own a BEV for reasons ranging from making a Green choice to best-in-class Performance (power & pickup), the barriers to entry and owning a BEV are significant.
- ✓ Range remains an issue.
 - ✓ Increased BEV range does not entirely offset the ICE advantages of convenience (Freedom) when it comes to refueling locations and time to refuel.
 - ✓ People do not have "range anxiety:" there is no anxiety because they will not purchase/lease a BEV if they have questions about it meeting their needs.



KEY OBSERVATIONS:



Most current BEVs owners are “better” than the rest of the population. They have more education, wealth and opportunities.

However, many of these “better” people still have some difficulty remaining loyal to the BEV powertrain.



BEV owners love the product, but there are many compromises that are made

KEY OBSERVATIONS

- ✓ Costs are not a reason to buy a BEV.
 - ✓ Some owners do the math to determine (incorrectly) that a BEV will save them money over the ownership period, though this is more often a post-purchase justification to support their BEV choice.
 - ✓ Price keeps most US new-vehicle buyers out of the category.
 - ✓ Beyond the monthly payment, a wide assortment of other things expenses such as home charging costs are hurdles.
- ✓ The key benefits of BEVs is their quiet performance and powerful torque and near-instant acceleration.
 - ✓ These advantages will lead to future conquest and loyalty.



A large, leafy tree in a landscape under a blue sky with clouds. The tree is the central focus, with its branches spreading out. The sky is a deep blue with some lighter clouds. The overall tone is calm and professional.

VALUECENTERED PSYCHOLOGY®

A model of consumer behavior and decision making

ABOUT STRATEGIC VISION



OUR MISSION:

To provide insights of how and why consumers make decisions, based on ValueCentered Psychology, to predict and maximize customer advocacy, conquest, and loyalty.



Strategic Vision provides insights into how and why customers make decisions.

In our quantitative work, we explicitly elicit aspects of experience from negative emotions to positive values and feelings including “Love” and have applied our procedures in a wide variety of categories, worldwide.

Our qualitative procedures include focus groups, two-respondent interactive interviews, participant observation, and in-depth one-one-one interviews.

All procedures are executed using our ValueCentered™ methods which elicit linked histories, behaviors, descriptive attributes, personal benefits, values and emotions, and images/personalities.

ABOUT NVES



New Vehicle Experience Study

New Vehicle Experience Study (NVES):

An integrated, comprehensive study of both the customer and the vehicle experience, based on ValueCentered® Theory.



Comprehensive survey covering all aspects of who the customer is along with the purchase and ownership experience. This includes customer priorities, perceptions of brand values/images and future intentions.



Data surveyed continuously and year-round. Model year study that begins in October and ends in September.



Average annual sample of 200,000+ new vehicle buyers (vehicles can be examined at the series or trim level). Vehicle Experience ratings happen at 90 – 120 days in ownership. Also included are customer verbatim statements on why they purchased and rejected the vehicles they shopped!



SAMPLE SIZES:

Data used in this review is from 2014 to 2021 with the following sample sizes (n=) for each powertrain grouping. Also included are example sample sizes by models. Data presented in subsequent slides are weighted by actual retail sales according to DMV registration information.

Battery Electric Vehicle (BEV)	23,374
Nissan Leaf	9,105
Tesla Model S	2,001
Fiat 500e	1,746

Fuel Cell (FC)	596
Toyota Mirai	366
Honda Clarity Fuel Cell	183
Hyundai NEXO	47

Plug-In Hybrid Electric Vehicles (PHEV)	18,933
Chevrolet Volt	2,806
Honda Clarity Plug-in Hybrid	2,166
Toyota Prius Plug-in	1,637

Hybrid Vehicles (HV)	48,390
Honda Accord Hybrid Sedan	6,349
Toyota Prius	4,705
Toyota RAV4 Hybrid	3,019

Total NVES respondents of all vehicles (including ICE): 1,629,241

CUSTOMER STORY: BEYOND THE NUMBERS



NVES provides an opportunity for customers to talk about the things that truly matter to them – and they take advantage of this opportunity with important and often strategic insight.

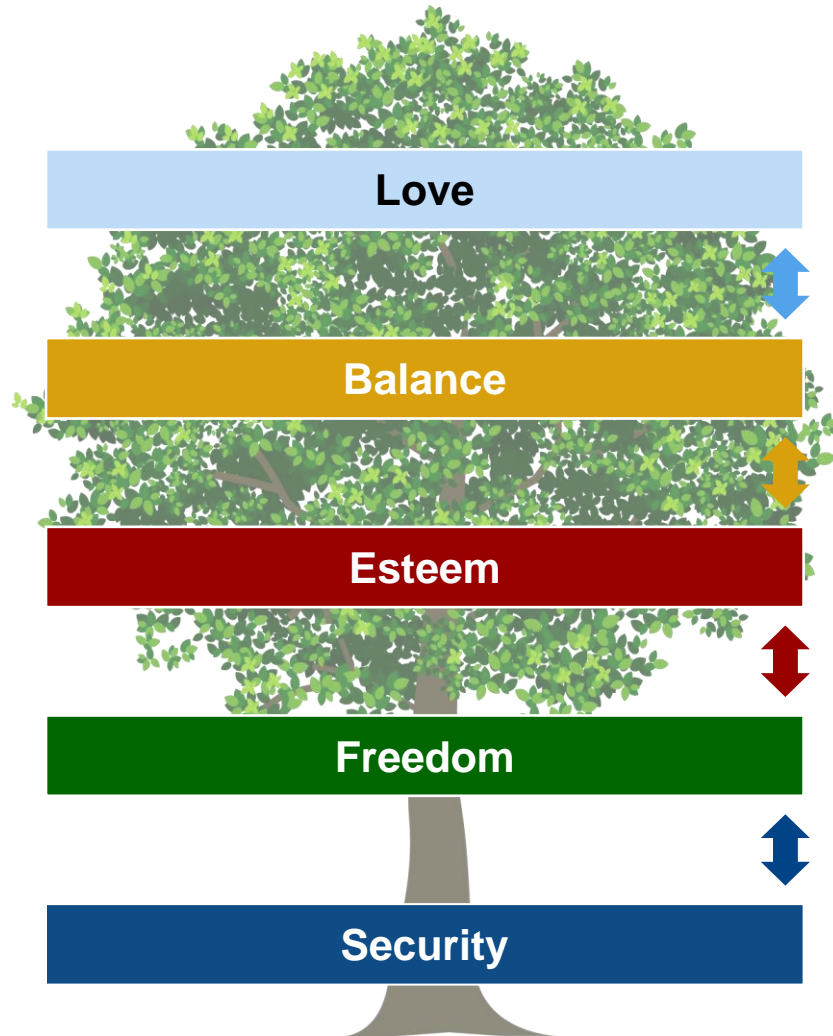
Respondents who Love and are disappointed feel free to share their insights.

“The Tesla Y is a vehicle that I never imagined I would own because it's more than we've ever paid for a vehicle and is so different from anything we've ever purchased. People who know us are shocked to learn that we purchased a Y. But **we absolutely love our new electric car**. It's **unique and intuitive**. It's a **blast to drive** and the minimalistic interior design is beautiful. We're **acclimating to the charging it requires** and have come to enjoy the times we've been on road trips and stopped at superchargers, where we use the charging time to watch a movie or play a game with our sons. The kids love riding in the Y and are **fascinated by the "fun" options and programs available through the on-board entertainment** and we all **love the thrill of how fast our Y accelerates**. We find ourselves making up reasons we have to drive somewhere, just so we can drive the Y. **It looks good, feels good, and we love it**. This has been a great purchase that has benefitted our entire family.”

2020 Tesla Model Y Owner



VALUE/EMOTIONS – RULES FOR LIFE



There are many ways that we talk about our Values and Feelings; however, there is an organization to those expressions.

Our Autonomous Hierarchical Tandem Cluster procedures discovered four major groups that describe different but interrelated Values and Emotions interconnected by a fifth (Love).

- 1 First, there must be a sense of Security and Trust – this is the root of personal values.
- 2 If there is Security, we want to be Free to do what we want and be Free from hassles – giving us a sense of Freedom.
- 3 With Security and Freedom, we can then achieve Esteem (pride in our choice, fun and feelings of success).
- 4 And once we have achieved Esteem, we then strive to achieve Harmony or Balance among the various of aspects of our lives.
- 5 With adequate development you can identify which of the four baseline Value/Emotions is key and can see how completely programs are Loved.



BEVS & COVID

How has the COVID environment had an impact on BEV adoption?

COVID IMPACT: CHANGES IN EMPLOYMENT

Initially, 40% of all new vehicle buyers and 60% of BEV buyers found themselves working from home. While most today are at “normally” working, there are still a significant number working from home.

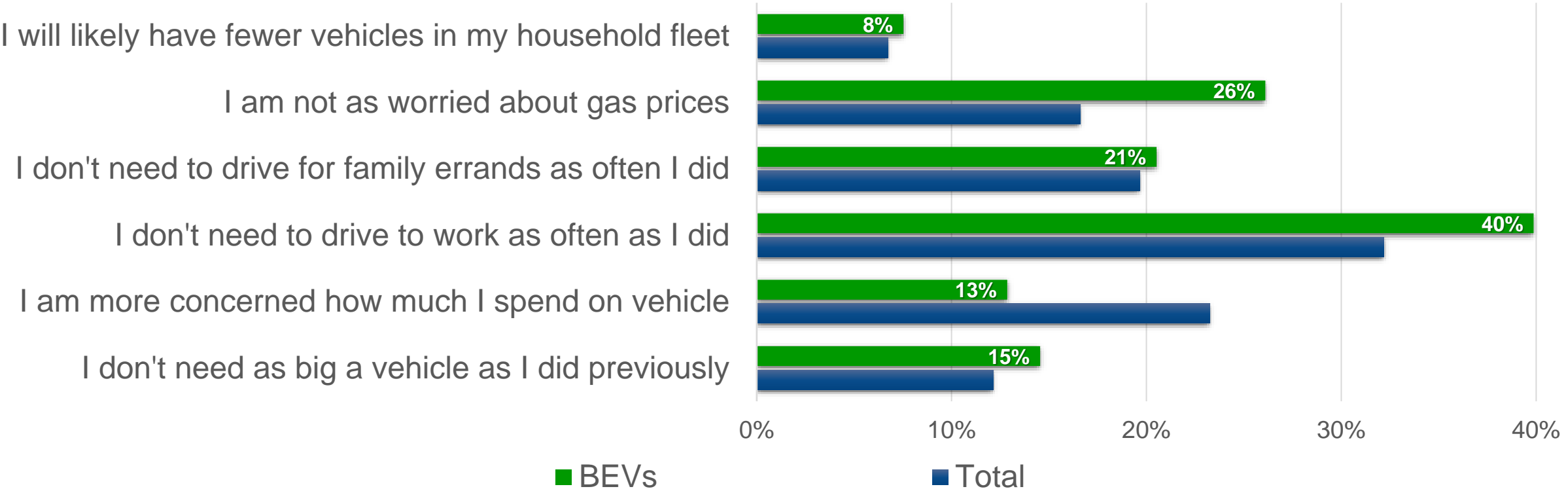
What best describes any changes to your current employment because of COVID-19

	2020 W1-2		2020 W3-4		2021 W1-2	
	<u>Total</u>	<u>BEV</u>	<u>Total</u>	<u>BEV</u>	<u>Total</u>	<u>BEV</u>
I am most often working from a home environment now	39%	58%	33%	51%	33%	43%
Not working, but still have my job with some level of pay	6%	7%	2%	2%	2%	1%
Not working, but still have my job and I am not being paid	4%	2%	1%	2%	1%	0%
I have lost my job and/or filed for unemployment	4%	0%	2%	2%	2%	2%
There have been no major changes to my job	47%	33%	61%	43%	62%	54%

COVID IMPACT: CHANGES IN MOBILITY NEEDS

As more people work from home (especially BEV owners) there is less of a need for individuals to drive as often as they had before. Increasing gas prices are of less importance to BEV owners.

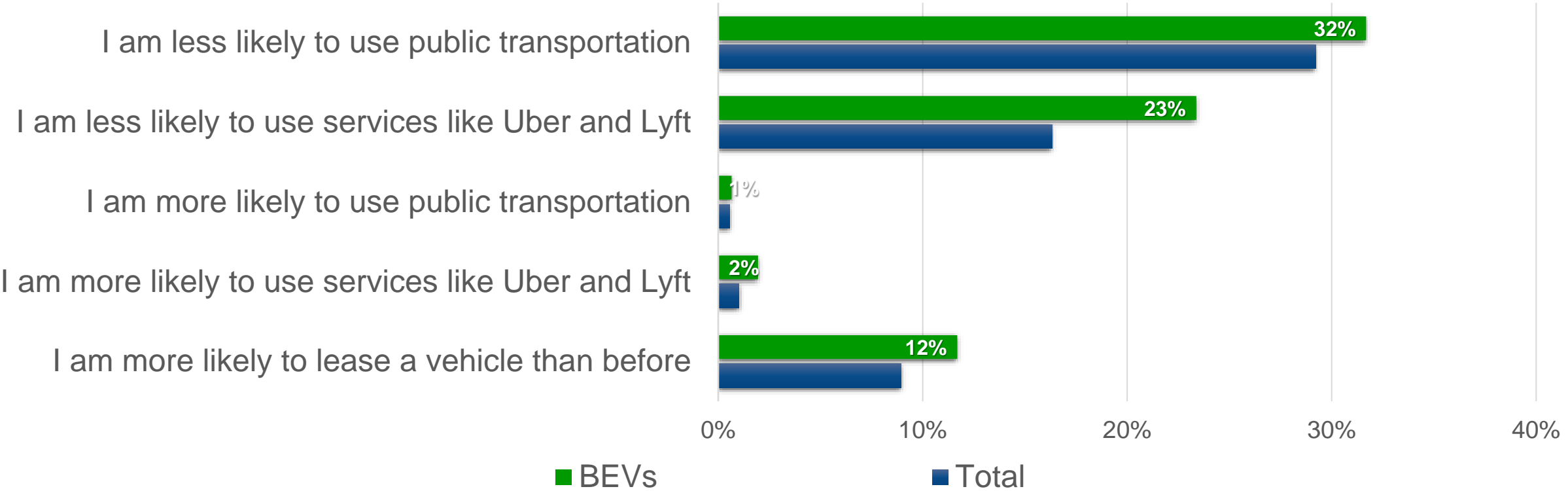
How are your personal transportation needs changing because of the COVID-19 Pandemic



COVID IMPACT: CHANGES IN MOBILITY NEEDS

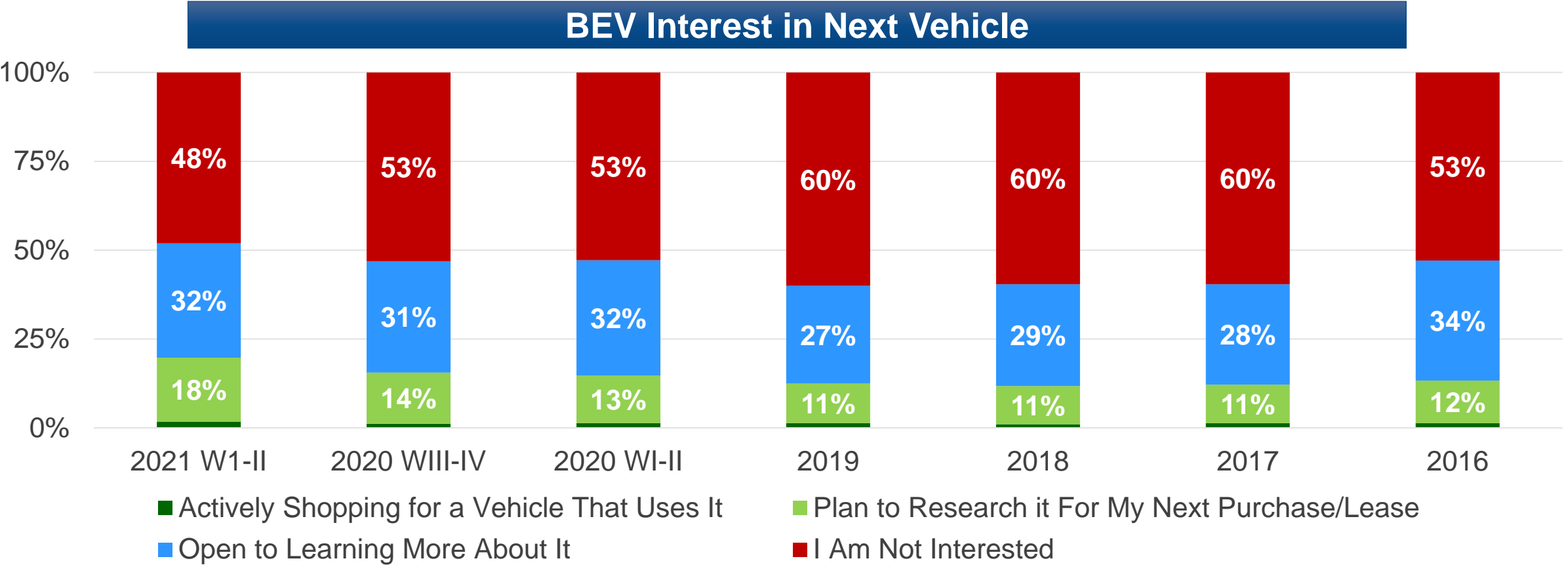
The pandemic has created significant rejection in all forms of non-personally owned mobility. Most new vehicle buyers are less likely to use ride-hail services and less likely to use public transportation.

How are your personal transportation needs changing because of the COVID-19 Pandemic



BEV INTEREST OF NEW VEHICLE BUYERS

Customers are willing to give BEVs another look, as BEV Interest returned in 2020 to its 2016 levels. That interest continues in 2021.



INTENDERS: BEV ADOPTION

Explain BEV Future Intentions

I already own a 2012 Nissan Leaf and love it!

No place to plug in at my condo complex

I do not trust all electric vehicles due to the possibility of electrical failures at any time. I will not buy at anytime in my lifetime.

I was never really interested in an EV. Cov19 has an 1-3 life before a vaccine is available. Therefore I plan to not make any major changes in my transportation mode because I may have to pay for expensive medication etc.

I enjoy driving to experience new areas of interest. This usually require 300 to 500 miles which does not correspond to EV vehicle driving ranges. Not for me!

The pandemic has emphasized the need to view all problems associated with climate, health, future of this planet as global issues that demand everyone's cooperation.

Technology deficient untrusted.

Regular travel where charging not available. Plus gas is cheaper now!

INTENDERS: BEV ADOPTION

Explain BEV Future Intentions

I have no reason except I am thinking it may be the right thing to do !

Amount of distance on charge and home charge ability

My interest in EV has not changed. Availability, choices and technology of EV (and Price point) of EV has improved

I live in Wyoming, I believe any plans to install more charging stations are delayed

I assume this will slow the installation of public charging facilities. My high-rise condominium building has also delayed installation of garage chargers.

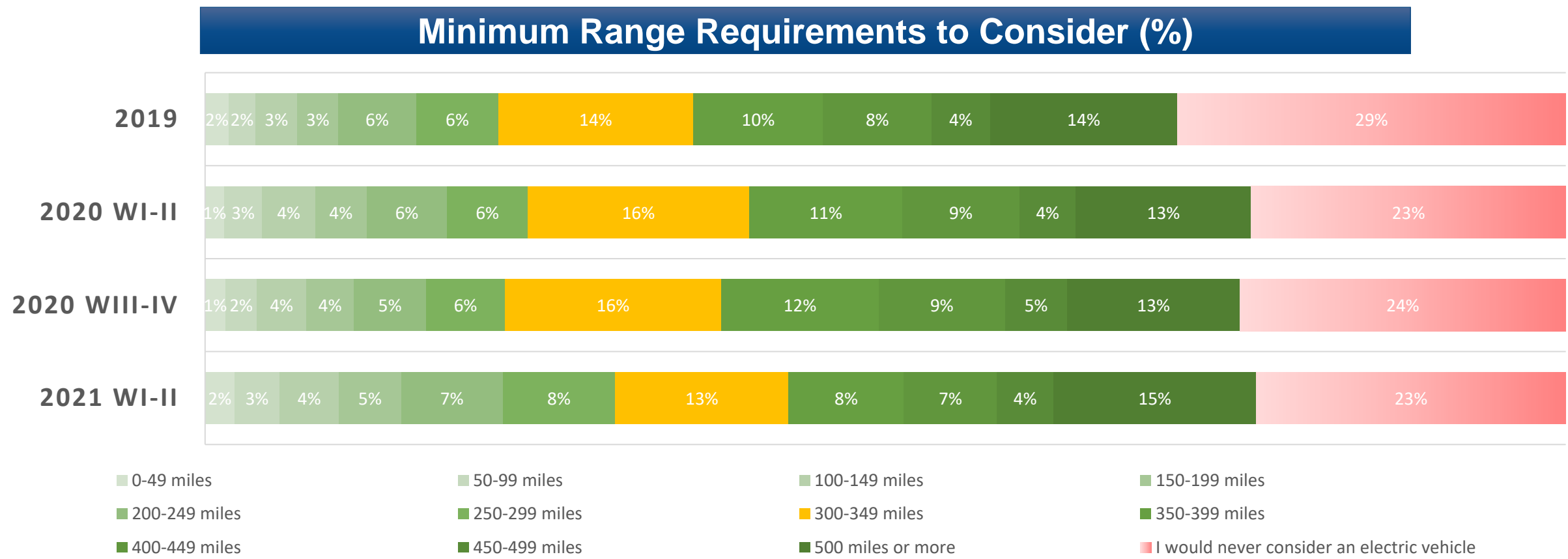
I'm concerned about safe access to charging stations and communal service areas while the vehicle is charging.

Expect less infrastructure spending on plug in electric vehicles. Don't want to be dependent on something that may not come

I don't believe that the COVID virus has anything to do with the type of automobile I purchase. Even though gas prices are at the lowest, they will go back up again.

BEV RANGE REQUIREMENTS FOR INTEREST

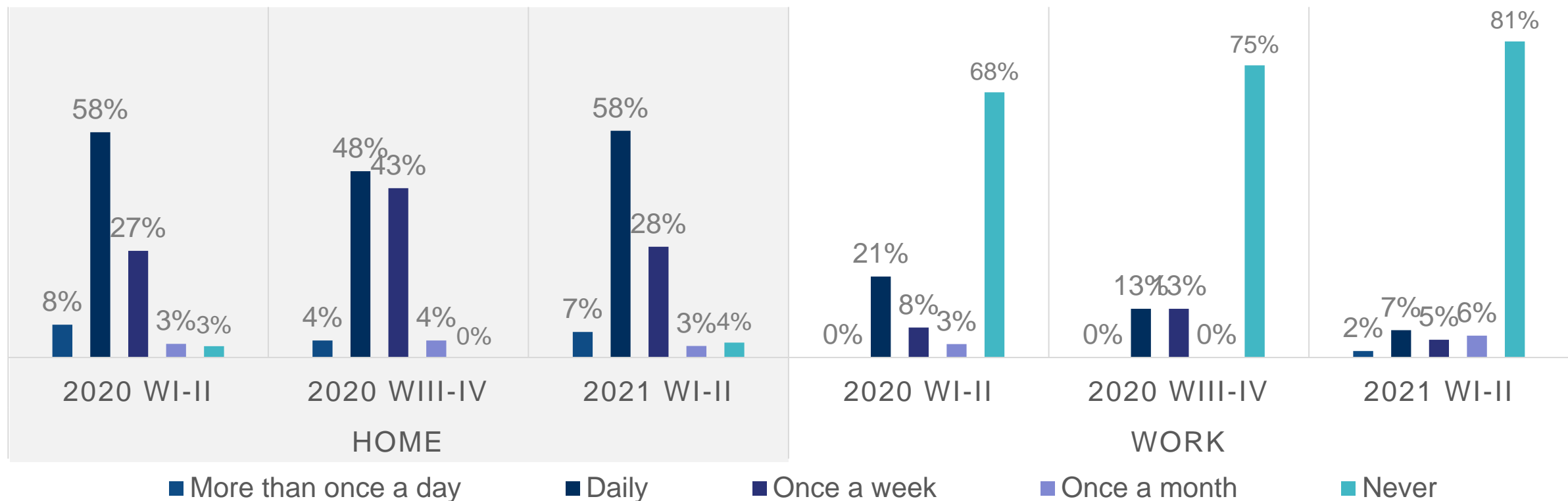
While half of new vehicle buyers state they are not interested in a BEV, only a quarter of new vehicle buyers would truly NEVER consider one. A range of 300+ miles is essential for greater BEV adoption.



EXPERIENCE: CHARGING LOCATION FREQUENCY

In the early months of the pandemic (April – June 2020) the need for owners to charge their BEV decreased, as most everyone was driving less. Daily charging at work has mostly disappeared.

Frequency of Charging at Location



A large, leafy tree stands in a field under a blue sky with clouds. The tree is the central focus, with its branches spreading out. The background shows a clear sky with some light clouds and distant hills.

PRIMER: APV SUMMARY

Who purchases an APV and what do new vehicle buyers think of APVs?

BEVS: TODAY'S OWNERS



BEV buyers are younger, married, college educated males with children. Gen X and Gen Y are strongly represented. They are more likely to be professionals with incomes in the \$175,000 range. BEV owners live in detached homes, making their charging much easier.



BEV buyers enjoy foreign travel, hiking, managing their investments, entertaining at home and binge-watching their favorite shows. From fine dining to socializing at parties their other activities are about enjoying their world. They watch news, science fiction, films, travel and fitness programs.



With their innovative spirit, these drivers are open to new experiences and want a vehicle that can drive itself. Fuel economy was a leading consideration in buying their BEV. While they will pay more for environmentally friendly vehicles, what they truly love are vehicles with superior acceleration that outperform others. They desire a vehicle that is innovative, smart and cool.

BEV OWNERS: SIMILAR & DIFFERENT TO EACH OTHER

While all BEV owners are summarized together in this report, it is important to note that there are different sub-groups. Some care more about the performance and low-end torque of the vehicle, while others are more focused on the economics of owning a BEV over an ICE vehicle.



HYBRID: TODAY'S OWNERS



Hybrid buyers are older, less likely to be married and less likely to have children in the home. They are college graduates with an annual income of \$110,000.



Hybrid buyers enjoy reading, foreign and domestic travel, hiking, surfing the web, going to the movies, doing volunteer work, live theater, playing card games, photography and paying attention to their investments. Their media habits include news shows, drama, documentaries, films and travel shows.



Fuel economy is a leading consideration in their purchase decision. They will pay more for environmentally friendly vehicles. Hybrid buyers see their vehicles as environmentally friendly, economical and technologically advanced in the right ways.

DIESEL: TODAY'S OWNERS



Diesel buyers are almost exclusively masculine. They are older, married, less likely to be college graduates, and are not working professionals. They have an income of \$125,000. They do not typically identify with a minority group. They almost exclusively live in a detached home.



Diesel buyers like to camp and hunt. They also enjoy motorcycles, range shooting, fishing, mountain biking, canoeing, home projects and NASCAR. When they are not outdoors, they enjoy watching motor sports, sports of all kinds, action/adventure programs, the weather and football. They are least likely of buyers to be innovators.



Diesel buyers want to tow heavy loads, prefer tough, workmanlike images and desire to be able to traverse any terrain. They want to stow bulky equipment. Their vehicles are tools for their active lives. They prefer to outperform others in a vehicle that is easy to control and is roomy enough for 5 to sit in comfort. Diesel buyers see their vehicles as rugged, powerful and capable.



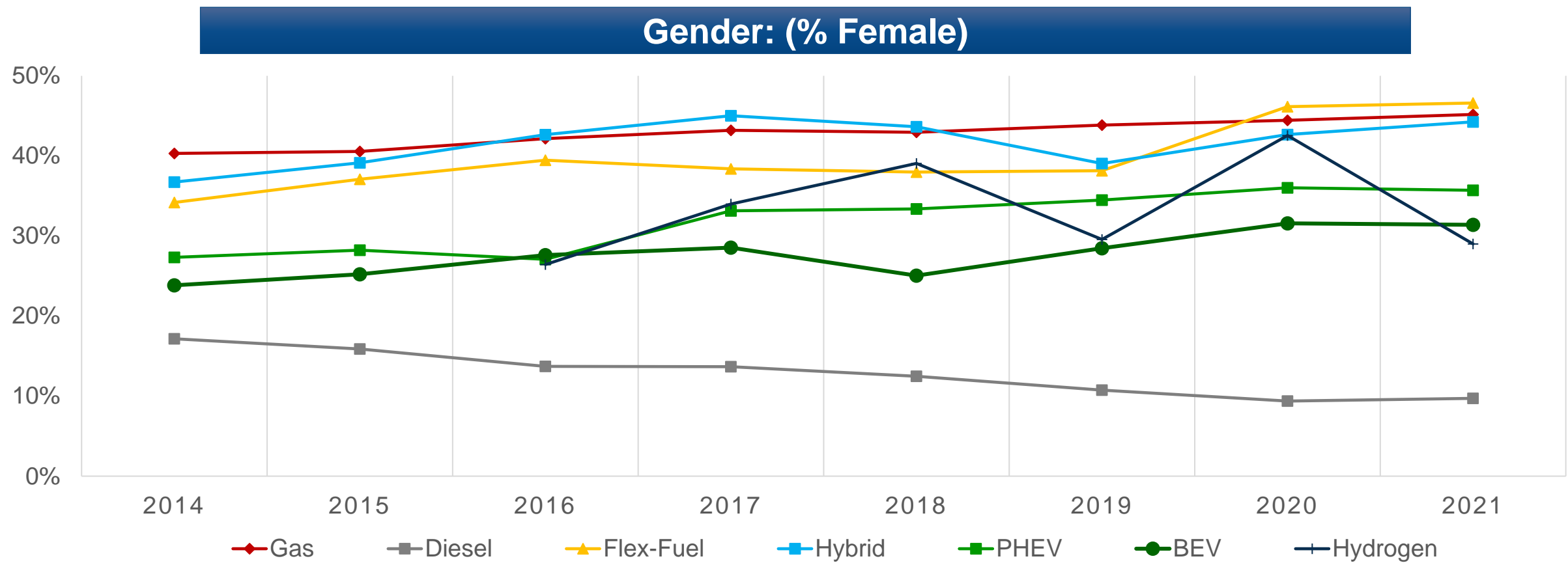
A large, leafy tree in a field under a blue sky with clouds. The tree is the central focus, with its branches spreading out. The sky is a deep blue with some lighter clouds. The ground is a flat, light-colored field.

DEMOGRAPHICS & LIFESTYLES

Who are the APT owners who have completed the Journey to Purchase?

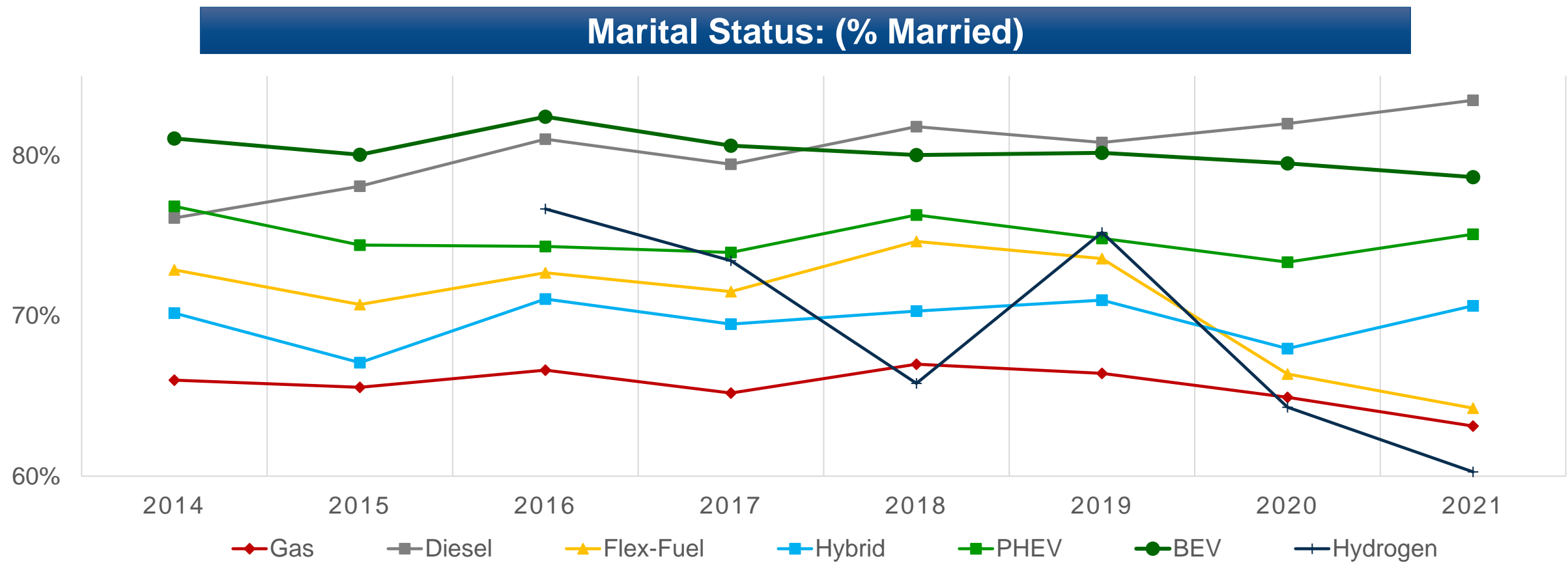
DEMOGRAPHICS: GENDER

Diesel truck owners are most often male. The next powertrain that often skews male are those who own a PHEV or BEV. Women in a household of 2+ vehicles often take the ‘functional’ vehicle, not the BEV.



DEMOGRAPHICS: MARITAL STATUS

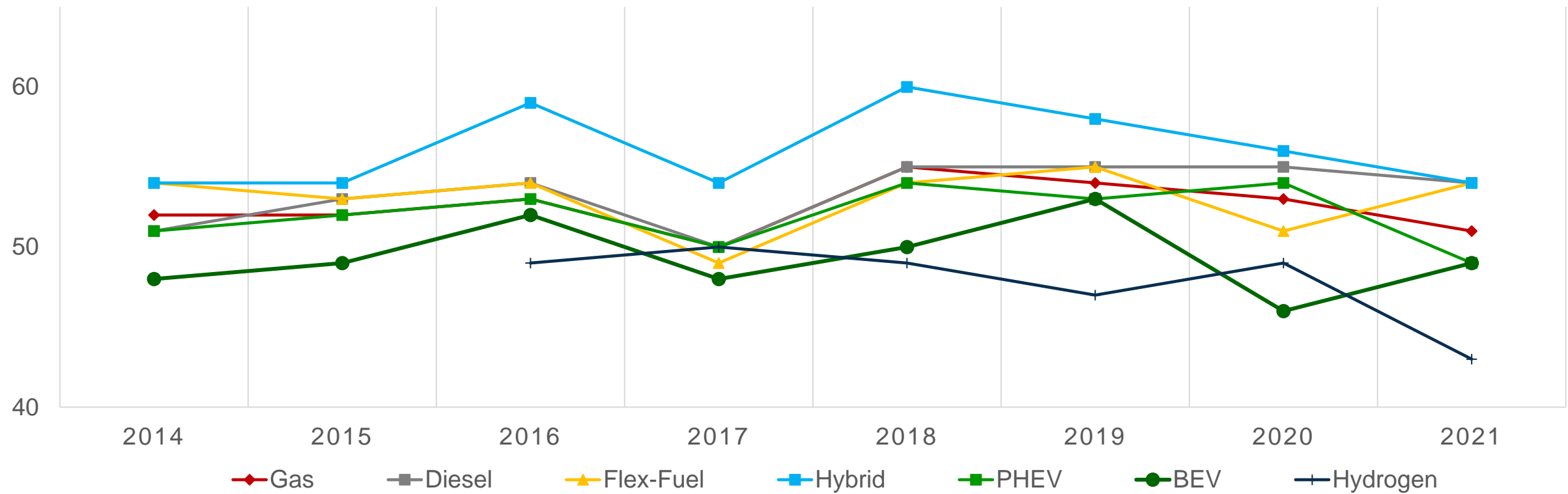
Those in BEVs (and diesel trucks) often have greater incomes and spend more on their vehicles. It helps to be in a married household for greater economic capability / stability to afford the BEV.



DEMOGRAPHICS: AGE

BEV and alternative powertrain owners have historically been “younger” (median age at 49). This group has a more “enlightened” sense of mobility, energy consumption and the future of the world.

Age: (Median)

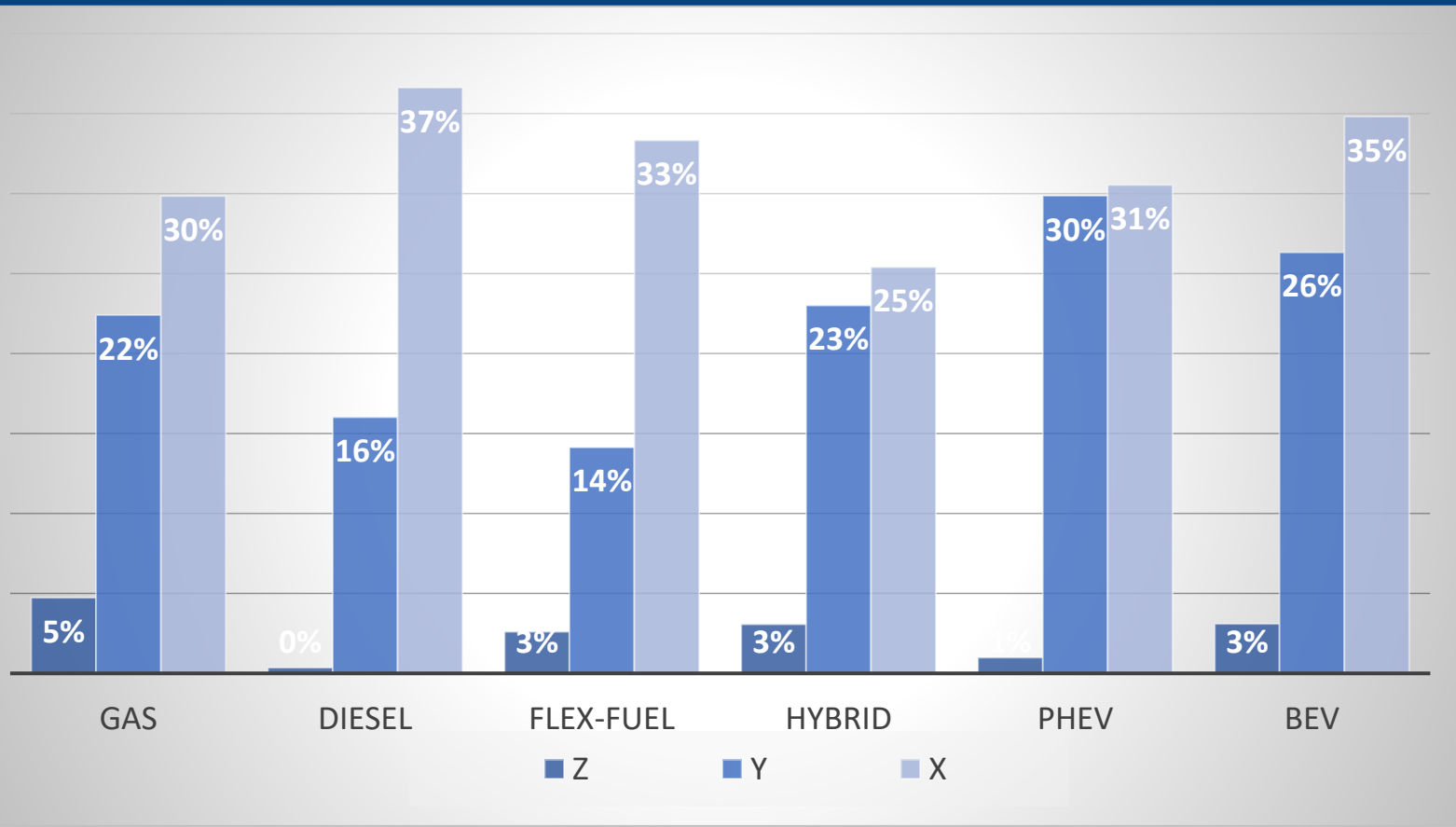


DEMOGRAPHICS: GENERATION COHORT



It should be noted that it is Generation X & Y that lowers the median age of owners, not Gen Z. The youngest of new vehicle buyers just do not have the funds to purchase a BEV or similar vehicle.

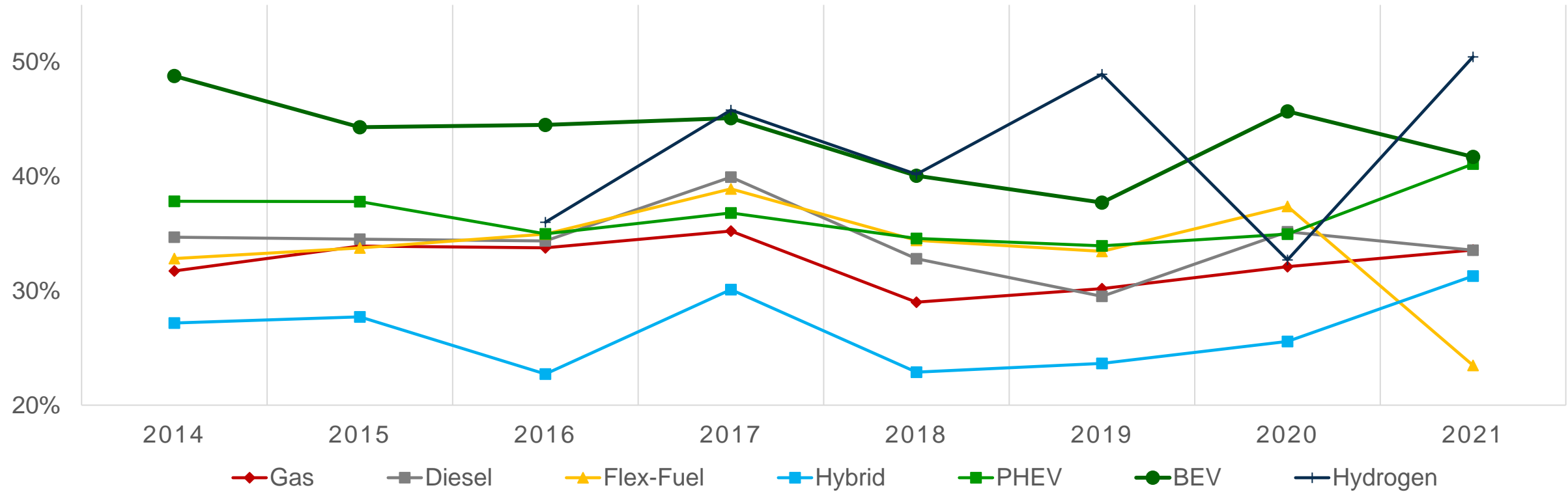
GENERATION COHORT GROUP BY POWERTRAIN



DEMOGRAPHICS: CHILDREN

It should come as no surprise that there is a greater proportion of children in the home of these younger, married BEV owners. Most hybrid owners are older and have been empty nesters for awhile.

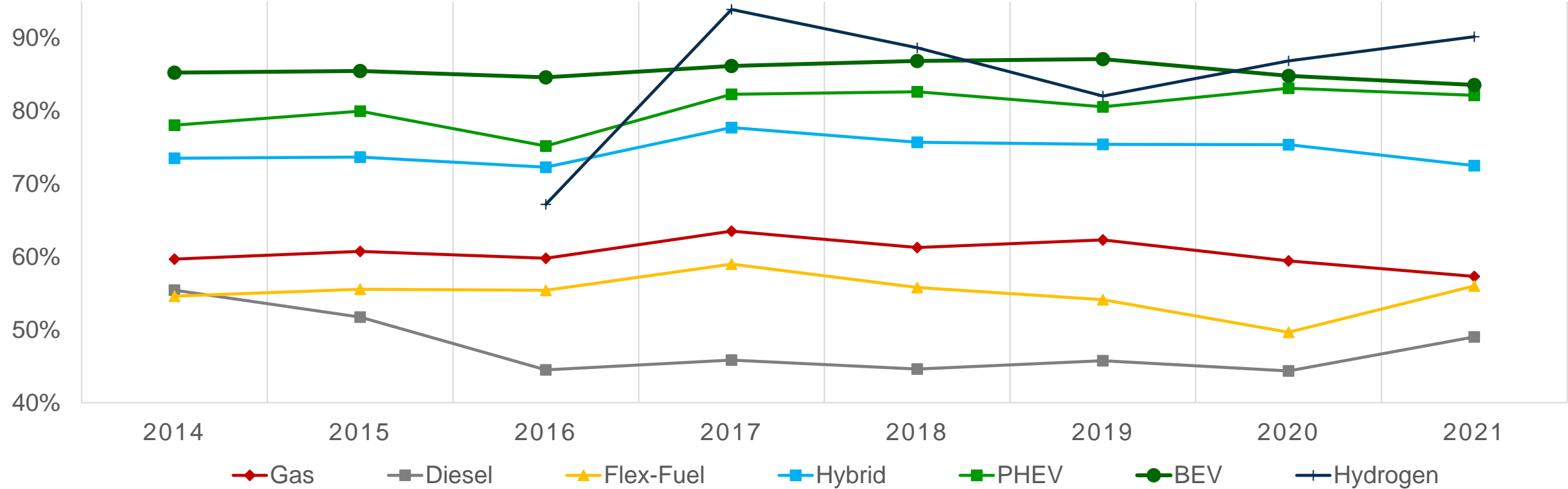
Children in Home: (% Children)



DEMOGRAPHICS: EDUCATION

Part of the reason for the enlightenment of these younger BEV owners is that they most likely have been to college. While many diesel and gas powered owners are college educated, it is not at similar incidences.

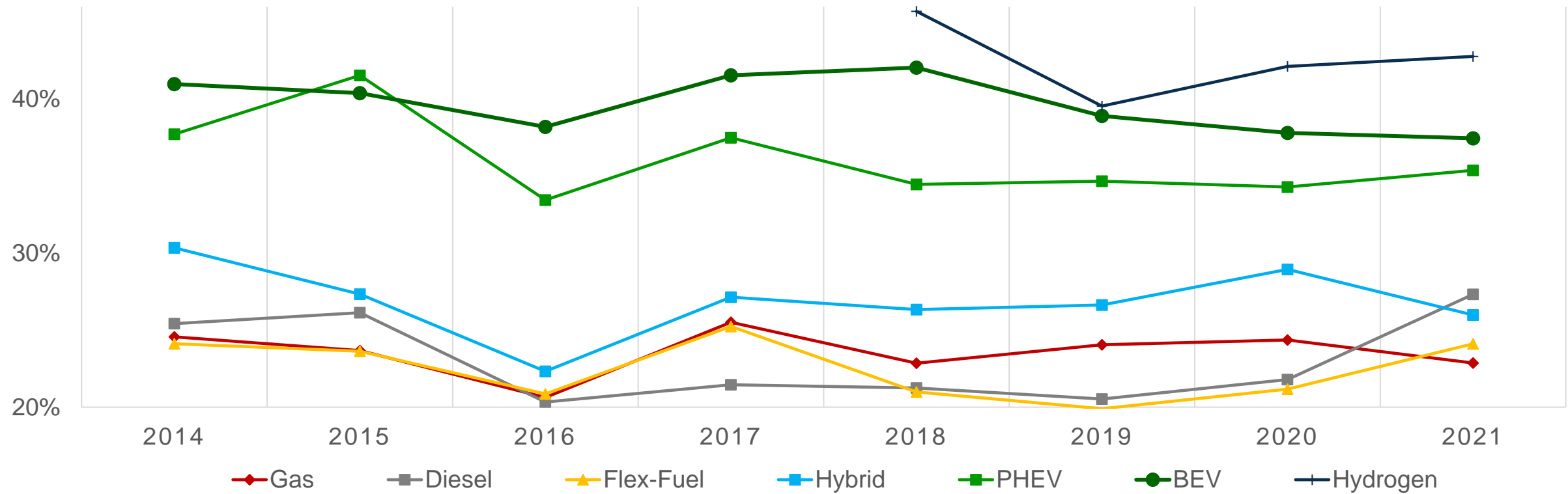
Education: (% College Graduate)



DEMOGRAPHICS: OCCUPATION

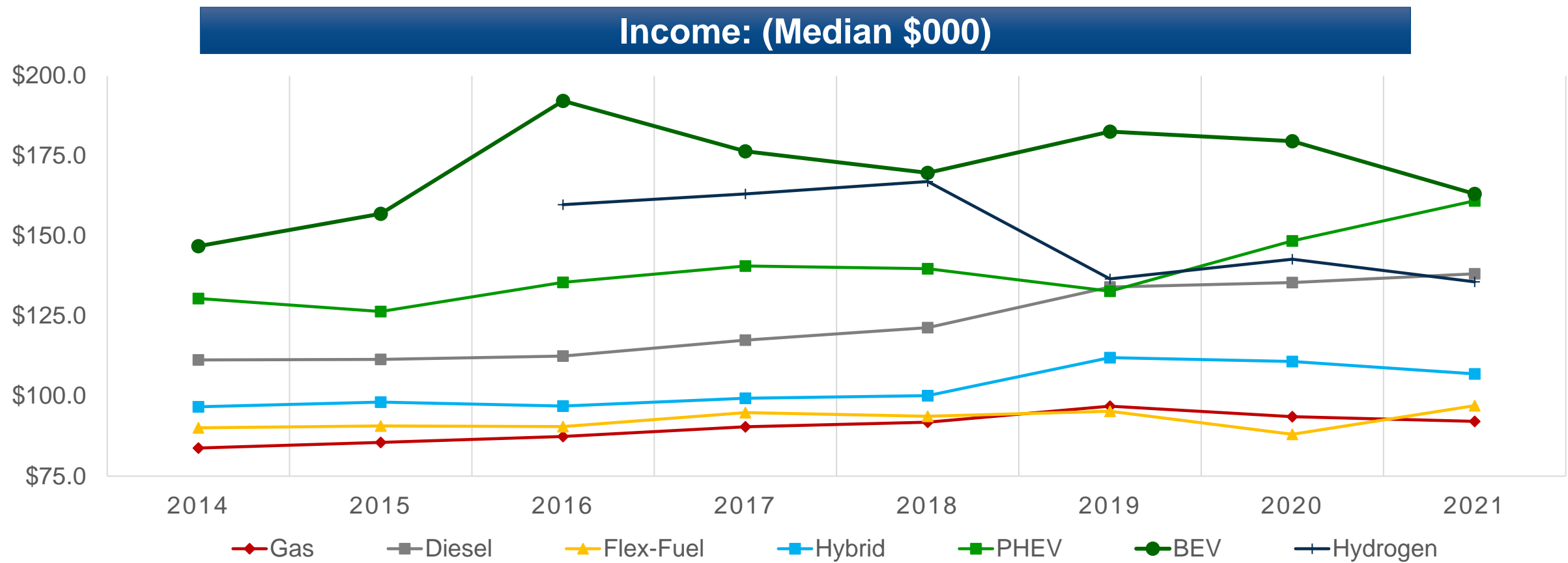
With APV demographics trending toward being more likely college educated, male, married, etc. it also leads to a demographic that is more likely to be working in a professional field.

Occupation: (% Working Professional)



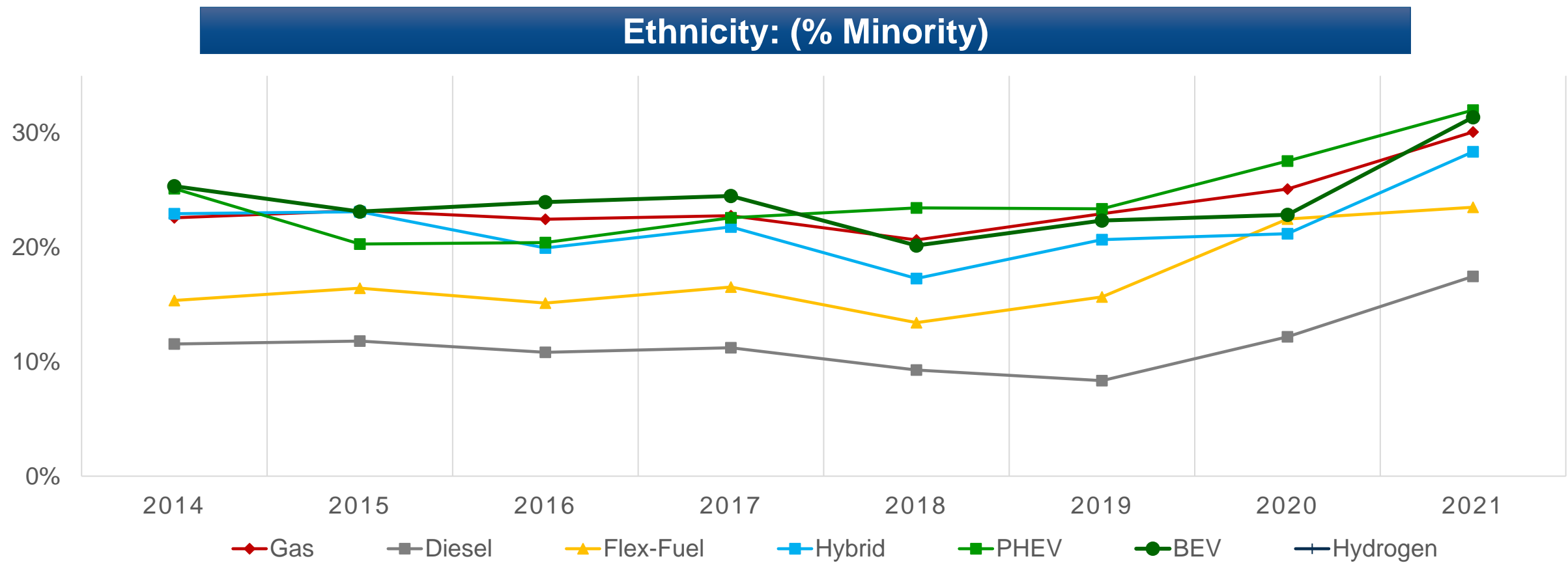
DEMOGRAPHICS: INCOME

Working in a professional field then equates to having a higher household income. The income of ICE owners have increased over the years, but nowhere near close to what BEV owners make.



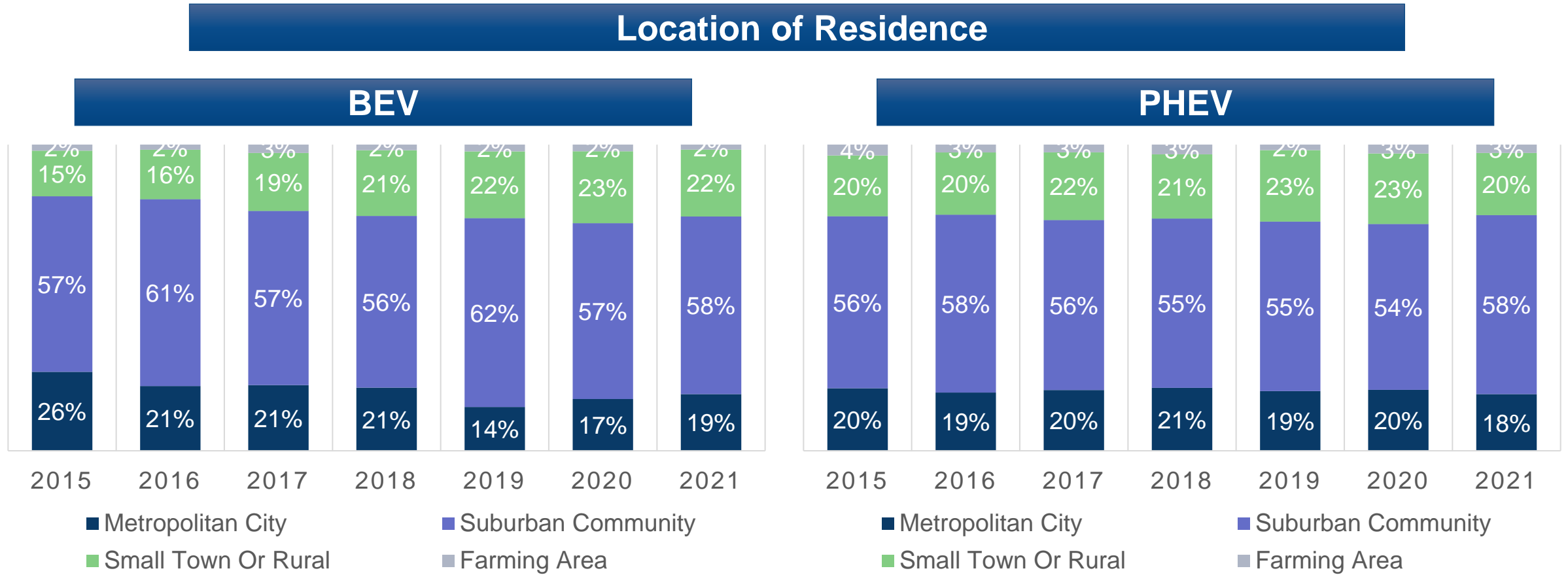
DEMOGRAPHICS: ETHNICITY

In previous years, powertrain and ethnicity rates were consistent. In more recent years, there has been a significant increase of buyers from the emerging markets.



DEMOGRAPHICS: LOCATION

There has been a (small) trend over the past few years of a greater proportion of BEVs & PHEVs finding their way into the homes in small towns or rural areas.






EMOGRAPHICS

What preferences and priorities fit in with the customers' lifestyle?

EMOGRAPHICS: HOBBIES

There are similarities in activities of those who choose alternative powertrains. Diesel owners love to camp with the wildlife... and at times, shoot the wildlife.

Hobbies: (% Over Industry Average)





BEV		PHEV		Hybrid		Diesel	
Travel - foreign	18%	Travel - foreign	16%	Reading	9%	Camping trips	45%
Stocks, bonds, investments	12%	Cycling	11%	Walking	9%	Hunting	27%
Hiking, backpacking	8%	Hiking, backpacking	11%	Travel - foreign	7%	Range/Skeet Shooting	24%
Cycling	7%	Travel - USA	10%	Doing volunteer work	6%	Fishing	21%
Church (religious) functions	-7%	Going to sporting events	-7%	Going to sporting events	-6%	Reading	-18%

To be read as BEV owners are 18% more likely to enjoy/engage in Foreign Travel.

EMOGRAPHICS: MEDIA CONSUMPTION

There are similarities in TV and media consumption of those who choose APVs. When Diesel owners do watch TV, it is often something with action or sports.

Media / TV Shows Watched: (% Over Industry Average)

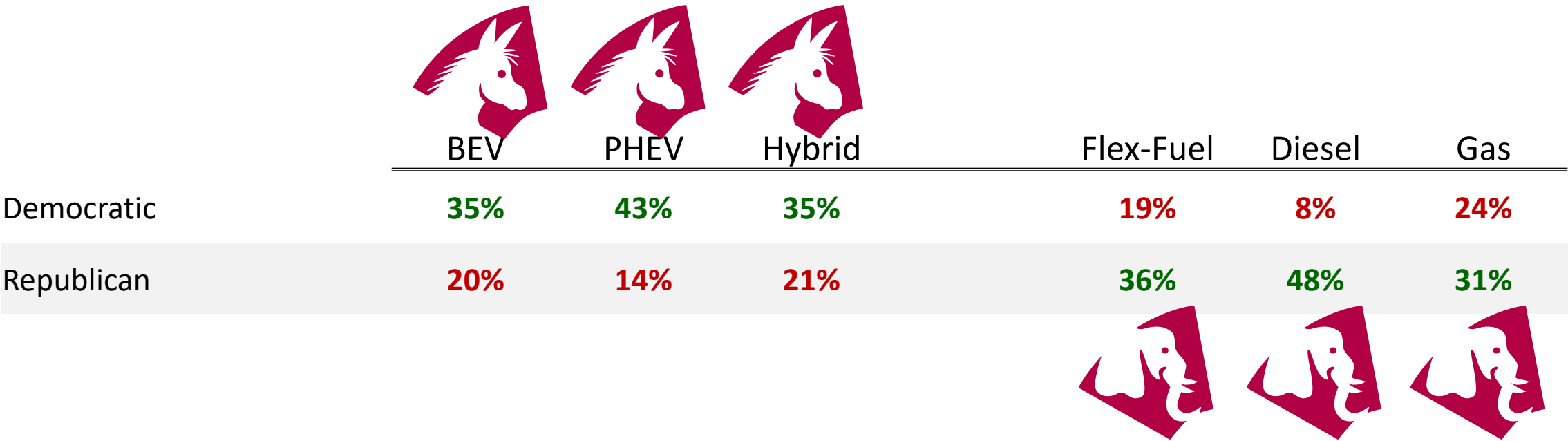
 BEV	 PHEV	 Hybrid	 Diesel
News / information / educational 12%	Films 9%	Drama 6%	Motor Sports 14%
Films 11%	Science Fiction 7%	News / information / educational 5%	Action/Adventure 7%
Science Fiction 7%	Documentaries (ex. history, science) 5%	Science Fiction 4%	Sports - General 3%
Tennis 7%	Drama 4%	Films 4%	X-Games 2%
Documentaries (ex. history, science) 7%	Travel 4%	Documentaries (ex. history, science) 3%	Weather 2%

To be read as BEV owners are 12% more likely to enjoy/engage in watching the News.

EMOGRAPHICS: POLITICAL AFFILIATION

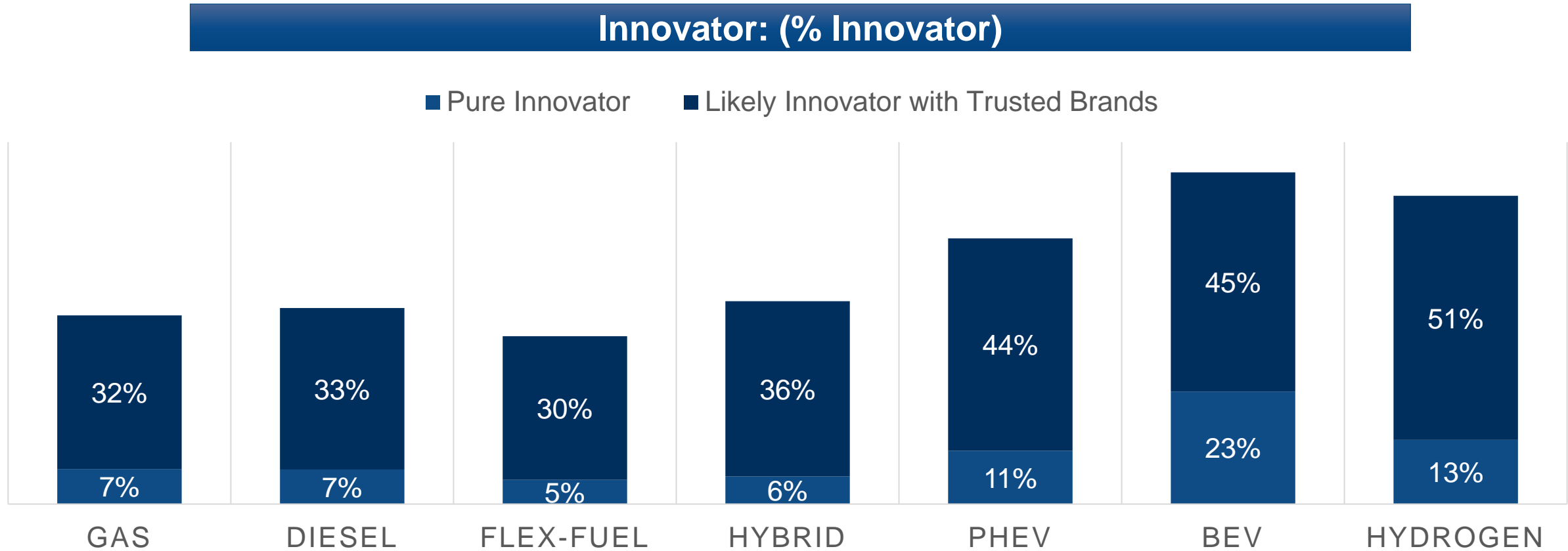
Stereotypes can be real. Although, while there are more Democrats buying BEVs today, there has been an increase in Republicans purchasing them in recent years. The same is true of Hybrids.

Political Affiliation: (% Incidence)



EMOGRAPHICS: INNOVATOR / EARLY ADOPTERS

BEVs owners see themselves as Innovators (strongly influenced by Tesla owners). Even Hybrid owners today are more likely to be an Innovator than standard ICE vehicle owners.



Innovator self-classify as either “I love to be the first one in my neighborhood with a new innovative product” or “With brands I trust, I like to buy and try new innovative products.”

CUSTOMER STORY: AUDI



Implication: Some reject Tesla because of the imagery of the person in charge.

"I felt that driving a gas guzzler no longer fits with my intentions of reducing my carbon footprint. Additionally **I wanted to be a leader among friends with an electric car.**"

2020 Audi E-Tron Owner

A large, leafy tree stands in a field under a blue sky with clouds. The tree is the central focus, with its branches spreading out. The sky is a deep blue with some lighter clouds. The overall mood is serene and natural.

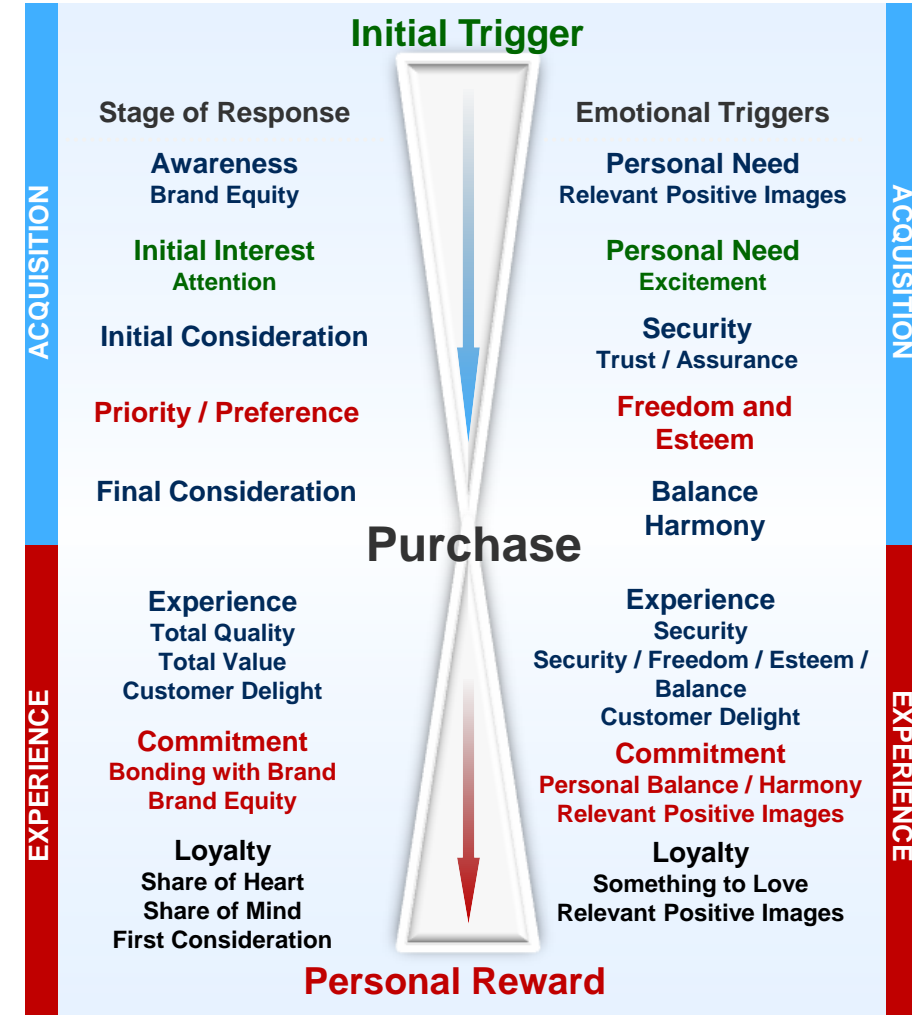
THE CUSTOMER STORY

From Awareness to Loyalty:
Following customers along the Path to Purchase

THE DECISION PATH: CUSTOMER CONVERSION

Building ValueCentered© Brands: A Key to Success.

- 1 The best way to understand how a customer converts from Interest to Purchase is through the Decision Path or Path to Loyalty.
- 2 Each stage of the path has different emotions, values and behavior that are prominent at each step.
If you skip a step — or dismiss a part — you are likely to fail.
- 3 It is critically important to understand the relationship between each step and the dynamics operating at each level.



The Decision Path©

REAL BEV COMPETITIVE MARKETPLACE:

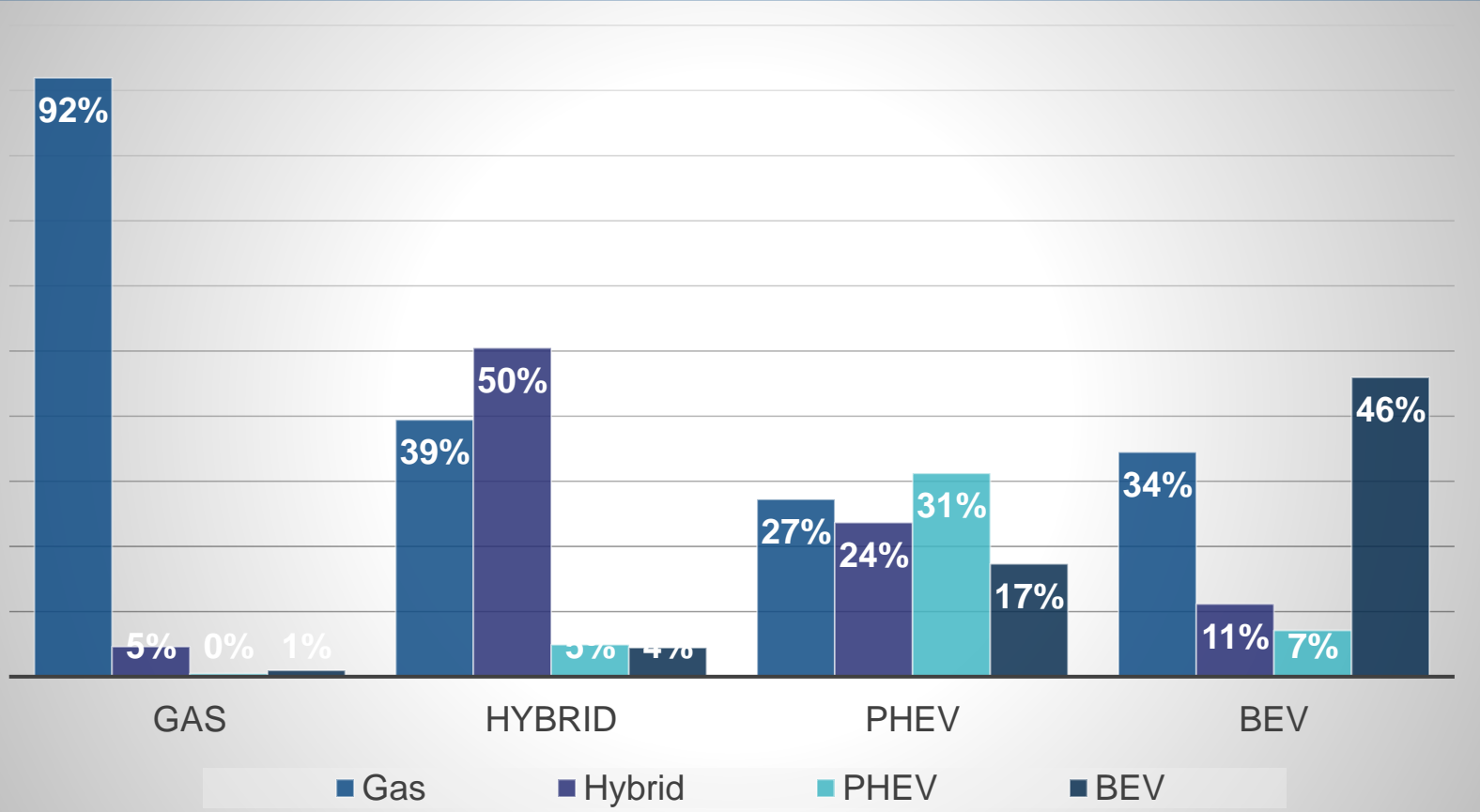


5% of those who purchase a standard ICE vehicle consider a Hybrid with an additional 1% considering a BEV.

34% of BEV owners state that the vehicle they almost went with was an ICE (up from previous years).

Implication: ICE is still the leader.

What was Purchased (X-axis) by
What was Most Seriously Considered (MSC) (% on Y-axis).

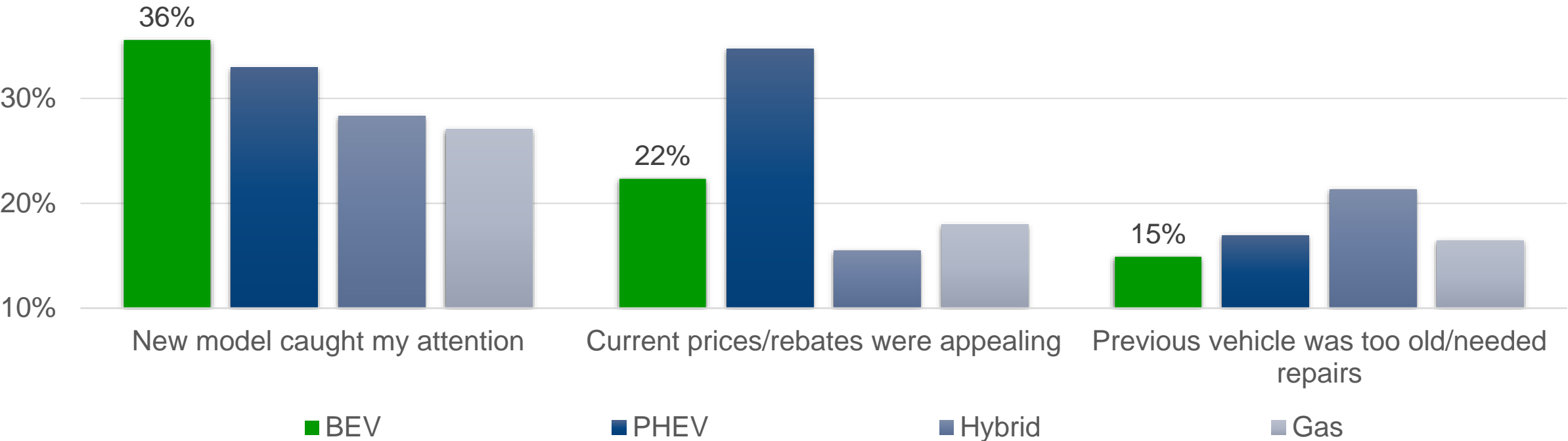


To be read as 92% of those who purchased a Gas vehicle and Considered another vehicle, Most Seriously Considered another Gas powered vehicle.

PURCHASE TRIGGER

BEV owners often are ‘inspired’ to purchase a new vehicle because the new model caught their attention and not as often that they have run their previous vehicle till it died.

Purchase Trigger: Top 3 Sorted by BEV Over Industry Average



To be read as 36% of BEV owners stated that the new model “caught their attention” and this started them on the path to purchase..

INITIAL INTEREST: VEHICLE IMAGERY

APV owners see their vehicles as Environmentally Friendly and Technologically Advanced compared to owner perceptions of ICE vehicles. However, concerns about Safety and Reliability will prevent sales.

Top 3 / Bottom 1 Images for Each Powertrain Over/Under Industry

BEV		PHEV		Hybrid		Diesel	
Technologically advanced	38%	Environmentally friendly	38%	Environmentally friendly	31%	Rugged	46%
Environmentally friendly	36%	Technologically advanced	24%	Economical	21%	Powerful	45%
Innovative	18%	Economical	16%	Technologically advanced	17%	Capable	16%
<i>Reliable</i>	<i>-17%</i>	<i>Sporty</i>	<i>-13%</i>	<i>Powerful</i>	<i>-12%</i>	<i>Modern</i>	<i>-12%</i>

CUSTOMER STORY: AUDI



Implication: When safety is threatened, you can't enjoy the fun, excitement and prestige it offers.

“[The **Tesla Model 3**] may be rated one of the safest vehicles, but **it did not feel like a safe vehicle.**”

2020 Audi A5 Sportback Owner who Most Seriously considered a Tesla Model 3.

CUSTOMER STORY: CHEVROLET



Implication: When a brand stands for Dependability (at least to the individual customer) the path to purchase is easier.

Brand imagery will play a role in future BEV sales.

"**Chevy is dependable**, there is **considerable leg room** as opposed to other e-vehicles, the design is utilitarian which means utility and strength of long term use as compared to finely finished qualities that age poorly and Chevy is approachable with cars on the lot as opposed to a certain company that has waiting lists. A nontrivial matter is our location in a mixed economy neighborhood with blue collar tradework households and white collar professionals, the other well known e-vehicle company does not fit our neighborhood while Chevy does and **Chevy is approachable so for our long term societal goals of minimizing our impact on the planet and being examples the Bolt met those needs in messaging.** That is, a **Bolt turns more heads that drive diesel pickups** who like to roll coal (seriously) when they underestimate it on the road, it is more likely to convince them the direction to go is away from dirty internal combustible engines to electric if you are really going to be a gear head."

2020 Chevrolet Bolt Owner

CUSTOMER STORY: AUDI



Implication: Some reject Tesla because of the imagery of the person in charge.

"**Great vehicle** so far. Very **quiet and efficient**. **Interior finish is fantastic.**

Elon Musk is a [edited for profanity] and the **e-tron** has a **much nicer interior and finish** and qualifies for the **federal tax credit** as well as the section 179 tax deduction for businesses ."

2020 Audi E-Tron Owner



CUSTOMER STORY: AUDI



Implication: The real threat to Tesla will be the equity mainstream brands have over Tesla. In essence, when BMW, Lexus, Audi and Mercedes provide BEVs that are as fun to drive, Tesla will become significantly less relevant to the US customer.

"We placed deposits for 2 Teslas and had them refunded. After a lot of research, we concluded that **Tesla was superior in tech**, but **did not meet quality and comfort standard we were looking for**. The Audi E Tron met all our needs with the exception of range. **Range on the Audi has actually been greater than the official number**. We estimate it will go about 240 miles. But it charges fast and 99% of the time we only drive a handful of miles per day. So far it has been a very quiet, **comfortable and fun car to drive**."

Been looking for a luxury electric vehicle for a few years. Concluded **Tesla tech was best**, but quality **did not warrant the price**. Audi offered high discount for E Tron **and Audi quality and luxury seems better**."

2020 Audi E-Tron Owner



CUSTOMER PRIORITIES: ATTITUDES

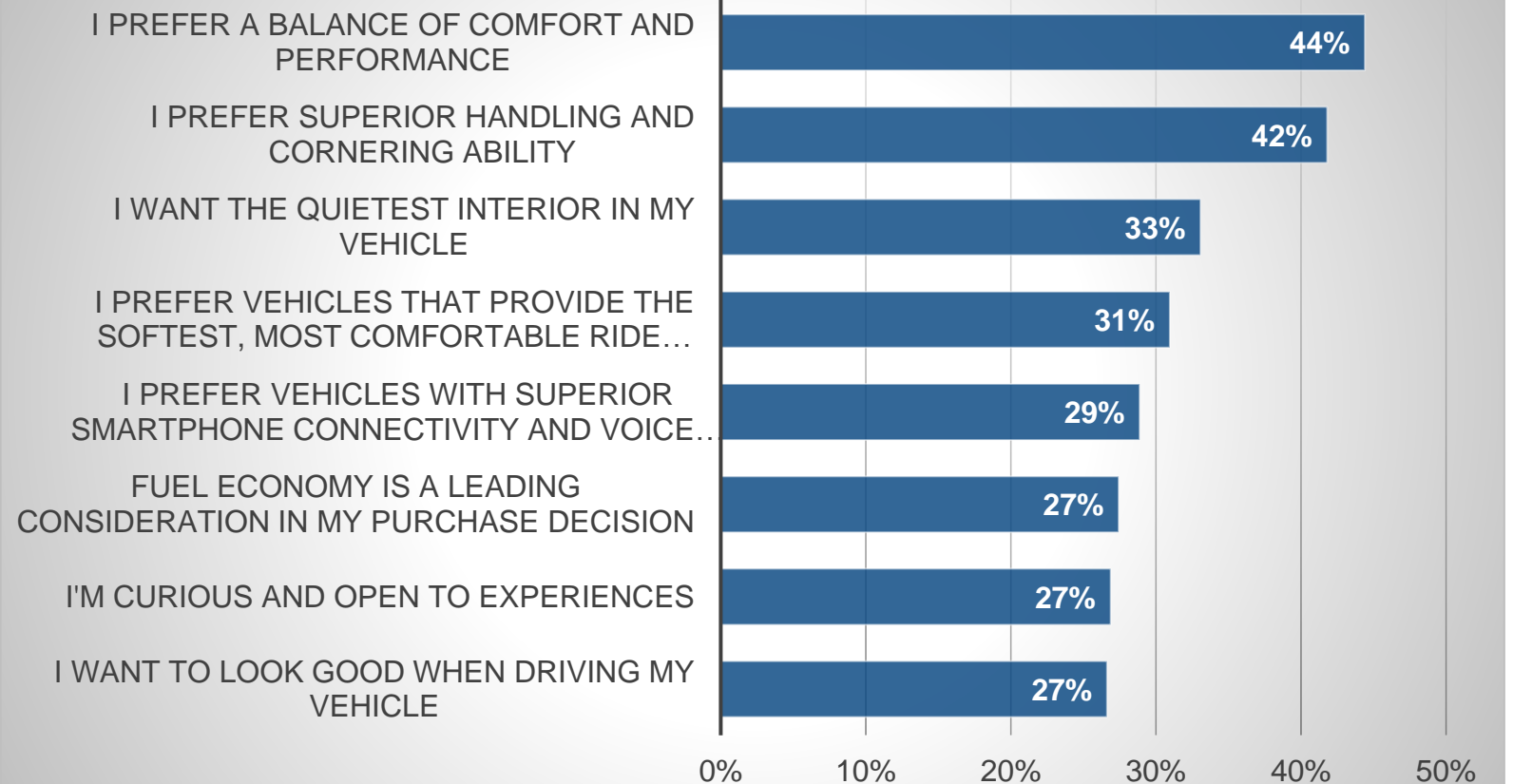


The greatest priority of new vehicle buyers is receiving a balance of comfort and performance. This is closely followed by handling.

Fuel economy is ranked 6 out of 38 in level of importance.

These rankings essentially haven't changed since 2017.

INDUSTRY ATTITUDES (% Extremely Important - Top Box ranked of 38)



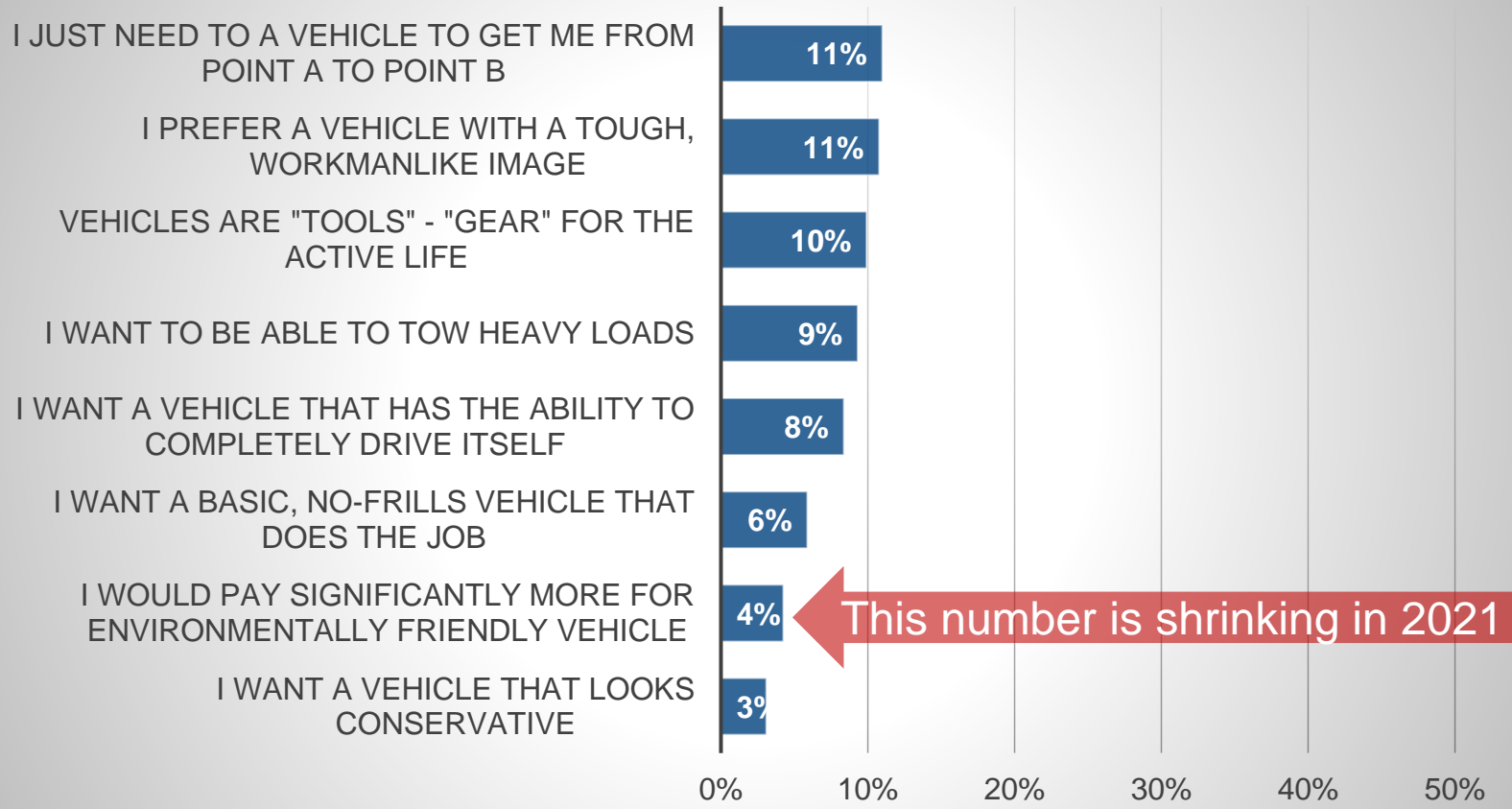
CUSTOMER PRIORITIES: ATTITUDES



Very few new vehicle owners have a willingness to pay more for an environmentally friendly vehicle.

Unfortunately, most OEMs have battled over this group of buyers rather than what Tesla did which was going for the largest group that desires performance.

INDUSTRY ATTITUDES (% Extremely Important - Top Box ranked of 38)



This number is shrinking in 2021

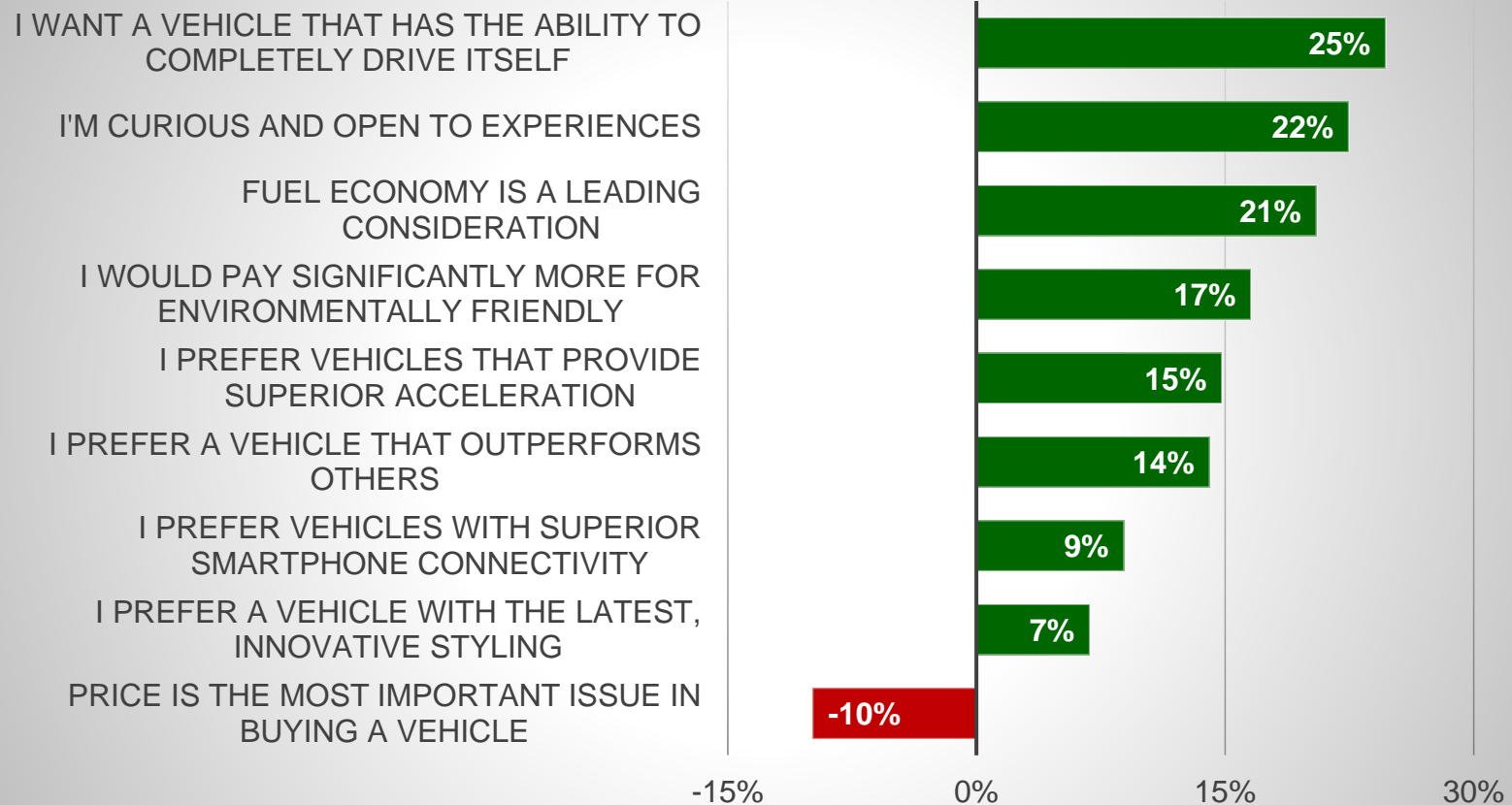
REMEMBER: ATTITUDES OF BEV OWNERS



While it is well known, it is often forgotten that those who purchase BEVs today also demand more “superior acceleration” and desire a vehicle that “outperforms others” on the road.

Tesla finds success because they sell a *sports car*, not an Electric Vehicle!

BEV ATTITUDES (% Extremely Important Over/Under Industry Average)

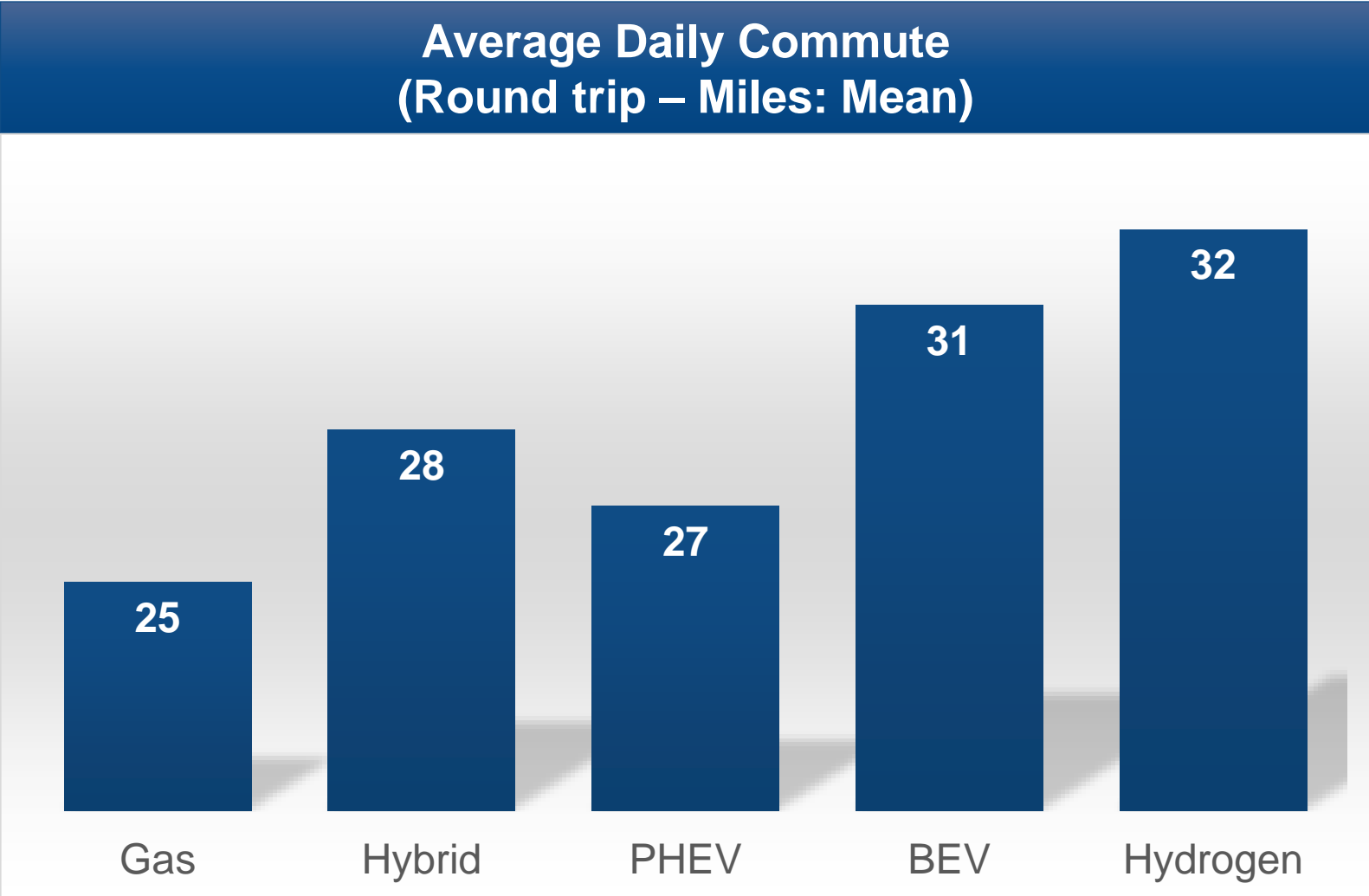


CUSTOMER PRIORITIES: VEHICLE NEEDS



There are very “rational” reasons why consumers believe they have a need of a BEV or Hybrid.

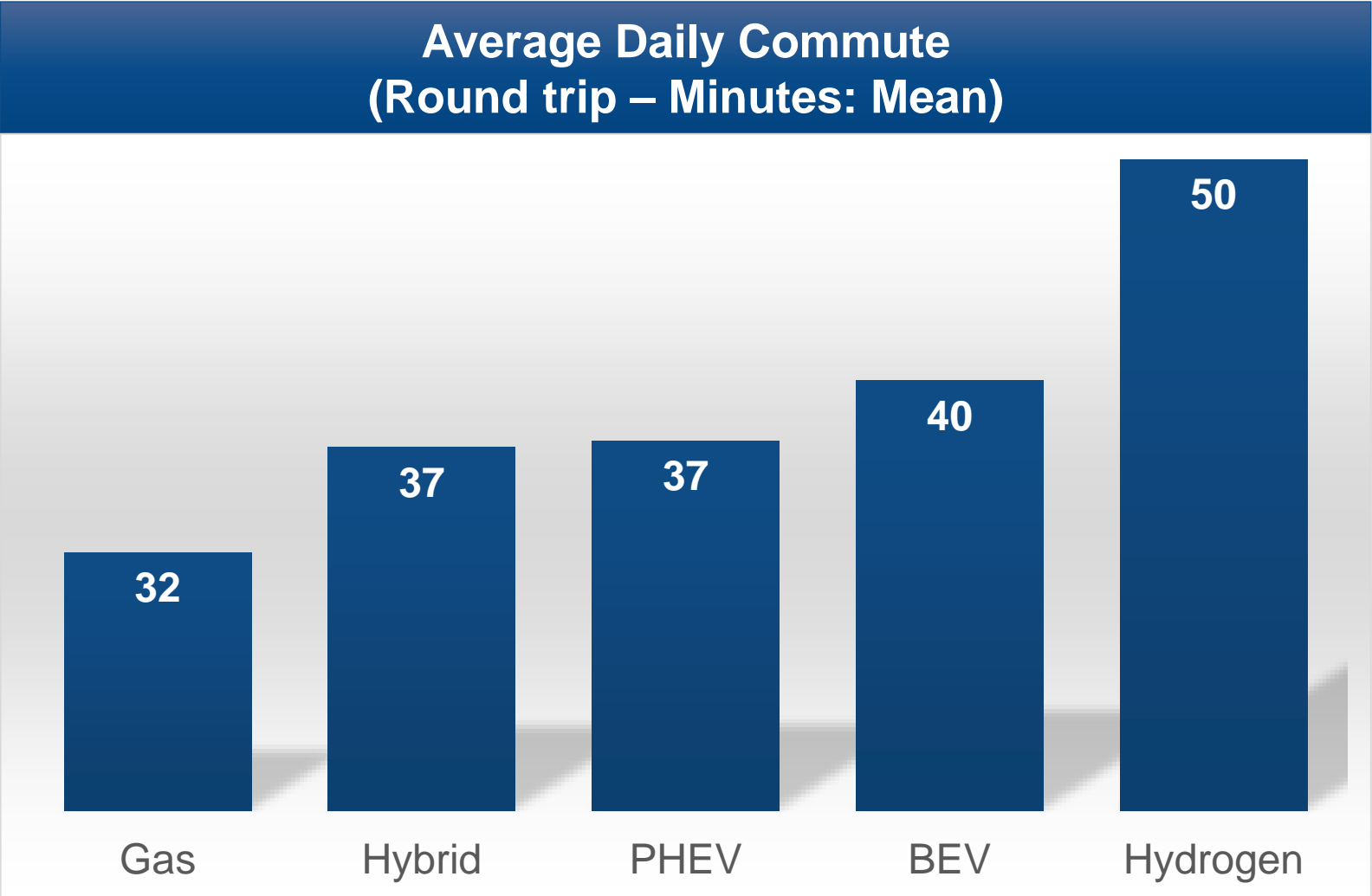
For example, BEV owners have a longer daily commute than Gas owners (by distance).



CUSTOMER PRIORITIES: VEHICLE NEEDS



This also includes the time owners spend in traffic. Essentially, the increased commute in both distance and time appears to be a factor that initially causes an EV owner to consider an EV purchase.



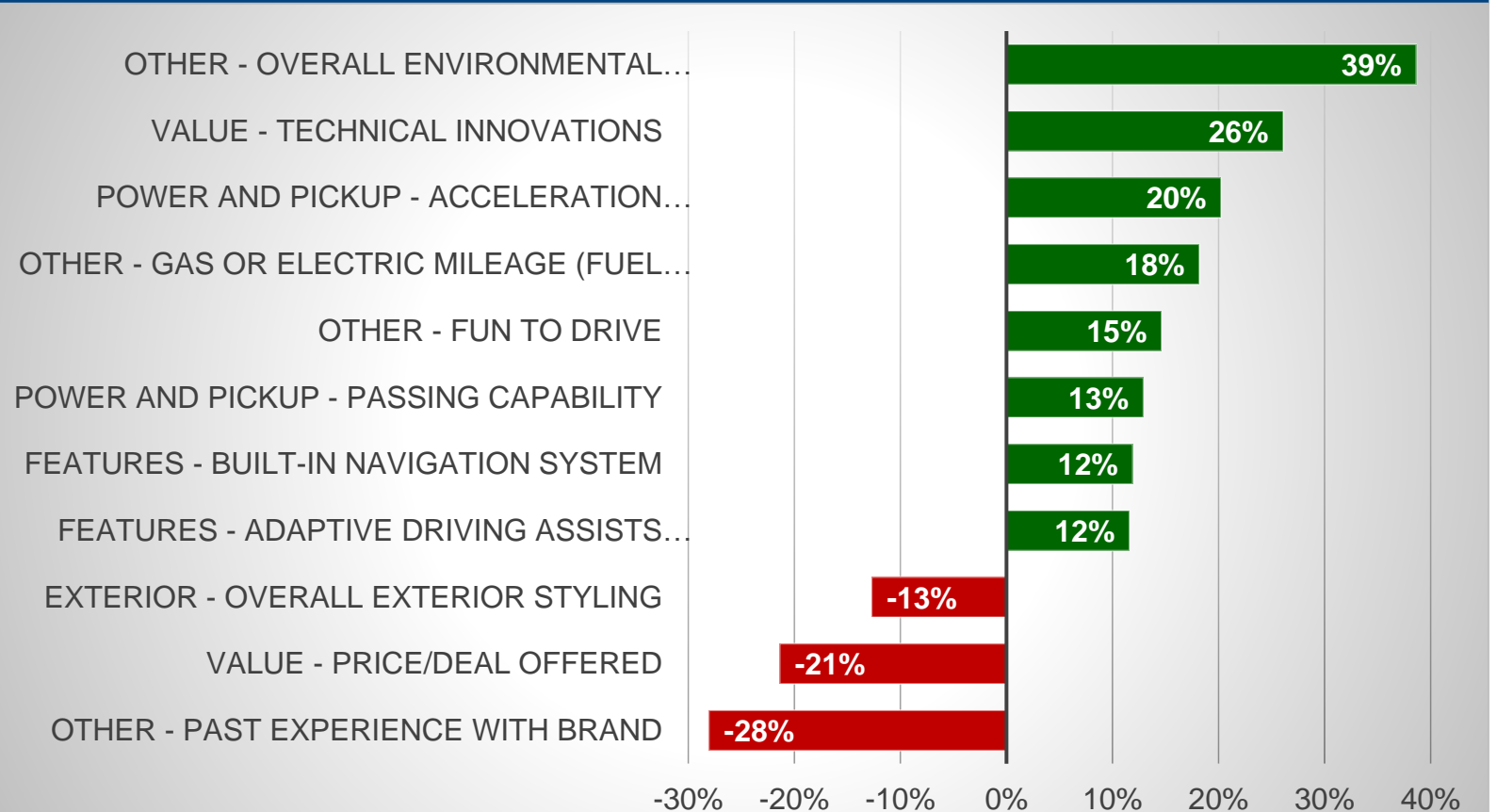
FINAL CONSIDERATION: BEV PURCHASE REASONS



In addition to already mentioned reasons for purchase, BEVs are Fun and purchased for performance characteristics.

Price, future resale value, and past experience with brand are not why the customer purchased their BEV.

Purchase Reasons BEVs % Over/Under Industry Average

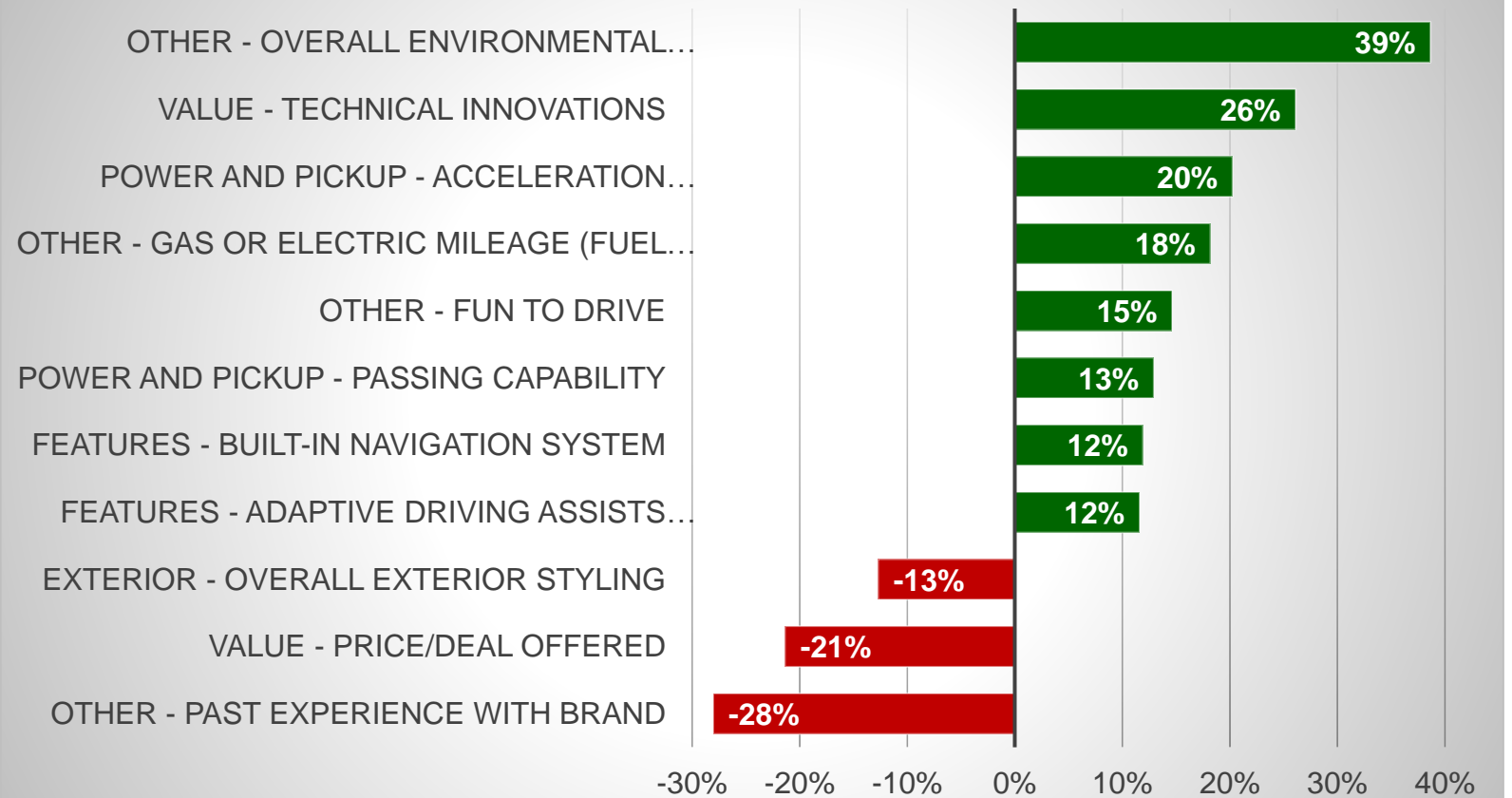


FINAL CONSIDERATION: BEV PURCHASE REASONS



NOTE: While price was not a factor in purchase, it can be a significant barrier to purchase. Essentially someone either gets an amazing deal (so price isn't an issue) or they simply buy what they want.

Purchase Reasons BEVs % Over/Under Industry Average



CUSTOMER STORY: CHEVROLET BOLT



Implication: When customers get what they Love, they will then Love to advocate the product and powertrain.

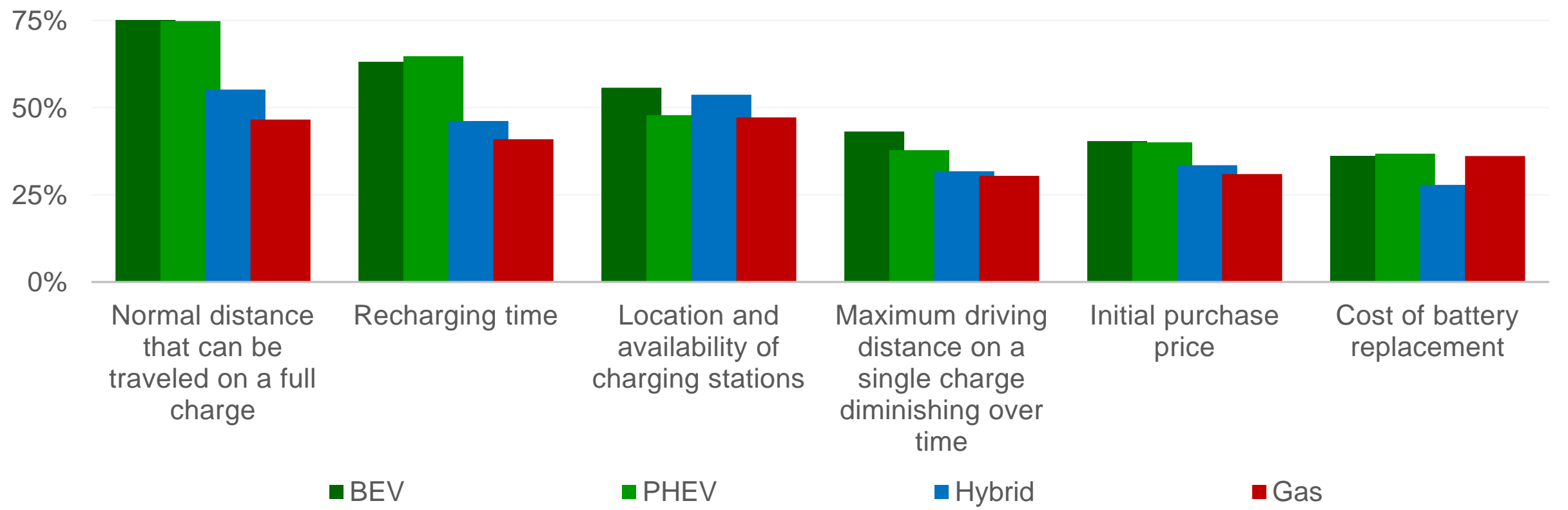
"The **2020 BOLT** is easy to handle, comfortable enough for a long trip, and gives the driver excellent visibility of the dashboard, controls, and road. It has a full array of modern safety features and, at least when new, can travel ~250 mi on a single charge. Best of all, it emits no carbon dioxide and can readily charged at home using commercially available charging equipment connected to a 40A 220V AC service. I like this car and would **recommend it if you are interested in buying/driving an EV.**"

2020 Chevrolet Bolt Owner

FINAL CONSIDERATION: PURCHASE BARRIERS

Those who ultimately ended up in a BEV struggled with questions such as, “Can it drive far enough,” “How long will I have to wait for the vehicle to recharge,” and “Where do I recharge?”

Which (if any) of the following have been/would be significant concerns in purchasing an Electric Vehicle?



COMMITMENT: FUTURE CONSIDERATION

Generally, the “stated” or consumer-believed future loyalty is positive for each powertrain except for PHEVs. More than half of PHEV owners believe they will either go fully electric or hybrid (no plug) only.

Powertrain Owned by *Stated* Next Future Purchase

	BEV	PHEV	Hybrid	Diesel	Gas
BEV	80%	37%	16%	7%	7%
PHEV	5%	41%	14%	3%	5%
Hybrid	6%	16%	58%	10%	19%
Diesel	1%	1%	1%	43%	2%
Gas	6%	4%	8%	35%	65%

LOYALTY: REPURCHASE BEHAVIOR

Nearly one-third of all BEV disposers return to a Gas-powered vehicle, which is 3x more than what they stated they believed they would do. Half of PHEV and Hybrid owners also return to an ICE vehicle.

Segment Owned by ACUTAL Repurchase Loyalty

	BEV	PHEV	Hybrid	Diesel	Gas
BEV	54%	17%	8%	2%	2%
PHEV	6%	15%	5%	1%	1%
Hybrid	5%	16%	34%	1%	3%
Diesel	4%	1%	1%	51%	2%
Gas	30%	50%	52%	44%	90%



A large, leafy tree stands in a landscape under a blue sky with clouds. The tree is the central focus, with its branches spreading out. The background shows a horizon line with distant hills or mountains. The overall color palette is dominated by blues and greens.

SUMMARY & CONCLUSIONS

Let me explain... no there is too much. Let me sum up.

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THANK YOU

For your kind attention!

