

### Electrification, Automation and Shared Mobility

Or... The Children of Destiny vs. Spawn of Delusion:

What is really going on in the US and abroad.

Comprehensive, Integrated, Actionable Answers Through Leverage

Presented To:

June 2018

## Data Source: New Vehicle Experience Study

Strategic Vision's New Vehicle Experience Study (NVES) is used as the primary source of vehicle owner information including customer priorities, preferences and behaviors.



NVES is a comprehensive study covering all aspects of who the customer is, the ownership experience, "Live" customer responses from Strategic Window and future vehicle choice intentions.

Average Annual NVES samples 250,000+ new vehicle buyers including annual samples of the following Electric Vehicles (EV):

- > 2,300+ BEV Electric (BEV) (i.e. Nissan Leaf, Fiat 500e)
- 8,500+ Hybrid Electric (Hybrid) (i.e. Toyota Prius, Ford Fusion Hybrid)
- > 2,300 Plug-In Hybrid Electric (PHEV) (i.e. Chevrolet Volt)

▹ Data in this study uses the sample from 2014 – 2017 NVES.



# Data Source: Ride Hail Experience Study (RHES)

Strategic Vision co-developed an online survey to understand current mobility behaviors and how Mobility on Demand (MoD) services (Uber, Lyft & Curb) may have changed behavior.

- Strategic Vision and KAPSARC jointly developed a 15-minute online survey fielded in Q4, 2016.
- Sample (n = 10,000):
  - Drivers (n = 1,500)
    - Self-identified as a current driver for Uber, Lyft or Curb.
  - Avoiders/Uninterested/Unaware (n = 4,100)
    - Those who either do not know or do not use MoD options.
  - Rejecters (n = 2,000)
    - Used before but do not plan to use again.
  - Heavy User/ User (n = 2,300)
    - Self-reported either occasional or regular use of MoD services.





## Data Tool: Strategic Window

Over 250,000 live customer comments are processed annually about the ownership experience, reasons for rejection and many other aspects of vehicle ownership.

"Re: My 2017 [Model XX] **The EV Hybrid Powertrain Technology is EXCEPTIONAL**. The New Battery Technology, The Newly designed Internal Combustion Engine, and the **Newly designed Transmission are Impressive !!** They work extremely well. **Very Happy** with these. **Virtually all the other pieces of technology in this vehicle are utter disappointments**. The infotainment/Navigation system is extremely disappointing! (Way too many reasons to list here but it is obvious [Brand XX] has decided not to invest resources in this accessory). As a category the **"new" semi autonomous driving aides are a big disappointment**. For example the auto high beams feature has never worked properly, the side mirror warning system is untrustworthy (even the owners manual warns that it can err ... say what!), the Paddle Regen Feature (which I love) doesn't indicate when (or if) it applies the brake lights when engaged ( a safety issue for following vehicles since applying the Paddle Regen can decelerate the vehicle as quickly as applying the brakes) There is also **the unexpected and frightening (and fortunately inaccurate) imminent collision warning light that is flashed onto the windscreen. I call it the 3 seconds till you die light**. This has activated 3 or 4 times in the last 3 months! And the **very long list of disappointments, sadly, goes on and on!**"

2017 Model XX Owner.

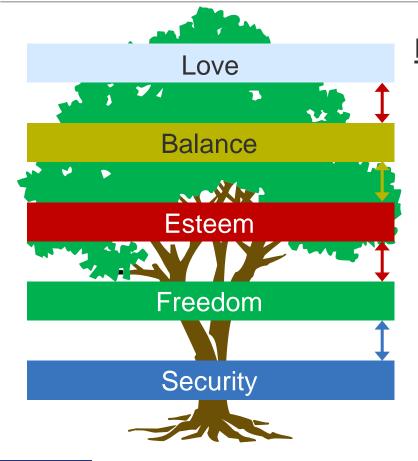
Most Seriously Considered a Ford Fusion & Disposed a BMW 7-Series

Male, \$250,001 - \$300,000 annual income.



# Data Psychology: ValueCentered Psychology

There is a developmental inclusiveness among the Value/Emotions<sup>™</sup>. Core Value/Emotions at the base of the metaphorical tree are as important as those at the upper developmental levels.



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### **Developing a Relation with Your Audience**:

- 1. People require **Security** if they are **to consider you.**
- 2. If you can **establish Security** in product and message, people will look for aspects or images which promote **Freedom** (doing/getting **what** I want **with ease** and **few hassles).**
- 3. If you deliver **adequate Security** and **Freedom**, people **look for signs** (markers) that create **Esteem** through **Innovation** (actually useful things), **quality** or **image** (reputation).
- 4. With Security, Freedom and Esteem adequately delivered, people strive for Harmony (or a Balance) between what you offer and their Lives (does it meet their needs).
- 5. If you deliver the **Foundation** (**Security** and **Freedom**) most often, you have the **opportunity to have** something **or b**e something/someone that/who is **Loved.** (**Leverage**).

6. Love creates Commitment, Advocacy and Sound Loyalty.

### The Edwards Commitment Scale

This seven-point super-ordinal scale uses words and phrases often expressed by consumers as they describe how they feel about an experience.



Using the natural way that individuals talk about aspects of their experiences proves most effective in discriminating among those aspects and predicting possible future outcomes - like choice, advocacy, perception of quality, and value.



### Influence Around the World

- Strategic Vision has trained culturally-centered individuals and teams with superior language skills in each country and culture.
- With our upgraded software, we can train teams around the world to successfully and consistently do ValueCentered<sup>®</sup> Interviews.
- We have found the basic five Super Values and their relationships in each country and culture.



Argentina	Chile	Hungary	Philippines
Australia	Colombia	Italy	Portugal
Austria	Costa Rica	India	Russia
Baltics	Czech Republic	Japan	Spain
Belgium	Denmark	Kenya	South Africa
Romania	France	Korea	Taiwan
Brazil	Germany	Mexico	USA
Canada	Great Britain	The Netherlands	Venezuela



A partial history: creating products/cervices, positions, advertising, segmentations, and measuring success: quality and leverage.

Procter & Gamble	KMPG	Milton Bradley	The White House
Bristol-Meyers	Met Life	Nestlé	The Department of Defense
Colgate-Palmolive	Price-Waterhouse	Ringling Bros./ Barnum & Bailey	The State of California
Helene Curtis	ABC Broadcasting	Sargento	Republican National Committee
Johnson & Johnson	American Airlines	Seiko	10 Downing Street – UK
Maybelline	Beatrice	Swatch	Conservative Party of Britain
Richardson Vick	BIC	Whirlpool	The European Parliament
Schering-Plough	Coca-Cola Company		The Republic of China (Taiwan)
Warner-Lambert	Disney		The Russian White House
Storck	General Foods	All Automotive OEMs	The Kremlin
Arthur Anderson	Glaxo-Wellcome	Most Automotive Agencies	NIH
Bank of America	GTE		BYU Law School
Chemical Bank	Harley-Davidson		UCSD Medical School
Credit Suisse	Hewlett Packard		
Ernst & Young	Mercury Marine		



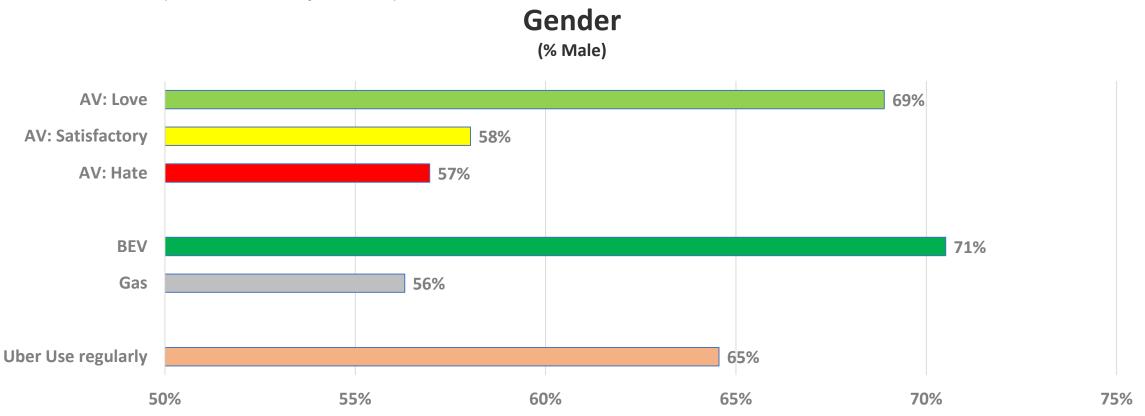


### Customer Demographics & Lifestyles

Which new vehicle buyers desire a fully autonomous vehicle? Who has completed the journey to purchase an electric vehicle? Which new vehicle buyers augment their travel with ride-hail services?

# Demographics: Gender

Men are more open to embrace Fully Autonomous Vehicles (AVs). This is also true of their propensity to purchase Battery Electric Vehicles (BEVs) as well as use other Ride-Hail services such as Uber (as well as Lyft, etc.)





## Pulse of the Customer: Gender

Implication: There are factors that women buyers must deal with when purchasing a new vehicle. Adding on more chances to attack Security can make the process even more difficult.

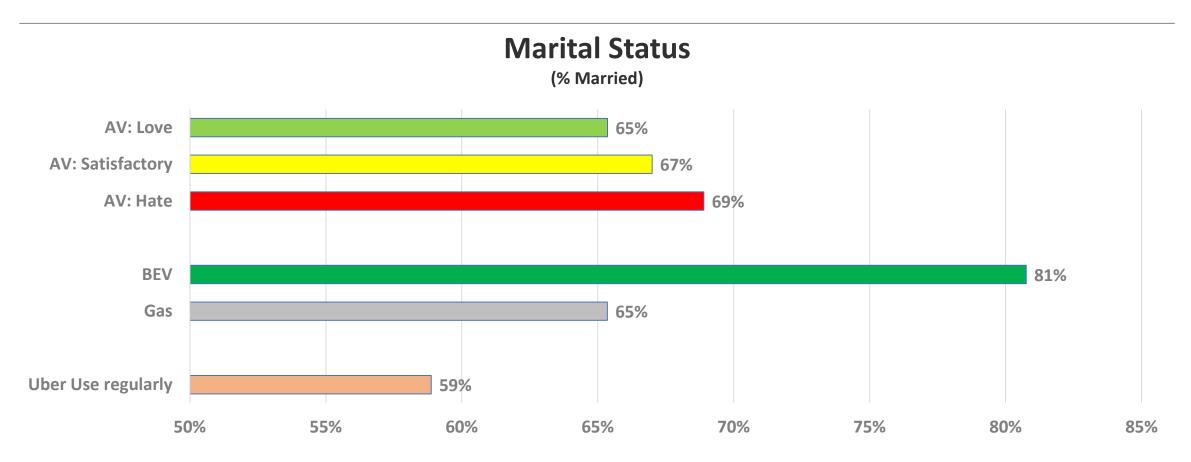
"Dealers are discriminatory toward females - just better to go with a broker to save time and get the best deal."

> 2017 Toyota Prius Plug-in Owner. Female, 48 years, \$125,001 - \$150,000 annual income.



# Demographics: Marital Status

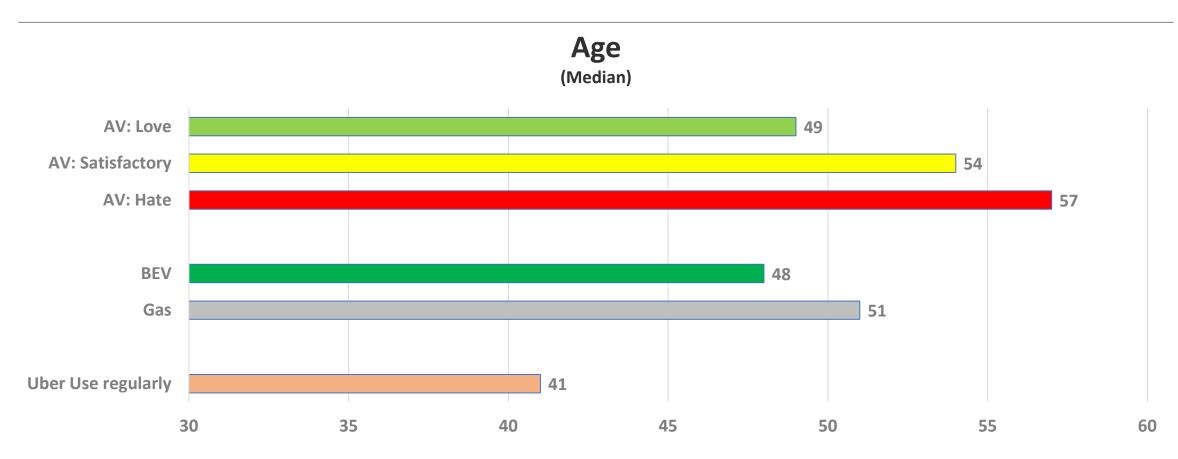
Those who Hate AVs have a slightly increased proportion of being married. This is significantly increased for BEV owners. Those who ride with Uber are more often single.





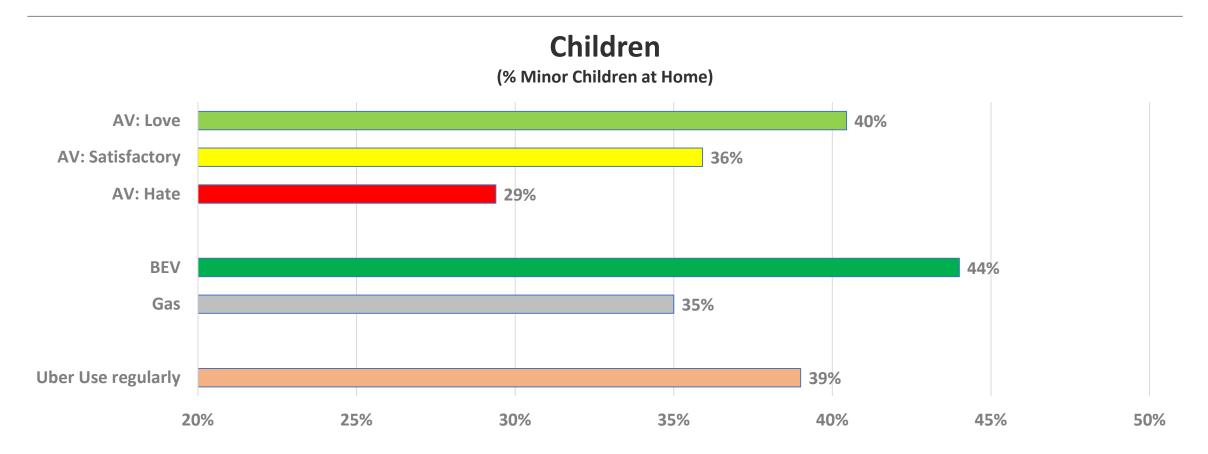
# Demographics: Age

Those who Hate AVs are older while those who Love the idea are younger. Those who use Uber regularly are among the youngest (in the new vehicle buying population).



# Demographics: Children

Those who Hate AVs have a slightly increased proportion of being married. This is significantly increased for BEV owners. Those who ride with Uber are more often single.



## Pulse of the Customer: Children in Home

Implication: Those who purchase EVs are often thinking of the children that also reside in their homes (or come to visit).

"Global warming is a scientific fact. The more each of us can do to care for the earth now, the better thing will be for our grandchildren. It is good to encourage technologies that look toward a sustainable future and I think the Bolt does that."

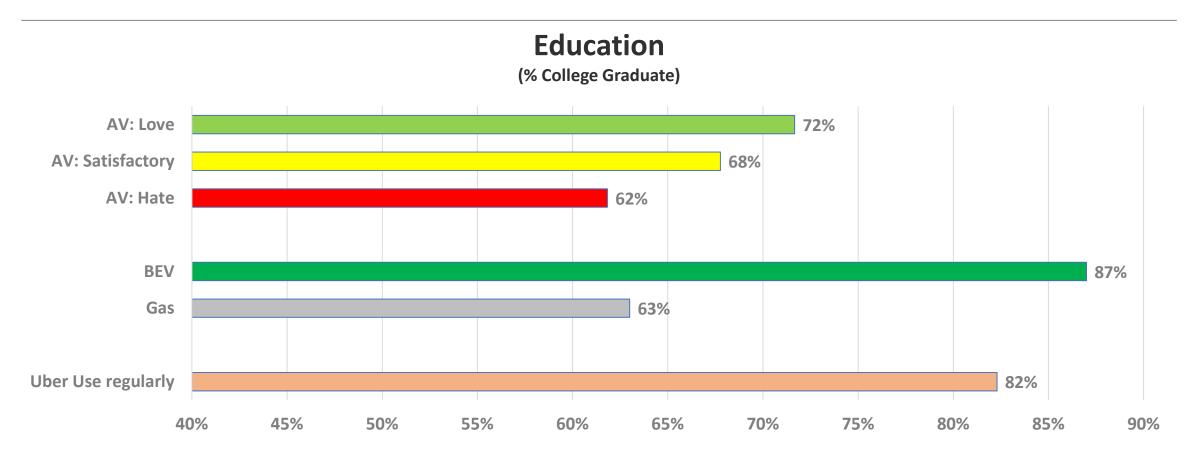
2017 Chevrolet Bolt EV Owner.

Female, 70 years, \$50,001 - \$60,000 annual income.



# Demographics: Education

Those who Love AVs, purchase BEVs and/or use Uber regularly are more likely to be college educated.





## Pulse of the Customer: Education

Implication: HMI must be easy to use to entice those who may not be as educated as current EV owners to consider and purchase an EV.

"Human interface design is terrible, too complicated and illogical, too difficult to use while driving, need to park the car and get out the manual to change the display. Designed by idiots. How come Apple can design an iPad that a 2-year-old can figure out, but Honda can't design dashboard/radio controls that a college grad can use?"

2017 Honda Accord Hybrid EX-L Sedan (4-Cylinder) Owner.

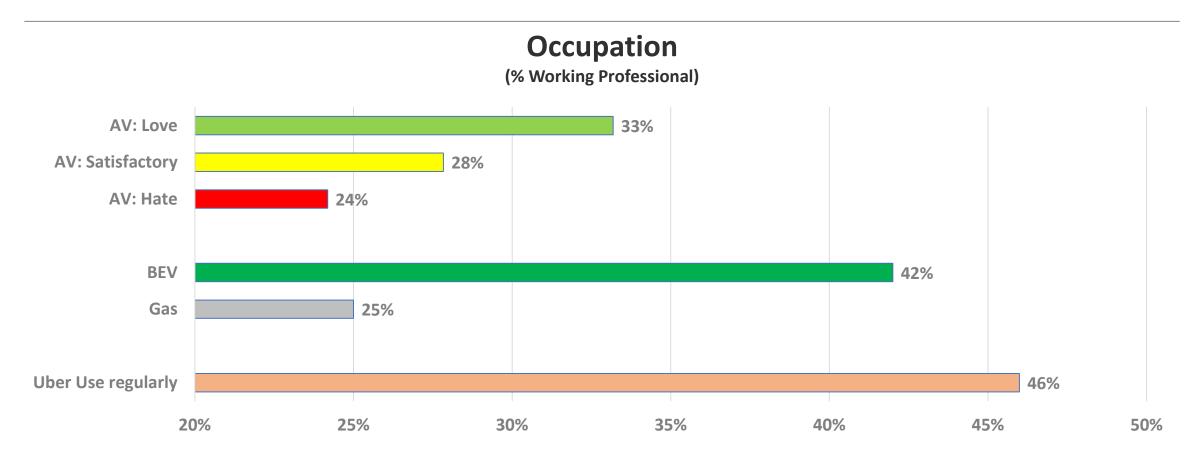
Most Seriously Considered a Chevrolet Volt.

Male, 57 years, \$175,001 - \$200,000 annual income.



# Demographics: Occupation

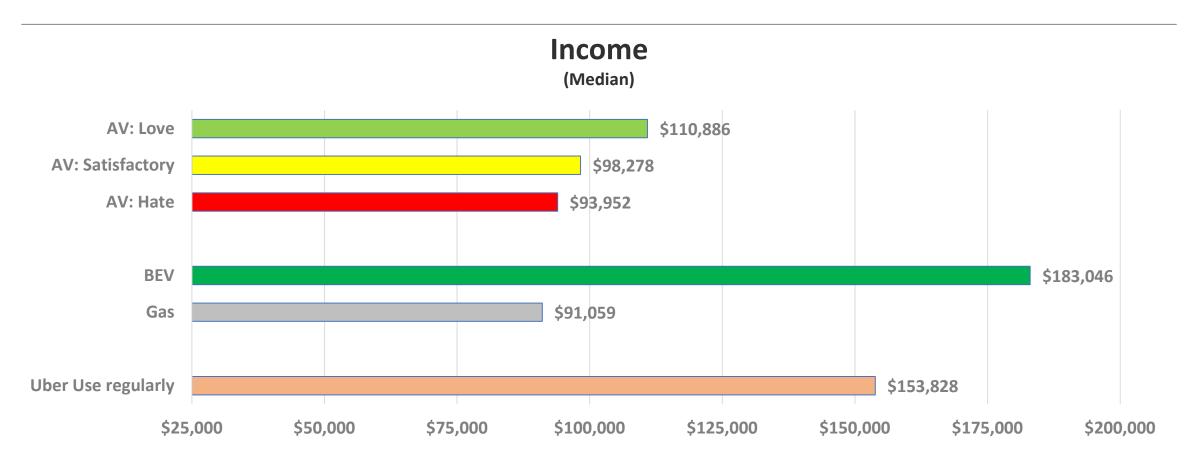
Those who Love AVs, purchase BEVs and/or use Uber regularly are also more likely to be working in a professional field.





# Demographics: Household Income

...and as a result, those who Love AVs, purchase BEVs and/or use Uber regularly are more likely to earn significantly more on an annual basis.





## Hobbies & Lifestyles

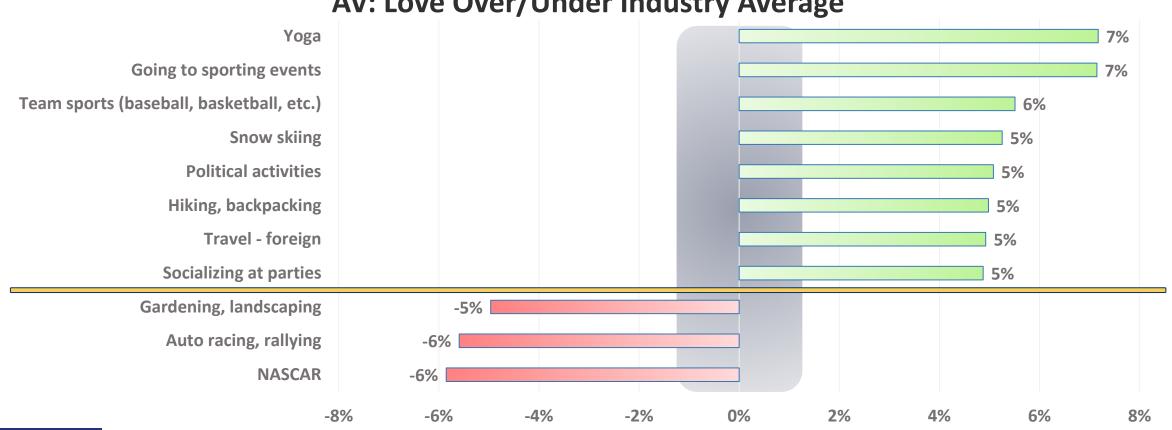
Those who love the idea of AVs enjoy Yoga, sports and politics more often than others. The Haters like to do things themselves like build houses and catch their own food. Those who use Uber work out and party.

			Hob	bies			
		(% Incide	nce Over	r Industry Average)			
AV: Love		AV: Hate		BEV		Uber: Reg	
Yoga	7%	Genealogy	3%	Travel - foreign	20%	Travel - foreign	19%
Going to sporting events	7%	Fishing	3%	Cycling	11%	Fine restaurants, dining	17%
Team sports (baseball, basketball, etc.)	6%	Home projects (do-it- yourself)	3%	Stocks, investments	9%	Socializing at parties	17%
Snow skiing	5%	Shopping	2%	Hiking, backpacking	7%	Working out	17%
Political activities	5%	Motorcycling	2%	Snow skiing	7%	Going to sporting events	15%



## Hobbies & Lifestyles

Who would have guessed that those who Love the idea of owning a fully autonomous vehicle would be less likely to enjoy auto racing or NASCAR events.



### **AV: Love Over/Under Industry Average**

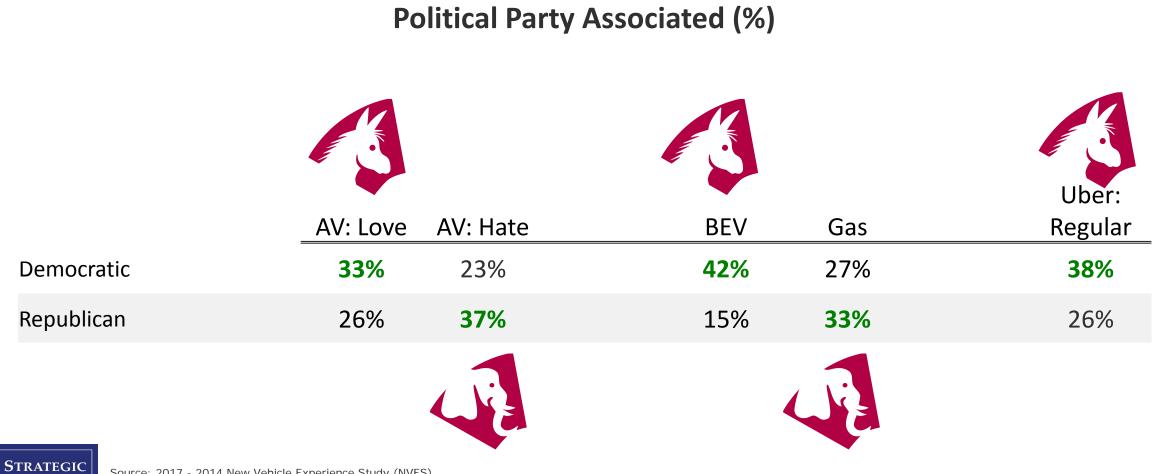


Source: 2017 - 2014 New Vehicle Experience Study (NVES)

# **Political Affiliation**

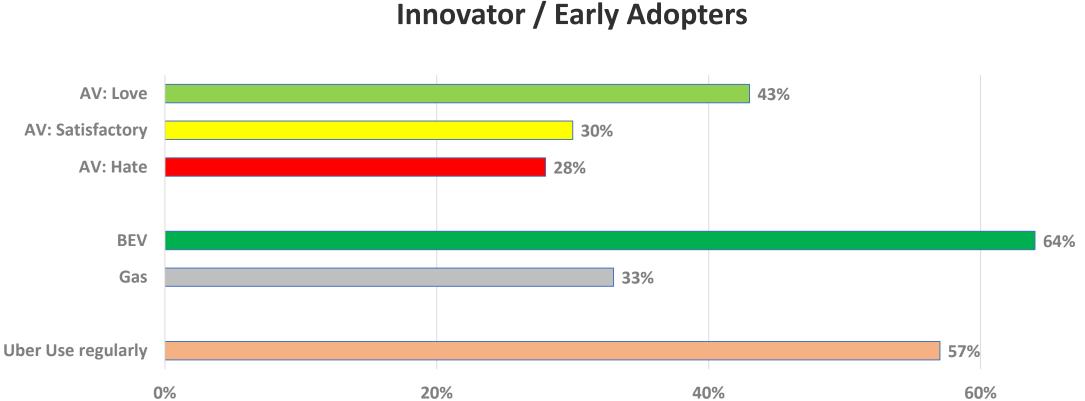
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There are clear political differences between these various groups. Gas using haters are more likely republicans while EVs who use Uber and look to the future of AVs are more often democrats.



# Propensity for Innovation: Early Adopters

All three "revolutions" are also early adopters / likely innovators. This means that if we can keep these people happy with the revolutions, then they will return and bring others... if not...













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### Electrification

## Priorities: Customer Attitudes

While Fuel Economy is important to those purchasing a new vehicle, it is only a top box score for a little more than 1 in 4 new vehicle buyers. Instead, other aspects of Fun, Family, Performance, Comfort, etc. are more often priorities for customers.

### **Customer Attitudes**

(% Extremely Important - Top Box)

Rank (of 3	1) Customer Attitudes	Тор Вох
1	I prefer a balance of comfort and performance	47%
2	I prefer superior handling and cornering ability	37%
3	I prefer vehicles that provide the softest, most comfortable ride quality	35%
4	I want the quietest interior in my vehicle	31%
5	Fuel economy is a leading consideration in my purchase decision	29%
6	I prefer vehicles with superior smartphone connectivity and voice interaction	29%
7	Driving is one of my favorite things	28%



# Priorities: Customer Attitudes

Other aspects of value and ownership have a greater impact on owners' daily lives, making more removed environmental considerations a sincere — albeit secondary — consideration. Interest in paying significantly more for an EV or AV is not high on the priority list.

### **Customer Attitudes**

(% Extremely Important - Top Box)

Rank (of 31)	Customer Attitudes	Тор Вох
26	I prefer a vehicle with a tough, workmanlike image	14%
27	I want to be able to traverse any terrain	13%
28	I want a basic, no-frills vehicle that does the job	12%
29	I want a vehicle that has the ability to completely drive itself	11%
30	I want to be able to tow heavy loads	11%
31	I would pay significantly more for environmentally friendly vehicle	8%



## Pulse of the Customer: Economics

Implication: While a BEV purchase isn't just about Price – Incentives, monthly payments, etc. can be the catalyst that creates Initial Interest in an EV purchase.

"I have always wanted an electric car since I was young. My biggest disappointment with Nissan is that they have not advertised how cheap the car is, once you factor in all incentives. When I tell friends and coworkers what my NET cost was, they are blown away. This is barely mentioned in the advertising. ALSO, Nissan doesn't emphasize how fast the Nissan Leaf accelerates. I thought it was going to be slow like the Prius, so it was a happy surprise. VW advertises the torque of their EV, but Nissan doesn't. When people feel the torque of the Leaf, they are amazed. *Nissan should emphasize PRICE and ACCELERATION.*"

Nissan Leaf S Owner.

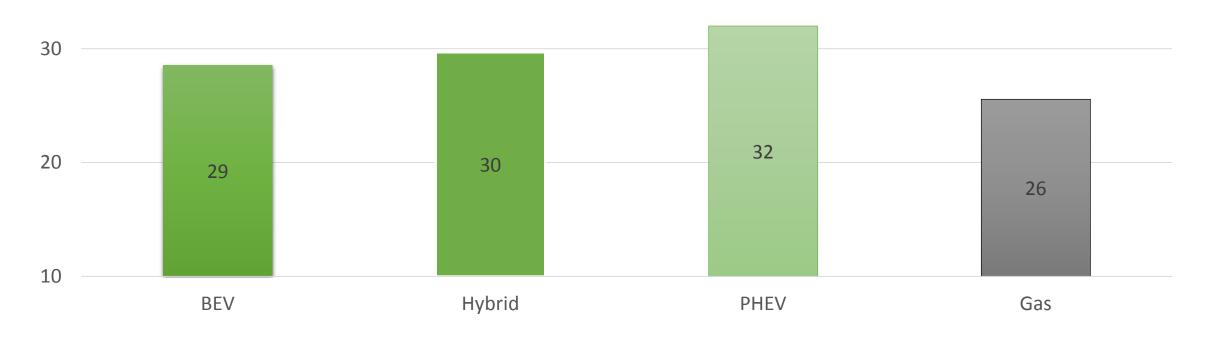
Male, 48 years, \$100,001 - \$125,000 Income.



### Preference: Vehicle Needs

On a daily basis, those who purchase EVs have a greater daily commute than Gas owners in distance...

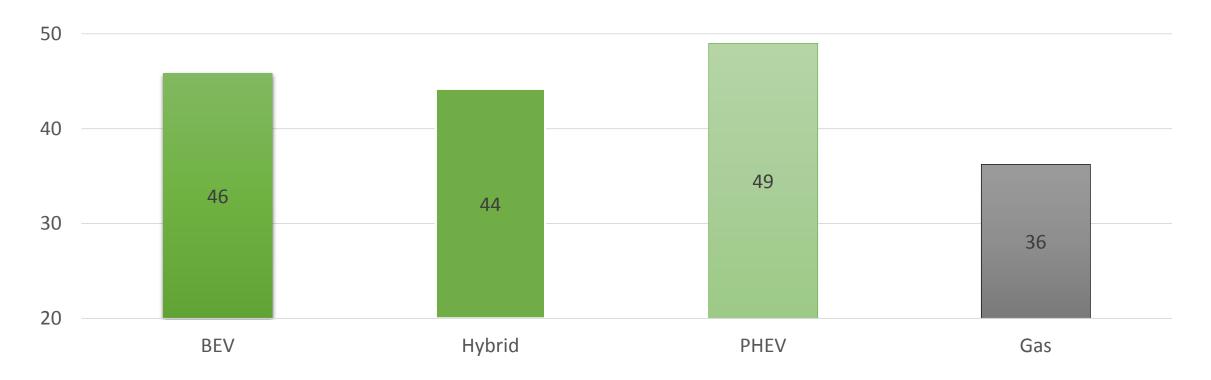
### Average daily commute - round trip (miles)





...as well as time spent in traffic. Essentially the increased commute in both distance and time appear to be factors that initially cause an EV owner to consider an EV purchase.

### Average daily commute - round trip (minutes)

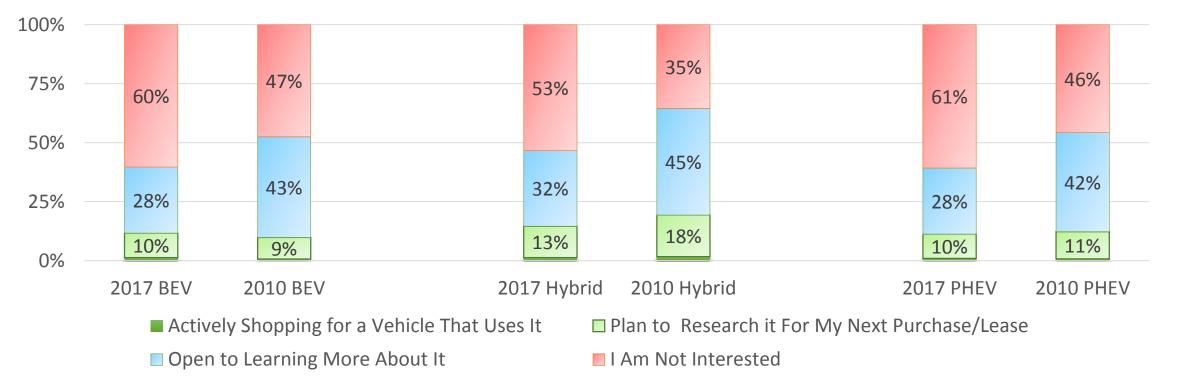




## Initial Consideration:

There is a small increase in new vehicle buyers that are interested in BEVs for future consideration. However, there are greater numbers of future buyers who are no longer interested. The key question: *What can we do for the 30% of buyers who are open to learning more*?

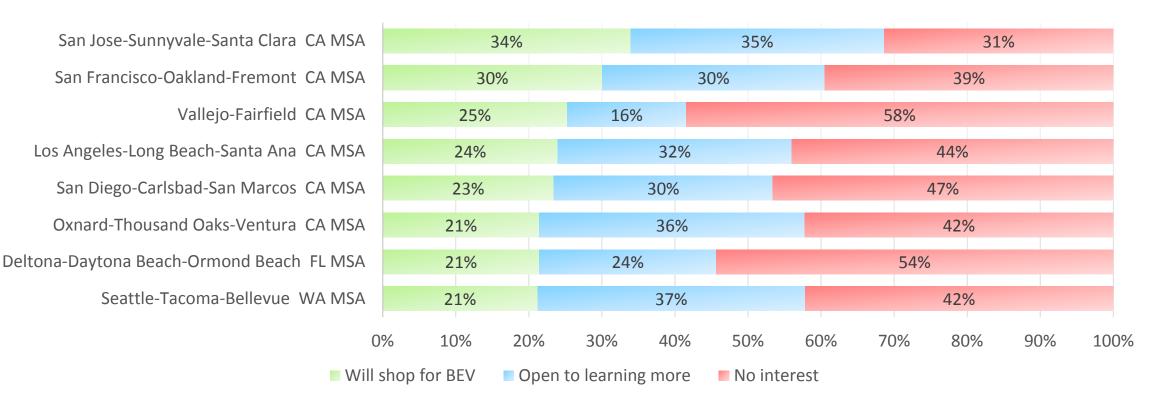
Future Consideration





# Initial Consideration: Top 8 Cities

### Is it a surprise that the greatest BEV consideration comes from the state of California?

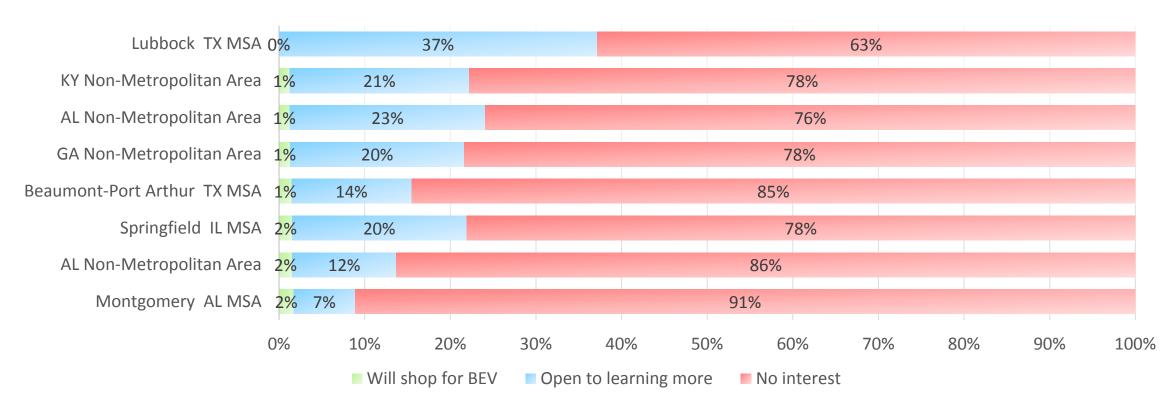


### **Interest: Battery Electric Vehicles (BEV)**



## Initial Consideration: Bottom 8 Cities-Areas

### Is it a surprise where the least BEV interest is?



### **Interest: Battery Electric Vehicles (BEV)**

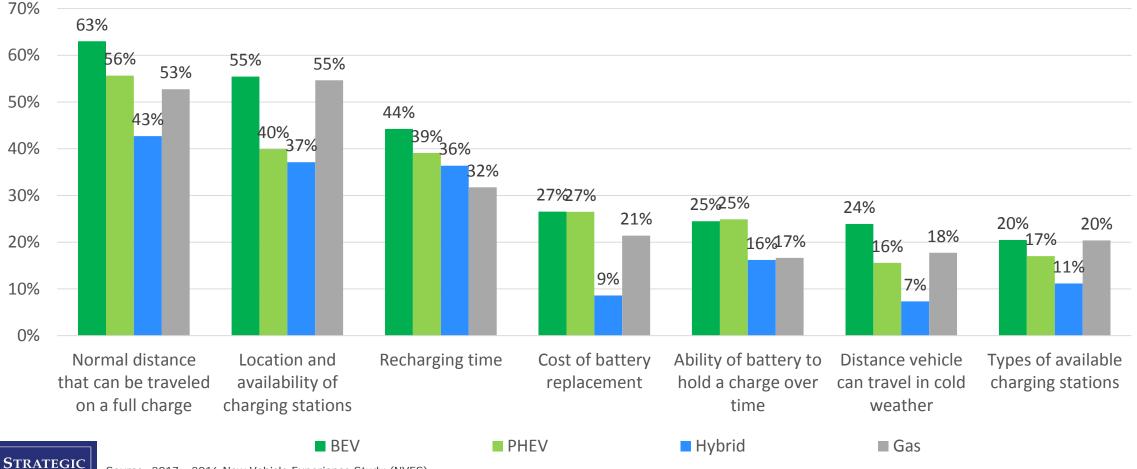
STRATEGIC Source: 2017 & 2016 NVES

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## Final Consideration: Barriers to EVs

### Distance an EV vehicle can travel and the location of EV charging stations (as well as how long it takes to recharge the vehicle) are key stressors that inhibit EV purchase in the US.

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



Source: 2017 - 2016 New Vehicle Experience Study (NVES)

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Note: For BEV and PHEV – What did you need to overcome to buy an EV. For Hybrid and Gas – What do you need to overcome to buy an EV.

# Pulse of the Customer: Imagery

Implication: If charging infrastructure, including public, home and work opportunities, are not enhanced, BEV acceptance, consideration and purchase will continue to be small.

"I LOVE this car. Every day I appreciate that I am able to travel around and get to where I need to go without burning gasoline...

Also I live in an apartment and although I am lucky enough to have my room right above where I park my car (*and then I throw a heavy duty extension cord out the window to charge at night*), most people in condos or apartments have no place to charge their car. - I hope that the infrastructure will fill out more and serve more people as time goes on."

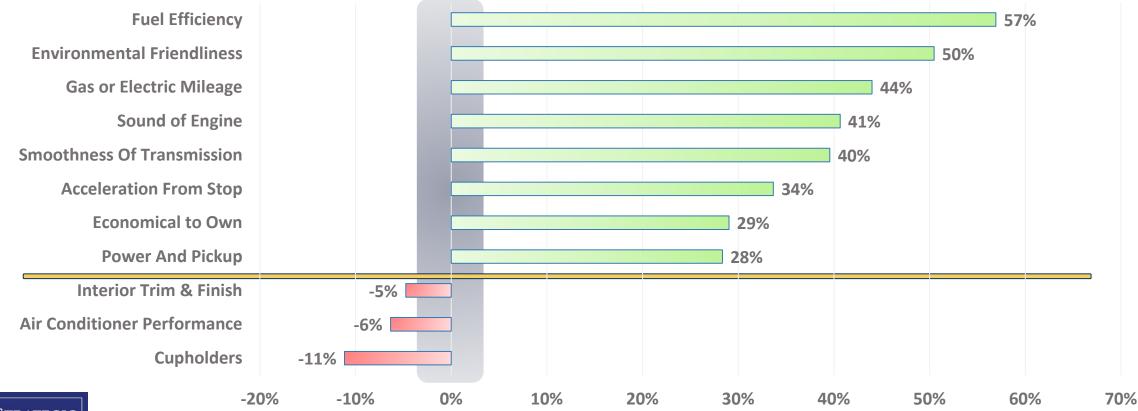
Nissan Leaf Owner.

Most Seriously Considered a Chevrolet Volt.



## Purchase: Vehicle Experience of BEV Owner

Of course, BEV owners love the efficiency of their vehicle. However it is also important to note that they also love performance related attributes of their vehicles over other vehicle sales. *When customers buy a Tesla, they are buying a Sports Car with an innovative powertrain*.



Attribute Delivery of BEV Owners Over/Under Industry (% "Love It")

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Source: 2017 - 2014 New Vehicle Experience Study (NVES)

## **Commitment: Future Consideration**

For the most part, those who purchase EVs state that they are 90% likely to purchase an EV as their next vehicle purchase. Even Gas owners are looking to a non Gas/Diesel vehicle almost 30% of the time.

#### Fuel Type Owned (column) by Desired Next Fuel Type Purchase (row)

					-
	BEV	PHEV	Hybrid	Diesel	Gas
BEV	65%	27%	8%	3%	3%
PHEV	14%	45%	14%	4%	4%
Hybrid	10%	14%	64%	7%	16%
Diesel	1%	3%	2%	50%	4%
Gas	8%	8%	9%	33%	<b>67</b> %



## Loyalty: Reality Check

1 in 4 EV owners dispose of their EV and return to an ICE vehicle. Near 50% of PHEV and Hybrid owners return to gas powered vehicles. Gas vehicles do not defect to BEVs or PHEVs which is why there has been such a slow change in the US vehicle sales.

#### Fuel Type Owned (column) by Desired Next Fuel Type Purchase (row)

	BEV	PHEV	Hybrid	Diesel	Gas
BEV	55%	5%	2%	1%	0.3%
PHEV	12%	33%	4%	1%	0.3%
Hybrid	5%	10%	36%	2%	2%
Diesel	1%	2%	1%	45%	2%
Gas	25%	46%	55%	46%	85%





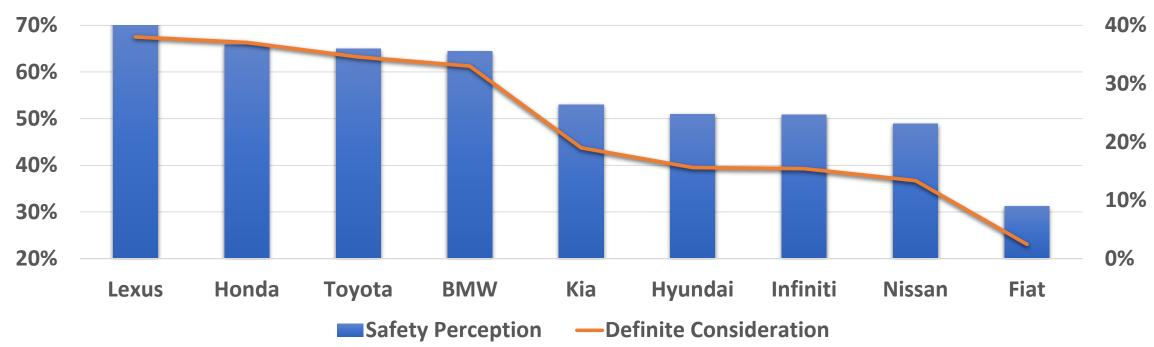
12- 14





The importance of safety and security for consumers that are generated in product, brand and features.

There is a direct connection between Safety perceptions and Future Brand Consideration.



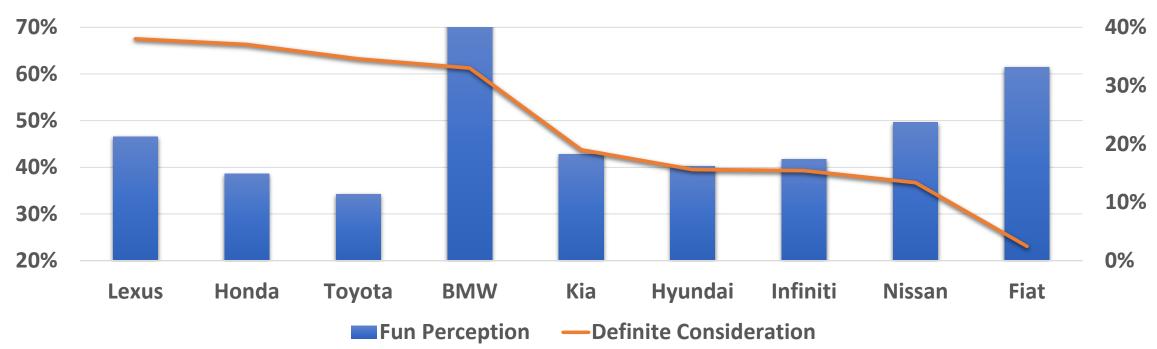
### **Brand Safety Perception (Top Box) & Future Consideration (% Definite)**



Note: % Definite consideration for luxury brands noted by those able to consider luxury.

The importance of safety and security for consumers that are generated in product, brand and features.

> With other brand values such as "Fun" or "Exciting" the connection isn't as clear.

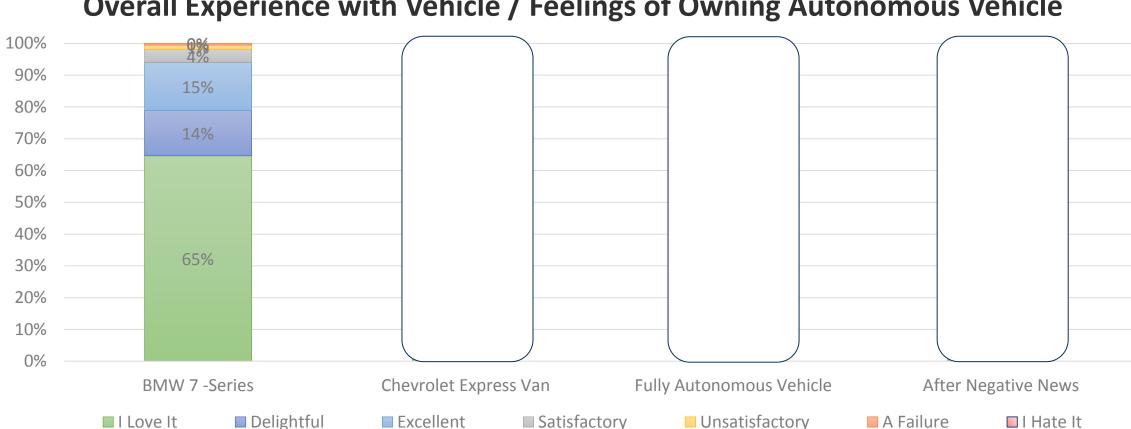


#### **Brand Fun Perception (Top Box) & Future Consideration (% Definite)**



Note: % Definite consideration for luxury brands noted by those able to consider luxury.

Customers want to love the products they purchase as well as new, innovative ideas.



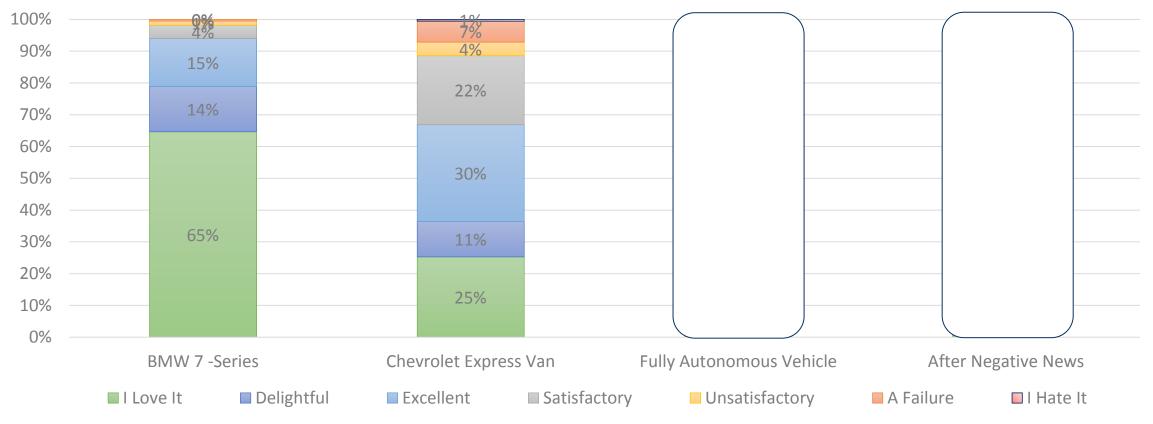
#### **Overall Experience with Vehicle / Feelings of Owning Autonomous Vehicle**



Source: 2018 April Pulse of Customer - Autonomous Driving Perception Study by Strategic Vision

Customers want to love the products they purchase as well as new, innovative ideas.

#### **Overall Experience with Vehicle / Feelings of Owning Autonomous Vehicle**

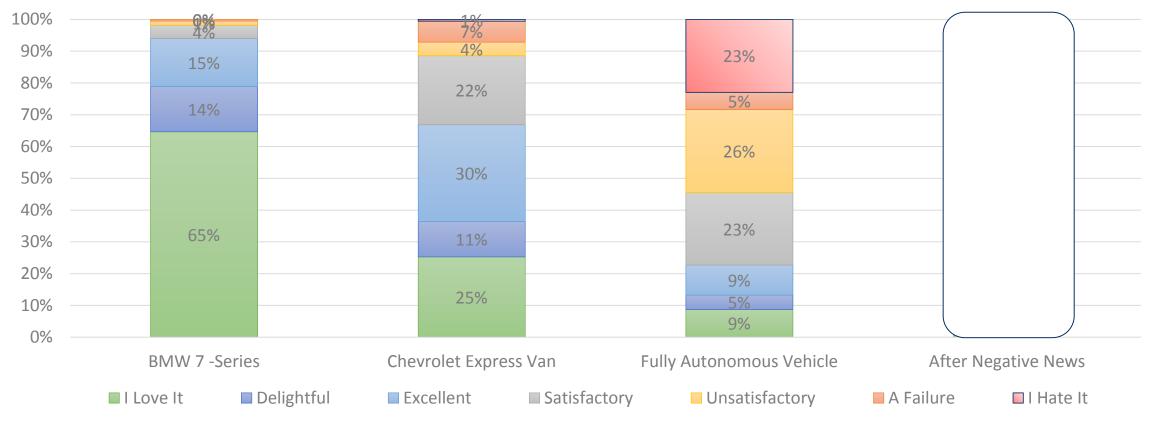




Source: 2018 April Pulse of Customer – Autonomous Driving Perception Study by Strategic Vision

Customers want to love the products they purchase as well as new, innovative ideas.

#### **Overall Experience with Vehicle / Feelings of Owning Autonomous Vehicle**

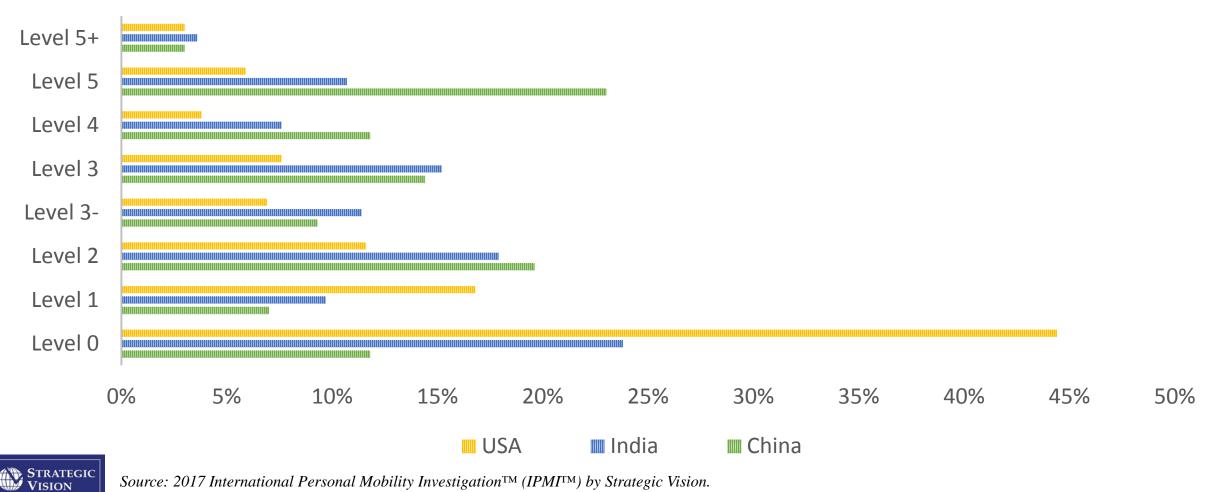




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The US is the least interested in letting the vehicle drive itself.

#### **Preferred Level of Autonomous Driving**



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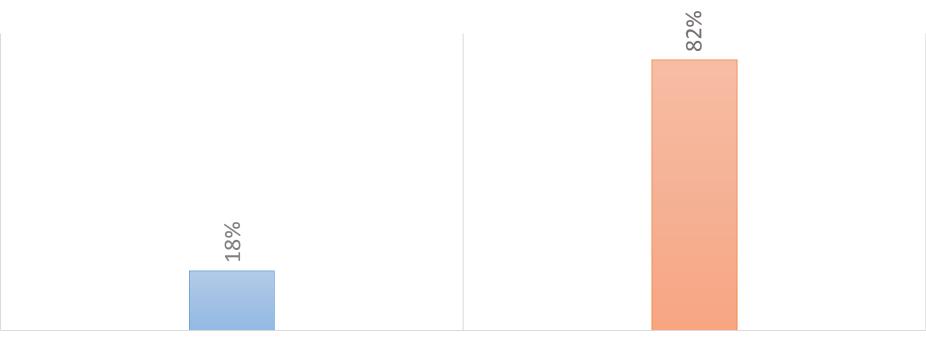
<b>Country</b>	Туре	Statement
India	Level 0	The full driving is in the hands of an intelligent experienced driver and that makes me feel safe.
China	Level 1	It would be more secure, but the technology needs to be improved.
Brazil	Level 2	It would be beneficial for the driver especially in large congestion of cities offering total safety to the driver so that it does not feel so overwhelmed. I think we are not yet prepared for a vehicle 100% autonomous, noting that if the vehicle has collide repairs depending on the accident, but our bodies
US	Level 3-	Benefits would include more peaceful commute during traffic hours or help when parking. However, I still feel that I am going to lose control when I need it.
US	Level 3	It would be easier to get around without the stress of city traffic and running into someone. However if the driver needed to intervene in any extreme situations the driver still could. I worry about malfunctions or a car redirecting when it didn't need to and causing an accident or miss reading a distance and hitting something.
India	Level 4	Driverless Vehicles are the Future of our Country. As soon as they come into daily life Everything gonna be changed. Still robotic programming or coding which will be used in automatic driverless vehicles will not be as intelligent as human being. So it might be little dangerous too.
China	Level 5	This advantage, to save mankind from the shackles, in the case of encounter muddy roads, or poor road conditions, but also to drive the truck out of road. Effectively guarantee the safety car and the driver. The drawbacks is that the people the concept of automatic driving is not clear, so most people can not use.
Brazil	Level 5+	I think the level 5+ vehicles have provided increased safety and reduced travel time. The main barrier is the cost for the receive paths are suitable for such vehicles.

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Source: 2017 International Personal Mobility Investigation<sup>TM</sup> (IPMI<sup>TM</sup>) by Strategic Vision.

New vehicle buyers are very aware of what is happening with self-driving accidents.

#### Awareness of recent incidents involving self-driving cars.



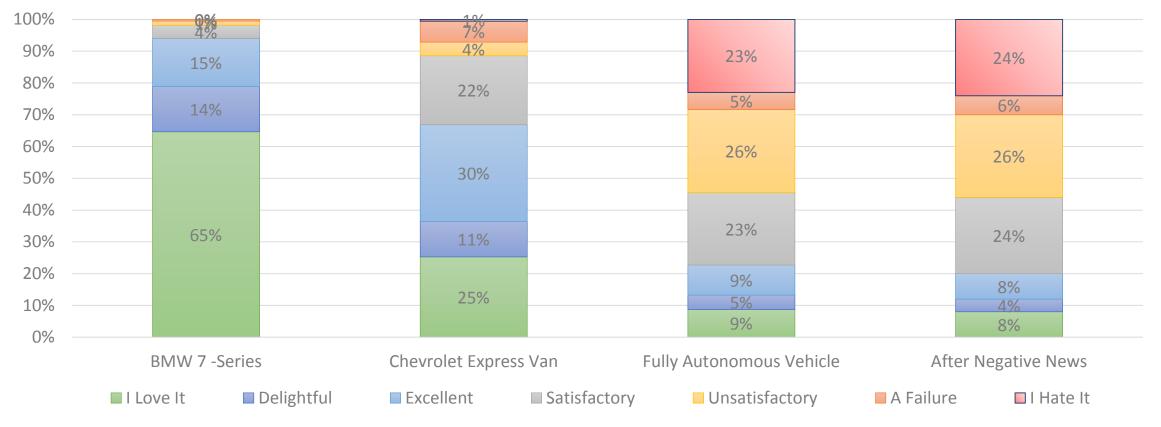
#### SEMI-AWARE TO NOT HEARD

FULLY AWARE



Customers want to love the products they purchase as well as new, innovative ideas.

#### **Overall Experience with Vehicle / Feelings of Owning Autonomous Vehicle**



STRATEGIC VISION

Source: 2018 April Pulse of Customer – Autonomous Driving Perception Study by Strategic Vision

Mar Baler

Thoughts on Autonomous Vehicles by those buying new vehicles.

- "I just don't believe the public, our roads or highway infrastructure, are ready for this. Too many things can go wrong with "technology." "Technology" can be helpful, but we should not put our "eggs" entirely in this basket." – Nissan Murano AWD Owner
- Personal control seems much more reliable than a computer in a car. But I think more information and technology would improve my opinion. Not quite trusting yet" – Audi A3 Owner

It would take away the pleasure of owning a car. We would just be getting a cab ride. You would no longer care about having a car. That's the end game of all of this - no one will own a car. We will all just get a ride via an UBER like app." – Honda Ridgeline Owner

"If I didn't want to drive I'd take the bus." – Toyota Highlander Owner

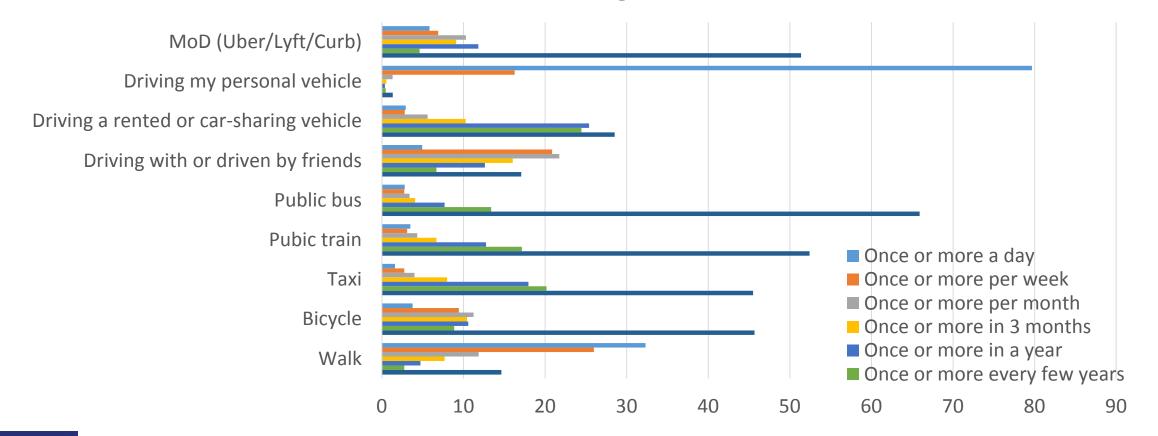




### Shared Mobility – Ride-Hail

## **RHES:** Transportation Modes

Although there is significant funding going to MoD models, many simply don't use them. This being said, more people don't take the bus than don't take a Lyft.



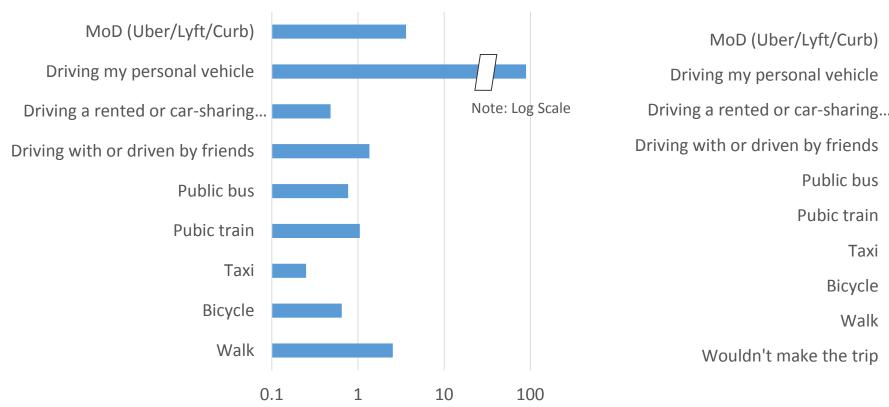
#### Mode Usage

STRATEGIC Source: 2017 Ride Hailing Experience Study<sup>™</sup> (RHES<sup>™</sup>) - by Strategic Vision.

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## **RHES:** Transportation Modes

The personal vehicle is the leader, though MoD options are 2nd (a very far second). When the personal vehicle is not available, this is when MoD (and your friends) have a place.



#### Mode Used Most Often

#### If Primary Mode Not Available

Taxi

Bicycle

Walk

0

10

20



Source: 2017 Ride Hailing Experience Study<sup>™</sup> (RHES<sup>™</sup>) - by Strategic Vision.

40

30

## **RHES:** Demographics

Drivers (N=1.5K)

Drivers need to drive. They have more minor children in the home and they have a lower household income. The Users have the money to pay for subsidized transportation.

#### **Children in Home**

#### \$33,465 Drivers (N=1.5K) Avoiders/Uninterested/Unaware \$59,030 (N=4.1K)\$94,837 Heavy User/User (N=2.3K) \$61,062 Overall Sample (N=8K) 0.5 1.5 0 1 2 **p25 p50 p75** p95 50000 100000 150000

#### **Household Income**

Number of people 18 or older

Children under 6

Children 6-12

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Children 13-17

Avoiders/Uninterested/Unaware

(N=4.1K)

Heavy User/User (N=2.3K)

Overall Sample (N=8K)

## **RHES:** Changes since MoD

Most people do not change their normal habits after using MoD. The key exceptions are Taxi users as well as other modes of public transportation.

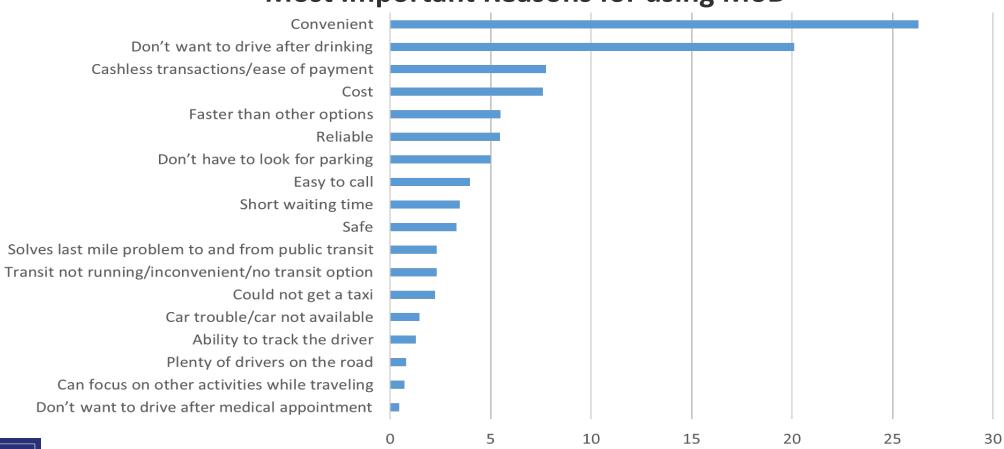
#### Less often 90 Just as often 80 More often Percentage of responses 70 60 50 40 30 20 10 0 Public transit Taxi Bicycled Walked Car Sharing Drove a car (N=2.3K) (N=2.1K) (N=2.2K) (N=2K) (N=2K) (N=2.2K)

#### Changes in mobility habits since started using MoD



## RHES: MoD – Most Important Reason

#### MoD is an inexpensive and convenient way to drink outside the home.

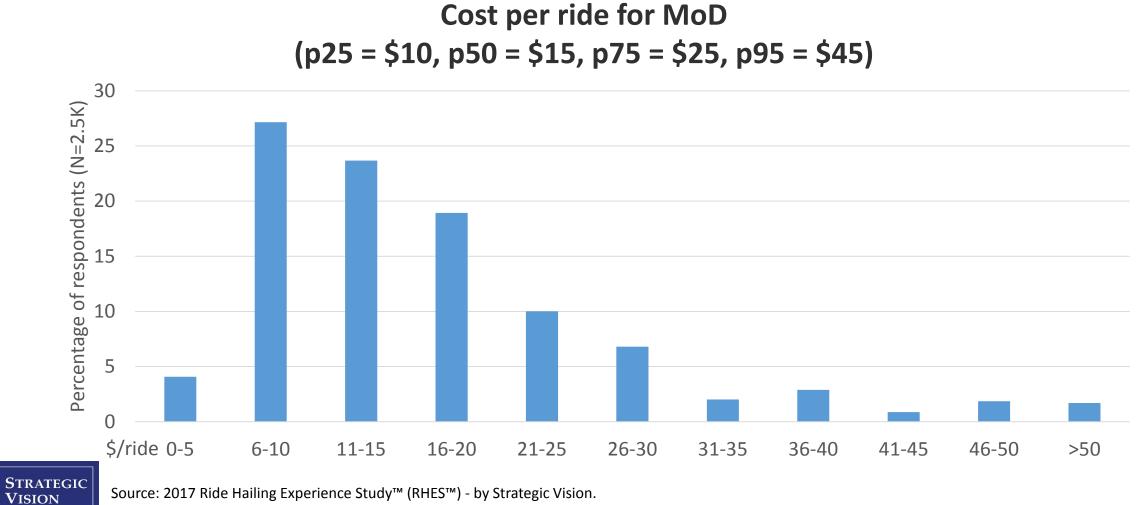


#### **Most Important Reasons for using MoD**



## **RHES:** MoD Costs

Most MoD rides are \$15 and under.

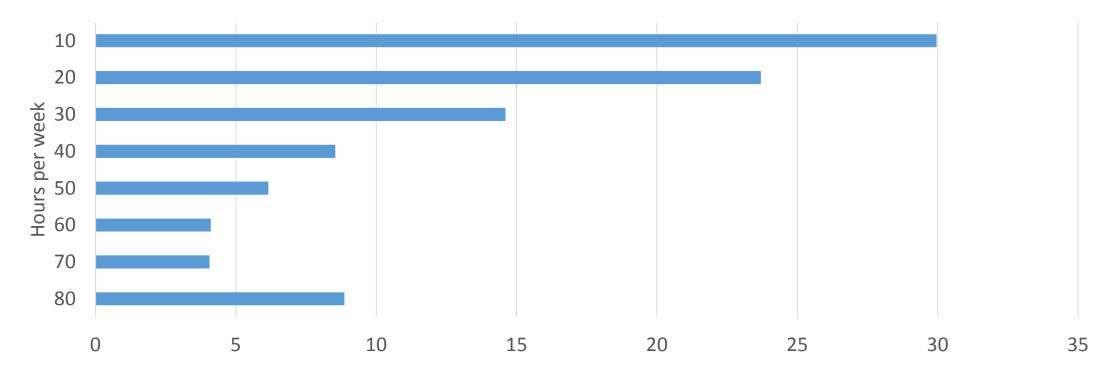


Source: 2017 Ride Hailing Experience Study<sup>™</sup> (RHES<sup>™</sup>) - by Strategic Vision.

## **RHES:** Drivers

For most MoD drivers, driving is not only a part-time job, but has turned into significant hours on the road and a full time job.

How many hours per week do you drive for MoD services? (p25 = 10 h, p50 = 20 h, p75 = 40 h)

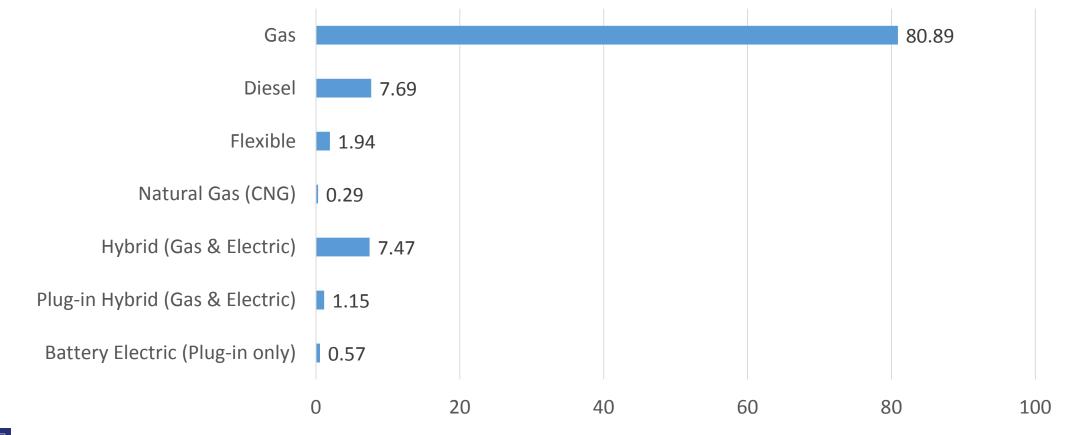




## RHES: MoD Vehicle Fuel Type

Most MoD drivers purchased a gas vehicle, however there are more Hybrid drivers than the US average.

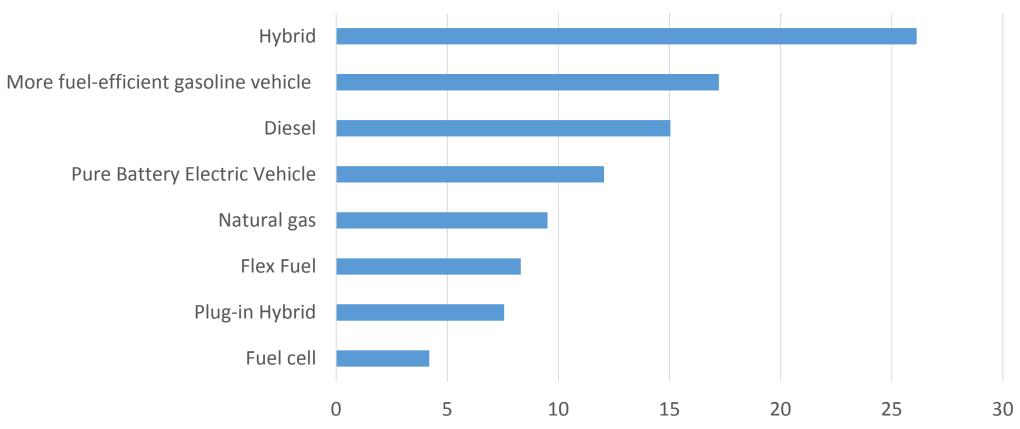
What is the fuel type of the primary vehicle you drive for MoD services?



STRATEGIC<br/>VISIONSource: 2017 Ride Hailing Experience Study™ (RHES™) - by Strategic Vision.

## RHES: MoD Future Vehicle Fuel Type

About half of drivers would consider a more fuel efficient vehicle in the future, with many looking into hybrid or EV technology.



#### **Future Consideration - Fuel Type**

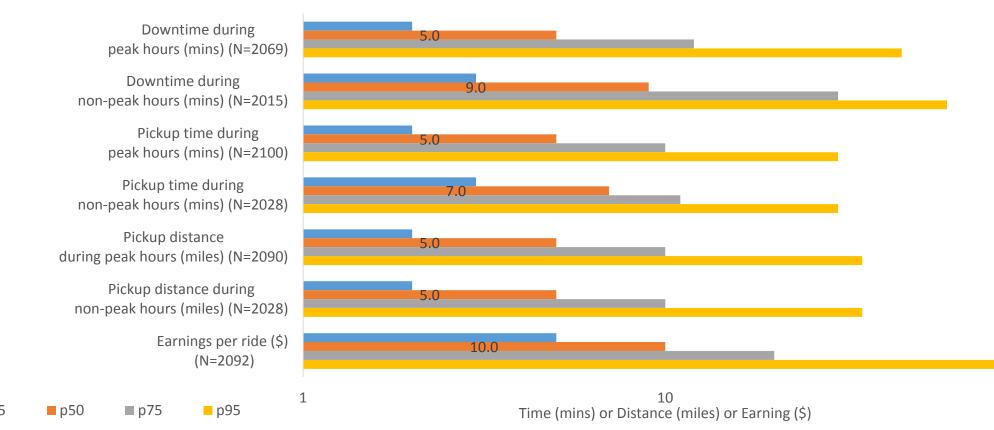
(N = 1.3K)

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# **RHES:** Driving Downtime

Most drivers have 5 - 10 minutes of downtime while driving where they are looking for a place to park or driving to a more busy part of town.



#### Downtime

**p25** 

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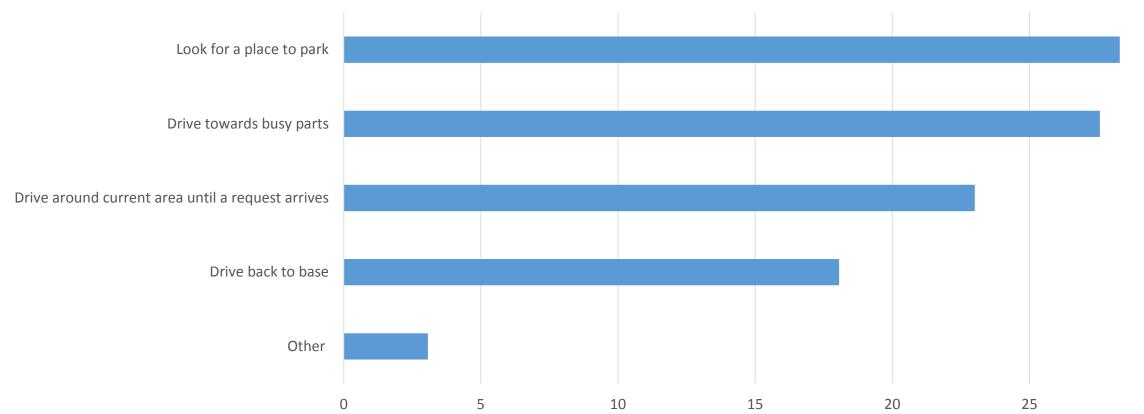
VISION

Source: 2017 Ride Hailing Experience Study<sup>™</sup> (RHES<sup>™</sup>) - by Strategic Vision.

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## **RHES:** Transportation Modes

What are the energy consumption implications for this amount of downtime while the vehicle is running?



#### What do you generally do during the downtime?



Source: 2017 Ride Hailing Experience Study<sup>™</sup> (RHES<sup>™</sup>) - by Strategic Vision.

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## Thank you!

Thank you for your kind attention.

*Questions for Strategic Vision?* Call us at: 858-576-7141

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