### Fuel Cell Vehicle Survey 181203

# Welcome to the Household Fuel Cell Hydrogen Vehicle Survey

Thank you for participating in this study by the University of California, Davis (UC Davis) Institute of Transportation Studies (ITS).

#### Purpose of this Research

You will help assess opportunities for fuel cell vehicle users. Your participation will inform other consumers, automobile makers, energy providers, and policymakers. Your answers are important, so please answer every question you can.

#### Household Participation

This survey includes questions about you and your household. We encourage you to consult with any other household members where appropriate to get accurate information and to simulate decisions you would make in real life (like buying a vehicle).

#### Security of Your Information

Your information will be kept confidential. No identifying information will be kept as part of any record of this survey. Your responses will be analyzed in aggregate; you will not be identifiable in the results. All information will be maintained in a secure location on the UC Davis campus.

#### Your Rights

You may withdraw from this study at any time. If you would like to know more about your rights as a study participant, consult UC Davis' Institutional Review Board (IRB) at this URL: Should I Take Part in Research (http://research.ucdavis.edu/wp-content/uploads/HRP-104-BROCHURE-Should-I-Take-Part-in-Research1.pdf).

Further questions can be directed to the Survey Administrator, at gtal@ucdavis.edu (mailto:gtal@ucdavis.edu)

#### Completing Your Questionnaire

The questionnaire should take you about 30 minutes to complete. A progress bar will show how much you have completed.

We recommend that you take this survey using a desktop or laptop computer rather than a mobile device such as a phone or tablet.

Ready?

By choosing the 'Next' button, you indicate you understand and agree to these provisions.

There are 125 questions in this survey.

### Section 1: Your Fuel Cell Electric Vehicle

In this section we want to understand about your fuel cell electric vehicle (FCEV). We want to know how much you are able to use it and what you paid for it for context across all vehicle models.

P	Please answer	questions about	your newest FC	EV in the follo	wing survey.		

\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
What is your newest fuel cell electric vehicle? *	
☐ Choose one of the following answers	
Please choose <b>only one</b> of the following:	
2018 Honda Clarity Fuel Cell	
2018 Toyota Mirai	
2017 Honda Clarity Fuel Cell	
2017 Hyundai Tucson Fuel Cell	
2017 Toyota Mirai	
2016 Hyundai Tucson Fuel Cell	
2016 Toyota Mirai	
2015 Hyundai Tucson Fuel Cell	
2014 Honda FCX Clarity	
2012 Mercedes-Benz F-Cell	
2011 Mercedes-Benz F-Cell	
I don't have a fuel cell car anymore or I never had a fuel cell car	
Other	

This {if(s1p1q1.shown == '-oth-', s1p1q1_other.NAOK, s1p1q1.shown)} is being used: *
Only answer this question if the following conditions are met:  Answer was NOT 'I don't have a fuel cell car anymore or I never had a fuel cell car' at question '2 [s1p1q1]' (What is your newest fuel cell electric vehicle?)
☐ Choose one of the following answers Please choose only one of the following:
By a household for private use including commuting
For business other than commuting and private use
For business use only or as part of a fleet
For purposes including Uber, Lyft, or peer-to-peer carsharing
Other

### Screener Setup

{if(s1p1q1.shown == '-oth-', s1p1q1\_other.NAOK, s1p1q1.shown)}

{if(s1p1q2.NAOK != "A1" || s1p1q1.NAOK == "A12", "N", "Y")}

#### Thank You

This survey is for privately owned fuel cell electric vehicles used for non-business purposes only. Thank you for your time, please click "Next" below to end the survey.

UC Davis will deploy new surveys and interviews on business use of alternative fuel vehicles including car sharing and similar purposes. For some of the surveys participants will be compensate up to \$100.

For participating in future survey please enter your email address

□ Please enter a valid email address.

#### Section 1: Your Fuel Cell Electric Vehicle 2

Note: Throughout this questionnaire your "household" includes all the people with whom you currently live and make decisions such as vehicle purchase or use, healthcare, and retirement. If you live alone, then you are your household.

What is the current odometer reading of your {carmain}? \*

Did you purchase or lease this car? \*

Choose one of the following answers
Please choose only one of the following:

Purchased new
Purchased used
Leased New
Leased Used

When did you  $\{if(s1p2q2.NAOK == "A3" OR s1p2q2.NAOK == "A4", "lease", "purchase")\}$  this car? \*

What was the odometer reading when you {if(s1p2q2.NAOK == "A3" OR s1p2q2.NAOK == "A4", "leased", "purchased")} the used {carmain}?  Only answer this question if the following conditions are met:  Answer was 'Leased Used' or 'Purchased used' at question '9 [s1p2q2]' (Did you purchase or lease this car?)  Your answer must be between 1 and 100000  Only an integer value may be entered in this field.  Please write your answer here:
What was the total price including options, fees, and taxes of your {carmain} when your household purchased it (excluding incentives or trade in value)? If you're not sure, please give your best estimate. Round off to the nearest \$500 (ex. \$23,347 = \$23,500).  Only answer this question if the following conditions are met:  Answer was 'Purchased used' <i>or</i> 'Purchased new' at question '9 [s1p2q2]' (Did you purchase or lease this car?)
☐ Please fill out the field. If you're not sure, please check the box below.

What was the total down payment including options, fees, and taxes of your  $\{\text{carmain}\}\$  when your household leased it? If you traded in a car, add its value to the down payment (e.g. \$2000 trade-in + \$2000 out of pocket = \$4000). If you're not sure, please give your best estimate. Round off to the nearest \$500 (ex. \$23,347 = \$23,500).

Only answer this question if the following conditions are met:

Answer was 'Leased Used' or 'Leased New' at question '9 [s1p2q2]' (Did you purchase or lease this car?)

☐ Please fill out the field. If you're not sure, please check the box below.

What was the monthly payment including options, fees, and taxes of your {carmain} when your household leased it? If you're not sure, please give your best estimate.

Only answer this question if the following conditions are met:

Answer was 'Leased New' or 'Leased Used' at question '9 [s1p2q2]' (Did you purchase or lease this car?)

☐ Please fill out the field. If you're not sure, please check the box below.

How long is your lease?  Only answer this question if the following conditions are met:  Answer was 'Leased New' or 'Leased Used' at question '9 [s1p2q2]' (Did you purchase or lease this car?)  □ Please fill out the field. If you're not sure, please check the box below.
What is your yearly mileage limit on your lease?  Only answer this question if the following conditions are met:
Answer was 'Leased Used' or 'Leased New' at question '9 [s1p2q2]' (Did you purchase or lease this car?)
☐ Please fill out the field. If you're not sure, please check the box below.  If your lease has unlimited miles, enter 99999
How many more yearly miles do you think you would drive your {carmain} if your lease had unlimited miles?
Only answer this question if the following conditions are met: ! is_empty(s1p2q9_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/83/qid/962)) and intval(s1p2q9_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/83/qid/962)) != 99999
□ Please fill out the fields. If you're not sure, please check the box below.

Do you have or did you apply for a carpool lane sticker on this car? *  Choose one of the following answers  Please choose only one of the following:  Yes  No
Why don't you have a carpool lane sticker on this car? *
Only answer this question if the following conditions are met:  Answer was 'No' at question '18 [s1p2q11]' (Do you have or did you apply for a carpool lane sticker on this car?)
☐ Choose one of the following answers Please choose only one of the following:
This vehicle is not eligible for a sticker
OMV ran out of stickers by the time I applied
I applied for a sticker but it is not on my car yet
The car is eligible, but it's not that useful for me
Other

### **State Setup**

```
{if(s1p2q2.NAOK == "A2" || s1p2q2.NAOK == "A4", "Y", "N")}
```

```
\{if(s1p2q2.NAOK == "A1" or s1p2q2.NAOK == "A2", "N", "Y")\}
```

### Section 1: Your Fuel Cell Electric Vehicle 3

Other than your {carmain}, how many vehicles has your household purchased or leased <u>used</u> since the year 2000? *
☐ Choose one of the following answers Please choose only one of the following:
$\bigcirc$ 0
$\bigcirc$ 1 $\bigcirc$ 2
$\bigcirc$ 3 $\bigcirc$ 4
<ul><li>○ 4</li><li>○ 5</li></ul>
○ 6 or more

How many vehicles has your household purchased or leased <u>new</u> since the year 2000? *
☐ Choose one of the following answers Please choose only one of the following:
○ 0
<u> </u>
○ 2
○ 3
<u>4</u>
<u> </u>
○ 6 or more

When comparing new cars to used cars, throughout your shopping experience for your {carmain}, were you more likely to buy a new or used vehicle?

Drag the blue handle to the point between "Likely to buy used" and "Likely to buy new" that reflects your answer to the question. If you're not sure, drag the blue handle to "I'm unsure".

When comparing gasoline vehicles to fuel cell electric vehicles, throughout your shopping experience for your {carmain}, were you more likely to buy a gasoline or fuel cell electric vehicle?

Drag the blue handle to the point between "Likely to buy gasoline vehicle" and "Likely to buy fuel cell electric vehicle" that reflects your answer to the question. If you're not sure, drag the blue handle to "I'm unsure".

Did you {if(leased.NAOK == 'Y', 'lease', 'purchase')} this car from a: *
☐ Choose one of the following answers Please choose only one of the following:
Dealership who you purchased or leased cars from before
Dealership you used for the first time     Private owner you know
Private owner you never met before
Online site
Other

#### Section 2: Household Fleet

In this section we want to know about your other cars. This is very important and has not been widely asked before. This helps us understand your fuel cell vehicle usage in relation to your gasoline vehicle usage.

Did the {carmain} replace another vehicle in your household? *  Choose one of the following answers  Please choose only one of the following:
Yes, it replaced a car that we sold already Yes, it will replace a car that we plan to sell in the next three months  No, it is an additional vehicle in the household

# Please enter the year, make, and model of the vehicle that the {carmain} replaced:

\*

Only answer this question if the following conditions are met:

Answer was 'Yes, it replaced a car that we sold already' at question '27 [s2p1q1]' (Did the {carmain} replace another vehicle in your household?)

Did you add the {carmain} because of an additional driver in your household? *  Only answer this question if the following conditions are met:  Answer was 'No, it is an additional vehicle in the household' at question '27 [s2p1q1]' (Did the {carmain} replace another vehicle in your household?)  Please choose only one of the following:
Yes  No
Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if( $s2p1q1.NAOK == "A2"$ ,"Please include the vehicle you plan to replace.", "")}*
☐ Choose one of the following answers Please choose only one of the following:
<ul> <li>○ 0</li> <li>○ 1</li> <li>○ 2</li> <li>○ 3</li> <li>○ 4 or more</li> </ul>

# Please enter the year, make, and model of the <u>newest</u> vehicle in your household other than your {carmain}:

\*

Only answer this question if the following conditions are met:

Answer was greater than or equal to '1' at question '30 [s2p1q4]' (Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if(s2p1q1.NAOK == "A2","Please include the vehicle you plan to replace.", "")}

# Please enter the year, make, and model of the second newest vehicle in your household besides your {carmain}:

\*

Only answer this question if the following conditions are met:

Answer was greater than or equal to '2' at question '30 [s2p1q4]' (Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if(s2p1q1.NAOK == "A2","Please include the vehicle you plan to replace.", "")}

# Please enter the year, make, and model of the third newest vehicle in your household besides your {carmain}:

\*

Only answer this question if the following conditions are met:

Answer was greater than or equal to '3' at question '30 [s2p1q4]' (Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if(s2p1q1.NAOK == "A2","Please include the vehicle you plan to replace.", "")}

# Please enter the year, make, and model of the fourth newest vehicle in your household besides your {carmain}:

\*

Only answer this question if the following conditions are met:

Answer was '4 or more' at question '30 [s2p1q4]' (Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if(s2p1q1.NAOK == "A2","Please include the vehicle you plan to replace.", "")})

### Fleet Setup

 $\{if(s2p1q1.NAOK == "A2" && s2p1q4.NAOK > "A2", "Y", "N")\}$ 

### Section 2: Household Fleet 2

Which car do you plan to sell in the next 3 months?
☐ Choose one of the following answers Please choose only one of the following:
\[ \{\car1_2.NAOK\} \{\car1_3.NAOK\} \{\car1_1.NAOK\} \] \[ \{\car2_2.NAOK\} \{\car2_3.NAOK\} \{\car2_1.NAOK\} \] \[ \{\car3_2.NAOK\} \{\car3_3.NAOK\} \{\car3_1.NAOK\} \] \[ \{\car4_2.NAOK\} \{\car4_3.NAOK\} \{\car4_1.NAOK\} \] \[ \{\text{if}(\s2p1q4.NAOK) == "A5", "Another car in our household", "")} \]

# Please enter the year, make, and model of the vehicle that the {carmain} will replace: \*

Only answer this question if the following conditions are met:

Answer was '{if(s2p1q4.NAOK == "A5", "Another car in our household", "")}' at question '36 [s2p2q1]' ( Which car do you plan to sell in the next 3 months? \$(document).on('ready pjax:complete', function() { hideEmptyRadios({SID}, {QID}); }); )

### Section 2: Household Fleet 3

Similar to the questions insurance companies ask you about your annual mileage, try to estimate your mileage as best you can.

How many times per month do you use HOV or HOT (carpool) lanes with any of your household vehicles? *
☐ Choose one of the following answers
Please choose only one of the following:
Never or less than 1 per month
<u> </u>
<u></u>
O 10-20
<u>20-30</u>
30-40
○ More

In the last 365 days (or the most recent year you remember), estimate how many miles each of the following household vehicles was driven. If owned less than 1 year, estimate annual mileage.

Only answer this question if the following conditions are met:

Answer was greater than or equal to '1' at question '30 [s2p1q4]' (Other than your {carmain}, how many vehicles are in your household? (not including motorcycles or RVs) {if(s2p1q1.NAOK == "A2","Please include the vehicle you plan to replace.", "")}

	Annual Mileage	Plus or Minus
{car1_1.NAOK} {car1_2.NAOK} {car1_3.NAOK}		
{car2_1.NAOK} {car2_2.NAOK} {car2_3.NAOK}		
{car3_1.NAOK} {car3_2.NAOK} {car3_3.NAOK}		
{car4_1.NAOK} {car4_2.NAOK} {car4_3.NAOK}		
{s2p2q2_SQ001.NAOK} {s2p2q2_SQ002.NAOK} {s2p2q2_SQ003.NAOK}		

### **Previous Setup**

```
\{if(car1\_6.NAOK == "Plug-in Hybrid" || car1\_6 == "EV", join(car1\_1, " ", car1\_2, " ", car1\_3), "")\}
```

```
{if(car2_6.NAOK == "Plug-in Hybrid" || car2_6 == "EV", join(car2_1, " ", car2_2, " ", car2_3), "")}
```

```
{if(car3_6.NAOK == "Plug-in Hybrid" || car3_6 == "EV", join(car3_1, " ", car3_2, " ", car3_3), "")}
```

```
{if(car4_6.NAOK == "Plug-in Hybrid" || car4_6 == "EV", join(car4_1, " ", car4_2, " ", car4_3), "")}
```

```
  \{ if(s2p1q2\_SQ006.NAOK == "Plug-in Hybrid" \mid | s2p1q2\_SQ006 == "EV", join("your replaced ", s2p1q2\_SQ001, " ", s2p1q2\_SQ002, " ", s2p1q2\_SQ003), """)  \}
```

```
{if(s2p2q2_SQ006.NAOK == "Plug-in Hybrid" || s2p2q2_SQ006 == "EV", join(s2p2q2_SQ001, " ", s2p2q2_SQ002, " ", s2p2q2_SQ003), "")}

{count(car1prev.NAOK, car2prev.NAOK, car3prev.NAOK, car4prev.NAOK, replprev.NAOK, otherprev.NAOK)}

{list(car1prev.NAOK, car2prev.NAOK, car3prev.NAOK, car4prev.NAOK, replprev.NAOK, otherprev.NAOK)}
```

#### Section 2: Household Fleet 4

Prior to your {carmain}, have any household members had a <u>pug-in</u> electric or fuel-cell vehicle? (Do not include those you mentioned as a replacement or a current vehicle.) \*

Please choose **only one** of the following:

Yes

No

What plug-in vehicle did you have{if(prevcount.NAOK > 0, join(" (Other than the following cars: ", prevlist.NAOK, ")"), "")}?

\*

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '48 [s2p4q1]' (Prior to your {carmain}, have any household members had a plug-in electric or fuel-cell vehicle? (Do not include those you mentioned as a replacement or a current vehicle.))

### Section 3: Household

How many licensed drivers are in your household (including you)? *  Choose one of the following answers  Please choose only one of the following:			
<u> </u>			
<u>2</u>			
<u></u>			
<u></u>			
<u> </u>			
<u>8</u>			
<u>9</u>			
10 or more			

How many non-drivers are in your household? *
☐ Choose one of the following answers Please choose only one of the following:
None
<u> </u>
<u>2</u>
<u></u>
<u></u>
<u> </u>
<u></u>
<u>8</u>
<u>9</u>
10 or more

# Please provide a brief description of your household. Start with yourself, then any other licensed drivers.

\*

Only answer this question if the following conditions are met:

Answer was NOT at question '50 [s3q1]' (How many licensed drivers are in your household (including you)?) *and* Answer was NOT at question '51 [s3q2]' (How many non-drivers are in your household?)

	Age:	Female or Male?
1 (You)		
2		
3		
4		

### Section 3: Household 2

How much does each driver use your {carmain}? (Don't worry if the numbers do not add up to 100%) \* {carmain} Driver 1 (You) **Driver 2** ({s3q3 SQ002 SQ002.N/ OK}, {s3q3 SQ002 SQ001.NA (K)) **Driver 3** ({s3q3\_SQ003\_SQ002.N/OK}, {s3q3 SQ003 SQ001.NA (K}) **Driver 4** ({s3q3\_SQ004\_SQ002.N/OK}, {s3q3 SQ004 SQ001.NA K})

# How much does each driver use your {car1\_1.NAOK} {car1\_2.NAOK} {car1\_3.NAOK}? (Don't worry if the numbers do not add up to 100%)

\*

Only answer this question if the following conditions are met:

car1\_1.relevanceStatus (/admin/questions/sa/view/surveyid/924894/gid/91/qid/980) and intval(s2p3q2\_SQ001\_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/1019)) > 5000

	{car1_1.NAOK} {car1_2.NAOK} {car1_3.NAOK}		
Driver 1 (You)			
Driver 2 ({s3q3_SQ002_SQ002.N/			
{s3q3_SQ002_SQ001.NA Driver 3			
({s3q3_SQ003_SQ002.N/ {s3q3_SQ003_SQ001.NA			
Driver 4 ({s3q3_SQ004_SQ002.N <i>l</i> {s3q3_SQ004_SQ001.NA			

# How much does each driver use your {car2\_1.NAOK} {car2\_2.NAOK} {car2\_3.NAOK}? (Don't worry if the numbers do not add up to 100%)

\*

Only answer this question if the following conditions are met:

car2\_1.relevanceStatus (/admin/questions/sa/view/surveyid/924894/gid/91/qid/981) and intval(s2p3q2\_SQ002\_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/1019)) > 5000

	{car2_1.NAOK} {car2_2.NAOK} {car2_3.NAOK}			
Driver 1 (You)				
Driver 2				
({s3q3_SQ002_SQ002.N/	ок},			
{s3q3_SQ002_SQ001.NA	K})			
Driver 3				
({s3q3_SQ003_SQ002.N/	ок},			
{s3q3_SQ003_SQ001.NA	K})			
Driver 4				
({s3q3_SQ004_SQ002.N/	<b>ό</b> κ},			
{s3q3_SQ004_SQ001.NA				

# How much does each driver use your {car3\_1.NAOK} {car3\_2.NAOK} {car3\_3.NAOK}? (Don't worry if the numbers do not add up to 100%)

\*

Only answer this question if the following conditions are met:

car3\_1.relevanceStatus (/admin/questions/sa/view/surveyid/924894/gid/91/qid/982) and intval(s2p3q2\_SQ003\_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/1019)) > 5000

	{car3_1.NAOK} {car3_2.NAOK} {car3_3.NAOK}		
Driver 1 (You)			
Driver 2 ({s3q3_SQ002_SQ002.NA {s3q3_SQ002_SQ001.NA			
Driver 3 ({s3q3_SQ003_SQ002.NA {s3q3_SQ003_SQ001.NA			
Driver 4 ({s3q3_SQ004_SQ002.N/ {s3q3_SQ004_SQ001.NA			

# How much does each driver use your {car4\_1.NAOK} {car4\_2.NAOK} {car4\_3.NAOK}? (Don't worry if the numbers do not add up to 100%)

\*

Only answer this question if the following conditions are met:

car4\_1.relevanceStatus (/admin/questions/sa/view/surveyid/924894/gid/91/qid/983) and intval(s2p3q2\_SQ004\_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/1019)) > 5000

	{car4_1.NAOK} {car4_2.NAOK} {car4_3.NAOK}			
Driver 1 (You)				
Driver 2				
({s3q3_SQ002_SQ002.N/	οκ},			
{s3q3_SQ002_SQ001.NA	K})			
Driver 3				
({s3q3_SQ003_SQ002.N/	ок},			
{s3q3_SQ003_SQ001.NA	K})			
Driver 4				
({s3q3_SQ004_SQ002.N/	OK},			
{s3q3_SQ004_SQ001.NA	K})			

### Section 3: Commute

Much of the vehicle usage in a household can be determined by the commute. Because we are trying to determine how all vehicles are used, including your fuel cell electric vehicle, we'll focus on this travel in the next few questions.

### In the last 30 days prior to the survey, how often did each driver commute with each car?

\*

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '58 [s3q4]' (In the last 30 days prior to this survey, did you or any household members commute by car? (If you need to be at a certain place on a weekly basis, include that routine trip.))

	{carmain}	{car1_2.NAOK} {car1_3.NAOK} {car1_1.NAOK}	{car2_2.NAOK} {car2_3.NAOK} {car2_1.NAOK}	{car3_2.NAOK} {car3_3.NAOK} {car3_1.NAOK}	{car4_2.NAOK} {car4_3.NAOK} {car4_1.NAOK}
Driver 1 (You)					
Driver 2 ({s3q3_SQ002_SQ002.N/	OK})				
Driver 3 ({s3q3_SQ003_SQ002.N/	OK})				
Driver 4 ({s3q3_SQ004_SQ002.N/	OK})				

# Please add the share of non commute routine trip you or another driver in your household perform on a regular basis with the {carmain}

\*

Only answer this question if the following conditions are met:

Answer was 'No' at question '58 [s3q4]' (In the last 30 days prior to this survey, did you or any household members commute by car? (If you need to be at a certain place on a weekly basis, include that routine trip.))

	{carmain} (Weekday)	{carmain} (Weekend)
Driver 1 (You)		
Driver 2 ({s3q3_SQ002_SQ002})		
Driver 3 ({s3q3_SQ003_SQ002})		
Driver 4 ({s3q3_SQ004_SQ002})		

### **Commute Setup**

```
{count(s3q5_SQ001_SQ001.NAOK, s3q5_SQ002_SQ001.NAOK, s3q5_SQ003_SQ001.NAOK, s3q5_SQ004_SQ001.NAOK)}
```

{countif("Never", s3q5\_SQ001\_SQ001.NAOK, s3q5\_SQ002\_SQ001.NAOK, s3q5\_SQ003\_SQ001.NAOK, s3q5\_SQ004\_SQ001.NAOK)}

{count(s3q6\_SQ001\_SQ001.NAOK, s3q6\_SQ002\_SQ001.NAOK, s3q6\_SQ003\_SQ001.NAOK, s3q6\_SQ004\_SQ001.NAOK)}

{countif("Never", s3q6\_SQ001\_SQ001.NAOK, s3q6\_SQ002\_SQ001.NAOK, s3q6\_SQ003\_SQ001.NAOK, s3q6\_SQ004\_SQ001.NAOK)}

{count(s3q6\_SQ001\_SQ002.NAOK, s3q6\_SQ002\_SQ002.NAOK, s3q6\_SQ003\_SQ002.NAOK, s3q6\_SQ004\_SQ002.NAOK)}

{countif("Never", s3q6\_SQ001\_SQ002.NAOK, s3q6\_SQ002\_SQ002.NAOK, s3q6\_SQ003\_SQ002.NAOK, s3q6\_SQ004\_SQ002.NAOK)}

{countif("N/A", s3q5\_SQ001\_SQ002.NAOK, s3q5\_SQ001\_SQ003.NAOK, s3q5\_SQ001\_SQ004.NAOK, s3q5\_SQ001\_SQ005.NAOK)}

{countif("Never", s3q5\_SQ001\_SQ002.NAOK, s3q5\_SQ001\_SQ003.NAOK, s3q5\_SQ001\_SQ004.NAOK, s3q5\_SQ001\_SQ005.NAOK)}

 $\{if(s3q4.NAOK == "Y", 4 - driver1na.NAOK, 0)\}$ 

#### Section 3: Fuel Cell Electric Vehicle Commute

On the next set of maps, please describe the commute marked in red below:
Is the destination for the commute marked above a place of employment for a member of your household? *  Please choose only one of the following:
<ul><li>✓ Yes</li><li>✓ No</li></ul>

#### Section 3: Fuel Cell Electric Vehicle Non-Commute

On the next set of maps, please describe the trip marked in red below:

#### Section 3: Home

#### Please enter your home location

You can either type in your address and click "Check Address" or you can click "Drop Marker at Center" and <u>then drag the</u> marker to the correct location.

#### **Section 3: Destination**

Please enter your {if(s3q4.NAOK == "Y", "commute", "weekday")} destination for [DRIVER GOES HERE] with your {carmain}:

You can either type in your address and click "Check Address" or you can click "Drop Marker at Center" and <u>then drag the</u> marker to the correct location.

### Section 3: Fuel Cell Electric Vehicle Commute 2

#### Section 3: Fuel Cell Electric Vehicle Non-Commute 2

On the next set of maps, please describe the trip marked in red below:

#### Section 3: Destination 2

Please enter your {if(s3q4.NAOK == "Y", "commute", "weekend")} destination for [DRIVER GOES HERE] with your {carmain}:

You can either type in your address and click "Check Address" or you can click "Drop Marker at Center" and <u>then drag the</u> marker to the correct location.

### Section 3: Fuel Cell Electric Vehicle Commute 3

Are the two commutes marked in blue and red below identical?  *
Only answer this question if the following conditions are met: regexMatch("/Driver 1/", comm1a_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/95/qid/992))
Please choose <b>only one</b> of the following:
Yes
○ No
Are the two commutes marked in blue and red below identical?
*
Only answer this question if the following conditions are met: regexMatch("/Driver 1/", comm1b_SQ001.NAOK (/admin/questions/sa/view/surveyid/924894/gid/99/qid/996))
Please choose <b>only one</b> of the following:
Yes

#### On the next set of maps, please describe the commute marked in red below:

Only answer this question if the following conditions are met:

 $\label{eq:comm1d} (\ !\ comm1d.relevanceStatus\ (\ 'admin/questions/sa/view/surveyid/924894/gid/102/qid/1012)\ |\ |\ comm1d.NAOK\ (\ 'admin/questions/sa/view/surveyid/924894/gid/102/qid/1012)\ ==\ "N")\ \&\&\ (\ !\ comm1e.relevanceStatus\ (\ 'admin/questions/sa/view/surveyid/924894/gid/102/qid/1045)\ |\ |\ comm1e.NAOK\ (\ 'admin/questions/sa/view/surveyid/924894/gid/102/qid/1045)\ ==\ "N")$ 

# Is the destination for the commute marked above a place of employment for a member of your household? \*

Only answer this question if the following conditions are met:

Please choose **only one** of the following:

$\bigcirc$	Yes
$\bigcirc$	No

#### Section 3: Destination 3

# Please enter your commute destination for Driver 1 (You) with your [CAR GOES HERE]:

You can either type in your address and click "Check Address" or you can click "Drop Marker at Center" and <u>then drag the</u> marker to the correct location.

### Section 3: Longest Trip

How many trips longer than 200 miles round-trip did you or your household complete with each car in the last 12 months?

\*

### Longest Trip Setup

```
{if(countifop(">", 0, s3p1q1_SQ001.NAOK, s3p1q1_SQ002.NAOK, s3p1q1_SQ003.NAOK, s3p1q1_SQ004.NAOK, s3p1q1_SQ005.NAOK) > 0, "Y", "N")}
```

#### Section 3: Longest Trip 2

# Please enter the destination for your household's longest road trip in the last 12 months with any car:

You can either type in your address and click "Check Address" or you can click "Drop Marker at Center" and <u>then drag the</u> marker to the correct location.

### Section 3: Longest Trip 3

Follow the steps below to indicate the route your household took on its longest trip in the last 12 months:

# Section 3: Longest Trip 4

Which vehicle did your household use for its longest road trip (in distance) in the last 12 months?  *
☐ Choose one of the following answers
Please choose <b>only one</b> of the following:
(carmain)
(car1_2) {car1_3} {car1_1}
(car2_2) {car2_3} {car2_1}
(car3_2) {car3_3} {car3_1}
(car4_2) {car4_3} {car4_1}
Rental Car
O Borrowed Car

Please enter the year, make, and model of the vehicle you {if(s3p4q1.NAOK == "A6", "rented", "borrowed")}.  *  Only answer this question if the following conditions are met:  Answer was 'Rental Car' or 'Borrowed Car' at question '92 [s3p4q1]' ( Which vehicle did your household use for its longest road trip (in distance) in the last 12 months? \$(document).on('ready pjax:complete', function() { hideEmptyRadios({SID}, {GID}); }); )
Was this an overnight trip? * Please choose only one of the following:  Yes No
How many nights? *
Only answer this question if the following conditions are met:  Answer was 'Yes' at question '94 [s3p4q3]' (Was this an overnight trip?)
Please write your answer here:

How many people were in the vehicle (including the driver) for the majority of the trip? *
☐ Choose one of the following answers
Please choose <b>only one</b> of the following:
<u> </u>
<u>2</u>
<u>4</u>
○ 5 or more

This map includes all the active hydrogen stations. Click on stations on the map to select up to 5 hydrogen stations that you use to refuel your vehicle. Start with the one you use most frequently.

To the right of the map, enter how often do you use each station. (For example, 3 Times Per Week or 1 Time per Month) If you only used a station once, please fill in "1 time per Year"

□ Please select at least one station.

Place markers at up to 3 locations where you would like a new station to be in addition to current stations (shown in gray). Instead of placing the marker in the general area where you would like a station, please zoom in to place it as close as possible to the exact location where you would like the station. To the right of the map, fill in how often you would use a station at each location you select.

Please update how often you would use stations that exist now (shown by the green markers) if there were stations at the locations you picked on the last page (shown by the brown markers).

For your reference, the map below shows how often you said you would use stations at the locations you picked.

\*

	Times	Per
Station 1		
Station 2		
Station 3		
Station 4		
Station 5		

If the fueling station that you use most frequently did not exist when you got your {carmain}, what would you have done? *
☐ Choose one of the following answers Please choose only one of the following:
I would still have chosen the {carmain}
I would have chosen a battery electric vehicle (uses electricity only) instead
I would have chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead
I would have chosen a hybrid (non plug-in) vehicle (uses gasoline only) instead
I would have chosen a conventional vehicle instead
I would have chosen not to buy/lease a vehicle at all
Other

# Please enter the year, make, and model of the other vehicle you would have chosen:

\*

Only answer this question if the following conditions are met:

Answer was 'I would have chosen a hybrid (non plug-in) vehicle (uses gasoline only) instead' *or* 'I would have chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead' *or* 'I would have chosen a battery electric vehicle (uses electricity only) instead' *or* 'I would have chosen a conventional vehicle instead' at question '100 [s4p4q1]' (If the fueling station that you use most frequently did not exist when you got your {carmain}, what would you have done?)

# How long do you believe your household's decision to buy a new car would have been postponed?

\*

Only answer this question if the following conditions are met:

Answer was 'I would have chosen not to buy/lease a vehicle at all' at question '100 [s4p4q1]' (If the fueling station that you use most frequently did not exist when you got your {carmain}, what would you have done?)

### Section 5: Vehicle Purchasing Process

In the next set of questions we will ask about the decision you made when buying/leasing your car. Please try to answer the following questions based on the knowledge you had when making your decision. This section helps give context to why people buy certain cars with certain attributes which may indirectly affect usage. Don't worry, you're almost done!

When buying or leasing a new {carmain}, or a similar new fuel cell electric vehicle, you may (or may not) be eligible for different incentives that may reduce the price of the new vehicle in your area.
When buying your vehicle were you aware of any of the following options?
Only answer this question if the following conditions are met: used.NAOK (/admin/questions/sa/view/surveyid/924894/gid/119/qid/1057) == "Y"
Please choose all that apply and provide a comment:
Federal Incentives
State Incentives
Local Incentives
Other Incentives

How important were the following factors in your decision to {if(leased.NAOK == 'Y', 'lease', 'purchase')} your used {carmain}?

Drag the blue handle to the point between "Not Important" and "Very Important" that reflects your answer to each question. If a factor did not apply to your household, drag the blue handle to "Not Applicable".

Only answer this question if the following conditions are met: used.NAOK (/admin/questions/sa/view/surveyid/924894/gid/119/qid/1057) == "Y"

☐ Please enter a name for your other reason.

Fuel cell electric vehicles are eligible for different local, state, and federal incentives. How important were those incentives in your decision to buy the {carmain}?

Drag the blue handle to the point between "Not Important" and "Very Important" that reflects your answer to each question. If an incentive was not available for your household, drag the blue handle to "Not Applicable".

☐ Please select if your household uses discounted parking. Please select if your household saves money on tolls due to HOV lane access. Please fill out how much your household saves on hydrogen.

#### Please add your incentive below:

Only answer this question if the following conditions are met:

Answer was at question '105 [s5p1q3]' (Fuel cell electric vehicles are eligible for different local, state, and federal incentives. How important were those incentives in your decision to buy the {carmain}? Drag the blue handle to the point between "Not Important" and "Very Important" that reflects your answer to each question. If an incentive was not available for your household, drag the blue handle to "Not Applicable", \$\(\)(document\),on('ready piax:complete', function() { var sliders = ['SQ001', 'SQ003', 'SQ005', 'SQ009', 'SQ013', 'SQ015', 'SQ020']; var config = { labels: [ 'Not Applicable', 'No Answer', ] }; doSlider({SID}, {GID}, {QID}, config. sliders); makeMoneyField('{SID}', '{GID}', '{QID}', '002', "); makeMoneyField('{SID}', '{GID}', 'QID}', '004', "); makeMoneyField('{SID}', '{GID}', '{QID}', '006', "); makeMoneyField('{SID}', '{GID}', '{QID}', '011', "); makeMoneyField('{SID}', '{GID}', 'QID}', '017', "); makeMoneyField('{SID}', '{GID}', 'QID}', '021', "); numericInputOnly({SID}, {GID}, {QID}, 'SQ002'); numericInputOnly({SID}, {GID}, {QID}, 'SQ004'); numericInputOnly({SID}, {GID}, 'SQ006'); numericInputOnly({SID}, {GID}, {QID}, 'SQ011'); numericInputOnly({SID}, {GID}, {QID}, 'SQ017'); numericInputOnly({SID}, {GID}, {QID}, 'SQ021'); doDropdown('{SID}', '{GID}', '{QID}', '010', ['Yes', 'No']); doDropdown('{SID}', '{GID}', '{QID}', '016', ['Yes', 'No']); doDropdown('{SID}', '{GID}', 'QID}', '012', ['Week', 'Month', 'Year', 'Vehicle Lifetime']); doDropdown('{SID}', '{GID}', 'GID}', 'GID} '{QID}', '018', ['Week', 'Month', 'Year', 'Vehicle Lifetime']); doDropdown('{SID}', '{GID}', 'QID}', '022', ['Week', 'Month', 'Year', 'Year', 'Week', 'Month', 'Year', 'Week', 'Month', 'Year', 'Year', 'Week', 'Month', 'Year', 'Year 'Vehicle Lifetime']): makeCheckbox({SID}, {GID}, 'QID}, '019'): disableInputIfNo('{SID}', '{GID}', 'QID}', '011', '010'): disableInputIfNo('{SID}', '{GID}', 'QID}', '017', '016'); disableSelectIfNo('{SID}', '{GID}', 'QID}', '012', '010'); disableSelectIfNo('{SID}', '{GID}', '{QID}', '018', '016'); }); )

☐ Please enter a name for your incentive. Please enter the value of this incentive for your household.

### Section 5: Vehicle Purchasing Process 2

Based on your answer for the incentives above, we created this table below ranking your incentives. Does this order reflect the importance of those incentives on your decision of buying your {carmain}? If not, please reorder the list from the most important to the least important.

#### **Incentive Setup**

```
{count(s5p1q3_SQ009.NAOK, s5p1q3_SQ013.NAOK, s5p1q3_SQ015.NAOK, s5p1q3_SQ020.NAOK) - (countif('No Answer', s5p1q3_SQ009.NAOK, s5p1q3_SQ013.NAOK, s5p1q3_SQ015.NAOK, s5p1q3_SQ020.NAOK) + countif('Not Applicable', s5p1q3_SQ009.NAOK, s5p1q3_SQ013.NAOK, s5p1q3_SQ015.NAOK, s5p1q3_SQ015.NAOK, s5p1q3_SQ020.NAOK))}
```

{if(!is\_empty(s5p1q4\_SQ001.NAOK), if(s5p1q4\_SQ001.NAOK != 'No Answer' and s5p1q4\_SQ001.NAOK != 'Not Applicable', 1, 0), 0)}

{count(s5p1q3\_SQ001.NAOK, s5p1q3\_SQ003.NAOK, s5p1q3\_SQ005.NAOK) - (countif('No Answer', s5p1q3\_SQ001.NAOK, s5p1q3\_SQ003.NAOK, s5p1q3\_SQ005.NAOK) + countif('Not Applicable', s5p1q3\_SQ001.NAOK, s5p1q3\_SQ003.NAOK, s5p1q3\_SQ005.NAOK))}

# Section 5: Vehicle Purchasing Process 3

If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have:  *
☐ Choose one of the following answers
Please choose <b>only one</b> of the following:
still chosen the {carmain}
Chosen a battery electric vehicle (uses electricity only) instead
Chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead
chosen a hybrid vehicle (non plug-in, uses gasoline only) instead
Chosen a conventional vehicle instead
Chosen not to buy/lease a vehicle at all
Other

# Please enter the year, make, and model of the other vehicle you would have chosen:

\*

Only answer this question if the following conditions are met:

Answer was 'chosen a conventional vehicle instead' *or* 'chosen a hybrid vehicle (non plug-in, uses gasoline only) instead' *or* 'chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead' *or* 'chosen a battery electric vehicle (uses electricity only) instead' at question '111 [s5p3q1]' (If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have: \$(document).on('ready pjax:complete', function() { var rankings = [ {s5p2q1\_SQ001.NAOK}, {s5p2q1\_SQ003.NAOK}]; var names = [ "{s5p2q1\_SQ001.question}", "{s5p2q1\_SQ002.question}", "{s5p2q1\_SQ003.question}"]; interptRanking(rankings, names, "incentive-{QID}"); }); )

# How long do you believe your household's decision to buy a new car would have been postponed?

\*

Only answer this question if the following conditions are met:

Answer was 'chosen not to buy/lease a vehicle at all' at question '111 [s5p3q1]' ( If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have: \$(document).on('ready pjax:complete', function() { var rankings = [ {s5p2q1\_SQ001.NAOK}, {s5p2q1\_SQ002.NAOK}, {s5p2q1\_SQ003.NAOK}]; var names = [ "{s5p2q1\_SQ001.question}", "{s5p2q1\_SQ003.question}", "{s5p2q1\_SQ003.question}", "{s5p2q1\_SQ003.question}"); interptRanking(rankings, names, "incentive-{QID}"); }); )

# Section 5: Vehicle Purchasing Process 4

If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have:  *
☐ Choose one of the following answers
Please choose <b>only one</b> of the following:
still chosen the {carmain}
Chosen a battery electric vehicle (uses electricity only) instead
Chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead
chosen a hybrid vehicle (non plug-in, uses gasoline only) instead
Chosen a conventional vehicle instead
Chosen not to buy/lease a vehicle at all
Other

# Please enter the year, make, and model of the other vehicle you would have chosen:

\*

Only answer this question if the following conditions are met:

Answer was 'chosen a conventional vehicle instead' *or* 'chosen a hybrid vehicle (non plug-in, uses gasoline only) instead' *or* 'chosen a battery electric vehicle (uses electricity only) instead' *or* 'chosen a plug-in hybrid electric vehicle (uses electricity and/or gasoline) instead' at question '114 [s5p4q1]' ( If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have: var list = doRankingList('{SID}', '{GID}', '{QID}'); //Discounted parking list.addRankingItem('{s5p2q1\_SQ005.question}', '{s5p2q1\_SQ005}', '{s5p1q3\_SQ011}'); //Preferred parking list.addRankingItem('{s5p2q1\_SQ006.question}', '{s5p2q1\_SQ006}'); //HOV list.addRankingItem('{s5p2q1\_SQ008.question}', '{s5p2q1\_SQ008}', '{s5p1q3\_SQ017}'); //Reduced Price Hydrogen list.addRankingItem('{s5p2q1\_SQ010.question}', '{s5p2q1\_SQ009.question}', '{s5p2q1\_SQ009}', '{s5p1q3\_SQ021}'); //Other list.addRankingItem('{s5p2q1\_SQ009.question}', '{s5p2q1\_SQ009}', '{s5p1q4\_SQ003}'); list.fillElement("incentive", 1, true); )

# How long do you believe your household's decision to buy a new car would have been postponed?

\*

Only answer this question if the following conditions are met:

Answer was 'chosen not to buy/lease a vehicle at all' at question '114 [s5p4q1]' ( If the incentive were not available for my {carmain} (or any other fuel cell electric vehicle) I would have: var list = doRankingList('{SID}', '{GID}', '{QID}'); //Discounted parking list.addRankingItem('{s5p2q1\_SQ005.question}', '{s5p2q1\_SQ005}', '{s5p1q3\_SQ011}'); //Preferred parking list.addRankingItem('{s5p2q1\_SQ006.question}', '{s5p2q1\_SQ006}'); //HOV list.addRankingItem('{s5p2q1\_SQ008.question}', '{s5p2q1\_SQ008}', '{s5p1q3\_SQ017}'); //Reduced Price Hydrogen list.addRankingItem('{s5p2q1\_SQ010.question}', '{s5p2q1\_SQ010}', '{s5p1q3\_SQ021}'); //Other list.addRankingItem('{s5p2q1\_SQ009.question}', '{s5p2q1\_SQ009}', '{s5p1q4\_SQ003}'); list.fillElement("incentive", 1, true); )

### Section 5: Vehicle Purchasing Process 5

How important were the following factors in your decision to buy a fuel cell electric vehicle:

Drag the blue handle to the point between "Not Important" and "Important" that reflects how important each factor was to your decision. If a factor was not part of your decision, move the handle to "Not Applicable".

### Section 6

Do you own or rent your primary residence? *
☐ Choose one of the following answers Please choose only one of the following:
Own Rent
Other
How would you describe your home? *  □ Choose one of the following answers
Please choose <b>only one</b> of the following:
Detached house, also called a single family home.  Attached house (townhouse, duplex, triplex)  Apartment Building  Mobile Home

What is the highest level of formal education you personally completed? *
☐ Choose one of the following answers Please choose only one of the following:
Grade 8 or less
Some High School
High School Graduate or GED
O Some College
College Graduate
O Some Graduate School
Masters, Doctorate, or Professional Degree
Prefer not to state

My household's pre-taxed income for the past tax year was in the following range: *  □ Choose one of the following answers
Please choose <b>only one</b> of the following:
Less than \$50,000
\$50,000 to \$99,999
\$100,000 to \$149,999
\$150,000 to \$199,999
\$200,000 to \$249,999
\$250,000 to \$299,999
\$300,000 to \$349,999
\$350,000 to \$399,999
\$400,000 to \$449,999
\$450,000 to \$499,999
\$500,000 or more
O I prefer not to answer

#### **Final Comments**

Whew! You finally made it! We appreciate your patience and your willingness to help give us a broad view of fuel cell electric vehicle usage in California. With this data set we hope to improve electric driving experience with your current and future vehicles.

As a follow on to this study we will be gathering more detailed data on vehicle usage by recruiting volunteers to allow a small data logger to be temporarily installed in their cars with an incentive up to \$350. We will contact more volunteers than we will eventually choose for the study. If we do not choose you for the study, you will not receive any incentive. Are you interested in learning more about this study? \*

Please choose only one of the following:

After 6 months to a year, we'd like to contact you for a short 5 minute survey to see if anything has changed in your travel. Are you willing to be contacted for this even if there is no incentive? \*

Please choose **only one** of the following:

$\bigcirc$	Yes
	Nο

Please enter your email: (It will be used only by UC Davis for the items you marked above.) *  Only answer this question if the following conditions are met: contact.NAOK (/admin/questions/sa/view/surveyid/924894/gid/89/qid/1005) == 'Y'    contact2.NAOK (/admin/questions/sa/view/surveyid/924894/gid/89/qid/1032) == 'Y'  Please enter a valid email address.  Please confirm the email address.
Please provide us with any comments or questions you had during taking our survey.  You are one of the first people taking this survey. We appreciate any feedback you may have and we will use it to improve the survey. Examples include: typos, technical issues, questions you didn't understand, etc. Thank you!  Please write your answer here:

02-28-2019 - 14:08

Submit your survey.

Thank you for completing this survey.