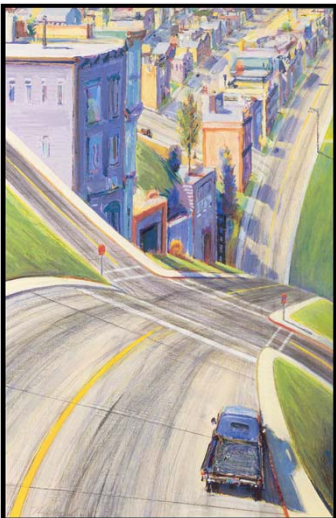

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## Taking Stories Seriously

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*PH&EV Center Symposium  
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## A recent and partial history of consumer research at the PH&EV Center

1. PHEV “pioneers” interviews: early vehicle converters and drivers
2. National internet-based survey of new car-buyers’ priorities regarding PHEVs
3. PHEV Household Demonstration and Market Research
  - PHEV energy effects, e.g., recharging behavior
  - Energy feedback to drivers
  - Narrative
  - Social interaction
4. MINI E Consumer Study
5. PEVs and Green Electricity?




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## Narratives are...

...stories people create to connect their pasts through the present to possible futures.

- Past is memory, resource, and constraint
- Present is action
- Future is imagination
  - Possible futures are contingent and uncertain
    - The future may be imagined to look a lot like the present
- These stories are social constructions
  - Different versions are told in different social settings
  - Different stories are available in different cultures



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## Why narrative? Values change.

- PEVs give access to new values
  - Derive new benefits (and costs),
  - Enact new behaviors
  - Create new lifestyle sectors
- PEVs three new systems of benefits
  1. Electric drivetrain
  2. Recharging behaviors
  3. Identity: Environmental, social, and civic

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## How long to access new systems of PEV benefits?

### Drivetrain

- Accelerate from 0 to ~30mph—3 to 4 seconds.
- Turn evaluation of aggressive regenerative braking, i.e., one-pedal driving, from negative to positive—3 to 4 days.

### Recharging

- Sense of independence from oil, no trips to gas stations, stable electricity prices vs. fluctuating gasoline prices—3 to 4 weeks



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## Developing new lifestyle sectors—without seeing it coming

### Initial Household Fleet

A hypothetical household owns two cars to which they make routine trip assignments.

Car 1 (ICE)	Car 2 (ICE)
• Trip a	• Trip w
• Trip b	• Trip x
• Trip c	• Trip y
• Trip d	• Trip z

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## First, what does not happen?

**Confronted by the idea of a BEV, this is what people imagine they must do—and can't imagine it is a good idea.**

A battery EV cannot be simply substituted into their *present*.

This is also not what happens in households that drive BEVs.

BEV

Car 2 (ICE)

- Trip a
- Trip b
- Trip c
- Trip d

- Trip w
- Trip x
- Trip y
- Trip z

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## Adaptation and Exploration

Household may reassign other vehicle's trips (y' and z') to EV for a variety of reasons:

- EV driving performance (fun to drive)
- Lower fuel/operating costs
- Less polluting

Some may change destinations and create new trips.

BEV

- Trip a'
- Trip b
- Trip c
- Trip d
- New Trips

←

→

→

Car 2 (ICE)

- Trip w
- Trip x
- Trip y'
- Trip z'

## Learning Process

EV lifestyle sector can expand and change as drivers get comfortable with the car, learn distances to destinations, and possibly as infrastructure is developed.

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## Changing Values:

If MINI E drivers ever had range anxiety,  
many now have range aspiration

They don't want more range because they are afraid.

They want more range to access more of their life.

How much of their life can they get into their "MINI E lifestyle sector"?

The diagram consists of two vertical boxes. The left box is blue and labeled 'MINI E'. It contains a red header 'Trip a' and four blue items: 'Trip b', 'Trip c', 'Trip d', and 'New Trips'. The right box is red and labeled 'Car 2 (ICE)'. It contains a red header 'Trip w' and three blue items: 'Trip x', 'Trip y'', and 'Trip z''. A single-headed arrow points from the Car 2 (ICE) box to the MINI E box. Two single-headed arrows point from the MINI E box to the Car 2 (ICE) box.

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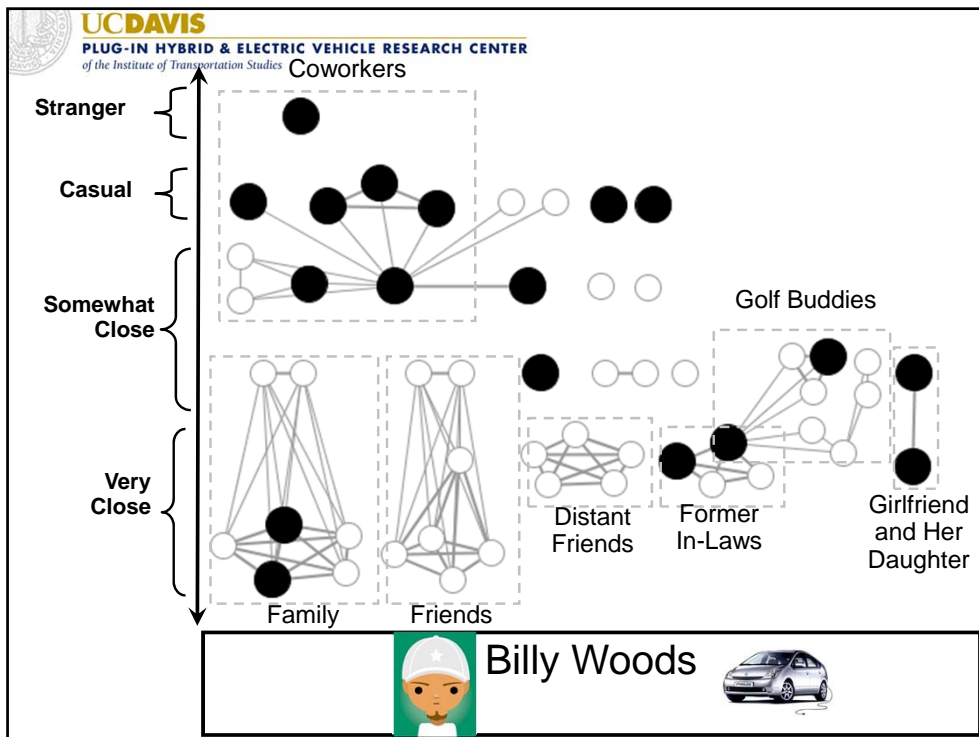
## MINI E drivers do not imagine this transition ahead of time

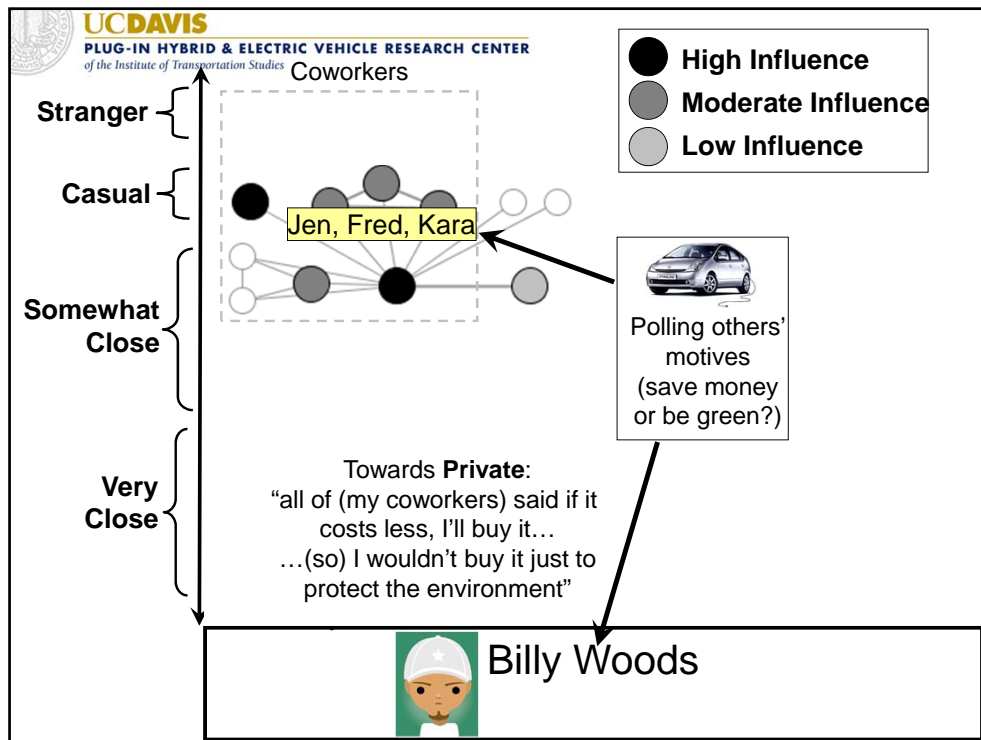
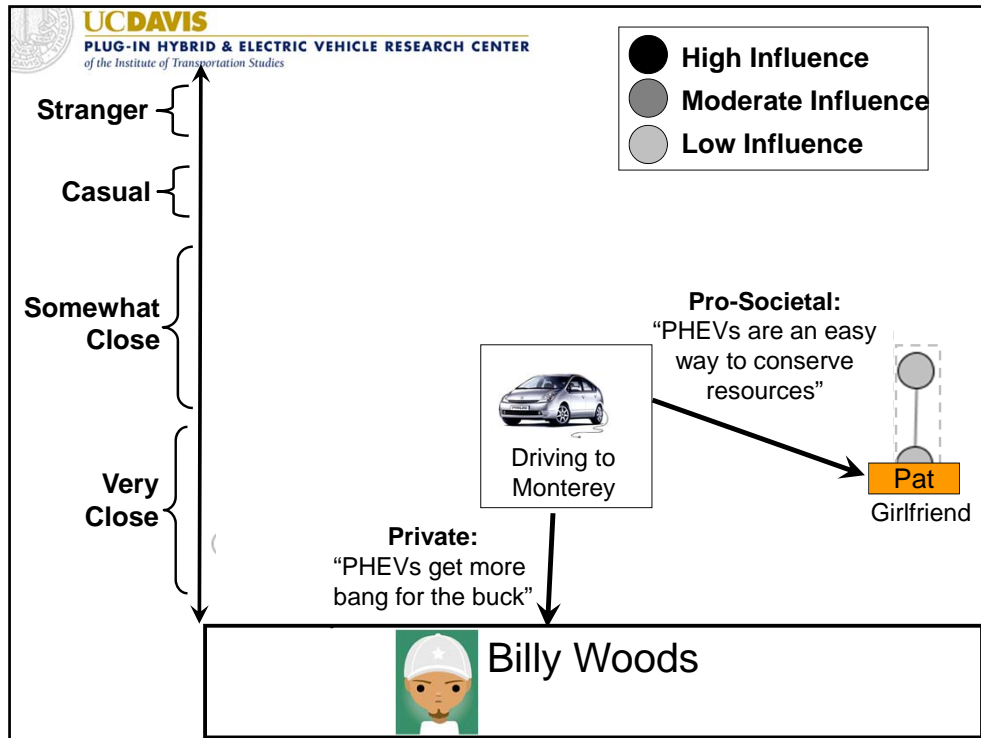
The diagram shows three vertical boxes. On the left, there are two red boxes: 'Car 1 (ICE)' with items 'Trip a', 'Trip b', 'Trip c', 'Trip d' and 'Car 2 (ICE)' with items 'Trip w', 'Trip x', 'Trip y', 'Trip z'. A large blue arrow points from these two boxes to a central blue box labeled 'MINI E'. The MINI E box contains a red header 'Trip a' and four blue items: 'Trip b', 'Trip c', 'Trip d', and 'New Trips'. To the right of the MINI E box is another red box labeled 'Car 2 (ICE)' with a red header 'Trip w' and three blue items: 'Trip x', 'Trip y'', and 'Trip z''. A single-headed arrow points from the Car 2 (ICE) box to the MINI E box. Two single-headed arrows point from the MINI E box to the Car 2 (ICE) box.

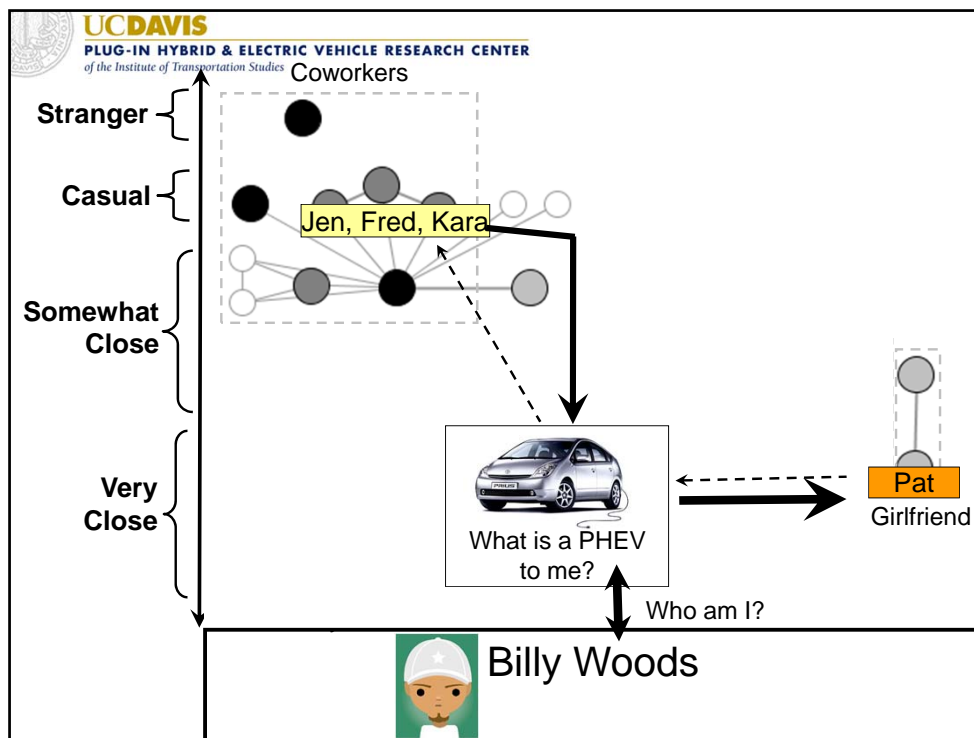
- For the MINI E households, this transition is a contingent construction from one present to another.
- For other households, the story of the MINI E household is available as material for an imagined future.

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## Storytelling: The spread of ideas and values through social networks








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“Who am I in relationship to this thing?”


1. Social interaction—storytelling—matters
2. Characterizing processes of social influence:
  - More than *diffusion*, there is *translation*
  - *Pro-societal* discussions matter
3. Pro-societal values/practices are dynamic
  - Lifestyle *liminality* (openness to change)
  - Social network *support*



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## Themes from all the PHEV Demonstration Households' Narratives

- Confusion
- Changing Driving Behavior
- Prior Expectations
- Recharging: Habits and etiquette
- Saving Money
- Payback and Environment: How to value PHEVs
- The Future




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## From the Theme of Confusion: A hierarchy of messages and actions


1. Plug-in diligently to increase benefits
  - Increase the kinds of value
 

What counts as a benefit for American households does not generally include reductions in climate forcing emissions
2. Understand SOC to understand what “diligent” means to you
3. Translate “all-electric operation for (your miles may vary)”
4. Use these three to buy the right amount of range to get the most benefits for the lowest price

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## Does linking PEVs and Green e- increase both their values?

<p><b>MINI-E drivers divided</b></p> <ol style="list-style-type: none"> <li>1. Big investments in both: PEV and solar photo-voltaic</li> <li>2. Why should I pay more? I'm already driving a PEV! <ul style="list-style-type: none"> <li>• Long-term contract for cheaper (green) electricity</li> <li>• Keep my car and my electricity separate</li> </ul> </li> </ol>	<p><b>Green e- program participants are skeptical</b></p> <p>What is the best thing I can do?</p> <ul style="list-style-type: none"> <li>• Are PEVs actually an better (for the environment)?</li> <li>• What about manufacturing, recycling, and batteries?</li> </ul> <p>Low levels of trust for corporations</p>
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## To facilitate transitions to PEVs...

- Use the transition to provide access to, and facilitate the spread of, new values
- Put more value into PEVs
  - Experience creates new values, benefits, behaviors, and lifestyle sectors
- Storytelling leverages experience



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