



COLLEGE OF SOCIAL SCIENCES
HAWAII ENERGY POLICY FORUM
UNIVERSITY OF HAWAI'I AT MĀNOA

Energy Efficient Transportation Strategies

Planning for Clean Mobility
Options for Hawaii

A Presentation to HCPO 2009

September 24 2009



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**Energy Efficient
Transportation Strategies**
An Assessment of Public Attitudes and Behaviors

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Outline

- HEPF Working Group on Energy Efficiency in Transportation
- Motivation/Purpose of the Statewide Transportation Survey Study
- Methodology
- Preliminary Results
- Policy Discussion

Strategies for Energy Efficiencies in Transportation (SEET) Study

- Sponsors: FHWA and State DOT
- Time Period: March 4, 2009 - March 3, 2010
- Principal Investigator: Dr. Sharon Miyashiro, Associate Director of the Public Policy Center, UH Manoa
- Collaborators: Dr. Makena Coffman and Dr. Peter Flachsbart of the Department of Urban and Regional Planning, UH Manoa

Motivation for SEET Study

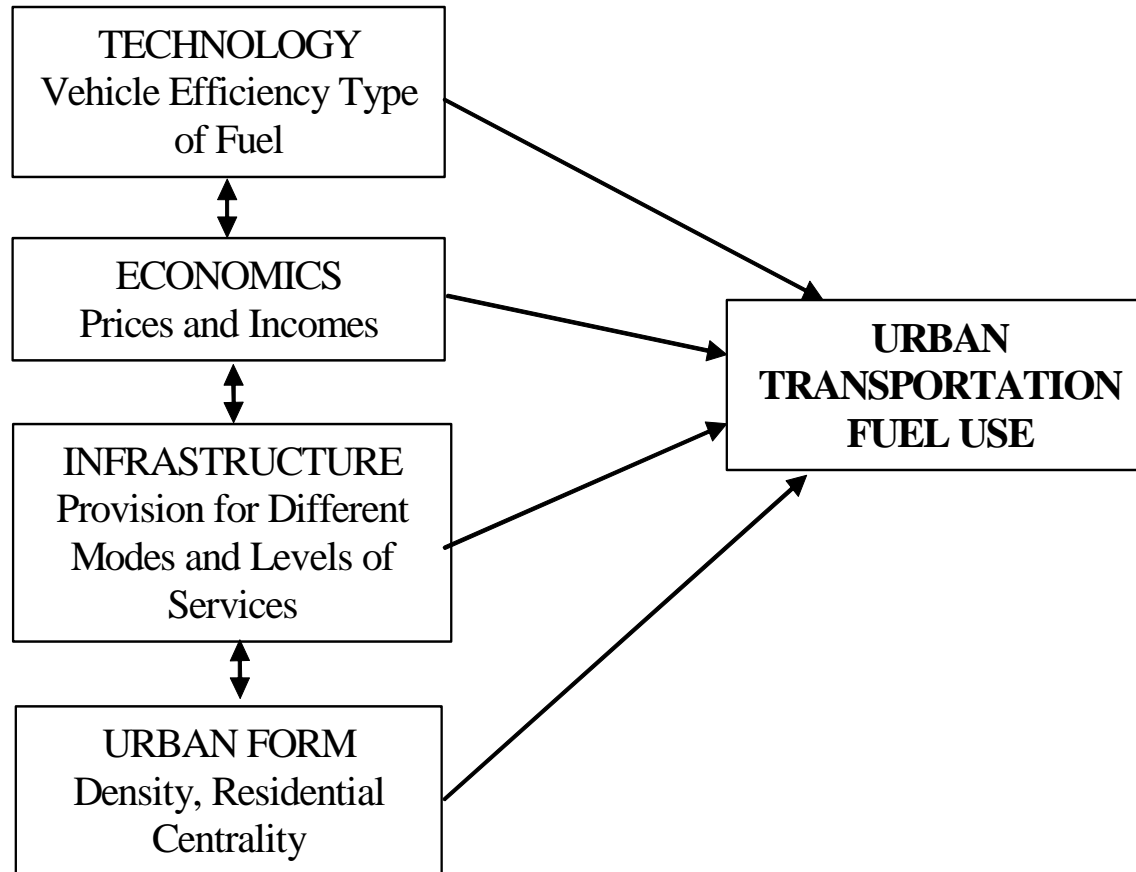
- Petroleum satisfies 90% of Hawai'i's energy needs
 - Volatile oil and motor fuel prices in recent years
 - Potential impact of pending national legislation on GHG emissions on oil and gas prices
 - Act 254 directed Hawai'i Energy Policy Forum (HEPF) to develop strategies for energy efficiencies in transportation (SEET)

Energy Efficiency in Transportation Working Group (ACT 254)

“Hawaii’s energy efficient transportation integrates effective community input and planning (demand), and offers people of all ages and walks of life flexible options (supply) including mass transit, private and public vehicles and self-powered conveyance in alternative combinations that provide mobility at acceptable cost.”

Factors Affecting Urban Transportation Fuel Use

Source: Newman and Kenworthy, *Sustainability and Cities*, 1999, p. 72.



Survey Objective

- Develop a baseline of data on resident transportation patterns
- Gauge preferences for policies to improve energy efficiency in surface transportation
- Categories of Policies
 - Incentives to induce shifts to more efficient modes of transportation
 - Increase the passenger load factor of existing vehicle fleets
 - Incentives for motorists to buy more fuel-efficient vehicles
 - Redistribute urban activities to decrease overall travel demand

Statewide Survey

➤ Telephone

- Market Trends Pacific, Inc.
- June 25 to August 6, 2009
- 1,536 completed interviews statewide
- 7% of all those contacted refused participation and 5% were ineligible.
- Representative sample (95% confidence) for each county
- 12- to 32-minute interviews, because of contingency questions

➤ Online

- A tool to reach participants without land-line phones
- July 1 to September 13, 2009
- Convenience sample of 304 participants statewide
- Included graphics to assess alternative living and commuting environments

Telephone Survey

Preliminary Results

In 2008, gasoline prices went above \$4 a gallon. Did this cause you to reduce the number of miles that you drove in 2008?

Yes	49.8%
No	44.0%
Maybe or Not Sure	4.4%
Can't Recall/Don't Know	1.7%

Asked of persons who used one particular vehicle for most trips they made last week.

What things did you do to cope with higher gasoline prices last year?

Combined errands	29.5%
Joined a carpool or vanpool	14.9%
Walked more often	8.1%
Reduced average driving speed to increase fuel economy	6.6%
Took the public bus, on your island, more often	6.2%
Checked tires for proper inflation	6.1%
Shopped at stores closer to home	4.2%
Spent less money on other goods and services	2.8%
Used a bicycle more often	2.3%
Purchased a more fuel-efficient vehicle	1.2%
Worked at home more often	0.6%
Other	47.8%
Can't recall/Don't know/Refused	1.9%

Asked of persons who did something to cope with higher gasoline prices last year.

Percents add up to more than 100 due to multiple mentions.

Need to tabulate “other” reasons.

How many of these things are you still doing?

Most of them	67%
Some of them	13%
None of them	17%
Don't know/Refused	3%

Did you ride [the city or county] bus for any trip that you made last week?

	<u>Yes</u>	<u>No</u>
Honolulu	23.6%	76.4%
Hawaii	5.2%	94.8%
Maui	7.9%	92.1%
Kauai	10.3%	89.5%

What would it take for you to ride [the city or county] bus more often?

	Honolulu	Hawaii	Maui	Kauai
More frequent service	13.2%	18.4%	17.0%	18.8%
More convenient bus stops	9.9%	20.9%	28.0%	23.4%
More reliable service	2.7%	1.7%	5.1%	7.7%
A faster ride	2.3%	1.7%	3.3%	4.4%
A lower or free fare	5.1%	3.2%	4.8%	3.3%
Less crowded buses	2.9%	0.7%	0.7%	1.1%
More comfortable seats	0.5%	0.5%	0.4%	2.0%
Nothing would make me take a bus	50.6%	54.1%	45.1%	47.3%

Whether you ride the bus or not, how long would it take for you to walk from home to the nearest bus stop in your neighborhood?

	Honolulu	Hawaii	Maui	Kauai
Less than 5 minutes	48.9%	8.2%	19.7%	16.9%
About 5 to 10 minutes	26.3%	15.4%	23.7%	27.7%
More than 10 minutes	22.7%	58.3%	41.2%	45.9%
Not sure	1.7%	17.6%	11.7%	9.2%
Refused	0.5%	0.5%	3.7%	0.2%

In the next three years, do you expect to buy or lease a motor vehicle for your personal use or the use of another member of your household?

Yes	28.4%
No	60.0%
Maybe	9.5%
Can't recall/Don't know/ Refused	2.1%

What factor would be most important to you in choosing your next vehicle?

Dependability	15.2%
Fuel Economy	34.7%
Ability to run on different kinds of fuel	1.9%
Low price	10.4%
Quality	12.3%
Safety	17.1%
None of these	5.7%
Don't know/Refused	2.7%

When you buy or lease your next vehicle, how likely are you to buy a hybrid gas-electric vehicle?

Very likely	30.6%
Somewhat likely	35.3%
Not at all likely	30.7%
Don't know/Refused	3.4%

Please tell me if any of these reasons would help to persuade you to buy a more fuel-efficient vehicle.

	<u>Yes</u>
More cash for the vehicle you trade in	55.5%
Higher gas prices than currently exist	53.8%
A tax credit to offset the higher initial cost of the vehicle	49.3%
Free or preferential parking at work	44.4%
Permission to use high-occupancy vehicle or HOV lanes	44.2%

Asked of persons who expect to buy or lease a vehicle in the next three years.

What price of gasoline would motivate you to consider buying a more fuel-efficient vehicle?

\$3/gallon	13.9%
\$3.50/gallon	4.6%
\$4/gallon	18.5%
\$4.50/gallon	4.5%
\$5/gallon	16.3%
\$6/gallon	5.6%
\$7/gallon	1.4%
\$8/gallon	1.9%
\$9/gallon	1.1%
\$10/gallon	2.0%
None of the above	25.1%
Don't know/Refused	5.1%

*Need to cross-tab with income in order to understand peoples' sensitivity to price.

If the price of gas were to rise and stay above \$4/gallon, would you do any of the following things to save money, if they were available to you?

Switch to a four-day work week	57.9%
Do nothing, just pay higher gas prices	43.3%
Work from home more often using a computer to communicate	35.5%
Use TheBus or other public transportation	34.4%
Look for a comparable job or school that would require a shorter commute or less driving	29.8%
Look for a place to live closer to work or school	13.1%

Would you say that you are very familiar, somewhat familiar, or not familiar with bio-diesel and ethanol fuels for motor vehicles?

Very	24.3%
Somewhat	33.9%
Not familiar	40.6%
Don't know/Refused	1.1%

Would you consider buying or leasing a vehicle that is able to run primarily on bio-diesel or ethanol fuels?

Yes	47.7%
No	29.1%
Maybe	21.0%
Don't know/Refused	2.1%

Of these fuels, would you prefer to use ...?

Ethanol E85	13.8%
Bio-diesel	31.3%
No preference	49.5%
Don't know/Refused	5.4%

Do you have to pay for parking where you work or attend school?

	<u>Yes</u>	<u>No</u>
Honolulu	20.5%	79.2%
Hawaii	10.3%	89.7%
Maui	3.0%	97.0%
Kauai	2.2%	97.8%

If the price of parking doubled, where you work or attend school, would you use the public bus instead of your vehicle to commute?

Yes	22.6%
No	45.3%
Maybe	31.5%
Don't know/Refused	0.5%

O'ahu residents only: Will the rail transit system from Kapolei to Ala Moana Center (to be done in 2018) provide service to your community or the general area where you live?

Yes	23%
No	59%
Not sure	15%

If Yes or not sure: If the rail transit system were running now and gasoline was and stayed above \$4 per gallon, would you use it for some of your trips?

Yes	34%
No	47%
Maybe	16%

Does the idea of living in a neighborhood within convenient walking distance of a rail transit stop appeal to you?

—		
—	49.4%	Yes
—	33.1%	No
	13.5%	Maybe
	4.0%	Don't know/refused

Series of Eight TOD Questions

Asked of those who said “yes” or “maybe” to: *If the price of gas were to rise and stay above \$4 per gallon, would you look for a place to live closer to work or school to save money?*

Stem of each question: *Suppose that you found a new place to live with a shorter commute that satisfied you. Let’s also suppose that your new place differs from your present home in some respects, e.g.,*

more densely populated area

mixed land use

close to bus or rail transit stop

less space to park your vehicle, but you could walk or ride your bicycle more often

Today’s TOD session presented our results to these questions.