

# Survey Research Analysis Findings and Recommendations



Customer Satisfaction Champion Meeting  
September 2013

# Agenda

- Welcome
- Background
- Customer Survey Research Analysis
- Comments and Discussion
- Next Steps



# Background

- Underrepresentation of younger population in FDOT resident surveys (2009 & 2011)
- Potential bias of the survey results
- National trend in the survey field
- Research analysis
  - ❖ to understand the issue
  - ❖ to find promising methods to minimize the issue



# **Customer Survey Research Analysis:** **Improving Representation in FDOT Customer Surveys**

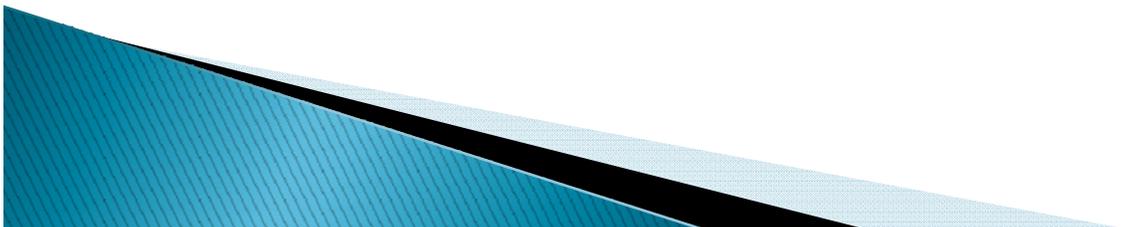
Dr. Jason Barabas  
Dr. Mary Stutzman  
Carlos Paez

Florida State University

September 2013

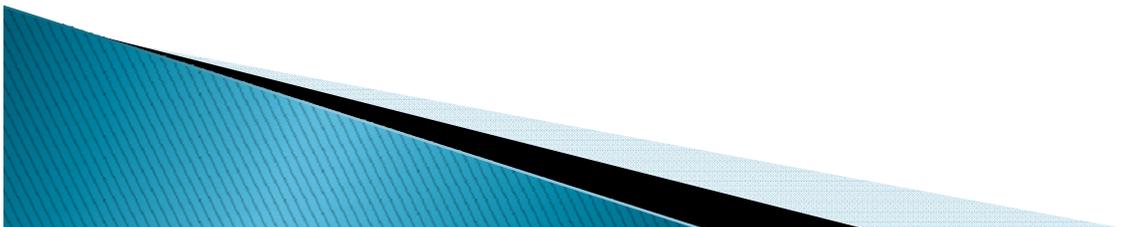
# Overview

- ▶ Literature Review
  - Nonresponse rates increasing
  - Particularly in telephone surveys
  - Potential nonresponse bias / unrepresentativeness of samples
- ▶ Small Pilot Study
  - Non-telephone alternatives (mail, internet)
  - Well-defined samples to characterize potential nonresponse biases



# Literature Review

- ▶ Pew Research Center Study – May 2012
- ▶ Center for Disease Control (CDC) Study – 2013
- ▶ Other Research



# Declining Response Rates

## Surveys Face Growing Difficulty Reaching, Persuading Potential Respondents

	1997	2000	2003	2006	2009	2012
	%	%	%	%	%	%
<b>Contact rate</b> (percent of households in which an adult was reached)	90	77	79	73	72	62
<b>Cooperation rate</b> (percent of households contacted that yielded an interview)	43	40	34	31	21	14
<b>Response rate</b> (percent of households sampled that yielded an interview)	36	28	25	21	15	9

PEW RESEARCH CENTER 2012 Methodology Study. Rates computed according to American Association for Public Opinion Research (AAPOR) standard definitions for CON2, COOP3 and RR3. Rates are typical for surveys conducted in each year.

Low even with cell phone samples:

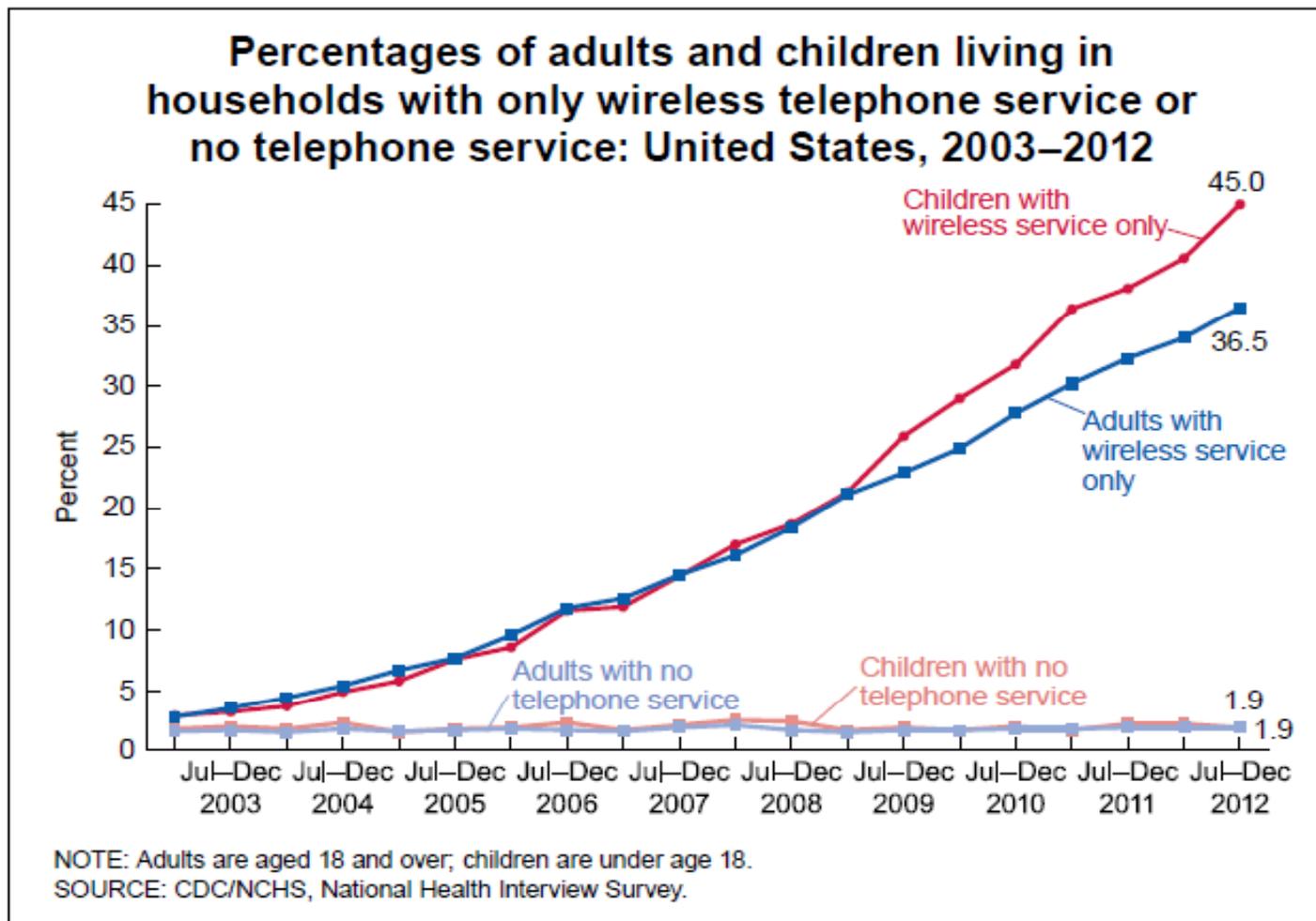
2012 Landline Phone=10% response rate

**2012 Cell Phone=7% response rate**

2012 Overall=9% response rate

# Growth in Wireless-Only Population

CDC Report 2013



# Wireless by Race/Ethnicity & Age

**Percentage of Adults Living in Wireless-Only Households by Race/Ethnicity, 2009-2012**

	Jan-Jun 2009	Jul-Dec 2009	Jan-Jun 2010	Jul-Dec 2010	Jan-Jun 2011	Jul-Dec 2011	Jan-Jun 2012	Jul-Dec 2012
Hispanic or Latino, Any Race(s)	28.2	30.4	34.7	38.4	40.8	43.3	46.5	50.5
Non-Hispanic Black, Single Race	21.3	25.0	28.5	31.1	32.5	36.8	37.7	39.0
Non-Hispanic White, Single Race	19.7	21.0	22.7	25.0	27.6	29.0	30.4	32.9
Non-Hispanic Asian, Single Race	18.0	20.6	18.8	27.0	27.7	31.6	33.4	34.4
Non-Hispanic Other, Single Race	20.6	26.5	16.1	31.9	33.8	44.1	43.4	43.9
Non-Hispanic, Multiple Races	28.7	26.9	36.0	36.1	39.3	36.7	40.2	45.3

Source: Blumberg et al. 2012.

**Percentage of Adults Living in Wireless-Only Households by Age Category, 2009-2012**

	Jan-Jun 2009	Jul-Dec 2009	Jan-Jun 2010	Jul-Dec 2010	Jan-Jun 2011	Jul-Dec 2011	Jan-Jun 2012	Jul-Dec 2012
Age 18-24	37.6	37.8	39.9	45.5	46.8	48.6	49.5	53.2
Age 25-29	45.8	48.6	51.3	53.5	58.1	59.6	60.1	62.1
Age 30-34	33.5	37.2	40.4	43.8	46.2	50.9	55.1	56.7
Age 35-44	21.5	23.9	27	30.9	34.3	36.8	39.1	43.5
Age 45-64	12.8	14.9	16.9	18.8	21.6	23.8	25.8	28.4
Age 65 and older	5.4	5.2	5.4	7.7	7.9	8.5	10.5	11.6

Source: Blumberg et al. 2012.

# But, Cell Phone Polling Is...

- ▶ More costly than landline surveying
- ▶ Yields low response rates in past (lower than landline in the 7% cell response rates vs. 10% landline in a 2012 Pew study)
- ▶ Potentially dangerous if respondents are driving (FL banned texting while driving in 2013)

The screenshot shows the National Safety Council website. At the top, it features the '100 YEARS OF SAFETY' logo and the text 'National Safety Council' with the years '1912 1913 — 2012 2013'. Below this is a navigation bar with links for 'Sign In', 'Donate', 'Join', and 'Get Involved'. A search bar is visible. The main content area has a green header with 'Safety on the Road' and a large banner for 'Distracted Driving' featuring a woman driving and a car accident. The banner includes the text 'Distracted Driving' in large white letters on a red background.

The screenshot shows the Florida DMV website. At the top, it features the 'DMV FLORIDA' logo and the text 'Tips From the Florida Highway Patrol Cell Phones and Driving Florida DMV'. Below this is a navigation bar with links for 'Florida DMV', 'DMV Offices', 'Drivers License', 'Car Registration', 'New Cars', and 'Used Cars'. The main content area has a blue header with 'Florida Drivers Distracted' and a sub-header 'You are Here: Florida DMV Home > Cell Phones Distractions'. The text reads: 'Driving and talking on a cell phone is perfectly legal in Florida. But should you do it? We've all seen drivers with cell phones glued to their ears changing lanes too close to you, rolling through stop signs, or just not driving well at all. One of the biggest causes of accidents in Florida is distracted drivers.' Below this is a section titled 'Florida Highway Patrol Tips' with the text: 'This is why the Florida Highway Patrol has issued their Cell Phone Tips for drivers. If you want to avoid a traffic ticket and keep your drivers license in good status, you need to read on to avoid bad driving habits. You can easily get a ticket in Florida if you become a distracted driver and break road rules, or worse, cause an accident.' At the bottom, there is a link for 'Completing Traffic School for tickets in Florida'.

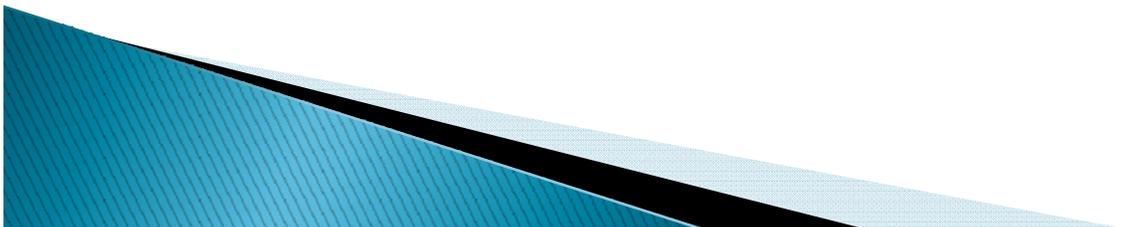
# Comparison of Modes

Comparison of Survey Modes across Evaluative Criteria

	Landline Telephone	Cell/Wireless Telephone	Mail	Internet/Email
Response Rates	●●	●●	●●●	●
Representativeness	●●	●●	●●●	●
Coverage	●●●	●	●●	●
Financial Costs	●●	●	●●	●●●
Speed/Timeliness	●●	●	●	●●●
Data Entry Ease	●●	●●	●	●●●
Weighting/Correcting	●●	●●	●●●	●
Respondent Accuracy/Trust	●●	●●	●●●	●●
Respondent Safety	●●●	●	●●●	●●

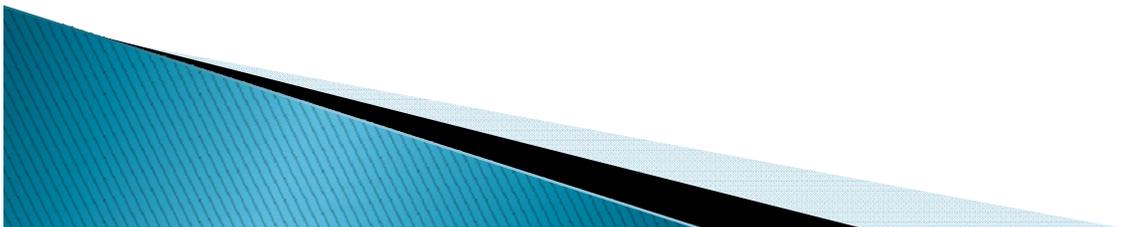
- = lowest/worst
- = medium/middle
- = highest/best

# 2013 Pilot Study



# Main Features of Pilot Study

- ▶ Repeat Many Past FDOT Questions
- ▶ Mail Mode, but also Some Web/Internet
- ▶ Survey Sponsorship Variations
  - Q: Does Sponsorship by FDOT alter willingness to participate?
  - Florida State University (FSU) Baseline
  - Other factors (e.g., incentives) not feasible
- ▶ Mode Preference Questions



# Sampling Frames

- ▶ Registration-Based Sampling (RBS)
  - FL Division of Elections (FDOE)
    - Millions of individuals in District 5
    - Randomly Sampled 10,000
      - 5,000 with mail survey, 5,000 internet
  - Commercial Vendor Comparison
    - Registered & Unregistered
    - Acquired email addresses for part of sample
    - $n \approx 70,000$
    - Recovered several thousand email addresses
    - Not a focus of the report due to low response rates (i.e., fewer than 1% of original sample responded)

# FDOT District 5

**Table 2. County Representation for FDOT District 5**

County	2013 Florida Div. of Elections		Random Sample	
	N	%	N	%
Brevard	370,156	15.2%	1,532	15.3%
Flagler	72,258	3.0%	307	3.1%
Lake	213,615	8.8%	870	8.7%
Marion	229,562	9.4%	907	9.1%
Orange	689,786	28.3%	2,836	28.4%
Osceola	173,577	7.1%	723	7.2%
Seminole	281,710	11.5%	1,140	11.4%
Sumter	74,108	3.0%	291	2.9%
Volusia	335,616	13.8%	1,394	13.9%
<b>Total</b>	<b>2,440,366</b>	<b>100.0%</b>	<b>10,000</b>	<b>100.0%</b>

## District 5

- \* Headquarter
- Interstates
- US Highways (USROUTE)
- Counties



# Racial/Ethnic Characteristics

Mail Survey Respondents, 2013

Category	BEBR 2011 Landline, Dist. 5		All		Florida Div. of Elections		Catalist Reg. Voters		Catalist Non-Voters	
	N	%	N	%	N	%	N	%	N	%
White, Non-Hispanic	312	75.0%	574	78.8%	453	79.1%	95	83.3%	26	63.4%
Hispanic	36	8.7%	50	6.9%	42	7.3%	4	3.5%	4	9.8%
Black, Non-Hispanic	30	7.2%	38	5.2%	31	5.4%	6	5.3%	1	2.4%
Asian, Indian, Pacific	7	1.7%	15	2.1%	12	2.1%	1	0.9%	2	4.9%
American Indian	1	0.2%	7	1.0%	4	0.7%	2	1.8%	1	2.4%
Multiracial	7	1.7%	4	0.5%	3	0.5%	1	0.9%	0	0.0%
Other/Unknown	23	5.5%	40	5.5%	28	4.9%	5	4.4%	7	17.1%
<b>Total</b>	<b>416</b>	<b>100.0%</b>	<b>728</b>	<b>100.0%</b>	<b>573</b>	<b>100.0%</b>	<b>114</b>	<b>100.0%</b>	<b>41</b>	<b>100.0%</b>

“2013ALL”

“2013S1”

“2013S2”

“2013S3”

# Age Categories

Mail Survey Respondents, 2013

Age Category	BEBR 2011 Landline, Dist. 5		All		Florida Div. of Elections		Catalist Reg. Voters		Catalist Non-Voters	
	N	%	N	%	N	%	N	%	N	%
18-34	29	7.0%	84	11.6%	64	11.2%	12	10.5%	8	21.6%
35-54	125	30.2%	163	22.5%	131	22.9%	22	19.3%	10	27.0%
55-64	92	22.2%	169	23.3%	135	23.6%	29	25.4%	5	13.5%
65+	168	40.6%	308	42.5%	243	42.4%	51	44.7%	14	37.8%
<b>Total</b>	414	100.0%	724	100.0%	573	100.0%	114	100.0%	37	100.0%

“2013ALL”

“2013S1”

“2013S2”

“2013S3”

# Better Gender Composition in 2013

Please indicate whether you are male or female.\*

	2013S1	2013S2	2013S3	2013	2011	2009	2007	2006	2004	2002	2000
Male	48%	40%	42%	46%	38%	43%	45%	41%	35%	42%	49%
Female	51%	60%	56%	52%	62%	58%	55%	59%	65%	58%	51%
Prefer not to answer	2%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%

\*Based on sample data.

# Response Rates: 10.4% Overall

(i.e., 728 returned out of 7,000 surveys sent)

	All	Florida Div. of Elections	Catalist Reg. Voters	Catalist Non-Voters
<u>Race/Ethnicity</u>				
Hispanic	0.5%	3.1%	0.1%	0.1%
Black, Non-Hispanic	0.4%	2.7%	0.2%	0.0%
White, Non-Hispanic	1.2%	6.6%	0.4%	0.1%
All Others	2.3%	7.3%	1.0%	0.8%
<u>Age Category</u>				
18-34 years old	0.6%	2.5%	0.1%	0.2%
35-54 years old	0.8%	4.1%	0.2%	0.1%
55-64 years old	1.9%	8.0%	0.6%	0.2%
65+ years old	2.2%	9.7%	0.7%	0.3%

“2013ALL”

“2013S1”

“2013S2”

“2013S3”

# Selected Survey Responses: Most Answers Similar to Past Years

2013 Sample Types	
2013S1	= Registered Voters, FL Div. of Elections
2013S2	= Registered Voters, Private Firm/Catalist
2013S3	= Non-registered, Private Firm/Catalist
2013ALL	= All Respondents (S1, S2, and S3)

## PART I

Questions below deal with how well a driver is able to see key signing and road markings. Please indicate how well the following items assist you when traveling on the State Highway System near your area:

Item	Year	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Valid N
A. Spacing of exits and crossroad signs allow me enough time for travel decisions.	2013S1	19%	68%	10%	2%	1%	566
	2013S2	31%	54%	10%	4%	1%	113
	2013S3	12%	71%	7%	10%	0%	41
	2013ALL	20%	66%	10%	3%	1%	720
	2011	23%	66%	6%	1%	4%	419
	2009	17%	70%	9%	1%	2%	397
	2007	19%	70%	7%	2%	3%	399
	2006	16%	70%	10%	1%	2%	396
	2004	19%	68%	9%	2%	2%	397
2002	11%	71%	14%	2%	3%	248	
2000	13%	71%	12%	2%	2%	235	

# Survey Sponsorship Variation: +2 points in response rates for FDOT Logo



## Florida Department of Transportation Satisfaction Survey for Florida Residents



The Florida Department of Transportation (FDOT) is sponsoring this survey to assess satisfaction with Florida's State Highway System. When filling out this survey, please think of the State Highway System as the Florida Turnpike, interstates, freeways, expressways, or highways with U.S. numbers or State Road numbers.

### PART 1

Questions below deal with **how well a driver is able to see key signing and road markings**. Please indicate how well the following items assist you when traveling on the State Highway System near your area:

Signing & Road Marking	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
a. Spacing of exits and crossroad signs allow me enough time for travel decisions.	<input type="checkbox"/>				
b. Overall, road signs are visible.	<input type="checkbox"/>				
c. Road signs are clearly readable.	<input type="checkbox"/>				
d. During the day, the visibility of roadway striping and markings is good.	<input type="checkbox"/>				
e. At night, the visibility of roadway striping and markings is good.	<input type="checkbox"/>				

### PART 2

We are interested in your experience in construction zones on the State Highway System.

Have you traveled through a Florida Department of Transportation (FDOT) construction project in the last 12 months?

**YES** Please answer the following:

We are interested in your recent experience with construction zones on the State Highway System near your area. Please indicate how strongly you agree with the following statements

Recent Experience with Construction Zones on State Highway System near my area:	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
a. When FDOT construction projects were initiated in my area, I was notified through various media (newspaper, radio, television, fliers, etc.).	<input type="checkbox"/>				
b. Construction zones were safe to travel through.	<input type="checkbox"/>				
c. When road construction was in progress, I was easily able to access local businesses.	<input type="checkbox"/>				



## Florida State University Satisfaction Survey for Florida Residents



Florida State University (FSU) is sponsoring this survey to assess satisfaction with Florida's State Highway System. When filling out this survey, please think of the State Highway System as the Florida Turnpike, interstates, freeways, expressways, or highways with U.S. numbers or State Road numbers.

### PART 1

Questions below deal with **how well a driver is able to see key signing and road markings**. Please indicate how well the following items assist you when traveling on the State Highway System near your area:

Signing & Road Marking	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
a. Spacing of exits and crossroad signs allow me enough time for travel decisions.	<input type="checkbox"/>				
b. Overall, road signs are visible.	<input type="checkbox"/>				
c. Road signs are clearly readable.	<input type="checkbox"/>				
d. During the day, the visibility of roadway striping and markings is good.	<input type="checkbox"/>				
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a. When FDOT construction projects were initiated in my area, I was notified through various media (newspaper, radio, television, fliers, etc.).	<input type="checkbox"/>				
b. Construction zones were safe to travel through.	<input type="checkbox"/>				
c. When road construction was in progress, I was easily able	<input type="checkbox"/>				

# Survey Mode Potential and Preferences

Cell Access

Do you have access to a cellular telephone for personal use?

- Yes
- No

Do you have access to the Internet for personal use, either at home, at work, or someplace else?

- Yes
- No

If you received a request to do another survey like this one, how would you prefer to participate? (Please ✓ ONE)

- Verbal interview on your home phone
- Internet survey sent by email
- Verbal interview on your cell phone
- In-person survey at your home
- Paper survey sent by mail
- Other \_\_\_\_\_

Internet Access

Mode Preference

## Widespread Cell and Internet Access

- 96% have access to a cell phone for personal use
- 92% have access to the Internet for personal use

## Preference for Mail Surveys, Then Internet/Email, Not Cell/Landline

- 70% of respondents prefer to be contacted via mail
- 23% prefer internet survey sent by email
- Only 2.5% of respondents wanted to be interviewed by telephone at home and only one (n=1) respondent preferred to be interviewed by cell phone

# Recommendations & Conclusions

- ▶ Mode
  - Mail surveys or mixed modes
  - Mode choice and “adaptive” designs possible
- ▶ Samples
  - Address or registration lists
    - ❖ offer known and highly representative samples
    - ❖ are cost-effective
  - Over-sampling of target populations possible
- ▶ Language Diversity (e.g., English and Spanish)
- ▶ Participation Enhancements (e.g., post card warnings and/or reminders, emphasis on salient topic and importance of research)

# Central Office Discussion

- Blended Approach [phone + mail + internet]
  - Choice of mode offered to individuals surveyed
  - Basic survey through telephone
  - More detailed survey by mail or online
  - Mail survey with advanced notice through email
  - Voter registration database vs. other sources
  - Use of an incentivized focus group to verify results of random survey



# Roundtable Discussion



# Next Steps



- Champion recommendations
- Executive Workshop presentation
- Next survey cycle – tentative
  - Survey to be carried out Spring 2014

