

Address Based Sampling:

Lessons Learned Using Address Based Sampling to Conduct Mail Surveys of Populations Randomly Selected from Among the General Population

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Outline of today's talk

- What is Address Based Sampling
- Why we chose ABS as the sampling method for this mail survey
- The sample design process
- The project's implementation
- Personalization: Experimental design and results
- Priority Mail: Description of use for final mailing
- Costs of ABS sampling compared to estimated RDD cost
- Lessons learned and suggestions for future investigation

What is Address Based Sampling

- The Delivery Sequence File (DSF) from the United States Postal Service is a database containing all delivery point addresses.
- Sampling vendors have access to this database, and in combination with other resources, use it to create an extremely accurate frame from which to draw a random sample of households.
- Address based sampling provides an increasingly attractive alternative to random digit dial (RDD) methods of sampling.

Why we chose ABS for this study

- **Topic** – A self administered questionnaire preferred given the sensitive nature of questions about contraception use.
- **Cost** – A mail survey is a less expensive mode than a telephone survey.
- **Coverage** – Reaching a young and diverse sample using RDD telephone methodology would be hard to accomplish. The study design called for sampling in a very specific geographic area.
- **Timing** – We had one month following agreement to conduct the survey to put it in the field. Given out production schedule and programming load at that time, a mail survey was quicker to prepare for field.

The Sample Design Process

- Worked with Genesys to learn about and order an address based sample for the project.
- Calculated the expected percentage of households with a woman in the required age range (25%) based on Census - American Community Survey figures.
- Calculated an expected response rate of 40 to 45%.
- Using the desired number of 1,200 completes, calculated a required sample size of 12,500 households to get the needed completes.
- Researchers wanted an African-American oversample, as well as urban and suburban representation, so a plan to sample half of the households from the city of St. Louis (50% African American), and half from the county of St. Louis (20% African American) was adopted to provide both.

The Sample Design Process

- Worked with Genesys to decide on types of addresses to include in sample
 - Choices include
 - P.O. Boxes
 - Drop Addresses (apartment buildings where un-personalized mail is left outside of individual mailboxes)
 - Rural routes or other types of “simplified” addresses
- Decisions on inclusion of the above address types should be made based on the geographic area and population density of your target sample

The Project Implementation

- 4 waves of data collection
 - Full mailing: cover letter, postage-paid return envelope, \$2 incentive, questionnaire, screener postcard (allowing households with no eligible women to opt out)
 - Reminder postcard
 - Full mailing without incentive to non-responders
 - Full mailing without incentive to non-responders

The Project Implementation

- Address based sample does not have names available for all households, only those that match the listed household telephone database - estimated to be 60% to 80%.
- How to address households was discussed, literature reviewed, and we decided to conduct experiments.
- Designed first experiment with three levels of personalization to the salutation.

The Project Implementation

- Wondered if addressing a household where a name is available (estimated to be wrong 15% of the time), by the wrong name would be worse than “or current resident” junk mail approach.
- Client wanted to send out final mailing via Priority mail rather than first class, so we incorporated this into the experimental design at the final mailing.

Methods: Experimental treatments for salutation

Treatment		Sample Size		
		Matched	Unmatched	Total
Surname	The <Surname> Household	3,448	0	3,448
Municipal	St. Louis Resident	3,446	1,081	4,527
Neighbor	Our Neighbor At	3,446	1,079	4,525
Total N		10,340	2,160	12,500
%		83%	17%	100%

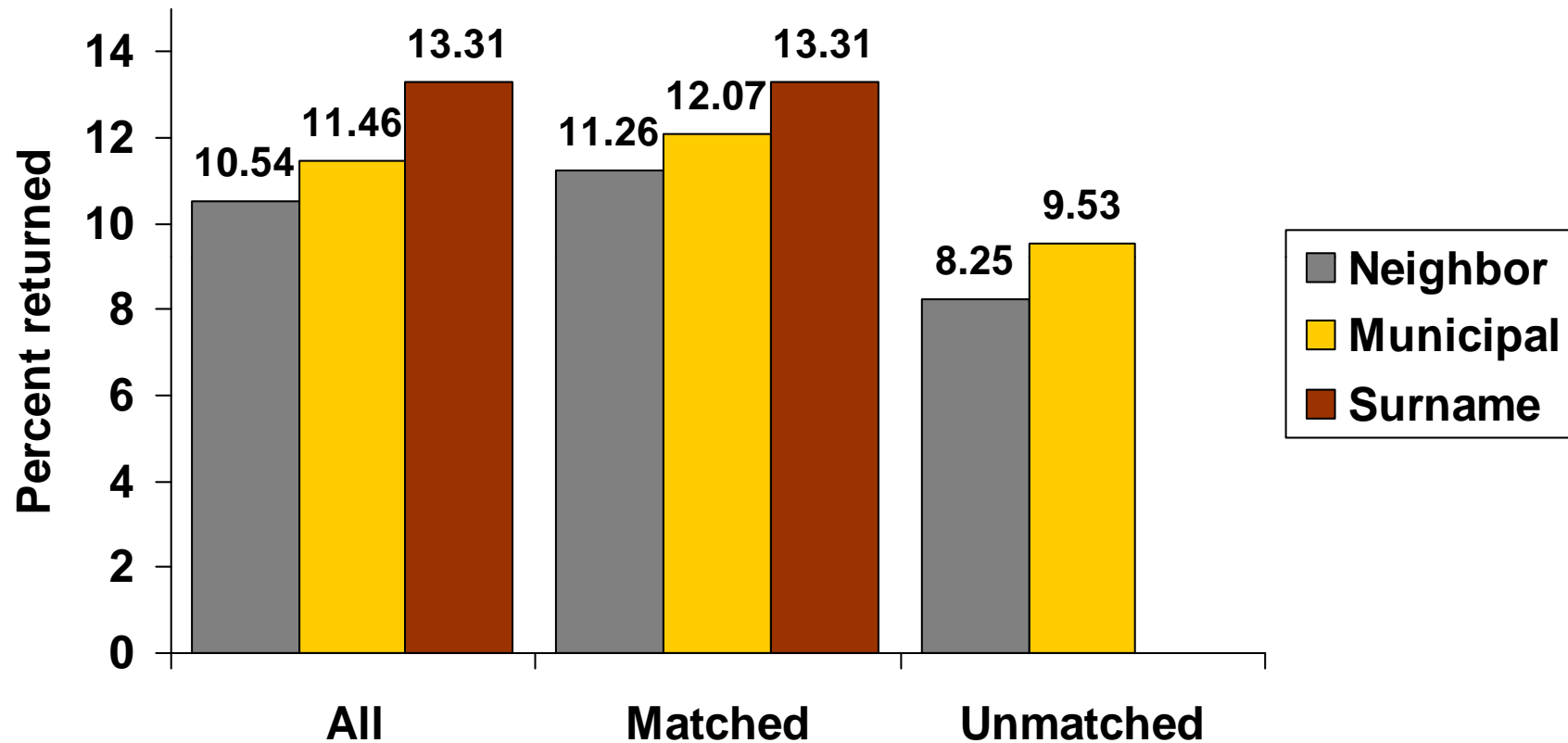
Methods: Experimental treatments for Priority mailing

Treatment		Sample Size		
		Priority	First Class	Total
Surname	The <Surname> Household	872	873	1,745
Municipal	St. Louis Resident	1,268	1,269	2,537
Neighbor	Our Neighbor At	1,312	1,313	2,625
Total N		3,452	3,455	6,907

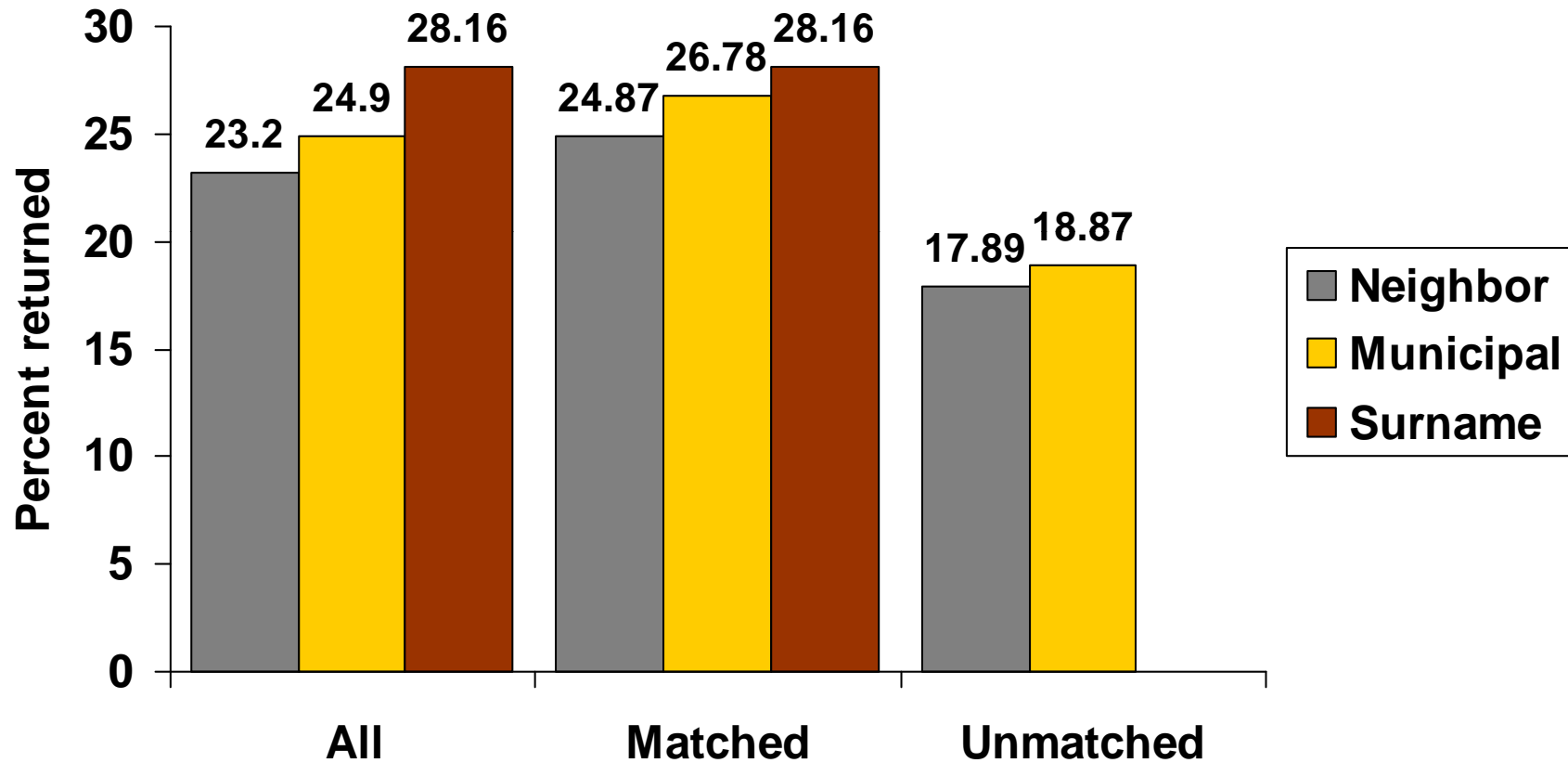
Analysis of the effects of treatment on participation

- Before the final mailing:
 - Effects of salutations on
 - returning questionnaires
 - returning screener postcards
 - returned as undeliverable
- For the final mailing
 - Effects of salutations and mailing type on
 - returning questionnaires
 - returning screener postcards
- Final response rates

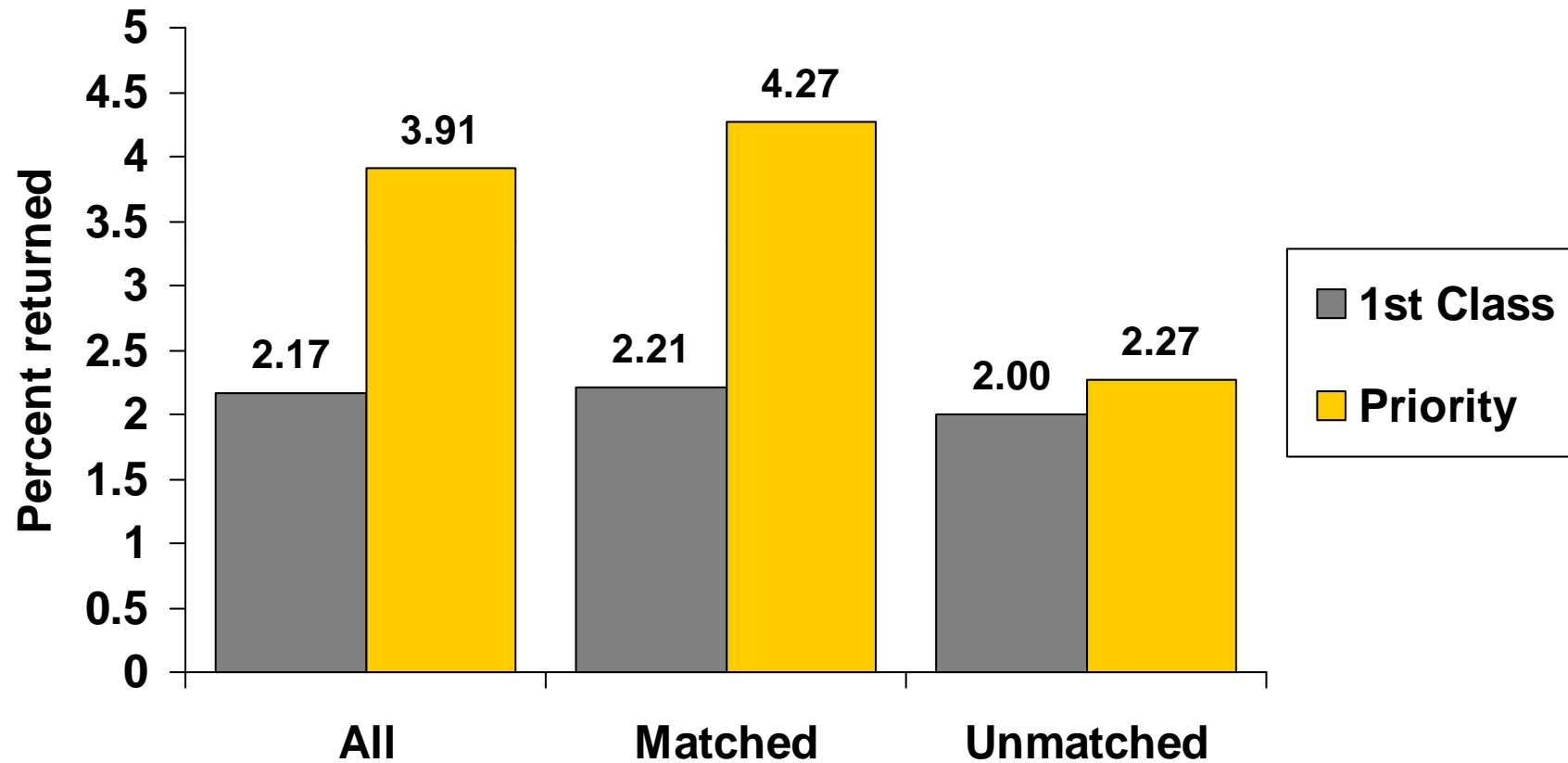
Questionnaire Return Rate by Salutation within Sample Before Third Mailing



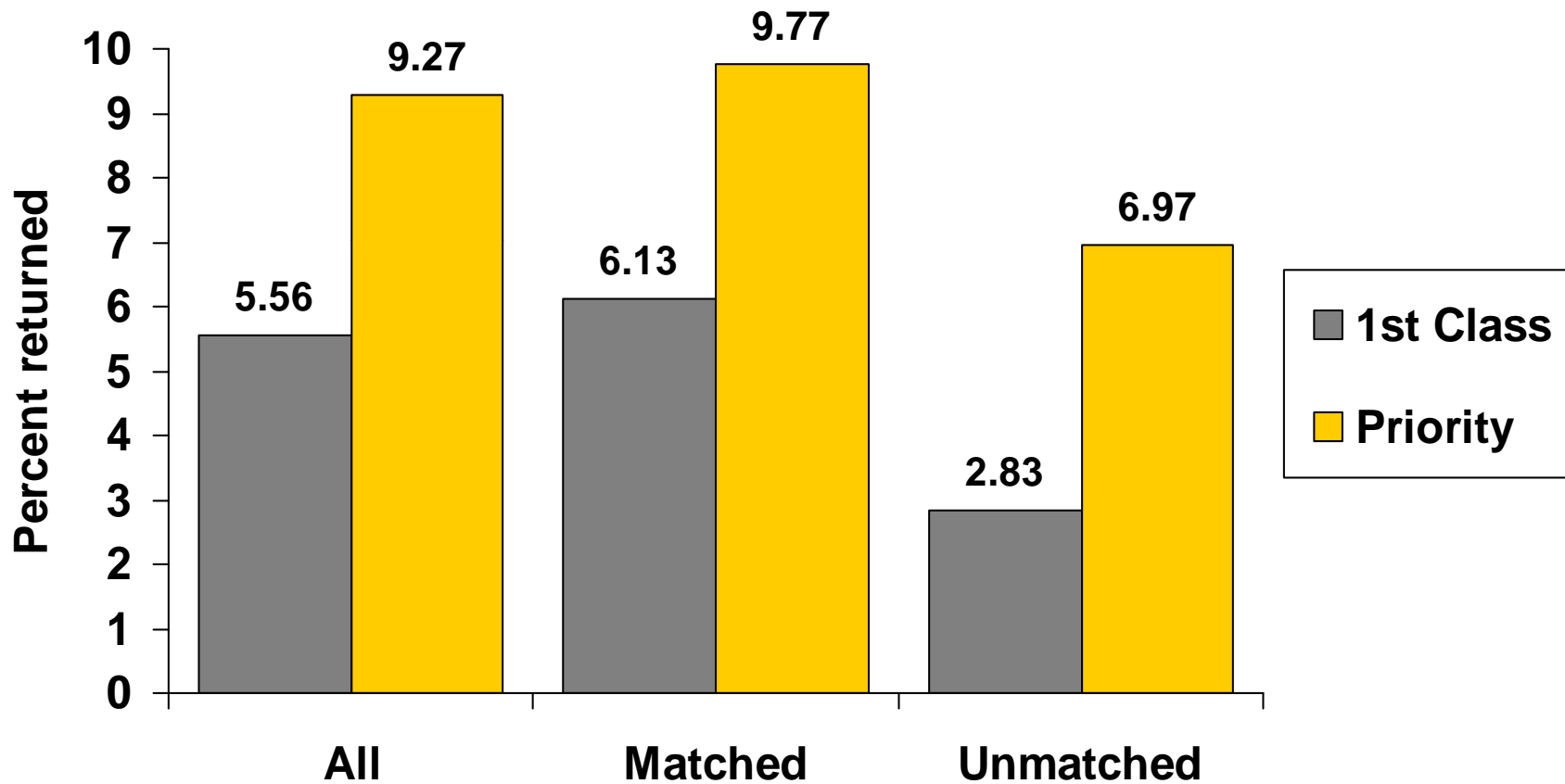
Screeners Post Card Return Rate by Salutation within Sample Before Third Mailing



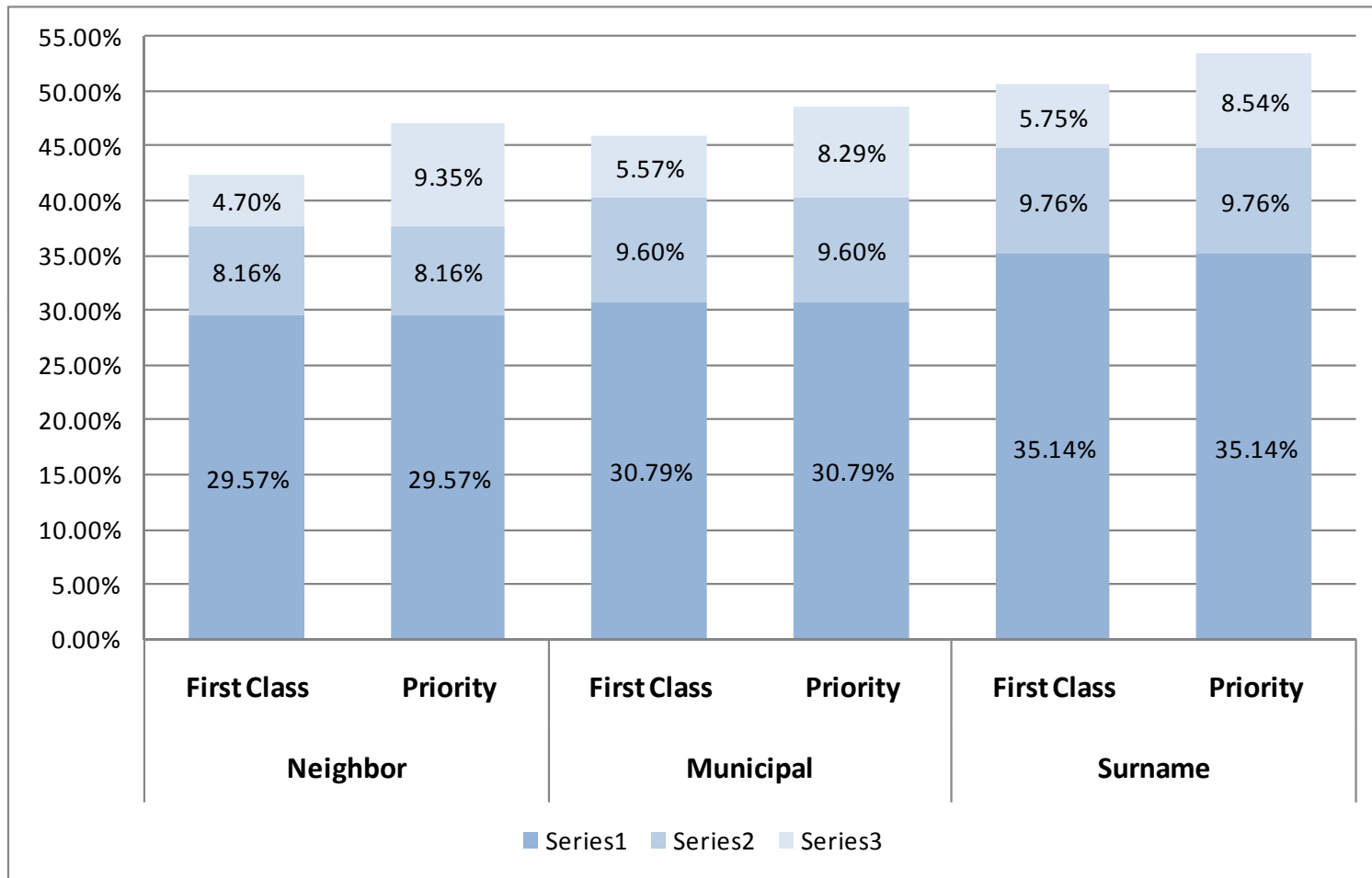
Questionnaire Return Rate by Mailing Type, Third Mailing Only



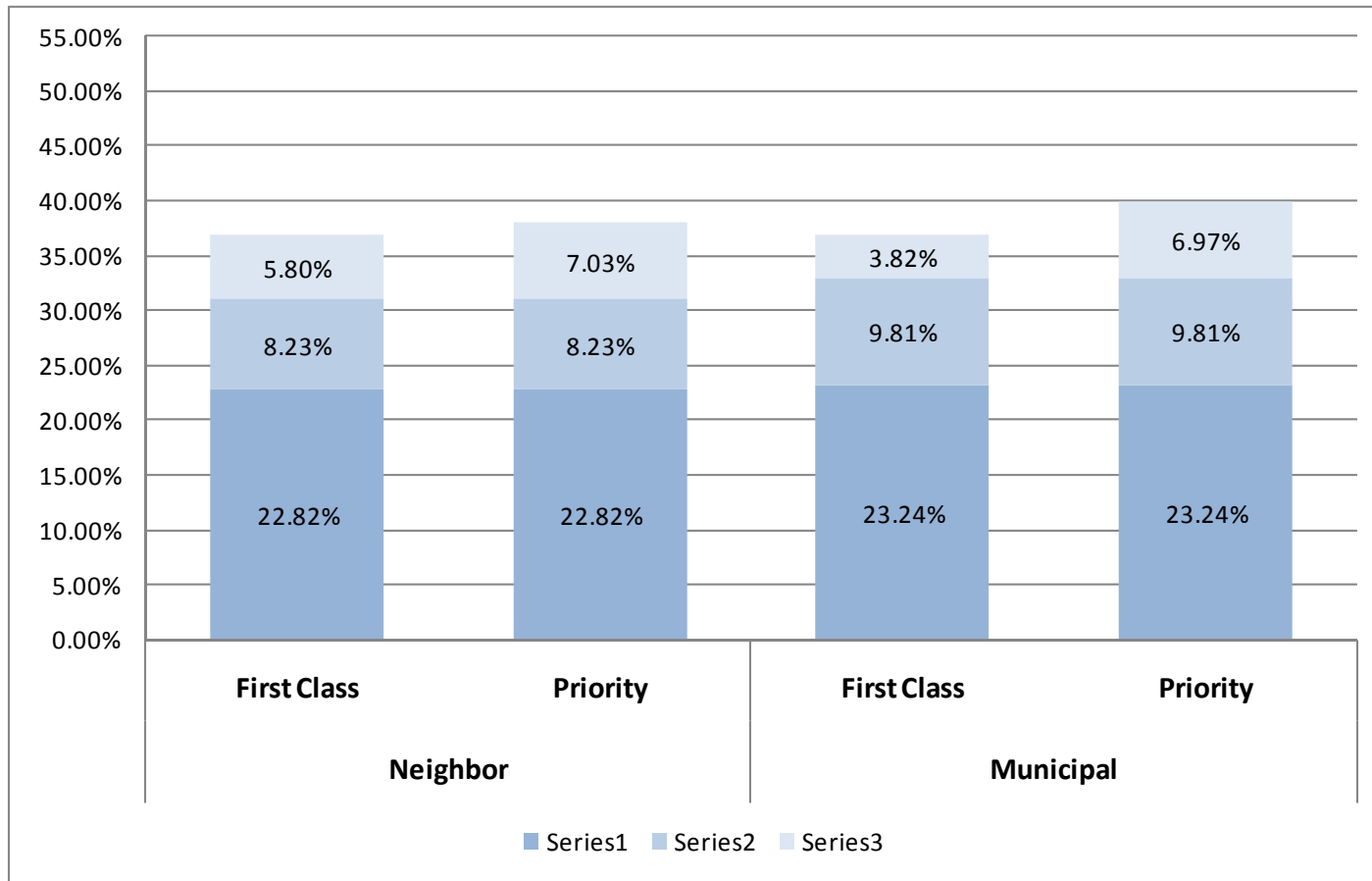
Screener Card Return Rate by Mailing Type, Third Mailing Only



Response rate by wave for matched sample



Response rate by wave for unmatched sample



Experiment results

- Surname condition yielded highest response rates
 - Next time address to
 - “The <Surname> Household or Current Resident”
 - “The Woman in Your Household”
- Municipality somewhat better than Neighbor
 - Worth the costs?
 - Harder to implement with more geographically diverse samples
- Personalization as indicated by salutation more effective for Screener Postcard
 - Interaction between personalization and burden of the request

Overall Study Outcomes

Sample Type	Outcomes				
	Sample N	Completed Surveys	Confirmed Ineligible	Undeliverable	Response Rate
City of St. Louis	6,250	789	1,576	735	42.9%
County of St. Louis	6,250	892	2,068	399	50.6%
Total	12,500	1,681	3,644	1,134	46.9%

Costs for implementing ABS mail survey

- Costs to think about include
 - Pre-incentives (\$2 in each outgoing wave 1 survey)
 - Screening postcard, stamped rather than metered, included in every wave
 - Large N for wave mail outs
 - Priority mailing for final wave
 - The first class mailing was sent for .58 per mailing
 - The priority mailing was sent for \$4.60 per mailing

The additional completes from that mailing were therefore obviously quite expensive, and probably not cost effective

Costs for implementing ABS mail survey

- Overall project cost was \$158,702
- Estimated RDD Telephone survey budget was \$286,535
- Savings of over \$127,000, or 45%

Lessons learned and suggestions for future investigation

- ABS sample can be used to randomly sample from the general population, including local samples and oversamples.
- Screening is a challenge, and not as reliable as RDD household screening, so a cost versus quality tradeoff needs to be weighed when considering this method.
- Conducting mail surveys with ABS sample may provide significant cost savings over an RDD telephone survey, depending on the project.

Lessons learned and suggestions for future investigation

- More research needs to be done on how best to address sample where names are not available.
- May want to consider adding “Do Not Forward” to geography based ABS studies.
- Response rate calculations are challenging
 - Should you use an e estimator modified for mail
 - Should you use Census data to estimate prevalence of sample you are looking for
 - Should matched names returned as undeliverable be treated as ineligible, or re-fielded with less personalization?

Lessons learned and suggestions for future investigation

- Researching ABS methods before attempting to order from a sampling firm is recommended to avoid sampling errors.
- Researchers who use ABS should be encouraged to share the results, and the methods, very clearly, to help untangle the best ways to use this methodology.

Thank You!

For copies of this presentation or more information, contact:

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