**APPENDIX**

**Budget Estimates**

These budget estimates are for using *Every Door Direct Mail* (EDDM) to submit mailers that contain a link to a *web-based push survey*. The main expense is printing and postage costs for the mailers. Setting up web-based push surveys are very cheap and can likely take advantage of current city web infrastructure or effectively free tools (like google forms).

Below is a hypothetical budget to mail 25,000 mailers. This number comes from an average response rate for EDDM in prior experiments of around 4% (Grubert, 2019). It is possible that EDDM with push-based surveys will result in higher response rates though, Rosenbaum et al. (2015) have an 11% web-based push survey response rate for post police contact survey. In an experiment testing a web-based version of the National Crime Victimization Survey, Cantor et al. (2023) have a 10% response rate. Grubert (2019) is a longer paper-based survey which requires mailing back the survey responses. So, these estimates are likely conservative in terms of response rates.

A 4% response rate would result in a total of 1,000 responses, which is a common benchmark for many city surveys, and appears to result in reasonable enough data to generate more micro level spatial variation (Wheeler et al., 2020). This results in an average cost of $7.25 *per completed survey*.

|  |  |  |
| --- | --- | --- |
| **EDDM Items** | **Approximate Unit Cost (Dollars)** | **Dollars per 25,000 mailers** |
| Printing Postcards | 0.10 | $2,500 |
| USPS Mailing (Commercial Estimates) | 0.19 | $4,750 |
| *Total* | *0.29* | *$7,250* |

These cost estimates presume someone from the police department or city agency will bundle and drop-off the mailers directly to the post-office. So does presume a small labor effort on the part of the police agency. It is possible that the police department can also leverage already capitalized printers to further reduce printing costs as well, but we choose 10 cents as an estimate. Also note that EDDM has *non-profit* pricing as well (potentially down to 11 cents per mailing), but here we list the publicly available commercial pricing.

One can find similar batch printing estimates at several online sites, such as <https://www.postcardmania.com/> or <https://www.taradel.com/products/every-door-direct-mail>. These sites also offer entire end-to-end handling, although estimates for that are typically double that listed here (so over 60 cents per individual mailer).

The second cost are web-based push surveys. While there are paid tools to do this (such as SurveyMonkey or Qualtrics), it is fairly simple to set up a custom form on your own domain. We have provided an example application that has custom at <https://crimede-coder.com/graphs/survey?surv=se1> or <https://crimede-coder.com/graphs/survey?surv=se2> (this illustrates how using a simple change in the query string to the url can point to custom surveys, to differentiate between different postal routes).

For example, a custom domain (hosted on *Hostinger*) currently costs only $3 a month and comes with a backend database that can hold 3 gigabytes of data and serve over 20,000 web requests a day. If willing to forego a custom domain, a free google account could simple use google forms and google sheets (a single google sheet can have 40,000 rows).

Thus, we do not include cost estimates for the web-based push survey, as worst case these are trivial compared to the cost of postage and labor itself to conduct the survey analysis.

**Bibliography**

Bader, M. D., & Ailshire, J. A. (2014). Creating measures of theoretically relevant neighborhood attributes at multiple spatial scales. *Sociological Methodology*, 44(1), 322-368.

Biemer, P. P. (2010). Total survey error: Design, implementation, and evaluation. *Public Opinion Quarterly*, 74(5), 817-848.

Buil-Gil, D., Moretti, A., Shlomo, N., & Medina, J. (2020). Applying the spatial EBLUP to place-based policing. Simulation study and application to confidence in police work. *Applied Spatial Analysis and Policy*, 13(4), 901-924.

Cantor, D., Edwards, W. S., Giambo, P., Townsend, R., Yan, T., DeMatteis, J. (2023). NCVS Redesign – Comparison of Interviewer and Web Survey Modes. *Bureau of Justice Statistics*, Document No. NCJ 306998.

Circo, G., Melde, C., & Mcgarrell, E. F. (2019). Fear, victimization, and community characteristics on citizen satisfaction with the police. *Policing: An International Journal*, 42(2), 179-194.

Circo, G., Melde, C., & McGarell, E.F. (2023). Estimating Attitudes Toward the Police: A Small-Area Approach using Multilevel Regression with Post Stratification (MRP). *Under Review, Forthcoming*.

Dillman, D. A. (2017). The promise and challenge of pushing respondents to the web in mixed-mode surveys. *Survey Methodology*, 43(1), 3-31.

Fontaine, J., Esthappan, S., La Vigne, N., Lawrence, D. S., Jannetta, J., Dwivedi, A., Lynch, M., Paddock, E. & Vásquez-Noriega, C. (2019). *Views of the Police and Neighborhood Conditions*. Urban Justice Policy Center <https://www.urban.org/sites/default/files/2019/11/11/2019.11.11\_changes\_to\_ni\_community\_survey\_report.pdf>

Gelman, A., Goel, S., Rothschild, D., & Wang, W. (2017). High-frequency polling with non-representative data. *Political communication in real time: Theoretical and applied research approaches*, 89-105.

Gelman, A., Carlin, J. B., Stern, H. S., Dunson, D. B., Vehtari, A., & Rubin, D. B. (2013). *Bayesian data analysis*. CRC press.

Grubert, E. (2019). Every door direct mail in US survey research: an anonymous census approach to mail survey sampling. *Methodological Innovations*, 12(2), 2059799119862104.

Guterbock, T., Benson, G., & Lavrakas, P. (2018). The changing costs of random digital dial cell phone and landline interviewing. *Survey Practice*, 11(2).

Haberman, C. P., Groff, E. R., Ratcliffe, J. H., & Sorg, E. T. (2016). Satisfaction with police in violent crime hot spots: Using community surveys as a guide for selecting hot spots policing tactics. *Crime & Delinquency*, 62(4), 525-557.

Kim, Y. A. (2018). Examining the relationship between the structural characteristics of place and crime by imputing census block data in street segments: Is the pain worth the gain?. *Journal of Quantitative Criminology*, 34, 67-110.

Kochel, T. R. (2018). Police legitimacy and resident cooperation in crime hotspots: Effects of victimisation risk and collective efficacy. *Policing and Society*, 28(3), 251-270.

Koper, C. S., Taylor, B. G., Liu, W., & Wu, X. (2022). Police activities and community views of police in crime hot spots. *Justice Quarterly*, 39(7), 1400-1427.

Pickett, J., Cullen, F., Bushway, S. D., Chiricos, T., & Alpert, G. (2018). The response rate test: Nonresponse bias and the future of survey research in criminology and criminal justice. *The Criminologist*, 43(1), 7-11.

Raudenbush, S. W., & Sampson, R. J. (1999). Ecometrics: toward a science of assessing ecological settings, with application to the systematic social observation of neighborhoods. *Sociological Methodology*, 29(1), 1-41.

Rosenbaum, D. P., Lawrence, D. S., Hartnett, S. M., McDevitt, J., & Posick, C. (2015). Measuring procedural justice and legitimacy at the local level: the police–community interaction survey. *Journal of Experimental Criminology*, 11, 335-366.

Weisburd, D., V. Uding, C., Hinkle, J. C., & Kuen, K. (2023). Broken Windows and Community Social Control: Evidence from a Study of Street Segments. *Journal of Research in Crime and Delinquency*, Online First.

Wheeler, A. P., Silver, J. R., Worden, R. E., & Mclean, S. J. (2020). Mapping attitudes towards the police at micro places. *Journal of Quantitative Criminology*, 36, 877-906.