Do 311 Service Request Systems Increase Responsiveness? Results of a Field Experiment*

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Abstract

Since the 1990s, non-emergency 311 service request systems have become ubiquitous in municipalities in Canada and the United States. Yet we still know little about the effectiveness of these systems for efficiently solving local residents' problems. Using a field experiment in the city of Calgary, Alberta, we measure the effect of 311 service requests on the probability that issues will be quickly resolved across a number of local issue types. We also explore whether this service responsiveness varies in more and less privileged local communities. We find that 311 service requests dramatically increase the probability that local issues will be resolved, even within short 3-10 day timeframes, and that this effect is consistent across community types.

*This paper originated in an in-class assignment in Political Science 425 (Winter 2025) at the University of Calgary (students took on the additional extra-curricular effort of developing this paper on a voluntary basis). We are grateful to all of the members of the class who, by participating in data collection for the field experiment, made this paper possible. We provide a full list of all of the individuals involved in data collection in the Supplementary Material (SM1).

†Author contributions as follows: Research Design = JL; Data Collection = LA, JE, NG, CJ, AN, VN, AS, SV, SW; Data Analysis = JL; Literature Review = AN, VN, SW; Writing and Editing = LA, JE, NG, CJ, JL, AN, VN, SV, SW. Corresponding author Jack Lucas (jack.lucas@ucalgary.ca).

1 Introduction

Since the 1990s, non-emergency phone services have become a staple of service provision in local governments across Canada and the United States. While a large literature has emerged on technical and administrative aspects of these "311" systems, few researchers have sought to answer a simpler question: do 311 services actually solve problems for local residents? To our knowledge, no available studies have used well-identified causal designs to measure the effect of 311 service requests on response times in local communities.

To answer this question, we carried out a field experiment in the large Canadian city of Calgary, Alberta (population 1.56 million), in which we measure the effect of 311 service requests on the probability that an issue will be resolved within a short 3-10 day time frame as well as heterogeneity in this responsiveness across local communities' socio-economic status. Across a number of issue types (including snow and ice removal, graffiti, and local infrastructure damage), we find that 311 service requests dramatically increase the probability that an issue will be quickly resolved. We also find no evidence that this responsiveness is related to the socio-economic status of a local community. Our study thus provides valuable evidence that non-emergency service request systems increase the visibility of local issues in ways that accelerate issue resolution for residents of many community types.

2 Do 311 Systems Increase Local Responsiveness?

Our goal in this study was to rigorously measure the effectiveness of a 311 non-emergency service request system for quickly addressing issues in local communities. Canadian municipalities are responsible for providing a vast range of services to local residents across large geographic areas. To monitor potential issues or problems in these local communities, municipalities rely on co-production or crowd-sourcing (Clark and Shurik, 2015; Nabatchi, Sancino and Sicilia, 2017; Stowers, 2022). While the idea of citizen-initiated service requests is not new – Jones et al. (1977) wrote in the 1970s about the need for local citizens to contact bureaucrats to affect service delivery – centralized systems to enable such processes did not emerge until the 21st century (Clark and Shurik, 2015). Centralized emergency request lines (911), which were first implemented in the 1950s (Prest, 2019), became increasingly flooded with non-emergency calls in the 1990s, preventing operators from managing pressing emergencies. Baltimore was the first city to attempt to alleviate this pressure by centralizing a non-emergency (311) line for city matters that

went fully active in 1999 (Stowers, 2022). Prior to this centralization, citizens had to wade through a mire of city departments to get their concerns on the desks, or the telephone answering machines, of the administrators who could solve them. In Calgary, for example, there were over 500 potential phone numbers for citizens to call for information or to file a complaint (Calgary, 2015). As technology improved, municipalities incorporated not only centralized 311 submission systems, but also multiple modes of submission in a more general 311 submission ecosystem, including online filing, texting, and mobile apps (Lu and Johnson, 2016).

311 systems are designed to consolidate service requests across departments to eliminate the need for users to decipher who to call (Stowers, 2022; Hartman, Mainka and Stock, 2017; Reddick, 2011; Schwester, Carrizales and Holzer, 2009). The operators then forward the service requests to the appropriate department to correct the issue in a timely manner (Fleming and Barnhouse, 2006; Reddick, 2011; Schwester, Carrizales and Holzer, 2009). While perhaps the primary aim in Baltimore was to reduce pressure on the 911 system, its adoption across North America was largely driven by desires to increase responsiveness, accountability, and trust in governments (Stowers, 2022).

The literature about whether 311 actually improves service delivery is surprisingly sparse. There is descriptive research about who uses the 311 system (Stowers, 2022; Minkoff, 2016; Lu and Johnson, 2016; Clark and Brudney, 2019), the kinds of issues that local residents submit (Stowers, 2022; Minkoff, 2016; Hartman, Mainka and Stock, 2017), and their preferred mode of contact (Lu and Johnson, 2016). There are also technical papers about 311 system operations (Fleming and Barnhouse, 2006; Reddick, 2011; Hartman, Mainka and Stock, 2017) and studies of trust and accountability perceptions among citizens who contact 311 (Tolbert and Mossberger, 2006; Clark and Shurik, 2015; Schwester, Carrizales and Holzer, 2009; West, 2004; Furlong, 2005). What is less common, however, is direct evidence that contacting 311 will change whether an issue is addressed at all. Fleming and Barnhouse (2006) investigated 311 services in San Antonio and concluded that it provided convenient access to local government services and provided metrics for cities to attempt to meet in terms of fewer lost calls and general timelines for service delivery but do not report whether it accomplished those goals. Most papers simply assume that 311 contact results in issue resolution and improved delivery of services. Our aim is to systematically test whether contacting 311 does affect whether an issue will be resolved in a field experiment.

Given that 311 submissions increase the visibility of local issues, thereby solving exceptionally challenging monitoring problems for local governments, we expect that local issues submitted to 311 will be more likely to be resolved than issues that are not sub-

mitted. Moreover, local governments' commitments to transparency and benchmarking creative incentives for municipal administrators to address 311 submissions quickly. For these reasons, we hypothesized[1] that 311 submissions would increase responsiveness:

- H1. Local service requests are *more likely* to be addressed when they are submitted to Calgary's 311 system than when they are not submitted to Calgary's 311 system.

The second part of our research investigates 311 responsiveness based on community types across Calgary. Past studies have found that citizens' financial status predicts political participation (Bovens and Wille, 2021), including participation in service request systems such as 311; the greater one's material resources, the more likely one is to submit multiple or detailed 311 service requests and to pressure municipal governments to address these issues. Kontokosta, Hong and Korsberg (2017) found that New York residents living in communities with low English proficiency and high unemployment were less likely to use 311 services. Furthermore, privileged individuals are more likely to vote, work on candidate campaigns, and make political donations (Béland, Campbell and Weaver, 2022). Therefore, in general, municipal administrative staff may have stronger incentives to satisfy residents in advantaged communities. If levels of engagement and voice are stronger in more privileged communities, politicians whose electoral support is conditional in part on a "personal vote" from their constituents (Lucas, McGregor and Tuxhorn, 2022) may pressure municipal administrators to be most responsive to these more privileged neighbourhoods.

The literature primarily supports this hypothesis. American findings indicate that government policy tends to be more responsive to the preferences of white constituents, who are of a higher socioeconomic class (Bartels, 2016; Gilens, 2014; Griffin and Newman, 2007; Rigby and Wright, 2011; Schaffner, Rhodes and La Raja, 2020; Wang and McFadden, 2016). Municipal goods and services, including water access, garbage collection, building inspections, and street maintenance, have also historically been documented to be of lower quality in racially diverse and segregated communities (Abrams, 1955; Trounstine, 2018).

More specifically, Hamel and Holliday (2024) use data from 42 million 311 calls in 13 large American cities between 2011 and 2019 to test for evidence of this phenomenon. They conclude that, on average, white, affluent neighborhoods receive faster responses

[1]Each coauthor independently pre-registered two hypotheses in this study: one about the *overall* effect of 311 submission on issue resolution and a second on *heterogeneity* of the treatment effect by community. The hypotheses reported in this section represent the overwhelming majority of these pre-registered hypotheses. We note, however, that a few coauthors expected a null relationship between 311 submission and issue resolution, and a modest minority of coauthors expected no heterogeneity of treatment effects.

to their calls than non-white, poor neighborhoods. However, further analysis reveals that response times are, on average, the same for the same types of request. Response rates for city services do not exhibit systematic biases based on community characteristics (Clark et al., 2020). These results suggest that poorer, marginalized neighborhoods often call for services that take cities longer to address. The investigation also suggests that cities do not intentionally deprioritize requests from marginalized, less affluent neighborhoods. Instead, these demands are more challenging to deal with for practical reasons. Therefore, while city service response times may not deliberately lag based on neighbourhood characteristics, there is still evidence of heterogeneity in response to 311 requests concerning community type. Collectively, these studies inform the second hypothesis:

- H2. 311 service requests are *less* effective in less advantaged communities than in more advantaged communities in Calgary.

3 Data and Methods

Our data are drawn from a field experiment undertaken in the city of Calgary, Alberta in February, 2025. This field experiment, which was part of an undergraduate course on city politics at the University of Calgary, involved a simple research design. In brief, each participant identified two issues of the same type within the same community, randomly submitted one of the two issues through the city's 311 system, and then returned to the area 3-10 days later to check which (if any) of the two issues had been resolved.

Participants in our field experiment selected local issues in one of seven pre-selected issue types: snow and ice (N=68), graffiti (N=87), streetlight maintenance (N=27), road sign issues (N=21), pothole maintenance (N=16), dead animal pickup (N=0), and debris on street/sidewalk/back lane/property (N=31). We focus on these issues because, based on the City of Calgary's open access 311 database, they are the most common issues for the time of year in which the experiment was undertaken, making it relatively easy for researchers to identify an appropriate pair of issues within a single community – which is critical to our experimental research design.

Having identified (and photographed) two issues in a single neighbourhood within one of the above categories, we then used a randomization protocol (either a physical or digital coin flip) to select one of the two issues for submission to the 311 system. Our treatment variable is thus a randomly assigned binary variable that is either zero (identification of an issue but no action taken) or one (submission of an issue to the 311 system).

We then returned between 3 and 10 days from the time of the initial submission (mean

return time = 4.7 days) to inspect both issues (once again photographing both issues in their updated state). An issue was considered resolved if the original identified issue was no longer present. Thus our measurement strategy does not depend on decisions by 311 officials or other administrators to mark an issue as resolved, making our outcome variable closer to the experience of municipal residents themselves. Overall, 37% of the issues we identified were resolved upon inspection, but this overall rate of issue resolution varied substantially, from a low of 14% for road sign issues to a high of 58% in the case of street, sidewalk, or back lane debris.

To measure treatment effect heterogeneity, we rely on community-level data from the Calgary Equity Index (CEI) for measuring treatment effect heterogeneity. Briefly, the CEI is a geographic information system tool initially developed in 2018 that assesses equity across Calgary neighbourhoods. Grouped into six domains (Economic Opportunity, Human and Social Well-being, Population Health, Community Belonging and Safety, Accessibility and Amenities, and Climate and Environment) from 61 indicators, the CEI consolidates this data into a single overall metric (i.e., a total equity score.). The CEI measures equity by assessing how access to opportunities varies across the city and is grounded in the Social Determinants of Health theory, which explains the non-biomedical factors that shape people's health and well-being. A higher total equity score entails greater inequities and needs and more barriers to equity.

We measure the effect of 311 submission on issue resolution using OLS. To maximize the precision of our estimates, we control for the number of days elapsed before the follow-up visit took place (since issues are more likely to have been resolved with more time) and with fixed effects for issue types (given underlying variation in the probability of issue resolution). We provide models with and without these controls below; in the supplementary material, we also show that our models are robust to alternative modeling choices.

4 Results

We begin with Table 1, which summarizes the effect of 311 submissions on the probability of issue resolution across three OLS specifications: a simple bivariate measure with no controls (column 1), a model that adjusts for the number of elapsed days between 311 submission and inspection (column 2), and a model that adds additional fixed effects for each of the six issue types. We observe a very consistent effect across the three specifications: a statistically significant increase of about 26 percentage points in the probability that an issue is resolved. This effect, which is robust to alternative specifications and modeling

Table 1: Effect of 311 Submission on Issue Resolution

	(1)	(2)	(3)
Submitted to 311	0.26***	0.26***	0.27***
	(0.06)	(0.06)	(0.06)
Days Control	No	Yes	Yes
Type FEs	No	Yes	Yes
Observations	250	250	250
Adjusted R^2	0.07	0.08	0.18
Note:	*p<0.1; **p<0.05; ***p<0.01		

choices, is remarkably large, given that we selected a relatively narrow window of time (3-10 days) before checking for issue resolution.[2]

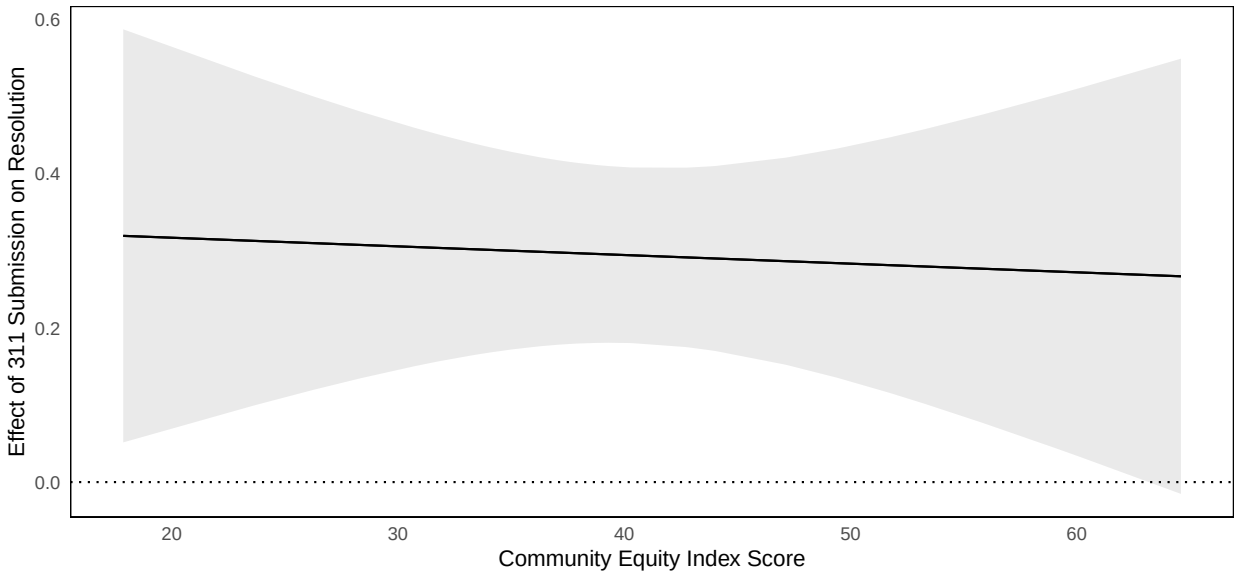

Figure 1: **Treatment Effect Heterogeneity, by Community Equity Index.** Variation in treatment effect of 311 submission (vertical axis) across values of Calgary Community Equity Index scores (horizontal axis). Black line is estimated treatment effect; gray area is 95% confidence region. See Supplementary Material for full table.

We find no evidence that this treatment effect varies across neighbourhood equity index scores. Figure 1 summarizes these results: the figure plots the size of the treatment

[2]Our results are substantively identical using a logistic regression rather than OLS. The estimated marginal effect of our treatment variable, drawn from the logistic regression model, is an increase of 27 percentage points in the probability of issue resolution (p<0.01), nearly identical to the estimate from the model in column three of Table 1.

effect (vertical axis) across Calgary Equity Index scores for the 42 distinct communities included in our analysis. The treatment effect is consistently large and statistically significant through the full range of Equity Index Scores, and the interaction between the treatment effect (311 submission) and community equity is a precisely estimated null.[3] In short, our findings suggest that the probability that an issue will be resolved increases substantially when that issue is submitted to 311, regardless of the socio-economic status of the neighbourhood in which one lives.

5 Discussion and Conclusion

Our purpose in this study has been to provide rigorous causal evidence on the responsiveness of non-emergency service request sysetms (311) to local residents' concerns. Using a field experiment in the city of Calgary, Alberta, we found that 311 service requests increased the probability that an issue would be addressed in a short 3-10 day window by some 26 percentage points, a statistically and substantively significant improvement. We also found that this increase was consistent across Calgary neighbourhoods, regardless of their level of socio-economic privilege.

Our findings provide strong evidence for the foundational assumption in municipalities across Canada and the United States that 311 systems *work* to address issues in local communities. Moreover, our heterogeneity tests support earlier findings by Hamel and Holliday (2024) that heterogeneity of service responsiveness across more and less privileged neighbourhoods is minimal when we comparing within similar types of services.

However, we see room for future research to add considerable nuance to these overall patterns. First, we see value in field-experimental research designs that enable researchers to measure heterogeneity in responsiveness across many types of service requests, with a particular focus on the "ease" or "difficulty" of the issues being resolved. Unsurprisingly, our observational data suggest that some service request types are resolved more quickly, on average, than others (see SM2). In future studies, researchers could move beyond these overall averages to measure the effectiveness of 311 service requests across theoretically meaningful dimensions of local issues, such as their visibility, their impact on local residents' daily lives, or the extent to which the issue is considered "normal" or "unusual" in a particular local community.

We also see opportunities for well-identified causal studies of heterogeneity in service responsiveness in more and less advantaged neighbourhoods, taking into account hetero-

[3]The coefficient for the interaction term is -0.001 with a standard error of 0.005, indicating that the data do not support a substantively large interaction between the treatment variable and neighbourhood equity.

geneity in issue types. For example, researchers might partner with community members to submit service requests in wealthier communities that are more characteristic of service requests in less wealthy communities (and correspondingly, to submit issues characteristic of wealthy communities in less privileged areas), and measure response times – thereby clarifying the mechanisms that generate variation in response times across issue times. In addition, survey-based or experimental studies of elite perceptions of service responsiveness for electoral outcomes and local political accountability – with a particular focus on non-emergency systems such as 311 – would be valuable. These studies will help to connect the day-to-day operation of municipal service response systems to wider patterns of political accountability and representation in local communities across Canada and the United States.

References

Abrams, C. 1955. *Forbidden Neighbors: A Study of Prejudice in Housing*. Kennikat Press scholarly reprints Harper.
URL: *https://books.google.ca/books?id=YpUFAAAAMAAJ*

Bartels, Larry M. 2016. *Unequal Democracy:The Political Economy of the New Gilded Age*. Number 10831 *in* "Economics Books" Princeton University Press.
URL: *https://ideas.repec.org/b/pup/pbooks/10831.html*

Bovens, Mark and Anchrit Wille. 2021. *Education, Inequality, and Political Behavior*. Oxford University Press.

Béland, Daniel, Andrea Louise Campbell and R. Kent Weaver. 2022. *Policy Feedback: How Policies Shape Politics*. Elements in Public Policy Cambridge University Press.

Calgary. 2015. "311 Celebrates 10 Years of Citizen Services.".
URL: *https://newsroom.calgary.ca/311-celebrates-10-years-of-citizen-services/*

Clark, Benjamin Y. and Jeffrey L. Brudney. 2019. "Citizen Representation in City Government-Driven Crowdsourcing." *Computer Supported Cooperative Work (CSCW)* 28(5):883–910. Company: Springer Distributor: Springer Institution: Springer Label: Springer Number: 5 Publisher: Springer Netherlands.
URL: *https://link.springer.com/article/10.1007/s10606-018-9308-2*

Clark, Benjamin Y., Jeffrey L. Brudney, Sung-Gheel Jang and Bradford Davy. 2020. "Do Advanced Information Technologies Produce Equitable Government Responses in Co-production: An Examination of 311 Systems in 15 U.S. Cities." *The American Review of Public Administration* 50(3):315–327.
URL: *https://doi.org/10.1177/0275074019894564*

Clark, Benjamin Y. and Maria Shurik. 2015. Improving Citizen Satisfaction with Local Government Using 311 Systems: The Case of San Francisco, California. In *Innovation in the Public and Nonprofit Sectors*. first ed. Routledge pp. 147–164. Num Pages: 18.
URL: *https://doi.org/10.4324/9781315686868-11*

Fleming, Cory and Bryan Barnhouse. 2006. "Customer Service Is Just 3 Digits Away In San Antonio." *Public Management (00333611)* 88(11):14–17. Publisher: International City/County Management Association.
URL: *https://ezproxy.lib.ucalgary.ca/login?url=https://search.ebscohost.com/login.aspx?direct=truedb=bshAN live*

Furlong, Shauneen. 2005. E-government in Canada: Building public trust through citizen-centric governance. In *Cataloging-in-Publication Data provided by the Inter-American Development Bank Felipe Herrera Library*. Vol. 61 Felipe Herrera Library.

Gilens, Martin. 2014. *Affluence and Influence: Economic Inequality and Political Power in America*. Number 9836 *in* "Economics Books" Princeton University Press.
URL: *https://ideas.repec.org/b/pup/pbooks/9836.html*

Griffin, John and Brian Newman. 2007. "The Unequal Representation of Latinos and Whites." *Journal of Politics* 69:1032 – 1046.

Hamel, Brian T. and Derek E. Holliday. 2024. "Unequal Responsiveness in City Service Delivery: Evidence from 42 Million 311 Calls." *Quarterly Journal of Political Science* 19(3):243–274.
URL: *http://dx.doi.org/10.1561/100.00022089*

Hartman, Agnes Mainka and Wolfgang Stock, G. 2017. Citizen Relationship Management in Local Governments: The potentail of 311 for Public Service Delivery. In *Beyond Bureaucracy: Towards Sustainable Governance Informatisation*. Springer.
URL: *DOI 10.1007/978-3-319-54142-6*$_1$8

Jones, Bryan D., Saadia R. Greenberg, Clifford Kaufman and Joseph Drew. 1977. "Bureaucratic Response to Citizen-Initiated Contacts: Environmental Enforcement in Detroit." *The American Political Science Review* 71(1):148–165. Publisher: [American Political Science Association, Cambridge University Press].
URL: *https://www.jstor.org/stable/1956959*

Kontokosta, Constantine, Boyeong Hong and Kristi Korsberg. 2017. "Equity in 311 Reporting: Understanding Socio-Spatial Differentials in the Propensity to Complain.".
URL: *https://arxiv.org/abs/1710.02452*

Lu, Qing and Peter A. Johnson. 2016. "Characterizing New Channels of Communication: A Case Study of Municipal 311 Requests in Edmonton, Canada." *Urban Planning* 1(2):18–31. Publisher: Cogitatio.
URL: *https://www.cogitatiopress.com/urbanplanning/article/view/621*

Lucas, Jack, R. Michael McGregor and Kim Lee Tuxhorn. 2022. "Closest to the People? Incumbency Advantage and the Personal Vote in Non-Partisan Elections." *Political Research Quarterly* 75(1):188–202.

Minkoff, Scott. 2016. "NYC 311:A Tract-Level Analysis of Citizen–Government Contacting in New York City." *Urban Affairs Review* 52(2):211–46.
URL: *https://journals-sagepub-com.ezproxy.lib.ucalgary.ca/doi/full/10.1177/1078087415577796*

Nabatchi, Tina, Alessandro Sancino and Mariafrancesca Sicilia. 2017. "Varieties of Participation in Public Services: The Who, When, and What of Coproduction." *Public Administration Review* 77(5):766–776. _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/puar.12765.
URL: *https://onlinelibrary.wiley.com/doi/abs/10.1111/puar.12765*

Prest, Ashley. 2019. "Jun 2019: 60 years of 911 in Winnipeg." *Winnipeg Free Press* .
URL: *https://www.winnipegfreepress.com/breakingnews/2019/06/21/60-years-of-911-in-winnipeg*

Reddick, Christopher. 2011. "Customer Relationship Management (CRM) technology and organizational change: Evidence for the bureaucratic and e-Government paradigms." *Government Information Quarterly* 28(3).
URL: *https://www.academia.edu/29576109/Customer*$_R elationship_M anagement_C RM_t echnology_a nd_o rg$

Rigby, Elizabeth and Gerald Wright. 2011. *Whose Statehouse Democracy? Policy Responsiveness to Poor Versus Rich Constituents in Poor Versus Rich States*. Russell Sage Foundation p. 189–222.

Schaffner, Brian F. (Brian Frederick), Jesse H. (Jesse Hessler) Rhodes and Raymond J. La Raja. 2020. *Hometown inequality : race, class, and representation in American local politics*. Cambridge: Cambridge University Press.

Schwester, W., Richard, Tony Carrizales and Mark Holzer. 2009. "An examination of the municipal 311 system." *International Journal of Organization Theory & Behavior* 12(2):218–236.
URL: *https://www.emerald.com/insight/content/doi/10.1108/ijotb-12-02-2009-b003/full/html*

Stowers, Genie N.L. 2022. "Back to Basics: City Services and 311 Service Requests." *State and Local Government Review* 54(1):13–31. Publisher: SAGE Publications Inc.
URL: *https://doi.org/10.1177/0160323X211064253*

Tolbert, Caroline J. and Karen Mossberger. 2006. "The Effects of E-Government on Trust and Confidence in Government." *Public administration review* 66(3):354–369. Place: Malden, USA Publisher: Blackwell Publishing Inc.

Trounstine, Jessica. 2018. *Segregation by Design: Local Politics and Inequality in American Cities*. 1 ed. New York, NY: Cambridge University Press.

Wang, Jing and Erica S. McFadden. 2016. "The Absence of Social Equity Measurement in Municipal Service Privatization: Are Residents Feeling Dumped on?" *State Local Government Review* 48(1):21–29.
URL: *http://www.jstor.org/stable/44651977*

West, Darrell M. 2004. "E-Government and the Transformation of Service Delivery and Citizen Attitudes." *Public Administration Review* 64(1):15–27. _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1540-6210.2004.00343.x.
URL: *https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6210.2004.00343.x*

Supplementary Material for "Do 311 Service Request Systems Increase Responsiveness? Results of a Field Experiment"

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Contents

1 Data Collection: Acknowledgments

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2 Main Models: Full Tables

Table 1 provides the full results for the models reported in the main text. We note that, as expected, the probability of issue resolution does increase with the number of days that elapsed between the submission of the issue to 311 and the inspection of the area for issue resolution.

Table 1: Main Effects: Full Table

	(1)	(2)	(3)
Submitted to 311	0.256***	0.259***	0.272***
	(0.059)	(0.059)	(0.056)
Days before Inspection		0.027*	0.032**
		(0.014)	(0.013)
Issue Type 2			−0.317***
			(0.072)
Issue Type 3			−0.209**
			(0.100)
Issue Type 4			−0.391***
			(0.110)
Issue Type 5			−0.370***
			(0.122)
Issue Type 6			0.031
			(0.095)
Constant	0.240***	0.166***	0.331***
	(0.043)	(0.057)	(0.069)
Observations	250	250	250
Adjusted R^2	0.067	0.077	0.176
Note:			*p<0.1; **p<0.05; ***p<0.01

3 Alternative Model: Logistic Regression

Table 2 provides the full results for the models reported in the main text using a logistic regression model rather than OLS.

Table 2: Main Results: Logit Model

Submitted to 311	1.415^{***}
	(0.309)
Days before Inspection	0.163^{**}
	(0.069)
Issue Type 2	-1.559^{***}
	(0.381)
Issue Type 3	-0.991^{*}
	(0.510)
Issue Type 4	-2.127^{***}
	(0.698)
Issue Type 5	-1.926^{***}
	(0.725)
Issue Type 6	0.153
	(0.469)
Constant	-0.901^{***}
	(0.348)
Observations	250
Log Likelihood	−137.875
Akaike Inf. Crit.	291.751
Note:	*p<0.1; **p<0.05; ***p<0.01

4 Effect Heterogeneity: Full Table

Table 3 provides the full results from which the effects in Figure 1 (main text) are drawn.

Table 3: Effect Heterogeneity

Submission to 311	0.340
	(0.229)
Equity Index	−0.002
	(0.004)
Days before Inspection	0.030**
	(0.014)
Issue Type 2	−0.362***
	(0.076)
Issue Type 3	−0.219**
	(0.108)
Issue Type 4	−0.475***
	(0.121)
Issue Type 5	−0.413***
	(0.124)
Issue Type 6	−0.025
	(0.104)
Submission * Equity Index	−0.001
	(0.005)
Constant	0.445**
	(0.182)
Observations	224
Adjusted R^2	0.204
Note:	*p<0.1; **p<0.05; ***p<0.01