




Commentary on the Absence of Experiments in Planning

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Abstract

A recent review by Jacques Du Toit, Nelius Boshoff, and Niclesse Mariette finds that planners rarely use experimental research designs. This commentary examines why experimentation is rare in planning and discusses the legitimate challenges involved with conducting experiments in a planning context. In doing so, we aim to foster a discussion on the feasibility of conducting experimental research in our field. While not all planning policies are amenable to experimentation, we see untapped potential in many areas of planning, especially on questions of public engagement. Collectively we hope that planners can begin to identify more instances in which experimental research is possible.

Keywords

causal inference, experiments, field experiments, impact evaluation, evaluation, research design

JPER recently published a paper by Jacques Du Toit, Nelius Boshoff, and Niclesse Mariette that reports how often researchers employed particular research designs in *JPER* papers published from 1996 to 2005 (Du Toit, Boshoff, and Mariette 2016). On reading this paper, we were struck by how seldom planning researchers have employed experiments, as only 3 of the 119 papers reviewed were found to use an experimental research design. Only one other design (intervention research) was used less frequently than experiments.

While all research designs have something useful to offer planning researchers, experiments have long been considered especially powerful in helping to establish *causal* relationships between variables. Experiments are particularly good at measuring the effect of some kind of planning intervention on an outcome of interest. From what we can tell, planners appear to be interested in a wide range of causal questions involving the effects of planning interventions on society, such as whether changes in the physical design of communities will cause changes in travel behavior, whether the implementation of community plans will improve social or environmental outcomes, or if a particular public engagement technique produces a greater sense of shared decision making.

Given the potential power of experiments to help answer these types of important questions in the planning discipline, we are left to wonder why it is that planning researchers have made so little use of experiments, and whether or not it is feasible for planning researchers to begin using experiments more than they have until now. Our goal in this short commentary is to discuss why planners may not be adopting experimental methods. In doing so, we hope to encourage planning researchers to reconsider the feasibility

of conducting experimental research in our field and perhaps to think about how experimental designs may advance our research agenda. By fostering a collective discussion on the feasibility of experimentation in planning we hope to use our collective capacity to overcome the known challenges and barriers that discourage us from trying experimental approaches.

What Do We Mean by “Experiment”?

Experiments are associated with highly controlled environments, or laboratory settings, that are often viewed as the domain of the natural sciences. In the social sciences, psychologists and economists have developed laboratory experiments to understand human behavior (List and Price 2016). Even planners have used controlled experiments in a laboratory setting to understand transportation decisions (e.g., Rodríguez et al. 2011). There are also choice experiments used to understand individual preferences (Rambonilaza and Dachary-Bernard 2007), and natural experiments that are rare, yet powerful, but these are not the form of experimentation that we focus on here.

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We are particularly interested in the possibility that planners develop *field experiments* in collaboration with planning practitioners. We define *field experiments* as studies that randomize treatment assignment in a real-world setting (Gerber and Green 2012). The distinguishing features of a field experiment are the real-world setting (as opposed to laboratory), the presence of a comparison group, and the randomization of treatment assignment. We looked at the three experimental studies identified by Du Toit and colleagues (2016) and noted that none of them incorporate these three features of a field experiment. While field experiments capture real-world settings, the trade-off compared to lab experiments is that there is less control over extraneous variables. For this reason, randomization is critical to balance out treatment and comparison groups. Other literatures, including the transportation field, sometimes use the term *field experiments* to describe the testing of new technologies in a real-world setting (Spears, Boarnet, and Houston 2016; Skabardonis et al. 1997; Herrera et al. 2010); however, these studies would not meet our definition of *field experiment* because they do not include random assignment or comparison groups. Our definition also excludes experimentation in an informal sense of merely doing something new.

Benefits of Field Experiments

It is well known that experiments are a powerful research design for exploring causal relationships (Shadish, Cook, and Campbell 2002) as they enable researchers to develop a relatively high degree of confidence that the observed outcome was caused by the program, intervention or treatment. Planners are interested in many causal relationships, and the review by Du Toit and colleagues (2016) suggest that planners rely on a variety of methods and research designs for exploring causal questions, such as surveys, simulations, statistical modelling, mapping, case studies, and intervention research. All of these approaches have made valuable contributions to our discipline. We suggest that in addition to these approaches, field experiments may help us answer policy-relevant questions that may both inform practice and advance scholarship.

Field experiments are especially useful for answering questions about program impact. They circumvent the problem of self-selection bias that plagues quasi-experimental studies and help us think more systematically about the counterfactual (Ferraro 2009), that is, what would have happened in the absence of the program or intervention? Planning professionals are often interested in quantifying the impact of specific policies, programs or decisions, and field experiments may provide a particularly powerful way to answer this question. In addition to evaluating specific programs, field experiments can also help scholars test theories about what constitutes good planning practice.

Experiments offer additional advantages for the researcher. The analysis of experimental data requires only basic quantitative analysis, rather than complex statistical modeling,

sophisticated regression analysis, matching methods, or other mathematical approaches that aim to account for omitted variable bias. In general, experimental methods require fewer assumptions to produce internally valid estimates of treatment effects. Field experiments are also transparent and reproducible. This transparency and simplicity may also be appealing to policy makers who may not trust complex statistical models (Boruch 2005). Of course, these benefits of experimental methods have been well-documented and are well-known. Therefore, the more pressing question is why field experiments are not more common in the planning literature.

Why Don't Planning Researchers Use Experiments?

It is not clear from the Du Toit et al. (2016) paper why experiments are so rare in the planning literature. While we cannot pinpoint any particular explanation with certainty, it seems that there are several potential explanations for why planning researchers do not use experiments. We examine these possible explanations below.

Planning Researchers Might Not Be Familiar with Experimental Methods

The simplest explanation is that planning researchers might be unfamiliar with experimental research designs. This reasoning suggests that if planning researchers were to be made aware of experiments they would start using them. We are not convinced by this explanation. While some planning researchers trained in architecture or other design fields may not be exposed to experimental research during their graduate education, we suspect that most planning researchers did in fact receive at least introductory exposure to the idea of experiments during their graduate training. We therefore dismiss this potential explanation as being generally untrue for most planning researchers.

Planning Researchers Might Have Concluded That Experiments Are Not Feasible in Planning

A more compelling potential explanation is that planning researchers might have generally concluded that experiments cannot be conducted in planning research because of various challenges that are viewed as insurmountable. There are undoubtedly some planning questions that are ill-suited for experimental research. The effects of zoning ordinances, by-laws, urban design guidelines, land use policies and other essential planning instruments are unlikely to be examined experimentally because of legal requirements that the instruments must be universally applied to all residents or neighborhoods. This means that there is no comparison group, and without a comparison group, one cannot experiment. For this reason, experimentation is probably not feasible in some planning contexts.

It is also important to acknowledge that cities are inherently difficult places to conduct experimental research. Practicing planners cannot use the city as the unit of observation since their authority is limited to their own jurisdiction. On the other hand, planners could consider alternative units of observation within their city that would make experimentation feasible, such as neighborhoods, streets, intersections, households, individuals, city parks, parking spots, bus stops, or public meetings. To be able to experiment, we collectively need to think about how units of observation within a city might be treated experimentally. Researchers in other fields are already thinking in these terms. For example, economists working with city officials in Mexico were able to randomize streets selected for paving. Budget constraints prevented the city from paving all streets that needed this critical infrastructure. By randomizing across streets, the researchers were able to quantify the increase in property value associated with a municipal infrastructure investment (Gonzalez-Navarro and Quintana-Domeque 2016).

Experimentation might also be difficult for planners because we tend to focus on public spaces, where people and information are constantly moving. This is problematic for experimental research because the research design assumes that there are no spillovers or interference between treatment and control units. Formally, this is referred to as the Stable Unit Treatment Value Assumption, and this may be a difficult assumption to make if the program or treatment is in a public place, where treatment and control subjects could mix. In some instances, this issue may be mitigated by randomizing at a higher order: say neighborhoods instead of streets. Other researchers have adopted “place-based randomization” that uses particular spaces as a unit of observation (Boruch 2005). For example, criminologists have used place-based randomization to study the impacts of policing on criminal activity in particular neighborhoods (Weisburd 2005). Perhaps planners might be able to think about other place-based randomization designs as well.

Experiments Can Take a Long Time

Experiments can take a long time to develop and execute. It also takes time to observe the change we hope to see in society: changes in built form, sense of community, or pedestrian patterns. Yet this is also true for other fields that use experiments, so this challenge is not unique to planning. Experiments can also be designed as a long-term research endeavor. For example, the Moving to Opportunities Program used an experimental design to study the long-term economic and health consequences of a program that supported families to move out of poor neighborhoods to escape the cycle of poverty. The program offered housing vouchers and other forms of rental assistance to support families in their move. Since families may also lose critical social networks as a result of changing neighborhood, policy makers agreed that it was important to study whether the impacts of the program was positive overall. After nearly a decade of research,

researchers found that households that moved to a better neighborhood improved in health and well-being measures but did not fare better than the comparison group in economic terms, and there were differential effects for boys and girls (Orr et al. 2003).

Planning Experiments Might Not Have Enough Statistical Power

Another important challenge for experimental research concerns sample size and statistical power. In a planning context, it may be difficult to reach the large sample sizes needed for a well-powered study that can detect small treatment effects. The challenge of sample size and statistical power is likely to persist even if planners begin to adopt an experimental research agenda. However, there are research designs (stratification, block-randomization) that may increase statistical power with small samples (Gerber and Green 2012). As mentioned earlier, planners may randomize at the level of the household or individual, but also physical structures such as parking spaces, bus stops, intersections or even public meetings. Clearly, the greater the number of observations, the easier it will be to detect statistically significant effects. Yet the lack of statistical power should not be a reason to not experiment at all. Large effect sizes are still detectable with small samples, and planners could start by testing programs that are thought to generate large effects. In doing so, we can avoid repeating the mistakes of some of the early experiments in social policy that were unable to detect treatment effects (Oakley 2000). If planners begin to develop an experimental research agenda, it might be a good idea to start with programs or interventions where there is confidence that effects will be found, but there may remain questions about the magnitude of the effect or the cost-effectiveness of the program.

Planning researchers might also be wary of other implementation problems, such as noncompliance and attrition. Fortunately, researchers in other disciplines have developed excellent field guides meant to help researchers avoid these and other common pitfalls as they design their experiments (Gerber and Green 2012; Glennerster and Takavarasha 2013; Glennerster 2017).

There Are Ethical Concerns and Barriers to Experimental Research

For many, the thought of experimental research with human subjects sounds distasteful or unethical. Fortunately, most universities around the world have Institutional Research Boards (IRB) that protect society from research that may cause harm. And while some researchers may have mixed feelings about the IRB review process, these reviews may be particularly useful for experimental research because they force the researcher to explain why they are proposing specific steps and how the research will unfold—ultimately making the research stronger. In a planning context, we

would anticipate that the best practices being tested would pose minimal risk.

Experimental work has also been criticized on ethical grounds, because treatment is withheld from some individuals (Edwards, Lilford, and Hewison 1998). It might be thought of as unfair for some people to receive the treatment but not others. In our view, these criticisms are more relevant in a medical context when potentially life-saving treatment is withheld. Furthermore, the ethics of the status quo—uncontrolled experiments—is arguably more ethically questionable than controlled experiments (Weisburd 2003). In an uncontrolled experiment, planners subject communities to plans, processes, exercises, and dialogues without knowing in advance their probable impact on communities. If we are going to subject communities to programs and processes without knowing the impact in advance, we should at least design the process in such a way that we can be sure to learn something useful in order to justify the risk of unknown impacts. In a controlled design, at least we learn.

Planning Researchers Might Not Have Willing Practitioner Collaborators

It is also possible that practical constraints are limiting the use of experiments in planning. We speculate that perhaps the greatest barrier to experimentation is finding practitioners willing to randomize a real program or policy. Planning scholars cannot develop and implement field experiments on their own, and this research approach will not make progress unless we can enlist support from practitioners who are willing to work with us to learn about how the city works in an experimental format. As researchers, we must pick questions that inspire practitioners and motivate them to experiment. This does not mean that practitioners must do something entirely new. In some cases, they can test variations on an existing program or project and learn how outcomes may differ with small changes in program implementation. Engaging with practitioners to find the right questions will be key to making progress.

The practical and logistical challenges associated with field experiments have led researchers from MIT and Yale to create separate organizations designed specifically to bridge practicing professionals with the academic community. Established as nonprofit organizations, the Abdul Latif Jameel Poverty Action Lab (J-PAL) and Innovations for Poverty Action (IPA) are organizations that aim to embed experiments in the field and provide critical field support for researchers. The existence of these organizations underscores the need for support in bridging researchers with practitioners and highlights that these practical challenges are real barriers that make it difficult for this type of applied research to move forward.

How Planning Researchers Might Be Able to Use Experiments

While the challenges to experimentation are many, and most are well known, there still may be opportunities to use

experimental designs for particular types of questions that may be of interest to planning researchers and practitioners. Until now, perhaps by focusing on the glass half-empty we have overlooked opportunities to use experiments to advance planning knowledge.

To help us focus on the glass half-full, we can take inspiration from the handful of planners already using experiments in their research, especially in transportation planning. For example, researchers used an experimental design to test the impact of a mobile mapping application that helped incoming university students find housing and understand the transportation implications of particular housing choices. The researchers aimed to influence both housing choice and transportation behavior. They found that students who used the mapping application drove less than those students in the comparison group, and also were more likely to locate close to the university and near a transit stop (Rodriguez and Rogers 2014).

More recently, Ralph and Brown conducted a similar experiment in collaboration with UCLA Transportation Services, in which they developed a transportation guide that informed students about travel options with the goal of shifting travel behavior to more sustainable alternatives. The experimental design allowed them to quantify the impact of the program, which was more effective at increasing transit use than decreasing automobile use (Ralph and Brown 2017). Other researchers have used an experimental setup to study racial bias in driver yielding behavior for pedestrians. This study found that black pedestrians were more likely to have cars pass them by at crosswalks and had wait times that were 32 percent longer (Goddard, Kahn, and Adkins 2015).

Outside of transportation, we see opportunities to use field experiments to learn about public participation and public engagement. While planners have many ideas about the appropriate format for generating mutual understanding and empathy, it is unclear which methods are most effective. For example, how to engage with NIMBYism remains a central challenge in planning, for which there are competing theories (Schively 2007). Some planning scholars believe that deliberative processes should have structure in order to help the public grapple with the decision-making process (McDaniels, Gregory, and Fields 1999), while others emphasize connecting with the public on their own terms (Erfan 2013). Which dialogue strategies work and which might be counterproductive? This debate lacks strong empirical evidence in favor of one approach over another.

Planners might consider developing experiments to test how different engagement techniques change perceptions and attitudes of residents. An experimental format with pre and post surveys and a comparison group might play an important role in helping planners understand which facilitation techniques achieve consensus, build trust, and improve satisfaction in public engagement events. Such an experiment could be run at the group level or with individuals. For example, a regional water authority that is expected to run multiple workshops to develop a watershed plan might test

two forms of engagement, comparing the rigorous presentation of scientific information with an approach that uses participatory scenario planning. Similarly, different facilitation styles could be compared when the public is convened to discuss a controversial issue. For highly sensitive issues, it would not be unusual for a city to reach room capacity in a public hearing or engagement event. Under these circumstances, planners could randomly separate the stakeholders into two or more groups and compare how different engagement techniques succeed in building trust and confidence in the decision-making process. Planners might also randomly invite a small group of stakeholders to participate in a public engagement program that would allow them to engage with decision makers more frequently or earlier than other stakeholders. Finally, planners might vary the content of personalized invitations aimed at motivating residents to attend a public consultation event in the first place, and measure attendance across the various invitation types.

Our thoughts on the potential of experimental methods to advance knowledge in public participation are just a few examples of how it may be feasible for planning researchers to experiment in a useful way. We suspect that other planning researchers may have even better ideas about how experiments can contribute to key questions in the planning literature.

Concluding Thoughts

We aim to foster a discussion on the potential of field experiments in planning. It is clear that this research design remains largely absent in our field, in part due to understandable constraints. At the same time, other fields share many of these challenges, and yet they are making progress in developing innovative experiments that are advancing knowledge in their respective fields.

We do not argue that experimental research is always the best approach to uncover causal relationships, generate new knowledge, or measure program impact. We merely point out that field experiments have untapped potential to do all of those things. Experimental research may complement existing research methods such as case-based approaches (Hutton 1994), surveys (Frank et al. 2006), meta-regression (Stevens 2016), simulations (Bigazzi, Figliozzi, and Kelly 2015), regression discontinuity designs (Deng and Freeman 2011), computational modeling (Tran 2012), and other methods used in planning research.

Experimental designs are certainly not problem-free, and the challenges of conducting field experiments are real. But in some instances these barriers are surmountable, and we hope that the planning community can think collectively about how we can use experimental methods to advance planning scholarship. It might be tempting to sit back and lament that it is difficult to experiment in planning, but we would rather push ourselves to think about where and when field experiments are possible.

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References

- Bigazzi, Alexander Y., Miguel A. Figliozzi, and Clifton J. Kelly. 2015. "Traffic Congestion and Air Pollution Exposure for Motorists: Comparing Exposure Duration and Intensity." *International Journal of Sustainable Transportation* 9 (7): 443–37.
- Boruch, Robert. 2005. "Better Evaluation for Evidence-Based Policy: Place Randomized Trials in Education, Criminology, Welfare, and Health." *AAPSS* 599:6–18.
- Deng, Lan, and Lance Freeman. 2011. "Planning for Evaluation: Using Regression Discontinuity to Evaluate Targeted Place-Based Programs." *Journal of Planning Education and Research* 31 (3): 308–18.
- Du Toit, Jacques, Nelius Boshoff, and Niclesse Mariette. 2016. "Normative versus Actual Methodologies in Planning Research: A Hybrid Picture." *Journal of Planning Education and Research* 37 (4): 477–87.
- Edwards, Sarah JL, Richard Lilford, and Jenny Hewison. 1998. "The Ethics of Randomised Controlled Trials from the Perspectives of Patients, the Public and Healthcare Professionals." *British Medical Journal* 317:1209–12.
- Erfan, Aftab. 2013. "An Experiment in Therapeutic Planning." PhD thesis, University of British Columbia.
- Ferraro, Paul J. 2009. "Counterfactual Thinking and Impact Evaluation in Environmental Policy." In *Environmental Program and Policy Evaluation: Addressing Methodological Challenges. New Directions for Evaluation* 122, edited by M. Birnbaum and P. Mickwitz, and American Evaluation Association, 75–84. San Francisco, CA: Jossey-Bass.
- Frank, Lawrence, James Sallis, Terry Conway, James Chapman, Brian Saelens, and William Bachman. 2006. "Many Pathways from Land Use to Health and Air Quality." *Journal of the American Planning Association* 72 (1): 75–87.
- Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis and Interpretation*. New York: Norton.
- Glennerster, Rachel. 2017. "The Practicalities of Running Randomized Evaluations." In *Handbook of Economic Field Experiments*, edited by Esther Duflo and Abhijit Banerjee, 175–243. Cambridge, MA: Elsevier.

- Glennerster, Rachel, and Kudzai Takavarasha. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton, NJ: Princeton University Press.
- Goddard, Tara, Kimberly Barsamian Kahn, and Arlie Adkins. 2015. "Racial Bias in Driver Yielding Behavior at Crosswalks." *Transportation Research Part F: Traffic Psychology and Behaviour* 33:1–6.
- Gonzalez-Navarro, Marco, and Climent Quintana-Domeque. 2016. "Paving Streets for the Poor: Experimental Analysis of Infrastructure Effects." *Review of Economics and Statistics* 98 (2): 254–67.
- Herrera, Juan C., Daniel B. Work, Ryan Herring, Xuegang (Jeff) Ban, Quinn Jacobson, and Alexandre M. Bayen. 2010. "Evaluation of Traffic Data Obtained via GPS-Enabled Mobile Phones: The Mobile Century Field Experiment." *Transportation Research Part C: Emerging Technologies* 18 (4): 568–83.
- Hutton, Thomas A. 1994. "Vancouver." *Cities* 11 (4): 219–39.
- List, John A., and Michael K. Price. 2016. "The Use of Field Experiments in Environmental and Resource Economics." *Review of Environmental Economics and Policy* 10 (2): 206–25.
- McDaniels, Timothy L., Robin S. Gregory, and Daryl Fields. 1999. "Democratizing Risk Management: Successful Public Involvement in Local Water Management Decisions." *Risk Analysis* 19 (3): 497–510.
- Oakley, Ann. 2000. *Experiments in Knowing: Gender and Method in the Social Sciences*. London, UK: Polity Press.
- Orr, Larry, Judith D. Feins, Robin Jacob, Erik Beecroft, Lisa Sanbonmatsu, Lawrence F. Katz, Jeffrey B. Liebman, and Jeffrey R. Kling. 2003. *Moving to Opportunity for Fair Housing Demonstration Program: Interim Impacts Evaluation*. Washington, DC: U.S. Dept. of Housing and Urban Development, Office of Policy Development and Research.
- Ralph, Kelcie M., and Anne E. Brown. 2017. "The Right Time and Place to Change Travel Behavior: Experimental Study." *96th Annual Meeting of the Transportation Research Board* 1–24.
- Rambonilaza, Mbolatiana, and Jeanne Dachary-Bernard. 2007. "Land-Use Planning and Public Preferences: What Can We Learn from Choice Experiment Method?" *Landscape and Urban Planning* 83 (4): 318–26.
- Rodríguez, Daniel A., Jonathan Levine, Asha Weinstein Agrawal, and Jumin Song. 2011. "Can Information Promote Transportation-Friendly Location Decisions? A Simulation Experiment." *Journal of Transport Geography* 19 (2): 304–12.
- Rodríguez, Daniel A., and Jennifer Rogers. 2014. "Can Housing and Accessibility Information Influence Residential Location Choice and Travel Behavior? An Experimental Study." *Environment and Planning B: Planning and Design* 41 (3): 534–50.
- Schively, Carissa. 2007. "Understanding the NIMBY and LULU Phenomena: Reassessing Our Knowledge Base and Informing Future Research." *Journal of Planning Literature* 21 (3): 255–66.
- Shadish, William R., Thomas Cook, and Donald T. Campbell. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston, MA: Houghton Mifflin Company.
- Skabardonis, Alexander, Karl Petty, Robert Bertini, Pravin Varaiya, Hisham Noeimi, and Daniel Rydzewski. 1997. "I-880 Field Experiment: Analysis of Incident Data." *Transportation Research Record: Journal of the Transportation Research Board* 1603 (January): 72–79.
- Spears, Steven, Marlon G. Boarnet, and Douglas Houston. 2016. "Driving Reduction after the Introduction of Light Rail Transit: Evidence from an Experimental-Control Group Evaluation of the Los Angeles Expo Line." *Urban Studies* 54 (12): 2780–99.
- Stevens, Mark R. 2016. "Does Compact Development Make People Drive Less?" *Journal of the American Planning Association* 83 (1): 19–25.
- Tran, Martino. 2012. "Technology-Behavioural Modelling of Energy Innovation Diffusion in the UK." *Applied Energy* 95:1–11.
- Weisburd, David. 2003. "Ethical Practice and Evaluation of Interventions in Crime and Justice: The Moral Imperative for Randomized Trials." *Evaluation Review* 27 (3): 336–54.
- Weisburd, David. 2005. "Hot Spots Policing Experiments and Criminal Justice Research: Lessons from the Field." *Annals of the American Academy of Political and Social Science* 599 (1): 220–45.

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