

ARTICLE

Infrastructure Fieldnotes: Engaging the City through Reading,  
Research, and Representations

Scott Ross\*<sup>1</sup>, Alexandra Groth<sup>2</sup>, Swasti Shah<sup>2</sup>, Anissa Sterner<sup>2,3</sup>, Abigail Francis<sup>2,4</sup>,  
Denali Graham<sup>2</sup>

<sup>1</sup> Washington University in St. Louis

<sup>2</sup> Recent graduate of George Washington University

<sup>3</sup> University of Maryland

<sup>4</sup> McGill University

\*Corresponding author, ross.s@wustl.edu

**Abstract**

As part of a recent undergraduate seminar on infrastructure, students completed weekly exercises dubbed "infrastructure fieldnotes." Going beyond conventional discussion board posts or reading responses, exercise prompts incorporated reading analysis, methods practice, writing prompts, and experiments in multimodal representation as students engaged with urban planning and quotidian experiences of infrastructure and made sense of the infrastructures that enable and structure city life. In this research article, the instructor for the course offers a preliminary presentation of the assignment's structure and pedagogical objectives, followed by an analysis of how some prompts influenced classroom discussions by creating common points of reference and revealing different experiences of the campus and city. This discussion is followed by five student contributions on different aspects of the assignment. Some take up specific prompts to demonstrate how they created openings for engagement with course material, some reflect on how exercises enabled students to cultivate new kinds of awareness or attention to infrastructure, and others extend the fieldnotes project beyond the class to show what kinds of analysis endured after the course ended. Altogether, these student analyses demonstrate and reflect on the utility of sustained, open-ended prompts for student engagement with course material and concepts in an urban campus.

**Keywords:** writing prompts; participant observation; infrastructure; urban anthropology

## Introduction

How do we learn to notice the infrastructures around us? Infrastructures surround us and make our daily activity (and life itself) possible, yet many of them remain buried in our walls or their functioning is so seamless as to go unacknowledged. Susan Leigh Star (1999) famously defined infrastructures as the invisible background to our other activities. While this proposition has been critiqued and qualified in anthropology and science and technology studies (Furlong 2014; Larkin 2013), it remains a touchstone for the study of infrastructure. Teaching a seminar course on the anthropology of infrastructure at George Washington University in the spring semester of 2022, a central question was how to point students to the infrastructures that made their daily lives possible—how to, as a class, attend to the systems that enabled the city and campus around us to function.

The Infrastructure Fieldnotes were a series of a dozen weekly prompts that varied from the application or comparison of course concepts to miniature research methods exercises to practices in writing and representation. Each prompt asked students to attend to infrastructures in different ways, often drawing theory out into the city and bringing the city back into the classroom (a full list of prompts is included in Appendix A). We write this article as a partial selection of participants in the course. First, the instructor (Ross) presents the assignment's structure and his pedagogical objectives before demonstrating how the prompts influenced classroom discussions by creating common points of reference for students and by revealing different experiences of the campus and city. This is followed by a series of student (Groth, Shah, Sterner, Francis, and Graham) reflections on the assignment and their own engagements with urban infrastructures in Washington, DC. These reflections center on different exercises and interactions with the city, emphasizing how engaging with infrastructure and theory ethnographically—tending to the city that surrounds us with an anthropological sensibility—reveals new insights. They also demonstrate how different creative practices and approaches to representing the city—ethnography as craft—open up new possibilities for understanding.

Moving across a sample of the prompts, this article demonstrates how open-ended writing prompts designed around research methods, reading synthesis, and representational modes offer students space to practice and play with anthropological writing practices, equipping them with tools for understanding course content and applying it to their surroundings—in this case, urban infrastructures. In the context of teaching the city, this assignment and experience expanded student interactions with the city in two ways. In the classroom, common exercises gave students a shared experience and vocabulary with which to collectively discuss course material together, while also bringing anthropology out of the classroom and into the city for each individual student as they drew from readings to engage day-to-day life in an urban campus.

## Teaching Infrastructure Fieldnotes

Scott Ross

When I was first developing the syllabus for a seminar on infrastructure, I wanted to try something new. Tired of the generic practice of relying on vaguely defined “reading responses” for weekly participation and comprehension, I substituted exercises that I called “Infrastructure Fieldnotes”—reflections that take each week’s readings or topic as a starting point for student engagement. I was inspired, in part, by Nick Seaver’s (2018) use of weekly entries in a course where he wanted students to attend to *attention*. I also wanted students to begin stocking their own “infrastructure toolbox,” something Appel et al. (2015) developed to “allow us to think infrastructure’s metaphorical capacities with its material forms, and to think those material forms along with their capacities to generate aspiration and expectation, deferral and abandonment.” While those authors drew from infrastructure’s materiality to rethink ethnographic methods, the weekly prompts discussed here used the anthropology of infrastructure as a field to retool the form of the weekly discussion board post. This opening not only offered students a way of carrying course material out into the world, but it also allowed students to bring the city back into the classroom. Each week, the class was of course tasked with discussing assigned readings, but many students also incorporated their fieldnotes into discussion as this practice increasingly formed a common point of reference for everyone.

Roughly a third of the prompts asked students to demonstrate their understanding of course concepts. Some of this was done through simple writing exercises—*Choose a type of connection or infrastructure and write about it using three readings from three different weeks*—with students practicing synthesis and comparison. Others asked them to experiment with media-mixing by, for example, asking them to *create a map, meme, or infographic that represents or utilizes a concept you’ve learned so far in this course*. Such prompts hewed more closely to conventional reading responses but still gave students more freedom in demonstrating reading comprehension by offering different modalities of showing their work.

Students often had to take a concept or topic from course material and analyze their own experience of it. In a week on technopolitics and citizenship, for example, they were prompted to *reflect on how various infrastructures affect or are affected by your membership and belonging*. Students’ writings ranged from dorm room sharing of amenities with fellow student-roommates or sharing study space with working parents to exclusive university services like COVID testing or campus shuttles. By situating themselves not just on campus but also in the city, students confronted the campus’s relationship to DC in new ways—an important task for a population which can sometimes exist in a campus bubble made possible by university enclaves.

Another set of prompts asked students to go out into the city and exercise their ethnographic muscles, training in participant-observation, mapping, or writing fieldnotes

with a focus on urban infrastructures. These prompts encouraged students to attend to how infrastructures co-constitute the city that they inhabit. For a week on temporality, students kept a log recording *how you notice infrastructure affecting time—your experience of it, your observations of others' perceptions, the ways infrastructure structures time, etc.* One student noted how slow wi-fi while submitting an assignment for another class made her perception of time slow down. Another realized that during a recent outing she had planned her activities in 24-minute chunks to ensure she caught a train back on the weekend schedule. During class, students were almost unanimously annoyed with one particular intersection near campus for how long green lights and short crosswalk signals made “the commute feel simultaneously rushed and elongated,” as one student wrote in his entry. This crosswalk re-emerged later in the semester when we discussed bottlenecks and chokepoints (Melly 2017).

For a week on security, students attended to the surveillance infrastructures around them, with many choosing to map the cameras, alert systems, and police presence that surround us in the nation’s capital (one of the most surveilled and policed cities in the world). After reading excerpts from *Seeing Like a State* (Scott 1998), students took walks through DC and wrote reflections on whether or not the city felt planned, and how they could tell. While we discussed urban planning in class that week, their entries resurfaced as students had varying opinions over the benefits and drawbacks of high modernist planning, comparing their experience living in downtown DC to their hometowns. Some sheepishly admitted that living in a planned city was... kind of nice? Or maybe it was the absolute worst? Was it okay that some of us liked living on a grid? And who was the grid for? Scott mentions L’Enfant’s Washington in passing (1998, 103), but our in-class discussion centered less on his case studies of high modernism and urban planning and more on our own experiences of the city and its surroundings—with an array of opinions evoked by the prompt.

Finally, some prompts asked students to experiment with writing and other forms of representation. Many of these were open-ended and encouraged experimentation with genre—one week, *write an ethnographic vignette that relates infrastructure to the senses*; another, *draw a map indicating a physical bottleneck, thinking about how to represent movement and immobility*. Such prompts opened up space for engaging in creative writing and illustration to represent what they had learned. Each assignment was an invitation, and students responded with vivid descriptions of running to catch a train or illustrations of traffic jams caused by the campus shuttle pick-up area or the perennially busy campus deli.

Thus, the prompts urged students to engage anthropological approaches to studying the city in three different modes. Inhabiting a familiar role as students, they had to demonstrate understanding or practice synthesizing and analyzing through conventional writing. But the assignment also asked them to become researchers as they conducted observations and to become writers and artists as they represented course concepts in more unconventional ways. These three modes—reading (synthesis and application),

research (observation and experience), and representation (writing and illustrating)—fed back into the classroom as students were as likely to reference their observations and reflections as they were to point to a particular passage in the assigned readings.

One goal of this article is to demonstrate the pedagogical value of such an assignment. The Infrastructure Fieldnotes created new channels through which students encountered and applied course material. At the same time, the assignment created a common point of reference for everyone in the classroom, offering a collective experience through which we could learn about the city. In the spirit of collaborative learning, and in order to demonstrate the different ways in which the prompts opened up new modes of engagement, the remainder of this article is comprised of student essays about their experience in the course. In the conclusion, I reflect on the student contributions and discuss the utility and portability of this exercise for teaching the city in anthropology.

## Doing Infrastructure Fieldnotes

*Alexandra Groth*

Throughout the course, our study relied on making observations informed by the words of the anthropologists we were reading. Each reading broadened my perspective and opened up a new way of seeing—or rather, experiencing—the infrastructure that I had previously viewed as fixed and apolitical. By writing down my observations each week, I was challenged to think more critically about the scholars' arguments. For most field notes, I chose to write with pen and paper, then transcribed those notes into a Word document to submit for class. I did this so I could gather my thoughts in real time as I was walking around the city. The informal format of the field notes allowed me to make casual observations. In a way, by turning my attention away from the aesthetic of what I was writing, I was able to make more authentic insights about my surroundings. Those prompts allowed me to write messily, which I found to be a rare and useful experience.

At the same time, the field notes often pushed me into discomfort. I do not consider myself a talented illustrator, and I felt intimidated by more artistic prompts, such as prompt 4, *Create a map, image, meme, infographic, etc. that represents or utilizes a concept or example from any of the readings so far in this course*. Since I am not a natural artist, I challenged myself to find a format that would allow me to show others the ideas I visualized. It was difficult at first, but eventually, I found my footing through a collage of digital and drawn elements. If I could not illustrate the idea, I searched online for an image to assist me. Ultimately, these visual tasks were instructive. By modeling my observations through different formats, I was able to more explicitly connect the visuality and aesthetic of infrastructures to their functionality, or lack thereof.

Before the course, I had read excerpts of *Seeing Like a State* and was familiar with Scott's (1998) arguments; however, the fieldnotes helped me gain a much deeper understanding of high modernism because they prompted me to see how the material

applied to my daily life. As I note in this excerpt from a field note on urban planning in DC, the discrepancies between the “above” and “below” perspectives provide an interesting lens through which to view the criteria for belonging, legibility, and access:

Walking around, however, it is clear that what appears as aesthetically pleasing or technologically savvy is not innately functional, and certainly not equitable. As in the case of Brasilia, what may look orderly and rational from above, can be illogical and dangerous from within. When city planners “see like a state,” they inherently ignore the reality of daily life for people embedded within and moving around these cities. It makes me think about flying in a plane. From above, the cities below look neat, organized, and planned; but, the experience of living in such a city can be quite different. Clean lines and smooth ridges are insufficient indicators of success because cities are not just passive artistic/visual entities but social and political environments.

To that end, in one entry, I created a side-by-side view of a campus tour map and a personal view of that same route. By comparing the two images, I was able to see both like a state and like a citizen:

This summer for my job I was tasked with helping to create a tour route of campus for prospective students and their families. What initially seemed like a simple task when I mapped it from above became increasingly complicated as I walked the route. The perspective from the “state” was entirely different from that of the “citizen.”

The assignment highlighted a range of accessibility issues that had long been ignored in the “above” route. While the tour facilitated the enrollment of some students, it caused the exclusion of others. As infrastructures are defined by the members who are granted access, I considered the many ways that the tour route had both given and taken away membership in the visit experience—how it had shaped the conditions for belonging at the University.

Before doing the field notes, I had thought of infrastructure as a means to an end, a way to get from point A to point B. Participating in the assignments directed my attention away from what infrastructure does at face value and toward the relationships it creates between groups of people. As Susan Star (1999) notes, “[i]nfrastructure is a fundamentally relational concept, becoming infrastructure in relation to organized practices” (380). We are defined in relation to the infrastructure that is designed to serve us. Thus, as in the case of the campus tour route, “[o]ne person’s infrastructure is another’s topic, or difficulty” (Star 1999, 377). The class challenged me to view infrastructures not for what they look like, or even where they take you, but for the connections they construct and impose.

Over time, I noticed a shift in my analyses. Rather than writing about infrastructures for what was there, I started to look for what was missing. I found myself writing an analysis of the margins, the infrastructural “in-between”: “a node in others’ networks, both built in

and left out, a cog in someone else's machine" (Johnson 2019, 76). The process of experiencing the content (rather than simply reading about it or listening to a lecture) sharpened my ability to notice the "in-betweens." A year later, I still find myself critiquing and asking questions about the infrastructures I engage with, an informal process of analysis that was sparked by the field notes assignments.

*Swasti Shah*

Our assignment for Fieldnote 7 was to create a zine based on a concept that we had previously discussed in class. Starting in the early twentieth century, these small booklets hold their roots in socio-political movements and countercultures such as the punk scene (Watson and Bennett 2021, 117). Zines circulate information on social issues and societal critiques in various public spaces to facilitate community dialogue. Building a zine incorporates several artistic skills such as bookbinding, typography, illustration, and printmaking in addition to conveying complex information in a digestible manner to its audience (Mariner and Cardona 2020). By using resources and spaces that are local to the author, the short and DIY (do-it-yourself) form of zines makes them accessible for all people to produce, share, and learn from. The combination of creativity and scholarly analysis thereby make zines a great tool for teaching concepts such as infrastructure in the classroom.

I was given the freedom to tap into my creative side by transforming and repackaging information from scholarly texts into a small eight-page zine. As a visual learner, the zine allowed me to utilize its nontraditional form to review course material and communicate information in a new way to my classmates, the audience for this zine assignment. Many of the class readings of scholarly works and theories regarding infrastructure were often complicated and took time to understand. Creating a zine allowed me to think of a new visual way of representing main ideas from such complex concepts.

I created my zine based on high modernism and modernization theory as discussed by James Scott in *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. The ideology of high modernism can be understood as creating "the rational design of social order" by transforming the city layout into a geometric grid-like visual aesthetic (Scott 1998, 89). In order to achieve this, spaces which have been organically formed by those with local knowledge, someone who possesses place-based cultural knowledge by living in an area, would be simplified to have a geometric layout to make the city more legible for non-locals (Scott 1998, 6 and 108). By doing so, the state can monitor people's movement and maintain its control of the city with greater ease (Scott 1998, 88).

I wanted to explore what it meant to "see like a state" that utilizes modernization theory in its approach to urban planning. I started with an intricate design on one end of the zine to represent local knowledge and slowly simplified it into the geometric grid-like visual aesthetic to reflect high modernism which became the front cover, as seen in Figure 1.

Before this assignment, I had a broad understanding of Scott's argument. However, the wordiness of scholarly writing at times muddled my understanding of how high modernism is a process, something I did not grasp in my initial reading of the text. In order to fully connect with what it means to "see like a state" I engaged with the physical form of my notebook-paper zine as if it were a blueprint used to transform a city in progressive stages. Illustrating the evolution of high modernism made me think in the perspective of an urban planner's reorganization of a city and what the stages of "modernizing" may look like.

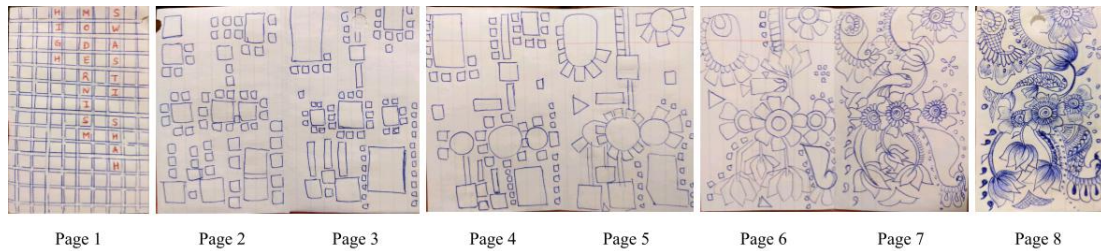


Figure 1. High modernism zine

By working with tactile materials such as paper, pens, and a ruler, I was able to visually experience the concept of high modernism by abstract images as another language for a more intimate understanding of Scott's ideas. I not only had a better understanding of the reading material, I was also able to identify visual markers of the high modernist aesthetic as I walked around DC after the assignment. For example, I identified areas around the city which are undergoing construction of new large, squared buildings of the same architectural style in gentrifying areas, often apartment complexes, that stand in stark contrast next to what seem to be older smaller buildings that are stacked next to one another. When I walked past these areas, I immediately thought of how this was an example of high modernism that made me think of the pages in my zine (Figure 1, pg. 4) which reflected the "in-between" stages towards "modernizing." I have also become more aware about the visibility of my own movements as I navigate in a city with a geometric grid-like layout and wide roads making myself easily surveillable by the state, a product of DC's high modernist aesthetic.

The fieldnote assignments throughout the course helped me engage with infrastructure both as a student and as a person living in the city. Each week, I felt encouraged to connect with the city as well as deepen my understanding of academic writings by personalizing them to my daily interactions with infrastructure and the politics that surround it. Producing and sharing the zine with my classmates gave me a new opportunity to engage with the collective information-sharing culture of zines, review course materials in a non-traditional way, and practice critical thinking as I navigate DC.

Anissa Sterner

The writing process of one singular fieldnote—an *“ethnographic text”* about how infrastructure relates to the senses—was one of the most impactful experiences, for me, of the entire course. Prior to this, the class had been focused on the ways in which infrastructure can influence our own perception of our surroundings, as well as the broader social consciousness, so this fieldnote was an opportunity to apply this knowledge to a commonplace part of my day: my commute home from work. As the prompt for this particular fieldnote was fairly open-ended, I took it in a narrative direction, forgoing any citations of authors or “academic” prose in favor of a stream-of-consciousness retelling of one particular late-night commute home from my off-campus job. As we (as students) so frequently write formal, scholarly works, I relished the opportunity to shed those limitations and use a more creative voice. Despite the initial writing feeling lighthearted and inconsequential, I greatly enjoyed the process, submitting it without a second glance. However, week after week, as we read and discussed more about infrastructure, experience, and the senses, I realized that this seemingly trivial fieldnote—written about what I considered to be an uninteresting part of my day—was the one that I learned the most from and the one that impacted how I see the world and everyday life. This can be attributed to a few main causes: utilizing a non-academic writing style, a focus on understanding both individual and collective experiences, and scrutinizing the details of the fieldnote through an epistemological lens.

One of the main reasons that writing this fieldnote was so influential for me was because of the more creative style we were permitted to write in. Not having to adhere strictly to an academic genre, nor rely on citations from authors we had read in class to support my arguments, made me think more about my own experience of infrastructure rather than what I expected my experience to be based on the readings. Additionally, writing in a more informal tone allowed for the expression of my ideas in a more relaxed and honest manner; not having to self-edit vocabulary, tone, or grammar like in a normal academic paper meant I could instead simply focus on the content of the fieldnote.

I also appreciated the way that this fieldnote made me reflect on both my own interactions with infrastructure and those of the people around me. A crucial part of constructing a “scene-setting vignette” was to actually set the scene, making sure to reflect on small details of commuting—an otherwise ordinary part of the day—in order to create a more rich sensory description of the environment I found myself in. Some of the details I included were direct, plain observations: hearing the screech of a somewhat broken Metro escalator, seeing the wind blow trash around the station, noting that the night trains were so quiet that an elderly man fell asleep, and so on. However, the process of writing those small observations, contemplating the way infrastructure interacts with the senses, made me take time to reflect—both in the fieldnote and throughout the course—on how this affected the collective experience of infrastructure in the city. Did the constant presence of litter in Metro stations reveal something about how we, as DC residents, interacted with

public transportation? Was the difference in ambient noise during the day and night simply a minor detail, or did it impact the way in which commuters used their time on the metro? In addition to these questions, the realization that individual experiences with the same infrastructure could vary so widely was a crucial one to me. Whereas the loud and nonfunctional escalators were simply an annoyance to me, I wondered if they impacted ridership numbers on a larger scale. In other words—were people with mobility issues disincentivized to use the Metro due to its faulty technology?

Another key learning experience for me was the idea that one's own framework of knowledge and belief could be considered a type of infrastructure that could go unnoticed until it broke down—or in this example, was challenged or reviewed more carefully. Looking over my fieldnote after submission, I realized that I experienced several instances where it was necessary to re-examine my own assumptions about the city and its infrastructure. For example, watching someone get on the metro in a suit and tie, I would note that they were commuting to/from an office job; however, that may not have been the case, and I needed to include my thought process behind the link in my writing, rather than considering my assumption to be a foregone conclusion. This process of unpacking my own presumptions anthropologically has made a huge difference in my everyday mindset and my approach to any given situation. The practice of envisioning the frameworks through which we experience the world as a type of "infrastructure of the mind" has challenged me to reflect on my own mental infrastructure and try to expose and improve on the faults in its construction.

#### *Abigail Francis*

Anthropologists study the ordinary—the things that we take for granted, how we converse with each other, and what traditions we have. After taking the Metro to and from The George Washington University well over 150 times this school year, I stopped noticing how sunny it got when the Metro emerged from its underground tunnel, or the peculiarities of my fellow commuters. In Fall 2022, inspired by Scott Ross's class, I decided that I would study the Metro for an assignment in one of my semester courses. Much of what I noted in the project was similar to the observations Ross inspired me and my classmates to make in Spring 2022, though I was newly a commuter student and was able to get new information from the project as well. Learning infrastructure helped me to better understand what allows me to move, live, and work.

Unique to this course was our weekly Infrastructure Fieldnote assignments. Ross's fieldnote exercises allowed for a non-traditional approach to learning which allowed for us to step away from our computers and textbooks and actually experience what we were learning about. Without the pressure of formal, academic writing or specific ties to readings, just class and reading concepts, the fieldnotes felt more like adventures than school work. I found the purpose to be focused on my surroundings rather than grammatical correctness or other formalities.

One fieldnote I particularly enjoyed had the following prompt—*take an ordinary trip to/from campus*. Followed by a series of more specific questions to help guide our response, this fieldnote helped me notice things I never had and likely never would notice. I began by recognizing how isolating GWU’s campus is—it is often referred to as the “Foggy Bottom Bubble” where students trap themselves by not visiting other parts of the city. To avoid feeling stuck, I would take weekly trips on the metro to Chinatown to go to the movies. Here are two brief excerpts from my fieldnote:

Traveling via the metro is extremely convenient, though it allows for me to skip over entire neighborhoods without ever noticing what they look like or who lives there. I’ve walked past McPherson Square once since I’ve been in DC, but I’ve gone past its metro station more times than I can count.

[...]

When taking the metro and walking, I always have my headphones on and an audiobook playing. What I can hear through my headphones is the sound of the metro cars approaching, honks from cars, and sound from the Capital One Arena if there’s an event inside. If I wasn’t consistently listening to books, I would hear chatter on the metro, the sound of steps on the escalators and the escalators themselves, the swinging of the metro entrance/exit gates, birds chirping, and other sounds a city makes.

The excerpt on headphones is especially important, as it shows that I do not focus on my journey when going from one point to another, but rather utilize my commute time for something extra. What was around me I subconsciously deemed as so unimportant that I wished to block it out with an audiobook rather than listen and watch. Taking off the headphones allowed me to experience ordinary infrastructure in a way that is so important to comprehending how a city works yet so often ignored.

Especially in a big city, residents are stuck in a never-ending cycle of commute, go to work or school, commute, sleep, and repeat. I long ago accepted this was how being a commuter student taking a full credit load and working a part time job would go. My entire college experience relies on my ability to get to and from campus, yet I never stopped to think about everything that went into creating what I view as normal. Three of my fieldnotes focused on transportation infrastructure, which altered my perception of the Metro. Something that I would not be able to get to school without yet also causes me to have to wait for an illuminated red hand to change to a green person on a crosswalk, oftentimes delaying my trip to class. Life in a concrete jungle is often overwhelming yet dull. This class taught me to look up from my phone, take out my headphones, and observe that which is deemed ordinary. It also showed me school is not just about the assignments or formalities but about the experience gained from that which surrounds me.

Denali Graham

The Politics of Infrastructure was one of the most engaging classes I have taken over the course of my education, and this is largely due to the structure of our assignments. Rather than using basic discussion posts, Ross utilized weekly assignments that were more stimulating and encouraged us to think more creatively and critically about our readings and discussion. The class's use of fieldnotes, primarily styled as journal entries or creative projects, forced me to reevaluate how I perceive and interact with many of the concepts we discussed; not only that, but my attention was more focused in class, my comprehension was improved, and I retained larger amounts of information. One fieldnote in particular stands out to me for a number of reasons: Fieldnote 9.

This week's readings were dedicated to an examination of infrastructure in development and intervention. This fieldnote asked us to *take an ordinary trip to/from campus, taking the time to attend to how the place where you live and the way that you travel might shape your experience of the neighborhoods concerned or the city more generally*. It involved taking note of the finer details that escape everyday attention, specifically the complementary structures that work to maintain and advance certain infrastructures. Some of my classmates chose to focus on the constant presence of construction, while others mentioned the sudden awareness of infrastructural aging; these sorts of observations closely followed the theme of the week. But this prompt also allowed us to bring other, unnoticed aspects of infrastructure into light, such as human traffic patterns, human interaction, or pleasure paths. By allowing us to interpret the prompt in our own way, we were able to contribute different perspectives to our class discussions and widen each other's notions of infrastructure.

My focus centered around the effect which distinct means of transportation have on my perceptions of infrastructure. I discussed how my interactions with infrastructure changed when I moved off-campus and brought my car to DC. My trip to campus consisted of less walking and more driving, shifting the frame of my infrastructural awareness from that of a pedestrian to a commuter. In my fieldnote, I noted that traveling by foot had limited my experiences "to Foggy Bottom and the Mall, with some forays to Georgetown for a nice dinner." Without a car or sufficient knowledge of the public transportation system, I found myself in "a bubble of my own making." When I moved off-campus and began using a car to get around, the bubble rapidly expanded. Suddenly, I began to interact with areas of DC that had previously been out of reach. By "having the *potential* to go further than Georgetown, I started to *look* further than Georgetown," searching for services such as hair salons or grocery stores or doctors that were further away. DC mentally became a larger city for me personally due to the change in transportation.

Changing my mode of transportation also resulted in a different awareness of infrastructures such as traffic lights, cross walks, road repair, etc. Construction on the roads or imperfections in infrastructure such as potholes or abrupt lane changes were much more obvious to me. The oddities of the street layouts in the city also became more noticeable,

such as the infinite number of one-way streets or harrowing traffic circles. As a pedestrian my attention had been focused on things such as the depth and integrity of the sidewalk, the types of surrounding structures, or the amount of sunlight. This shift in perspective deepened my relationship with the city; by making me more aware of the complicated but subtle processes that maintain and support the city, I felt like I was sneaking a peek of the heart of DC. As I became more familiar with the layout and began “driving around the city without GPS,” this connection and familiarity continued to be strengthened.

This fieldnote, by demanding my awareness of subconscious areas of life and situating my studies in the concrete, observable world, expanded the boundaries of my thinking. I was forced to consider new avenues that I hadn’t noticed before, both literally and figuratively. Compared to other styles of engagement such as summative discussion posts or generating discussion questions, the fieldnote structure allowed me to engage with information through my environment. In the case of Fieldnote 9, our discussion on infrastructural and developmental technology such as the cookstove (Khandelwal and Lain 2017) or the Bush Pump (Redfield 2016) was spurred with consideration for other forms of technology in our immediate environment that also had a major effect on the human way of living. Overall, my comprehension of the material improved and my contributions to class discussion were resultantly more insightful and reflective due to this fieldnote methodology.

The fieldnote structure used in this class did more for my knowledge retention and critical thinking skills than most other assignments. By encouraging me to interact with and apply the readings to my surroundings, my recall, comprehension, and interest all improved. Additionally, the fieldnote structure drew from principles within anthropology, namely ethnographic methodology. Ethnography is employed by anthropologists when observing an unfamiliar community; it consists of the researcher immersing themselves within the community, as both an observer and a participant, in order to develop a more comprehensive understanding of the motivations and structures present in certain behaviors. By injecting the researcher into the environment, which is being studied as a participant, different perspectives can be made visible that would have been out of reach for the simple observer. Asking us as anthropology students to closely analyze the infrastructures around us in our fieldnotes allowed us to apply ethnographic practices of observation and participation within our writing and analysis. For instance, in my fieldnote I observed a difference in neighborhood demographics that I had not noticed before, with different areas having populations with distinctions based on race, attire, or even residency (tourists vs. DC residents). These distinct neighborhood demographics were accompanied by distinctions in infrastructure, such as more or fewer speed bumps, varying police presence, and different hours of business. Thus, this style of learning had a bilaterally positive effect of teaching both theory and method, with a weekly hands-on demonstration of the benefits of such a methodology.

## Conclusion

These reflections on the Infrastructure Fieldnotes highlight the different ways that students could take up prompts and engage the city around them. The educational value of applied learning is evident—students not only read about theories and empirical data but themselves encountered course concepts on campus and observed their own data in the city. Another common thread in these reflections is the effect of offering students an informal mode of engagement with coursework. Time and time again, reflecting on the takeaway from responding to these prompts, students emphasized the invitation to think and write in an informal genre or creative mode. By writing field notes rather than essays, students could pursue the story or data or idea itself without worrying about form (or at least while thinking about form in a different way). Such exercises can offer not only a new kind of engagement with anthropology and urban studies, but a more ethnographic one.

In anonymous course evaluations, one student noted that “weekly discussion posts actually felt useful and not like we were just writing a discussion post to write a discussion.” Paired with the reflections above, this points to the benefit of structured yet open-ended prompts over generic reading responses. Many prompts drew from readings and required student engagement with academic work and concepts, but demanded they go a step further. Students were able to apply concepts, explore and play with them, and engage the city ethnographically and anthropologically. Not every prompt was successful with every student, of course, but all were effective in getting students to think with the material and some resonated quite strongly, as the reflections above show. This, too, was a benefit of the prompts—they offered variety and specificity such that students could lean into different elements of anthropological thinking and doing.

As budding anthropologists, students practiced both research methods and ethnographic writing in the course, in addition to focused attention to course materials for discussion. The field of infrastructure studies offers new ways of attuning and engaging anthropology in and of the city. These new engagements—utilizing an “infrastructure toolbox”—hope to “draw infrastructure out of the background and into the foreground of ethnographic research and theorizing” (Appel et al. 2015). By tasking students to stock and sharpen their own ethnographic toolkit, the assignment described in this essay offered a space for students to embrace reading, research, and representation through infrastructure itself each week. Derived from the course’s object of study, student reflections above indicate that these tools can be useful for students in their more general perception of the world around them and interactions with the city long after the term ended. In this way, as one reviewer observed, these prompts were themselves “a switch in infrastructure”—a pivot from general reading responses to engaging writing and research exercises. These prompts pushed students specifically to attend to the infrastructures in their daily lives, but more broadly they encouraged students to think anthropologically, to notice the city around them, and to transform the urban environment into a field site.

The assignment's weekly nature was beneficial because it served as a regular feature in class discussions and informed student work over the course of the semester, though it came with limitations. Because I would encounter students' weekly engagements only after they were complete, I hesitated to ask students to conduct more involved observations or interviews of strangers without instructor oversight for ethical reasons. For a smaller course or as a standalone assignment, an instructor could consider offering a roster of people who work in urban planning or infrastructure to be interviewed or observed (and compensated for their time). For similar reasons, I chose not to send students into unfamiliar territory or to engage vulnerable populations in order to ensure student and community safety. When asking students to reflect on their own lives and experiences, I attempted to keep prompts general enough that students could include only the kinds of information they felt comfortable with while still satisfying the goals of the exercises, since fieldnotes were viewable by other students.

Likewise, this course was taught on an urban campus in a city with multiple modes of public transportation, allowing students to easily (with relative safety and low cost) access off-campus urban experiences, even at a university where most students lived on campus. In such settings, the city was on everyone's doorstep—though some students ventured further from campus than others. While smaller cities and college towns could utilize similar prompts without much change, the types of infrastructures, technologies, and spaces encountered by students at institutions in less dense or more rural settings would of course be distinct—but not impossible. In a similar vein, online teaching or remote classes offer the opportunity for classes to embark on more comparative work with students in different settings. In any context, student safety should be considered—the prompts discussed here were broad enough to allow for student agency over where they went and how they conducted activities. In this, I admit deferring to student judgement, but it bears stating explicitly that student safety is an intersectional matter: students of different races, ethnicities, and gender presentation often experience (different parts of) the city and its public infrastructures differently.

While prompts can (and should) be tailored to each instructor, course, student demographic, and institutional setting, the adaptable structure of regular engagements with course material outside of the texts and outside of the classroom can be a greatly beneficial way to teach students about the cities they inhabit.

## References

- Anand, Nikhil. 2017. *Hydraulic City: Water and Infrastructures of Citizenship in Mumbai*. Durham: Duke University Press
- Appel, Hannah, Nikhil Anand, and Akhil Gupta. 2015. "The Infrastructure Toolbox." Theorizing the Contemporary. *Fieldsights*, September 24, 2015. <https://culanth.org/fieldsights/series/the-infrastructure-toolbox>.

- Furlong, Kathryn. 2014. "STS beyond the 'Modern Infrastructure Ideal': Extending Theory by Engaging with Infrastructure Challenges in the South." *Technology in Society* 38: 139–47. <https://doi.org/10.1016/j.techsoc.2014.04.001>.
- Johnson, Alix. 2019. "Data Centers as Infrastructural In-Betweens." *American Ethnologist* 46 (1): 75–88. <https://doi.org/10.1111/amet.12735>.
- Khandelwal, Meena, and Kayley Lain. 2017. "The Humble Cookstove." *Limn*, November 2017. <https://limn.it/articles/the-humble-cookstove/>.
- Larkin, Brian. 2013. "The Politics and Poetics of Infrastructure." *Annual Review of Anthropology* 42 (1): 327–43. <https://doi.org/10.1146/annurev-anthro-092412-155522>.
- Mariner, Kathryn A. and Miguel A. Cardona. 2020. "How to Make a Zine." *Anthropology News*, November 20. <https://www.anthropology-news.org/articles/how-to-make-a-zine/>.
- Melly, Caroline. 2017. *Bottleneck: Moving, Building, and Belonging in an African City*. Chicago: University of Chicago Press.
- Redfield, Peter. 2016. "Fluid Technologies: The Bush Pump, the LifeStraw® and Microworlds of Humanitarian Design." *Social Studies of Science* 46 (2): 159–83. <https://doi.org/10.1177/0306312715620061>.
- Scott, James C. 1998. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.
- Seaver, Nick. 2018. "How to Pay Attention." *Somatosphere* (blog). July 30, 2018. <http://somatosphere.net/2018/how-to-pay-attention.html/>.
- Star, Susan Leigh. 1999. "The Ethnography of Infrastructure." *American Behavioral Scientist* 43 (3): 377–91. <https://doi.org/10.1177/00027649921955326>.
- Watson, Ash, and Andy Bennett. 2021. "The Felt Value of Reading Zines." *American Journal of Cultural Sociology* 9 (2): 115–149. <https://doi.org/10.1057/s41290-020-00108-9>.

## Appendix A

### List of Fieldnote Prompts:

1. What are some infrastructures you encountered this week? Choose three examples: In what ways is each an “infrastructure”? What did it allow you to do? How did it shape that activity? What is its form, how is it networked, how does it shape time, where are the politics?
2. Take a trip through DC (walking or bicycling/scootering). Afterwards, write a reflection with the city’s planning in mind. What are the benefits and drawbacks of the way that your surroundings have been designed? If you chose an area that resonates with Scott’s (1998) work, how does “high modernism” feel? Or if you traveled in a place that feels less planned, how can you tell, or what does that mean?
3. Reflect on how various infrastructures affect or are affected by your own membership and belonging at each of the following scales: a) as a student at a university (the institution and/or campus), b) as a part of your living arrangement (here or at home), c) as a resident in the DMV area, d) as a citizen in your country.
4. Create a map, image, meme, infographic, etc. that represents or utilizes a concept or example from any of the readings so far in this course. You can use anything as a model. Write up a short caption with citation(s) and, if necessary, explanation.
5. Choose a type of connection or infrastructure and write an entry about it using three readings from three different weeks so far. The analysis should bring the sources together either by applying theories across cases or drawing conclusions from comparison.
6. During the course of a day, take notes on how you notice infrastructure affecting time—your experience of it, your observations of others’ perceptions, the ways infrastructure structures time, etc.
7. Create a small booklet zine depicting or illustrating a concept or concepts from the course so far. Be creative! Options include using your own words to summarize or explain a concept, using quotes from the texts themselves, illustrations or poetry, a how-to guide, vignettes, a story, a mock interview, etc.
8. Write an ethnographic text—a scene-setting vignette, empirical analysis, or something in-between—that relates infrastructure to one or more senses. What does infrastructure smell like? How might infrastructure affect taste? What does it mean to hear, feel, or see infrastructure?
9. Take an ordinary trip to/from campus. This time, attend to how the place where you live and the way that you travel might shape your experience of the neighborhoods concerned or the city more generally. Write down some

observations: What did you notice that you usually ignore? What caught your attention? What do you think is typical of your experience? What is exceptional? To whom?

10. Washington, DC, is one of the most intensely surveilled cities in the world. Take a stroll through a section of the city and try to take note of what types of security and surveillance infrastructures surround you. Write a reflection based on this exercise—it could take the form of a map, sketch, observation, analysis, etc.
11. Draw a map of a part of campus or the city indicating particular physical “bottlenecks.” Think about how you can represent movement and immobility in your sketch.
12. Take a photograph or video that represents, in some way, a concept from Anand’s (2017) ethnography (e.g., iteration, infrastructural time, citizenship, leakage, or water infrastructure more generally) and write a brief description to accompany and explain it.