A Protocol Pattern Language for Urban Space

Drew Austin

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SERIES INTRODUCTION

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> *The contemporary urban environment is composed and recomposed by each individual every day, built around literal and virtual itineraries rather than in relation to a fixed arrangement of places.*
>
> —Albert Pope[1]

Living in the shadows of global systems and an inflexible built environment, how can individuals reclaim their rightful agency in the places where they live? This document proposes an evolving, open-source toolkit for navigating the spatial and temporal mismatch between these systems and the collective needs of those who use and inhabit them.

The agency of an individual or group—the set of actions available to them—determines which protocols they can engage with. This, in turn, determines which protocol-mediated parts of the built environment they can interact with as mere consumers and which they can shape more fundamentally. This agency, of course, differs for everyone and even varies for a given party over the course of a day, depending on their spatial and temporal circumstances. But it is always subjective.

Stewart Brand's pace layers, again, illustrate the variable nature of environmental agency: Various protocol layers act as *surfaces* with which different parties can engage as participants. Some of us can only modify the top layers—rearranging the furniture in our homes, literally or figuratively—while others have the ability to change the base layers, such as the building's structure or even the site on which it sits. The toolkit available to an individual city dweller differs from what is available to a city government, a corporation, an architect, or even a contractor. Each party, however, benefits from awareness of the protocols available to them and an understanding of how best to use them.

A protocol pattern language

A Pattern Language, Christopher Alexander's best known work, published in 1977, embraces this notion of variable agency in the built environment. Alexander presents 253 distinct *patterns*, each of which

> describes a problem which appears over and over again in our environment, and then describes the core of a solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice.[2]

These patterns range from street layouts to public space amenities to domestic furnishings. Importantly, they are sorted by scale and divided into three categories: towns, buildings, and construction. Alexander writes,

> The way to use the language depends very much on its scale. Patterns

1. Albert Pope, *Ladders* (Princeton: Princeton Architectural Press, 1996), p. 9–10.

2. Christopher Alexander, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), p. x.

> dealing with towns can only be implemented gradually, by grass roots action; patterns for a building can be built up in your mind, and marked out on the ground; patterns for construction must be built physically, on the site.[3]

Implementing a pattern language means selecting the patterns that are within the scope of one's own agency, whether decorating a room, constructing or renovating a building, or organizing an activity in a city's public space. Similarly, some protocols have a narrower scope than others; each therefore corresponds to a different set of available actions. A productive approach to protocols thus requires a similar awareness of each protocol's scope and scale.

The mixed success of Alexander's original pattern language reflects a fundamental irony: Although his work has inspired countless readers since it was published, it has had seemingly little impact on the actual built environment. All of Alexander's patterns, of course, offer physical forms as the solution to their inciting problems and therein lies one source of their subsequent ineffectiveness outside of private domestic space. We cannot build our way out of protocol problems. We must turn our attention to the protocols themselves.

What, then, would a similar pattern language—one that engaged directly with protocols, rather than built forms—look like?

Consider the following two examples:

- Technology has transformed the boundaries separating the public realm from private domestic space. As a means of physical ingress and egress, the door has not fundamentally changed, but smart locks and Ring cameras have altered how access is managed, while app-based food delivery and e-commerce have shifted expectations of who and what will show up at one's front door.
- Digital communication has opened up a new virtual pathway between private and public space—we are now likely to experience our most meaningful "public" interactions online, while sitting on the couch (this increasingly includes professional interactions). We can leave home without physically passing through a door at all.

Alexander's pattern language deals with building entrances and domestic boundaries extensively, recognizing this category as pivotal to the success or failure of physical spaces. Recent technological change has destabilized this category of patterns without really altering the physical forms that support them. Only the entrance have changed—and those protocols should be designed as thoughtfully as the spaces that correspond to them.

The pattern language to be developed in this series, which we refer to as *a protocol pattern language for urban space*, seeks to specify protocols that will enhance the agency of individuals and groups who live in urban and suburban environments, enabling them to accomplish things that the current landscape—or a misapprehension of its nature—often obstructs.

As with Alexander's pattern language, these protocol patterns will work at different scales, with each scale corresponding to different groups' degree of agency in shaping and interacting with their environment. Some protocols will

3. Alexander, p. xl.

pertain to entire cities and regions; others will pertain to interactions between two neighbors.

Like Alexander's, each pattern has the following format, answering a series of key questions:

- What is the problem that the pattern addresses?
- What is the pattern, and how does it solve or address the problem?
- Who is the pattern for? (individuals, households, neighborhoods, small businesses, etc.)
- What infrastructure does the relevant protocol depend upon?

Alexander writes that

> we have written this book as a first step in the society-wide process by which people will gradually become conscious of their own pattern languages, and work to improve them.[4]

Like Alexander's, this protocol pattern language is a protocol itself: an open-source collection of problems and solutions. Users are encouraged to identify and develop their own patterns—recipes for effective individual intervention in the urban environment that they have observed to work—and submit these patterns to the repository. Others can then browse the patterns to find their own solutions to problems they encounter where they live.

4. Alexander, p. xvi.

Gig Delivery Break Rooms

Drew Austin

Problem

Third-party delivery platforms like Uber and DoorDash minimize costs by avoiding responsibilities and costs that employers typically bear on behalf of their employees. Many of these costs are not eliminated but externalized, transferred to the public realm where they create problems that others must deal with. One of the most visible categories of these externalities involves the physical spaces that delivery workers occupy between deliveries: Instead of providing facilities for them, the platform companies leave them to fend for themselves, with areas of concentrated restaurant activity becoming de facto break rooms for delivery workers between runs. These often block public rights-of-way or otherwise consume public space that would best be used in other ways, while potentially subjecting the workers themselves to discomfort or even danger.

Participants

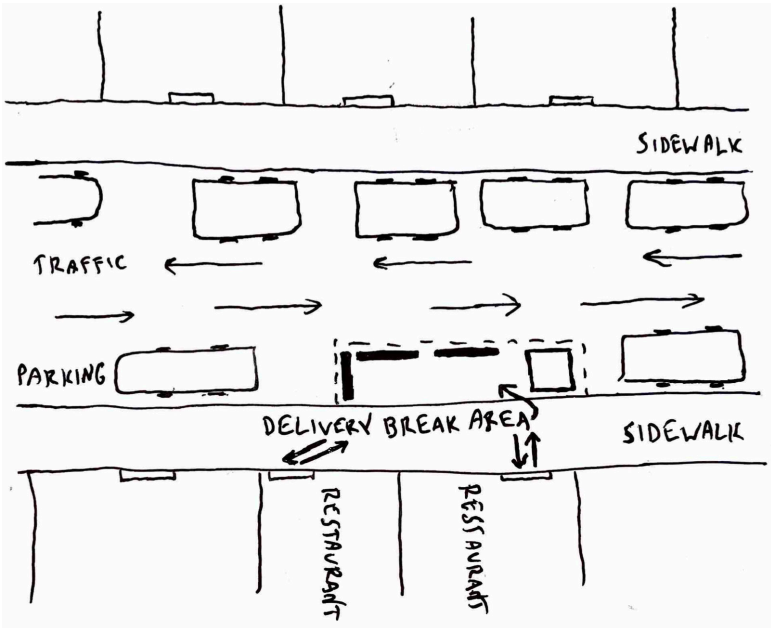
Restaurants; third-party delivery platforms; gig workers; municipalities

Infrastructure

Underutilized public and private space; furniture and bathrooms; communication between local governments and delivery companies; clusters of restaurants with high delivery volumes

Pattern

Local governments and third-party delivery companies work together to designate public or private rights-of-way in which gig workers can wait comfortably between delivery runs, complete with access to bathrooms and places to sit. The urban environment is full of underutilized space that could be used for this purpose on an ad hoc basis, as the erection of outdoor dining sheds in cities like New York during the COVID-19 pandemic demonstrated. These spaces could be similarly located in public space, or could take advantage of underutilized office and retail space in areas of high delivery traffic, depending upon which entities are willing to negotiate or make space available.



Privately Owned Public Space Protocols

Drew Austin

Problem

In cities, the distinction between public space and private space is often murky, and we often find ourselves using the latter as a substitute for the former. While this distinction often does not matter, it sometimes does, most commonly when consumption is a condition for using the space. A high-profile example of private space's limitations as a replacement for public space occurred in 2018, when a Starbucks (a popular and widely available de facto public space) asked two men to leave who had not purchased anything, prompting accusations of racism and a corporate policy change. Despite such one-off changes, the central problem remains: We often don't know how public the space we occupy truly is. Many privately owned spaces, moreover, are likely not as public as they could be due to a lack of opportunity for communication between the spaces' owners and potential users.

Participants

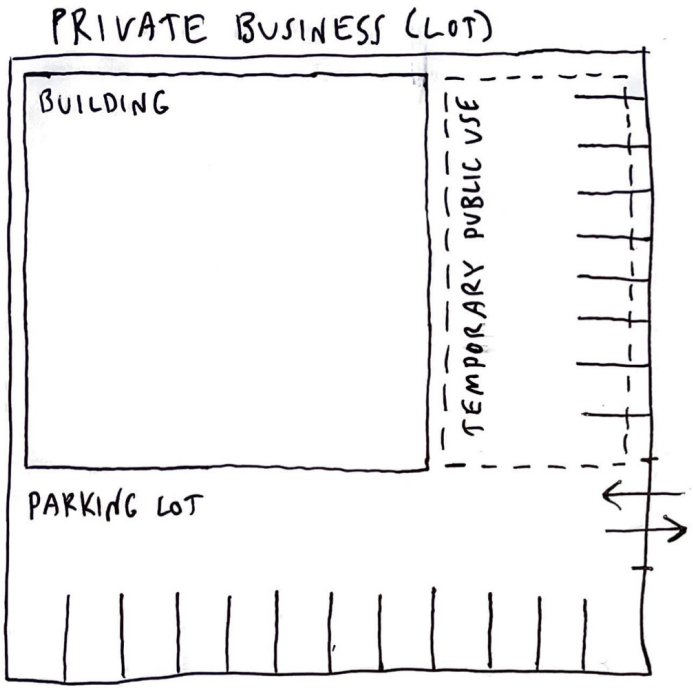
Owners and operators of publicly accessible private space; public space users

Infrastructure

Publicly accessible private spaces; a digital interface or similarly accessible protocol for conveying information about those spaces' public accessibility

Pattern

Establish a protocol that businesses and other owners of publicly accessible private space can use to indicate the "publicness" of that space, and create incentives that encourage those owners to make their spaces more public. One surprising example of a successful allowance for publicness is Walmart's practice of letting RVs (recreational vehicles) park overnight in their massive parking lots—a practice that serves the company's interest by generating additional revenue. Similar self interest, if acknowledged or highlighted, would likely lead to the opening up of more spaces for more uses; in the absence of existing incentives, opportunities may exist to request access or even crowdfund the missing incentive.



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