

Protean Prototypes: Assembling Urban Platforms for Appropriation

Work on the urban cannot limit itself to merely recording what has been produced. We must also look ahead and propose things.¹

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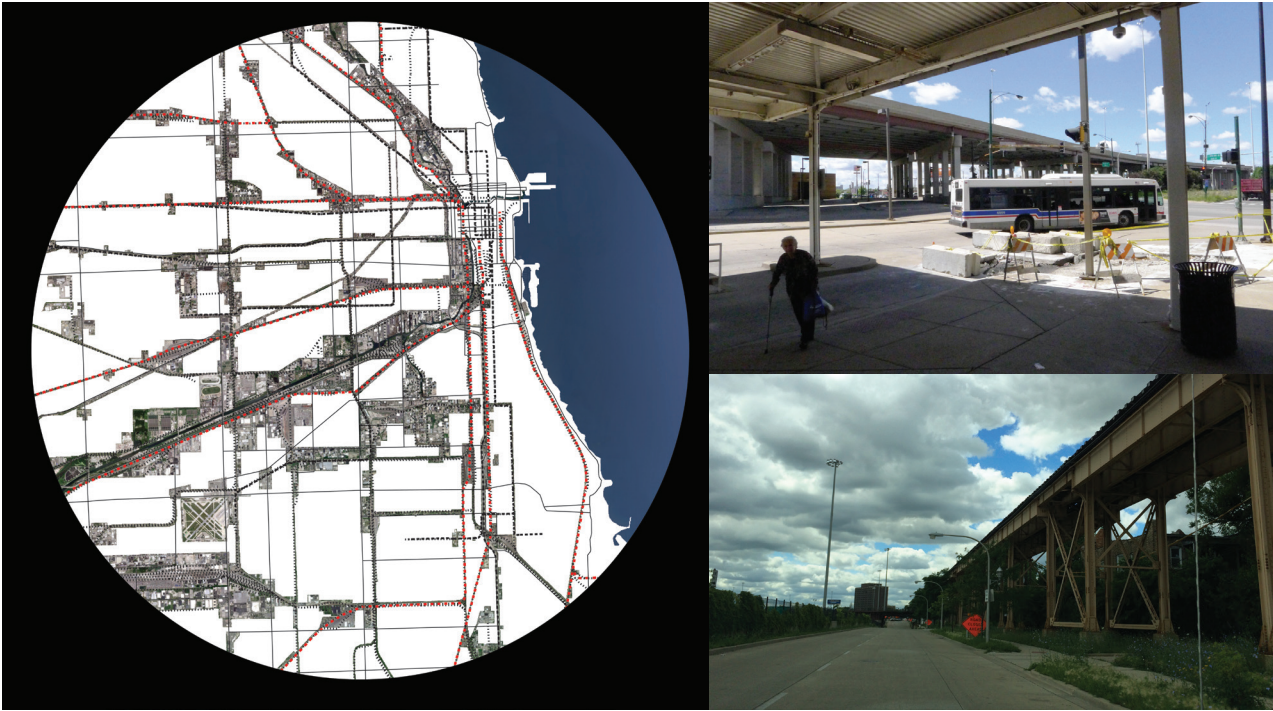
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INTRODUCTION: URBAN STUDIES, NETWORKS AND ASSEMBLAGES

Urban theorist Henri Lefebvre was adamant that urban studies should not only consist of studying the past, and was highly critical of a field that he found primarily concerned with critique of the circumstances leading up to current urban conditions, yet making no compelling propositions for their future(s). He argued that the field should actively speculate on urban possibilities and futures, including imaginary ones, “studying [their] implications and consequences on the ground.”² Lefebvre argued that design scenarios and theoretical propositions produce a valuable form of knowledge that can “construct and propose models...of urban reality.”³ Within a framework implied by this suggested feedback between inquiry and proposition, we seek to investigate the means by which contemporary methods of urban study might productively inform approaches to urban design through analysis, exploration, and projective speculation.

Methods recently positioned at the forefront of urban analysis and debate include “actor network theory” (ANT) and the related “assemblage theory”. Originating from the fields of social science, a shared basis of these theories is the location of human social networks on the same conceptual plane as things and organizational structures, thus enabling multi-scalar methods of analysis as well as an expanded or “thickened” understanding of urban and spatial agency.⁴ For urban scholars who seek to embrace these theories in their approach to the study of the city, this strategy can provide new insights into ways through which to grapple with the exponentially increasing scales and complexities of contemporary urbanization, the nonlinear dynamic processes that drive urban transformation, and the agency of nonhuman actors in urban processes. However, critical urban theorists have also argued that some proponents of assemblage analysis, by “leveling” urban actants without a hierarchy of relevance and by omitting politico-economic frameworks of power and injustice in their theorizations, produce incomplete and potentially naïve explanations of urban processes.⁵

Our recent work has been experimenting with a combinatory approach engaging ANT and assemblage theory both as a lens for urban analysis and as a means to inform design methodologies and representations for urban futures that themselves operate through systemic



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network and complexity logics.⁶ The resulting design projects explicitly link the agency of things (such as urban artifacts, infrastructures, and networks) with politico-economic frameworks in order to develop speculative scenarios for the city that aim to address urban injustice and marginalization, while simultaneously expanding the subjects and mechanisms through which design operates within and upon the urban. Protean Prototypes is a recent project situated in Chicago, but is intended to develop an approach and design-research methodologies that are scalable and portable to other cities and situations. The term “pro-tean” refers to having a varied nature, or the ability to assume diverse forms and roles, both spatially, and for non-spatial agents within the city. The project proposes an operational framework and toolkit for appropriating the public space and infrastructure of formal transportation systems within the city to create multi-use platforms that enable new assemblages of use and access for currently underserved constituencies.

UNEVEN URBANISM

Within discourses on public space, the primary focus has often been on the open spaces of the city and the city streets. However, Ed Soja argues that public spaces are inclusive of all the spaces in the city that are associated with the “notion of common property”, including the spaces of public transportation infrastructure. If public space is understood to mean all “democratic spaces of collective responsibility,” then its purview must also include “ all of the publicly maintained streets of the city as well as crossroads, plazas, piazzas, and the squares are part of the commons, and so too are the mass transit networks and the buses and trains... that move across the city.”⁷

If we consider the space(s) of transit as constituting urban public space, this allows their use-value to be conceptually expanded beyond the function of efficient delivery of mobility services, to become framed as a network of potentially vibrant urban places of gathering, encounter, and exchange that might more broadly participate as spaces enabling access.⁸ Within the geography of the city, transit nodes of a variety of scales and function are strategically located according to the logics of optimizing systemic connectivity in proximity to diverse communities of use, often on a daily basis. However, transit infrastructures constitute

Figure 1: Left: Transportation Infrastructure as an agent of exclusion, isolation and separation within the figure of Chicago, producing and reinforcing islands, boundaries and zones of in-access. Right: Current conditions of public spaces of transit in Chicago’s South Side (Photos by the authors)

physical and operational paradoxes: they both connect and separate.⁹ While transit infrastructures are intended to enable accessibility and connection at local and regional scales, their spatial footprint and configuration often constitutes a disruptive condition within urban fabric. Along with other mobility infrastructures, they tend to generate urban islands, boundaries, and physical impediments to pedestrian connectivity and continuity. An initial mapping analysis reveals the fragmenting impact of these (infra)structures on the urban fabric of Chicago. The physical spaces of transit and transport infrastructure, related industrial corridors and barriers are visually foregrounded, underscoring their role in the production of urban boundaries of separation and fragmentation whereby both spatial discontinuity and urban domains hostile to pedestrian usage, crossing and connectivity are produced and exacerbated.(Figure 1)

The contemporary urban condition is one characterized by drastically uneven development, where cities comprise expanding territories of dispossession, marginalization, and, to use Soja's term, "(in)justice."¹⁰ This is an increasingly urgent issue in US metros, where urban concentrations of poverty and racial segregation have steadily been growing.¹¹ Chicago has historically been one of the most segregated cities in the United States, with a highly uneven distribution of urban services between various neighborhoods. Saskia Sassen argues that contemporary conditions of exclusion—or, in her words, "expulsion"—go far beyond conventional discourses of inequality, implicating networks of systems, institutions, and instruments that operate through the logics of complexity to produce a pervasive and brutal biopolitics resulting in a "sharp growth in the number of people, enterprises and places expelled from the core social and economic orders of our time."¹²

The term access becomes an operative word in this project. When used in urban and social studies, and specifically within domains of transportation planning theory, access generally refers to the ability for people meet their needs—effectively, affordably, and comfortably—and to thrive in urban contexts.¹³ Access is defined by a range of metrics currently being utilized by researchers and organizations across disciplines to analyze mobility systems, education, employment, healthcare, food, housing, and walkability as a means to assess, consider and frame issues of social equity. These studies inform and shape the policies and practices of municipal, federal, NGO and private initiatives working across a myriad of scales and modes of implementation to deliver greater access to public needs for a more inclusive constituency of publics. However, most of these access-enabling agencies, programs, and initiatives are often structurally separated from one another—researched, governed, funded, administered, and delivered by separate entities and through separate mechanisms, without holistic conception or coordination as to how they might collectively interrelate, cooperate, and develop productive synergies and feedbacks that can increase urban resiliency and strengthen communities beyond the imperatives of their own individual agendas and operational protocols. Of specific interest to this work is the question of how design might play a more active role in producing greater connectivity between these groups, organizations, activities and initiatives towards shaping the future of urban society.

In response to this question, we posit a design methodology that operates on issues of access by (i) identifying and analyzing locations within the city where access provision across a range of considerations is most uneven, (ii) examining the existing spatial products of transit space where capacity exists to provide additional services, (iii) assembling an inclusive existing and diverse matrix of agents working locally and systemically to provide increased access, (iv) identifying emerging technologies and models of service delivery that might, through their presence and inclusion within transit space avail new forms of access provision, and (v) developing augmented spatial prototypes that operate within the limits of existing transit infrastructure typologies to illustrate the potential efficacy and plausible delivery of such new urban forms of access.

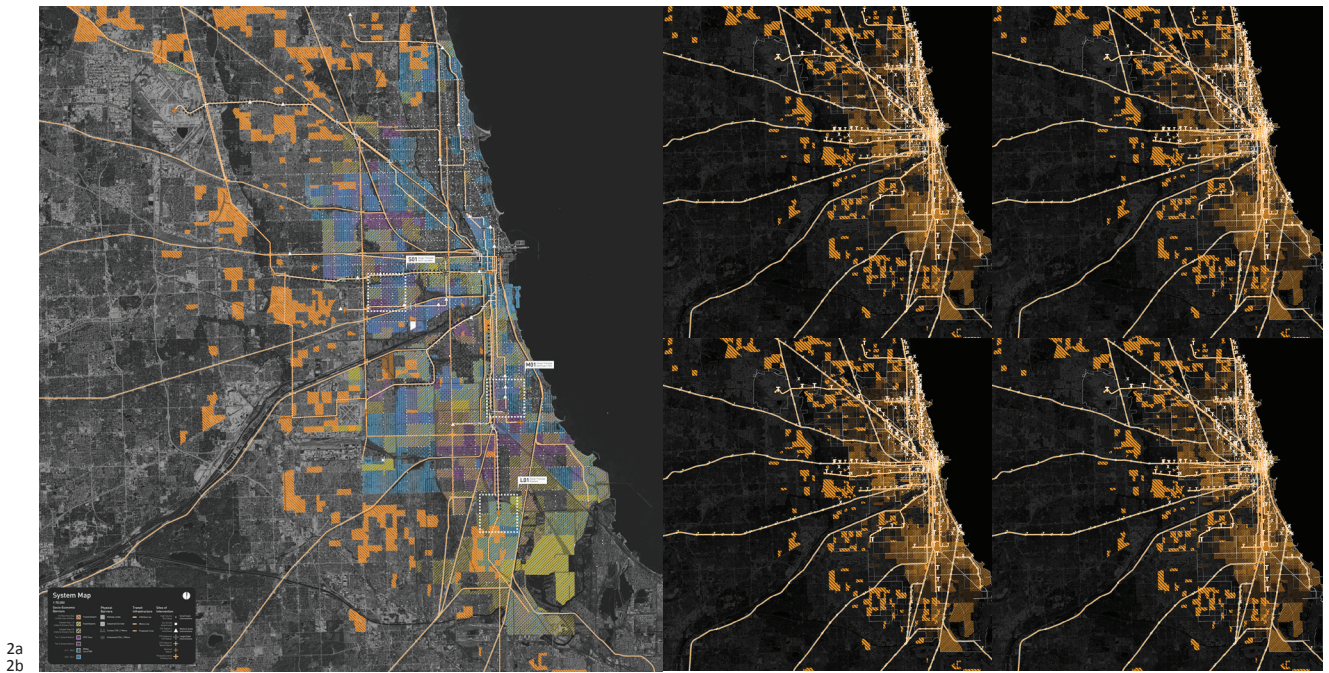
The *Protean Prototypes* project proposes a framework for reconceiving transit space as an open platform for staging multiple formats of urban access. Borrowing the analogy of a smartphone as a platform where a multiplicity of apps can be gathered, we speculate on how existing transit space might be appropriated to become a physical platform for assembling access to a broader variety of urban needs, paralleling the provision of public transit, while also facilitating new encounters, associations, and adjacencies to emerge. Here, design agency is explored through activities of analysis, assemblage, and the choreography of existing urban agents. Our prototypical design proposals focus on how concrete spaces can be appropriated, and identify the strategies, agents, and instruments of possible future assemblies. Design representation is utilized as a communicative tool to render legible fields of demand, the interlaced nature of how access-enabling entities are assembled systemically, and the proposed spatial products that would be required make these entities accessible to publics within transit space.

ASSEMBLING GEOGRAPHIES OF ACCESS AND EXCLUSION

The work is initiated through an interrogation of what is on the ground: first through geographic analysis, and subsequently through observational fieldwork and the examination of recent media coverage of Chicago's several urgent access-related crises. In order to visualize a rough picture of the uneven conditions of access within the city of Chicago, we assemble a range of existing metrics, GIS-based datasets and our own geospatialized findings into a single multi-layered map. Here, four basic urban rights of mobility, food, health, and learning, defined by the metrics of transit deserts, food deserts, medically underserved areas, and zones of learning disadvantage are overlaid with the physical urban barriers of industrial lands and infrastructural corridors.¹⁴ This effort begins to assemble a "Geography of Exclusion" for the city. (Figure 2a) This map exposes the astonishing extent of urban fragmentation and underservice characterized by these metrics throughout the city, and in particular, areas of intense overlap of multiple conditions of exclusion, especially on Chicago's South Side.

Whereas the majority of critical urban theory, geography, and planning is focused on exposing the agencies of dominant power and the quantification of zones and conditions of social exclusion, this design-centered project is simultaneously focused on identifying potential agents of enfranchisement and empowerment for marginalized groups of the city. Central to our efforts is the proposition that within a context where an abundance of entities working towards situational transformation exist, it is through the direct engagement, assembly and choreography of these agents in space, the most plausible and transformative outcomes might be enabled.

Chicago, by US standards, has an extensive public transit system. Throughout the city, there are also numerous governmental and NGO incentive programs, community and non-profit organizations, institutional programs by schools, religious centers, and medical providers, and private initiatives and enterprises ranging from urban farms to bikeshare, that are all working to overcome the conditions of urban disadvantage and inaccessibility through their various initiatives. While some of these "Agents of Access" are spatially abstract (such as the physical territories implicated through Federal incentive programs), many materialize physically within the city, forming key nodes of access delivery, or networks of access provision (such as school cafeterias, which offer healthy lunch programs for disadvantaged youth). Layering the geographies of these access-enabling agents over the previous mappings of exclusion produces the more complex "Geographies of Access and Exclusion" for mobility, food, health, and learning in Chicago. (Figure 2b) These cartographies simultaneously visualizes current and urgent conditions while rendering legible the local agents currently working to transform specific situations of uneven access.



2a
2b

Figure 2a: Chicago Geography of Exclusion. Layered cartography of socio-economic barriers for food, transit, learning, and health, combined with physical urban barriers of infrastructure and industrial lands.

Figure 2b: (from top left) for Mobility, Food, Learning and Health. Each mapping assembles both the footprints defined as being inadequate in the provision of access to these social needs, while locating the geography of a multiplicity of formal, informal, community, and civic entities working to deliver access. The work aims to leverage and connect these agents through design proposals—enabling plausible futures.

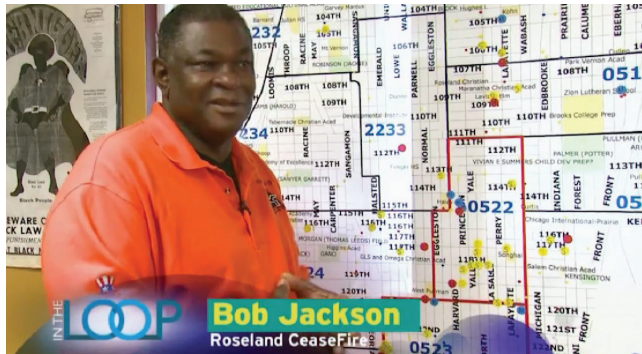
Investigating the “Geography of Access and Exclusion” mappings, we identified locations within areas of intensive exclusion where there was either more than one mode of urban mobility intersecting through a transit node and/or where there is a large proportion of locally served transit ridership. Three sites within Chicago’s South and West sides were selected to investigate more deeply on the ground, and for which to develop prototypical design proposals at different scales and intensities of intervention through which to test access-enabling architectures. These were the North Lawndale neighborhood; the elevated Garfield Green Line station in the Washington Park neighborhood; and the 95th/Dan Ryan Red Line metro station and regional bus hub in the Roseland neighborhood. For each of these neighborhoods, a more situated mapping of the local “agents of access” was undertaken, and each of the local organizations identified were further investigated with regards to how they might be more effectively spatialized within the transit system and mobilized within new design scenarios. (Figure 3a)

In this work, it is important that we not only imagine urban change, but also understand and speculate on the mechanisms by which this transformation can take place—Who are the urban actors involved, what do they produce, deliver and how are their efforts spatialized? What amendments to zoning or other city codes and policies need to be made to facilitate modification of existing spaces, or the assembly of existing city-owned lands? What funding or business enterprise mechanisms might be leveraged to make these changes possible financially and to sustain their operation? Which new technologies might be enabled to produce significant transformation of systemic components at low cost and with little spatial implication while transforming systemic interoperation? How and why might such groups wish to engage with a broader system of connection, or might this formalization limit their own relations with a given community? Questions like these inform the network or assemblage of the design proposal so that we can think the production of urban space and its design through the dynamics of networks, associations and assemblages.

Additionally, we mine media resources—newscasts, interviews, blogs, websites—as ready-made fora of public participation where individuals concerned with the development of their neighborhoods are publically making their voices, concerns, needs, and initiatives heard. (Figure 3b) These perspectives further inform the design prototypes at each selected



3a



3b

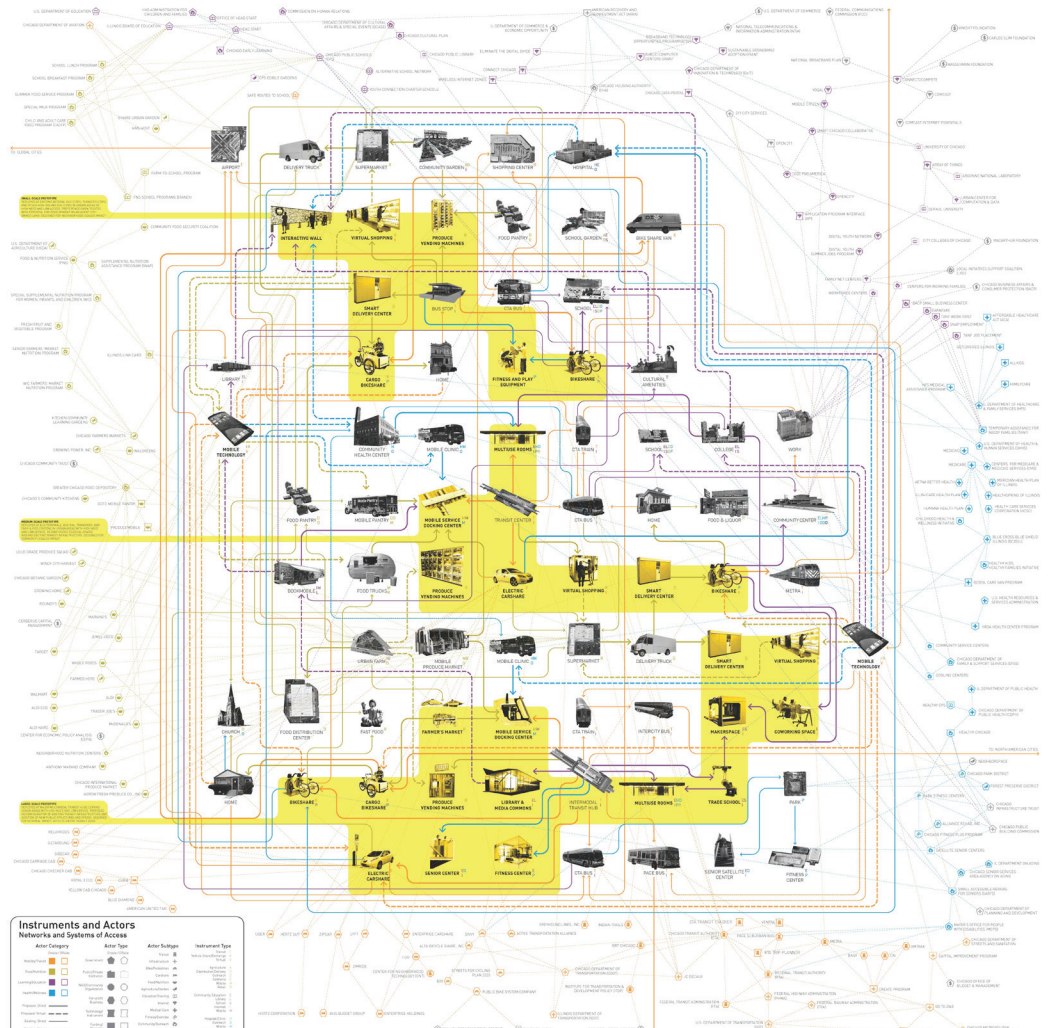
location. While this project was undertaken without direct participatory engagement with local community members, groups or political agencies, in subsequent instantiations, participatory practices would serve as a model to thicken the range of agents assembled within the matrix of access-enabling entities. These would invariably refine the specific nature of programs considered for implementation within the system and identify unique and local problems and demands for consideration within local interventions. Within this first instantiation of the project, the focus of the design research is to propose a framework, approach and strategy through which to reassemble the city—how an alternative might emerge from a recombination of agents, technologies, systems and communities already on the ground, crossbred with other urban catalysts and enterprises, and then strategically accommodated and catalyzed through a reconception of existing infrastructural systems.

In addition to the existing agents of change, we identify new actors and instruments that could be grafted onto the transit spaces previously identified, and that have the capacity to catalyze transformation toward providing increased levels of access, while also producing urban spaces of encounter, exchange, as well as other unplanned futures. We focus on actors and instruments that have a “lightweight footprint”—versatile, mobile, portable, and even ephemeral, and that are at the forefront of innovation in the flexible delivery of urban services, and often fall under emerging categorizations of “New Mobility”, “New Technology”, “New Business Enterprise” and “New Community Services”. These include initiatives such as bike-share space, electric car-share space and bike-cart share (addressing the problem of, for

Figure 3a: Situated Agents of Access in the North Lawndale neighborhood. Bus transit routes indicated in orange shading.

Figure 3b: Community member narratives inform data gathering activities. Drawing from a range of media, the question of access is given a face and the statistic of the Food Desert is explicated. (<https://www.youtube.com/watch?v=DJuNtEC6Tsw>)

Mr Jackson elaborates on the Safe Streets program: Beyond parent / police collaboration to ensure students access to classrooms, this initiative has shed light on the lack of non-traditional learning and youth programs in the city. (<https://www.youtube.com/watch?v=70Cfpc3mfG4>)



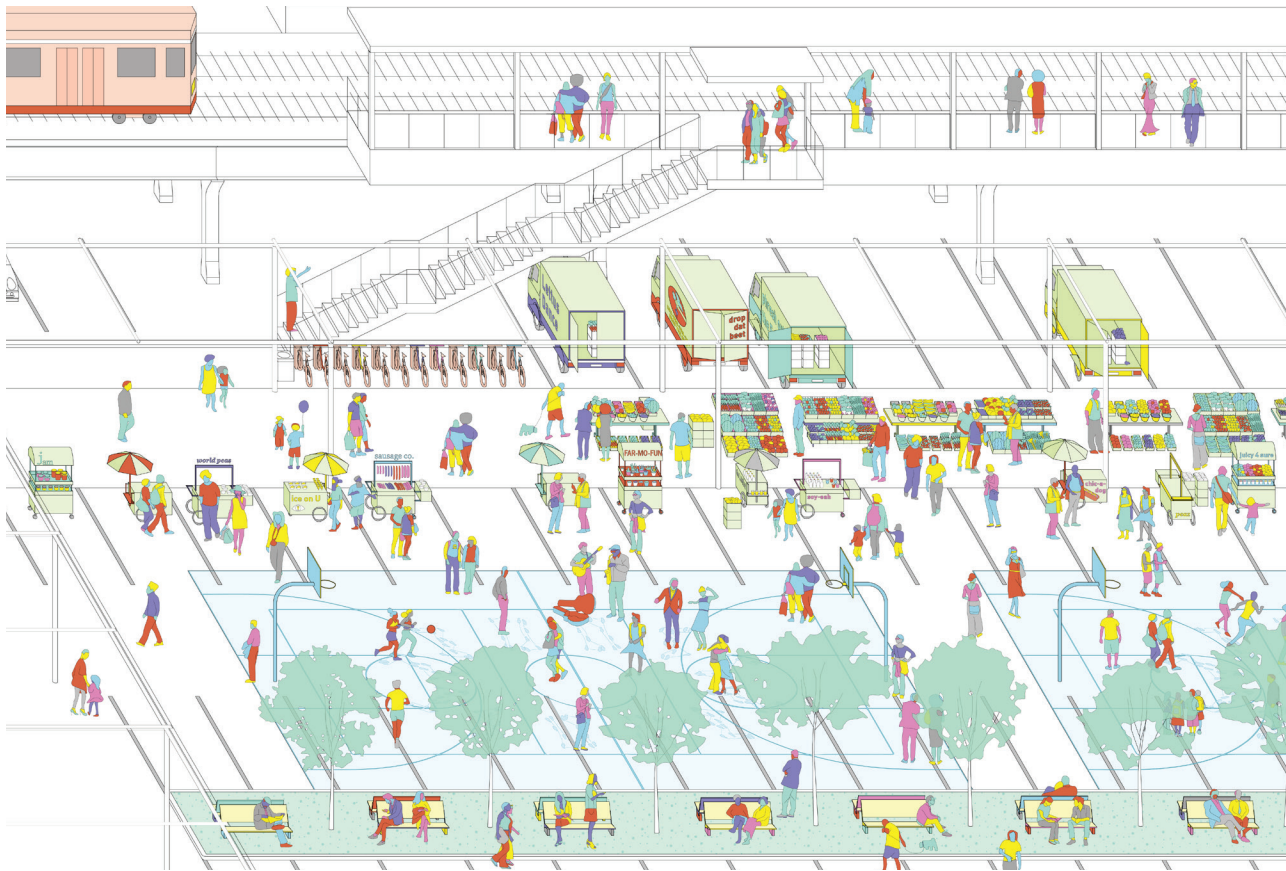
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example, getting one’s groceries home, and not just commuting to work), as well as services such as “smart delivery” and “fresh produce vending” machines that could be integrated with urban farm deliveries. This “toolkit” of instruments and actors are assembled into non-spatial network drawings at the scale of the entire urban system, and at the scale of each of the three prototypical sites for which proposals are developed. (Figure 4)

SITUATED PROTOTYPE SCENARIOS

Within the project, three urban design scenarios are developed as situated prototypes for small, medium, and large-scaled urban interventions where design not only accommodates the inclusion of new programs, services, and information, but also stages the networked participation of existing agents of access into a more interconnected matrix, allowing for unplanned and spontaneous associations and interactions to occur. For each of the selected sites, we aim to identify right-scaled manifestations addressing mobility, food, learning and health access. In some cases these are addressed through the delivery of information; in others, adjacent space is assembled in order to presence agents or facilitate the assemblage of mobile components of their respective systems of delivery; in others, new constructions house and host services to be provided. Visualizations represent the proposed physical elements and configurations, as well as the expanded actor network that is mobilized to bring each scenario into being, and that could sustain it over time.

Figure 4: Network drawing of system-wide instruments and actors. This diagram assembles existing agencies and systems, as well as new and emerging technologies, forms of mobility sharing, and access-enabling actors within the City of Chicago. Yellow fields identify the components assembled in each of the scenarios across three scales developed through typological design, and their various linkages to other components within the broader urban network.

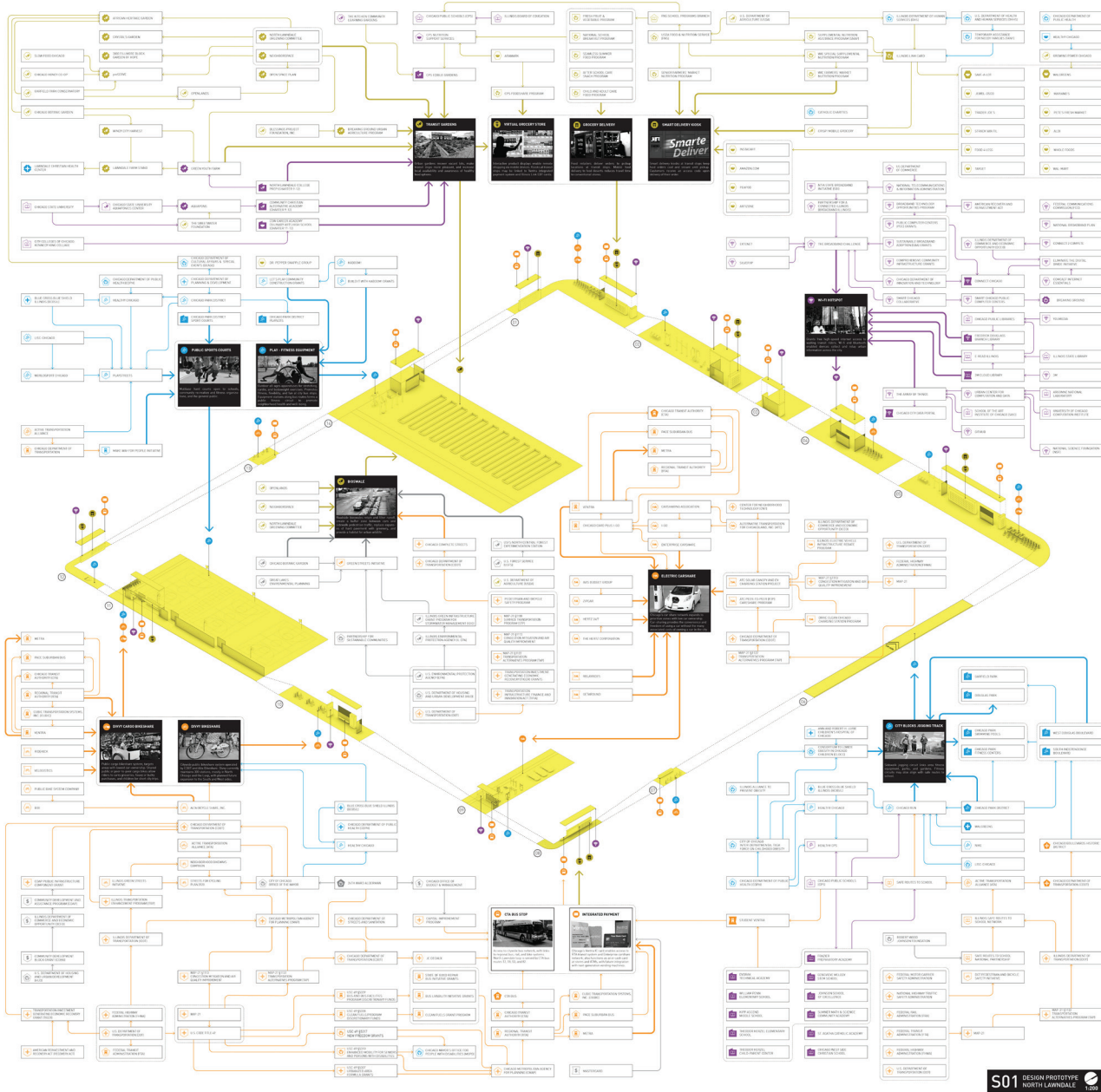


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The North Lawndale Neighborhood of Chicago has a large proportion of bus ridership, is located in an area where between 30 and 40% of the population is food insecure, in a medically underserved zone, and a Tier 1 School Zone.¹⁵ This neighborhood becomes the testing ground for the development of scenarios at the most modest and lightweight scale, enhancing the existing type of the bus stop. We envision that key bus stops would be augmented with additional services such as bike and cart-share, fresh food delivery and mobile produce vending. Integrated video screens would offer not only information regarding the broader public transit system, but would also offer community news and wi-fi access to public educational programming. Although design cannot make Chicago's buses arrive any faster, interventions such as exercise bars and children's play structures integrated into the bus stop design can produce new micro-models for community space and models for active engagement beyond simply isolated structures to facilitate 'waiting'. (Figure 5a)

In the Washington Park neighborhood, the Green Line is part of Chicago's well-known elevated train system. While these elevated lines allow for trains to operate separate from the ground plane of the city, they typically produce poorly used space beneath them. The CTA Garfield station in this neighborhood is one such site, surrounded by an expanse of "park'n ride" lots. The neighborhood has 40% food insecurity, a Tier 1 school zone and is medically underserved. However, it also has a number of youth and community farming initiatives, as well as other youth oriented initiatives aimed at addressing the large population of low-income families in the area. Here, the space below the elevated rail lines and the lots owned and operated by transit authorities could be used to allow these distributed initiatives to assemble, providing a space for farmers and flea markets, as well as mobile food, medical, and book programs. In this case interventions that might capitalize upon the availability of existing open spaces are prioritized, and consist of a lightweight overlay of surficial

Figure 5: Prototypical presentation diagrams spatializing toolkit elements for community and inter-agency discussion and debate. Washington Park Neighborhood / CTA Garfield Scenario (detail).

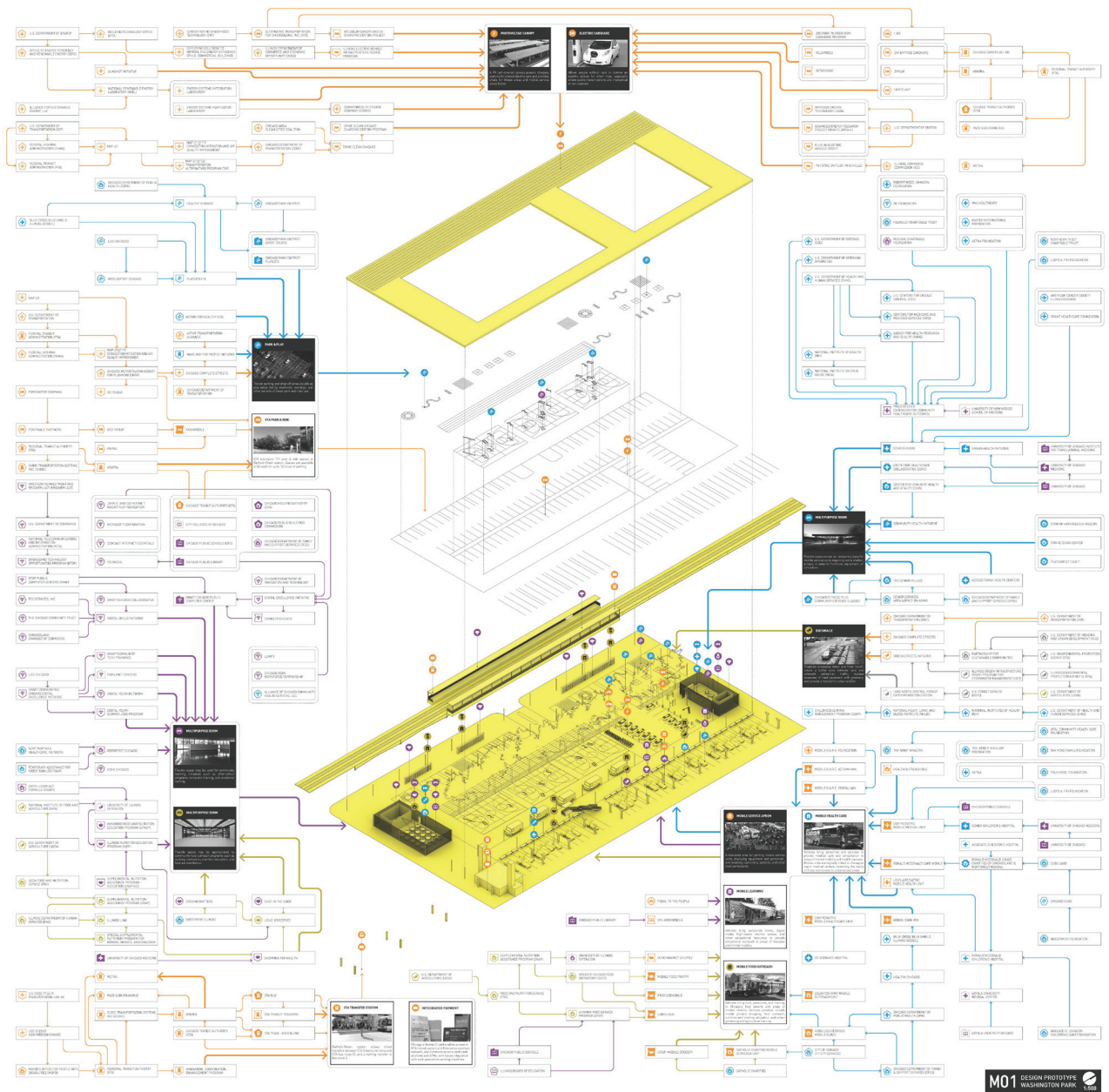


S01 DESIGN PROTOTYPE NORTH LAWDALE

5a



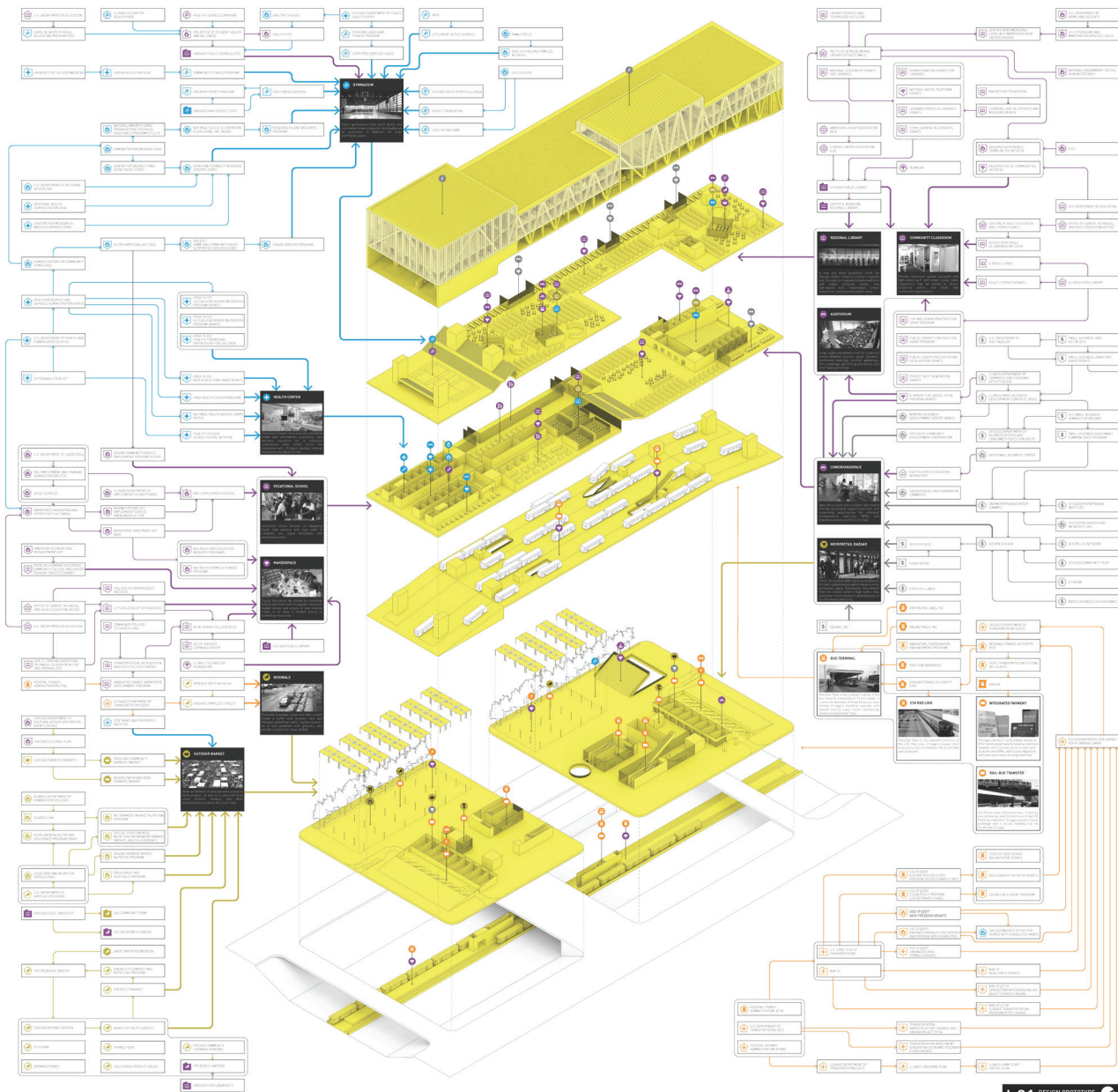
Figure 5a: Design scenario (above) and vignette (below) for North Lawdale: at the small scale of bus stops, the shared public space of the street gathers smart produce vending and fresh delivery, free wifi access and educational broadcasting, bike and bike-cart share, as well as networks of play and exercise equipment, expanding the agenda for regularized, repetitive structures as a form of community infrastructure.



5b

Figure 5b: Design scenario for Washington Park: space owned and operated by transit authorities modified to allow for mobile food, medical services and book programs, farmer's or flea markets, and is integrated with multi-use rooms for community education or meeting activities. These are accommodated within an existing park and ride lot and under elevated rail lines, with a minimum of new construction, and relying primarily upon cross-programming, facilitating adjacency and surface notation delineating codes of use.





L01 DESIGN PROTOTYPE
ROSELAND
1900

5c



Figure 5c: Design scenario for The 95th/Dan Ryan Red Line CTA assembles multiple existing city and community agencies into formalized spaces occupying the truss depth of a new structure spanning the sunken expressway below, combining commercial and NFP programs into a new form of social condenser. This scenario is developed as a counterpoint to the smaller scaled interventions, and attempts to illustrate the project principles through more capillary intensive means via a currently active project for Chicagoland at this site.

notations that can, for example, organize the assembly of food trucks during one moment, and script play activities in another. The codification and overlay of multiple uses coupled with a temporal programming of the ground might assemble multiple scenarios that can unfold in response to local demand over time. This space could also be augmented with multi-use pavilions that provide spaces for community group-based education, classes or meeting activities, and temporary pop-up events and businesses. (Figure 5b) The work looks to develop physical and spatial scenarios for how these activities, services, and amenities might co-located and coexist, as well as the political and economic agents that could enable this, such as “Chicago Action for Healthy Kids”, “BTop Public Commuter Centers Grants”, the “Summer Food Service Program” and the “Green Streets Initiative”.

The project also looks at a prototype for a much larger scale of intervention, such as at sites of multimodal transit hubs. The 95th/Dan Ryan Red Line CTA station is located over the sunken 10-lane Dan Ryan Expressway and constitutes a major transit hub for Chicago’s South Side and southern suburbs. In September 2014, ground was broken on a \$240 million project to rehabilitate existing transportation infrastructure and expand the volume of bus traffic that could be handled at this site. This site is located within in a food desert, a medically underserved area, and at the boundary between Tier 2, 3, and 4 school zones in the Roseland-Princeton Park neighborhood. While the current project will involve a massive construction of cast-in-place concrete structures spanning the expressway below, its program is fundamentally limited to physical civil infrastructure to expand bus service. Within the Protean Prototypes project, we imagine a more ambitious public and civil infrastructure, combining strategic programs within the space of mobility. These include a multimedia library, makerspaces, medical clinics, grocery stores, open space and landscape infrastructures which could be coupled with programs to house local community groups.

Within debates regarding transit space in a context of uneven access and financial austerity, it is extremely important that models for new prototypes are not limited to the minimal augmentation of space imagined in the two smaller scaled prototypes, but also call for a fundamental rethinking of the redeployment of capital. In locations such as the 95th/Dan Ryan Station, where a quarter -billion dollars is slated to be deployed within the space of transit infrastructure, it is imperative that multi-dimensional thinking be considered. Clearly, within existing siloed models of service delivery in the US, there is little imperative to do so, and yet it is precisely at the moment of such massive deployment of capital where a significant possibility exists to rethink what that capital might be mobilized to deliver, and design thinking is a much-needed voice in this sphere of activity. Such spaces might be conceived to serve as hubs for the community, with all of the elements combined to reconfigure and redefine the space of mobility within the city. We assert that transit infrastructure should be thought of as not just a space of functional transition, but as a space that can shape and service urban society, radically reimagining the ways in which we might deliver access through infrastructure as opposed solely to movement towards locations of access delivery. (Figure 5c)

CONCLUSION

Contemporary urbanization operates and reproduces itself through networked and complex system logics not yet anticipated by Lefebvre at the time of his most prolific period of writing. This work experiments with how these logics, agents, and instruments might be activated toward the production of alternative urban possibilities within strategic public spaces of the city. It is precisely through the identification of strategic infrastructural sites of one form of delivery (in this case transit space) that we might identify territories capable of being mobilized towards alternate public ends. At the same time, the current crisis of access is not one around which a single top-down agency is likely to be effective in addressing. Indeed, a multiplicity of micro agencies is already working, in part, to address these questions. How might designers begin to identify spaces privileged within the networked systems of the city where

ENDNOTES

1. Henri Lefebvre, *Writings on Cities*, Eleonore Kofman and Elizabeth Lebas, trans. and ed. (Malden, Oxford and Victoria: Blackwell, 2006 [1996]): 211.
2. Lefebvre, *Writings*: 151.
3. Lefebvre, *Writings*: 154.
4. See, for example: Neil Brenner, David J. Madden and David Wachsmuth, “Assemblages, Actor-Networks, and the Challenges of Critical Urban Theory,” Neil Brenner, Peter Marcuse and Magrit Meyer eds., *Cities for People, Not for Profit: Critical Urban Theory and the Right to the City* (Oxon: Routledge, 2012): 117-137; McFarlane, Colin, “Assemblage and Critical Urban Praxis: One,” *City*, 15:2 (2011): 2204-2224; and Farias, Ignacio and Thomas Bender, *Urban Assemblages: How Actor-Network Theory Changes Urban Studies* (Oxon: Routledge, 2010).
5. Brenner et al, *Cities*: 125–134.
6. Geoffrey Thün, Kathy Velikov, Colin Ripley, Dan McTavish, *Infra-Eco-Logi Urbanism: A Project for the Great Lakes Megaregion* (Zurich: Park Books, 2015)
7. Edward W. Soja, *Seeking Spatial Justice* (Minneapolis: University of Minnesota Press, 2010).
8. The terms “use value”, “encounter,” and “exchange,” are frequently used by Lefebvre throughout his writings to describe processes and practices through which urban space is produced. See in particular Henri Lefebvre, *Writings*, and Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson Smith (Oxford: Blackwell, 1991)
9. Graham, Stephen and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*, (London: Routledge, 2001): 11..
10. For a more detailed discussion and theorization of this issue and its substantive impact on contemporary issues of urban access, see Edward W. Soja, *Seeking*: 45-46. and Neil Brenner, “What is Critical Urban Theory?” in Brenner et al. *Cities*: 11-23.
11. Paul A. Jargowsky, “Architecture of Segregation: Civil Unrest, the Concentration of Poverty and Public Policy,” 7 August 2015, The Century Foundation, accessed 8 August 2015, <<http://apps.tcf.org/architecture-of-segregation>>

- 12 Sassen, Saskia, *Expulsions: Brutality and Complexity in the Global Economy*, (Cambridge: Harvard University Press, 2014).
- 13 For an expanded explication regarding the prioritization of issues of access within mobility discourse, see Levine, Jonathan and Joe Grengs, "Getting There: Putting Accessibility into Practice for Progressive Transportation Planning," *Progressive Planning* 189 (2011): 8-11.
- 14 Terminology utilized to define areas of low levels of access have been adopted here from active and accepted frameworks that are currently referenced within the City of Chicago's administrative regimes. A 'transit desert' is defined as an area that is more than one quarter mile from both rail and high quality bus service. For "food deserts" we referred to US statistics for census tract food insecurity, defined as "access by all people at all times to enough food for an active, healthy life." see: <<http://www.ers.usda.gov/publications/err-economic-research-report/err173.aspx>> "Medically Underserved Areas/Populations are areas or populations designated by HRSA as having too few primary care providers, high infant mortality, high poverty or a high elderly population. Health Professional Shortage Areas (HPSAs) are designated by HRSA as having shortages of primary medical care, dental or mental health providers." <<http://muafind.hrsa.gov/>> Learning disadvantage data was acquired from the Chicago Public Schools Socio-Economic Tier System (<http://cpstiers.opencityapps.org/>). (retrieved July 15-20,2014)notes
15. Reference to the economic structures by which school districts are characterized is derived directly from active classifications within the City: "Chicago Public Schools places every part of the city into one of four socio-economic 'tiers'. They do this by looking at each area's median income, education level, home-ownership rates, single-parent family rates, rates of English-speaking, and neighborhood school performance. A quarter of students are supposed to live in each tier. On average, people from Tier 1 areas make less money and have less education, and people from Tier 4 areas make more money and have more education." This summary of the basic structure of Chicago's school system was extracted from the OpenCity App, "Chicago Public Schools Tiers" see: <http://cpstiers.opencityapps.org/about.html#the-tier-system> (retrieved Aug 21, 2014)
16. Lefebvre, Henri, *The Production of Space* (Oxford: Blackwell, 1991), 101.
17. Christian Schmid, "Henri Lefebvre, the right to the city and the new metropolitan mainstream," in Brenner et al. *Cities*: 47-48.

new combinatory models might assemble existing agents to rework the logics of access?

Lefebvre wrote that the urban space—of the city would be produced through the simultaneous acts of gathering, assembly, encounter, exchange, and accumulation that the social space.¹⁶ To produce urban space is to produce what Lefebvre referred to in many of his writing as centrality. By this he meant not a geographic centrality, such as the literal center of the city, but a situational one, dialectally positioned against urban marginalization.¹⁷ This work speculates on the potential for transit spaces to be ideologically, physically, and operationally transformed into true public spaces that address the conditions of urban exclusion. The network of instruments, actors, and design interventions would aim to produce a renewed centrality for these neighborhoods, with new spaces of difference availed to further appropriation and new uses by the urban population.

In this context, we assert that it is the role of design and designers to not only apprehend such territories of potential, but to work through the logics and logistics of their design and delivery. While the *Protean Prototypes* project offers an example of a speculative approach to the concrete questions of access and extant conditions within Chicago, it is not the specific typological outcomes here that are most significant to an audience gathered to discuss "new knowledges". Rather, our assertion is that urban design thinking must mobilize both the critical perspectives of urban studies to identify, apprehend and find new ways of working on social questions of the urban, and offer legible and plausible solutions for alternate futures as a means to produce both new formats of knowledge, and plausible new urbanisms.

ACKNOWLEDGEMENTS

Project Team: Geoffrey Thün, Kathy Velikov, Dan McTavish, Susan Zielinski, Nick Safley, Anthony Pins, Andrew Wald, Komal Anand, Ya Suo.

This project is made possible through seed funding from Alan and Cynthia Berkshire to Taubman College of Architecture and Urban Planning at the University of Michigan through its "Research on the City" program, with matching funds from the The University of Michigan Office of Research, and subsequent support through a grant from the the US Department of Transportation: Nexttrans Region V Center. The team has recently received additional support to advance further study and design research towards prototype implementation for southeast Michigan via a 2016 Ford Motor Company Alliance Grant.