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USPS+ imagines an expanded public platform for the United States Postal Service. This thesis proposes to broaden its functions and define a system for the construction of a new type of post office. The project leverages the modular logic of mass timber technologies to generate a repeatable and adaptable structural framework. The system can accommodate multiple scales and different settings, and takes concrete expression in a proposal for a new post office in San Antonio, Texas.
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Introduction

Every American ZIP code has a post office. Or rather, every American ZIP code should have a post office. This is the basic principle of universal service: no matter the location, the United States Postal Service delivers to all Americans. The policy outlines a set of standards, which address affordability, security, and delivery frequency, quality, and efficiency.\(^1\) Although not explicitly defined, the Universal Service Obligation (U.S.O.) has institutionalized an accessible, trusted, reliable, and essential social infrastructure. This enterprise has however been systematically undermined under neoliberal policies. In 1970, President Richard Nixon changed the USPS from a Cabinet department into an independent government agency in order to have it operate like a corporation. The intention was to both encourage private competition and authorize the agency to raise capital to modernize its equipment and buildings. Yet, as of 2020, 7,251 ZIP codes lack postal facilities.\(^2\)

The efforts to commercialize the American mail is fraught with contradiction. Since 1982, the Postal Services has not received gov-
ernment subsidies, yet has recently been hindered by congression-
al mandates. The Postal Accountability and Enhancement Act of
2006 requires the USPS to annually pre-fund retirement health ben-
etits; the annual cost is more than five billion dollars. That same
act also prevents the Postal Service from raising its rates for regular
mail service by more than the Consumer Price Index. The USPS
has not made a profit since. What is more, an increase in digital
correspondence and advertising, and more recently a plunge in
standard and bulk mail during the Covid-19 Pandemic, has led to
massive revenue losses. Taken altogether, these mechanisms
have financially paralyzed the agency.

When evaluated in terms of profitability, the USPS is pressured to
operate as a business rather than public service. In 2018 President
Donald Trump established a task force to evaluate, and ultimately
suggest a reform of, the agency’s operational model. The resulting
report listed a series of recommendations with regards to worker
wages and benefits, universal service, delivery days, post office
closures, and more. It ultimately prioritizes ‘financially sustaina-
ble’ practices, not a universal principle. The implication is that of
privitization, such that the market—not the state—provides the
framework for the Postal Service’s operation. Such an order would
disproporionately disadvantage rural communities, which are cur-
rently served under the U.S.O., but largely unprofitable through a
financial lens. By extension, a reduced postal footprint would only
further burden an already under-resourced and overworked Postal
Service in urban areas. The effectiveness of a social infrastructure
is not reflected in the successes of its individual components, but
rather the surplus such successful components generate to sup-
port the network as a whole.
In 2020, conversations surrounding the role of the Postal Service amplified amid the Pandemic and presidential election, with many advocating to reduce its responsibilities. This thesis conversely asks if the USPS can do more. On the one hand, the USPS has a history of programmatic expansion, evidenced by banking, passport, and other services of the like. The project taps into this legacy and envisions the post office as a potential site of public life, proposing a broadened set of functions as a means to extend the agency’s reach. Such new resources include, but are not limited to, public banking, computer and printing stations, restrooms, and civic programs like polling (2.01). The post office can accordingly operate as a public amenity, offering a menu of services or simply space for those without the luxury of it.

As the USPS expands its services, so too will it expand its facility design manuals. These manuals, or ‘handbooks’, reflect a desire to economize post office construction and present a modular framework for their design. The most recent version, published in 2011, addresses a range of spatial scales, from the ZIP code to the employee workstation. The catalog might be understood as a kit-of-parts, in that it offers a broad set of easily-combinable architectural components. This thesis embraces the Postal Service’s components-approach to its facility design, and articulates an architectural system with which to engender a new type of post office.

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In Case Cep’s article, “We Can’t Afford to Lose the Postal Service,” they ask: “What if, instead of less, the Postal Office was allowed to do more?”

2.01 a. multipurpose space; b. resource & rest stations; c. public banking; d. restrooms

2.02 AS-504 Handbook, USPS, 2011

2.03 AS-504 Handbook, USPS, 2011
From 1935 until 1943, over 40,000 new federal buildings, including many post offices, were constructed through the Works Progress Administration under the New Deal. The WPA was an ambitious nationwide infrastructural and employment program, which put millions of Americans to work and generated countless public works still in use today. Now, in light of a depleted post office stock, this thesis considers a national building program within the context of our contemporary economic and material reality. In particular, the project positions itself in relation to a Green New Deal in pursuit of economic and environmental equality. Proposed is a construction system with which to revitalize the public realm and champion a green economy through new post office construction.
Wood—specifically mass timber—constitutes the proposed construction system. As a modular material, mass timber lends itself to repetition at both the scale of the construction detail and the building. There are numerous implications to building our new post offices with mass timber. Firstly, the technology effectively locks the carbon dioxide that was sequestered in the tree during its lifetime, thus performing as a carbon-negative building material. Prefabricated with precision and speed, it can likewise be erected on site with ease and efficiency. What is more, mass timber has the potential to redistribute wealth from urban to rural areas through domestic manufacturing. To this end, the making of post offices in every ZIP code can further stimulate the national economy. Finally, as an emerging technology, wood—an animate and tactile material—can excite a new aesthetic order within civic territory.

The proposed construction system defines both physical parts and a logic for their aggregation. The part can be described as a frame, which stacks and rotates. As a gridded system, the mass timber frames are infinitely reproducible. Structurally, the frames use point loads, meanwhile the rotated and lapped beams create a two-way lateral system. Similar to Sol Lewitt’s cube variations, the elementary unit can generate numerous compositions. But, unlike a conceptual structure, “which,” as Robin Evans states, “are [independent] from material contingency,” the system is precisely physical. The timber frames engage natural forces—mass, gravity, light. As such, matter forms the basis for the contemporary civic building program.
3.02 Repeatable timber frames
The thesis proposes a new post office for the ZIP code of 78207, located in the West Side of San Antonio, Texas, as evidence of the prototypical potential of the construction system. The ZIP code currently lacks its own postal facility and has a per capita income of $13,081.\(^9\) The correlation between the two is perhaps equivocal but nonetheless necessitates a contemporary social infrastructure. In comparison, the city center—or ZIP code 78205—sits immediately east, but is of a much different composition with a per capita income of $39,912.\(^10\) The project implies that we can attend to the spaces and populations beyond the metropolitan core.

\(^9\) United States Census Bureau, 2019.
\(^10\) Ibid.
The new post office sits on a lot between Commerce Street to the north and Buena Vista Street to the south. Two equal faces address both commercial corridors. The volume demarcates an obvious center, which the plazas at both ends reinforce. The symmetry initiates the sequence from the street to the front doors, and then the interior beyond. Despite its anonymous character, the massing offers some description of what lies within.

The form of the building emerges with the stacking of frames. This particular massing suggests three volumes piled one after the other, distilling the structural logic into the overall shape. Each volume steps back from the one below—or, the frames decrease in number as they stack—emphasizing the structural grid in the building’s profile. The part is inscribed within the whole.

The structural system ultimately implies a massing language. Latent within it is a set of simple forms—the ziggurat or mastaba being one of them. The frames can scale and aggregate to manage various site conditions and facility needs. At present, the USPS specifies a range of facility types—Modular Post Offices, Small Standard Buildings, Medium Standard Buildings, and Mail Processing Facilities—all of which vary in function and spatial requirements. As we expand the Postal Service’s functions, its facility types will be replanned. To this end, the tectonic system can offer a series of forms, the sum of which might constitute a formal grammar. The ambition is equally pragmatic as it is semantic. On the one hand, the project embraces the Postal Service’s efforts to standardize its facilities. Their design manual projects an ethos of economy, for it provides future profits on the initial labor spent on its making. The timber modules espouse such logic as they can define an alphabet of reproducible forms.
View from plaza looking north, legible interior
Similarly significant, this alphabet can initiate a representational programme for the United States Postal Service. One post office, and the way in which it is rendered, might address its locale, but is nonetheless part of a national infrastructural network. This network, and the material system that underwrites it, can be made legible.

The individual timber frames and their parts are pliable. Here, the wood members vary in size and span to create three frame types. When aggregated, the structure pixelates, producing a fuzzy interior. As one moves through, across, and up the building, the structure varies in grain, size, profile, and density. As a modular material the timber elements are easily edited to differentiate space.

There are two types of lines that generate the parti of the building: one that is structural, and another that is spatial.\footnote{I borrow this language from Hyungmin Pai and her essay, “The diagrammatic construction of type,” where she analyzes J.N.L. Durand’s architectural system as it appears in Précis des leçons d’architecture. My definitions vary but were nonetheless inspired by her findings.} Diagrams 4.06 - 4.09 illustrate the distinction in plan and section. In the first pair, the structural and spatial axes are analogous. A continuous space is made by terminating the beams at their columns on the second row (4.07). In such a space, the structure merely occupies the edges, producing a canyon effect. If the same operation is performed and the structural and spatial axes are superimposed, a continuous space emerges that is alternatively inflected by the structure (4.09). In the latter, the structure manifests not a perimeter condition but a series of layers. Put differently, the operation foregrounds the repetition of parts and modulates space. This technique is ultimately used to choreograph public zones within the post office.
Diagram, structural axis = spatial axis, unedited frames

Diagram, structural axis = spatial axis, edited frames

Diagram, structural axis = spatial axis, unedited frames

Diagram, structural axis = spatial axis, edited frames
The structure accordingly offers an axial system with which to organize the floor plan and section. On the ground floor, the structural frames run across the building and repeat at 32-foot intervals to give its length. The structural grain is emphasized by rectangular columns, which follow the orientation of the frames and the beams that complete them. The spatial axis is marked by an apparent center, which, as previously described, runs perpendicular to the structure and is pronounced by a triple-height volume inset from the perimeter. This central space connects one end of the building to the other, and hosts the public activity of the institution. On a regular basis, the space operates informally with visitors spilling in and out. Otherwise, the space can hold lectures, polling, and more, serving as a living room for the community. The public functions, including postal and banking services, and resource stations with computers and printers, bracket the central space. Circulation and service cores delineate a secondary axis that connects both sides of the building to its center.

The central cavity is doubled on the west side of the building. This vertical space belongs to the postal service employees and shapes the mailroom. Additionally, it marks the public bank at the Northwest corner, repeating the multi-height condition that characterizes the postal service counter area. The loading dock sits immediately adjacent, and the postal fleet is absorbed into the overall mass. The exchange and processing of mail follows a straight line, from the hand of the customer, to the mailroom, to the delivery van. Furthermore, a series of administrative rooms sit along the eastern wing.

A monumental staircase, visible from the street, directs visitors to the second floor. There, the structural and spatial axes rotate. At each
end of the building, a double height space—one a cafe and another the bank’s conference room—articulates this shift. The structural grid is halved, underlining a change in order. The spatial sequence culminates in the eastern terrace, which overlooks Alazan Creek and downtown San Antonio beyond. Finally, the cores fully detach from neighboring elements, presenting themselves as objects among many.
View from central hall, triple-height volume
View from workroom, double-height volume
The section roughly expresses an A/B rhythm. When paired with the tiered and symmetrical envelope, a variety of volumes result. Single, double, and triple height spaces alternate, generating varying degrees of connectivity across and through the building. The stacked mass furthermore channels natural light to the extent of the deep ground floor plate. A large clerestory illuminates the center, and a secondary one the mailroom. Light and shadow accent the many timber edges, animating the interior.

The project destabilizes front-of-house and back-of-house categories typical of civic institutions. Programmatically, certain spaces—a cafe, terrace, lounge and more—belong equally to visitors and federal employees. Spatially, the building’s axial order introduces intersections among them. The various grains converge upon the main hall. The hall accordingly relates the perimeter to the center, and the many spaces and their users.

The envelope consists of an aluminium curtain wall system that wraps the entire mass. Standardized panels, which vary only in height with each floor, attach to the timber structure. Often, the wood immediately behind an envelope is concealed by a thermal break, in front of which a veneer might be applied to simulate the truth of construction. The system put forth here does neither. Glass and mullions detach from, and extend to the height of, the timber structure. The panels are fixed and insulated from above, revealing the structure behind the skin. There are both practical and aesthetic reasons. On the one hand, the ventilation gap expels hot air through automatic louvres. More importantly, the structure behind the envelope is made to be seen. As such, the facade system lays bare the material framework.
View from private office, overlooking central hall

View from plaza, street to street connection

Structural axonometric, longitudinal bay
View from S Las Moras St., looking east

View toward service counters, looking across central hall

Structural axonometric, lateral bay
Finally, the project offers a flexible connection system that can adapt to different frame compositions. The oversized timber members can be carved and lapped, ensuring fiber-to-fiber transfer of loads while concealing and fireproofing the steel hardware within. Moreover, as frames stack, beams are doubled to create a pocket, within which cross-laminated timber panels are placed. Servicing runs in between the panels and a raised floor, leaving the ceiling unblemished. A monolithic material expression results. These details can supplement the existing USPS design manual and be reproduced with ease.
View from exterior, central hall beyond
4.36 Isometric, central hall

4.37 Isometric, communal space
This thesis capitalizes on the modular logic of mass timber technologies and offers a construction and formal system with which to engender a new type of post office. It advocates for a social infrastructure through design, and hinges upon the preposition plus as both an ethic and a methodology. USPS+ imagines an expanded Postal Service platform. The project furthermore advances a components-approach to postal facility construction through standardized and interchangeable parts, viewing economy and design quality as inextricable to a federal building program. This San Antonio post office serves equally the ZIP code of 78207 and the national network as a whole.
This thesis was presented on January 21, 2021. The jury included Jessica Colangelo, Scott Colman, Andrew Colopy, Dawn Finley, Reto Geiser, Albert Pope, Amelyn Ng, Brittany Utting, and Alberto Veiga. The conversation that ensued touched upon, among other topics, context, monumentality, nostalgia, symmetry, typology, warehouses and wood.


