Enframing Infrastructural Place: Manhattan's Waterfront, 1686-1921

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy

Graduate Department of Geography and Planning
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Abstract

In 1870, Manhattan’s waterfront was a mixed-use site of abattoirs, storage-yards and factories. These buildings lined the rotting wooden boards of dilapidated too-small piers built on privately-owned land. This close-in, messy waterfront was unambiguously part of the rest of the city in terms of law, operation, and governance. Over the next 50 years, the waterfront would be transformed. By 1921, the waterfront was dominated by publicly-owned and built concrete and steel piers on parcels that were legally distinct from the rest of the propertied urban landscape. The world’s largest steamships tied up at exclusive berths governed by an institution that sought to ensure their frictionless circulation in and out of the city. By 1921, Manhattan’s waterfront was the exclusive site of large-scale transportation circulation – an infrastructural place. In this research I ask how the mixed-use urban waterfront became infrastructural place: the exclusive site of transatlantic circulation. I examine how state and private sector actors negotiated, contested, and cooperated to enframe the waterfront as infrastructure – a space ruled according to the logic of circulation– that enabled global-scale flows through Manhattan. This involved on a process of enframing which relied on the separate legal categories of property leveraged to produce new conceptual, institutional, and material boundaries separating the waterfront from the rest of the city. These processes were articulated through power geometries to produce the waterfront as infrastructural place. This research demonstrates how an analysis of infrastructure as place allows us to examine it as an ongoing process of social production.
Acknowledgements

This dissertation is dedicated to my nonna, Fortunata Macaluso, who passed away in the final year of my PhD: Nonna, resterai sempre nei nostri cuori.

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Chapter 1: Introduction

Introduction

The impending completion of the RMS Olympic, sister ship to the ill-fated Titanic, in 1911, was a cause of both great joy and grave concern for New York City’s wealthiest and most powerful. Joy, because the soon-to-be world’s largest ship, commissioned by the British White Star Line, a subsidiary of New York finance baron J.P. Morgan’s International Mercantile Marine Company [IMM], was set to usher in a new age of prestigious traffic to the profitable route between New York and Britain. Concern, because despite years of pier construction, dredging, and repairs on Manhattan’s Hudson River waterfront, there was still no berth large enough to accommodate the ship. P.A.S. Franklin, vice-president of the IMM, warned that if the city did not extend its piers, the Olympic would be forced to dock at Boston, Philadelphia, or worst of all, Hoboken, which would be “a serious step backward” for a city that had “always enjoyed the reputation of being first and foremost in everything.”

The Olympic represented a crisis for New York’s waterfront growth coalition of city, state and federal officials, and transatlantic shipping-line owners. Less than one year before, the city’s Department of Docks [DOD] had completed their flagship infrastructure project: the Chelsea Piers. Built by the DOD for the use of private shipping companies, the piers were meant to be a solution to the infrastructural obsolescence of too-short piers and shallow slips that had threatened the profitability of steamship lines and the city’s prosperity for over a generation. Upon completion however, the 800 foot long Chelsea Piers were rendered almost immediately obsolete by the Olympic, Titanic, and the larger ships that would follow.

This new shipping technology was a serious threat to New York’s waterfront infrastructure. Municipally owned and built but leased to private companies such as the IMM for terms of up to a decade at a time, the Chelsea Piers were a symbol of the power of the private-public growth coalition made up of local state officials and transportation capitalists who both governed and used the waterfront as an exclusive site of circulation for large-scale steamship and railway firms. Together, these public officials and private managers petitioned the Secretary of War, who controlled the length of piers in New York Harbor, for permission to extend the Chelsea Piers by

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100 feet. Without these extensions, they claimed, the Olympic would be left with roughly 65 feet of its hull sticking out, unprotected, into the Hudson River.²

Advocating for the extensions, Charles P. Summer, a representative of the Cunard Line, one of the worlds’ largest steamship companies, repeated Franklin’s earlier warning: “If better accommodation were not provided it would be necessary to send the largest steamers to other ports which were ready to do all that was required for the reception of the vessels.”³ New York would lose out. After an intensive lobbying campaign that included a personal visit by J.P. Morgan to President Taft at the White House, the Secretary of War granted a temporary extension.⁴ The Olympic docked safely in New York in June of 1911.

The panic over the Olympic was about more than just the failure of the Chelsea Piers as an infrastructure site. Rather, the pier length issue was one component of a massive, decades-long, state-managed infrastructure project that transformed New York’s waterfront after the Civil War. From a rather ramshackle collection of privately-owned, loosely regulated wooden piers and wharves in 1870, this project created a putatively modern landscape of infrastructure composed of publicly-owned and -managed massive steel, iron, and concrete piers, wharves, deep slips, and shipping channels as part of the world’s largest port by 1920.⁵ The long-term project to rebuild the city’s waterfront was the outcome of ongoing conflict, negotiation, and cooperation over how the waterfront would be used and who it would serve. This conflict hinged on the notions of public-private property, infrastructural and engineering expertise, institutional power, and the material form of the Hudson River shoreline.

The Olympic crisis illustrates just how central infrastructure is to the relationship between the state, capital, and urban space. Government and private actors worked to enframe Manhattan’s waterfront as what I term an infrastructural place – a space that would be legally, conceptually, institutionally, and materially separate from the rest of the city. Most scholars consider infrastructure as a technical, conceptual, or material system. I extend this understanding by conceptualizing Manhattan’s waterfront infrastructure as a distinct, bounded place within the city. Not all infrastructural sites, however, are infrastructural places. Rather, it is the spatially expansive na—

⁴ “Pier Extensions Up to Harbor Board,” 5.
ture of the port, its strictly controlled boundaries, and its ongoing separation from the rest of the
city are what makes Manhattan’s waterfront and similar spaces, such as airports today, infra-
structural places.

I develop this analytic of infrastructural enframing as a key framework for understanding infra-
structure in cities by building on infrastructure, science and technology studies [STS], and urban
geography literatures. I demonstrate how this enframing of the waterfront’s ecological, human-
made, and social elements as infrastructure produced a bounded and expansive infrastructural
place. In doing so, I expand on notions of place as multi-faceted, bounded, and produced by ex-
amining the interrelationship between law, property, expertise, state power, and local political
economy. In doing so, I point to the ways that Manhattan’s waterfront, as a spatially expansive,
yet bracketed off part of the city, operated as a place, shaped by the articulations and interactions
between actors within and outside its boundaries as a crucial node in global infrastructural net-
works. This allows me to explore how boundary-making practices, and internal interactions and
articulations, are central to the production, use, and management of urban infrastructure.

Manhattan’s waterfront infrastructural place had its own rationale and logic that differentiates it
from other urban land uses. This includes industrial, commercial, or residential land uses orga-
nized for and around the social relations of production.7 While each of these categories of land
use requires, enables, and relies on circulation of various social, ecological, or technical phe-
nomena to varying extents, infrastructure’s focus specifically excludes the productive, residen-
tial, or commercial functions of those parcels of public and private property. Infrastructural en-
framing is defined by a circulatory and exclusionary logic that is imposed on a site by state and
non-state actors alike who develop and enforce boundaries between property parcels, create a
territorialized framework of law and institutional authority, develop engineering and technical
plans, and eventually construct the material infrastructure itself. These enframing practices are at
the centre of a centuries-long conflict between the waterfront growth coalition on the one hand,
and property-owners, small-scale shippers, fishers, and others on the other, over the waterfront’s
role as infrastructure.

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Sense of Place,” in *Mapping the Futures: Local Cultures, Global Change*, ed. Jon Bird et al. (New York: Routledge,
1993), 1–9; Massey, *For Space*.

7 Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities
This dissertation focuses on the inter-class conflict over the enframing of the waterfront, and the types of connections that would dominate and produce it specifically as an infrastructural place. Empirically, I examine the massive changes that occurred – legally, conceptually, institutionally, and materially – to the waterfront during the ascendency of industrial capitalism from 1870 to 1921. This transformation, however, did not occur in a vacuum. Rather, it needs to be understood within the larger context of the creation of the modern city. This context is one that is multi-faceted: the Port of New York’s historical geography is tied up in the history of the slave trade in the Americas for instance. At the same time, Manhattan’s waterfront was a historically and culturally significant site of labour organizing, class conflict, and the creation of racialized and gendered structures of power. These aspects, while crucial to the history of the port, remain outside the scope of this dissertation. Instead, I focus on the inter-class conflict over the production of the port as infrastructure. The empirical subjects studied here are largely white, male, and elite, and it is their conflict with their counterparts in the private and state sectors which I analyze throughout. The transition on the waterfront that occurred under industrial capitalism was carried out by these actors, who leveraged the framework of modern property, established and developed when the British took over control of colonial New York City in 1683. Accordingly, this story starts with the issuance of the colonial Dongan Charter in 1686 and ends with the creation of the Port of New York Authority in 1921, when the city’s institutional control over the waterfront was drastically reduced.

This research is guided by two key concerns. The first of these is how Manhattan’s waterfront emerged as a site of conflict, negotiation, and cooperation between various groups of officials, experts, and capitalists, and others as part of the localized transition to industrial capitalism in Manhattan. In particular, I am concerned with how law and expertise were leveraged by groups in the context of the changing power dynamics between various government departments, blocs of capitalists, lawyers, and others. The power geometries between these various actors fundamentally shaped how the waterfront would function and change over the two hundred years explored here. I explore how the contested domain of colonial and early nineteenth century property law as well as later legislation and court decisions shaped the material form and conceptual definition of infrastructural place in late nineteenth century Manhattan.

I ask how this shaped the contours of the waterfront as an infrastructural place as colonial-era property law was leveraged to create institutional frameworks of control and to mobilize tech-
nical and engineering expertise to enable the building of the piers, wharves, and slips for the world’s largest ships from the 1870s onwards. I am particularly concerned with how the conflict between property owners and waterfront petit bourgeoisie against industrial-era global-scale transportation and finance capitalists over the use of the waterfront was mediated and shaped by the state and experts through the boundaries of property law, engineering knowledge, and institutional frameworks of control.

Another concern of this dissertation is to understand how the legal, conceptual, institutional, and material bounding of the waterfront as infrastructure was part of efforts to govern the Hudson River shoreline as an exclusive site of infrastructural circulation, as a separate site and category of urban property. In particular, this would be a set of parcels apart from the speculative logic of the rest of the urban market. State governance, internal articulations and interactions, and the external enframing of the waterfront as infrastructure were iterative processes. These processes built on different ways of seeing the waterfront as separate from the rest of the city, to be acted on by planners, engineers, and private logistics and transportation managers. The focus of this study is an examination of how infrastructure is not simply another category of urban space such as residential or industrial parcels. Rather, it is an exclusive site of waterborne transportation, commerce, work, and circulation. I examine how the needs of capital and the desires of state actors were negotiated over to shape the boundary between the waterfront as infrastructural place and the rest of the city.

I argue that these boundaries between infrastructure and the rest of the city are never total or complete. Rather, infrastructural enframing is an always becoming process, with moments of relative stability that are the product of negotiation, conflict, and consensus building between state actors such as the officers of New York City’s DOD and private-sector players such as large-scale property-owning Astor family. At the waterfront itself, these interactions between existing users and those newly-arrived transatlantic steamship firms from the 1860s would change the way state managers saw and managed the waterfront.

Two major groups fought over the waterfront. One was the industrial-era waterfront growth coalition, made up of global shipping-line owners, federal and local officials drawn largely from the ranks of the political-machine-driven New York Democratic Party, engineers, and lawyers. The other was a loosely assembled group of property owners, regional shippers, manufacturers, and
the local fishing industry and their allies amongst Republican New York State lawmakers, and some in the press. The latter group relied on Manhattan’s waterfront as a space of production, consumption, storage, and above all else rent-seeking via ground rents and wharfage fees, while their state allies represented the interest of private-property capital more widely. In contrast, the aim of the waterfront growth coalition was to conceptually, legally, institutionally, and materially define and operate Manhattan’s waterfront as infrastructural place to meet the circulatory needs of the industrial-era local, regional, and national economies.

By the 1870s global-scale interactions began to dominate Manhattan’s waterfront, driven by the constantly increasing scale of shipping into and out of the port. These global flows of capital, ships, and commodities also became significantly more important within the local, regional, national, and global economies. In response, the local, commercial-era waterfront users like small-scale shippers and oyster-barge operators pushed back against the rapidly forming waterfront growth coalition who fought to enframe the waterfront as infrastructural place. This infrastructural place would be dominated by its linkages to actors, systems of production, and transportation networks that were global rather than local or regional in scale. As this dissertation shows, these actors would successfully enframe Manhattan’s waterfront, including the muddy waters of the Hudson River, the rip-rap stones of the bulkheads, and the wooden planks of the piers themselves, as a site exclusively devoted to the circulation of large-scale transportation capital, ships, passengers, and cargo: an infrastructural place.

To explore these interrelated empirical and theoretical concerns I examine several cases of state-capitalist negotiation, consensus, construction, and transformation of the institutional and legal framework at Manhattan’s edge between 1686 and 1921. From colonial-era charters and legislation to the creation of the municipal DOD in 1870 and its replacement by the Port Authority of New York in 1921, the power-geometries of private and public actors arrayed around the enframing of waterfront infrastructural place shifted in numerous ways during this period. The legal, conceptual, institutional, and material enframing crucial to the creation of infrastructural place need to be placed in the context of the political-economic upheaval and change as New York City became a key node in the rapidly expanding global economy. Infrastructural place, as a category of urban space, emerges here as part of the historical process of modernity, and specifically of industrial capitalist urbanization. As this dissertation will show, New York’s promi-
The global and American economies was directly tied to the building of modern waterfront infrastructure by public and private interests.

This chapter begins with a discussion of infrastructure. In it, I outline a new interpretation of the meaning, function, and operation of infrastructure as infrastructural place. Building on literatures of place, infrastructure, and STS, I turn to an examination of the theory of enframing to elaborate on the relationship between infrastructure and place-making, focusing on the abstraction of urban space as part of capitalist urbanization. I then explore the practices through which infrastructural place is enframed by engineering and legal experts within and outside the state. I also take a close look at the relationship between infrastructure, enframing, and the state at the scale of the city. Finally, I give a brief overview of the research methods I employed here and a preview of the structure of this dissertation.
A Theoretical Framework of Infrastructural Place

Infrastructure: Materiality and Circulation

The term infrastructure brings to mind a range of material configurations that fill the urban landscape. Telephone wires, roads, and railway tracks crisscross cities around the world. Sewer pipes lie next to fibre-optic cables buried deep under our feet. Cranes, piers, and stone river walls line our urban waterfronts, while passenger jets trundle down runways between terminals at airports. Not only is infrastructure ubiquitous, it is necessary for virtually everything that characterizes modern urban life. What do these diverse infrastructures have in common? What allows us to consider infrastructure as a singularly useful analytical category? The answer consists of two parts: first, infrastructure is a key node in connective networks of capital, knowledge, and people; and, second, it is a contested product and producer of a politics that reaches across all levels of governance.

Infrastructural connectivity enables the mobility of capital, commodities, people, ideas, and ecological phenomena across space. Telephone wires carry signals, railway tracks trains, and sewer pipes waste from one location to exchanges, terminals, and treatment facilities located elsewhere. In this way infrastructure is central to the “annihilation of space by time” that characterizes modernity.8 Nineteenth- and early-twentieth-century Manhattan’s piers, warehouses, and slips connected New York City to the rest of the world via natural and human-built waterways using specific technologies, large amounts of human labour, and significant capital investment. As a connective assemblage of labour, material, technical knowledge, and nature, infrastructure reaches beyond the scope of a single temporal or spatial event or site even while it remains bounded in place.9

It is precisely this rootedness that gives infrastructure its connective ability: nodes like ports and railway terminals enable the circulation of flows across space that is necessary for everyday life.10 Infrastructure is generative of, and reliant on, the ongoing creation of the scalar relation-

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ships between people and places. The embeddedness of nodes such as piers enables the production of shipping flows between different ports. At the same time, flows of increased trade or passenger volumes are required for the ongoing production of material nodes like piers and wharves. The relationship between these material-infrastructural nodes and the flows that they enable and host form an infrastructural network. Each individual infrastructure site – the pier, telephone pole, or terminal, all of which are fixed in space – acts as a connective node in these networks.

The connective reach of infrastructure enables movement across and through space. The concrete and iron piers of New York’s waterfront, while enabling the mobility of ships, passengers, and goods around the world, were themselves decidedly immobile. These piers, wharves, and slips are significant components of New York’s built form. Their rooted nature is emphasized by the flows of the Hudson River, the disembarkation of passengers from around the world and the ships tying up at their sides. Designed by engineers, approved by officials, built by labourers, and used by stevedores, passengers, and ship captains, by the 1920s, New York’s piers were significant sites of the work of construction and design and capital investment by state and private actors.

Most scholars consider infrastructure as a technical, conceptual, or material system. This systems approach to infrastructure, which scholars have shown to be productive of modern cities, occludes the degree to which infrastructural nodes exist as material (and more than material) spaces in cities. Drawing on Massey’s notion of place as a process, a site with slippery but always present boundaries imposed externally and produced via multi-scalar interactions within local power geometries, I examine infrastructural nodes as place. This concept of infrastructural place acknowledges the rooted-ness of the multi-scalar interactions enabled by the infrastructural flows of social, technical, and material phenomena like capital, information, or water.

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12 Graham and Marvin, *Splintering Urbanism*, 42.
16 See Graham and Marvin, *Splintering Urbanism*.
Infrastructure is a key site for the articulation of the relationship between state and private actors at the urban scale. These actors exist in hierarchical power-geometries of place with one another. Producing infrastructural places requires state and capital to work together to carry out the processes of place making: the localization of multi-scale flows and circulations of power, material, people and discourse. Infrastructure, such as the piers and slips on New York’s waterfront, emerged as active products of state intervention after the mid-nineteenth century to satisfy the needs of capitalists as a class, and capitalism as a system. Moreover, these material assemblages of infrastructure are, above all, rooted in place.

From the piers of the nineteenth century waterfront to the runways of today’s airports, infrastructures are distinct places within cities. As noted above, it is this very place-fullness that enables and generates the connectivity of social-technical and ecological phenomena across space and scale. It is these connections that mark these spatial assemblages of infrastructure as unambiguously place. Building on Massey’s notion of place as generated and produced via the ongoing connections across scale and space and recognizing the relative powerful and powerlessness of actors and flows in place, infrastructure emerges as an urban circulatory place without parallel. The form of the 1921 waterfront as a site of exclusive infrastructural circulation for transatlantic transportation, finance, and industrial capital is the result of protracted contestation and power geometries of relatively more powerful global actors rooted in place. These places take centre stage in processes of capitalist urbanization.

Urban and infrastructural development go hand in hand. This co-constituency, which is often taken for granted, can serve to obfuscate the crucial connective role which infrastructure plays in enabling the various political, social, technical, and ecological flows necessary to the accumulation of capital in the city. Moreover, infrastructural provision is a key articulation of state-private sector power and finance. The notion of infrastructural places, as opposed to simply

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19 See Massey, Space, Place, and Gender (Minneapolis: University of Minnesota Press, 1994).
22 Graham and Marvin, Splintering Urbanism, 21.
infrastructures, allows us to consider its relationship to the creation of abstract, calculable spaces in the city more broadly. Indeed, infrastructure construction has been a central concern of urban governance and urban imagination from the nineteenth century until today. From ports to commuter rail lines, large-scale infrastructural megaprojects have been central features of urban development and urban scholarship. In considering infrastructure as constitutive of infrastructural places in the city, and analysing Manhattan’s waterfront as such, I focus on closely related aspects of infrastructure: practices of bounding and transformation, and the state’s role in infrastructure planning, construction, and maintenance.

Infrastructural Enframement

Infrastructure bounds and connects material, ecological, technical, and social phenomena in and across space. Urban infrastructure slowly emerged as a bounded site within an increasingly differentiated set of land uses in the city. It was distinct from other land uses and urban property both in its focus on circulation above all else, and its private-public, connective nature. It was a crucial component in the larger system of capitalist development, from the 1700s onward, along with the development of property as distinct parcels. This distinction was the product of ongoing legal, conceptual, institutional, and material practices carried out by officials and private actors as part of boundary setting.

The enframing of holistic, absolute space into abstract, calculable spaces made up of bounded places allows sites such as Manhattan’s waterfront to be worked on by the modern state and capital. Infrastructure, from roads and pipes, to ports, are key material components in the mobilization of modern property as a bundle of discrete, territorialized rights in the city. The connections


enabled by infrastructure allow for practices that are essential to capitalist urbanization: the bounding of natural phenomena into categories to be worked on, bought, and sold as abstract and calculable components and commodities.28 With respect to infrastructural places such as the port, boundary-making practices, which are legal, conceptual, institutional, and material in nature, enframe assemblages of material and discursive components as objects to be analyzed and calculated according to particular rules.

This dissertation builds on Michel Callon’s ideas of qualculation and enframing as relational practices through which material phenomena and discourses are bracketed off from the world around them. This enframing is not totalizing or isolated. Rather, the process of enframing requires a great deal of entanglement with discourses, knowledge sets, and material phenomena outside of the enframent’s boundaries.29 As Blomley points out in the case of legal enframing, it is precisely this entanglement of law with social processes and cultural attitudes and forms that make things like a contracts for sale legally legible and possible to carry out for actors from expert lawyers to lay-people purchasers.30 Property itself is a clear example of the continued entanglement that enframing entails: private property, which is thoroughly bracketed off in law from the other parcels or types of property, is nevertheless deeply entangled in relations outside of its boundaries around things like public nuisance or responsibilities to maintain.31 This is just as true for infrastructural enframent as well; bracketing off the waterfront from the rest of the city in New York required an entanglement of the piers and slips with expertise, legal power, and labour practices that were thoroughly enmeshed in the social relations of Manhattan and the wider United States. The waterfront and the city remain entangled in ways which cross the boundaries of infrastructural place.

Entanglement is also a reflection of infrastructural boundaries’ function as both a separator from and a point of connection to the wider world. As Bowker and Star point out, the categorization at the root of infrastructural provision is both a bounding and connective device: it separates it from

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other social and economic spaces while at the same time linking it to other nodes in infrastructure networks and actors who move between the world at large and infrastructure.32 The constant relational entanglement inherent in enframing requires the constant work of policing and enforcing boundaries to maintain a discursive and material separation. As Mitchell shows in his studies of colonial Egypt, these boundaries require constant enforcement from above via the entanglement of state violence with technocratic knowledge at the same time that these boundaries are challenged from below.33 While Mitchell’s focus is on the national territory, similar work is necessary to enframe the smaller scale of the waterfront in the city. This is particularly true for the production of the modern city, which required the enframing of spaces like roads or accounting houses as separate from the rest of the city via their entanglement within larger-scale spheres of expertise and ideologies.34 Thoroughly entangled within one another far beyond the boundaries they create, enframing processes build on one another in an iterative relationship to produce infrastructural place. Infrastructure relies on the enframement of space as an exclusive site of circulation and flow.

It is on the material space of the waterfront that these boundaries are imposed, mapped, read, and fought against. These boundaries change the way we understand, move through, and interact with the individual parcels that existed on Manhattan’s waterfront.35 As key sites variously of infrastructural circulation, political ecological flow, and in the contemporary era, of redevelopment and gentrification, waterfronts are urban sites produced through particularly dense interactions and relationships.36 The politics of boundary-making emerges here as a central component in the production of waterfront infrastructure. In particular, this involved determining which properties were part of infrastructural place, who owned and controlled them, and thus which types of shippers, workers, and property owners would be allowed to operate and profit there.

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33 See also Timothy Mitchell, Rule of Experts: Egypt, Techno-Politics, Modernity (Berkeley: University of California Press, 2002).
This was carried out, for the most part, by members of local state-capital coalitions of place-dependent actors across scale and space.37

The boundary-making processes of law, technical expertise, and institutional power were imposed largely from state actors outside of the waterfront. They were closely linked, however, to the needs of increasingly powerful transportation capitalists, industrialists and others who required infrastructure for the rapid loading and unloading of ships. These included distinct, yet closely linked practices enacted by powerful capitalists and officials who sought to exclude non-circulatory, non-large-scale transportation uses from Manhattan’s west side waterfront. These practices of exclusion, key to enframing, were enacted in place, challenged, and had effects on the types of activities carried out on the waterfront, how people understood the waterfront, who was allowed to be there, and what it looked like.

Enframing relies on actively creating what is inside and what is outside of a boundary. This requires the production of a border which renders actors, their practices, and discourses either on the outside or on the inside of the thing being enframed. This establishes the type and degree of power that those who are enframing can deploy.38 Material space inside the boundaries of infrastructural place is then governed according to the distinct rules of specific groups and individuals. In the case of Manhattan’s waterfront, decision-making control was in the hands of transatlantic commerce and the government.

Other actors, such as residential or industrial property owners, are kept outside of the bounded space of the waterfront as a shipping and commercial enterprise. Parts of Manhattan’s shoreline, for instance, are enframed as bulkheads or piers – infrastructural places – that allow state officials to govern customs and wharfage rules for the use of the space, ship captains to tie up their vessels, and transportation companies to charge for use. The ongoing processes of categorization and assignment of the raw materials of nature, labour, and commodities arise out of the kinds of mass organized work and institutions that characterize the capitalist mode of production.39

Enframing as a process converts absolute space into abstract, calculable space. This can be seen in the way Manhattan’s waterfront was bounded as a site of global transportation infrastructure rather than a natural shoreline or fisheries site. The piers, river, and bulkheads that were within the boundary of transatlantic waterfront place would exclude small-scale shippers, factory owners, municipal planning officials, and others who dealt with non-infrastructural urban space. This enframement does not just happen. Rather it is a contingent process that requires powerful actors, particularly those from the state, to carry out and enable acts of enframing. The historical enframing of property via the development of modern notions of property, and the writing of such notions onto land itself is a foundational process in the production of infrastructural place.

Legal and Conceptual Enframements of Infrastructure

Legal practices and processes such as court decisions, legislation, or property regimes were central to enframing the waterfront as an infrastructural place. Similarly, expert and technical understandings of water depths, shoreline engineering, or pier construction all operated on these legally bounded spaces to produce a conceptual enframement of the waterfront that excluded non-circulatory uses. All of this was governed by an institutional framework that targeted the waterfront as a site to be ruled according to the technical and legal logics of infrastructure. These state and private sector members of the institutions overseeing the waterfront leveraged a property regime through which the land of the waterfront itself was marked and governed differently. In doing so, conceptual and institutional boundaries of place were used to exclude non-circulatory uses and users alike. At the same time, these legal practices enable and are shaped by the construction of piers, wharves, bulkheads, and other material components of infrastructure that rendered Manhattan’s waterfront as a transatlantic infrastructural place by 1921. Historically, modern property, the modern state, and infrastructure are bound up in the same expansion of modernity in Europe and the colonial world.40 In Manhattan, the infrastructural bounding processes began with the imposition of colonial property regimes on newly seized indigenous land at the end of the seventeenth century.41

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From 1686, lawyers, judges, officials, and property owners built a framework through which the state and commerce could approach separated and bounded sets of urban property such as the waterfront as an ontologically separate category of property. Infrastructure was governed by a different set of private-public property relations than other land use categories. It was (and is) a collectively used assemblage, underwritten by the state and profited off of by capital. While it can be technically private or publicly owned, its nature as node and flow places it in a different set of relations than other land uses in the city. As a public good and a private right, with access determined by the state, infrastructure as a type of property or land use differed considerably from similar notions of commons that preceded it.

Prior to the ascension of capitalism, common property existed in large part to encompass the right to access resources necessary for individual and specific groups’ sustenance. As a category of property, the commons restricted use rights only to those considered natural-born people. Institutions and groups, such as the state and business corporations, were excluded. Common right was non-transferable. Throughout the eighteenth, nineteenth, and early twentieth centuries, however, the commons, and its association with property as a right of use, was replaced with notions of property as an exchangeable commodity. This conversion of the waterfront commons to public property, and the state as ultimate holder of the public right and control of access was a necessary precondition for the establishment of infrastructural place on New York’s waterfront.

The nature of property as a bounding device, written on to the land itself, was key to territorializing liberal rights of ownership and profit that were crucial to the expansion of capitalism. This made categories of private, with individual rights, public, with the state as the ultimate rights holder, and infrastructure as a publicly held but privately used legal category written onto material space. Within modernity, property boundaries are foundational socio-legal concepts leveraged for enframedment of material phenomena. These boundaries made the land itself legible for the nascent state to wield power over its population via a focus on the land. More than this

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44 See Blomley, “Making Private Property.”
though, it is through the creation of distinct private property parcels that actors can work on as part of their profit and governance regimes. The undergirding of these property rights by the state allowed and was required for the establishment and expansion of capitalism.

Private property, like the infrastructure that emerged in the nineteenth century to serve industrial capitalism, is a specific socio-historical process through which modernity is mapped on to the world. It is a way of organizing the world according to the needs of capital. This interrelationship between property, modernity, and capitalism was reinforced and expanded via the colonial project, particularly in North America. In the early years of infrastructural enframing on the waterfront this relied on the creation of distinct, legally recognized land-use categories, one of which was infrastructure. Occurring decades prior to zoning, the enframing of infrastructural place nevertheless produced a rationalized and comprehensive division of urban space into the systematic land-use categories that have come to define the modern metropolis. Even though the specialization of urban space into residential, industrial, or commercial categories, was well underway by the 1850s, it was not explicitly enshrined in local land-use laws until the second decade of the twentieth century. The creation of these categories in New York City through property law, and the enforcement of such categories by the DOD were significant practices of enframing infrastructural place.

Local officials and private shipping-line owners used technical and scientific knowledge to enframe material phenomena such as the Hudson River into epistemological categories of space such as infrastructure. In the expansion of ports, sewers, roads, and railways, infrastructure bolstered and shaped the production of ontologically distinct spatial categories such as nature and the city or private and public. Local actors relied on this expertise as fundamental to the production of local institutional authority. Engineers employed by the city, federal government,

46 Blomley, “The Territory of Property,” 593.
50 Kaika, City of Flow, 5.
and shipping lines created a separate set of knowledge that they had monopoly power over at the service of the state and capital. This was central to the differentiation of infrastructure from other types of urban space.\textsuperscript{52}

With the backing of the state, engineers were able to acquire substantial control over infrastructural knowledge.\textsuperscript{53} Their control of scientific knowledge about the material spaces of cities allowed them to wield the power of rationality and technical knowledge regarding decisions about urban space. Engineers, as agents of capital and government, made technology a key part of the capitalist process and the modern state.\textsuperscript{54} It is engineering that enabled the building of the capitalist city. Infrastructural expertise was called into being and marshalled by lawyers, officials, engineers, and others to legally, conceptually, institutionally, and materially enframe the waterfront for the exclusive use of large-scale transportation capital.

The enframing of Manhattan’s waterfront as infrastructural place makes the waterfront a site of circulation, ruled by the logics of transportation capital, engineering expertise, and the specific legal categories of infrastructural property. The invocation of scientific rationality, law, and the economy, all putatively objective sciences harnessed by the state for the public good in the form of infrastructure, makes this separation of infrastructural place from other forms of urban space so commonsensical as to preclude other possibilities.\textsuperscript{55}

Through the linked tools of legal, engineering, and scientific expertise and coercive state power, state actors produced infrastructure as a distinct place within cities. These sites were governed by the needs of the economy, such as the growing size of ships, and the coercive power of the state to enforce boundaries. The relationship between expertise and infrastructure, and thus to capitalist alienation and abstraction, is mediated and carried out by the state. As noted above, water-based infrastructure is necessary to the function of capitalism. In its modern form, it is often designed, financed, built, and operated by both the state and large-scale capital.


\textsuperscript{53} See Picon, “Engineers and Engineering History.”

\textsuperscript{54} Noble, \textit{America by Design}, xxiii.

Actors from the state and the private sector, all of whom have varying goals and interests and power relations, work to produce infrastructural boundaries that best serve their needs. Infrastructure as a material phenomenon is subject to breakdown, such as collapse, blockages, leaks, or floods.\textsuperscript{56} Similarly, constantly changing technological specifications or market demands constantly, as was the case with the Olympic, threaten infrastructure with obsolescence. Infrastructural boundaries, therefore, are never completely stable, and always being worked on and protected. Thus, infrastructural repair and maintenance become central practices through which state officials, engineers, and private owners and users reformed, bolstered, and reconceived place boundaries. As such, it is crucial that we examine the role of actors not just in the planning and construction of infrastructure, but also in its operation and transformation.\textsuperscript{57} These actors were active from both the state and private sectors.

\textit{Infrastructure and the State}

The state has a direct role in the production of infrastructure, and as such it manages the circulatory nodes necessary for capital accumulation. Infrastructure was a pivotal feature in the transition of property as a common good to a public one. The idea of the public good, and the public more generally, was inextricably linked with ideas of the development of the new industrial capitalist economy from the 1780s. This transformation had the effect of universalizing and abstracting the state-capital relationship. The state, and its key administrative officials, engineers, and legislators, exist separately from capital. The reproduction of capitalist relations requires the state to mediate between capital and labour, and between various blocs of capitalists. The overall aim of state agents is to look for ways to ensure that individual and sectoral profit motives do not adversely affect the overall functioning of the capitalist system. As such, state actors work to ensure the production of public goods such as infrastructures in ways private actors will and cannot. This is true at both the national and local scales.


The expansion of state power from the 1870s was both a result of and a necessary support of capitalism’s expansion into virtually all aspects of American life.\(^{58}\) Capitalism’s ascendency required replacing local, customary rules of exchange with the kind of calculative and objective values of market exchange that mirrored those of abstract, scientific knowledge.\(^{59}\) Infrastructure is central to the project of normalizing the state’s role in supporting private profit while maintaining stable capitalist relations.\(^{60}\) Indeed, the modern state apparatus arises alongside those expert and managerial techniques that enable material practices such as capital circulation to appear abstract and separated from everyday life.\(^{61}\)

The development of large-scale urban infrastructure projects, such as Manhattan’s piers, slips, and wharves, needs to be situated within the context of growth capitalism from the 1850s to 1921 and associated forms of liberal municipal democracy in the United States. During this period, a national economy with global linkages grew exponentially, requiring greater levels of coordination in the fields of transportation and communication.\(^{62}\) These changes to the structure and practices of American commerce, particularly the growing size and mergers of firms from the 1880s, were accompanied by and required state investment in infrastructure as well as bureaucratic institutions within which orderly market exchange could occur.\(^{63}\) American bureaucracy and American industrialization are historically twinned processes.\(^{64}\)

The growth of bureaucracy at the municipal level was intimately linked to the expansion of infrastructure after 1870. As scholars of the industrial period point out, the need to provide sanitary pipes, water, and transportation infrastructures in cities was key to the rising power of municipal...
government in everyday life. In cities, state actors worked closely with place-based private sector managers and capitalists from a range of sectors who were dependent on local labour, infrastructure, and other spatially fixed assets for profit. These state and private sector actors work together in shifting coalitions to govern urban space, including the provision of infrastructure. Scholars have characterized these as urban regimes, urban growth coalitions, or urban growth machines.

Capitalists from different economic sectors with a direct interest in place-based relations and outcomes, such as the property owners and shipping line owners I examine in this dissertation, engage in negotiation and conflict with one another, and state actors in order to gain advantage for their own particular needs in place. Similarly, state actors from various departments and jurisdictions engage in a range of conciliatory, cross-sectoral, and preferential practices that shape how capitalists can use space. The enframement of infrastructural place for the circulatory needs of particular forms of capital is the result of these conflicts and consensus between the various state and private sector members of these coalitions.

The state exists as a collection of social relations, which has an impact on different classes according to the relationship between state structures of power and the private forces they interact with. The growth of industrial capitalism from the 1870s onwards saw a corresponding growth of state power and prestige. In many ways, this era was one where a bureaucratic system at the federal level was produced, monopolizing, via federal agencies, such as the Army Corps of Engineers, the kinds of expertise that capitalists relied on. Much of this was carried out via legal practices, in particular by lawyers who translated and enacted infrastructural property into a use-

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66 See Cox, “Spaces of Dependence.”
69 In particular, see Skowronek, *Building a New American State*. 
able category via court cases and deeds.⁷⁰ This was repeated at the state and municipal levels as well. As in the case of infrastructure, however, this relationship is not always so straightforward.

Any useful interpretation of the relationship between state and private actors needs to consider the ability of the state to work autonomously from, and at times in opposition with, individual capitalists or blocs of capital. This elite pluralism, while it may lead to conflict over the specifics of projects, fails to prevent the creation of a dominant economic and political class that acts with a common purpose around the reproduction of capitalism.⁷¹ Again, this is often played out in the domain of law, which operates both as part of the state, and separate from it, structuring both private and public action.⁷² The state is not simply instrumental for capital. Rather, the function of the state and the interests of the ruling class coincide because the state system is a product of bourgeois power.⁷³ In practice, however, the infrastructural needs of individual capitalists and even entire sectors can differ substantially from each other and the priorities of the state.

The state and capital do not move in lock step with one another.⁷⁴ State actors are autonomous from capital, as we see in the case of infrastructural enframement, carrying out actions and making decisions detrimental to individual or specific blocs of capitalists or even those that benefit the working class. Large-scale policies, such as the New Deal, have proven necessary for the maintenance of capitalism as a system by ensuring the social reproduction of labour or reducing self-destructive firm behaviour.⁷⁵ This can be seen, at the municipal level, in the conflict between local government and property owners over the appropriation of land for infrastructure. Infrastructural enframement of urban parcels as sites of highways, sewers, railway lines, and

ports, for instance, have benefited the larger urban economy, while harming individual property owners.\textsuperscript{76}

Understanding New York’s transformation from a ramshackle collection of privately-owned wooden piers to a landscape of publicly-built concrete and steel piers requires us to understand the waterfront as an infrastructure project. As such, it is a historically and spatially specific site of articulation between the state and capital and between fixity and flow. Infrastructure is a material assemblage, the product of diverse labours, of the application of technical, legal, and other forms of knowledge applied onto natural and human built spaces. It is also, however, a conceptually bounding technique, operated by the state and capital at the service of a dominant regime of accumulation. All of this is to say, that exploring the creation of the modern port requires a robust theoretical and conceptual framework, as developed above. I use this framework in this dissertation to explore the production, operation, and maintenance of Manhattan’s waterfront as infrastructural place.

\textbf{Methodology}

This research focuses on a single city and metropolitan region over a very broad time span. The questions I ask require an examination of Manhattan’s waterfront not as a singular location, but rather as a set of produced places linked across scales to people, events, and ideas well beyond New York’s five boroughs. As such, I rely on a diverse set of sources to understand the production of these massive infrastructural projects along the Hudson. In this section, I give a brief overview of the sources I relied on in pursuing this research.

Any project requires choices about what to include and what to ignore. For scholars using historical documents, this choice can be an easy one to make: limitations on availability, material degradation, or a lack of sources are significant constraints. Although I encountered some of these issues, my most pressing problem was a surfeit of relevant data. In part, this reflects the empirical subject I chose. There are a sizeable number of studies of many aspects of New York City history. There is also a great deal of primary material, much of which is well preserved and easily accessible. At times, this abundance of resources, including digitized newspapers from a range

of political positions and in different languages, published reports, memoirs, diaries, photographs, meeting minutes, and ephemera from countless sources threatened to overwhelm me. Keeping my eyes on the research questions motivating this dissertation helped me choose the resources that were most appropriate for this study.

This dissertation is focused on the historical relationship between the state, capital, and urban space as it is articulated through infrastructure. Accordingly, my research works through and is a direct product of the material found in the federal, state, and municipal archives. One of my main sources of material came from the National Archives and Records Administration Regional archives in Philadelphia, Pennsylvania. There, I consulted the material of the Department of War, the Army Corps of Engineers and their subsidiary, the New York Harbor Line Board. Another significant archive was the City of New York’s Municipal Archive and Library. I also relied on the New York State Library in Albany, New York. The use of these archives was crucial to this dissertation; however, it also raised several methodological issues.

Though this dissertation is mainly concerned with the state’s role in infrastructure provision, relying on state records can be limiting. A reliance on official archives runs the risk of reproducing officially sanctioned epistemologies of administrative separation. These archives are, after all, organized according to departmental origin rather than by subject. Researchers taking these archival categories for granted run the risk of placing connective pieces in narrow silos of bureaucratic authority. Treating an Army Corps memo about the extension of piers in the Hudson River as solely a product of Army Corps personnel, for example, misses the rich connections that emerge between actors in other departments and jurisdictions, as well as developed outside the purview of the records through engineering training, knowledge, and the social milieu of elite twentieth-century New York.

Attempting to limit the ‘silo-ing’ effect and the overreliance on state archives, I consulted a great deal of private-sector archival material to understand the various schisms and desires amongst the capitalist classes. This was in part driven by my questions about state-capital articulation and by a recognition of the multiple power-geometries at play in the production of the waterfront.77 Consulting private records of original waterfront owners and lawyers, including diaries, letters, and financial records at the New York Historical Society, the Brooklyn Historical Society, and

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77 See Massey, “A Global Sense of Place;” Massey, “Power-Geometry and a Progressive Sense of Place.”
the Columbia University Rare Book and Manuscript Library were integral to my study of the port not simply as a feat of engineering or legal land-use planning, but rather as a large-scale elite infrastructure project with impacts and features that lay far outside of the courts and drafting rooms that official records reflected.

I also heavily relied on newspapers, magazines, and manuscripts. This was, in part, an effort to ensure a broader understanding of the arguments over official and private decisions. It is also a way to situate infrastructure in the everyday worlds of New Yorkers in the nineteenth and twentieth centuries. The tone of editorials, letters to the editor, and factual articles give broad insight into how mainstream elites fought over New York’s waterfront. Together, state and private archives, official reports, and contemporary media form the foundation of this dissertation.

These sources cover a broad swath of positions and attitudes towards the port. However, it is not a complete record. Noticeably missing from these sources are those that deal with working-class views of the waterfront. This is a very noticeable gap in this research that would appear to go against the grain of most studies of New York’s waterfront, which often focus on the piers as a key site for building organized labour movements or as a site of labour unrest and working-class revolt. This gap, however, is a necessary feature of my dissertation. The questions that my research is driven by – the production of infrastructure and the state and capital relations on infrastructure – are focused on the actions of relatively powerful elite state and private actors.

Similarly, this research largely elides questions of race and gender. These were crucial social categories that structured life on the waterfront for workers, passengers and others who lived, worked, and moved through the port. However, the powerful state and private actors who leveraged their positions and social power through bureaucratic and social hierarchies were almost exclusively white and male. Even with this, however, there are moments when issues of race, gender, and ethnicity would be excellent analytical lenses through which to approach the issues I deal with. The circumstances surrounding the sale or taking of waterfront land owned by widows and female heirs, a not insubstantial category of property during the late nineteenth century, is one such example. Another is the ascendency of Irish, and later Jewish, men into the ranks of the

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professional and legal bureaucracies over the course of the nineteenth century. Similarly, questions around waterfront culture and social lives go unexamined here.

This research is limited by time and resources. Accordingly, I have focused exclusively on infrastructural enframing and the ways that the state and capital use engineering expertise and the law to build the waterfront. This is not to suggest that what I present here is the whole story. Rather, I believe that understanding how infrastructure is constructed and challenged from below would provide an important addendum to the research. However, this dissertation is not a labour history. Nor does it pretend to be a totalizing understanding of infrastructure. Instead, this research is an examination of the specific relationships between the state and capital that are constitutive of infrastructure.

With these research questions in mind, it is relevant to ask why I chose Manhattan’s Hudson River waterfront as the site of my research. Again, the answer is the result of both my own interests, and the availability and appropriateness of sources. New York City is one of the most vivid and extensive examples of modern infrastructure in capitalist urbanization. New York, however, was not alone in its massive port project. Liverpool, London, Mumbai, and Buenos Aires all had massive port infrastructure projects during this same period.

As a site of historical research however, New York has several advantages. First, as pointed out above, there are many accessible archival resources available. New York has the advantage of three stable and still extant government bodies: municipal, state, and federal. Second, New York experienced the largest leap in size and importance in the US during the study period. From lagging behind Boston and Philadelphia at the beginning of the nineteenth century, New York became the largest port in the world by 1920. Third, New York’s port was the site of several technological, legal, and administrative innovations that made it the model for much of North American infrastructure production. In short, New York, while not wholly unique is a notable and meaningful case from which to draw broader conclusions about infrastructure, enframing, and urban space.

Focusing my analysis on Manhattan’s westside waterfront was, like every other aspect of this dissertation, the result of my research questions, and material availability. While both the East and Hudson rivers were sites of pier construction during this period, they were differentiated in
size and function. Due to limitations in the East River, particularly its rocky and narrow channels, access was relegated mostly to local and regional trade plied by small boats. The Hudson River, with its deep, wide channel was more appropriate for the larger steamships that began arriving in New York City in the mid-nineteenth century. Accordingly, local capitalist and state interests demanded that a larger set of waterfront infrastructure be built on Manhattan’s West Side. As well, the West Side was, even by the 1850s, relatively less developed than lower Manhattan or the East Side of the island. The subsequent development during the latter half of the nineteenth century meant that more numerous and empirically rich resources were available regarding this site.

Deploying a wide range of primary sources, this dissertation examines the enframing of New York’s waterfront and the production and operation of infrastructure between 1686 and 1921, with a particular focus on the fifty-year period within which New York’s modern port infrastructure was constructed and governed by the city of New York from 1870 to 1921. I begin with 1686 for the simple reason that this was the date the first British colonial charter establishing the city’s rights to the waterfront was issued. In 1870, the beginning of the half century on which this research focuses, was the beginning of the DOD and the state’s first attempts to manage the waterfront as a comprehensive site of infrastructure. 1921 serves as an appropriate ending date; this was the year that the Port Authority of New York was established by interstate compact, effectively removing comprehensive waterfront management from the purview of elected officials in Manhattan.

**Dissertation Structure**

The locational focus of this dissertation - that area that runs along the shoreline of the Hudson River from Manhattan’s southern tip at the Battery to the beginning of the Upper West Side around 59th Street - measures just ten linear kilometres. This can be traversed in a little under two hours on foot. In this dissertation, I cover a much broader swath of time. I begin with British colonial rule in 1686 and extend more than 200 years to the roaring twenties. With such a clear spatial focus, this dissertation is organized in a rough chronological order. However, none of these periods can be completely delineated from one another. Instead, each chapter focuses on a time-period that overlaps, to varying degrees, with the chapters that precede and follow it. In a dissertation that aims to understand how the port of New York’s changes were both the product and
producer of larger conceptual and material transformations it is impossible to clearly bracket these transformations in time.

Chapter Two begins with a pre-history of the modern port of New York, examining the production of non-infrastructure place on the waterfront. This involves looking at how the waterfront was legally separated from the rest of the city. At this time, the waterfront was used for all sorts of economic functions; unlike after 1865, it was not for the exclusive use of transportation or governed by the logics and needs of circulation. I take the passage of the Dongan Charter in 1686 by the British governor of colonial New York as a starting point and focus on the passage of colonial charters and land grants, and the creation of a common law tradition around New York’s waterfront property before 1838. I argue that this historical moment was key to the legal enframing of the waterfront as infrastructural place that emerged with the ascendancy of American industrial capitalism after 1865. I show how the legal elements of these charters, land grants, and legislative acts enframed and subsequently enabled the building of modern infrastructure on Manhattan’s West Side.

In Chapter Three, I turn to the legal and institutional enframing of the waterfront during Manhattan’s transition to industrial capitalism. In particular, I examine how the opening of the transatlantic steamship trade led to a sustained economic boom from 1838 until 1865 that had a great impact on Manhattan’s waterfront. I look at the legal enframing of the waterfront, through the passage of a series of laws meant to convert privately-held land to limited infrastructural property were fought over and eventually settled. I then turn to the relationship between the beginning of the steam age and a concerted push by the waterfront growth coalition to introduce a unitary institutional boundary over the waterfront by 1870.

In Chapter Four, I examine the creation and early operations of the City of New York’s DOD in the final third of the nineteenth century. I analyze the creation of a master plan for the Docks, one of the first examples of comprehensive urban planning in North America. I argue that the administrative and legal practices devised to order and control land use, centred as they were on state control over property rights, defined the legal and conceptual enframing of the waterfront as infrastructure. This was done often in opposition from property owners. Through the creation of a plan and the imposition of legal rights, and greater responsibly on the part of municipal officers the City of New York expanded its control over urban space and infrastructural provision. These
land-use controls were the key conceptual enframements of the waterfront as infrastructural place.

In Chapter Five, I build on the creation of the administrative basis of waterfront property rights, to examine how the DOD enframed the waterfront through the acquisition of waterfront property from private owners between 1870 and 1898. I explore how notions of the public good, which were prerequisite conditions for state takings of property, were reframed as equivalent to the needs of the industrial economy and large-scale transportation shipping. Pitted against property capitalists, New York’s officials worked to produce an infrastructural landscape along the water that would allow for the accumulation of capital and reproduction of capitalism in the city.

In Chapter Six, I explore how the work of planning, constructing, and operating the piers themselves brought state and private actors into conflict and negotiation with one another at a number of scales. This chapter takes a step into the waters of the Port themselves: it explores the issues of the pierhead lines in the Hudson River. These legal and technical boundaries set by the Army Corps of Engineers were both necessary and deeply threatening to the commercial interests of the Port establishment and transatlantic shippers. Local officials of the DOD and other members of the city’s growth coalition found themselves in a decades-long battle with officials, experts and private actors in neighbouring New Jersey and Washington, D.C. over the length of piers in the harbour.

Finally, I conclude in Chapter Seven with a look at the beginnings of the new era of Port Authority governance. I examine how these institutional changes raise a number of questions that should be considered for future research. I demonstrate how this dissertation links to larger questions and considerations in the field of urban geography, STS, and other related literatures.
Chapter 2: Constructing a Framework at the Water’s Edge: Law, Property, and Enframing, 1686-1838

Introduction

On April 27th, 1686, Thomas Dongan, New York’s Governor, issued a document that effectively created the City of New York. The Dongan Charter, as the document became known, set the stage for the city’s relationship with the construction, operation, and management of the waterfront over the following two centuries. As the first Euro-American law explicitly dealing with Manhattan’s waterfront, the Dongan Charter was the foundation for the legal and material transformation of the Port of New York over the next 200 years. In this chapter, I examine how the charter shaped how the property regimes were created, changed, and fought over as part of the legal enframenement of New York’s waterfront. By the nineteenth century this enframenement would allow state and private actors to categorize the land along the Hudson and East River shorelines as property separate from other urban parcels. Between the late seventeenth and early nineteenth centuries this waterfront space would be used to satisfy the needs of merchant landowners under the commercial capitalism of the colonial and early-republican eras. To use the waterfront in this manner would create a set of properties that were distinctly different from the parcels in the rest of the city. This property regime would be the foundation for the infrastructural place during the industrial era.

The waterfront of the colonial and commercial eras, from 1686 to 1838, was a mixed-use space, hosting all sorts of functions from shipping firms and oyster barges to abattoirs and rendering plants. Characterized by a relatively slow pace of circulation and a lack of formalized technological or engineering knowledge around shipping or harbor facilities, it was not yet infrastructural, which is defined by an exclusive governance of space as a site of the circulation and flow of particular phenomena. Still, the needs of waterfront commerce encouraged state and private actors to work to enframe the waterfront as separate from the rest of the city. They would do this via the creation of waterfront property regimes, a set of legal rules and practices that defined who owned the land next to and under water, what owners could do with that land, and the forms that ownership took. This legal regime was part of a key set of practices used to enframe the waterfront as a

place ruled according to the needs of commercial-era capitalists. Key to this legal property regime was the creation of a separate category of property that would allow the waterfront to operate as a space of commerce, separate from the rest of the city.²

Early colonial efforts to construct a legal and conceptual framework around the waterfront, including lands under water, known as water lots, demonstrate the ongoing process of enframing New York City’s riverfronts that began with European colonization. Over the 150 years of tumultuous change following the establishment of permanent British rule in 1686, New York’s waterfront property regime would both be altered by and influence larger changes to the city’s political, economic and spatial structures. This was done through court decisions and legislation that focused on the definitions and rights associated with private property. Over 200 years, Manhattan’s water lots were created out of indigenous land and later transformed from a type of property barely distinguished from other privately-held parcels to a more strictly controlled category of property geared to a single use, that is infrastructural place. This new category of waterfront land was separated from other urban property parcels in ways which supported the shipping and rent-seeking needs of expanding commercial capitalism after American independence in 1783.

I argue in this chapter that key changes to both the understanding of waterfront property as distinct from other urban land parcels, and the material needs of merchants and others that emerged in the nineteenth century created a legal category of property that was privately owned but publicly oriented. The legal controls on waterfront property that slowly appeared after 1686 and came into being by the early nineteenth century allowed state managers and private owners to gain significant power over the waterfront and the idea of what was in the best interests of the public good. This was analogous with the needs of the most dominant form of capital over this period. The waterfront, as a legally separate space, became, under commercial capitalism, a type of public good aimed at supporting the needs of commercial-era capitalists involved in water-borne trade.

This chapter follows the transformation of the waterfront from an undeveloped shoreline in 1686 at the beginning of colonization to Manhattan’s commercial-era port characterized by privately-

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owned wooden piers and wharves girding an expanded and infilled island. I begin this chapter by exploring how the colonial waterfront was constructed and functioned. This is followed by a discussion of how the new State of New York built upon colonial property relations through a series of laws beginning in 1791 to enframe the waterfront as a separate form of property that was geared towards commercial exchange and circulation. Next, I explore the changes that followed New York’s most prodigious economic boom up to that point, instigated by the inauguration of packet service in 1818 and the opening of the Erie Canal in 1825. I focus on the effects this boom had on waterfront development, and the changing nature of political economic power geometries on the Hudson River shoreline.

Colonial Charters and Property Relations

When Governor Thomas Dongan issued his 1686 Charter, he created the still extant legal foundations for New York City. It named the city as such and created a set of official positions including the Mayor and Common Council. Dongan also gave New York the rights and responsibilities typically associated with municipalities, such as taxation and basic service provision. Crucially, it also set up the city as the ultimate owner and grantor of Manhattan’s waterfront property, including lands under water, a right formerly reserved to the Crown. The Dongan Charter, along with the later issued Montgomerie Charter, was one of two foundational documents which would underpin the building and operation of the modern port in the centuries that followed.

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3 Robert Greenhalgh Albion, *The Rise of New York Port: 1815-1860* (Hamden, CT: Archon Books, 1961); Packet service refers to the regularly scheduled sailing of ships by the same owner. Prior to the inauguration of packet service between Liverpool and New York by a group of Long Island Quakers in 1818, passengers and shippers would have to wait until ships were entirely full to leave port, resulting in large delays and uncertainties.

4 Europeans first entered present-day New York in 1609, with permanent Dutch settlement on Manhattan beginning in 1624. New Amsterdam, as it was then known, was ruled first as a possession of the Dutch West Indies Company and was later granted limited self-rule in 1652. British rule began in 1664 and continued, with a brief return to Dutch ownership during 1673. Prior to 1686 the City was governed, as it had been under the Dutch, directly by colonial authorities, who ruled through appointed positions in New York. See George J. Lankevich, *American Metropolis: A History of New York City* (New York: New York University Press, 1998), 15-30.

5 Throughout this dissertation I use the terms City of New York and New York City interchangeably. Its official name, the Municipal Corporation of the City of New York is rarely used except in legalese. The positions of Mayor and Common Council continue to exist today as the Mayor of New York City, and New York City’s City Council respectively.
The Dongan Charter set up an official relationship between the city and its rivers, giving officials the right to:

- take in, fill and make up and lay out all and singular the land and ground in and about the said city and Island Manhattans and the same to build upon or make use of in any other manner or way as to them shall seem fit as far into the rivers thereof, and that encompass the same, as low water mark aforesaid.6

Issued shortly after the British took permanent control over what had been the colony of New Netherlands, and less than a century after the Dutch settled the city of New Amsterdam on land inhabited by the Lenape people, the Dongan Charter would shape the property relations of New York’s waterfront over the next 150 years.

The purpose of the Dongan Charter’s waterfront provisions were clear: to give the city the means to grant land to private parties who would construct piers, wharves, and slips necessary for the growth of commerce and the city.7 For Dongan and his administration it was obvious that the paucity of waterfront structures to be found along the Manhattan shoreline during the early colonial period would hinder the growth of the city’s water-based trade. While a rickety wooden pier had been built in New Amsterdam in 1624, very few were built over the next few decades. It took thirty years before the Dutch built the first bulkhead, a requirement for the construction of extensive pier systems.8 This changed after 1686 when the city of New York used its Dongan-granted ownership of the land underwater to grant water lots to several individuals, families, and groups. It began on the East River, where owners such as the Rutgers family, early Dutch colonists whose brewery business would make them one of the wealthiest in the colonies, began to slowly construct piers and wharves on their grants to service their growing business interests. On the Hudson River, no land was granted until 1698.9

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8 A bulkhead is a structure that separates land from the water, typically made of wood ‘cribs’ filled in with rocks, stones, or concrete. It is a stable line beyond which piers and wharves are built. Bulkheads are particularly important in straightening out the shoreline, making the orderly construction of piers possible and easier; Carl W. Condit, *The Port of New York*, vol. 1 (Chicago: University of Chicago Press, 1980), 13-16.
9 The East River makes up the eastern shore of Manhattan Island, and the western shores of present-day Brooklyn and Queens. Though named a river, it is actually a tidal strait of the Atlantic Ocean. Since this was the seaward side of the island, it was the focus of much of the seventeenth and eighteenth-century waterfront trade; the Hudson River was also called the North River, an Anglicization of its Dutch name, well into the twentieth century. It is a tidal river as far north as Albany, New York. Throughout this dissertation I refer to it interchangeably as both the Hudson and...
As British dominance of North America and the Atlantic trade grew throughout the seventeenth and early eighteenth centuries, so did their need for waterfront accommodation. Larger sailing ships and more frequent trips meant that more numerous and longer piers were required for the continued growth of the port’s commerce. Up until the 1730s, most of the large transatlantic sailing ships anchored in deeper water off Manhattan’s shore. There, they were met by periaguas, smaller ships used to ferry passengers and goods to the docks along the East River. The result, as James Fenimore Cooper recounts in his British Manhattan-set novel Water-Witch, was a chaotic and dangerous scene, with the small cargo and passenger-laden periaguas deftly manoeuvring amidst fast cutters, hulking man-o-wars, and slow-paced schooners as gracefully as “the best dancer in the island… jigging under the music of [a] three string fiddle!”10 As shipping volume grew after 1710, however, this system became too expensive, time consuming, and dangerous. New piers would be needed if the colonial merchants were to continue to prosper.

By the 1720s New York’s economic and population growth required a new charter to deal with the issues arising out of the municipal organization set up by the Dongan Charter. In 1730, Governor John Montgomerie issued the second charter dealing with New York City’s relationship to the waterfront. The Montgomerie Charter made New York City a municipal corporation, and thus the owner of all public real estate in Manhattan.11 It built on the terms set out by the Dongan Charter, extending the public ownership of lands to 400 feet beyond the low-water mark around the southern two thirds of Manhattan (See Figure 2.1).12 With this charter, the city now owned virtually all the usable water lots along the Hudson and East rivers. Over the next 100 years this ownership would allow for the construction of piers long enough and slips sufficiently deep for new sailing ships.

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10 James Fenimore Cooper, The Water-Witch (London: Richard Bentley, 1850), 41. A periagua is a small coastal vessel that looks like a cross between a canoe and flat-bottomed boat. Powered by sails, these were commonly used in harbours and coastal waters from Maine to Brazil. Cutters were larger, oceanic sailing ships, man-o-wars were the largest class of European war ships, and schooners were the workhorses of the Atlantic.


12 Buttenwieser, Manhattan Water-Bound, 34.
Figure 2.1: Colonial New York’s Waterfront, 1686-1783

Source: Department of Docks, Map showing the high and low water mark and the original city grants of lands under water made to various parties from 1666 to 1873. Lionel Pincus and Princess Firyal Map Division, New York Public Library [NYPL], 1873; NYC OpenData, NYC Street Centreline, 2017; Plan of the city of New York, 1767. Art and Picture Collection, NYPL, 1894.
Together, the Dongan and Montgomerie charters nominally allowed the city to affect control over the private construction of much needed piers, wharves, and slips for the service of colonial trade via their granting as private property. Public ownership over all waterfront property encouraged city officials, who were drawn from or closely aligned with the Dutch, British, and Huguenot landowning families, to grant land to their allies in the wealthy mercantile class as private property. Reflecting on this period, real-estate lawyer Simon Stevens, who represented numerous water lot owners in their dealings with the City of New York in the 1880s, remarked that this was the era when the city “made many grants, to divers private persons…with the right to make wharves, and take wharfage, dockage, cranage, emoluments, etc. accruing therefrom.” The long-term effect of this public-private partnership, as Stevens noted, was to promote the city’s waterfront and commercial development via the expansion of mercantile-proprietor holdings on the waterfront.

Not surprisingly, waterfront property was granted almost exclusively to wealthy and powerful families, who largely built on it as they saw fit. Ownership was typified by families such as the Waltons, British colonists who built an extensive shipyard on the East River and whose large fleet plied a monopoly trade with Florida and the Spanish Caribbean granted by British authorities. Despite the activities of those such as the Waltons, however, pier construction was undertaken largely in a piecemeal and lethargic fashion. Other mercantile families such as the Huguenot Lispenards and Delanceys mostly did not develop their waterfront lands.

The colonial waterfront was, unequivocally, once granted, private urban property. The Dongan and Montgomerie charters’ conveyance of the waterfront to New York City officials served to increase the rents of wealthy families and to add to public coffers by facilitating the expansion of early commercial capitalism. Between 1686 and 1783, water-lot owners operated their grants as

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13 Buttenwieser, Manhattan Water-Bound, 34-7.
14 Huguenots were French Protestants who were expelled from, and later fled, France for North America and elsewhere. They made up one of the most culturally and economically significant groups of early settlers to New Amsterdam and New York. Lankevich, American Metropolis, 15-30.
15 Simon Stevens, “Letter to the Chamber of Commerce Relative to the Water Front of the City of New York” (Letter, May 6, 1885), 2, Hudson River Waterfront Improvement Collection [HRWIC], New York Historical Society [NYHS].
16 For an accessible and comprehensive run-down of this relationship between water lots, wealthy families and waterfront infrastructure during this period, see Schlichter, Waterfront Manhattan, Chapter 2.
17 Hartog, Public Property and Private Power, 50; Buttenwieser, Manhattan Water-Bound; Schlichter, Waterfront Manhattan; Carmody, Thomas. Grants of Land under Water by State of New York, with History and Interpretation Thereof. New York: Department of Docks, 1911, 4.
virtually indistinguishable from their upland properties.\textsuperscript{18} The Rutgers family for instance, invested almost nothing into the construction of piers or wharves on its huge plot of waterfront land. The family preferred to operate their lots as part of their farm and brewery rather than as wharf property geared to waterborne activities. For New York’s ruling class of wealthy landowning merchants, the waterfront mattered mainly as a source of rent and real-estate speculation. During the colonial period, the waterfront power geometry and the city’s political-economic life was dominated by the networks and actors involved in the imperial trade.

New York’s commercial ruling class, almost all of whom were merchants, consisted of two main groups. The first was made up of the wealthiest and most powerful English, Dutch, and Huguenot traders. Merchants from families such as the Moores, Roosevelts, and Delanceys were engaged in capital-intensive transatlantic trade. These mercantile families, who were also the largest landowners in the city, typically owned their own ships and wharves and carried out trade directly with British firms in London or via the West Indies and other British colonies. The other group, a much larger number of middling merchants of Huguenot and English ancestry, were engaged in the coastal and interior trade. These merchants worked with much smaller sums of money, typically buying available space on ships, trading directly with Albany, Perth Amboy, New Jersey, or Boston rather than London.\textsuperscript{19} Together, these two groups dominated the ownership of plots on the river.

The 100 years that New York spent under British rule was a period of slow and steady growth in trade, commerce, and population. For both historians and contemporary observers, the slow rate was tied to the mercantilist system, which restricted even New York’s most powerful merchants from trading openly with foreign ports and restricted trade to only a small range of commodities and finished goods. Financially and commercially, New York merchants were subordinate to the regulations set up by British colonial officials. They had to rely on London for credit and specie. Moreover, Britain was the sole available source for many of the manufactured goods they imported and the only legal market for the raw material they exported. For the smaller traders who relied on coastal shipping, trade was largely concentrated to the transshipment of smaller cargoes such as furs and cargo, or, often, smuggling of high-duty items between colonies.\textsuperscript{20}

\textsuperscript{18} Upland refers to the plots of land adjacent to water lots.


\textsuperscript{20} Matson, \textit{Merchants & Empire} 51–67.
and operation of the waterfront, dominated by the wealthiest traders, was reflected in its legal enframent during this period.

The legal and material elements of New York’s property relations before independence ensured that the waterfront operated as a space both of rent seeking and slow circulation by colonial-era property grantees driven by the dictates of the dominant commercial and land-based capitalists. The waterfront was fundamentally private space. As colonial families such as the Waltons, Lispenards, or Delanceys dominated mercantile trade, their reliance on the waterfront land they owned for both rent and as a site for the transportation of their goods was not a problem for the overall economy of the city. The manner in which waterfront property was controlled by these elite mercantile families reflected the dominant power structure of the city.

Throughout the colonial period New York's merchants’ power and influence expanded over their hinterland, which thanks to the Hudson and other waterways, extended as far north as Montreal and as far south as Perth Amboy in New Jersey. Despite the growing scale of domestic trade, the most profitable commerce remained the transatlantic exchange. By the end of the Seven Years War in 1763 however, growing regulation, taxation, and increasing constraints on oceangoing trade were having a severe impact on Manhattan’s waterfront. While the trade with London was largely unaffected by the Stamp Acts and other measures meant to pay for British rule in North America, other laws influenced operations on the waterfront. Increasingly strict constraints on trade between colonies in North America and with the West Indies placed a great deal of pressure on smaller merchants who relied on the coastal trade in New York.21 The combined result of these economic and governmental pressures would be the American Revolution, which began in 1776.

On the eve of revolution, New York's business community was split evenly between three camps. The first were those who wanted the free trade that independence promised and the ability to expand their trade in the hinterlands of nearby New England, Pennsylvania, and the South. This group was largely made up of small- to medium-sized traders who had neither the means nor the ability to evade high import duties and taxes imposed by Britain, and thus had every reason to support independence. The second group, represented by families such as the Delanceys, who were closely connected to London for credit, markets, and goods for import, and made a

21 See Matson, Merchants & Empire.
great deal of profits on the provisioning and transportation of British troops during the Seven Years War, were staunch Tories who opposed independence. The third group, by far the largest, was made up of both elites and small traders, particularly amongst the Dutch and Huguenot populations, who stayed conspicuously neutral in the runup to the war. The war would have a significant impact on this latter group of merchants, the political economy of the city writ large, and on the waterfront property regime.

Modernizing Colonial Law in Republican New York, 1783-1815

While the Declaration of Independence proclaimed New York’s new status on July 4th, 1776, the city remained occupied by British forces for almost the entirety of the Revolutionary War. Two years after the Treaty of Paris was signed, ending the war in 1783, New York began its decade long stint as the capital of the United States. The period following independence was tumultuous. Life changed considerably for all groups of merchants after the cessation of hostilities. Thousands of Tory merchants in New York and its surrounding hinterland left, seeking refuge in Canada, the West Indies, and Britain. The most noticeable change in Manhattan was the confiscation of land from these Tory families, such as the Delancey's, and the purchase of their water lots by a large group of smaller-scale merchants and artisans who sought waterfront property in post-war New York.

For New York's remaining merchants, the war's most lasting impact was the reconfiguration of commercial capitalism in the city. No longer legally and economically subservient to London, and without the captive markets of Canada and the West Indies, New York's property-owning merchant families were forced to create new networks of trade, finance, and transportation within the fledgling United States and abroad. This would have a massive effect on the character of New York's port, and the merchants who traded there, making them the centre of new networks that extended as near as Albany and as far as China. The waterfront property regime would be similarly changed over the course of the next half century. Building on the Dongan and Montgomerie Charters, New York State legislators transformed the regime’s foundational laws through legislative moves over the course of the early nineteenth century that would strengthen

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its enframement as a distinct space within the city as the need for more berths for non-elite, local, and fishing ships continued to grow.

In the colonial era, water lots were private property, with virtually unlimited rights of use by their owners. By 1815, at the height of republican era commercial capitalism, New York’s waterfront property had become more strictly controlled and explicitly managed as commercial spaces, though still private property. This transformation of the waterfront property regime reflected the changing form and expansion of capital circulation as colonial-era property and economic relations were overtaken by the expansion of commercial-capitalist relations into the American interior, and the development of New York as the country’s centre of global networks of trade. On a practical level these legislative changes were part of efforts by politicians in Albany, the state capital, and Manhattan to expand the number and size of piers and wharves in the city as the number and types of trade flows began to supplant those previously dominated by the colonial mercantile elite. At the same time, property owners and their representatives in the state sought to safeguard the investments and rents of the merchant-proprietor families who had benefitted from grants since 1686.24

As colonial trade networks were severed by British laws that forbade American ships from trading with British and colonial ports, merchants expanded their existing coastal and hinterland trade. The ongoing expansion of Euro-American settlement in the city’s hinterland helped enrichen the city’s merchants and pushed the reach of New York commercial capitalists farther into the interior.25 This included establishing new and more frequent coastal sailings with the south, particularly to Charleston, making New York one of the most important cotton and tobacco exporting ports in the United States. Similarly, westward settlement in Upstate New York created a rich and productive agricultural hinterland that was easily accessible overland from the Hudson. Perhaps the most notable activity in this period was the move of the elite traders to open up commerce with foreign ports. In particular, the China trade became a key part of New York's expanding commercial network, pioneered by the Astor family, who traded fur, ginseng, and other goods for Chinese luxury items and silver from their Hudson River piers. The result, by the first decades of American Independence, was that New York had strengthened its domestic trade and

had become a key node in a new, international network of commerce.²⁶

This expansion of trade inland and internationally extended the reach of commercial capitalism in the United States, with New York's merchants at its centre. New York's expanding and strengthening trade ties with its hinterland was accompanied by a corresponding set of changing legal and customary rules that allowed for capitalist relations of exchange, particularly the use of modern credit systems and increasing use of waged labour.²⁷ This was typified most visibly by the founding of one of the first banks in the United States in 1784. The Bank of New York, which was a joint project of elites, mainly merchants and officials of the fledgling federal state, then headquartered in New York City, was instrumental in the issuance of the first independent American currency.²⁸ As a result, American credit systems and the means of exchange were, from the beginning of the United States, centred on New York City. The establishment of the bank by those who had very strong connections to the trade on the East River wharves allowed New York's merchants to carry out faster, easier transactions, thus increasing the rate of growth for the city's economy as a whole, and its carrying trade in particular.²⁹

The effects of this economic growth could be seen in the changing enframement of waterfront property rights. Property rights, particularly as they apply to real property such as the water lots considered here, are first and foremost boundary making devices. Notions of property ownership delineate what is mine and yours or what is public and private. In the case of real property, these lines are spatialized in ways which map onto the urban fabric and have material consequences.³⁰ Property values, the shape and appearance of the built form, and the types of activities which occur in space are all reflections of legally defined categories of property. How these boundaries between public and private (and therefore private property rights in toto) are constructed is not stable. These boundaries shift according to the spatial needs of dominant regimes of accumula-

²⁹ The carrying trade refers mainly to the transshipment of American resource goods from the interior or southern United States to New York City controlled mainly by smaller-scale merchants, where goods were transferred to transatlantic or other international-bound ships owned by larger-scale, more powerful merchants. Steven H. Jaffe and Jessica Lautin, *Capital of Capital: Money, Banking and Power in New York City: 1784-2012* (New York: Columbia University Press, 2014), 16.
tion. This was particularly noticeable during the early nineteenth century, as the rise of cities and the expansion of commercial capitalism across the common law world changed private property rights considerably.

One important change in private property rights over the nineteenth century was the recognition of the externalities of property use. This was, in effect, a legislative and judicial recognition of what had long been common sense: activities carried out on private property affect adjacent plots. Smells, sights, and other externalities – both positive and negative – became increasingly recognized as placing limits on the use and value of privately held property. This was more common as the expansion of capitalist relations of production made issues of ownership and externalities more problematic, which in turn required some form of increased state intervention.

Beginning in the post-independence period, the State of New York passed several laws that applied to one aspect or another of the property regime that had come to shape and control the city’s waterfront. Acts passed in 1791, 1792, 1798, 1802, and 1807 all dealt with issues of New York’s waterfront, including with questions of who had the power to build piers, the amount wharf owners could charge in fees, and the powers of the state to regulate the piers and wharves. Taken individually, these laws appear to be little more than a response to intensive lobbying by the City of New York as it attempted to extend its own power over the waterfront. Taken together, however, they point to the creation of a regime that expanded the city’s right to control what happened with underwater land as originally laid down in the Dongan Charter. State legislators and Manhattan lobbyists leveraged the original rights contained in those colonial charters to ensure that the Municipal Corporation of New York would have the right and responsibility to direct the development of the waterfront to include the physical structures needed to serve commercial capitalism.

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32 Common law refers to those countries whose legal system is based on precedent, rather than a civil code. This system was largely developed in Britain and its former colonies, such as the United States. Within these jurisdictions, judicial decisions evolve over time, and derive from a set of earlier court cases. Waterfront property access law in the United States, for example, can be traced back to decisions made in fourteenth century Britain. See Kenneth J. Vandevelde, “The New Property of the Nineteenth Century: The Development of the Modern Concept of Property,” *Buffalo Law Review* 29, no. 2 (1980): 325–68.
More than just the Charters themselves, it was the framing of the waterfront as a particular kind of property, one that was devoted solely or most importantly to commerce writ large, that would be central to these legal reforms. The importance of the colonial charters figured heavily in the discourse surrounding the waterfront laws. Writing in 1862, for example, a committee of state legislators investigating illegal infill in Manhattan along the Hudson River were clear about the intent of the original charters:

That nothing should be wanting to enable the corporation to fully enjoy such rights, properties, franchises, and full and absolute control over the regulation and laying out of all streets within her limits and their form and extent into rivers and the control of all wharves, piers, and slips which she might judge necessary or best calculated to promote the interests of commerce [italics in original].

The first New York State law dealing with Manhattan’s waterfront was passed by the legislature on October 1st, 1791. In it, the state formally gave the City of New York the power to take any land necessary to regulate “streets, wharves, and slips” in order to “best promote the interests of commerce.” The state legislature reproduced its legal position as supreme power over property, while delegating a level of responsibility to New York City officials that legislators were unwilling and, in every practical sense, unable, to carry out. Legislators were often from places distant to the city, with little practical knowledge for how the waterfront should best be governed, and with little inclination to spend the money necessary to govern effectively. This pattern of downloading responsibility for local issues such as the waterfront would continue throughout the nineteenth century, reinforcing the power held by the city as a municipal corporation.

The 1791 act gave the city the right to intervene in various ways with privately held land within municipal boundaries. It did this by legally enframing these parcels as different from other types of property. One of the most notable ways that waterfront property was distinguished from other types was to allow the city to take land for the construction of streets and piers whenever the corporation considered it necessary. This law pointed to the beginnings of the recognition by New York’s ruling class of the collective nature of the waterfront for the needs of commerce

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precisely as this ruling class was increasingly being filled with small merchants without large land holdings necessary for extensive pier or wharf construction. Individual rights had to be subordinated to those of the public good, a notion that supported New York’s position as the center of American international trade.

In 1798, another waterfront-related act resulted from the lobbying from the Mayor and Common Council of New York. City officials were unhappy with the uneven shorelines that the piecemeal grants of earlier years had produced, especially on the East River, which made it difficult to build uniform length piers, thus increasing shipping costs. Moreover, the city had expressed concern over the legal nature of the grants given under the Dongan and Montgomerie charters. While the 1791 law alluded to the ability of the city to take private land, it made no mention of forcing alterations to waterfront property such as a shore straightening project would entail. The legal language underpinning the colonial grants gave rise to doubts amongst officials of their ability to force grant-holders to build streets and wharves as these officials deemed necessary for the ‘public good.’ They pleaded with the state for an explicit clarification of their powers on the waterfront.38

The new law was also a reflection of New York’s post-war growth in trade. By the late 1790s, New York’s merchant trade had fully recovered from the war; in the twelve years between 1789 and 1801 import duties jumped from less than $150,000 to more than $500,000 annually, while exports increased in value from $2,500,000 to $20,000,000.39 The “Act Concerning Certain Streets Wharfs (sic) and Piers, and the Alms House and Bridewell in the City of New York” was passed on April 3rd, 1798, greatly expanding the city’s power to shape its own waterfront and to encourage commercial growth. City officials gained the power to build on West and South Streets, “in front of those parts of the…city which adjoin to the said rivers…and as the buildings of said city shall be further extended along the said rivers, it shall and may be lawful…to lengthen and extend the said streets and wharves [italics in original]”.40 This expanded the original Montgomerie Charter grant of 400 feet beyond the low-water mark by allowing for the construction of infill or piers beyond this point – an important consideration with the growth of trade and for the construction of a waterfront capable of accommodating the city’s commerce.

39 Manhattan Bank, Ships and Shipping of Old New York, 33.
40 “An Act Concerning Certain Streets Wharfs and Piers,” 256.
The 1798 act represented a major expansion of the city’s powers to limit private-property rights on the waterfront. In it, the city gained the right to build and make improvements on private property and to bill the owners for any such work. The city now had the ability, at least on paper, to intervene in the use and form of private real property according to a street plan that itself had devised. In explicitly limiting this power to the riverfront sides of West and South Streets, the act solidified the boundaries of the waterfront as a separate category of property. This categorization of property is an example of how enframing operates.

Legally enframing the waterfront as categorically distinct from non-waterfront property allowed city officials to deal with water lots differently than they did other urban land. Most importantly perhaps, this enframement permitted city officials to limit private property rights, which were considered to be restricting both the collective needs of commercial development and the ability of the city to extract revenue from that development. In particular, the city was concerned about the growing need for deeper slips and longer piers to serve the larger ships that were necessary to capture a larger share for the city of the growing global trade. This need became abundantly clear by the early 1800s. In 1783, the Empress of China, which was 360 tonnes, was one of the largest ships in the harbour. By 1803, the Astors had commissioned a ship, the Beaver, which weighed 427 tonnes. The port needed to be rebuilt to accommodate this growing scale of trade and ships. It was becoming increasingly evident to the city’s transatlantic trade that this could only be achieved through government regulation of waterfront property.

Three years after the act targeting West and South Streets was passed, the Legislature voted to create “An Act for Regulating the buildings, streets, wharves, and slips in the City of New York.” This act furthered the notion of the waterfront as a separate category of urban property. It allowed the city to hire surveyors to enforce the straightening of the coastline the 1798 act was meant to fix, targeting the areas north of Wall Street that were still largely considered “primitive” and gave the city the right to hold water-lot owners responsible for the maintenance and repair of piers. As with many of the waterfront laws passed during the pre-canal era, the 1801 act focused on expanding the powers of the state while reiterating a commitment to privately held, if

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41 “An Act Concerning Certain Streets Wharfs and Piers,” 257.
42 Manhattan Bank, Ships and Shipping of Old New York, 33.
increasingly publicly scrutinized, waterfront property.

These laws reflected the continuing push by a group of interests for some sort of state oversight on the waterfront. Local officials and large-scale merchants continued to be concerned with the lack of adequate pier or wharf space provided through the grants and sought to increase regulation and the amount of waterfront space available for the increasing numbers of ships in the harbor and the growing volume of shipping passing through New York City. Seeking to fix both these issues once again, the state Legislature passed the 1807 act, a wide-ranging statute which touched virtually on every element of the material aspects of transportation in Manhattan, including streets, roads, and piers. This act both redefined existing and created new regulations of the waterfront. At the same that it increased public control over the port it also enshrined the ability of the mercantile families who owned much of the waterfront to continue profiting from rents on a physically expanding site. This demonstrated the continual social and political power of these families.

Chapter 115 of the Laws of 1807 expanded the boundaries of the Dongan and Montgomerie charters’ grants well beyond the original colonial-era nucleus of lower Manhattan (See Figure 2.1). As the city grew beyond this area, the piers built on the original grants, which had ended on the Hudson in present day SoHo and on the East River where the Williamsburg Bridge stands today, were becoming too rickety and crowded for the increasing numbers of ships plying Manhattan’s port. By 1807, newspapers such as the Commercial Advertiser were advertising numerous sailings and landings each day. The Monday, May 5th, 1807, edition, for example, listed more than twenty ships. Some were bound for Europe, such as the “fine, staunch vessel,” Passenger, docked at the Pine Street wharf and headed to Hamburg, or the Liverpool-bound Eleanor, a “fast sailing and substantial vessel.” Others, such as the “very fast sailing schooner” Richmond, tied up at the Coffee House Slip on the East River, were headed for more nearby ports such as Norfolk, Virginia. These ships vied for space with those from the Caribbean, Europe, Latin America, and China who unloaded goods including Nicaraguan wood, Irish linen, Chinese tea, and French brandy.45

The 1807 Act instructed the New York State Land Commissioner’s office to issue letters patent conferring to the City of New York all lands underwater, from 400 feet beyond the low water-

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mark from the Montgomerie grant boundaries up to the Harlem River. The Legislature made it clear that this was to encourage the construction of piers, slips, and wharves north of the built up city. Officials saw that if the city was to encourage and control the growth of its waterfront it was “essential that the right to the land under water, below low water mark, should be vested in the corporation of the city of New York.” Owning the right to this land would allow local municipal officials to place legal covenants requiring construction of piers on water lot grants, and to give them out to parties they, rather than the State Commissioner of Land, chose. This would, ostensibly, allow for the extension of ownership along social and practical lines the city saw as being most relevant and profitable for the existing dominant mode of accumulation during the commercial era.

While the law expanded city control over the ownership of the waterfront, State legislators, drawn largely from the same property owning class as the Manhattan merchants, attempted to ensure that existing landowners would benefit from the changes imposed on the waterfront property regime. This reflected the continued power of landowning families, who had large uptown holdings granted in the colonial era and immediate post-independence years. The 1807 act could have conceivably allowed New York to grant water lots in front of those holdings, thus limiting the possibility for expansion and profitability. While the act was meant to increase the availability of land on which to build piers, the continued power of the propertied merchants well into the commercial era is illustrated by a requirement that immediate upland owners get the right of first refusal on the sale of any water lots.

Despite this compromise to landowning capital, the act extended government power over waterfront property. It named the Commissioner of Streets and Roads, an appointed position, as the officer in charge of ensuring that improvements were carried out as necessary on piers and wharves. It gave the commissioner the right to force owners to build and repair their property, though with little in the way of teeth, this enforcement was rarely carried out. Indeed, almost

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46 The State Land Commissioner was an office of the State Of New York responsible for granting publicly owned land to private parties following independence. In effect, they had final say over all land grants outside of Manhattan; “An Act Relative to Improvements, Touching the Laying out of Streets and Roads in the City of New-York and for Other Purposes,” in Chapter 115, Laws of 1807, New York State Legislature, 1807, 132.
47 “An Act Relative to Improvements,” 130.
49 “An Act Relative to Improvements,” 130.
50 Buttenwieser, Manhattan Water-Bound.
no regulation appears to have been imposed on waterfront owners throughout this period. Instead, the 1807 act’s real significance was in the massive expansion of municipal ownership over water lots, and the creation of an explicit, institutional ability to deal with the waterfront as a pre-infrastructural space.

Looking back at this period from the vantage of 1885, Simon Stevens saw the 1807 act as the moment when the City of New York’s “dominion over the lands under water was complete.” By the early nineteenth century, the State of New York had both reaffirmed and altered the legal framework established by the Crown of municipal ownership of the waterfront for commerce. They did so by passing legislation that extended the city’s ownership to the entire island of Manhattan, extended their power to take and alter land, and enshrined a formal state apparatus of waterfront governance. While the power was there, municipal officials were largely lacking in funds or political will to make the necessary changes. This reflected the continued power of propertied merchants in the commercial-era urban growth coalition. The passage of the 1807 act would set a pattern of legislative advancement of state power over the form and use of Manhattan’s waterfront that continued into the following decades. As the structure of the economy changed ever more rapidly with the introduction of packet shipping, the opening of the Erie Canal, and the westward expansion of American colonialism, this pattern would make the waterfront property regime a malleable structure underpinning the capitalist city.

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51 See Buttenwieser, *Manhattan Water-Bound* for an excellent run-down of the pre-Civil War regulation of private piers, or lack thereof during this period.
52 Stevens, “Letter to the Chamber of Commerce Relative to the Water Front of the City of New York,” 2.
Reacting to the Boom: The Packet and Canal Eras, 1818-1838

In 1817 New York surpassed Boston to become the largest seaport in the United States. In the years that followed, the Port of New York would see tremendous changes: shipping volume increased exponentially, the sorts of goods and passengers moving through it shifted, and the kinds of ships that tied up on its wharves were of an altogether different type. The requirements for the successful circulation of capital also changed: as ships grew larger, trade volumes higher and sailings more frequent, officials and capitalists alike called attention to the inadequacy of the existing waterfront. For the city’s political and economic elites, the only realistic answer was to further expand state power over the waterfront via the property regime and to devise institutions for governing the waterfront.

Robert Albion, the pioneering maritime historian, locates the beginning of the Port of New York’s dominance at the inauguration of the Black Baller’s packet service to Liverpool on January 5th, 1818, and the subsequent capture of the all-important Atlantic shuttle trade by the city’s shippers. The most prodigious era of growth in port traffic, however, is typically associated with the opening of the Erie Canal. As early as 1815, New York was planned as a central node in a radiating network of canals, including not just the Erie, but also the Delaware and Hudson and Morris Canals. These would connect the city via waterways to the agricultural products of the Great Lakes, the anthracite coal fields of Northeastern Pennsylvania, and thence to the rest of the world. New York’s proximity to the open ocean, its relatively deep channel access, low tidal variations, and mainly ice-free waters made it a natural transhipment point for a variety of routes. When the first barge left Buffalo for Albany along the Erie Canal on November 4th, 1825, the city stood on the precipice of an era of unparalleled growth in waterfront commerce.

Trade in Manhattan continued to grow in leaps and bounds after 1825. In 1830, a quarter of all of the United States’ imports, valued at $19 million, moved through New York. Canal barges, towed down the Hudson from Albany by small paddle-steamships, crowded along Manhattan’s western shore (See Figure 2.2). Coastal steamers plying southern routes connected New

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55 Condit, The Port of New York, 16.
York to Charleston and New Orleans, while those going the opposite direction carried on a robust trade with Boston, Quebec City, and Montreal. These smaller ships mingled on Manhattan’s eastern waterfront with so many of the tall sailing ships working the lucrative Atlantic Shuttle that they appeared as a dense forest of masts and foresails to those across the East River in Brooklyn (See Figure 2.3). The waterfront hummed with this massive increase in commerce.

Despite the obvious importance of the trade to the city’s economic growth, ships continued to dock at wharves that were “of very simple construction.” Even with the passage of legislation in the early nineteenth century, and the subsequent legal enframedment of the waterfront, the city continued to use its power to shape the waterfront sparingly, if at all. By the 1830s, officials and merchants alike expressed a great deal of concern over the amount of congestion caused by the lack of good piers. Indeed, a Municipal Report written by officials in 1836, excerpted in an 1849 Federal Treasury Department report on American shipping, explicitly singled out the inadequacy of Manhattan’s waterfront as a key barrier to national economic growth. Comparing it unfavourably to London, which had benefited greatly from centralized state planning, New York’s privately-built, piecemeal waterfront was considered somewhat of a failure.

The 1836 report, written just eleven years after the opening of the Erie Canal, expresses the concern they had over the state of the waterfront:

> The present accommodations for vessels in the waters adjoining the city of New York are very insufficient, and that such accommodations are daily becoming less adequate to the wants of our commercial business, and that it is our duty and our interest, more rapidly than heretofore, and more extensively to make provision for the reception and protection of our shipping.

The legal framework for waterfront management that had been set up by 1807 to modernize the piers and wharves on the waterfront holdings of merchant-proprietors was having little effect. The rules of the existing waterfront property regime were unable to service the material needs of rapidly expanding commercial capitalism.

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60 Report of the Secretary of the Treasury, on the Warehousing System (United States Department of the Treasury, 1849), 3.
61 “Report of the Committee on Wharves, of the Board of Aldermen of the City of New York, Relative to the Erection of a Great Pier in the North River, Made December 7, 1836,” in Report of the Secretary of the Treasury, on the Warehousing System (United States Department of the Treasury, 1849), 70.
Though no formal waterfront plan was made under the 1807 act, and little was done to interfere with the still very powerful landholding families, there was a clear tension between different types of capitalists as property owners sought to maintain rents and merchants pursued access to predictable and usable waterfront space such as piers and wharves. The tension between property and mercantile capital, and the corresponding governance structures that were required, was reflected in the 1836 municipal report. City leaders saw the waterfront problem as an important issue shaping the “growth, future grandeur, and prosperity of this commercial metropolis.”62 The biggest issue facing the waterfront during between 1818 and 1838 was the legacy of pier construction dating to the colonial period. Not only did municipal officials point to the paucity of piers, they also argued that the piers and wharves were built not by plan, but instead “as demand for them proved to be the necessity.” Largely made of wood, what piers there were, were built “in great haste” leading to poorly constructed structures.63

63 “Report of the Committee on Wharves,” 78.
Figure 2.2: Canal Boats in the North River, c.1825

Source: Canal Boats on the North River, New York. The Miriam and Ira D. Wallach Division of Art, Prints and Photographs. NYPL (1825).
Figure 2.3: New York from Brooklyn Heights, 1832

Source: New York from Brooklyn Heights. Art and Picture Collection, NYPL (1834)
This forced the city to take matters into its own hands. Throughout the 1830s the city spent $40,000 to make repairs on the piers that private owners refused to make. These repairs included extensive dredging, as the unplanned location of piers in various sites led the Hudson’s current to routinely fill slips with sand, garbage, silt, and other material.\textsuperscript{64} The rapid growth of commerce in New York meant that pier owners, many of whom were the descendants of the original grantees such as the Astors, could continue to profit despite their reluctance to modernize their waterfront property to meet the port’s expanding scale.

As the ownership of the shipping industry after the 1820s became more varied however, the contradiction between merchant capitalists and rentiers was made starker by the rapid change in the character of trade. Whereas in the colonial years and the early-republican era, the high capital cost of transatlantic trade made elite merchants the dominant waterfront owners and commercial actors, this changed following the establishment of the Packet Line and the opening of the Erie Canal. Now, a much larger group of merchants, most of whom did not own their own piers or wharf property, were engaged in trade via the canal or coastal trades with southern cotton producers and New England textile manufacturers. These merchants and the increasingly separate set of shippers who derived profit solely from shipping rather than trading were not owners of waterfront property. Instead, they relied on the piers and wharves owned by the descendants of original grantees, or those they had sold to, for limited and expensive access to the waterfront.

Remarking on the state of the port in the 1830s, City officials lamented that: “since the present system of piers was adopted, the size, quality, and nature of our shipping has essentially changed.”\textsuperscript{65} Not only was the number of ships entering the harbour increasing, so were their sizes. Along with the canal barges newly arrived in New York, coastal steamers and larger sailing ships were routinely left to tie up at piers that were far too short for the longer ships. On the East River, which remained the busiest part of New York Harbor until the 1870s, there were sixty-eight berths for foreign ships. These were all privately built and only thirty could host the largest ships that docked at the Port. The paucity of long piers left several ships at a time stranded at the end of piers, putting them in danger of collision with other ships or ice. For one winter, damages to ships in this position were estimated to be at least $2 million, more than 10% of the total value

\textsuperscript{64} “Report of the Committee on Wharves,” 78.

\textsuperscript{65} “Report of the Committee on Wharves,” 79.
of imports that moved through the port in 1830.\textsuperscript{66}

Local shipping interests, including merchants, shipping-line owners, insurance providers, and others whose profits depended on the transatlantic trade – a section of New York’s bourgeoisie that was becoming increasingly influential – and municipal officials blamed the lack of appropriate waterfront space on the current waterfront property regime. In particular they pointed to the problems of the grants system that had existed for over a century following the Dongan Charter. Manhattan’s officials and ship owners saw state legislators, largely drawn from the landowning classes in New York City, on Long Island, and in Upstate New York as too friendly to private property interests.\textsuperscript{67} In particular, they pointed out that despite years of granted ownership on the Hudson River side of Manhattan, those owners, like the Astors or Moores, had built almost no public piers of the size now needed. This was despite the fact that the Hudson was deeper, and in some was easier to access, for larger sailing ships from Europe.

Attempting to stymie this perceived imbalance, New York City lobbied the state government for the removal of the power of the State Land Commissioners – an Albany appointed body – over Manhattan’s land grants. This would give the city greater powers to grant land enshrined in the 1807 act, and in the process, make Manhattan the ultimate arbiter of the rules of its own waterfront property regime. The state, bowing to concerted city pressure, forbade the Land Commissioners’ office from granting any land that would “interfere with any property, rights or franchises of said corporation of the City of New York,” in 1835.\textsuperscript{68} These concerns over the ability of the city to manage its own affairs on the waterfront and provide the spaces necessary for the circulation of capital in the form of cargo, ships, and passengers, sparked key legal changes aimed at increasing pier construction. It also pointed to the effective conceptual enframent of the waterfront as a site of exclusive commercial capitalist circulation and exchange.

\textsuperscript{66}“Report of the Committee on Wharves,” 81.
\textsuperscript{67} Beckert, \textit{The Monied Metropolis}, 82.
\textsuperscript{68} “Report of the Select Committee,” 3.
Two years later in 1837, the State of New York passed “An Act to establish a Permanent Exterior Street or Avenue in the City of New York, along the Easterly shore of the North or Hudson’s River, and for other Purposes.” The act was important for several reasons. It demonstrated a commitment by the state and city to construct waterfront piers and wharves on the Manhattan side of the Hudson River. Prior to this, most oceangoing traffic docked on the East River, with the Hudson largely consigned to canal and New Jersey-bound ferry traffic. The creation of an exterior street, a boundary beyond which no infill could be created, also effectively limited the rights of grant holders on Manhattan’s west side – mainly Dutch, British, and Huguenot families and elite institutions such as Columbia University and Trinity Church - to fill in their water lots. This move was a huge threat to the property-owning families engaged in land speculation. Families such as the Moores, whose ancestor, Benjamin Moore was the first Anglican Bishop of New York, the ever-present Astors, and the Beekmans, whose founder had come over on the first ship of Dutch settlers, made a fortune subdividing the land that would become the neighbourhood of Chelsea (See Figure 2.4). Limiting the private rights to the waterfront meant the end of what had been, up to this point, a sure profit.

The creation of an effective limit to the city’s infill effectively transformed the character of these lots. They were converted from land that could be infilled, and thus speculated upon, into land that owners were forced to operate as waterfront, effectively legally enframing them as such. As well, the act explicitly reaffirmed the various rights and responsibilities given over to the city in the 1807 act, while providing a degree of specificity that would allow New York to control the placement of piers on the Hudson River. In doing so, it enframed the Hudson River shoreline from present day West 11th Street in Greenwich Village to West 135th in present day Harlem as a permanent waterfront place. In a city where robust real estate speculation had led to a great deal of infill, this essentially carved out the largely undeveloped water lots along the Hudson as a separate category of property.

69 “An Act to Establish a Permanent Exterior Street or Avenue in the City of New York, along the Easterly Shore of the North or Hudson’s River, and for Other Purposes,” in Chapter 182, Laws of 1837, New York State Legislature, 1837; See Buttenwieser, Manhattan Water-Bound, for more on this act.
71 For more detail on these kind of relationships, see again Schlichter, Waterfront Manhattan Chapter 2.
Figure 2.4: West Side Manhattan Land Grants, c.1860

Source: Department of Deeds, Map showing the high and low water mark and the original city grants of lands under water made to various parties from 1686 to 1873, Lionel Pincus and Princess Firyal Map Division, NYPL, 1873; NYC OpenData, NYC Street Centreline, 2017.
Both the 1836 report by the city’s Board of Alderman, excerpted in the 1846 Treasury report, and the 1837 act itself reflect the growing concern of local officials, merchants, and shipping elites over the inadequacy of the city’s waterfront facilities. In the 1830s, this concern became even more acute when a regular steamship service with Britain was inaugurated. The arrival of the ss *Great Western*, the first successful transatlantic steamship, in the Port of New York in 1838 would usher in an age of international steamship lines that rapidly increased the volume and speed of capital circulation at the waterfront.

**Conclusion**

The management and operation of Manhattan’s waterfront reflected material and discursive changes underpinning its legal enframedment according to the needs of an increasingly powerful set of merchant, shipping, and city interests that emerged with the development of commercial capitalism after 1818. Exploring how colonial charters were implemented, how land grants were given, and how laws and property relations changed over the transition from the colonial era to that of American commercial capitalism gives an insight into the formation of enduring coalitions of state and non-state actors united in the goal of a capital serving waterfront. In the pre-infrastructural era explored in this chapter, the legal and conceptual enframedment of the waterfront via the property regime would serve the needs of commercial capitalists, even as it threatened the rent and speculative accumulation strategies of large-scale property owning capitalists. Despite this, legislators worked to conceptually and legally enframe the waterfront as a space distinct from the rest of the city, while doing little to materially change the shape of the space. State and municipal officials would utilize legislation, charters, and grants in attempts to shape a waterfront according to the needs of their private party counterparts, who differed over time.

The passage of legislation during the early republican and the canal-boom eras were key practices of enframing the waterfront in a new way, a way that supported new forms of commercial profit making. These changes to the legal system were attempts by newly ascendant merchants and shippers to transform the existing property regime to meet the material and spatial needs of an ascendant form of capital accumulation. The piecemeal changes made to the waterfront’s governance framework that occurred between 1686 and 1838 were the result of private-public contestation, negotiation, and consensus. These involved lawsuits filed against private owners

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and the state, as well as negotiations between grantees and New York City. This was a pattern that would continue after the arrival of regular steamship service in 1838. However, the way these decisions were made, the scale and scope of the framework, and the manner in which the waterfront would be conceptualized would create a revolutionary new built form - the infrastructural waterfront.

Combined, the legislative changes, court decisions, and other practices examined in this chapter supported the maintenance of the waterfront as a pre-infrastructural site of commercial exchange and circulation. The physical form of the waterfront property regime’s water lots, first granted by the Dongan Charter in 1686, was a product of the need of commercial-era capitalist to have a particular built form, one that enabled them to load and unload their own small coastal ships. While this enframement may have been adequate and functional before the 1830s, it was clear from the continued pace of complaints about congestion and arguments over property rights that larger changes to the political economic structure of New York would require corresponding transformation of the waterfront. The transition to industrial capitalism in New York, which sped up considerably with the introduction of transatlantic steam routes in 1838, would require a new built form. The resulting infrastructural space constructed in New York City’s waterfront would require yet another round of enframing.

Driven by the expansion of early industrial capitalism into the north eastern United States between 1830 and 1870, New York City would experience a massive growth in all aspects of the waterborne trade. By the 1850s, the ships had grown larger, trade cycles faster, and the threat to the easy flow of capital in the form of passengers and goods ever more pressing. These changes in turn required the building of a new waterfront and new ways of governing what had been for more than 200 years private property. In the next chapter, I examine how the contest between property owners and commercial and industrial capitalists for dominance of waterfront governance came to a head over the issue of harbour encroachments, and how the state stepped in to effectively side with industrial and commercial capital over property.
Chapter 3: Change on the Waterfront: New York City’s Transition to Industrial Capitalism, 1838-1870

Introduction

The arrival of the ss *Great Western* in 1838, then the fastest ship to make the journey from Britain to the United States, heralded the beginning of a new age for New York City. It, and the steamships that followed, would create the conditions that allowed the city’s government officials and the bourgeoisie to transform how New York’s waterfront operated. The introduction of regular steamship service between New York and Europe was part of a larger transition to industrial capitalism both in New York and abroad. As industrial production increased and the financial sector grew, so did the speed and volume of capital circulating through the port. This transition to industrial capitalism, however, was not straightforward. It would require a great deal of work to produce a waterfront appropriate to the needs of industrial-era capital circulation.

As discussed in Chapter Two, for two centuries, Manhattan’s waterfront had been configured for the needs and profits of commercial-era mercantile proprietors. These families, many of whom were descended from those originally granted water lots after 1686, relied on their own piers for rent and wharfage fees from smaller shippers and merchants, and as a place to load and unload their own ships. By the beginning of the transatlantic steam age in 1838, those who owned the increasingly large transportation firms were no longer the same people who owned the property on which their ships were forced to land. The capital-intensive and specialized firms, many of which were British-owned, that came to dominate the transatlantic trade were forced to rely on property owners to make costly improvements to waterfront property in order to improve the state of the port. With relatively low wharfage fees meaning little return on this investment, and the limiting of property rights on the waterfront via the new property regime, owners had little incentive to make the necessary changes to their property after 1838. The next three decades would be contentious ones as these two groups fought for control of the waterfront.

The rise of a loosely aligned class of transportation capitalists from the 1830s would have a profound impact on the enframing of the waterfront as infrastructure during the transition to industrial capitalism. Industrialists who relied on their ships and railways, and financiers who funded such capital-intensive ventures, were often one and the same. Perhaps the best known of this class was J.P. Morgan, the head of the International Mercantile Marine and one of the most prominent
financiers in New York history, who had investments in all three sectors. Though in many cases drawn from the same social milieu as the old propertied class (J.P. Morgan himself was the scion of Brooklyn’s wealthiest mercantile-proprietors, the Pierreponts) this new class of steamship-line owners, merchants, and financiers did not rely on rent, wharfage fees, or speculation on waterfront property to profit. Instead, they took advantage of the waterfront through the rapid loading and unloading of transatlantic steamships – the efficient circulation of capital along Manhattan’s shore. To do this, they worked with and against government agents to craft a new waterfront property regime that would allow the Hudson and East river waterfronts to be enframed and operated exclusively as infrastructural place.

The enframing examined in this chapter was both a continuation of, and a departure from, the legal enframing examined in Chapter Two. The distinct nature of water lots, enshrined in law as a key component of the commercial city, would have its legal and conceptual boundaries with the rest of Manhattan strengthened throughout the transition to industrial capitalism. The waterfront would emerge as distinct from other urban spaces, largely through its association with engineering and transportation technology rather than trade. From a mixed-use non-infrastructural waterfront ruled by the needs of commercial capitalists who profited from rents, trade, and shipping, the enframing that occurred in the thirty years after 1838 would focus on rendering the waterfront as a space governed by the calculative rationality of commercial capitalism, technology, and engineering knowledge for the benefit of large-scale transportation firms.

What happened to the waterfront between the 1830s and 1870 was in part caused by local political economic changes. Indeed, the limits to waterfront property were driven by the contradictions between rent-seeking activities of property owners on the one hand and the search for quicker and more effective circulation by transportation and finance capitalists on the other. The limits of a private-property-focused approach to managing the waterfront, however, would point to the need for a more extensive legal and conceptual enframing project to transform the waterfront. Searching for a way to affect the material changes required to make the conceptual and legal changes truly useful to a new class, members of the growth coalition pushed for a unified institution to govern the shape and format of the infrastructural waterfront. They would eventually create the Department of Docks [DOD].
This chapter deals with the conceptual, legal, and institutional enframement of the waterfront as an infrastructural place during the transition from commercial to industrial capitalism. In doing so, I look at how Manhattan’s waterfront became a symbol of New York’s failure to meet the needs of the new economy at precisely the moment the industrial-era global-scale flows of capital and people came to dominate the power geometries of the waterfront. The observations of waterfront users and others coalesced around the need to reframe the property relations of the waterfront regime. Moreover, the establishment of the conceptual and legal enframement of the waterfront as a distinct infrastructural place was accompanied by growing calls for its institutional enframement, and the creation of a singular authority to oversee its operation and development. The political economic context of the transition to industrial capitalism, notably the state’s and courts increased role in regulating, supporting, and increasing the circulation of capital, would influence the form this institutionalization would take.

I begin this chapter by exploring the changes that took place on the waterfront in the steam era. In particular, I examine the impact larger ships and more frequent transatlantic sailings had on congestion on the waterfront, and the steps the State of New York took to address these issues by creating the 1857 pierhead line as a strict spatial limit to the rights of private property owners. As trade and ships grew in volume and size, some property owners continued to try to profit off the rents garnered from their waterfront land and maintain control there. Such was the context for the court case State of New York v. Vanderbilt, which established a lasting legal precedent that effectively ended commercial-era property rights on the waterfront. Finally, I look at how these legal enframements of the waterfront were related to and built on through efforts to create an institution of waterfront governance, which would eventually lead to the creation of the DOD in 1870.
The Waterfront is Transformed, 1838-1850

Even before the introduction of regular transatlantic steamship service in 1838, New Yorkers complained that their waterfront was lagging behind the needs of commerce. As noted in Chapter Two, the beginning of packet service in 1818 and the opening of the Erie Canal in 1825 had led to a huge increase in the volume of shipping to and from Manhattan. Piers, bulkheads, and wharves, however, had failed to keep pace with these changes. The result was a waterfront that was congested and dangerous. Ships had to anchor in the river stream far away from land while shippers faced significant and expensive delays. These issues would only intensify after 1838, when the introduction of the transatlantic steam trade and the increasing encroachment of the city’s built form on the waterfront and into the water itself (through infill) would reduce the amount of useable space for waterborne trade.

In 1835, 934 ships (not counting canal barges and Hudson River vessels) entered the Port of New York, a number that increased significantly over the next two decades.¹ More crucial than the number was the size and type of vessels which entered the city’s waters after 1838. Demand for raw materials to feed the factories of Britain and for cheap manufactured goods in the United States drove technological innovation in steamship technology. Shipbuilders, mainly located in Britain, began to build steamships to larger proportions in order to carry commodities such as North America’s timber and coal to Britain, and England’s textiles and iron to New York. The ss Great Western, the first successful Atlantic steamer, was a 1,340-tonne ship measuring 212 feet in length. The second purpose-built transatlantic steamship, the ss British Queen, launched just one year later by the British and American Steam Navigation Company, was 245 feet long, and had a gross tonnage of 1,850 tonnes. This growth continued apace. In 1858, twenty years after transatlantic steam service was inaugurated in New York, the ss Great Eastern, which called a number of times at Manhattan, had a gross tonnage of 18,915 tonnes and measured over 679 feet long.² Clearly, the period after 1838 was markedly different than the age of sail that preceded it.

The contradiction between the needs of water-lot owners and those of an increasingly separate group of transportation capitalists would become clearer as New York’s economy made the transition to industrial capitalism by the middle of the nineteenth century. The result of this mismatch

between the profits of property owners and the technical requirements of steamships for longer, sturdier piers after 1838 was a waterfront built according to the needs of an increasingly powerful set of actors, the larger international steamship lines. While this was an issue during the commercial era, the dual role of landowners and merchants at the top of New York’s power geometry during that period rendered changing the waterfront largely a political non-starter. Before the transition to industrial capitalism, little political will, along with underlying economic power, existed to materially transform the waterfront.

If the facilities of the commercial-era waterfront inspired complaints and concerns from shippers and government officials alike, they inspired panic during the transition to industrial capitalism. In 1840, Manhattan had 113 wharves. Of these, 60 were on the East River, which was relatively shallow and plagued by dangerous rocks and treacherous currents. Only 53 wharves were on the North River. The piers that lined Manhattan averaged between 200 and 300-feet in length, barely long enough for the first generation of steamships, and far too small for ships such as the Great Eastern. All of these sites, the wharves, piers, and bulkheads of Manhattan, girded an island that had, since 1686, grown slowly into the rivers themselves. Indeed, a swath of land around Manhattan that averaged 626 feet in width had been reclaimed, further limiting the amount of maneuvering space for the steamships. Throughout this transition period, there was a clear mismatch between the needs of shipping capital and the material spaces of the waterfront provided by private water-lot owners.

The introduction of steamship service on New York’s waterfront was just one aspect of the transition to industrial capitalism. As ships grew larger, so did the volume of trade. New York’s waterfront in 1837 saw 422,000 tonnes of goods imported and 346,000 tonnes exported. By 1857, New York’s increasingly congested and crowded piers would host 2,035,000 and 1,756,000 tonnes of imports and exports respectively (See Figure 3.1). For the most part, most of this expanding trade was not carried out by the old propertied families, such as the Delanceys or Astors. The families that had acquired fortunes during the colonial and early-republican eras maintained their property holdings on the waterfront, oftentimes leasing land to firms or individuals who built and rented out piers themselves. By the 1830s, however, a new class of industrial-era merchants were becoming increasingly powerful and looking to make significant changes to the way the waterfront

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operated. This included merchants from New England, often second sons of families who had amassed a great deal of capital from textile manufacturing at that first site of American industrial production.\(^5\) As well, powerful interests from the British Empire, including the Halifax-based Cunard firm, were coming to dominate the transportation of cargo and passengers to and from Manhattan’s waterfront.

These industrial-era merchants served both a local and national market in New York and the United States that was increasingly different than during the commercial era. A growing number of manufacturing firms in the city constituted voracious markets for imported iron and other commodities, while New York’s financial firms had begun to branch out into insurance and credit schemes which underwrote the transportation industry as a whole. While manufacturing had existed in New York for some time, it had been largely confined to refining transhipped raw material, particularly the production of sugar with West Indies cane, beer from Western New York wheat, cigarettes from Virginia tobacco, and crude pig iron from Appalachian ore during the commercial period.\(^6\) By the 1830s, new manufacturing concerns were increasingly cropping up with artisans forming corporations to produce foodstuff for local markets and hardier goods such as furniture or garments for a growing national market. This was accompanied by a boom in financial speculation in the city, as New York’s banks fueled the westward expansion of railroads, and the large-scale manufacturing then gearing up in New England.\(^7\)

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Figure 3.1: Imports and Exports at the Port of New York, 1837-1859

These new manufacturing and financial firms were intimately linked to the new class of transportation capitalists that emerged in the age of steam. Industrial-era economic activity required a level and speed of circulation that relied heavily on transatlantic steamships to achieve. Transportation firms, for their part, relied on these manufacturing and finance firms as customers for goods, employers of migrants and other passengers, and the capital necessary for expansion. Together, these three sectors represented a key component of New York’s industrial-era power geometry and supplied many of the members of the ruling growth coalition. As trade grew, so did the power of these firms, their political connections, and their conflict with the existing waterfront owners and property regime.

The changing nature of the waterfront growth coalition, especially the rising power of industrialists and shipping capitalists, was increasingly evident. Politically, the rise of industrial capitalists in New York coincided with the birth of new movements, particularly the Democratic party. Manhattan’s local powerholders, along with a news media that became increasingly vocal in opposition to the old guard of propertied, mercantile elites, were at the centre of the new Democratic party. While much of the propertied merchants in the city remained aligned with first the Whigs, and then the Republicans, the industrial-era bourgeoisie would align themselves with the locally embedded and increasingly powerful Democratic party.

The nineteenth-century Democratic party in Manhattan was controlled by the corrupt Tammany Hall circle. This was a complex group made up of local politicians, small scale political bosses, and associated members of the petit bourgeoisie who exerted a great deal of power over Manhattan’s politics. Tammany became particularly powerful in the years leading up to the Civil War, largely by virtue of their patronage and vote-getting operations within working class immigrant neighbourhoods. The political machine’s network of local bosses and patronage contracts produced reliable votes for Democratic candidates, and city jobs for working class voters. By the 1850s, the Tammany Hall machine in Manhattan was indirectly backed by the new class of industrial, finance, and shipping capitalists, who actively worked to produce a municipal government that functioned in ways which enabled the expansion of industrial and transportation capital circulation on the waterfront. Whigs, and later Republicans, were, on the other hand, much more closely

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aligned with property-owning and artisan interests, and thus dominated in upstate New York, where their numbers gave them much greater power at the State level in the Albany legislature.9

By the 1850s, the huge growth of steam transport, the increasing concentration of ownership, and the growing power and influence of several American and European firms meant that the landholding families had powerful opponents in the fight to transform the waterfront. As such the existing waterfront rights holders, and the property regime within which they operated, came under increasing attack as the cause of waterfront inadequacies. By the 1850s, the pattern of infilling and lack of maintenance by seemingly unconcerned water-lot owners and lessees, alongside the inability of the city to make any changes of real consequence, forced state officials to intervene on Manhattan’s waterfront.

“Almost Impossible…Always Dangerous”10: Encroaching on Circulation, 1838-1857

By the 1850s the congested and dangerous conditions on the waterfront had become an outright menace to the successful circulation of capital in the Port of New York. While merchants continued to complain about inadequate piers, they increasingly viewed infill into the harbor and the construction of pier structures into the stream of the rivers as the biggest threat to shipping. The harbour encroachments – the piers, infill, and other encumbrances built out into the water by private owners – made it difficult for the larger steamships to manoeuvre through narrow and busy shipping channels. Built by large property owners in order to extract more rents from low wharfage fees, the encroachments were the most visible waterfront battle between rentier and transportation capital during this period. Having built piers to suit the needs of the 1830s boom and the sailing ships and canal barges that fueled it, owners were unwilling or unable to remove or shorten piers due to the small profits generated from low wharfage fees and the high costs associated with such work. In the 1850s, the municipal government would expand its power over the waterfront once again in order to deal with the harbour encroachments.

At the centre of the harbour encroachment saga was the extent of private rights over waterfront property. As noted in Chapter Two, waterfront property on Manhattan had continuously been enframed as a separate category of property, but still unequivocally private property, through various laws since the 1686 Dongan Charter. For almost 200 years private owners had struggled to ensure unrestricted use of their private property against a government seeking to expand public commercial access to the waterfront. Legal arguments for restrictions on private property and waterside access for commerce hinged on common law notions of navigable servitude. Within this legal framework, the Crown, and later the State of New York, had the responsibility to protect public access to navigable waters and roads.\(^\text{11}\) This legal framework, established as common law in the case of Rex v. Ward in a British court centuries earlier, meant that the State of New York had the right to deal with and limit the harbour encroachments if they interfered with the public good. While navigable servitude rarely featured in colonial and early-republican-era negotiations between the government and private property owners, it would come to feature heavily in discussions of the waterfront property regime during the transition to industrial capitalism.

As early as the 1830s, city officials began to draw a clear line between the creation of a waterfront appropriate to the dominant shipping interests of the time and notions of the public good. This idea had been established as part of a discourse which made the economy an objective phenomenon to be overseen by the government.\(^\text{12}\) What was good for the economy, it was argued, was good for the public. This new idea of public had begun to compete with similar ideas from the Republican era that held public as synonymous with small-holders, artisans, or the yeoman farmer. As industrialization continued apace and capitalism expanded into virtually every aspect of American life, the wider modern notion of public good as being analogous with the economy, and in this case the industrial economy gained considerable traction.\(^\text{13}\) In the case of the waterfront, this meant increased access to the shoreline for transportation capitalists who were not property owners.


As commercial capitalism expanded into previously untapped markets in the American west, overseen by New York City’s merchants and financiers, so did the local power of these groups within the city’s ruling growth coalition. Similarly, larger-scale flows of capital and goods which these private-sector actors controlled began to dominate local power geometries on the waterfront. This ruling coalition, previously dominated by property owners, was increasingly made up of members of transportation, finance, and industrial wings of capital. The movement to restrict the private property rights of riparian owners at their own expense thus fit in well with the need to protect the economy as a public good, a key component of the expansion of capitalism. By the mid-nineteenth century, the balance of official sentiment had shifted from the needs of pier owners to the needs of shipping companies and local merchants who profited from this trade.

By the 1850s the demands of the commercial elites for new harbor facilities were becoming increasingly strident. Fifteen years after regular steamship service between Liverpool and New York was first inaugurated, a group of merchants organized a mass meeting to discuss the harbor encroachments. Over 300 men attended the December 16th, 1853 meeting to draft a memorial to the New York and New Jersey legislatures asking them to deal with the issue as quickly as possible. This concern over the harbor was at the front of minds of powerful actors across several jurisdictional and spatial scales. In that same year, a party of about 100 people, including the Governors of New York and New Jersey, United States Navy officials, officers of the Coast Survey, Commissioners of the New York State Land Office, and the Committee of the Chamber of Commerce, along with “many other gentlemen attached to the national, state, and city Governments, beside a large number of gentlemen engaged in commercial pursuits,” were given a boat tour of the dangerous encroachments. Clearly, the trip had an immediate and tangible impact: one month later, in January 1854, the New York State Legislature’s Committees on Commerce and Navigation was sent down to examine the issue.

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15 *New York Daily Times*, December 17, 1853, 8.
16 “Public Meetings,” 5.
Not surprisingly given the problems outlined by the commercial elite, the state committees placed most of the blame for the harbor encroachments on the property grants given out over the past two centuries. Specifically, they pointed to the lack of covenants within the grants and the absence of any meaningful enforcement of those few that did exist. Infill had made the waterfront a danger to commerce. Reflecting on the original wisdom of the colonial governors to put control over the waterfront in the hands of the city, they bemoaned the “course pursued by most of their successors [which] would imply that more attention was given to the speculative necessity of making land than the real one of preserving water.” The problem of the harbour encroachments was clearly a problem of property.

The harbour encroachment issue was essentially a contest between infill and piers. Property owners who had been granted the waterfront by the city were driven by the rent-seeking imperatives of urban property ownership to choose infill over the low rate of return yielded by the wharfage fees set by the State of New York. Feeling the pressure of the other powerful interests seeking a resolution and, in an effort to maintain their ongoing profitability, pier and wharf owners framed the encroachment issue as one that could be solved with higher fees. As one editorial stated:

We question whether there is a probability of saving our harbor from encroachments, and securing at the same time any adequate accommodation, in any way so surely and so well as by fixing the rates of wharfage on such a scale as simply to pay wharf owners…a rate corresponding to the same kind of property in other ports, and the same time sufficient to induce owners to excavate valuable land for more wharf room.

This was an intra-bourgeoisie quarrel between landowners and their representatives in the New York State legislature on the one hand and shipping interests and their local allies on the other.

The encroachment battle represented the clearest schism between the shipping interests and property owners and their allies. Merchants and shipping line owners relied on New York’s low fees to keep their advantage over nearby cities. By the 1850s, shipping interests and their allies in the industrial sectors had gained a considerable amount of power, aided by the growth of their political

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arm, the Democratic party. A pro-property-owner editorial attacked these merchants over the wharfage question, mocking their calls for lower fees at the expense of rents, sarcastically suggesting that: “the wharves, piers, and slips of New York are owned by the Schermerhons, Whitneys, etc. Rich men own our wharves, so let us have the use of them for nothing.” The battle between the merchants and property owners would require the government to step in and mediate in this intra-capitalist squabble.

In 1855, the State of New York did just that, with the formation of a “Commission for the Preservation of the Harbor of New York from Encroachments, and to Prevent Obstructions to the Necessary Navigation Thereof.” The stated goal of this commission was to decide just how far into the rivers piers and bulkheads could be constructed. Work on what would become the 1857 pierhead line represented the harnessing of expertise at the service of a government project of infrastructure, which itself was aimed at ensuring the continued profitability of the growing industrial and transportation sectors of New York’s economy. While the pierhead line was a project of the State of New York, it was carried out with the expertise of local merchants, shippers, sailors, and the newly formed Army Corps of Engineers.

This represented one of the first major engineering projects in the Port of New York. As such, it was part of the formalization of engineering knowledge, and its promotion as a logic that was integral to the governance of the waterfront. This was an essential component in the conceptual enframing of the waterfront as infrastructure. The commercial knowledge of merchants, the navigational experience of the ship captains or the shipping expertise of those who worked on the dock were all replaced by understandings of the waterfront which relied on a language of water depth, soil composition, and the tensile strength of materials. The effect was to reframe the knowledge base for understanding the waterfront and to contribute to bounding the formerly mixed-use commercial place as an infrastructural place.

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20 Lankevich, *American Metropolis*, 101-127. The Democratic party boss system, which grew during this period, was heavily associated with industrial and merchant capital, both in its leadership, and rank and file. This reflected the importance of the sector as the main source of labour for New York’s working class.
The commission and their experts were given the task of deciding the location of the pierhead lines and preparing unified maps of the entire waterfront of both New York and then-independent Brooklyn. While they carried out this work, the state mandated that no grants of land underwater be made.24 The significance of New York’s harbor to the American economy was reflected in the service of the Army Corps of Engineers, who joined the New York State commissioners, along with a professor of engineering and the commander of the Coast Guard’s Coast Survey to “assist them in describing suitable lines.”25 As part of this work, over 100,000 soundings were taken and 394 miles of shoreline were surveyed and mapped.26 All of this was carried out with the explicit mission statement that “the preservation of the free navigation of the harbor is regarded…as an object of paramount importance, and that other questions and interest are subordinate to that subject.”27 This technical expertise was used to conceptually enframed the waterfront as a space of navigation, not commerce. Moreover, the involvement of federal agencies points to a privileging of non-local interests on the waterfront. This reflected the growing power of international shipping firms, and a multi-jurisdictional recognition of their significance to both the New York and national economies.

The expertise marshalled to carry out the commission’s study of the waterfront was a sign of the direction the report would take. Navigation, rather than private-property rights, was the new priority on the waterfront. The final report of the commission determined that it was the fault of private owners of waterfront property that steamship navigation had become so difficult. The lack of action was also blamed on local officials. The commission advocated for the removal of large sections of old bulkhead and for the establishment of new strict bulkhead and pierhead lines. This was fiercely opposed by members of New York’s property class and their representatives in the state Assembly, who cited safety and fairness as their chief concern for an expanded bulkhead.28

In agreement with the old propertied class, dissenting members of the commission argued that the new lines were fundamentally unfair as “the various riparian owners, who have paid valuable considerations therefor, filled in and otherwise improved the same at a large expense.” would be forced

to take a loss if the new lines were implemented. Moreover, they claimed that neither the state nor city had the legal right to change the conditions of these waterfront grants. 29 The State of New York overruled these protests, further cementing the status of riparian property as a separate category of land, with a lower threshold for governmental intervention. This position was based on the belief that it was necessary to protect access to navigable water “in such manner as may be deemed most beneficial to the public at large.” 30 By the 1850s, the notion of “beneficial to the public” would become increasingly associated with the needs of steamship companies, and the linked industrial, manufacturing, and finance firms in New York.

The result of the commission’s work was the 1857 “Act to establish the bulkhead and pier lines for the port of New York,” passed on April 17th. 31 It forbade private owners of the waterfront, in both Manhattan and Brooklyn, from making any changes to their bulkhead or to their piers if they went beyond the lines set out in the law (See Figure 3.2). The new harbour lines met with considerable support from the city’s mercantile bourgeoisie, who by the 1850s was made up of “ship owners, underwriters, and others interested in the commerce of [the] city” as well as those who relied on regular shipments of goods and passengers. 32 The 1857 act, for the first time, laid out the comprehensive principles that would underpin the categorization and operation of the waterfront. It set the stage for an institutional intervention in waterfront property to serve the needs, not of private owners, but of the ships (and their owners) which tied up along the East and Hudson rivers. Whereas earlier laws had been largely piecemeal in their conception and application, this act essentially set the stage for large-scale comprehensive government involvement in the waterfront. It was pivotal in making the waterfront an infrastructural place.

Figure 3.2: The 1857 Pierhead Lines in Context

Source: Department of Docks, Map showing the high and low water mark and the original city grants of lands under water made to various parties from 1886 to 1873. Lionel Pincus and Princess Firyal Map Division, NYPL 1873. NYC OpenData, NYC Street Centreline, 2017.
Challenging Waterfront Property: Legal Precedent for an Industrial Era Waterfront

Despite setting the pierhead lines in 1857, the city still found itself facing problems of encroachment and lack of suitable accommodation. Indeed, the setting of the lines appears to have made property owners even more recalcitrant in the maintenance of their property. One reporter in 1859 complained about the continued insufficiency of harbour accommodation, claiming that piers and wharves had “their capacity…lessened by obstructions and incumbrances in the shape of shanties, booths, and other buildings…to the very great detriment of shipping.”\(^{33}\) On paper, the municipal and state governments had made the waterfront a site separate from the rest of the city. However, with little precedent for government intervention in the actual form and use of private property, owners were unwilling to comply with orders. This would change in 1860 when a court case established the effective management of the waterfront by agents of the government.

On April 7\(^{th}\), 1859, Cornelius Vanderbilt, railroad and shipping tycoon, asked the state Legislature for permission to build a pier on land he owned near the Battery, on the southern tip of Manhattan. The pier was to be “forty feet in width and an indefinite number in length…and in direct conflict with the propositions of the Harbor Commissioners’ Line.”\(^{34}\) He was, as the *New York Daily Tribune* predicted, denied. However, he did not let this stop him. Instead, Vanderbilt built his pier far into the North River, well beyond the 1857 line. It was an act that the *Times* called “almost unparalleled in its impudence.”\(^{35}\) The construction of the pier beyond the line was the most high-profile challenge to the state’s reconfiguration of the waterfront as an exclusive site of infrastructure rather than private property.

The construction of the Vanderbilt pier sparked a great deal of consternation amongst a group of people whose entire livelihood was based on the ability of the largest steamships to navigate in the Harbour. The New York Harbour Pilots Association, whose members guided large ships into port, asked the Attorney General of the State of New York to act. On November 17\(^{th}\), 1860, the Attorney General was granted an injunction on the construction and operation of the pier.\(^{36}\) In defense, Vanderbilt’s attorney asked for leave to study the water rights, claiming that the initial grant could

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not be altered by the harbor lines. It was clear that the case of People v Vanderbilt would hinge on the definition of waterfront property and the court’s opinion on the rights of private property owners. The court’s decision would mark a clear and definitive moment of transition from the colonial-era charters and their unlimited grants in fee simple to the limited infrastructural framing of riparian rights in the industrial era.

The dispute between Vanderbilt and the State of New York dragged on for almost two years. In the end, the court would find for the State of New York and order Vanderbilt to tear down his pier. While this in itself was noteworthy, it was the precedent the decision set that is most significant for the institutional enframement of the waterfront. The judge’s decision explicitly reiterated the notion of the waterfront as a site of public good, a definition that was increasingly synonymous with the needs of industrial era transportation capitalists, manufacturers, and financiers for steamship infrastructure. Indeed, the judge’s decision relied on the notion of navigable servitude, pointing out that the new size of steamships now made such encroachments into the harbour, which may have before posed little risk to the small sailing ships, an obstacle to commercial navigation.

The decision held that the initial grant was carried out only as a public trust, and that conveying the land to private parties did not eliminate the need to keep the waterfront in the best interests of the public. Indeed, Judge Allen made it clear that the government had to protect the waterfront from private encroachment as navigable water in order to “secure to the public the use of the stream for the more legitimate purposes of navigation.” By the start of the Civil War, it was clear that the most legitimate use of the waterfront was for commerce writ large and not for the enrichment of individual owners. The public good, defined as the interests of transportation capital as a whole, won out over the private good of individual waterfront property owners.

37 New York Daily Tribune, October 25, 1861, 4.
38 William F. Allen, “The Sovereignty of the State over the Waters of the Harbor of New York” (Court Decision, New York Supreme Court Special Term, February 17, 1862), Folder 6: Brooklyn Waterfront (1835-1869), Box 3, Series 4: Pierrepont Stores, PFF, BHS.
The decision in the Vanderbilt case met with a great deal of support from the city’s mercantile capitalists and their media boosters. In their report on the final decision, the *Tribune* wrote:

Let us hope that the time is coming when property which ought to be held for and devoted to public uses, may not be permitted to become the mere prey of a few unscrupulous and overgrown moneyed men, who are continually hunting about for some weak point in the public domicile which they may break through and steal.\(^{39}\)

In real terms, the Vanderbilt decision rendered the 1857 act useful to the government and set the stage for the effective governance of the waterfront by municipal and State of New York institutions in the years to come.

By the 1860s land granted to the city and then by the city to private interests under the authority of the earlier colonial charters was governed under a property regime that severely limited private use. The waterfront was, in the eyes of the mid-nineteenth century courts and many others, a site for commerce rather than a potentially infilled site of development and real estate speculation. The circulation of ships, passengers, and freight via the fixed capital of piers and wharves soon became the dominant and state-supported mode of accumulation on the waterfront. This supplanted rent-seeking by a handful of private owners. Moreover, the Vanderbilt decision set a precedent and an expectation that the state would step in to protect waterfront circulation and the waterfront’s enframement as infrastructure. The city, buoyed by over a century of legislation and regulation that gave them significant authority over the waterfront, saw the Vanderbilt case as a high-profile step towards actualizing municipal power over the shape and operation of the waterfront.

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Institutional Failure and Reform on the Waterfront

From the 1860s, the problems on the waterfront brought on by industrialization continued to multiply, despite the changes to property and the law outlined above. Between 1864 and 1870, for instance, the number of piers on the rivers fell by a third. Moreover, the growing industrial-era city’s built form continued to encroach on the waterfront. Along with infill, which was still a problem, the widespread introduction of running water had led to pipes that dumped refuse directly in the harbor via the slips at the end of streets. The piers kept the river and tide from washing away the detritus, leading to ever shallower slips as they filled with muck.40 Despite the actions enshrined in the 1857 legislation, the waterfront was in danger of drowning under the weight of New York’s economic and population growth.

By 1870, the year the Department of Docks was founded, the political economy of New York’s waterfront had changed considerably from that of the antebellum era. The end of the Civil War in 1865, the industrial boom in Western Europe and the American northeast, and rapid technological changes in steam engines and ship building had created a demand for wharfage that was unprecedented and far outstripped the volume of trade that had existed previously. The economic and infrastructural needs of transportation capital in the industrial era had changed considerably from the property and mercantile capital that it had replaced in the decade since the 1857 pierhead line was established and the 1862 Vanderbilt decision was rendered. Similarly, Manhattan’s political climate also changed as working class votes led to long term institutional power of Tammany Hall and the Democratic party in the city. The administrative status of New York’s waterfront, however, had not.

The economic boom that occurred following the Civil War proved altogether too much, too fast, and too soon for the institutions that had up to this point governed New York’s piers, wharves, and bulkheads. In 1860, New York’s share of the United States’ exports was almost 30% of the national total. By 1870, the Port of New York’s total share of the exports had grown to 50% of all American trade, a value of almost $180 million. In just a decade, the value of goods passing through Manhattan en route to global destinations had increased by $116 million, a growth rate of 145%.

40 Ann L. Buttenwieser, Manhattan Water-Bound: Manhattan’s Waterfront from the Seventeenth Century to the Present (Syracuse: Syracuse University Press, 1987), 560.
Similarly stellar growth rates were witnessed on the import side of the ledger as well. materially, New York’s port was undisputedly the key North American node in global trade networks by the end of the Civil War.

The rapid proliferation of American railways and transatlantic steamship traffic after the war meant that the transportation companies faced an even more dire situation. Insufficient numbers of suitable berths at the city’s existing piers, wharves, and bulkheads caused even longer delays than the previous era. Indeed, some estimates held that only 10% of Manhattan’s piers were in good condition in 1870. Berths at public piers and wharves were nearly impossible to obtain without bribery. The result was a waterfront that the large transportation companies which dominated the city’s trading by the 1860s found an increasingly difficult and unappealing place to do business. More and more, firms such as Cunard, one of the world’s largest, were choosing to dock across the Hudson River in Jersey City and Hoboken, New Jersey.

As one contemporary observer noted: “there is hardly a dock in the Metropolis from which the railroads entering the city can discharge their freight...merchants find it almost impossible to obtain wharf accommodation.” Another claimed that the city’s “wharves and piers are unsightly objects, poorly constructed, broken down, rotten and dilapidated, not kept in repair, and unsafe from fire and thieves.” New York was, in the eyes of its elites and local officials, at risk of losing its place as the continent’s most important port.

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42 See Scobey, *Empire City*, 136–44, for an excellent run down of the situation on the docks during this period.
43 Scobey, *Empire City*, 136–44.
Loud lamentations about the state of the waterfront came from the city’s media, which increasingly tied ideas of congestion and obsolescence to notions about how the city should be imagined by the world more widely. Reflecting the interests of transportation, finance, and industrial capital, one writer in the *New York Times* opined:

> If New-York, as the great commercial port of the western hemisphere, has anything to be ashamed of, it is the condition of her water front...While European ports can boast their granite quays, on which are located some of the finest warehouses that art and money can produce, New-York can only claim a string of rotten, filthy, reeking and rickety old things which we call piers.46

The editorial went further, recommending that something had to be done if new piers were going to be built along Manhattan’s shoreline. The new piers should not only be big enough for the transatlantic trade but should also be “of a style in keeping with our character as the greatest mercantile city of this continent.”47 The waterfront was, by the end of the Civil War, the subject of great concern for more people than just those firms operating steamships.

Not only were the existing rickety piers and disreputable waterfront seen as unsightly and undignified, they were also considered a health hazard. This dovetailed with the enframing of the waterfront as infrastructure via engineering and technical expertise. The poor management of waterfront infrastructure was singled out by writers as the cause of the cholera and typhus epidemics that periodically ravaged the city during this period:

> The combined filth of miles of sewers, the excrescences of hundreds of slaughterhouses and manufactories are brought down and deposited between the piers, and from this feculent pile rise up the deathly vapors which pervade our nightly inhalations...typhus fever, dysentery and kindred diseases have had full sway, and gathered in their victims by scores and hundreds. We charge this unhealthy and nauseating evil upon our present dock system...48

The consensus around the ills of the docks only grew stronger throughout the 1860s.

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Local and state officials, transportation capitalists, merchants, and much of the media agreed that New York’s waterfront was an unplanned tragedy of enormous proportions. An editorial in the *New York Times* wrote despairingly about this:

> As the wealth and consequence of New-York increase, her existing water-front becomes proportionately unseemly and inconvenient…New-York has become at her interior a city of palaces, but at her outskirts and on her superb water-front she is still a city of hovels. If the improvement of the latter be wrought as it should be New York may soon and easily surpass every rival in commerce as in beauty for her advantages in neither will have been equaled even by Venice.⁴⁹

From across the East River, Brooklynites echoed these derogatory views of Manhattan’s waterfront, opining that: “the wharves and piers of the chief commercial city of the United States would disgrace a small fishing village.”⁵⁰

Something had to be done about the waterfront for both the economic and physical health of the city.

Finding effective solutions to these problems were hampered by the fact that the waterfront was not ruled by a single institutional authority. Private water-lot owners and lessees were governed by a range of laws, orders, and rules handed down from multiple offices over many years. New York State harbour lines, pilotage rules, individual covenants, and language in leases and grants, all meant that no single institution, and therefore no singular objective, governed the waterfront as infrastructure. Indeed, the day-to-day running of docks was overseen by a host of agencies. The City Street Cleaning Department’s Bureau of Wharves, Piers, and Slips along with the state’s Board of Commissioners of Pilots oversaw repairs and construction on the waterfront. Officers from the City Inspectors of Encumbrances on the Wharves, the Common Council Committee on Wharves, Piers, and Slips, the Captain of the Port and Harbor Masters all oversaw other various components related to the daily functions of the Port of New York, all structured by the legal enfranement established in the 1862 Vanderbilt decision.⁵¹ It was a confusing, inefficient, and inconvenient way to carry out the governance of the largest port in the United States.

Calls for the reform of waterfront governance were numerous, and only increased in stridency following the end of the Civil War in 1865. That year, the Chamber of Commerce, the voice for the powerful class of the city’s mercantile, shipping, and industrial capitalists, began a campaign for reform on the docks. This effort not only targeted the condition of the harbor, but also its system of governance and construction. The focus on governance reflected the fact that it was the institutional as well as property aspects of the waterfront that were related to its congested and dangerous status. Moreover, this was a movement that was closely linked to wider home-rule reform movements wherein city officials attempted to rest control of their local decision making power from largely antagonistic state legislatures. This was a conflict that drove much of the wrangling over the institutional form the DOD would eventually take.

The raison d’etre for these reform movements – to fix the waterfront for the needs of industrial capitalism – was clear from the conversations that elite New Yorkers had about the possibility of a single municipal department responsible for the waterfront. As part of their reform efforts, the Chamber of Commerce’s Committee on Piers and Wharves adopted a memorial to send to the state Legislature. This memorial underscored “the present inadequacy of the piers and wharves...and the pressing need of legislative action to secure a system of construction suitable to the increasing demands of its great commerce.” The committee based their opinion on a study they had conducted that found that of the 143 piers and bulkheads on the North and East rivers, only five were “found in good order.” The inefficacy of the existing waterfront infrastructure management institutions was evident from the fact that their concerns in 1865 almost precisely echoed those from 1857 and earlier.

The officials, capitalists, and journalists who sought a fix to the waterfront all acknowledged that it was not only the property regime that had led to the current sad state of affairs. They also pointed to the lack of a single local office overseeing the port. Much as engineering knowledge had come to conceptually enframe the waterfront as a singular site of infrastructure, a single administration would be required to ensure the institutional enframement as well. The waterfront was under the power of a byzantine maze of official and semi-official jurisdictions, powers, and responsibilities.

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52 See Scobey, Empire City: The Making and Meaning of the New York City Landscape, 143.
Moreover, the existing laws empowering these officials lacked any real teeth. Indeed, the legislation and court decisions established in the 1850s and early 1860s, which were meant to bring a legal framework appropriate for the industrial age, were seen as worse than useless without the means to carry out penalties and to police the waterfront.

Even the Commissioners of Pilots, considered the most powerful body overseeing the waterfront, was relatively powerless. This was despite the fact that it held enormous power over the activities of ships themselves. All incoming vessels over a certain size were required to have a pilot on board to enter Upper New York Bay from the Atlantic Ocean. Its ability to affect any real regulation on the waterfront’s piers, wharves, and bulkheads was another matter. Indeed, in a meeting with a New York State Senate committee on the issue of waterfront governance, one of the commissioners complained that their small degree of power amounted only to the ability to sue lessees or force owners to fix their piers. The difficulty of this legal process itself meant that “very little satisfaction” was ever had by the commissioners in their efforts to force private owners to repair their property. They blamed this on the fact that the state Legislature had “never appropriated one dollar for the purpose of executing the law.”

While the pilots had the legal power to remove encumbrances from the harbour, the state refused to pay for that work. Instead, state administrators insisted that the City and County of New York provide the funds for any harbour work carried out by the pilots. The city, which had no official role relating to the commissioners of pilots, rarely did so. This meant that if the pilots wanted to remove a sunken vessel that was blocking an approach to the waterfront, for instance, it would have to find a “contractor who was patriotic and confiding enough...to do the work, trusting to collect the claim from the city.” As a consequence, this type of repair work was rarely done. Even the pierhead line established by the State of New York in 1857, one of the key laws meant to govern the waterfront, was only sparingly enforced as a result of this dearth of official power and ability. As the one pilot commissioner testified, the pierhead line was routinely “being violated by great corporations, without souls or consciences.”

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57 “Our Wharves and Piers,” 1866, 8.
58 “Our Wharves and Piers,” 1866, 8.
After carrying out a thorough investigation, the New York State Senate Special Committee on the Wharves and Piers came to a frank conclusion: the waterfront was a “positive disgrace.” This was largely due, the committee opined, to the fact that the waterfront had “no well-organized administration of law or ordinance controlling or directing this immense property.” The senate special committee called for “prompt intervention” by the state Legislature and advised that total control of the waterfront must be resumed by the government and put in much stronger hands. They recommended that New York Harbor “should be placed under a special Board or Bureau, or Commission, to whom should be given the most ample and absolute control.”

Importantly, the board, like many of the new departments created in Manhattan and other industrial cities around the United States, was meant to be a technocratic institution focused on its responsibilities of service provision. This was an attempt by state legislatures to hamstring perceived corruption amongst local officials by downloading responsibility and removing service provision from politics and into the realm of expertise. A singular institution to control the waterfront would soon gain traction amongst interested parties in the city, one that would have a tremendous bearing on the institutional form and workings of the waterfront between 1870 and 1921.

Creating the Department of Docks, 1870

Two years after the Senate special committee report, the reform efforts of the Chamber of Commerce resulted in a detailed and highly publicized proposal to create a private corporation to manage the waterfront. The New York Pier and Warehouse Company, as this organization was to be called, would be responsible for constructing piers and other infrastructure on Manhattan’s shoreline. While the idea gained some support in New York, ultimately the city and state were unwilling to cede their power over the waterfront entirely to a single corporation.

Another proposal for improved waterfront governance that gained a great deal of official and media attention came in 1869 from the New York Citizens’ Association. The Citizens’ Association, which was made up of some of the wealthiest and most prominent New Yorkers, carried out surveys of the Manhattan and Brooklyn waterfronts and prepared maps showing the exact condition

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of every part. Rather than oversight by a single private corporation, the Association called for the creation of a thirteen-member, publicly-funded but largely privately-run City Dock Board that would oversee the ownership and operation of the waterfront by existing water lot owners.

The association’s plan called for the incorporation of a harbour district that included both Manhattan and Brooklyn. This district would be overseen by the proposed dock board. The board’s thirteen members would include the mayors of New York and Brooklyn, New York's comptroller, and prominent residents of the two cities who would have to be approved by the “The Chamber of Commerce, the Produce Exchange, the steamship lines, the ship owners' association, and the railways.” The board would have the powers to force private owners to build according to a plan and to force repairs to waterfront facilities. They would replace all the organizations that came before them and take on all the powers of law that would “refer to the control and management of the wharves, piers and slips.”

The Citizen’s Association plan reiterated the idea of the waterfront as private property, not public. It advocated for the sale of all remaining city-owned wharf property to private owners, the creation of a commission that could handle the sale of wharf property with proper covenants, and the formation of a franchise company that “would have the right to acquire private wharf property and would be required to erect structures commensurate with the wants of our commerce.” To this end, the association prepared a draft of a new law that would create their Board. As with the Chamber of Commerce’s efforts, however, their plan also failed. The association blamed its defeat on “corrupt combinations made in the interests of local politicians.”

This oblique reference to “corrupt combinations” likely referred to Tammany Hall – a group the Association’s membership was largely antagonistic to. This had much to do with the Association’s base amongst middle-class progressive reformers and the perceptions that wealthy property elites had of the Tammany-run City and of waterfront as symbolic of the inept corruption of local Democratic officials. Maintaining a privately-held waterfront thus would not only maintain the local power of elite property-owners over a vast swath of land crucial to industrial development of Manhattan but would also stymie corruption by minimizing local control. For local officials, such a

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65 “Our Wharves and Piers,” September 26, 1867, 2.
66 “Our Wharves and Piers,” 1867, 2.
proposal would effectively shackle them to the needs and wants of that group of mercantile proprietors. Clearly, local government actors saw their own role in the governance of the waterfront as central to its success and future as infrastructural place.

The Citizens’ Association plan received a great deal of opposition from local leaders in Tammany, who saw it as an attack on their power and patronage. In particular, the Commissioner of Street Cleaning, who was partially responsible for the waterfront, George W. McLean, criticized the Citizens’ Association. He pointed to all the work his department did to repair city-owned wharves. In response, the Citizens’ Association accused his department of corruption, publishing open letters that contained labour and payment statistics that were incongruous with the work that was actually done. In one case, laying lumber for a new pier surface was estimated to have cost 35 times what it should have. The allegations of corruption were central to the private sector’s opposition to state-management of the waterfront.

Clearly, New York’s waterfront, which had been the target of numerous laws, reports, and material changes since the colonial era, was in danger of failing as a result of its own success. The state of the waterfront was of great concern to the ascendant class of transportation, industrial, and finance capitalists who were rapidly supplanting the propertied elites of Old New York in the waterfront growth coalition. This concern was shared by government actors in the city and in Albany. They considered it grave enough to warrant the creation of a single Municipal agency to oversee and modernize the waterfront - the DOD. Despite the failure of the Chamber of Commerce and the Citizens’ Association proposal, something had to be done to save the New York waterfront.

The material degradation of the port led to a slowly emerging consensus to change the form and administration of the waterfront. Indeed, while groups fought each other over the scale and scope of government intervention, and whether rentier or transportation capital would get its way, they seemed to agree on the need to carry out reform in a way that was systematic and comprehensive. The need for comprehensive reform and planning on the waterfront was explicitly couched within the language of planning and city rationalization. Once again, the conceptual enframement of the waterfront depended in large part on its inclusion in the sphere of expertise. One editorial called

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for a “Haussmanic commission” for the waterfront, citing the Parisian project of Baron von Haussman as an inspiration.\footnote{“A Haussmanic Commission Wanted for New-York,” \textit{The New York Times}, March 16, 1869, 4.}

By 1870, as numerous reports made clear, the hodgepodge of various state agents regulating the shore was failing to produce an adequate waterfront. Taking the advice of the state Legislature, Chamber of Commerce, Citizens’ Association, and a host of others, the State of New York stepped in to produce a centralized institution to enable comprehensive control of the waterfront. The scale and volume of waterfront activity was simply too large, and too far reaching for anything less. To carry out the necessary infrastructural enframing, the changes to the material form and the format of the waterfront would require the creation of a new institutional framework through which to administer these changes. Building on the legal and administrative foundations of the earlier eras, such as the 1857 pierhead act, the New York State Legislature created the DOD in 1870.

The creation of the first comprehensive state institution to oversee the waterfront began with a relatively vague paragraph in a large, omnibus bill. Chapter 137 of 1870, “An Act to Reorganize the Local Government of the City of New York” overhauled New York City's local government structure and created a number of new departments.\footnote{“An Act to Reorganize the Local Government of the City of New York,” in \textit{Chapter 137, Laws of 1870, New York State Legislature}, 1870, 30.} The text of Chapter 137, however, proscribed virtually no powers for the DOD. Three weeks later the state Legislature passed Chapter 383 of 1870, “An Act to make further provision for the government of the City of New York,” which provided the docks department with its first clearly outlined set of powers and responsibilities:

\begin{quote}
Said department is also hereby invested with the exclusive government and regulation of all wharves, piers, bulk-heads, and structures thereon, and waters adjacent thereto, and all the basins, slips, and docks, with the land under water in said city, not owned by the corporation.\footnote{“An Act to Make Further Provision for the Government of the City of New York,” in \textit{Chapter 383 of the Laws of 1870, New York State Session Laws}, 1870, 907, s. 32.}
\end{quote}

Moreover, the DOD had the power to enforce these regulations with the coercive strength of the local police force. The act held that violation of any rule, regulation, or order would “be a
misdemeanor, punishable by a fine not exceeding five hundred dollars, or by imprisonment, not exceeding thirty days, or by both such fine and imprisonment on complaint of said board.”

The waning power of waterfront property owners, the increasing importance of industrial and shipping capital to New York’s economy, and the power of the city’s officials would become written into the institutional framework of waterfront governance in 1870. That year, the State of New York created the DOD as part of a sweeping municipal government reform bill that heightened local responsibilities and increased some local jurisdictional power in Manhattan. Rejecting efforts by the private sector to take over the waterfront, the new law gave a municipal department, to be made up of experts appointed by local officials, full charge of how the waterfront was to be enframed as infrastructure. The 1870 act thus walked the line between increasing home rule, a goal of Democratic politicians in New York and Albany, while relegating decisions over the waterfront to the putatively apolitical realm of expertise and planning. Despite any of legislative intent, however, Manhattan’s waterfront growth coalition, voiced their full-throated support for the new department.

The DOD would be a singular institution responsible for overseeing the planning, construction, and operation of the waterfront by the state for the needs of private firms in the name of the public good. The DOD would work to enframe the waterfront as infrastructure for large-scale shipping capital. Whereas earlier practices of enframing had focused on the legal and conceptual aspects of the waterfront as infrastructure, they would have little material impact. The institutional enframent of the waterfront as infrastructure under the aegis of the DOD would have a real material impact on the waterfront. The power and resources of the government would give a much called for materiality to the infrastructural enframing of the waterfront.

Conclusion

Over the first 70 years of the nineteenth century, the New York waterfront underwent a host of changes as part of a larger transition to industrial capitalism. Between 1838 and 1870 the waterfront was both a site of continuity, as colonial-era families continued to own and operate their water lots, and a site of rupture, as new technologies and firms drove capital circulation to a faster speed than ever before. The political-economic transition from commercial capitalism did not

occur overnight. It was a slow process due to the jockeying for power by the various parties within the waterfront growth coalition. Instead, commercial- and industrial-era property relations, economic activity, and political institutions coexisted in the same spaces along New York’s waterfront between 1838 and 1870.

By 1870 industrial capitalism had clearly become the dominant regime of accumulation on the waterfront and in the city as a whole. Large steamship and railway lines dominated a trade that was global in scale. Moreover, property relations and laws relating to the waterfront had slowly been changed as the transportation capitalists who now dominated the local growth coalition forced local and non-local politicians to reframe the property rights of the waterfront. The days of the control of the waterfront by the rent-seeking propertied class were over. This was heralded in 1870 when the State of New York enacted a major legislative change to the institutional configuration of waterfront governance. With the creation of the Department of Docks, the City of New York had the tools to begin the rational, modern planning of the waterfront as part of its enframing as infrastructural place.

The enframing of the waterfront as infrastructural place relied on the emergence of infrastructure as a conceptual category during the rise of industrial capitalism. Whereas the commercial waterfront was distinct from the rest of the city in the realm of property law, it was still a site of mixed-use activity. The rules that governed the activities taking place there, while dominated by the needs of commercial-era exchange and circulation, were not infrastructural. Instead, they were variously determined by needs of rent-seeking property owners or merchant-shippers. By the 1830s, the age of steam had brought significant changes to the waterfront that would require infrastructure – as a separate, circulatory space of connection that operated for collective rather than individual needs. The creation of infrastructure as a category, and the enframing of the waterfront were carried out by bringing the Hudson and East rivers’ shorelines into the realm of engineering expertise and technological knowledge by Army Corps of Engineers officers and government officials who mapped the pierhead lines. While the waterfront continued to be a space of capital circulation, it was the divorce of this from the individual profit needs of merchant proprietors, and its association with the more nebulous notions of the economy as a whole, and the transportation companies in particular, that enframed the waterfront’s piers, wharves, and bulkheads as infrastructure.
What occurred throughout this period was not a foregone conclusion. Instead, it was a constant negotiation between parties who vied to protect and further their own interests in the waterfront as either private property or infrastructure. The way this change eventually happened was first through legislation and the courts. This points to the significance of the law as a tool for reforming the property and economic relations of place. Without an institutional framework through which government and private actors could affect material change on the waterfront however, these legal changes were moot. Instead, as we saw throughout the 1840s, 1850s, and 1860s, these laws had little material effect on the waterfront. The passage of the 1870 act that created the DOD would create the institutional conditions necessary to enact material change on the waterfront. In the next chapter, I explore how this institution used those legal and property changes to carry out land use control along the Hudson.
Chapter 4: Land Use Control on the Hudson: The Department of Docks and the Institutional Enframing of the Waterfront, 1870-1875

Introduction

One of the main responsibilities of the Department of Docks [DOD], which was created in 1870, was to produce a comprehensive plan for the waterfront. It would do so in 1871, after a year of consultations, surveying, and engineering work. Reporting on the new plan, the Evening Post betrayed the excitement of the city’s industrial-era bourgeoisie with an article titled: “Shall We Have the Best Harbor in the World?” The plan, in the Post’s words, would “enable the harbor to accommodate all its shipping more easily and cheaply than any other city of the first-class in Christendom.” Indeed, the effect of the new plan, they predicted, would ripple across the world, and in particular around the United States, where “the people of the whole country will rejoice in improvements.”¹ This enthusiastic response to the plan, which called for new piers, wharves, and bulkheads for the exclusive use of transatlantic steamship lines along the Hudson River, reflected the elite waterfront growth coalition’s consensus around waterfront improvement that had developed over the previous thirty years, and the specific role the DOD was to play in this work. The DOD would use the docks plan to enframe the waterfront as infrastructure. The plan acted as both a conceptual tool and a source of power for the on-the-ground policing of land use along Manhattan’s rivers.

Two things were at stake here. The first was the planning and construction, by the DOD, of new waterfront infrastructure like the piers, wharves, and bulkheads necessary for larger ships and railway sidings. The second was the ability of the DOD’s commissioners, engineers, workers, and their allies in Manhattan’s political and economic world to enframe the waterfront as infrastructural place in a material way by controlling and proscribing land use via an institutional framework that would leverage the property law created, expanded, and enacted in previous eras. Building on the legal and conceptual enframing that was implemented earlier, DOD officials worked to police the activities taking place along the Hudson River waterfront in an effort to make it a de facto site of steamship infrastructure. The key task of the DOD was to expand the

¹ “Shall we have the best harbor in the world,” The Evening Post, May 25, 1871, 1.
institutional enframement of the waterfront. They would do this by leveraging the existing legal and conceptual boundaries to effectively police land use along the Hudson.

The goal of the waterfront growth coalition was to institutionally enframe the waterfront as infrastructural place, as an exclusive site of circulation rather than production or storage as it was during the commercial era. To do so, the state and private-sector members of the place-dependent waterfront growth coalition worked together to create an institutional configuration that would both allow for the private sector circulation necessary and enable effective governance by the DOD. Key to this was the construction of an administrative body that excluded small-scale actors, particularly canal boats, factories, and other users of those formerly elite colonial land grants from the waterfront through the coercive power of the state. This institutional enframing of the waterfront as an exclusive site of infrastructural land use was carried out through two linked practices. The first was the creation of a plan, which involved teams of engineers and surveyors working to map the waterfront and to produce representations of an idealized land-use along Manhattan’s rivers. The second was the use of DOD land-use policing power to exclude smaller shippers, fisher people, and industry from using the waterfront, and to carve out exclusive zones for transatlantic steamships on the Hudson. These practices would be carried out with the institutional authority invested in the DOD by the state Legislature in 1870, 1871, and 1875.

This chapter explores how the DOD’s institutional power over the waterfront via land-use planning and control were key practices of infrastructural enframenent. I examine how the docks plan was implemented through policing and court cases which legitimized DOD power over waterfront users by leveraging the legal enframing of waterfront property parcels as categorically and practically separate from other urban plots. This institutional power gave the City of New York, for the first time, the means to control and transform the waterfront according to a plan which explicitly prioritized large-scale, globally-focused transportation capital over property owners and other pre-existing waterfront users. These owners and users, however, would not accede to these new plans quietly. Rather they and their allies in the New York State legislature would fight new legislation, file injunctions and other legal actions, and operate in contravention of DOD land-use orders to maintain their power, profits, and livelihoods on the waterfront. This was carried out through a political-economic framework of legislation, court cases, and state-private interaction that were tied to building a new regime of industrial capitalist activity in New
York, the United States, and globally. Moreover, this enframing was carried out in cooperation and conflict with transportation, industrial, and property capitalists of various types.

In examining the DOD, I explore the institutional dynamics of infrastructure creation through the collaboration and negotiation between various governmental jurisdictions and various blocs of capitalists, experts, and professionals. I argue that infrastructural enframing in the industrial era relied on the legal foundation of state ownership and of the categorization of the waterfront as a separate category of property that was created during the colonial and commercial eras. The DOD’s institutional enframing of the waterfront would allow them to operationalize this spatial distinctiveness in order to exclude unwanted users and uses. DOD officers would make this conceptual and legal enframing material through the policing of the waterfront to remove unsuitable users, such as slaughterhouses or oyster barges, while safeguarding and promoting putatively more appropriate users, particularly transatlantic steamships.

This chapter begins by examining the DOD’s docks plan and its discursive production of an exclusively large-scale, globally-oriented transportation waterfront. I then turn to early conflicts between the waterfront’s commercial and early-industrial-era small players on the one hand, and the DOD on the other, over waterfront obstructions. This conflict would be used by DOD officials to effectively enframe the waterfront as an exclusive transportation infrastructure place, and the conflicts that erupted around this. This process of enframing was one that was, materially and conceptually, always ongoing to one degree or another. Finally, I turn to the conflict that erupted over pier sheds and land use more generally, and their iterative relationship with official plans and land-use control. The resulting 1875 Sheds Act was a pivotal moment of institutional enframedment of the infrastructural waterfront.
Building the Institutional and Legislative Framework for Land Use Control, 1870-71

In their first official tour of the waterfront in June 1870, the inaugural Board of the DOD found an utterly unsatisfactory state of affairs. President John T. Agnew, Commissioners William Wood and Hugh Smith, and Secretary Richard M. Henry, along with a half dozen others, boarded the steamer Minnahannonck for a cruise that took them from Manhattan’s northern Harlem River, south along the East River, around the Battery at the city’s southern tip, and up the Hudson River on the city’s West Side. There they found conditions that were “by no means enticing or savory.” This included piers where manure and street sweepings dumped at the foot of docks had created slips that were far too shallow for all but the smallest ships to enter.2 The DOD agreed that they had their work cut out for them. On the Hudson River alone, immediate rebuilding and repairs estimated to cost $161,343 would be required to allow ships to even land at a number of piers.3 To carry out these material changes to the waterfront would require a legal and institutional framework through which the DOD could act.

DOD power over the waterfront was not limited to control over already existing property along the Hudson and East Rivers. Rather, the Legislature made an explicit connection between the need to control existing uses through police power and future uses through planning. This ostensibly placed the governance of the waterfront within the realm of technical expertise. Section 33 of Chapter 383 of the Laws of 1870 required the docks department to create an official use and redevelopment plan for the waterfront by May 1871. To do this, the DOD’s board would need to “hear all persons interested in the improvement of the water-front.” The act directed them to specifically focus on the need to establish “permanent wharf accommodations for special commercial interests.” This public consultation amounted to the first steps of what was, for 1870, a remarkably participatory planning process for the period. Following those public hearings, the DOD was instructed to solicit waterfront improvement plans for the “future expansion and increase [of commerce], and for the facilitation of the transportation of freight…so as to render the whole water-front…available to the commerce.”4

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The legislative requirement for a waterfront plan was significant for two reasons. First, it required the DOD to submit any plan, ostensibly created by experts in the fields of civil and maritime engineering, for approval to the Committee of the Sinking Fund, a powerful body within the city government made up of the Mayor, Comptroller, and Aldermen. This reflected the importance of the waterfront to the city as a whole and how integrated planning was into the political process of municipal governance of the waterfront. Second, the plan was a binding legal document that gave municipal officials, for the first time, real power over the design and actual use of a large swath of the city according to a comprehensive and expertly developed plan. Indeed, the relevant section of the law proclaimed that once the DOD's plan was adopted “no wharf, pier, bulk-head, basin, dock, slip or any wharf structure, or super structure, shall be laid out, built or rebuilt…except in accordance with such plan.” Moreover, the law gave the DOD the power to determine which kind of functions could take place on such structures.

At first glance, this kind of waterfront land-use control seems in keeping with earlier efforts to restrict pier lengths or to ensure a state of good repair. However, one section points to the way the legislation was a radical departure from the previous mode of regulation on the waterfront. The act gave the DOD the ability to assign any section of waterfront “to the sole use of special kinds of commerce” through ten-year leases made privately, rather than at public auction as required for those types of waterfront commerce that were less than “special.”

This caveat of exclusivity allowed the DOD to create a waterfront landscape conducive to the ascendant and increasingly powerful bloc of shipping and transportation capitalists. While not explicitly geared towards shipping, Section 33 gave the DOD the power to restrict the types of ships allowed to use designated parts of the port. The city’s control of land use, built form, and economic planning were inextricably linked in the legal discourse and governance practices surrounding Manhattan's waterfront discussed earlier.

The close relationship between the DOD and the new guard within the waterfront growth coalition was clearly shown through the initial composition of the board. That first board, appointed by the Common Council of New York, was made up of five men – none of whom were drawn from the earlier era’s set of propertied elites. Absent were names like Astor or Roosevelt.

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stead, the board consisted of Wilson G. Hunt, a clothing merchant whose office and residence were both located well inland on Broadway. He was joined by Agnew, a merchant with offices near the East River, and William Wood, a Tammany-linked political operative who also served as a Commissioner on the Board of Education and who was a partner in the shipping firm Dennistoun, Wood & Co., Hugh Smith, another merchant, and Richard M. Henry, a lawyer, made up the rest of the board’s five initial appointees. Unlike the Astors and Roosevelts, these men were not overly concerned with property values on the waterfront or the rights of owners to build as they saw fit. Rather, their interest was in enframing the water’s edge as a modern site dedicated to the loading and unloading of passengers and cargo to and from large steamships.

This focus was clear from the DOD Commissioners’ initial planning efforts. Their first major act was to hire George B. McClellan, a well-respected Civil War veteran as Chief Engineer. McClellan was to be responsible for designing the waterfront plan. He was considered by the city’s new elite to be a rational, knowledgeable engineer who could design a plan that would “remedy the hideous state of things which exists now on all the water-front of New York, where old, rotten docks, narrow piers, shallow slips and mean, close streets produce a crowding, confusion, and inconvenience to the public and to commerce.” Indeed, McClellan’s engineering rationality would be necessary to allow for the discharge of freight in the spaces where non-transportation uses had rendered the waterfront little more than the site of “pestiferous pools, breedings...incessant fevers and zymotic diseases.” In this way, his focus was well within the technocratic mandate of the DOD, as envisioned by both legislators and local members of the waterfront growth coalition.

Following his legislative orders, McClellan began soliciting proposals for waterfront development from the public. Submission instructions made it clear that the plan must ensure the waterfront would be a specific space of infrastructure enframed as special accommodation. What this entailed was designating various sections of the waterfront exclusively for the use of different shippers. Canal boats, for instance, were relegated to the most northern and removed section of the west-side shoreline, while transatlantic steamers were to be docked on the lower and most central part of Manhattan’s waterfront.

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9 “Reform in the Docks,” 4.
Plans were required to contain information about the:

- special accommodation of steamers and vessels engaged in foreign trade, in domestic trade, in the coal trade, in the trade in lumber and building materials, in the hay and grain trade, in furnishing market supplies, also for the accommodation of steamboats plying to places on the Hudson and Long Island Sound, for the canal boats arriving in this city, and for the railroad and other commercial interests.  

Particularly notable here were the uses that were excluded; fishing, oyster barges, or any of the other existing waterfront uses like slaughterhouses or dumping grounds were conspicuously absent. No provisions in the plans sectioned off the waterfront for these uses. This would lead to significant contestation from landowners and other non-large-scale-transportation users of the waterfront.

Engineers, inventors, shippers, and a host of other experts, idealists, and interested parties submitted plans to McClellan. The DOD also solicited plans from select organizations. One of these was from the Chamber of Commerce of the State of New York’s Committee on Shipping, Pilotage, Wharves, etc. The members of this committee, all of whom were merchants engaged in shipping rather than waterfront-property owners, made a number of recommendations about building piers out of stone, and the need for new piers and wharves, expensive projects that still had to be completed. Their most significant piece of advice to the DOD, however, pertained to enframing sections of the waterfront. They urged McClellan to divide the waterfront into “sections of convenient size,” and work with shipping interests themselves to designate “where the different kinds of business shall be located.” The Chamber of Commerce report reflected the enthusiasm transportation capitalists and others had for the DOD’s new power and the need for a plan.

The conceptual enframing of the waterfront as infrastructural place also required the creation of engineering and calculative knowledge about the rivers and shoreline. This scientific and engineering knowledge, like the legal knowledge that both pre-dated and accompanied it, was central to the creation of the waterfront plan. As part of this effort, McClellan enlisted numerous scien-

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tists and engineers to carry out “an accurate survey of the waters in and around the city, for the purpose of establishing a basis of facts upon which to report intelligently to the Board.” To aid in this, thirteen stations were established to measure tidal variation on the Hudson and East rivers. Level lines were taken to establish benchmarks all along the waterfront from West Twenty-fourth to East Sixty-eighth Street. New maps were made, soundings taken, and borings of mud and bedrock examined all along the riverfronts. In short, a knowledge set that institutionally enframed the waterfront exclusively as a site for pier construction and transportation – an infrastructural place – was developed and enacted.

These scientific observations were accompanied by detailed studies of port construction in other cities around the world. In particular, London and Liverpool were extensively examined as examples “of corresponding commercial importance” to New York. These cities though, were found to be overly engineered, with massive wet basins and piers running parallel to the shore that were the necessary result of their location in estuaries with extreme tidal variations. This was a problem that would not face New York due to its unrivalled “position as a great commercial mart…situated upon an island formed by three rivers” which were broad and varied comparatively little in depth no matter the tide or season. McClellan’s plan, based on his scientific observations, his engineering studies of other ports, and the legal and administrative framework of the DOD, would build on New York’s almost twenty-five miles of waterfront as a natural advantage “which need only to be developed to enable it to accommodate all the commerce that the future can concentrate here.”

Altogether, the board of the DOD received over seventy plans for the waterfront redevelopment. These early designs included plans for floating docks, granite river walls, new basins and infill, canals cutting across Long Island, and a myriad of other schemes that ranged from the eminently sensible to the hairbrained. All were summarily rejected in favour of McClellan's own plan, which called for municipal ownership of the entire waterfront, the infill of land under water to create widened marginal streets at the edge of the city, and the building of new piers along the

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17 “Our City Wharves,” 2.
Hudson River. McClellan’s plan reflected the wider set of ideas held by progressive-era reformers that aimed to make municipal governments responsible for local service provision. This plan, which was chosen and approved by the city’s Committee of the Sinking Fund in 1871, dealt with both the kinds of structures that were to be built and how they were to be used. It was an important (first?) step to the making of the waterfront as infrastructural place.

In line with their desire to eradicate the small transportation users not associated with the global trade who were increasingly at the bottom of the waterfront’s power geometry, the docks plan called for the wholesale removal of non-appropriate land uses from the waterfront. These included things such as the dumping of offal from slaughterhouses or the anchorage of hay barges along the Hudson River. It also sought to reserve areas for the use by transatlantic and other large steamship companies, and the national railways whose main terminals lay across the river in Jersey City and Hoboken. This was a plan that had the support of the city’s new class of industrial-era transportation, manufacturing, and financial elites who made up the local waterfront growth coalition. It was one that lent itself to the idea of enframing and separating the waterfront from the rest of the city as infrastructure.

The plan called for a permanent river wall that would be outside of existing bulkheads, creating wider marginal streets on the Hudson and the East rivers. The piers were to be built at the same time and place as sewer pipes leading out to the river, to avoid draining effluence into slips. Along this river wall would be piers “placed at such intervals as will give the greatest accommodation for shipping.” These piers would be covered, as necessary, with sheds built, not by the lessees, but by the DOD itself. The end result of McClellan’s plan would be a unified, rational, and massive waterfront that would increase the city’s wharf line by 45,000 feet to 195,000 and double its useable pier area from 2,322,668 square feet to 5,105,000 square feet (See Figure 4.1).

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21 DOD, First Annual Report, 14.
22 DOD, First Annual Report 40.
The DOD commissioners, in line with the city’s most powerful bloc of industrial-era capitalists, sought to ensure that the lower Hudson River waterfront would be effectively cordoned off for the sole use of steamships and railway lines. The 1871 plan called for the appropriation of private property on the waterfront and the wholesale destruction of existing wooden piers. In their place, piers that were wider, longer, more regularly spaced, and with deeper slips between them would be constructed to facilitate profitable use by the railroad and transatlantic commercial firms so central to the circulation of passengers across the globe and the movement of commodities in and out of North America via Manhattan. In an attempt to mitigate the displacement of smaller firms from Manhattan’s west side, an issue that was taken up by property owners, waterfront users engaged and local and regional scale commerce, and their still-powerful representatives in Albany and on New York’s council, the plan required the DOD to maintain a 250-feet-wide bulkhead between West Street and the Hudson River. This would be used as a “public wharf” open to whoever needed to use it and overseen by the city.23

This component of McClellan’s plan was also meant to assuage the fears of small-scale shippers that the waterfront would be dominated by the transatlantic steamships. On paper the plan paid lip service to the Hudson River needs of smaller firms and those engaged in local commerce or other commercial activities. In practice it was a different story. From 1870 to 1890 the DOD engaged in an unofficial but nevertheless purposeful campaign of using land-use controls against unwanted users and ignoring the illegal obstructions of those, such as the railroads and steam lines, who were considered desirable.

The relationship between the plan and practice, as we will see, was an iterative one. In effect, land-use controls that targeted certain low-status users while ignoring illegal uses by more powerful groups effectively changed the way the plan could be implemented. While not directly contravening the plan, the effect would be to change the plan through practice. Rooted in the property rights and limitations on those of rights of land holders on the waterfront, land use was able to supersede the legislative intent of the plan. In doing so, the case of the North River waterfront sheds demonstrates the relationship between political economy, the law, and planning through land use.

23 Henry R. Beekman, “Letter to the Board of Docks” May 11, 1889, 62, 1889-90: 24th Improvement Area and Grants, Box 2, Opinions of Corporate Counsel [OCC], Department of Docks and Ferries Collection [DODF], New York Municipal Archive [NYMA].
Figure 4.1: Planned and Existing Piers, 1873

Legend

- Existing Piers, 1873
- Planned Piers, 1873

Law and Property Collide: Land Use on the Water’s Edge, 1870-1871

While the legislation provided for sweeping planning powers, the initial focus of the DOD was on reversing the mundane and everyday obstacles that rendered the waterfront insufficiently infrastructural: obstructions, filled-in slips, and old-fashioned sheds and other structures on the piers, wharves, and bulkheads. All these related to the way that private landowners and lessees used their waterfront plots along the Hudson River elites as non-circulatory or as small scale flows. This set of concerns about waterfront obstacles and land use in general reflected the underlying legal logic that served as the foundation of land-use control and planning in the modern city: nuisance and the police power to protect a notion of the common good. By the 1870s, this had increasingly become associated with the needs of the industrial-era economy writ large. While local users still constituted a public in their own right, this was increasingly being ignored in favour of the idea of public as analogous with the economy as a whole, a larger enframing within which large-scale transportation capitalists were at the centre of. DOD attempts to control how the waterfront was used by owners and lessees was also part of their attempt to control the built form at the water’s edge in this early example of systematic, albeit localized rather than comprehensive, land-use planning in North America.

In the first year of its operation the DOD was focused on a two-pronged attack to improve the state of the waterfront. The first, and the most high-profile, was the creation of the comprehensive plan for the use and form of Manhattan’s waterfront. The second, while not so prominent, took up the bulk of the Board’s time and attention, and was focused on policing how the waterfront was used by leaseholders and private owners.

From their very first meeting in 1870, the DOD was overwhelmed by the need to hold individuals and corporations to account for what they saw as non-circulatory uses of the waterfront. Private rights holders had overseen slips that had become too full of mud, silt, and debris for ships to enter while many wharves, piers, and bulkheads were falling apart, and others were completely covered with waste, freight, and other obstructions. Added to this was the presence of illegal structures on land and in the water. These nuisances needed to be dealt with in a way that reflected the principles behind the DOD’s new plan.
The DOD’s operational focus served the needs of the water-based transportation companies. As one letter to the editor in the *Evening Post* in 1873 made clear, the DOD had to act as quickly as possible to remove obstructions. The letter claimed that there were buildings illegally built on piles beyond the bulkhead line between Piers 3 and 5, Piers 19 and 20, and 22 and 23. Other bulkheads were encumbered with fish-stands or were covered “by lumber, brick, lime, lath, sand, etc. as permanent obstructions.”

All of this rendered much of the waterfront inaccessible for transportation. Clearly, the obstructions on the waterfront were at the front of mind for those interested in reframing the waterfront.

A look at one meeting of the board provides insights into how these issues on private waterfront property were approached. A summary of each weekly meeting was published in *The New York Times*. Perusing these reports gives one a sense of the scale and scope of uses that the Board considered problematic as well as the steps that they took to deal with it. The two o’clock meeting of the DOD on Thursday, September 1st, 1870 was one such occasion. The Board began by agreeing to the Erie Railway Company’s (one of the largest rail firms in the United States) request to dredge their slips between Piers 30, 31, and 32 on the North River. The Commissioners then turned to the “great complaints” made against the city’s street-cleaning contractor, J.L. Brown, who had been accused of dumping waste off of his pier and filling the slips adjacent to it. The DOD urged the city and its contractor to find another solution and to discontinue dumping into the rivers.

Further uptown on Manhattan’s West Side, other complaints had been made about the rights-holders for the piers and wharves at the feet of Thirty-eighth and Thirty-ninth Streets. The slips there had become filled with “an immense deposit of filth, some five or six feet in depth.” These slips, just to the north of Manhattan’s built up area, were damaged by dumping from the New York Rendering Company and other “fat-melting establishments and slaughter-houses.” Together these firms lining the Hudson had “almost choked up the slips in question with an enormous mass of the most disgusting filth.” If the owners did not begin dredging within five days, the DOD declared that it would dredge the slips itself and bill the owners for the work. This was part of ensuring that the waterfront, which had become increasingly specialized, like the rest of the industrial city, would be able to meet the needs of large-scale transportation firms.

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After denying requests from the Morris and Essex Railroad Company for a new freight-handling pier, citing the soon to be passed plan, and hearing about the wear and tear caused by spiked horseshoes upon existing piers, the docks commission returned to the question of waterfront land use. Unanimously, the board members passed a resolution dealing specifically with the use of the waterfront between pier 1 North River, and West Twelfth Street, the busiest section of the Hudson for transatlantic steamship traffic. The resolution began by stating that the port relied on “loading and discharge of vessels” and that this district:

is more encumbered with permanent obstructions to commerce…including lumber-yards, coal-yards, firewood-yards, counting houses, a dwelling-house, fruit warehouses, oyster warehouses, grain warehouses with large elevators attached, a floating smithy, floating boiler-yards, manure-yards, hay-barges…and, in fact, almost every other sort of obstruction to commerce which it is possible to conceive of, and which ought not to be there.

The resolution finished by asking for the names of all occupants of the area between pier 1 North River and West Twelfth Street, in order to fine them and force them to remove obstructions.25

The dumping of street refuse, the filling in of slips with “disgusting filth” and the presence of obstructions as diverse as lumberyards and hay barges along the Hudson River waterfront were, prior to the DOD’s rule, perfectly legal and accepted practices by owners, lessees, and other occupants of the waterfront. As that busy September 1870 meeting made clear, however, the DOD considered these land uses “obstructions to commerce.”26 Though each of the land uses singled out as nuisances above pre-dated the DOD, and were operated by established, privately-owned firms actively engaged in commercial activity, they constituted a breach to the DOD’s understanding of a proper and desired commercial use of the waterfront. They were not transportation, and their use of the waterfront, conceived of as a unitary zone of transportation circulation – an infrastructural place – by the DOD and their allies in the major transportation firms was therefore against the plan and thus a target for land use regulation by the DOD. This was especially the case along the Hudson River waterfront, where naturally-occurring shipping lanes, less built-up areas, and larger riparian grants had created an area that was ideal for the burgeoning transatlantic steam trade.

26 “Department of Docks,” September 1870, 3.
The concern over obstructions and inappropriate land uses at the water’s edge continued throughout the DOD’s early years. Similar requests for dredging or obstruction removal appear in virtually every DOD meeting. The October 6th, 1870 meeting resulted in resolutions dealing with dredging on the East River.27 Two months later, the commissioners heard complaints about the slips at Piers 38 and 41, where private dumping had resulted in “large masses of putrescence…exposed to the air, and exuding the most offensive and dangerous odors.”28 It was no surprise then, that by 1871, a year after the DOD had earnestly begun their work, observers were still complaining about the “old, rotten docks, narrow piers, shallow slips and mean, close streets,” that continued to characterize Manhattan’s waterfront (See Figure 4.2).29

The question of land-use control on the Hudson River reflected the part it played in the arsenal of regulatory tools at the hands of the DOD and the municipal government as a whole. The lack of suitable piers on the Hudson River meant that ships arriving from places like Liverpool had to discharge rapidly or face extensive waits for a berth. This dearth of space, and the attendant costs associated with the loading and discharging of goods as quickly as possible was, in the eyes of DOD officials and counterparts in the transportation industry, the result of antiquated ways of using the waterfront. Previously dominant waterfront uses, such as slaughterhouses and street dumping, bore no relation to the shipping trade of the industrial era. While other commercial activities could be carried out on the waterfront, they were not using the space as the DOD and the new waterfront bourgeoisie intended: as a transportation infrastructure place that connected New York to the modern international and the expanding continental economy.

29 “Reform in the Docks,” 4.
Figure 4.2: Congestion and Confusion on the Waterfront, 1862

Source: c. 1871 “A Jam in West Street, North River.” New York Public Library Digital Collections [NYPLDC].
With the powerful transatlantic and railway trade making up an increasingly large part of the city’s economic activity by 1870, the DOD was fixated on producing a landscape that was appropriate for them on the waterfront. They would do this by instituting land-use controls, targeting uses they considered inappropriate and out of place. Throughout the 1870s the DOD would use their policing and planning powers, steadily enlarged through New York State legislation, court decisions, and on-the-ground practices to reshape the Hudson River waterfront. The relationship between planning and policing land use on the waterfront was an iterative one. The conceptual enframing of the waterfront as infrastructural place through the official plan passed in 1871, and the material enframing carried out by obstruction removal built on and changed each other, strengthening the building of infrastructural place from 1870 onward.

**Changing the 1871 Plan Through Practice**

The establishment of the plan as a legal land-use control document was at once both a powerful tool and a hindrance to the DOD. In this way, it reflected the iterative relationship between land-use control in practice and plan. On the one hand, the plan, as written, was set in law according to the material needs of a particular moment in time. On the other, the needs of shippers and others on the waterfront continued to evolve. In this section, I examine how the DOD practices of land use, structured by the plan itself, would be used to change the plan. This is an example of the iterative relationship between conceptual enframed and the on-the-ground governance of cities. These practices were central to the production of the waterfront as infrastructural place.

As plans for the waterfront took definite shape after 1871, the DOD moved ahead with detailed projects for specific areas. One of these, to build out the bulkhead and construct modern, wide piers between Canal and West Eleventh Streets, was particularly contentious to existing waterfront interests. On paper, McClellan’s 1871 plan held that the bulkhead between the piers along this stretch of the Hudson would be public. However, as the DOD found out, this system “was one that without some modification would not meet the requirements of the commerce of this port...no person or corporation engaged in commerce would have the right to the exclusive use...but would have to take the chance of being permitted to load and unload freight at any wharf or pier.”

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commerce, including the canal boats and their upstate owners (and voters), it was a direct obstacle to the continued profitability of the massive steamship and railway companies in the area who required exclusive infrastructural places within which to carry out their business.

In light of this, the DOD worked to ensure that the Hudson River waterfront was an infrastructural place for these companies. To carry out the material enframing necessary, the DOD occasionally allowed private parties to build wharves and piers, despite it being against the plan. In answering a question about these piers, the city’s corporate counsel explained: “Although, probably illegal, this had practically been done for many years…the Department of Docks…had assumed the power and authority (very doubtful and probably not existing) of permitting them to be built.”31 While the plan called for a number of publicly held wharves and bulkheads along the Hudson River, the DOD catered to the needs of railways and steamship lines by using their land-use-policing power to enframe the waterfront as infrastructural place, excluding other, smaller users.

The pre-existing waterfront users did not consent to the enframing of the Hudson River as an exclusively infrastructural place without a fight. Some rights-holders such as J.L. Brown the street sweeper were willing to move their business elsewhere where cheaper land and less municipal oversight were to be found. Similarly, slaughterhouses and other noxious industrial users were more likely to move away from the waterfront willingly as the DOD made conducting business on the waterfront increasingly expensive and legally challenging. Other users, particularly those whose livelihood depended on river access, like small shippers and fisher people, fought for their continued use of the waterfront. These cases appear frequently in the DOD’s business meetings. In October 1871, for instance, the lessees of North River Piers 22 and 23 hired a retired judge to advocate for them. Judge Whiting protested the orders of the DOD to alter Piers 22 and 23 and to destroy sheds the owners had built on the bulkhead between the piers. He “adverted severely to the abuses of municipal government during recent years, especially…the Dock Department, which he declared were calculated to injure.”32 By the mid-1870s, these frequent clashes between private rights holders and the DOD were increasingly common and had forced the commissioners to reaffirm their legal powers of land-use control along with their right to plan.

That the DOD went after these existing non-transportation waterfront uses was very clear to early observers. The oyster industry as a whole, and oyster barges in particular, were a frequent target for exclusion. This was one of the largest groups of waterfront users not engaged in transportation. The oyster industry was a particularly important source of cheap food and work for the city’s working class, with the shellfish found in great abundance around New York Bay. The DOD was remonstrated in the *New York Tribune* for “cutting loose of oyster-boats from private docks… and… threatening to tear down private warehouses.” ³³ The exclusionary aim of this infrastructural enframing was not hidden. As one exposé exclaimed, “The Department of Docks proposes to clear the slips now occupied by the day boats of this [oyster] trade and devote the space so acquired to other purposes. The result of this, it is contended, will be to drive the business to New Jersey and Long Island.” ³⁴ For small-scale oyster-dredgers, this was particularly difficult as it meant a loss of easy access to their largest market. However, this group, which had very little political and economic power, had virtually no way to effectively fight the DOD’s efforts.³⁵ It was obvious to all observers that the goal of the DOD was to build an infrastructural place on Manhattan’s waterfront.

The DOD campaign to enframe the waterfront as transatlantic infrastructural place rather than a fishing or small-scale shipping zone was also carried out through selective non-enforcement of the same land-use rules that were used to exclude those like the oyster barges. Indeed, as a report of the State Assembly noted about this earlier era of DOD management of the waterfront, steamship companies were tacitly allowed to encumber the waterfront as they saw fit. The result was that by the mid-1870s, there was “scarcely a bulk-head remaining upon the North River for the accommodation of any other than steamship companies…” The report went on, explaining that this was despite the fact that the DOD repeatedly issued orders for the removal of encumbrances, as was the case with canal shippers and oyster barges. In the case of the obstructions on the steamship piers, “officers authorized to enforce the orders have been verbally informed they need

not execute them.” The result of this was, according to the Assembly, an “inconvenience to the people and profit to the steamship companies.”

Many property owners and users of the waterfront – like the slaughterhouses, small-time canal shippers and others targeted for their putatively obstructive use of the waterfront – opposed the DOD’s land-use controls. Indeed, they often relied on their upstate allies, particularly those with canal or landowning interests, for assistance. As one local Tammany official, George Washington Plunkett, complained, legislative interference on the waterfront was always meant to benefit those upstate players he called “hayseeds:”

“Last year some hay-seeds along the Hudson River...got dissatisfied with the docks where they landed their vegetables, brickbats, and other things they produce in the river counties. They got together and said: "Let's take a trip down to New York and pick out the finest dock we can find...the Legislature will do the rest." They did come down here, and what do you think they hit on? The finest dock in my district...and—well, my dock was stolen.”

While Plunket’s case was unique, the legislature, and their private sector allies, clearly still had a great deal of power to interfere with waterfront activities in Manhattan.

These players, however, were not the most powerful voices on the waterfront. Constant efforts to reaffirm their status there was met with legal stonewalling and increased policing from the DOD. They were unable to shift the new terms under which the waterfront was being governed. Whereas these groups’ profits depended on their access to the mixed-use property located between West Street and the Hudson River and between South Street and the East River, larger players required a different set of waterfront property relations. These were the large, capital intensive transportation firms whose reach extended far beyond Manhattan. The actions of the DOD in these early years focused on two things: dealing with the minor obstructions and encumbrances on waterfront property caused by mixed-use functions and imposing new land-use controls that had the effect of converting the North River waterfront into a zone of modern shipping infrastructure.

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In 1873, the Attorney General of the State of New York took legal action against Mallory & Co. This organization, a relatively small steamship line mainly plying the New England and Southern Atlantic coasts leased a single pier, Pier 20, on the East River. The DOD asked the Attorney General to force the removal of a shed built on the pier by the company.38 This was despite the fact that a previous DOD board, just one year earlier, had granted Mallory & Co. permission to cover Pier 20 with a 400-foot-long, 39-foot-wide, and 19-foot-high shed.39 The ad hoc and discretionary nature of obstruction removal was on full display here. Indeed, in asking for an injunction against the shipping line and the removal of the shed, the DOD was attempting to convert this ad hoc governance into systematic enframing of the waterfront.

In the preliminary hearing of the case People v. C.H. Mallory & Co., Judge Fancher issued an injunction forbidding the further construction of a shed on pier 20. When the case went to court in September 1873, however, the presiding judge, Judge Ingraham, dissolved the injunction, finding that the DOD did indeed have the power to permit the construction of sheds on the East River. The extent of the DOD’s institutional power and the legal framework to deal with the practices of infrastructural enframing were clearly in flux during this period. In dissolving the injunction, Ingraham warned that an appeal from the state was almost certainly forthcoming and warned Mallory & Co. to hold off construction until an appeal had been decided. Disregarding this, the steamship company covered the pier with a shed anyway.40

This move would prove hasty. Upon hearing the case on appeal, Justice Brady of the New York State Supreme court reversed the lower court’s decision. He issued an injunction and order of removal against Mallory & Co. The legal reasoning behind this decision at first would seem to strike a blow against the DOD’s land-use powers. Brady held that the laws issued under the 1870 and 1871 Acts investing the DOD with powers to control the waterfront did not overrule earlier legislation dating back to the colonial era which forbade the construction of structures beyond the high-water mark.41 As such, the court ruled, the DOD lacked the authority to permit the construction of the shed on Pier 20. Thus, rather than being considered a constituent component of

39 Isaac Grant Thompson and Robley D. Cook, eds., The New York Supreme Court Reports: Cases Determined in the Supreme Court of New York from November 1873 to March 1874, vol. 2 (Albany: John D. Parsons, 1874), 77.
40 The New York Supreme Court Reports, 80–81.
41 "Pier Sheds", 1874, p. 5
infrastructural place, the shed had the effect of excluding “the public from their enjoyment of [the East River] as a highway or public street.”

This decision got at the legal basis for the industrial-era conception of the waterfront as infrastructural place. In using earlier laws, Justice Brady was also relying on earlier notions of infrastructure. The waterfront was not considered a bounded site of articulation and exchange, but rather was deemed analogous to a road or highway. This was an idea that did not see these infrastructural nodes as place, but rather as a simply a connective device. This conception, as we saw in Chapter Two, was one rooted in commercial-era systems of exchange and production. Under this legal framework, the waterfront was a flow, rather than a node: “The exclusive use of a pier or wharf given to any particular class of vessels must be understood to be for the purposes of navigation or commerce only…The exclusive use, assuming the power to grant it, does not necessarily confer the absolute control of the pier for a particular purpose.” This represented a potential victory for public access to the waterfront.

Of course, the transportation needs of industrial capitalism required just such an “absolute control of the pier for a particular purpose.” Key to the enframedment of infrastructural place on the waterfront was the creation of such exclusive spaces where transportation capital could oversee the goings on and govern as they saw fit. The Mallory case is an example of the kinds of legal and administrative changes that had to be made to enable the DOD to enframe the waterfront as infrastructural place. As Brady made clear in his opinion, at issue was not the use of the waterfront as exclusive for certain firms. Rather, it was that the laws governing the administration of the waterfront were stuck in the past.

Taking Brady’s decision as a wake-up call about the limits of their power to enframe the waterfront, the DOD and city officials, along with the steamship and railway companies pushed Albany to act. State Senator James W. Booth, of Manhattan’s Fifth District, took up this call and introduced a bill that would allow the DOD to grant “absolute control over the piers occupied” to steamship companies. The debate over Booth’s bill pitted the DOD and the large-scale steamship and railway companies against the small-scale shipping line owners and other small water-

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42 The New York Supreme Court Reports, 76.
43 The New York Supreme Court Reports, 79.
44 The New York Supreme Court Reports, 79.
front players. In the 1870s, the continuing (if diminished) power of the latter group meant that this was not a done deal.

At an 1874 meeting of the Importers’ and Grocers’ Board of Trade, made up of smaller local- and regional-scale merchants and shippers, those assembled bemoaned the steamships’ apparent favored position at the waterfront, claiming that "encroachments were becoming more extensive and apparent every year." While the law held the piers were public highways, the DOD had looked the other way while some sheds were built, thus granting the steamship companies “exclusive control and use of the piers so inclosed [sic].” (See Figure 4.3) This would only become more apparent once the bill sponsored by State Senator Booth passed, which would grant the shipping companies total control over their piers.46 In order to firmly decide these contestations between the warring parties, something had to be done.

Despite the deputations of the importers, grocers, and other interested groups of small players, Senator Booth’s bill passed in Albany. On May 6th, 1875, the New York State Legislature passed Chapter 249: “An Act to Regulate the Use of Slips, Wharves and Piers in the City of New York.” The Shed Act, as the law became known, would make official the currently used land-use control power of the DOD and provide a legislative and institutional mechanism through which to govern the waterfront. This would allow for a wider and more powerful reach into the rights of private property holders than before and begin a process of full-scale conversion to infrastructural property.

Figure 4.3: Cunard Steamship Co. Shed, 1880

Source: C.1880. “Interior of a freight shed, Cunard Docks, New York.” Art and Picture Collection, NYPLDC.
The 1875 act was a significant legislative example of land-use control along the waterfront. Section 1 of the Shed Act explicitly enabled the construction of sheds “for the protection of property” by any person or company involved in the steam trade, as long as they received the DOD’s permission. This, however, was not the most striking part of the act. Section 2 caused the greatest change to the waterfront and greatly aided the DOD in its quest to enframe the Hudson River shore as an infrastructural place (See Figure 4.3). This section gave any party granted permission to build a shed the right to not only use the shed, but to exclude all other users: “no vessel shall be placed in any berth on such pier or bulkhead, or part thereof, without the consent of such owner or lessee.” In effect, the 1875 act gave the DOD the ability to determine the exclusive use of the waterfront for whomever they wanted. In practice, this was the railway lines and steamships.

In one way, the 1875 law could be seen as merely formalizing existing DOD practice. This, however, ignores how property figured into land-use control laws as an enframing practice. The combined force of the massive growth in the shipping industry and the DOD’s desire to closely regulate the construction and use of a landscape appropriate to the circulation of capital required a different sort of control. No longer was the DOD content with controlling only how rights-holders used their waterfront property. By the 1870s, the DOD wanted the ability to restrict who could even be rights-holders in the first place. In effect, the DOD sought the ability to create the key element of infrastructural place: the specialized zoning of space for a small number of powerful users.

Of the two key legal practices of land-use control pre-dating zoning – covenants and nuisance law – covenants had been the most commonly used by the DOD. The 1875 law, however, expanded the second legal notion, nuisance, to allow the DOD to selectively define it as anything threatening the all-important large-scale transportation business. With this act, leveraging the idea of non-railroad or steamship lines as nuisances to this trade and the commercial development of New York as a whole gave the DOD the ability to create an exclusive infrastructural place on the waterfront. This dovetailed with a cementing of the notion of public as synonymous with the state.

The 1875 act gave the DOD the legally sanctioned ability to carry out the kind of controls it was already using on an ad hoc basis. Just as court cases challenging the DOD’s actions and their plan had begun to hit the department’s coffers, the commissioners had found a solution to their problem that did not involve the wholesale rewriting of the plan. The ability to control what kinds of sheds and other buildings were constructed on waterfront property with the full backing of the Legislature expanded the DOD’s power and confidence to carry out obstruction busting on behalf of the transportation industry more widely. It effectively changed what could be considered in line with the plan, by changing what the plan could legally allow, getting rid of the need of a public bulkhead.

The DOD’s new powers had a noticeable and profound effect on the way Manhattan’s Hudson River waterfront was used. Local waterfront users who were not representatives of the railroad or international steamship trades complained vocally about the DOD’s post-1875 land-use controls. The lawyers representing ice companies, manufacturers, small-time shippers, and pilots lobbied the New York State Legislature to examine the effect of the DOD’s shed policies. In response, the New York State Assembly’s Committee on Commerce and Navigation struck a new subcommittee to “Investigate the building and leasing of docks, piers, bulkheads and matters relating thereto in the City of New York.” The assembly members spent almost a year investigating the issues and hearing deputations from interested parties.

In testimony after testimony, these smaller firms and landowners explained how the DOD’s land-use controls had, in practice, changed the waterfront dramatically, to become what I have called infrastructural place. Whereas the 1871 plan, on paper, was for the benefit of the city as a whole and focused on the production of a more useable waterfront in general, the opposite was occurring in practice. G.B. Lawton, a Manhattan barge owner, complained that the 1875 act had created “a great injustice to a large body of ship-owners to the benefit of the monopolies. It is diverting our dock accommodations from their original designs and converting them into the hands of private parties to be used for their sole benefit.”

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Lawton also pointed again and again to the discrimination with which the DOD wielded their land-use tools:

The practicable effect of this exclusiveness is to destroy our smaller vessel-owners and throw all of the commerce into the hands of monopolies; if private vessels cannot obtain berths to discharge, it virtually throws them out of business. For instance, two steamships are loading in Liverpool, one belongs to a regular line and has a pier in New York regularly assigned them, the other to an individual and has no such accommodations; both arrive [sic] at New York at the same time, the one having the berth immediately takes possession and commences to discharge, the other has no berth and is obliged to lay in the stream until a place can be secured. The regular line will, in all probability, be discharged and reloaded and on her way back before the other gets a berth.49

Some legislators were clearly sympathetic to the plight of these smaller players on the waterfront. The subcommittee’s final report called for the repeal of the aspects of the 1875 act granting shed holders exclusivity over their piece of the waterfront. Moreover, they urged legislation that would force the DOD Plan to include the reservation of every fifth pier built on the Hudson for “general commercial purposes” rather than exclusive use. Their investigation also found that the DOD’s controls had allowed steamship companies and others with shedded piers to increase their profitability, using the presence of sheds as “an inducement to foreign shippers.” The steamship lines had organized into a loose coalition in order to ensure uniform practices and relationships with the DOD.50 In the end, however, the legislature did nothing, allowing the DOD to continue using its land-use powers to create an ideal landscape exclusively for railroads and steamships.

The iterative relationship between the plan and land-use control in practice enabled the DOD to carry out a project of waterfront enframing that was beyond the scope of the law. In doing so, their work of excluding certain uses, while enabling others, led to the changing of the existing plan itself. The decisions made in the Mallory case, which illustrated the selective administration of the plan by DOD officials, would have legal and political consequences for the waterfront. In the end, the practices of fining small-scale shippers while turning a blind eye to the sheds of

steamship lines, would lead to the passage of the 1875 Sheds Act, which would transform the waterfront plan. In the end, the plan would both come to reflect existing practices of the DOD institution, and the practices that would be rendered legal by the plan. Despite opposition, the waterfront would be continuously transformed according to the needs of large-scale capital.

The result was a waterfront that looked starkly different by 1890 than it had in 1870. International and large-scale national uses predominated, having almost entirely replaced smaller users (See Figure 4.4). Indeed, looking at the map of the waterfront in 1890, we see an almost entirely different landscape. Piers are longer, users different, and types of uses more consolidated.

The creation of exclusive-use piers in practice created a land-use policy that drove smaller operators out through higher rents and onerous waterfront regulations. This was an advantageous situation for the DOD. The steamship companies and railways were able to afford higher fees and were not reliant on the collection of wharfage fees to turn a profit, unlike private landowners. Resulting from these rents and leases the city was able to gain financially from their plan to convert the Hudson River into the exclusive domain of large transportation companies. As well, the DOD institutional practices meant that the industrial era saw the effective end of waterfront property as profit generating through water rents and wharfage fees. Transportation capital, and large-scale firms in particular, aided by the DOD, would dominate the waterfront over the next fifty years.

These firms required longer piers, with modern technology in place, and an adequate workforce of stevedores, pilots, and longshoremen to work there. They needed these piers, wharves, and bulkheads to be separate from the vagaries of the city’s property markets and protected from the crime and congestion of the nineteenth-century city. They needed piers that were large and modern enough to provide shelter for any ship from the weather and tide. The defining economic interests of the new industrial era demanded a waterfront that was an infrastructural place. They would do this through the closely linked institution of the DOD.
Figure 4.4: Waterfront Users, 1873 v 1890

Legend

Type of User

- Unknown
- Ferry
- Government
- Railway and Major Steamship
- Small Shippers

Conclusion

The expansion of international trade and the growth of transportation firms during this period of industrial capitalism, from 1870 to 1875, required the intervention of government in two ways. First, working with the large transportation companies, they reconfigured the waterfront to accommodate the needs of large-scale, capital, material, and labour-intensive operations. Second, they instituted significant changes to the legal standing and state practices that controlled the waterfront. The DOD put greater constraints on private-property rights, which had been governed by the waterfront property regime that was set into place with the 1686 Dongan Charter, by using nuisance as a form of land-use control. Together, the DOD’s plan, the policing of the waterfront, and the 1875 Shed Act contributed to the operationalization of the waterfront as infrastructural place.

The growing dominance of industrial capitalism in the last third of the nineteenth century ensured that the DOD’s practices would no longer be appropriate to the needs of the large transportation companies. In particular, much faster paced circulation, both of capital and ships, was increasingly changing the way exchange occurred, particularly on the waterfront. Moreover, networks of capitalist exchange had, by the end of the 1800s, reached into virtually every corner of North America, and much of the globe. These networks of commodity exchange and labour movement, all relied on the fleets of fast steamships and railway lines to occur. New York’s waterfront was the most important node on the western side of the Atlantic Ocean within these networks. The various flows of passengers, goods, capital, and information that moved through the port of New York were controlled by a new group of finance, industrial, and transportation sector capitalists who sat unambiguously at the top of Manhattan’s power geometry. These industrial-era capitalists, including the large transportation firms, and their political counterparts in the Democrat party and New York’s Tammany Hall, did not require the waterfront as a site of real property exchange or speculation or as a site of cheap land for factories and waste disposal. Instead they needed a waterfront that was parcelled out for the exclusive use of railways and steamship lines, allowing around the clock loading, unloading, and storage of cargo and passengers.

This demand by New York’s industrial capitalists was not accepted by all waterfront owners and users. Transportation capitalists’ need for ever-faster rates of circulation would butt up against the needs of other waterfront users, such as abattoirs and oyster fishers. In the opinion of the
large transportation lines and their political allies in NYC and elsewhere, the presence of non-transportation uses such as rendering plants and small-scale shippers represented an incomplete enframing of the waterfront as infrastructural place. What the railway and shipping companies needed was a space that was separate from the rest of the industrial city – a space that was governed by the needs of their schedules, their freight, and their passengers. It was this need for infrastructural place, I argue, that is the reason for the enframing of the waterfront through these practices of exclusion and removal.

The political economic realities of the waterfront were closely related to the land-use changes the city made in practice. While state legislators in Albany and the official plan of the DOD itself ignored the new power geometries of place, officials from the DOD and other Municipal offices did not. Writing in 1886 about the DOD’s continued use of these leases on the waterfront, the city’s Corporate Counsel advised the Commissioners to only engage in leases of definite periods. This would not only give the city the ability to push their notion of the common good, undermine the property rights of small capital and change land use to fit the requirements of large capital. It would further the building of the waterfront as infrastructural place.51

The changes to the waterfront, such as the construction of the extensive steel and concrete piers, new stone bulkheads, and cast-iron warehouses, were achieved through the institutional framework put into place by the DOD in its first years of existence. DOD officials, property owners, and engineers all operated within the framework developed after 1870 to negotiate over the shape and use of the waterfront. The planning and construction of piers, the appropriation of property, and the governance of the waterfront would be built on the legal, scientific, and planning concepts that were solidified during the period recounted above. In the next chapter, I examine the process of property acquisition and municipal financing of the DOD, a key component of the waterfront enframement that explicitly relied on the institutional framework examined here.

Chapter 5: Laying the Foundations of a Transformed Waterfront: Land Acquisition and Construction on the Hudson, 1871-1895

Introduction

The Department of Docks [DOD] began construction of their planned new Hudson River waterfront on July 1st, 1871 by drilling borings along the new bulkhead line just to the north of the Battery. This effort was the start of a waterfront improvement project that would continue for the next thirty years. For New York’s officials and elites the laying of piles for the first of the new piers was a sign of the DOD’s efficacy and their ability to build the modern waterfront the city deserved. By the end of the decade, however, the work of the DOD and the construction of new piers on the Hudson had slowed to a glacial pace. Elites and officials from other departments alike routinely criticized the slow state of improvement. The DOD blamed the state of affairs on a familiar culprit: private-property owners. They also pointed to a new set of obstacles: municipal officials from other departments whose financial stranglehold on the docks department jeopardized their core mission of infrastructure provision. While the legal, conceptual, and institutional enframing of the waterfront up to now had allowed the DOD to operationalize its institutional power to control land use, it faced a major roadblock in its efforts to carry out the material work the waterfront required.

The construction undertaken by the docks department was met by recalcitrant owners unwilling to sell their properties and a municipal government hesitant to fund such purchases. Before the DOD could build a new bulkhead along the Hudson or construct new piers out into the river for the bigger steamships, it had to take possession of the necessary land. Indeed, before the engineers, marine scientists, technical surveyors, labourers, machine operators, sailors, and a host of other workers could dredge the Hudson, dynamite the granite of the shoreline, sink foundations and piles into the muddy riverbed, build the steel and iron piers, and pour the concrete surfaces of the new docks, the department had to purchase almost 50% of the entire waterfront. To do this, it had to do two things. First, it had to reconfigure the boundaries of its own institutional framework and alter the property relations of place to enable the DOD to acquire land from unwilling owners through eminent domain. Second, the DOD had to establish control over its own
finances through new mechanisms that would offer it some measure of independence from the rest of the municipal government.

The inability of the DOD to acquire properties and the constant underfunding of the department were threats to the on-going attempts to enframe of the waterfront as infrastructural place. The constant need of DOD officials to request money on an ad hoc basis from the powerful Sinking Fund Committee of the city placed their institutional power in danger. Moreover, the lack of money would make it exceedingly difficult to build the material landscape the infrastructural place required to function appropriately for the circulatory needs of industrial-era capitalism. Without these administrative abilities, the DOD could not effectively transform the material space of the waterfront into an appropriate configuration required by industrial-era transportation capitalists: there would be no new piers and wharves built that could accommodate the ever-larger vessels. In the 1890s the docks department responded to this threat by negotiating with private owners and other government departments and by using legal procedures to reconfigure the institutional framework through which it governed the waterfront. The form these powers would take, and the effect this would have on the pace and form of infrastructure construction along the Hudson was the result of both successful and concessionary negotiations and lawsuits.

Construction of waterfront infrastructure, like everything else along the Hudson up to the 1870s, was a messy, contested, and contingent affair. The DOD’s commissioners, engineers, and lawyers faced opposition to their work at virtually every turn and from every quarter. Private-property owners and lessees on the waterfront continued to leverage their property rights to fight the infrastructural transformation of the waterfront. This resulted in an 1883 court case that decided once and for all the extent (and limits) of the department’s right to acquire land for construction through the contours of property rights and state power. Formal and informal negotiation with private owners over the cost of property and with transportation companies over the pace of infrastructure construction continued to complicate the DOD’s ability to enact their plans. Friction with the city’s sinking fund committee over the DOD’s ability to finance and spend on acquisition and construction added additional complications to the improvements. It was the sum total of the results of these contests that shaped how the construction of infrastructural place on the waterfront would proceed.
In this chapter, I examine how the institutional enframing of the waterfront was constantly reconfigured in response to the dual threats around land acquisition and operational finances. The conflict over institutional power between the DOD and other municipal and state government agencies would eventually result in an enhanced set of land acquisition abilities for the department. This institutional power was a necessary foundation allowing the DOD to carry out the material changes on the waterfront, including the construction of piers and a new bulkhead. In negotiating with other levels of government and private owners, championing legislation, and responding to cases in court, the DOD sought to widen its jurisdiction over the waterfront to include the right and ability to control the material foundation of infrastructural place – the land along and under the Hudson River.

I begin this chapter with an exploration of the DOD and its efforts to use the state’s right to acquire land and build infrastructure from the early 1870s onwards. This section focuses on the effect of a landmark court case in 1883 that both affirmed and heavily limited the DOD’s authority over property acquisition. Following this discussion of the Langdon v. City of New York, I turn to the negotiations between the DOD and private landowners over the value of the waterfront and the process through which land was acquired. Next, I explore the relationship between the DOD and the City of New York, particularly the Committee of the Sinking Fund, and the State of New York, over the power and ability to finance and staff the waterfront as required. Finally, I look at the result of these various fights with an overview of how commerce, the DOD, and others all viewed the relative success and failure of the acquisition process and the infrastructure construction projects.
Operationalizing a DOD Right to Acquire and Build the Waterfront, 1870-1882

By 1881 the City of New York had already embarked in earnest on the process of constructing a waterfront infrastructural place that would serve the needs of large transportation firms. Much of this work focused on enacting the plans discussed in Chapter Four. What was new by the 1880s was that the DOD turned its attention to carrying out the material transformation of the waterfront through state-financed construction projects. These included river walls, piers, wharves, and other types of waterfront infrastructure. Officials soon realized that the material enframing of the waterfront and the construction of tangible infrastructures would force them to grapple with the messy realities of a fragmented regime of private property ownership along the Hudson. Something had to be done to make the waterfront legible and workable by DOD officials operating within the institutional framework of the waterfront.

Early attempts to carry out waterfront improvement schemes were severely hampered by the city’s uncertainty about what its rights were in relation to waterfront property. While initial land grants in the colonial period had made it clear that title to land underwater between the high and low water lines belonged to the city (see Chapter Two), the sale and grant of this land in the years following 1683 had seriously muddied these waters. What becomes clear when this period of waterfront improvement is examined is that it is impossible to separate the work of infrastructural construction from that of property acquisition, and thus from private property ownership. Though earlier efforts at enacting a land-use regime over the waterfront were successful in limiting the scope of potential uses, it had only a small effect on who owned the harbor property and what these owners could do with this property.

By the early 1880s difficulties with constructing the material components of the waterfront infrastructural place had reached a crisis point. The DOD had run into a serious practical problem that complicated their ability to carry out improvements: the need to acquire or use property from the same waterfront owners (and their descendants) that the city had granted the land to decades or even centuries previously. At issue were several facets of the relationship between the property-ownership regime from the commercial era and the reality of the needs of infrastructural enframing in the industrial era. In particular, the state was faced with a commercial-capitalist pattern of waterfront ownership that as an ad hoc, individualized framework was wholly unsuited for the rationalized and systematic needs of the DOD as an industrial-era institution.
The parceling of the waterfront into grants and the subdivision of the water lots over the years meant that the docks department would have to make purchase agreements with several owners at once in order to assemble the large blocks of land required for the building of massive piers needed by the large steamships. This would be difficult, time-consuming and costly. As the DOD’s counsel made clear, “the facts relating to the titles of private parties to land on the waterfront of the City of New York are so various that a special examination of each title will be necessary.”\(^1\) In other words, an extensive, expensive and systematic review of every plot of land would have to be carried out before a functioning modern infrastructural place on the waterfront could be produced.

The DOD’s construction work began soon after the department was founded in 1870. Early efforts on the part of the DOD saw it acquire land as necessary to make repairs and expand piers and bulkheads in line with the new plans. The way it did this reflected the enframing of water lots as different from other types of land – as infrastructural property. Waterfront parcels were not treated like other private properties, which would need to be paid for or condemned by eminent domain in order for government departments to take possession. Instead, their infrastructural nature meant that they were treated as de facto public property. DOD takeover of private property with little notice and no compensation met, predictably, with a great deal of opposition from waterfront landowners. These early acquisition efforts would expose the limits of the institutional enframing of the waterfront.

The first construction project that drew the special attention of the DOD occurred in 1874, when the question of acquiring land between Morton and Barrow Streets was first raised. Wanting to construct a new bulkhead in that section of the Hudson River, then a privately-owned set of water lots, the DOD requested legal advice from the corporation counsel, Delafield Smith. John Sewell, a consulting engineer for the docks department, asked the corporation counsel his opinion on acquiring title or possession of that land. Smith, who considered the question of the “highest importance,” began a review of the relevant deeds. He traced the lots back to the original Dongan Grant, after which the city had granted the land to Messrs. Sanford and Patton, who later sold their land to the ancestors of the current bulkhead owners. Contained within the origi-\(^1\) George P. Andrews, “Letter to L.J.N. Stark, President of the Board of Docks” (November 12, 1883), 23, Box 1, Folder 5: Opinions of Counsel to the Corporation Book [OCCB], April 1883 to December 1885, Opinions of Corporate Counsel [OCC], Department of Docks and Ferries Collection [DODF], New York Municipal Archive [NY-MA].
nal grant was the commonplace language conferring the grantee the right to all profits “growing
or accruing by or from that part of the wharf.” However, Lynch continued, previous court cases
had found that this grant only held to the original low water mark, and that the 400 feet beyond
the property, conveyed by the Montgomerie Grant, was the city’s to do with as it pleased. This
included building in front of the existing wharf and converting the current owners’ waterfront
into upland property.²

In the eyes of the corporate counsel and DOD officials during the early 1870s, the colonial-era
grants gave them a great deal of latitude to carry out construction and repair projects without ac-
quiring the rights to the waterfront. The grants bequeathed to private owners, according to the
conventional legal opinion in the city, were nothing more than temporary, with “an implied res-
ervation of power to terminate the rights…at any time.”³ Moreover, the property on the water-
front, as commercial infrastructure, could not be private. The only private aspect of granted wa-
terfront property, the Corporate Counsel held, was the right to take wharfage fees and rental. The
land itself was perpetually in the ownership of the state.⁴

As a result of this legal policy, many private owners of waterfront lots allowed the docks de-
partment to carry out improvement work on their property, and then sought damages for such
work in court. In most cases, “it became the regular course for the Department of Docks to
commence to fill the slip or drive piles in front of it, and for the wharf owner to obtain a prelimi-
nary injunction from the Court against its action.” The result was the waterfront improvements
were frequently brought to a screeching halt.⁵ As the 1870s went on, this practice became a very
strong point of contention between the DOD and private owners.

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² Delafield Smith, “Letter to Eugene T. Lynch, Esq.” (April 3, 1874), 1–15, Box 1, Folder 1: OCCB, February 1874-
December 1875 VII, OCC, DODF, NYMA.
³ Simon Stevens, “Letter to the Chamber of Commerce Relative to the Water Front of the City of New York” (Let-
ter, May 6, 1885), 11.
⁴ Stevens, ”Letter to the Chamber of Commerce,” 11.
⁵ Stevens, ”Letter to the Chamber of Commerce,” 11.
In the eyes of Simon Stevens, a prominent lawyer with expertise in waterfront issues, the problem of rights in property actively impeded the DOD’s improvement plans:

No substantial progress will be made so long as the city law authorities continue in their...attitude. Their condition is a constant menace to the wharf and pier owners. Capitalists, with characteristic timidity, will not purchase their rights, and could not improve them if they had them, without the consent of the Dock Department.⁶

This problem continued over the course of the 1870s. By the 1880s the right to build in front of and thus extinguish the wharfage rights of waterfront owners would finally be tested in court in the case of Langdon v. Mayor, etc. of the City of New York.

The 1883 case of Langdon v. New York revolved around a waterfront parcel that lay along King Street - at the heart of the North River steamship zone. This parcel was owned by the Langdon family, partial heirs to the Astor family fortune. The parcel in question illustrate the complex nature of commercial-era waterfront property relations and the political and legal work required to make them legible for industrial-era infrastructural enframement.

Granted to John Jacob Astor on August 1st of 1820 by the City of New York, the King Street water lot was adjacent to a significant set of holdings already owned by the Astor family. The land was granted with a type of covenant that was extremely common at the time. Astor agreed to widen the stretch of Washington Street that passed through his property to 60 feet and to widen West Street to 70 feet. More significantly for the case of waterfront infrastructure in the 1880s, Astor was granted wharfage rights to this stretch of the North River and covenanted to build and maintain a wharf at the foot of King Street.⁷ The Astor family would make a number of improvements to the property over the years, passing it down to various heirs until it ended up with Langdon.

By the 1870s, when the DOD took over waterfront management, the Astor family and their descendants had maintained and operated a wharf at the foot of King Street for over half a century (See Figure 5.1). As with many of the piers that pre-dated the Docks plan, however, the King Street wharf was evidently not sufficient for the needs of industrial-era commerce and circula-

tion: the DOD, having passed a law widening the bulkhead to 175 feet beyond the west side of West Street, well beyond Astor's original grant, filled in the bulkhead to the new line. Built outside of the boundaries of Langdon's property line, on land underwater owned by the city under the terms of the Montgomerie Charter, the new bulkhead "prevented the access of vessels to the old bulkhead…thus entirely destroying the old-bulkhead as a wharf." With this move, the DOD made Langdon's property upland without paying a cent in compensation (See Figure 5.1). Langdon sued in response.

At the crux of the Langdon case was whether or not the DOD had to compensate private owners for the land it took or wharfage it extinguished. In particular, the case revolved around the meaning of acquisition in light of so much underwater land still in the possession of the city. Langdon argued that the DOD, as a state agent, had effectively taken his land, which had been granted as wharfage in 1820, and by rendering it as upland property had eliminated its use as a wharf. The city, on the other hand, argued that their ownership of the land underwater allowed them to do whatever they wanted with it. This latter opinion was what most lawyers and state officials held throughout the early years of the DOD, placing private property owners in a fairly precarious position. By the 1880s the courts held that such unilateral decision-making power on the part of the municipal government was unfair to landowners and was a significant hitch in the DOD’s plan. The court found for Langdon, holding that the DOD had "no right to take any private wharf or the easements pertaining thereto without first making compensation therefore." The court ruled that the DOD must purchase the private waterfront, or acquire it through eminent domain.

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8 Earl, Langdon v. Mayor etc., 138.
9 Earl, Langdon v. Mayor etc., 161.
Figure 5.1: The Langdon Property, 1686-1880

Legend
- Langdon Property (Astor Grants)

Source: DOD, Map Showing the High and Low Water Mark and the Original City Grants of Lands under Water, PFMD, NYPL; Maps of the Wharves & Piers from the Battery to 61st Street on the Hudson River and from the Battery to 41st Street on the East River New York, 1860, 1869, PFMD, NYPL; G.W. Bromley & Co., Atlas of the Entire City of New York, 1879, 1879, PFMD, NYPL.
The result of the Langdon Case was the creation of a systematic process for land acquisition that relied on negotiation and purchase rather than unilateral seizure and construction. Post-Langdon, the DOD was required to compensate private owners for any taking. The effect of this was two-fold. First it placed the DOD’s land-acquisition rights within the larger sphere of state takings, which required a public good rationale. Second, it gave the DOD a uniform and legally-sound process through which land acquisition could take place. The 1883 decision gave landowners assurance that the DOD would not extinguish their rights unilaterally, a decision that could potentially lower the number of injunctions the DOD faced. Gone was the need to go through lengthy court cases and legal procedures for each individual lot. In its place was a process that had the potential to be predictable and scalable across Manhattan's hodge-podge of waterfront property holdings. The potential for an institutional framework which would be able to produce an infrastructural waterfront was at hand.

By the mid-1880s, official opinion around the DOD’s process of taking land had come into line with the Langdon decision. A new corporate counsel felt that land should be taken in the same manner as land for streets and water pipes - through negotiation and purchase. 10 While this may have standardized the acquisition process in New York, it also removed much of the power that the DOD derived from the former status of waterfront land as somehow different. For the DOD, waterfront acquisition had become much more expensive. Moreover, given the complex nature of waterfront grants, actually implementing the Langdon protocol onto the waterfront would be a difficult process.

Complicated, confusing, and under-documented grants dating back to the colonial era made land acquisition an altogether different process on the waterfront than inland. A team of legal and property experts would be needed to handle the DOD’s property acquisition process. This was because covenants and rights in century-old grants, many of which dealt with properties that were no longer even on the waterfront due to infill, were still very much in force. So much confusion abounded, for instance, that a number of properties on the waterfront that had been

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claimed and used by private owners actually belonged to the city. Officials were unaware of this fact and private parties had long been collecting rents and wharfage fees from such properties.\textsuperscript{11} While examining titles for land that the DOD wished to acquire, the corporate counsel, W.C. Whitney, informed the docks commissioners that the “waterfront titles were very troublesome and complicated.” Indeed, they were so complicated that the counsel would not investigate them himself. Instead they would be “investigated by persons in the office familiar by long experience with the law applicable thereto.”\textsuperscript{12} To do this, counsel hired “one or two gentlemen specially selected…by reason of ability and experience in the examination of questions arising under real estate and waterfront law.” The question of waterfront titles was so vexing, that the two assistants worked “almost entirely [on] that branch of the city business.”\textsuperscript{13} The industrial-era legal definitions and routines, key components of the infrastructural enframement, did not conform to the material realities of the waterfront that the DOD faced after 1883.

As a result of this mismatch, complaints about land acquisition would continue throughout the 1880s. Neither the DOD nor waterfront owners appeared to be happy with the situation. In 1884, for instance, the commissioners admitted they had made virtually no meaningful progress on the implementation of the waterfront plan, first introduced in 1871. This was in spite of what they claimed were “strenuous efforts to have the work of the permanent improvement of the waterfront…noticeably advanced.” The problem was that the construction of the waterfront had “been seriously obstructed and impeded by reason of the action taken by various private parties, claiming wharfage rights and privileges.” Moreover, these suits had resulted in a number of injunctions that, along with the overall trepidation of the corporate counsel in dealing with the complicated waterfront property issues, had seriously slowed down the property acquisition process even after Langdon had been decided.\textsuperscript{14} While the corporate counsel, the docks commissioners, and landowners had all hoped the Langdon decision would clear up the waterfront property issue, this was clearly not the case. The difficulty of acquiring waterfront property was a significant impediment to the project and threatened the plan as a whole.

\textsuperscript{11} W.G. Whitney, “Letter to the Commissioner of the Sinking Fund” (January 13, 1882), 1, Box 1, Folder 4: OCCB, January 1881 to December 1882, V4, OCC, DODF, NYMA.
\textsuperscript{12} Whitney, "Letter to the Commissioner of the Sinking Fund," 63.
\textsuperscript{13} Whitney, "Letter to the Commissioner of the Sinking Fund," 66.
\textsuperscript{14} Department of Docks [DOD], Fourteenth Annual Report of the DOD for the Year Ending April 30th, 1884 (New York: Evening Post Job Printing Office, 1885), 27.
The problem of land acquisition on the waterfront was more than just a property issue. The Langdon decision would force the DOD to spend a great deal of money purchasing wharf rights that it otherwise would have simply extinguished. This was doubly troubling for the DOD. First, the commissioners and owners were often at odds over the value of the land to be sold. Owners, for their part, often claimed exceedingly high prices, a result of over a century of real estate speculation. Second, the City of New York was very reluctant to release funding for the DOD at a level that was appropriate to fund these purchases and the work that needed to be done. This was a particularly vexing issue given the difficult legal status of the property. As counsel explained, the only way to legally acquire the necessary property was to repurchase every right on the waterfront, an expenditure that “might amount to many millions of dollars.”

This was a sum that would make it near impossible for the DOD to continue their work. The result was a standstill on waterfront construction that was dealt with through negotiation not only between the state and private property owners, but crucially, between the DOD and the rest of the municipal government.

Financial Dependence and Institutional Power: The DOD’s Fight for Funding, 1870-1885

When the DOD admitted in 1884 that their progress on improvement had stalled, a full twelve years had elapsed since their first comprehensive plan was put forward. By 1884, the city still owned less than one half of the waterfront in the most congested portion of the Hudson River between Canal and West Eleventh Streets. This was particularly problematic because the plan called for total municipal ownership of the section as a prerequisite for improvements under the plan (See Figure 5.2). Of the property that they did own, the length of lots next to one another was too short “to warrant the Department in commencing the work of the permanent improvement.” The rest of the property in this section, about 3/5ths of its total length, had been seized by the DOD prior to the Langdon decision. As a result, it was tied up in litigation, where it had been “slumbering” for over a decade.

The lack of public ownership in the Canal Street section stymied plans to widen West Street to 200 feet and build “substantial bulkheads…and new piers of greater length and width” than those

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15 James C. Carter, “Letter to George P. Andrews, Counsel to the Corporation” (November 7, 1883), 33, Box 1, Folder 5: OCCB, April 1883 to December 1885, OCC, DODF, NYMA.
16 DOD, Fourteenth Annual Report, 28.
that existed there at the time. More than the just the simple lack of ownership, however, was that the DOD was either unable or unwilling to purchase the land, despite the availability of a clear process of negotiation or condemnation following the Langdon decision. Adding to what should have been an easy acquisition process was the fact that since many of the parcels had been held up in court for years, private owners were eager to make money from them. To that end, owners had enlisted the services of Simon Stevens, a lawyer who the Tribune, whose founder Horace Greeley he was good friends with, introduced as “an authority on waterfront matters.” Indeed, Stevens, who was originally from Vermont, was considered such an expert on riparian rights that his obituary noted that “his judgement has often been sought by city officials,” on such matters. He also published often on the issue, and was a frequent writer of strongly worded testimonies to the legislature. With his reputation firmly behind him, Stevens set to work making the sales happen.

The willingness of Stevens to negotiate on behalf of his waterfront-property-owner clients did not mean such negotiations would be simple or quick. Mindful of the huge cost that lay ahead of them if they were to carry out the dock plans, the commissioners were reluctant to pay too high a price for the plots. This set up the obvious potential for conflict between the owners and the DOD. One example of this took place on the East River, at the southern edge of Manhattan between Whitehall and Exchange Streets, one of the oldest and most congested parts of the waterfront. There, Stevens’ clients put forward a proposal to sell their waterfront rights to the DOD for a cost of $402,916.66, or about $1,000 per square foot.

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17 Simon Stevens, “Letter to Abram Hewitt, Mayor of New York, Re: Improvement of the Water Front of the City of New York below 59th Street” (January 10, 1888), 6–7, Box 1A, Folder 1, New York City Waterfront Improvement Collection, 1882-1893 [NYCWIC], New York Historical Society [NYHS].
Figure 5.2: Waterfront Ownership, Public and Private, 1876

Legend

Property Ownership
- Private Ownership
- Municipal Ownership

Source: Department of Docks, Map of the City of New York Made under the Direction of the Department of Docks: Showing Existing and Proposed Piers and Bulkheads, 1876, 1876, PFMD, NYPL.
At first, the DOD seemed to agree to this, but as months went on, it failed to execute a contract of sale. When pushed on the issue, the DOD responded that it had investigated the titles for purchase and discovered that the owners in fact possessed 379 feet of wharfage, not the 402.9 feet that had initially been thought. Stevens shot back that this was factually incorrect and demanded $100 more per square foot for the lots in question. Unable to come to an agreement, the parties went to court, where the judge found for the property owners. Clearly, the post-Langdon acquisition process, in practice, was no less contentious or expensive for the docks department than previous methods.

In 1884, the City’s corporate counsel and the docks commissioners, prompted by the Langdon decision, created a clearly spelled-out land-acquisition protocol involving purchasing property. With a meaningful process through which to acquire waterfront land in hand, the DOD “turned its attention to the purchase of private property most desirable to it on the North River.” Entering negotiations with Stevens, who represented all of the owners in the Canal Street section, the DOD agreed to purchase all the wharves, piers, and bulkheads at a cost that ranged from $547 per square foot, as in the case of the Drake property’s bulkhead south of Warrant Street, to $650 per square foot, as it paid to acquire C.P. Huntington’s property north of Moore Street. The sum of all purchases, the negotiations for the first of which was completed on November 12th, 1884 and the last on February 26th, 1885, totaled $357,202. Not a cent would be paid for these parcels, however, until 18 months after the final papers were signed – a fact that both Stevens and the DOD blamed on the lack of funding forthcoming from New York City’s Committee of the Sinking Fund, the extremely powerful government body who held the DOD’s purse strings.

According to the docks commissioners, the land they purchased was absolutely necessary for the improvement of the Hudson River waterfront. The prices agreed to, the DOD’s officers reported, were “fair and reasonable.” The commissioners of the Committee of the Sinking Fund, which included the mayor, the comptroller, and city counselors, disagreed. Following the signing of the purchase agreements, the DOD requested that the Sinking Fund committee issue dock bonds, which were provided for in New York State law as the only mechanism of funding the DOD.

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20 John Connelly, “Letter to Simon Stevens” (March 16, 1883), 1, Box 1A, Folder 3, NYCWIC, NYHS.
24 DOD, Fifteenth Annual Report, 30.
The amount of $1,900,000 asked for was to cover the cost of the land acquisitions and construction as well as operating, repair, and maintenance costs for the 1885 fiscal year.

The DOD did not receive what it requested. The commissioners of the sinking fund, “disregarding the statements made by the Board,” authorized dock bonds in the paltry amount of $700,000, which was barely enough to keep its existing property “in reasonable and proper repair for use by the public.” To the dismay of the DOD, this “lamentable action” forced the board “to practically stop the work for the permanent improvement of the water-front, not even having the necessary means at its disposal to justify it in commencing for work for the permanent improvement.”25

While this was perhaps the most high-profile disagreement between the DOD and the Sinking Fund, it was not first time that financial issues had laid bare the intergovernmental conflict between the DOD and other municipal agencies. Indeed, the DOD’s intended place as outside of the elected government body, putatively outside of corruption and in the realm of technocratic expertise, as set up by the legislature, sat at the heart of its funding problem. Without the substantial involvement of Tammany-linked politicians, it appeared that the necessary funding would be only reluctantly forthcoming.

This intergovernmental negotiation was a common feature of the DOD’s attempts to acquire the entire waterfront in their effort to enframe it as a comprehensive infrastructural place. At issue was not just the legal title or the status of the rights holders, but also the valuation of the property itself. What is noticeable here is that the DOD, which actually operated at a surplus by the 1880s, was concerned with keeping costs at an absolute minimum. This was despite the fact that every attempt to either pay nothing or underpay for the waterfront property had been defeated in court. Clearly, by the 1880s, the law was on the side of property owners in terms of land valuation. So why did the DOD continue to operate in a manner that was clearly leading to delays in land acquisition and thence to the material improvement of the waterfront? The answer had to do with its position within the wider framework of city politics.

According to Stevens, who wrote extensively on the subject, the problem was not the property owners, but the sinking fund committee. Examining the accounts of Stevens and the DOD about the purchase of the waterfront property between Canal and West Eleventh streets illustrates how this intergovernmental conflict shaped the production of the waterfront as infrastructural place.

At the core of the contest between the DOD and the Sinking Fund was how the dock improvements should be funded with other than monies obtained from revenues generated by DOD projects. At issue was whether the bulk of the funds should come from taxation, like all other public works, or from special-issue bonds.

At the heart of the conflict over funding the DOD was its unique position as an office of the municipal government funded not by taxes, but rather through the issuance of so-called dock bonds. This situation, which had existed since the department’s creation in 1870, was in part a reflection of attempt by the legislature to place the department out of reach of easy corruption that Republican lawmakers saw as endemic to Democratic-machine politics in New York. While this meant that engineers and other planners held more power in the DOD, it also meant that the department was especially dependent on higher-ranking politicians for municipal funding, and that the agency had to cope with a budget that was routinely capped below its needs.26 The money to fund the DOD’s work, which by the 1880s included the operation and maintenance of the existing waterfront as well as the planning and improvement projects, was only allowed to come from the dock bonds. These bonds, which were issued annually, could not exceed three million dollars in any one year.27 Thus, the DOD’s effective control of the waterfront and its effective enframing of it as a comprehensive infrastructural place were severely limited.

Other financial measures imposed on the DOD by the sinking fund committee and state Legislature, such as the requirement that all work be contracted out, added to the DOD’s inability to plan accurately for their own financial needs. As a result, the financial difficulties facing the DOD, and their impact that these had on the waterfront improvement scheme, were not new to the post-Langdon decision waterfront. In 1877, for instance, in a report on the slow pace of waterfront improvement, the Chamber of Commerce recommended that the DOD be funded not from limited bonds, but from taxation, and be allowed to draw upon the city’s debt to fund not just improvements but also day-to-day operations, maintenance, and repair.28 Foreshadowing the post-1883 contests, this suggestion was summarily ignored by city Council and the state Legislature.

28 Committee No. 1, “Report of Committee No. 1 to the Conference of Special Committees” (February 23, 1877), 1, Box 1B, Folder 9, NYCWIC, NYHS.
For a decade prior to the fight over the acquisition of the Canal Street section between the DOD and the sinking fund committee, the docks department had worked to institutionally enframe the waterfront as an infrastructural place under its own administration. Echoing the distinctness of the waterfront itself, the DOD was an institution that operated in its day-to-day operations at an arms-length from the rest of the municipal government. As such, the commissioners attempted to situate their organization as a reflection of the particular logics of infrastructure: it served the interests of transportation capital and the city’s economy as a whole rather than its political administration. No elected officials sat on its board, though the members of the commission were appointed by the Mayor. This separation, which the Chamber of Commerce and transportation capitalists saw as the DOD’s greatest strength, was also the source of much of its problems with the Sinking Fund committee, who saw it as an easy, both politically and administratively, way to generate income for the city’s coffers. The DOD’s Commissioners were forced to frequently come before the sinking fund committee, constantly making requests with cap in hand. This was despite the financial success of the DOD itself:

In an era of massive corruption amongst municipal officials in New York, elites largely saw the DOD as a relatively efficient and fair operator. Moreover, it was a very profitable enterprise for the city, turning a net surplus for the municipal coffers. By 1880, the DOD’s income, which was drawn mainly from wharfage fees on public docks and rentals paid by lessees of municipally owned property, was a key asset for the city:

> The revenues of the Department will continue to increase from year to year and will soon reach $1,000,000.00...the water-front property of the city will thus develop itself from its own earnings, meeting the demands of commerce for increased facilities, and in addition, yield a very considerable sum to be applied to the reduction of the city debt, to which all this revenue is pledged.²⁹

Thus, for the rest of the government, the DOD was a reliable source of revenue, while the Department itself was unable to muster the financial strength necessary to carry out waterfront construction.

This would finally change, however, with the fight over the Canal Street section of the west side waterfront. Fed up with the extremely slow pace of waterfront change, steamship-line owners

and other members of the Chamber of Commerce put heavy pressure on the sinking fund committee to release the necessary monies. Property owners, represented by the indefatigable Simon Stevens, also exerted a great deal of pressure on city and state officials to do something about the inaction. The result was that, by 1885, issuing dock bonds had become a political issue in the press and in the legislature. Caving to this pressure, the sinking fund committee finally approved a two-million-dollar bond for the DOD. The first installment of this, $517,577.50, was released in November 1886, two years after negotiations over the properties between West Eleventh and Canal Street first began.30

The mid-1880s were a key moment in the establishment of a protocol for the acquisition of waterfront property. What had been a rather haphazard and uncomprehensive mix of takings and negotiations by the DOD were, with the Langdon decision, rendered unlawful. No longer allowed to simply build in front of existing waterfront owners’ land, the DOD now entered into a systematic process of negotiation with private owners, resorting to eminent domain when no agreement on fair cost could be reached. Moreover, the political and social pressure placed on the Sinking Fund committee by the Chamber of Commerce, property owners, and the docks commissioners themselves made the funding of such acquisitions a much more certain fact. Despite the new property situation, there were more than fifty active cases dealing with the Hudson River waterfront as late as 1886.31 Relying on this process of negotiation, condemnation, and funding requests was continuing to slow down the improvement of the waterfront. Seeking a remedy, the DOD, waterfront property owners, and transportation capitalists all moved to create a legislative fix to smooth out the process of property acquisition on the waterfront.

31 “Conference of the Commissioners of the Sinking Fund with the Counsel to the Corporation; Mr. James C. Carter, Special Counsel, the Dock Commissioners of the City of New York and Mr. Simon Stevens, Representing Private Owners” (November 23, 1886), 3–4, Box 1B, Folder 1: Docks Department, NYCWIC, NYHS.
Finalizing a Property Acquisition Process: The 1888 Bill and the 1893 Act

Before a comprehensive program of construction and improvement of the waterfront could be carried out, the Department of Docks plan called for complete municipal ownership of all land along the Hudson and East Rivers. Up until the mid-1880s, this land acquisition project had only occurred in fits and starts. By 1885, however, the DOD, with the backing of transportation capitalists and hesitant sinking-fund funding, had begun to negotiate for private property in earnest. As we saw above, however, this was a time-consuming, difficult, and resource-intensive process that as often as not seemed to end in court. If land acquisition, as was the case between West Eleventh and Canal Streets, a distance of 5,235 feet, could take two years to complete, how long would construction of the massive new piers the plan called for take along the entire 35,000 feet of waterfront on the Hudson? Frustrated by the slow pace of improvement, the DOD began a concerted effort in 1888 to change the legislative process through which land was acquired.

Property acquisition from 1883 onward was a drawn-out process for several reasons. First, the DOD had to designate areas for redevelopment in terms of what was laid out in the 1871 plan. Any changes to the plan had to be approved by the sinking fund committee. Next, they had to ascertain who owned the land in question, a difficult and time-consuming task that required the work of the city’s corporate counsel. Once ownership was determined, the docks department began negotiations over the price of the property. This too was very time intensive, with parties going back and forth, and often ending in injunctions placed on the sale by property owners or those with claims to ownership. If an agreement could be made, the DOD would request a certain amount in the form of dock bonds, which had to be agreed to by a meeting of the Committee of the Sinking Fund. Bonds would then have to be issued, sold, and the funds released to the DOD. All of this could take years to complete. It was no wonder then, that by 1888 the DOD requested that “more speedy and effective means must be devised for the acquisition of property.”

Property owners unhappy with negotiated land prices were quick to obtain injunctions, putting a halt to the project. As a result, the DOD reported in 1888 that it had been unable to obtain any property, through either purchase or condemnation, since June 16th, 1887. While many of the delays involved were procedural, a significant cause was the ineffectiveness of the eminent do-

33 DOD, Eighteenth Annual Report, 5.
main process pursued by the DOD. Indeed, while the taking of land at market value as determined by the courts was a common way of appropriating land for streets, railways, and other infrastructure projects, the courts had not ruled decisively on the dock department’s right to use eminent domain. As a result, the use of eminent domain had rarely been used for piers or docks in New York, a situation that left the DOD in legally murky waters.

The process through which eminent domain works is fairly straightforward. First, the state identifies property that it needs in order to carry out a necessary function for the public. Then, the state attempts to negotiate with private owners for said property. In the case that no agreement is reached, the state condemns the land, a process through which courts determine just or fair compensation, judge the public trust nature of the transfer, and orders the transfer of title to the state. In the early 1900s, local levels of the state, particularly municipalities, began to increasingly use eminent domain as part of their expanding social service roles for things such as education and sanitation. Courts, however, were skeptical about the public trust aspect of municipal eminent domain. In attempting to find a balance between individual private property rights and the benefits of the general public, they generally required the state to provide very strong evidence of the public benefit.34 While the benefit of water pipes, sewage, or even schools was clear, it much less so in the case of docks built for private and exclusive use of large scale steamships.

The infrequent use of eminent domain by the DOD reflected the particularity of waterfront infrastructure. It was publicly funded and built yet leased for the exclusive use of private steamship lines. This differed from similar transportation infrastructures such as railways, which were both built and used by private corporations. Moreover, unlike the spatially narrow and linear rights of way required by canals, railways, and turnpikes, often taken from marginal and less valuable areas of the city, piers and wharves required exclusive use of huge plots of very expensive city-centre land. These had a significant impact on the geography of the waterfront and the city as a whole. Clearing the hurdle for eminent domain on the waterfront was thus a legal and logistical issue.

Condemnation proceedings, the legal process through which eminent domain was carried out, were so ineffective, complained the commissioners of the docks department in 1888, that it

should not even be considered a viable option for acquisition. Indeed, since 1871, when the docks plan was first approved, only a single property had been acquired via condemnation proceedings. According to the docks commissioners, however, even this singular event did not represent a true success for the process of eminent domain. That acquisition “was brought about partially through friendly adjustment…and yet the acquisition was not consummated until five years after the proceedings were begun.”\(^{35}\) The only fix, it concluded in their annual report, was for the Counsel of the Corporation of New York to write a bill that could be submitted to the legislature that would clarify their ability to use eminent domain when purchases were not possible.

The decision to introduce a new docks bill that would speed up property acquisition via eminent domain gained widespread support amongst New York’s diverse industrial-era growth coalition. For their part, the DOD welcomed enhanced powers to shape the waterfront as infrastructural place. Such an explicit legal ability would further entrench the institutional enframent of the waterfront. Transportation capitalists and their allies in other sectors, represented by largely by the Chamber of Commerce, were supportive of any measure that would speed up the construction of new piers, bulkheads, and wharfage. Somewhat surprisingly, strong support also came from property owners, many of whom it seemed, saw the waterfront as irredeemably infrastructural by this point in time.

Particularly vocal from that camp was Simon Stevens, who continued to represent many of those rights holders along the waterfront. For Stevens, his experience had demonstrated that courts were more than willing to award reasonable prices to property owners, in many cases higher than could be agreed to through negotiation. Without the new law, Steven feared that improvements would continue to be held at a “stand-still” and that it would “be some time before New York can have the much-needed improvements made.”\(^{36}\) The consensus was seemingly clear: legislative action was required to fix the land acquisition process and speed up the infrastructural enframing of the waterfront.

With the assistance of the DOD, the corporate counsel wrote up a bill that was submitted to the State Assembly in March 1888. The bill, which amended a previous act from 1872 giving the DOD the authority to purchase property, laid out a clear plan for the streamlining of the acquisi-

\(^{36}\) “Conference of the Commissioners of the Sinking Fund,” 2.
tion protocol, including an explicit ability to use eminent domain. The bill proposed an eight-part process that would take much of the guess work out of the existing protocol. This protocol reflected the enframement of the waterfront as institutionally separate from other types of property uses. It relied on engineering expertise in the form of maps and plans to decide where public benefit required the taking of private property. Moreover, in streamlining the process, the bill confirmed the importance of the waterfront infrastructure work in opposition to speculation or rent-seeking.

According to the bill, the docks commissioners would produce maps of the proposed area to be acquired, along with the plans for improvement, and submit these to corporate counsel for examination and approval. Next, the corporate counsel would introduce the proposal to the sinking fund commissioners, who could either approve or deny the application. Following sinking fund approval, counsel would file maps with the state register’s office and advertised the DOD’s intention to begin condemnation proceedings in New York’s official newspaper, the City Record, and two other local newspapers. Once this was done, counsel applied to the Supreme Court in New York’s First District for the appointment of three Commissioners of Appraisal, who had to be New York State residents and property owners. These commissioners would determine how much the land was worth. Counsel then could serve the property owners with notice of the valuation and their intent to condemn, giving the owners just twenty days to make an appeal. Following this twenty-day period, the city took possession of the property and could begin work. Meanwhile, the DOD had four months to pay the owners for the property.37

The bill had several advantages for the docks department over the existing process. The most important benefit was the fact that the payment for the land it took was not required until four months after possession. This rendered delays on issuing, selling, and converting docks bonds moot. Improvement of the waterfront could begin immediately upon the extinguishment of private ownership, effectively giving them immediate abilities to enframe as necessary. Moreover, the capping of an appeal process to less than a month was a huge improvement over the current system of injunctions which could run for years. Overall, however, the most important improvement was the removal of waterfront acquisition from the realm of general property law, and its enframement within a separate and specific property framework that reflected the new needs of the waterfront property regime and the infrastructural nature of these spaces. The appointment of

Commissioners of Appraisal to determine value, rather than slogging through trials, demonstrated just how important waterfront property was to the improvement of New York’s port infrastructure. All in all, the proposed bill represented a re-weighting of the relationship between the DOD and private owners, as well as between the docks commissioners and other government officers, in favour of the docks.

The bill’s proposed enhancement of state power over the rights of private property owners, however, was a much more controversial subject. Indeed, while the need for a new legislative framework for property acquisition achieved a great deal of consensus amongst a diverse class of capitalists, the particulars of how this was to occur was not agreed upon. Stevens, who had been a vocal proponent of the general need for a new legislation, as well as other property interests, objected to what they saw was the bill’s “little consideration for private rights.” Simon Stevens took his opposition to the docks bill directly to the legislators in Albany.

At a session of the Committee on Affairs of Cities, a body concerned with all legislation that affected New York’s largest cities, Stevens gave a lengthy protest against the new bill. In particular, he complained about how much it would favour the state over private owners. The bill, he argued, may have improved the process for the DOD but it had made it much more onerous for landowners. He complained that “condemnation still precedes hearing; dispossession still precedes judgement…the owner is still deprived of his property by an executive act and not by a judicial judgement.” The opposition of Stevens and others clearly rested on those same pieces that appealed to the DOD, the shortened timelines, lack of judicial oversight, and a truncated appeals and acquisition process as part of its material conversion into infrastructural place. In a letter to waterfront-property owners, Stevens reiterated many of the points he made during his testimony in Albany and used inflammatory language to drum up opposition to the bill. He warned that the bill would let the city take over their property “as soon as the Commissioners so appointed have filed an oath to faithfully discharge the duties of their office.”

39 Simon Stevens, “Remarks of Simon Stevens before the Assembly Committee on Affairs of Cities on the Amendments Proposed by the Counsel to the Corporation to the Bill Entitled, ‘An Act to Provide for the Acquisition, for Public Purposes, of Wharf Property in the City of New York.’” (April 3, 1888), 1, Box 1B, Folder 1: Docks Department, NYCWIC, NYHS.
He went on, emphasizing the unilateral powers the bill would give the DOD to file improvement plans and take land at any time:

The filing of such plans would at once destroy the market for the property included in the plans, as no tenant could tell how soon his possession might be disturbed; but no proceedings to appraise the property can be taken until the Commissioners of the Sinking Fund authorize them. This might not be for ten years, and the property owner would, in the meantime, be unable to lease his property. It is doubtful whether any compensation at all could be recovered for this loss of income.40

This new method of acquisition, Stevens’ letter suggested, placed all the power in the hands of the DOD, and forced the private owners to fend for themselves, without the benefits of the courts on their side.41

Stevens and the property owners he represented were not the only voices raised against the proposed legislation. The 1888 bill also led to protests from small-scale shippers and other smaller waterfront players. This group echoed earlier concerns, discussed in Chapter Four, about the loss of revenue from the waterfront, and the dwindling space for anyone other than the transatlantic steamship companies. Striking an emotional note, one editorial in the New York Times warned that the bill would put some heirs of the original grantees in danger of going destitute:

Old inhabitants of New-York considered water-front property about the most valuable kind they could will to their heirs. A large portion of it is now held by estates and Trustees, and upon it are dependent a very large number of persons who are without other sources of income.42

The editorial went on to infer, with quite strong language, that the bill would effectively allow the DOD to steal waterfront property. The proposed measure, continued the piece, “has already created so much opposition among people who believe that a man's property should not be taken from him...until it has been paid for.”43

40 “Letter to the Owners of Water-Front Property in the City of New York” (March 9, 1888), 1, Box 2A, Folder 4, NYCWIC, NYHS.
These protests would eventually lead to the defeat of the bill. New York’s waterfront property owners, rallied by Stevens, were mostly united in their opposition to the counsel’s proposed bill. While having relatively little influence with the New York City growth coalition, especially when compared to the large-scale transportation capitalists they opposed, property owners continued to carry extensive weight in Albany where landowner rights were key concerns for a large bloc of upstate and Long Island politicians. Their protests against the bill helped it fail; it never even came to a vote. The demise of the 1888 bill, however, did not mean that the consensus on acquisition reform had ended. Rather, the 1888 bill seemed to embolden groups to propose alternatives that would appeal to one group or another.

The proposals for a new bill were all aimed at ensuring a speedier process of waterfront improvement. They did this through largely different means, however, focusing on strengthening the power of private property owners. Simon Stevens’ solution to the issue was for a new law based on the Railroad Act or the Street Opening Act of the City of New York, two laws that gave the municipal government the power of eminent domain for the production of infrastructure and focused on judicial rather than executive oversight. In addition to the processes laid out in these laws, which had resulted in the relatively speedy construction of infrastructure in the state, new provisions that recognized the role of property owners were to be inserted. These “should also provide that private owners who may wish to improve such property as they own…may do so under the plans.”

Doing so would effectively end the DOD’s project of converting the waterfront into a public infrastructure zone and would allow private owners to reap the benefits of new port infrastructure. This was particularly worrisome for the waterfront growth coalition.

Building on Stevens’ suggestions, a group of landowners submitted their own proposed bill for the waterfront land acquisition in 1889. This bill recognized the right of the DOD to carry out improvements on the waterfront. It also attempted to enshrine the right of first refusal for waterfront improvements to be held by private owners. The 1889 bill gave waterfront owners the right to notify the city, within three months of the widening of the marginal streets and bulkhead, that they would pay for the work themselves, rather than the city. Paying for this work then made them the new owners of the expanded bulkheads. This bill was an attempt at a compromise. Not only did it give private owners the right to keep their ownership, but it also reduced costs for the

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44 “Hot Shot for the Dock Bill,” 2.
DOD, and allowed the DOD to make binding agreements with owners about such changes.\footnote{“An Act to Facilitate the Improvement of the Water Front in the City of New York under the Direction of the Department of Docks in Said City” (March 14, 1889), 2–6, Box 1C, Folder 3, \textit{NYCWIC}, NYHS.} This bill gained a great deal of support from city officials outside of the docks department. Opposition from the docks, the mayor, and other interested parties to private ownership, however, sank that bill as well.

In 1893, the New York State Legislature, after concerted City lobbying, finally passed a law that attempted to speed up the land acquisition process. In an amendment to the 1882 Charter of the City of New York, Chapter 397 of the Laws of 1893 explicitly nullified any law passed prior to 1871 that “gave any other department…any power or authority as to said waterfront.”\footnote{“Chapter 397: An Act to Amend Chapter 410 of the Laws of 1882,” in \textit{Session Laws of the State of New York, 1893}, 1893, 805.} Section 715 of the law then set up a new acquisition scheme for all property along Manhattan’s shorelines to which the city did not have any right or title. In doing so, state legislators set up a process which would give the DOD the new, sweeping powers it desired, while at least demonstrating and attempt to preserve some of the rights of private property owners.

Section 715 laid out a step-by-step process through which the DOD had to go through in order to acquire land. First, the DOD was required to attempt a negotiation with owners. If an agreement could be made, the contract would be certified by the Commissioners of the Sinking Fund. In a significant break from past practice, the owners would then be paid immediately, not from a dock bond, but directly from the city’s treasury. This new process was both intuitive and met the needs of virtually all the interested players. For private owners, they were paid promptly. For the DOD, funding was available without delay, allowing work on improvements to start sooner. The sinking fund committee retained veto power over any agreement made. Similarly, the process for condemnation was simplified as well.
If no agreement could be made between private-property owners and the docks department, then condemnation proceedings would begin. While this had been the case before, a hesitant corporation counsel, without explicit legislative direction, was often reluctant to undertake these. In the 1893 act, the Legislature explicitly decreed that the counsel:

Shall take the same proceedings to acquire the same as are by law provided for the taking of private property in said city for public streets or places, and the provisions of law relating to the taking of private property for public streets or places...are hereby made applicable as far as may be necessary.47

Finally, the law gave the DOD the option to allow private owners to carry out the improvements it desired. However, this was almost never done, as the DOD was intent on keeping control over all waterfront property.

After six years and numerous attempts at creating the appropriate institutional fix, the DOD had the legislated powers to carry out eminent domain on the waterfront. The result was an institutional framework that reified the notion of an exclusive infrastructural place on the waterfront and would allow the DOD to continue the material transformation of the space. The creation of institutional power as a cohesive force that was co-linear with the legal, conceptual, and material boundaries of the waterfront infrastructural place was a key moment in the creation of the waterfront as infrastructure.

**Steamship Lines and the Docks: Schisms in the Waterfront Growth Coalition**

With the power of acquisition in hand, the DOD began to roll out its program of land acquisition and construction that continued for the rest of the next decade. Throughout, the DOD insisted on maintaining complete control over waterfront construction, including ownership of the water lots and plans for piers and wharves. This continued to be a point of contention between capitalists, especially shipping line owners, who wished to have greater control over the piers they relied on as infrastructure, and the DOD, for years to come.

Following the passage of the new bill in 1893, the DOD went after property with renewed vigour. In 1890, for instance, the department spent $436,784.89 dollars to purchase property. In 1891, this number had dropped to $7,848.93. The year the act was passed, the DOD bought the

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47 “Chapter 397,” 807.
rights to $782,265.63 worth of property – more than the previous four years combined. This was the precursor for a massive construction effort that overshadowed all the previous work on the dock lands. While the DOD clearly carried out a great deal of work from the 1870s on, its most visible accomplishments came after it had settled the question of land acquisition after 1893. Assembling the rights to waterfront property on Manhattan’s west side would allow the docks department to expand their project of comprehensive transformation of the material aspects of infrastructure place.

Despite this work, the 1893 act did not produce the overnight transformation of the waterfront as so many had hoped it would. As a result of continued murmurs of displeasure from transportation firms, the Chamber of Commerce’s Committee on the Harbor and Shipping sent out letters in 1896 to those in the transportation industry requesting their opinion on what could be done to fix this situation. Having negotiated with other levels of government and landowners to create the institutional boundaries of the waterfront, it appeared that transportation capitalists were threatening those borders. With an implicit purpose to serve such firms, the DOD chose to work with them in order to ensure their administrative power over infrastructure provision on the waterfront, and thus the entire waterfront project, would maintain its legitimacy and conceptual strength in the face of private and public opposition.

Seeking to expose the weaknesses in the DOD’s approach to the waterfront project, the Chamber of Commerce asked shipping line owners, merchants, captains, and others involved in the shipping trade to list “the ills and difficulties under which you now labor.” They were also asked, “What practical measures of change and improvement can you suggest?” Responses poured in. One lengthy letter came from William P. Clyde, owner of the Clyde Steamship Line, a medium-sized firm that operated mainly between New York and cities along the East Coast. For Clyde, the slow pace of change on the waterfront was a result of the insistence of the DOD on acquiring land and building piers themselves, rather than allowing private owners to build. He claimed that

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49 William P. Clyde, “Letter to A. Foster Higgins, Chairman of the Committee on the Harbor and Shipping” (February 28, 1896), 1, Box 262, Folder 3: Committee on the Harbor and Shipping, 1886-1898, Committees, 1822-1973, New York Chamber of Commerce and Industry Records, 1768-1984 (1860-1973) [NYCCIR], Columbia Rare Book and Manuscript Library [CRBML].
the DOD’s policy had “rendered it impossible for private enterprise to furnish the facilities for
which our commerce is suffering.”\textsuperscript{50}

Indeed, Clyde continued, on those parts of the waterfront that remained in the hands of private
owners virtually no improvements could be done as:

it was the avowed purpose of the city to itself acquire all the water front property,
[this] made it impossible to tell what day condemnation proceedings might be be-
gun by the city...the result...has been to give the city a monopoly of the business
of supplying wharfage facilities to our commerce.\textsuperscript{51}

For Clyde and a number of others who corresponded with the Chamber of Commerce it was
clear that the DOD’s institutional enframing of the waterfront was not producing the material
outcomes their business required.

Of course, Clyde did not represent the main target for the waterfront improvement scheme. As a
mainly domestic carrier, he was not only smaller, but also less powerful, less well-connected,
and more place-dependent than those larger firms the DOD had been courting since its incep-
tion.\textsuperscript{52} Instead, the Clyde Steamship Company, which would later merge with the similarly tar-
eted Mallory Steamship Company (See Chapter Four), had to fight for space along a waterfront
that was increasingly being managed and built for the transatlantic trade. The DOD’s administra-
tion of the waterfront, it was clear, was above all for the needs of firms operating at the interna-
tional scale. Other letters to the Chamber of Commerce reflected this, echoing earlier calls for a
large steamship-only waterfront.

Contrary to these complaints, the docks department had actually been engaged in a program, al-
beit piecemeal, of improvement since 1870. Despite the absence of a comprehensive waterfront
acquisition and construction program, the DOD was materially changing the land it did control.
By 1893, guidebooks for visitors to the city were actually touting some of the new waterfront
projects. \textit{King’s Illustrated Guide to New York}, for example, wrote glowingly about the Inman
Line, one of the largest steamship lines in the world, and its new berth which was set to open the
following year. While the Inman Line currently sailed from Pier No. 43, wrote King, it had “re-
cently acquired from the city the largest and finest pier in New-York harbor…This they are rap-

\textsuperscript{50} William P. Clyde, “Letter to A. Foster Higgins,” 2.
\textsuperscript{51} William P. Clyde, “Letter to A. Foster Higgins,” 2.
idly fitting up in the most approved manner, and it will probably be made, in many respects, the most commodious pier in the world in all its admirable provision for passengers and freight.”53 While work was clearly being carried out to enframe the waterfront as a comprehensive infrastructural place, it was not in as systematic or rapid manner as most transportation capitalists had hoped for when the DOD was founded in 1870.

Unsurprisingly, given the complaints that the DOD levelled at the sinking fund committee and the land acquisition process more generally, the dock commissioners largely agreed with Clyde and others about the slow pace of change. While they may have disagreed with grievances about the efficacy of public control of the improvements, the commissioners nevertheless bemoaned the lack of progress. For them, successes such as the Inman Line were too far and few between for their satisfaction. Following the creation of the new acquisition process through State legislation in 1893, they began to pressure the counsel to acquire land between West Eleventh and Canal Streets “at the earliest possible dates.”54 The result was a systematic construction project that targeted the entire Hudson River waterfront for improvement. Responding to the capitalist critiques of their administration, the DOD would attempt to strengthen the institutional enframing of the waterfront by rolling out construction practices that would make this concept of an infrastructural waterfront a stronger idea.

Conclusion

Throughout the 1880s and 1890s the Department of Docks was engaged in a protracted set of negotiations with other city departments, private property owners, and state legislators over its ability to purchase land on which to carry out waterfront improvements. At stake here were issues that were legal, financial, and political in nature. After decades of court battles, legislative acts, amendments, and reforms, political infighting, and at the expense of millions of dollars, the DOD would finally be able to acquire private waterfront property after 1893 through an effective protocol. Framed by legal notions of private and public property, this protocol would allow the DOD to exert its own power to assemble the material space required for the production of waterfront infrastructure place in the years to come.

53 Moses King, King's Handbook of New York City (Boston: Moses King, 1893), 76.
54 George S. Terry, “Letter to Francis M. Scott” (May 17, 1895), 1, Box 5, Folder 3: CCOb, 1913, OCC, DODF, NYMA.
Legally, the DOD grappled with its ability to extinguish private waterfront rights, limitations of its own powers, and its authority to utilize the eminent domain process. In the early years of the docks commission, its officers attempted to work on waterfront property as completely separate from other forms. Based on hundreds of years of the legal enframing of the waterfront, it attempted to take land without compensation, creating its own waterfront in front of privately owned lots. When courts struck down this practice, and forced them to compensate owners, work on the Hudson River waterfront would come to a standstill. Questions over the ability of the docks department to effectively use eminent domain would have to be settled by new legislation, requiring the passage of the 1893 act. These legal issues, however, did not exist in a vacuum. Rather, they intermingled with those of a financial and political nature.

Financially, Docks Commissioners negotiated with private owners of waterfront property over fair prices for property in the years following the 1882 Langdon decision. Forced by the courts to pay fair market value for wharves, piers, and bulkheads, the DOD’s lack of financial independence became apparent. Reliant on the sale of dock bonds, at the full discretion of the powerful sinking fund committee, the docks committee was unable to actually carry out the acquisition of property that they were required to. The result was an ongoing institutional enframing of the waterfront and an improvement project that ground to a standstill in the 1880s, much to the chagrin of virtually everyone involved.

Not surprisingly, all of these legal and financial issues were politically intertwined. The sinking fund committee was reluctant to grant any more funds to the DOD, which it viewed as a profitable source of income for the overall coffers of the city. Private-property owners put concerted pressure on legislators in Albany to ensure they received fair value for their property, forcing an even greater cash crunch on the DOD. By the 1890s, steamship lines and other transportation capitalists had once again jumped into the fray, loudly complaining about the lack of progress and questioning the very existence of the DOD. The solution to the acquisition problem came in the form of an 1893 Act that attempted to balance the needs of the DOD, the city, and private property owners. The result was a legal framework through which the DOD could carry out private property acquisition in a way that was fast and fair. It did so with gusto, beginning the process that would eventually lead to the transformation of the waterfront by 1921.
The examination of the property acquisition problem between 1880 and 1893 demonstrates the intertwined nature of law, capital, and the state as it was articulated through the institutional aspects of the enframement of the waterfront as infrastructural place. No single aspect stood alone in the work that was required. Instead, the DOD had to engage in a lengthy and ongoing set of negotiations from above and below to ensure that its institutional power was effective. Moreover, this exploration of the property issue demonstrates the significance of these water lots to the production of infrastructure. Before the Chelsea Piers and other high profile sites could be built, a process examined in the next chapter, land had to be acquired, paid for, and controlled by the DOD. Establishing a strongly bounded institutional enframedment through which to carry this out would serve as a foundation for the expansion of infrastructure on the waterfront up until 1911, examined in the following chapter.
Chapter 6: Responding to Infrastructural Threats: The Pierhead Line Crisis, 1880 – 1918

Introduction

On September 13th, 1899, a “new era in steam navigation, in marine architecture, and in the history of the ocean ferry” was inaugurated as the rms Oceanic docked at its North River pier. The ship, which at the time was the largest in service, measuring more than 700 feet from end to end, sailed for the White Star Line, a British subsidiary of J.P. Morgan's International Merchant Marine Company [IMM]. The Oceanic “over towered every boat” in the harbor and was greeted by a massive crowd that lined Manhattan's west side from the Battery to the piers at the foot of Bank Street.¹ For New York's waterfront growth coalition of government officials and shipping and other transportation capitalists, the arrival of the Oceanic was a sign of the success of their waterfront infrastructure and the commerce it facilitated.

Despite the fanfare for the Oceanic, however, there were signs that not all was well on New York's waterfront at the turn of the century. For one thing, the ship, which was supposed to “swing across the Atlantic with the regularity of a pendulum,” arrived five hours late. The problems continued as the ship attempted to dock at the Bank Street Pier, just at the end of the flood tide, when the waters were highest and the current strongest. Swinging into its slip, nine tugs were sent out to push the ship northward to keep the Hudson's current from pulling the ship south, away from its pier and back into the river's fairway. Despite the best efforts of the nine tugs, this proved unsuccessful, and the ship swung briefly into the river before eventually correcting course.

Upon docking in its slip, the ship hit the pier's corner, where rope, steel cable and timber were sheared off of its hull and mashed into a “fine pulp”. The collision also scraped the heads off some of the ship's bunker ports and other hardware.² While this damage was relatively minor and easily fixed, such issues were representative of the problems these new, larger transatlantic steamships faced when landing at Manhattan. The old waterfront facilities, which had been built for a previous generation of ships, could not accommodate the new breed of vessels such as the Oceanic. Between 1870 and 1874, in the first years of the Department of Docks’ [DOD] exist-

¹ “Giants Oceanic Comes In,” The New York Times, September 13, 1899, 1.
² “Giants Oceanic Comes In,” 1.
ence, only one out of the twenty-one largest steamships in the transatlantic service was longer than 500 feet. Between 1888 and 1897, only four ships of the hundreds in regular service for the large European lines were shorter than 500 feet. The *Oceanic* was simply the latest in a long line of ever-larger ships that would continue to be built over the next two decades.

This technological change in the steamship industry would have a huge impact on the boundaries of infrastructural place along Manhattan’s waterfront. For the shipping capitalists, DOD officials, manufacturers, and assorted officials and elites that made up the waterfront growth coalition, these ships meant more capital circulation at the waterfront, greater returns on infrastructural investments, and a greater volume of goods, passengers, and workers. At the same time, the growing size of ships threatened the adequacy of existing waterfront infrastructure.

New ships needed longer piers and more space in the middle of the Hudson River within which to turn around. Thus, an adequate infrastructural place for the new fleet of ships would require work beyond the waterfront itself, either by digging into the city or out beyond existing pierhead lines into the middle of the Hudson River. These were projects that would require ongoing and contentious negotiations. As in earlier periods of technological change, the waterfront coalition feared that without an appropriate transatlantic infrastructural place, they would lose out to ports in nearby New Jersey and Brooklyn or ports further afield such as Boston and Philadelphia. To successfully compete, the waterfront growth coalition and government officials worked to enframe not just the waterfront but the entirety of the Hudson River between New Jersey and Manhattan as an exclusive infrastructural place geared to the transatlantic trade.

They would do this largely through the institutional enframement of the entire harbor as part of the institutional jurisdiction of the federal government Army Corps of Engineers-staffed New York Harbor Line Board [NYHLB], and their expansion of pierhead lines into the river. Moreover, the expansion of infrastructural place was carried out by the DOD under this novel institutional framework through massive, expensive and technically challenging construction and excavation works and surveying, as well as the establishment of a new jurisdictional framework that would operationalize the new enframement in an effective manner. Fixing the technical problems that the existing too-short piers posed for Manhattan’s waterfront, however, did not solve the is-

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3 “Meeting Re: Modification of Pierhead Line on North River” (January 25, 1897), 16, Folder 4, Box 2, Letters, Reports, and Hearings Received, 1888 - 1906 [LRHR], Record Group 77: Records of the Office of the Chief of Engineers, 1789-1999 [ROCE], National Archives and Record Administration, Philadelphia [NARA].
sues raised by the *Oceanic*. The key issue was that the institutional and conceptual enframing of infrastructural place did not reach far enough out into the Hudson or into the city streets to accommodate the needs of transatlantic shipping.

In this chapter, I examine how the waterfront growth coalition responded to threats of infrastructural obsolescence by attempting to expand the conceptual, institutional, and material boundaries of infrastructural place beyond the institutional authority of the DOD and the space between the existing shoreline and the pierhead lines, roughly 500 feet into the Hudson. This expansion was both a spatial and institutional one. It involved the realignment of the boundaries of transatlantic infrastructure place to include the fairway of the Hudson River along with much of the Hoboken and Jersey City waterfronts. The institutional expansion of transatlantic infrastructure that accompanied this would include a new governing framework involving the NYHLB and the DOD. Unable to expand so far into the Hudson on their own, the DOD and Manhattan’s shipping capitalists would attempt to do so through protracted negotiations with the engineers on the NYHLB and property owners and officials in New Jersey.

The enframing of the section of the harbour between Manhattan’s west side and the New Jersey cities of Hoboken and Jersey City as an exclusive transatlantic-focused infrastructural place was a contentious and contingent process that required a great deal of negotiation, cooperation, and material construction. Expansion at one point in space and time was often followed up by a prohibition on expansion at the same site just a few years later. The always becoming boundaries of transatlantic infrastructure place were shaped by the ongoing relationships between DOD and State of New York officials, engineers, lawyers, shipping-line owners, ships’ captains, Army officers, federal bureaucrats, landowners, and even the President of the United States. In the end, these conflicts would produce a distinct infrastructural place between Manhattan and New Jersey that was bolstered by the construction of piers and wharves, and the establishment of new, expanded pierhead lines on both sides of the Hudson.

To understand this enframing of the waterfront as a response to threats of obsolescence between 1880 and 1918, I explore several key cases. First, I examine the design and construction of the Chelsea Piers, the DOD’s marquee project, which required it to expand infrastructural place and dig into Manhattan itself to build new transatlantic docks. Next, I explore the creation of the NYHLB by the US Congress, and its early work between 1888 and 1908 to set new pierhead
lines and control Manhattan’s waterfront. I then turn to the most contentious negotiations between the waterfront growth coalition and the NYHLB: the pierhead crisis that was sparked by the construction of the rms *Olympic* and *Titanic* and their needs for longer piers in the newly constructed Chelsea section.

**The Chelsea Piers: Expanding Infrastructural Boundaries Inland, 1880-1910**

Prior to the 1880s, the DOD and the waterfront growth coalition largely envisioned the building of infrastructure as moving outwards from Manhattan’s shoreline. This was not new, as the previous chapters have shown. The legal enframement of the Hudson River at least 400 feet beyond the shore as infrastructural place had its foundations in the Montgomerie Charter in 1730. This was accompanied by material and institutional enframement of the same area, a few hundred feet from the existing shoreline, through the creation of the first harbour lines in 1857 and the creation of the DOD in 1870. By 1871, when a new set of pierhead lines were laid down by the state Legislature, engineers, officials, and shipping-line owners imagined that there would be ample room within this infrastructural place for piers that could comfortably host the largest ships. This was quickly proven wrong, as shipbuilders in Europe began constructing ships that would eventually reach beyond 500 feet, rendering the pierhead lines too short for the required piers, thus threatening Manhattan’s waterfront with infrastructural obsolescence. In response, the DOD began a project of expanding infrastructural place – not further into the Hudson, but rather into the city itself, with the construction of the Chelsea Piers.

Without longer piers for new ships, elites feared New York would continue to lose out on the steam trade to neighbouring Hoboken and Jersey City. In order to maintain their commercial superiority and relieve congestion in lower Manhattan, the DOD was determined to build modern piers, with concrete decks, ornate warehouses and passenger sheds, and the necessary technology to host the newest transatlantic ships just north of the central business district. The planned length of the piers, however, at just over 800 feet in length, would surpass the boundaries set by the 1871 harbour lines between West Eleventh and Twenty-third Streets. This was an area that had been so extensively filled in since 1686 that by 1880 the Hudson at the Chelsea Section was at its most narrow width in the entire harbour. In most of the area, the distance between the pier-

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4 See Ann L. Buttenwieser, *Manhattan Water-Bound: Manhattan’s Waterfront from the Seventeenth Century to the Present* (Syracuse: Syracuse University Press, 1987), Chapter Four, for an excellent rundown of the history of the design and construction of the Chelsea Piers.
head line and the shore, the space where piers were to go, was less than 200 feet. Any piers that were big enough for the largest ships at the time, such as the record breaking RMS *Umbria*, which measured 519 feet long in 1884, would extend more than $\frac{3}{5}$ beyond the lines the State of New York had set just nine years before.

Though the DOD itself had provided much of the expertise and impetus for setting the pierhead lines in 1871, it was unable and unwilling to change them for its Chelsea Piers project. New lines would mean a lengthy delay as surveys were undertaken and approval sought from the state. As well, it would serve to undermine the agency’s still-incomplete institutional authority along the waterfront and their power in the growth coalition, within which the DOD had just recently taken an authoritative role as a link between the state and capital. The DOD’s institutional power over infrastructural place was, clearly, even at this time, still incomplete.

Changing the pierhead lines would undermine the appearance of durability of their plans, particularly in the face of critiques over departmental spending from other municipal agencies (See Chapter Five). It would also open the DOD up to requests for such extensions from private owners, who continued to operate much of the waterfront. For the waterfront growth coalition, whose private-sector members were involved with the large-scale transportation trades and relied mainly on DOD owned piers for their steamships, the more significant barrier to changing the pierhead lines was the technical limits of these new larger steamships.

The growing scale of the transatlantic ships throughout the 1880s and 1890s created significant problems for the coalition. As the ships were largely propelled by single-screw engines, they required a very wide turn radius and the assistance of numerous tugs in order to be able to safely dock along the Hudson. For shipping-line owners, as well as the DOD, this meant that narrowing the Hudson any more between Manhattan and New Jersey constituted a hazard that was simply too significant to ignore. These ships, however, were a necessity for the continuing com-

5 Department of Docks [DOD], *Map Showing the High and Low Water Mark and the Original City Grants of Lands under Water Made to Various Parties from 1686 to 1873, Extending from Battery to Fifty-First Street, Hudson and East Rivers, New York City, Also the Several Pier and Bulkhead Lines Established from 1750 to 1873*, 1873, Lionel Pincus and Princess Firyal Map Division [LPFMD], New York Public Library [NYPL].


7 Screws here refers to the type of propeller being used. Screw engines were a technical innovation that allowed steamships to travel faster and more efficiently through the water. Single-screw engines, however, were difficult to turn and required a great deal of room within which to manoeuvre. Double-screw engines, which would come about 30 years later, allowed for much tighter maneuvering.
mmercial success of transatlantic travel between Europe and New York City. New piers were needed, and both shipping interests and the DOD were eager to build them at Chelsea for the good of the transatlantic steam trade and the Manhattan economy more widely.

For the DOD, the infilling and the resulting narrowing of the Hudson between Chelsea and Hoboken was a “great mistake” that made it almost impossible to build their piers there in the cheapest way possible: out into the Hudson with limited inland excavation. Moreover, the economic imperatives of shipping line owners who did not want existing piers demolished in lower Manhattan, and who were unwilling to move further north than West Twenty-third Street made Chelsea the most appealing place to build. Determined to produce the required infrastructural assemblage in Chelsea, the DOD decided to extend the boundaries of infrastructural place inland. This required the department to buy up property and then undertake massive excavation and dredging works to turn this newly-acquired land into public waterfront infrastructure.

The Chelsea acquisition was more expansive than any the DOD had attempted before. Up until the 1880s, the department had used its institutional power to acquire land almost exclusively located between the marginal street and the river. These were properties that were unambiguously within the legal, conceptual, institutional, and material boundaries of the waterfront as infrastructural place. In contrast, the Chelsea Piers excavation would represent a huge project that extended up to 500 feet inland from the marginal street and into the city itself. The cost of land acquisition alone was upwards of $12 million. This was by far the most expensive single project the DOD had yet undertaken. Building the piers would require the destruction of acres of land that was populated with industrial uses, including gas houses, lead works, and box factories (Figure 6.1). Expanding the boundaries of infrastructural place inland represented the growing power and importance of both the state and private actors in the waterfront growth coalition to the political economy of Manhattan as a whole.

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9 J.M. Phelan, “Memorandum for the Commission” (1908), Folder 1: North River Case 1 [NRC1], Box 45, General Correspondence, 1907-1933 [GC], *ROCE*, NARA.
Figure 6.1: The Chelsea Waterfront

Source: DOD (1871) New York City Waterfront; Bromley (1879) Atlas of the City of New York; Bromley (1911) Atlas of the City of New York

Land Use Type
- Shipping Related
- Gas Plants
- Manufacturing
- Residential and Commercial
- Storage Yard
- Rail Related
The DOD envisioned the Chelsea Piers as a means of heading off infrastructural inadequacy by providing much needed space for the increasingly large transatlantic vessels. The Piers expanded the space devoted to transatlantic shipping, increasing wharfage in the area by more than 18,000 square feet, from 7,500 to a projected 25,570 square feet once completed. According to the DOD, the new piers, which were for the exclusive use of the largest transatlantic steamships, necessitated “a radical change” in order to “provide suitable and proper wharf accommodations for the rapidly increasing commerce of this city.” This was to be achieved by building elaborate and state-of-the-art iron piers and warehouses (Figure 6.2). In this way, the DOD sought to avoid infrastructural obsolescence by enlarging the boundaries of the transatlantic infrastructural place inland.

The “radical” work of constructing the Chelsea section resulted in nine piers that were leased even before they were completed. By 1897, the IMM had agreed to lease five of the new piers between West Twenty-second and West Sixteenth Streets, paying $70,000 per year for each pier, a not insignificant sum that was still cheaper than comparable rentals at European ports. Similar prices were paid by the French Compagnie Generale Transatlantique, whose Havre-bound ships would depart from Pier 57 at West Fifteenth Street. The remaining piers would be held by the Cunard Steamship Company, whose ships, such as the massive Lusitania and the Mauretania, would arrive from ports in Britain to dock at Piers 56, 54, and 53 between West Fourteenth and Little West Twelfth Streets. The total revenue from this newly expanded portion of the waterfront infrastructural place was estimated by the DOD to be about $656,000 per year, a return on investment, it claimed, of over more than 2.7% annually. The work of constructing the piers had moved the boundaries of the infrastructural place well inland between West Eleventh and Twenty-third Streets. This could be clearly seen by a walk down that stretch of West Street – from a formerly inland street lined with industry, it was now the fronted on one side by a massive street wall made up of the ornate entrances to new piers (See Figure 6.3).

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12 Maurice Featherson, “Letter to N. Taylor Philips, Esq.,” June 19, 1905, 3, Folder 258: Docks and Ferries, Department of 1906-June-Dec, Box 23, George B. McClellan Administration, Departmental Correspondence, New York City Office of the Mayor, New York Municipal Archives [NYMA].

Figure 6.2: The Chelsea Piers Under Construction

Figure 6.3: Chelsea Piers from West Street, 1914

Despite the enlargement of the boundaries of infrastructural place into the city at Chelsea, DOD officials were adamant that this was not a tenable solution for avoiding infrastructural obsolescence. For one thing, it was exceedingly expensive: on top of the $12 million spent on acquiring property, the DOD spent $5.5 million on dredging out infill for slips – more than five times the amount it spent on any other set of properties. Already facing difficulties achieving appropriate financing for their projects, this was a major problem. Moreover, New York’s real estate had become too expensive, with its streets densely built up with pricey industrial, residential, and commercial uses, for the DOD to easily expand their infrastructural boundaries inland by the 1900s. Unlike the small-scale waterfront owners it typically negotiated with, the DOD was now faced with powerful real-estate interests within the Manhattan growth coalition. Unable to move inland, the DOD and their allies would have to expand into the Hudson if it were going to be able to build piers long enough for ships such as the Oceanic. The expansion of Manhattan’s infrastructural place into the Hudson, however, would require an institutional and conceptual realignment of infrastructural boundaries that put New York’s waterfront growth coalition into direct negotiations with parties outside of Manhattan.


In the wake of the Chelsea project, members of New York’s waterfront growth coalition began to push for an extension of the boundaries of transatlantic infrastructural place outward into the Hudson River. They would do this largely by focusing on the expansion of pierhead lines further out into the river’s fairway. These lines were first laid in 1857 by New York State Officials. In 1888 the responsibility for them was turned over to the Army engineers who served on the NYHLB. Unlike the local actors who drew up previous lines, NYHLB members were federally appointed. The main concern of the NYHLB was not the commercial success of Manhattan, but rather the navigational safety of the New York harbour as a whole, including New Jersey. The board’s work on the harbour lines would both expand the institutional boundaries of infrastructural place to include the entirety of the New York harbour and force Manhattan’s private-public coalition to negotiate and cooperate with similar groups in New Jersey and the federal government. In this section, I examine two key sets of negotiations over the harbour lines to understand how territorial expansion of the transatlantic infrastructural place was shaped by these novel institutional arrangements.

When the first harbour lines were being laid in 1857, New York State was so “convinced that the work assigned to them had a national as well as a state importance” that it requested assistance from the President of the United States in appointing the federal Superintendent of the Coast Survey to the commission that designed those lines.\textsuperscript{15} In 1872, the War Department, under which the Army Corps operated, set up an advisory board, made up of the Chief of Engineers, Superintendent of the Coast Survey, and a Lieutenant Colonel from the Army Corps, to assist the State of New York in drawing pier and bulkhead lines around Brooklyn. A few years later, a similar body was set up to deal with Staten Island’s coast.\textsuperscript{16} This advisory role became a supervisory one with Congress’ passage of the 1888 Rivers and Harbors Act, Section 12 of which set up “a board of engineers to establish the harbor lines of New York Harbor and its adjacent waters,” this board would become the NYHLB.\textsuperscript{17} This expansion of bureaucratic power was part of the production of a more powerful, cohesive, administrative state at the federal level that would have a significant impact on the institutional configuration of transatlantic infrastructural place.\textsuperscript{18}

By February 1889, less than six months after the NYHLB was created, it became clear that board members were concerned about the effect the race for longer piers on Manhattan's west side, such as at Chelsea, would have on the navigation of the harbour as a whole. To effectively deal with the transatlantic piers as part of the harbour more broadly, it situated Manhattan within a geographically larger institutional enframement than ever before. This was formalized with a set of maps sent to local officials that showed the NYHLB’s jurisdictional boundaries including all the waterways in the harbor, from Yonkers in the North, to Long Branch, New Jersey in the South, Connecticut to the East, and Newark Bay in the West.\textsuperscript{19} This was a conflict over jurisdictional enframement with infrastructural place at its centre.

The NYHLB’s mandate was to consider the harbour as a whole. Questions about piers in Manhattan occurred in the same conversations as new slips in Staten Island. In doing so, the NYHLB

\textsuperscript{15} G.L. Gillespie, “Letter to the President of the Harbor Line Board,” March 19, 1889, 11–12, Folder 1, Box 2, LRHR, ROCE, NARA.

\textsuperscript{16} Gillespie, “Letter to the President of the Harbor Line Board,” 1.

\textsuperscript{17} Clinton Sears, “Proceedings of a Board of Officers of the Corps of Engineers Convened by Virtue of the Following Orders, and Letter of Instructions” (1888), 1, Folder 3, Box 2, LRHR, ROCE, NARA.


\textsuperscript{19} D.C. Houston and G.L. Gillespie, “Letter to the Board on Harbor Lines in New York Harbor and Adjacent Waters,” March 1, 1889, 1, Folder 1: Miscellaneous Folder, Box 25, GC, ROCE, NARA.
re-made the conceptual boundaries of the Port of New York, enlarging it well beyond the stretch of shore between the Battery and West Twenty-third Street. Much like in earlier eras, the production of transatlantic infrastructural place for New York’s waterfront growth coalition now needed to contend with the navigational needs of other waterfront users. This time, however, transatlantic infrastructural place would need to be situated within an institutional framework that went beyond New York to include actors in New Jersey and the federal government.

The NYHLB began its substantive work on the harbor lines in the Hudson soon after it was created. Paralleling the construction of the Chelsea Piers, it was part of a wider effort to produce an adequate infrastructure site on the waterfront. Chelsea was to be the beginning of a much larger transformation project. The result was a new set of pierhead lines that became law in 1890 and remained fairly close to the shore (See Figure 6.4).20 As the new lines were not drastically different from those drawn before, some members of the waterfront growth coalition were content with the plan. New York’s shipping line owners, however, were less than enthusiastic about the changes. They wrote to the State of New York to urge them to put pressure on the NYHLB to expand the lines and allow longer piers in the future. These complaints reflected the competing factions within the otherwise unified waterfront growth coalition. Transportation owners advocated were impatient for a more spatially expanded set of boundaries and a much more rapid pace of construction.

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20 United States Army Corps of Engineers, *Pierhead and Bulkhead Lines for the East Shore of the Hudson River and the North and West Shores of the East River Extending from 81st Street to the Battery, New York City, 1890*, LPFMD, NYPL.
Figure 6.4: NYHLB Pierhead Lines in the Chelsea Area, 1890
The DOD agreed with the private sector members of the waterfront growth coalition. In 1897, docks department officials made their first of what would be a series of contentious requests for an extension to the NYHLB line north of Chelsea. For the DOD, the expansion of the waterfront further into the Hudson was necessary for the continued success of Manhattan’s waterfront and the Port of New York as a whole. The fight over the 1897 pierhead lines is demonstrative of the always becoming nature of these infrastructural boundaries. This changing character of infrastructure was associated with the reconfiguration of public and private coalitions across space. As Manhattan’s waterfront growth coalition began to fight against federal rules, it would come face-to-face with a similar group of officials and capitalists in New Jersey, with whom it would have points of consensus and conflict. The settlement of these conflicts, both for and against Manhattan’s waterfront growth coalition, would reshape the institutional and conceptual boundaries of the harbour as transatlantic infrastructural place.

In January of 1897, the DOD requested that the Secretary of War approve a modification of the pierhead line from just north of Chelsea, at West Twenty-third Street, up to West Eighty-first Street in the Upper West Side. The line, according to the DOD, would need to be expanded at least 200 feet into the river in order to accommodate “a large number of transatlantic steamships.” Present at the public hearing held to discuss the decision were a wide swath of the waterfront growth coalition. This included the DOD’s commissioner, General E.C. O’Brien, and Engineer-in-Chief George S. Greene, as well as John A. Cormack, president of the transatlantic-dominated Maritime Association, members of the New York Board of Trade and Chamber of Commerce, and the New York-based managers of the Hamburg-American Line and the North German Lloyd Steamship Company. Opposing, or at the least expressing concern over the extension, were a mix of officials and landowners from New Jersey. This included members of New Jersey’s Board of Riparian Commissioners, Hoboken City officials, and property owners from Hoboken and Woodhaven.

DOD Commissioner O’Brien was the first deputant to testify. He began by explaining to the NYHLB that ships were now growing larger and faster than ever before. The newest ships launched in 1897, according to O’Brien, were more than 625 feet long, and ships set to launch soon would be larger than 640 feet. The current pierhead lines, he continued, would only allow

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21 “Meeting Re: Modification of Pierhead Line on North River,” 2.
22 “Meeting Re: Modification of Pierhead Line on North River,” 2.
piers that were, at the most, 500 feet in length. Aaron Vanderbilt, representing the New York Board of Trade, stood next to support the DOD’s plan. He explained that the case of New York’s pierhead lines was “of a great store that does not furnish counter accommodations to take care of its customers. We certainly have not sufficient facilities to accommodate the vehicles that carry our commerce.”23 Other deputants continued to press the commercial issue, demonstrating how central to the Manhattan based growth coalition these new pierhead lines were.

Manhattan’s commercial concerns were dismissed by the New Jersey deputants, who instead focused on their own right to transatlantic infrastructure on the west side of the Hudson. State officials on the riparian commission demanded that any change made along the Manhattan side of the river would need to be replicated along Hoboken’s waterfront. This argument demonstrated the fault lines that emerged between the smaller, yet more powerful, Manhattan-based waterfront growth coalition, and the much wider group of private-public actors involved in the operation of the harbour as a whole, including the NYHLB and New Jersey Officials under the new NYHLB institutional boundaries. Indeed, New Jersey officials made it clear that they saw the entirety of the Hudson as part of the larger transatlantic infrastructural place:

What they say about the commerce of the port of New York we say. Their interests are ours. We are a part of the port of New York. New York City is not the Port of New York. The whole Jersey shore is just as much a part of the port of New York as New York City. New York City and New Jersey in this locality are just artificial divisions for the convenience of the administration of their local affairs, but Jersey City and Hoboken are just as much a part of New York City as Brooklyn, and our interest here are just as large.24

While both sides agreed on the need for a transatlantic infrastructural place, they differed on the hierarchy of waterfront development projects. For Manhattan’s coalition, the Midtown piers were a priority and should be placed at the top of any hierarchy of waterfront needs.

The sense that only a single side of the Hudson could be an effective infrastructural place reflected engineering concerns about the safety of maneuvering larger steamships in the waterway. As one New Jersey official pointed out, the pierhead lines had been set where they were because “the increased length of modern ocean steamers demand[s] increased maneuvering space for en-

23 “Meeting Re: Modification of Pierhead Line on North River,” 2.
24 “Meeting Re: Modification of Pierhead Line on North River,” 12.
tering and leaving slips.”25 Concerns about the turning radius of steamers would continue to dominate the discussion – if longer piers were built in Manhattan, the need for ships to back out and turn around in the middle of the Hudson would preclude longer piers in New Jersey. This was a common refrain from those opposed to the use of the middle of the Hudson for the transatlantic steamships. While the DOD, in many ways, supported this notion, promoting Manhattan as the exclusive site of transatlantic infrastructure, private sector members of the growth coalition pushed for a more expansive transatlantic place that included New Jersey as well.

Emil Boas, manager of the Hamburg-American line, which had interests in piers in both Manhattan and Hoboken, championed the notion of a broader transatlantic infrastructural place stretching from Hoboken to Midtown Manhattan. Boas explained that these safety concerns had been overcome by technological advances on newly-built ships. Vessels like the Oceanic were equipped with twin-screw propellers, which allowed tighter turning radii, had double hulled sides, and therefore less chance of injuries. Boas affirmed that “the narrowing of the channel would not only not impede the traffic of this port, but it would be of great advantage to the commerce of this port.”26 For private-sector members of the growth coalition, an expanded transatlantic infrastructural place would include both long piers in Manhattan, and in New Jersey.

The commercial advantages of the longer piers dominated the discussions among New York’s capitalists, but were typically couched in the type of language used by Boas. Larger ships, the argument made by steamship line owners went, were not only safer, but they were better for commerce, and thus needed to be accommodated. If not, then New York would be stuck with only the smaller, and by inference, less safe and less profitable, ships. The Hamburg American and other lines’ largest ships would be forced to go “to Boston, to Philadelphia, to Baltimore, to New Orleans, and to Galveston,” where dock accommodation for large ships was supposedly more available.27 Not just Manhattan, but the entire New York Harbor region would be negatively affected. Of course, these threats were largely empty ones. The connection to railroad lines and commercial and industrial markets that were available via the Port of New York was unrivaled even in nearby cities.

26 “Meeting Re: Modification of Pierhead Line on North River,” 15.
27 “Meeting Re: Modification of Pierhead Line on North River,” 15.
The NYHLB eventually recommended that new expanded lines be approved in both New York and New Jersey, marking an expansion of the infrastructural boundaries. The 1897 pierhead issue would not be the last confrontation between Manhattan’s waterfront growth coalition and the wider set of public-private actors concerned with the harbour as either a transatlantic infrastructural place or a site of free navigation. While the 1897 decision was favourable for the DOD and others in Manhattan, similar fights that erupted afterwards were not. As these conflicts demonstrate, the creation of the Hudson as transatlantic infrastructural place was a highly uncertain project, one that demonstrates the relative limits of power of local officials and capitalists in New York.

On June 30th, 1902, New York officials asked the NYHLB to extend the entire line from Canal Street north to West Thirtieth Street, which included the Chelsea section, 200-feet further into the river. When this was summarily denied by the NYHLB without a hearing for being too similar to previous proposals, a new request was promptly submitted. This was for the very specific extension of 107.2 feet, just long enough for piers that would shelter the then-largest steamers in their slips. This too was denied. The fight over the pierhead lines in Chelsea and in Midtown Manhattan, however, was far from over. Six years later, as congestion on Manhattan’s waterfront continued to grow, the DOD again asked for another extension in the area. As an examination of the 1908 expansion attempt shows, the result would be a new boundary that was not quite what the DOD or the waterfront growth coalition had in mind.

While the focus of the DOD was on the construction of longer piers, it was clear from the debates over the 1908 extension request that the Hudson River itself was also a main point of concern for all parties. Whereas prior to the NYHLB involvement in the most recent crisis of steamship length, much of the DOD’s focus was on making land the center of the expanding waterfront. After 1888, however, it increasingly focused on the water of the Harbor as a key site. Those opposed to the extensions also focused on the place of the Hudson in the emerging enframement of the waterfront. The Marine Journal, a publication that was largely in-line with the views of domestic shippers and other local, small-scale capitalists involved in the New York harbour trade, ran a series of editorials in 1908 denouncing the proposed new boundaries. It claimed that longer piers and deeper slips and shipping channels would only encourage European ship builders to build even larger ships. This would have the effect of turning the Hudson River

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28 Allen N. Spooner, “Letter to William H. Taft,” March 5, 1908, 1, Folder 1: NRC1, Box 45, GC, ROCE, NARA.
into an exclusive infrastructural place for the use of transatlantic steamers, thus excluding smaller shippers. This was already occurring, it continued, as when:

any one of the largest transatlantic liners is obliged to turn around in the North River…it to a large extent blocks the river for a time, consequently making it difficult and frequently hazardous for local vessels to pass and repass.\(^29\)

The *Marine Journal* editorials reflected not only a discomfort with enframing the Hudson as transatlantic infrastructure, but also with the role of the local government in providing such infrastructure. Reflecting divisions between local- and global-scale capitalists along the waterfront explored in earlier chapters, the editors complained how about how much government money was going into the construction of these longer piers and deeper channels “wholly for the benefit of foreign vessels.”\(^30\) Expanding the pierhead lines would have the effect of completely handing over the harbour to large-scale capital as transatlantic infrastructural place, which for the DOD and their private sector allies was precisely the point.

Present at the 1908 NYHLB hearings were many of the same figures who had been at the 1897 meeting, as well as a number of parties representing smaller-scale shippers. In support of the extensions were A.N. Spooner, Commissioner of the DOD, T.D. Staniford, Chief Engineer of the DOD, as well as representatives from the Hamburg American Line, the Anchor Line, the Erie Railroad, the Pennsylvania Railroad, the New York Central and Hudson Railroad, and the New York Board of Trade and Transportation. Opposed again were members of New Jersey’s Riparian Commission, Hoboken officials and property owners, and the owners of the Cornell Steamboat Company and the Hudson River Day Line. The divisions were clearly drawn: on the one hand were large-scale transportation capitalists and Manhattan officials, and on the other, smaller shippers and New Jersey officials who sought a different form of infrastructure in the Hudson. Colonel John G. D. Knight, one of the members of the NYHLB, began by asking pointed questions: could angled piers be built, as was done in Britain, to avoid the pierhead line, and why was the section directly north of Chelsea the only suitable place for longer piers given the availability of land and ocean in Brooklyn? In response, Spooner focused on the technical specificities of the infrastructure, claiming that unlike the relatively slow currents of the Mersey (Liverpool) or Thames (London), the Hudson’s strong currents made angled piers impossible, not to mention

\(^{29}\) Marine Journal, “The North River Pier Line: Reasons Why It Should Not Be Extended as Requested” (March 11, 1908), 1, Folder 1: NRC1, Box 45, GC, *ROCE*, NARA.  
\(^{30}\) Marine Journal, “Enlarged Harbor Facilities” (April 4, 1908), 1, Folder 1: NRC1, Box 45, GC, *ROCE*, NARA.
too expensive. As for the location, Spooner claimed there was nowhere else in the city these could be built, since everything in lower Manhattan had been built up to its maximum, and, he claimed, the shipping channels in Brooklyn were too shallow. Chelsea and the areas north were the only appropriate spaces.

The requested pierhead lines were, in every obvious sense, meant to be a continuation and expansion of transatlantic steamship infrastructure at the expense of the local and other smaller users. Boas pointed out that the requests for extensions would only continue, as steamers 1,000 feet long were now being built in Belfast, and that these ships would need to come to New York. In an attempt to meet the navigational concerns of the NYHLB, he explained that all the new ships were twin-screw steamers, so that they could turn on a relatively tighter radius and were in less danger of being swung out by the current. Fred Dalzell, from the National Board of Steam Navigation, which represented the interests of coastal and river steamers, quickly stepped in to point out that no matter how technologically advanced the ships were, their sheer size meant that whether they were docking in or departing from their slips, they essentially relied on exclusive access to the centre of the river. At high tide, these ships took up over 2/3rds of the fairway, and the entire river during low tide:

> In making the sweep [entry to the pier] when they do this...any vessel in fact must either stop or undertake to dodge around the stern or forward part of the ship to keep from being damaged....it would interfere with vessels that must navigate these harbors. We were here before a thousand ton ship was ever thought of being built.31

While safety issues seemed to be at the core of the rhetoric used to oppose enframing the Hudson as transatlantic infrastructure, it was also used by those in favour. In its deputation to the Board, the Anchor Line, which sailed its five ships between Glasgow and New York, attempted to link both the business case and the safety issues to the need for new piers. Moored at pier 64, just north of Chelsea at West Twenty-fourth Street, it claimed that their pier was only a few feet longer than their largest ship, the 500-foot-long *Caledonia*. The inadequate length of the pier created a great risk of damage to other vessels entering the narrow 203 feet wide slip while the *Caledonia* was moored there, a particular problem as 40 to 50 barges a week carried cargo to and from ships tied up there. The extended piers would make this much safer, allowing the barges to

tie up behind the ship on the longer pier. Linking this safety explicitly to commerce, the Anchor Line’s representative encouraged the expansion as “a great assistance to us in handling the increased business and would enable us to afford greater convenience to passengers and their friends, to Customhouse Officers, Inspectors of Baggage, Truckmen, and in short to everyone connected with the travelling and trading public.”

The 1908 fight demonstrated many of the points of departure between private- and public-sector actors in Manhattan and elsewhere. While the Manhattan-based waterfront growth coalition was firmly united in the fight for greater transatlantic commercial infrastructure, the engineers of the NYHLB saw it differently. Knight, one of the most vocal engineers, exclaimed at one point, “Is not this Board to consider the question from the standpoint of the navigator rather than from a Municipal standpoint?” The question of the infrastructural enframing of the waterfront seemed to come down to the technical expertise of those involved. This demonstrated the at times opposing missions of these groups, a key point that would shape the ongoing enframing of the Hudson River and Manhattan waterfront as infrastructural place. At issue was which type of users’ technical needs would win out in the middle of the Hudson. Would it be the need for longer piers for the transatlantic steamships, or for a more open river for the safe sailing of smaller vessels?

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32 Anchor Lines, “Letter to Colonel D.W. Lockwood,” April 22, 1908, 1, Folder 1: NRC1, Box 45, GC, ROCE, NARA.
Following the hearing, the board met on May 27th to consider their decision on the pierhead line extensions. It denied the DOD’s application, pointing out that similar projects had been denied in 1902. By 1908, at least, the board was decidedly opposed to not just the expansion of pierhead lines, but also to the larger question of the expansion of the transatlantic infrastructural place so far into the Hudson River:

The present application is made to allow accommodation of a few unusually large steamships engaged or to be engaged in foreign commerce, and for convenience only. Piers of sufficient length even in this area may be had by excavating inland without going beyond areas already taken from the river. And there are numerous localities in the harbor of New York where piers of any length may be constructed without encroaching on the waterway of the Harbor.34

The 1908 decision represented a setback for the DOD and the rest of the Manhattan-based waterfront growth coalition in their attempt to expand the boundaries of infrastructural place to better serve their transatlantic interests. In particular it represented a limit of the power of large-scale shipping capital based in New York to effect changes to federal policy. However, the continued technological advances in steamships, particularly the construction of the Olympic and Titanic, then the largest ships in the world, just two years later, would force another attempt to reconfigure the boundaries of the infrastructural place to include the Hudson River itself.

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34 New York Harbor Line Board [NYHLB], “Letter to the Chief of Engineers,” May 27, 1908, 8, Folder 1: NRC1, Box 45, GC, ROCE, NARA.
The *Olympic* Crisis: Infrastructural Obsolescence and Expansion, 1910-1915

By 1910, the shipbuilding race had reached a fever pitch. In Belfast, two ships, the *Olympic* and its sister ship, the *Titanic*, neared completion. These ships, the largest in the world, would be joined soon by the Hamburg-American Line’s own “world’s largest ship” then under construction in present-day Poland. The *Olympic* was due to set sail from Southampton to New York in the summer of 1911. As discussed in Chapter One, the arrival of these gigantic ships had sparked a great deal of concern amongst the waterfront growth coalition and others interested in the waterfront. The issue that bothered them was that the ship, at just under 900 feet long, was longer than any of the piers its owner, the White Star Line, leased in Chelsea. Without pier extensions, these ships could not dock in New York. This was not only a problem for the White Star Line, but a problem for New York. As R. Smith of the Chamber of Commerce commented, it “would be humiliating to the State of New York. To turn [the ships] away to seek other ports would be suicidal.” By 1910 then, the inadequacy of Manhattan’s transatlantic infrastructural place had become very real, and for those with interests in the harbor, very urgent.

In February 1910, the IMM, controlled by New York financier J.P. Morgan, and the parent corporation of the White Star Line, made an official request to extend their piers leased in Chelsea by 100 feet. This would make the piers between 900-925 feet long, allowing them to shelter what were “by far the largest steamers in the world.” Without the new piers, the IMM argued, the sterns of the ships would stick out into the river, which would make them liable to damage from debris and other vessels. Because there was no dry dock in North America large enough for the *Olympic* or *Titanic* any significant damage underwater would be almost impossible to repair. This request met with a similar fate that the one made two years earlier had.

Seemingly confirming the NYHLB’s resistance to expanding the physical boundaries of transatlantic infrastructural place any further into the Hudson, the IMM’s request was quickly denied.

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35 Hamburg American Line, “World’s Largest Ship: Keel of Europa Laid at Stettin, Will Carry Over 5,000 Souls” December 1, 1910, 1, Folder 6: North River Case 6 [NRC 6], Box 45, GC, ROCE, NARA.
37 J. Evarts Tracy, “Memorandum in the Matter of the Application of the International Mercantile Marine Company to the Secretary of War, for Authority to Extend, by One Hundred Feet.” 1910, 1, Folder 2: NRC6, GC, ROCE, NARA.
Without any public hearing on the matter, the Secretary of War, J.M. Dickinson, responded to the IMM’s Vice President, J.P. Franklin, that extending the pierhead lines at Chelsea:

Has been most carefully considered, and sometime ago a decision was reached...that no further encroachment upon the water area of the harbor at this, the narrowest part of the Hudson River....will be permitted...This decision must be considered final and irrevocable.  

The response from the NYHLB can be seen as an attempt by that body, focused as it was on the free navigation of the harbor, to contain the boundaries of transatlantic infrastructural place to the limits it had set in 1897. This would protect the interests of the smaller coastal shippers.

The never fully static nature of infrastructural boundaries, however, meant that any such decision about pierhead lines could not be considered final and irrevocable. The IMM and their allies in the DOD, transatlantic companies and railroad lines, continued to press for pier extensions. In December 1910, the IMM officially re-submitted their application, with two new mitigating factors. First, the *Olympic* had launched in October, and its much smaller home port, Southampton, was ready for it. Second, it pointed to the recently completed Ambrose Channel into New York Bay, which allowed, and even seemed to encourage, the construction of such large ships. Therefore, in the considered view of the IMM, “it seems unreasonable for the Government to prevent the City of New York from developing its facilities.” Thus it became clear that the limits of what would be infrastructural place were also always up for debate and contestation.

J.P. Morgan, the controlling investor in the IMM and one of the richest men in New York, began a concerted effort to press his influence on officials in Washington, D.C. This included meeting with the Secretary of War, Jacob Dickinson, and the Chief of Engineers, Brigadier General William Bixby. The meetings seemed to be successful at forcing the NYHLB to at least consider the new boundaries the shippers were proposing. At the same time, though, the continual hesitation of the NYHLB in the face of such concerted pressure demonstrated the continued power of technological expertise in determining the boundaries of infrastructural place. Bowing somewhat to the pressure, Secretary Dickinson ordered the NYHLB to hold a hearing on the issue.

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40 J.M. Dickinson, “Letter to Mr. P.A.S. Franklin,” March 14, 1910, 1, Folder 4: NC4, Box 45, GC, ROCE, NARA.
41 P.A.S. Franklin, “Letter to Hon J.M. Dickinson,” December 5, 1910, 2, Folder 6: NRC6, Box 45, GC, ROCE, NARA.
42 Marine Journal, “Recent North River Collisions.” November 26, 1910, 1, Folder 6: NRC6, Box 45, GC, ROCE, NARA.
pierhead lines in Chelsea, he ordered, “should be brought to a disposition as soon as it can be done with a due regard to all that is involved.”

In laying out their case, the IMM was careful to make the point that, indeed, things had changed on the waterfront, both materially and institutionally, since 1908. First of all, the opening of rail tunnels under the Hudson had reduced water traffic such that “conditions which existed when former similar requests were declined by the War Department, have been materially changed.” Similarly, the IMM brought up other federal projects, including the dredging of the Ambrose Channel and the Panama Canal, that could only be taken as enticements to build larger ships. Of the fourteen points the IMM submitted as reasons for the application, however, the majority focused on the fact that not extending the piers would render the waterfront infrastructure of Manhattan obsolete.

The IMM’s arguments were focused on the need to keep the waterfront adequate for transatlantic steamships. It wrote that “the inability to enlarge the piers would annoy travellers and delay the mails.” Building the new ships, moreover, was an expensive undertaking, and since there was nowhere else the ships could be docked, this was fundamentally unfair. As the IMM put it, “the most important port of the United States should not be prevented from keeping pace with the demands of commerce.” Clearly, the threat of infrastructural inadequacy was at the front of mind for the IMM and their allies in the larger waterfront growth coalition.

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43 J.M. Dickinson, “Letter to the Chief of Engineers,” 1911, 1, Folder 6: NRC6, Box 45, GC, ROCE, NARA.
44 Tracy, “Memorandum,” 4.
Opponents of the IMM, especially small-scale shippers, were apoplectic about the fact that the expansion was being considered, particularly so soon after the first application had been denied. J. Evarts Tracy, a Hudson River-line owner, submitted written testimony opposing the extension for the sake of the North River navigation. The previous investigations carried out in 1897, 1902, 1908, and less than six months previously in 1910, should have been enough, Tracy argued. Instead the IMM and the DOD:

launched a vast scheme for the artificial creation of sentiment in favor of the project, every avenue of influence being traversed to organize and propel a force designed to be irresistible....the public press, day after day, issued urgent appeals in support of the project; reports were printed of carefully arranged interview....all clamoring for the granting of the application.46

Tracy continued to criticize all the groups who supported the IMM, which, in 1910 included not just Manhattan growth coalition members, but also New Jersey officials and other shipping line owners. The result, he averred, would be a “most dangerous proposition” which would make the waterway far too dangerous for the many smaller ships traversing it.47

Tracy and allied members of the local and small-scale shipping industry were determined to maintain a Hudson River waterway that was decidedly outside of the material and institutional boundaries of Manhattan’s transatlantic infrastructural place. As in 1897, the Marine Journal and local shippers continued to use the safety issue to push back against any expansion of the area in the Hudson devoted to the transatlantic steam lines. In a November 1910 piece heralding “two object lessons against the narrowing of the North River by extending the piers,” the editors outlined the types of incidents that it predicted would increase with new piers. In one case, the Holland American Line’s Amerika, a 669 foot long ship attempting to dock in Hoboken during a strong ebb tide and heavy winds, required sixteen tugboats and several hours just to safely tie up in its slip. In another case, the North German Lloyd’s ship Prinz Frederick Wilhelm, backing up out of its Hoboken dock, collided with the French Line’s Lorraine, which was leaving its Manhattan pier, necessitating repairs, though admittedly minor ones.48 The efficacy of circulation in the Hudson as infrastructural place was a key point of contention amongst the various factions vying for the use of Manhattan’s waterfront.

46 Tracy, “Memorandum,” 3-5.
As larger ships became the norm in the global shipping industry, many felt that the safety fears in ports where the fairways were much narrower and with greater variations in tides than along the Hudson were overblown. Indeed, in a series of letters to ships’ captains engaged in the transatlantic trade, the Army Corps asked their expert opinions on ship maneuverability. It found that most captains were confident that new technologies allowed them to turn and straighten out in comparatively little space. ⁴⁹ By 1910, this feeling that the entire Hudson could be safely used in this section between Chelsea and Hoboken was one that had seemingly become a consensus amongst both Manhattan-based capitalists and officials and their counterparts in New Jersey.

A long list of IMM supporters wrote similar letters to the NYHLB claiming that safety would not be a concern and that a good share of the port required extensive reworking. The list included all the railroad companies with lines leading into Manhattan, Hoboken, and Jersey City. The Delaware, Lackawanna, and Western Railroad Company, for example, told the NYHLB that if ships like the Olympic were forced to dock elsewhere, “the rail carriers will lose correspondingly.” ⁵⁰ As well, ferry operators who relied largely on transporting many continental-bound passengers to New Jersey’s rail terminals were equally vocal in support of the IMM’s proposal of building longer piers.

It seemed as if the entirety of New York’s waterfront growth coalition centered on the transatlantic trade was rallying to the IMM and the cause of longer piers. The Chamber of Commerce established a committee with the purpose of providing as much support as possible to the application. In their inaugural meeting, the Committee wrote that the proposal was supported by:
the leading newspapers, by the foremost merchants, by prominent engineers, by the best authorities in the transportation interests, including railroad men, steamship men, navigators, pilots, owners of barges and directors of mammoth steamers - both foreign and domestic - is overwhelming in favor of the extension of piers asked for in the Chelsea Section. Rarely has there been such a large degree of unanimity on a question of importance. ⁵¹

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⁴⁹ NYHLB, “Question and Replies Thereto Answered by Various New York Steamship Companies.” 1911, 3, Folder 6: NRC6, Box 45, GC, ROCE, NARA.
⁵⁰ R.D. Caldwell, “Letter to the Board of Harbor Engineers,” December 21, 1910, 1, Folder 6: NRC6, Box 45, GC, ROCE, NARA.
⁵¹ Special Committee on Pierhead Lines, “Report to the Chamber of Commerce” (1910), 3–4, Folder 8: Pier Head Lines, Special Committee on, 1910-1911 [PHL], GC, COM, NYCCIR, CRBML.
Unlike 1908, when only a few interest groups became involved with the NYHLB hearings, the 1910 *Olympic* crisis sparked a concerted effort on the part of the wider capitalist elite and officials in Manhattan.

Despite competing claims by the small-scale shippers, this support elites demonstrated that the conceptual boundaries of the waterfront as transatlantic infrastructural place had clearly become a consensus amongst the New York and New Jersey elite. As the committee members wrote in their first report: “A great commercial harbor consists not only of a deep waterway connecting with the sea but also of dock and terminal facilities. One cannot be separated from the other without destroying both.” It is clear that the *Olympic* pier crisis demonstrated a moment when the conceptual boundaries of the waterfront were once again being negotiated. In this case, the question was whether or not infrastructure would be expanded to include the centre of the Hudson River itself as part of the transatlantic infrastructural place.

The ability to materially expand the transatlantic infrastructural place to match the demands on the conceptual and institutional boundaries made by the IMM and its supporters relied on the decisions made by the NYHLB to the length of the pierhead line. The engineers who sat on the board, however, were firmly against any new forms of infrastructural expansion into the Hudson. Clearly there were significant gaps between the institutional enframement of the waterfront and the material reality of the use of infrastructural place. Following the hearings on the Chelsea Piers, the NYHLB wrote a letter to the Secretary of War advising him to deny the extensions. Narrowing the channel of the Hudson, they feared, would have a negative effect on upstream harbors as far north as Albany. Moreover, they were unsatisfied as to the safety of the river’s fairway. They continued to conceptualize the river as a navigational fairway, not as transatlantic steamship infrastructure. As the agency told the Secretary of War, “over a hundred boats have been seen to pass up or down the river past the locality in question in a single hour, and a diminution of the fair way will increase the danger of collisions and may increase the delays to river traffic.” It would appear that for the NYHLB, the Hudson was to remain a fairway for all users, not an exclusive zone for the use of the transatlantic shippers.

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52 Special Committee on Pierhead Lines, “Report to the Chamber of Commerce,” 5.
In that same letter to the Secretary of War, however, the NYHLB actually recommended that temporary extensions be granted for the IMM’s piers at Chelsea. It attempted to mitigate the boundary-making effects of the extensions, asking that they be allowed to exist for no more than eighteen months, and that they allow water to pass beneath them, and that they are neither decked nor roofed. Every effort would be made to make them easily removable, and thus to allow the contraction of the boundaries of transatlantic infrastructural place once the eighteen months was over.

In support of the idea of temporary piers, the IMM’s president J.P. Franklin went down to Washington to meet with Secretary of War Dickinson. He proposed that they would build two pier extensions on each side of the slip, made of proper wooden pilings, with the promise that it would only be temporary until “some other suitable place is found for us to suitably dock these steamers.” Also at the meeting was DOD Commissioner Calvin Tomkins, who assured Secretary Dickinson that the piers would only be made of timber, not concrete. Dickinson agreed and decided to grant the extension. He made clear that the reason for doing so was one made with an eye to the economics of the situation. As he explained, the decision was made “in view of the exigency and the large commercial interest of a great port.” The IMM quickly built the extensions, which took the form of timber joints laid out in a square pattern, without any decking (Figure 6.5).

The era of the expanded infrastructural place was ushered in as the *Olympic* docked “without any accident to the newly extended pier,” on June 21st at 10:00 AM (Figure 6.5). The supposedly temporary boundary extension that the new piers represented turned out to be not quite so temporary. Instead, once the initial permits had expired in 1913, a new, five year permit was granted to continue allowing the *Olympic* to dock in Chelsea. The stated reason for this being that the DOD still needed some time to build the new 1,020-feet-long docks it was planning north of West Forty-first Street.
Figure 6.5: Olympic Docking for the First Time

Source: Bain News Service. 1911. *Arrival Olympic*. LCPPD
The *Olympic* crisis demonstrates the relationship between the conceptual and material enframing of infrastructure. The boundaries around infrastructural place were not static or natural. Rather, they were developed through ongoing negotiations that involved material and conceptual aspects, bolstering each other in an iterative relationship. Moreover, the *Olympic* crisis laid bare the relationship between institutional and other types of enframements. New York’s waterfront growth coalition, which by 1911 included actors from other parts of the newly expanded infrastructural place, particularly from New Jersey and Brooklyn, sought a new institutional enframenent that would go along with the new conceptual and material boundaries established after 1911.

**Conclusion**

By 1911 the material, conceptual, and institutional boundaries of the waterfront as a large-scale transportation infrastructural place had expanded well beyond Manhattan. In 1880, the city’s infrastructural place, which was geared for the exclusive use of transatlantic steamships and national railway lines, was largely limited to a portion of the west side of Manhattan from Gansevoort Street to the Battery. Thirty years later, not only had almost all of the Hudson River shoreline of Manhattan between the Battery and Midtown become home to the piers and wharves of large-scale steamships and railroads, but so had a significant chunk of the Hudson River and the New Jersey shoreline. These material components of infrastructure were part of a larger enframenent that included a new understanding of the Port of New York as a multi-nodal site of capital circulation centred on Manhattan but including the waters of the harbor and the associated shorelines.

These changes to the form, location, and use of the waterfront as infrastructure were linked to technological changes in the shipbuilding industry and to the speeding up of capital circulation as industrial capitalism intensified across the globe. New York, as a key centre of finance, production, consumption, and transportation, was deeply and quickly affected by any technological or economic change. The material, conceptual, and institutional changes that New York’s waterfront underwent during this period, however, cannot be seen as simply a response to the growth of ship sizes or the increasing power of global transportation capitalists. Rather, they were produced by the ongoing and contested negotiations between local actors, including the DOD, steamship line owners and federal officials, particular members of the Army Corps and the Department of War, over what the boundaries of infrastructural place should be.
These negotiations did not result in a steady expansion of boundaries. As often as not, the DOD and local actors were stymied in their attempts to expand the boundaries of infrastructural place out into the Hudson. Federal officials concerned about safety and general navigation, and smaller players eager to hold on to their own piece of infrastructural space in the water of the Hudson River were both unwilling and powerful enough, at least for a while, to prevent the expansion of pierhead lines. Ultimately however, the significance of transatlantic steamship infrastructure to the US economy, and the profits and political influence of the country’s wealthiest and most powerful financiers would persuade the Army Corps to grant temporary extensions at Chelsea for the Olympic. This as it turns out would become a near-permanent component of waterfront infrastructure by the end of the 1910s. Through continued material construction, and the reconfiguration of institutional power along the waterfront and in the harbour as a whole, the institutional boundaries of infrastructural place would come to match those conceptual and material ones.

This chapter has demonstrated how those who were locally dependent, such as the waterfront growth coalition, responded to threats of infrastructural inadequacy. In the face of larger ships and the threat of commerce moving to other ports, a diverse coalition of local elites and officials from New York and New Jersey worked to expand the material boundaries of infrastructural place both inland and into the river. In doing so, they built on existing legal boundaries that had been set up to make the waterfront distinct over the past two centuries. As well, these actors carried out specific practices of expansion that focused not just on the material aspects of piers and wharves. Rather, they explicitly engaged in a project of conceptual expansion and institutional expansion.

The boundary-making efforts were not always successful. Infrastructural enframing is an ongoing process that is always open to re-negotiation. Infrastructural boundaries are often expanding and even sometimes contracting. While these negotiations and boundary changes resulted in a waterfront infrastructural place that large-sale capital could productively use by 1911, everyone involved seemed to know that this was far from a permanent state of affairs. For the private sector New York and New Jersey members of the enlarged waterfront growth coalition the Olympic crisis had revealed how this difficult process of multi-jurisdictional negotiation would continue to threaten the infrastructural adequacy of the port. Seeking a way to control these boundaries and allow the orderly production of the material infrastructure that was needed, they began to
work on the reconfiguration of the institution overseeing of infrastructural place, and the institutional boundaries themselves. In the next chapter, I examine how this would become a concerted movement for the private-public, multi-state organization that became the Port Authority.
Chapter 7: The Ongoing Enframement of Infrastructural Place in Manhattan

Introduction

By the end of the First World War, it had become clear that New York’s infrastructural place was in effect an expansive place that was materially articulated through a number of infrastructure and non-infrastructural sites. While centred on Manhattan’s west side transatlantic steamship zone, the post-1910 infrastructural place extended well beyond the original boundaries set out by the Dongan and Montgomerie Charters more than two centuries earlier. The Chelsea Piers crisis and the First World War would lead to an institutional and legal enframement of a swath of New York and New Jersey that extended far beyond Manhattan as infrastructural place via the creation of the Port Authority of New York [PANY] in 1921. The PANY’s continued existence today demonstrates the enduring power of the infrastructural place that was created from 1870 to 1921. The PANY reflects the conceptual, institutional, legal, and material boundaries of infrastructural place.

The creation of the PANY, a multi-state agency known since 1972 as the Port Authority of New York and New Jersey [PANYNJ], was a pivotal moment in the infrastructural enframement of Manhattan’s waterfront. Leveraging existing legal frameworks, it created an institutional apparatus that would operate as separate from the elected governments of both states and the federal government. In this way, it moved the management of virtually all large-scale transportation circulation out of the remit of local electoral politics, and more firmly entrenched it in the world of putatively a-political, technocratic, and expertise-driven management. Such a move allowed officials to govern infrastructural place in ways which were more responsive to the needs of transportation capital more broadly without the need to mediate between other blocs of capitalists or state officials. As this dissertation has shown, the creation of the PANY and the transformation of its mandate, work and the spaces under its management over the last century, reflect an attempt by the waterfront growth coalition to solve the long and ongoing contestation over infrastructural place.

The establishment of the Port Authority would set up an institutional framework explicitly governed by the needs of the transportation industry with the legal power of the state and having a
much broader jurisdictional mandate. These greater powers have permitted the agency to bolster the material, conceptual, and legal boundaries between infrastructural place and the rest of the city over the last 100 years. It has also given it the means to enframe not-yet-infrastructural sites as infrastructural place. Such work can be clearly seen with the present mandate of the PANYNJ, which includes the construction, governance, and operation of airports, railway terminals, ports, bus stations, subways, and even business parks and redevelopment districts. The agency’s scope has widened dramatically since the early twentieth century.

This conclusion explores the expansion of the institutional boundaries of infrastructural place beyond Manhattan, the Hudson River, and New York State by 1921. In doing so, I trace how the processes and practices of infrastructural enframing are ongoing and always contingent. I also examine how the qualitative changes to the sites examined thus far underline the concept of infrastructural place as analytically useful. By following the creation of the PANY, and briefly overviewing the decline of the west-side waterfront and the agency’s present role, I explore how the boundaries of infrastructural place are never fully static or permanent; they are constantly being remade in response to the social relations of multi-scalar systems of production, transportation, and politics. I also expand on the ideas explored throughout this dissertation around the role of legal, conceptual, material, and institutional enframing of the waterfront as infrastructural place and in particular how this analytical lens helps us to understand infrastructural change in cities. Finally, I suggest avenues of further research in order to better understand the production of the separate space of urban infrastructure via law and property, infrastructural expertise, and institutional control.
The Port Authority: Institutional Reconfiguration on the Waterfront, 1910-1921

In making his decision to allow a temporary extension of piers at Chelsea for the arrival of the Olympic (see Chapter Six), the United States Secretary of War, Jacob M. Dickinson, cited the imminent creation of a joint commission between New York and New Jersey to deal with the issue of pierhead lines and extensions.¹ Such a commission, he argued, would allow the two states to settle the boundaries of infrastructural place in the Hudson in a way which would preserve the wider scale transportation circulation required by the transportation, finance, and industrial firms in the New York metropolitan region. While the idea for cooperation across the Hudson between the two states was not a new one, the Olympic crisis of 1911 sparked a series of calls for a new institutional framework to deal with organizing the use of the shared waterway for shipping as part of infrastructural place.

The first was a short-lived Joint Commission, founded in 1911, that would eventually lead to the creation of the PANY. Officials and capitalists on both sides of the Hudson leveraged existing legal, conceptual, institutional, and material frameworks established over the last half century to create and empower the new agency. This existing infrastructural place was expanded, and its boundaries strengthened, to ensure it would remain exclusively circulatory in nature as technology, political frameworks, and economic structures changed around it. The effect would be an institutional enframing of transatlantic infrastructural place that would encompass the entire harbor running from Perth Amboy to Yonkers. This would make these boundaries roughly co-terminus with the conceptual and material boundaries that were created after 1911.

The first serious proposal for a new institutional framework to manage waterfront infrastructure came in 1910 when the Merchants’ Association, largely composed of representatives from New York’s powerful retailing sector, issued a report. The Merchants’ Association recommended that all parties interested in the Chelsea Piers outcome “should be represented in a commission to study this subject and report a definite, wise and comprehensive line of action.”² They urged that an official “special interstate commission” be appointed to study the pierhead lines and create a

¹ “Report given to the Secretary of War in the Matter of the International Mercantile Marine [IMM] for Permission to Extend Piers” (March 6, 1911), 8, Folder 2: NRC 6, Box 46, General Correspondence [GC], Records of the Chief Engineer [ROCE], National Archives and Record Administration Philadelphia [NARA].
² Special Committee on Pierhead Lines, “Report to the Chamber of Commerce” (1910), 1, Folder 8: Pier Head Lines, Special Committee on, 1910-1911 [PHL], General Correspondence, Chamber of Commerce Minute [COM], New York Chamber of Commerce and Industry Records [NYCCIR], Columbia Rare Book and Manuscript Library [CRBML].
“permanent and comprehensive plan adequate to the needs of commerce without injury to navigation.” The goal was to leverage existing legal, conceptual, material, and institutional enframements to not only to make the boundaries of infrastructural place in the Hudson more permanent and stable, but also to mitigate the time consuming and contentious process of requesting pierhead line extensions from the New York Harbor Line Board [NYHLB] and the Secretary of War. Such a move would presumably put in place a friendlier set of local actors with a more unified sense of purpose: that is, enframing the whole harbor beyond the Hudson, including the East River, Long Island Sound, and Lower New York Bay, as infrastructural place. Doing so, it was thought, would allow for the management of the Port in a way that reflected the needs of capital. At the same time, it would carry the legal and institutional weight of expertise to mitigate and avoid the costly delays and lack of funding that had plagued the DOD-led projects since the 1870s.

The recommendations of the Merchants’ Association, along with a similar set of advice from the hugely influential Chamber of Commerce, were soon enacted by the Governor of New York, John Dix. In 1911, he appointed a commission made up of the State Engineer, William Bensel, DOD Commissioner Calvin Tomkins, and Chamber of Commerce member R.A.C. Smith (himself a future commissioner of the DOD) to represent the State of New York. Dix remarked that the Hudson River situation “demands prompt and intelligent action by all the authorities concerned. The plan adopted should take into account the necessity of a comprehensive, orderly development of the port as a whole.” By 1910, it was clear, amongst members of the waterfront growth coalition at least, that understandings of infrastructural place included not just the enframement of the waterfront of Manhattan as such, but a wider swath of the Port that was required for circulation in and out of the piers and wharves along the Hudson. The commission, which was joined by counterparts from New Jersey, would form the basis for a novel institutional framework that would match the newly imposed material and conceptual spatial boundaries of infrastructural place.

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3 Special Committee on Pierhead Lines, “Report to the Chamber of Commerce [Re: Pierhead Extensions]” (March 24, 1911), 1, Folder 8: PHL, GC, COM, NYCCIR, CRBML.
4 “Report to the Chamber of Commerce [Re: Pierhead Extensions],” 3.
DOD Commissioner Tomkins stepped in to throw his support behind an institutional framework for comprehensive planning on the waterfront. In his view, this would ideally be carried out through a spatially expansive framework that was not bounded just to the waterfront of the Hudson or those other parcels of property between the low watermark and the rivers. Its jurisdiction would not be limited to specific sites of wharf and piers. Rather, it would encompass all the navigable waters of the New York Bay and the surrounding waterways, railway lines, and highways that led to the waterfront. This would allow for a more widely bounded area that would leverage existing legal, conceptual, and material practices of enframing in order to convert particular parcels of property into infrastructural sites. Such a framework would allow for the bounding the nodes of infrastructural circulation as well as the all-important connective corridors along which flows occurred, such as shipping lanes or railway lines. This required a wider system of infrastructural governance than had existed up to this point.5

Tomkins gave his support for building an institutional boundary that would enframe the entire harbor as transportation infrastructure for the benefit of large-scale capitalists. In a speech to the New Jersey Legislature on the occasion of their appointment of a similar board as New York he stated the unequivocal need for a cohesive planning and operation institution. The Port of New York was not just an individual local concern, but rather one share amongst all interested parties:

The day of individual railroad and steamship terminal development has passed,
and the cities and states about the harbor must use their power of control and their credit to organize the entire port for the railroads, the steamships, the canal and the river traffic, and for industrial use.6

In an attempt to achieve these goals, New York and New Jersey Congressional Representatives passed Joint Resolution 210 of 1912, granting the U.S. President the authority to appoint a member to what was called the New York-New Jersey Joint Harbour Line Commission. This made the project explicitly multi-jurisdictional, requiring the cooperation of New Jersey, New York, and federal officials.

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Despite the grand rhetoric, the efforts at reform were limited by the existing administrative laws and the multi-faceted nature of port governance. After a long period of negotiation the joint commission reached a decision, one which was limited only to the pierhead lines themselves rather than management of port operations, zoning of waterfront land uses, or plans for expansion.\(^7\) This decision, which demonstrated the limits of institutional enframement under the existing system, was nevertheless a novel approach in bringing the states together in a single system of governance. Accordingly, the commission was able to expand the pierhead lines in some places while limiting them elsewhere. The committee’s decision was an attempt to ensure that transportation activities on the New York and New Jersey waterfronts would not be impeded and to take some measure of authority away from the NYHLB. It soon became clear that pierhead lines alone would not determine the specific infrastructural boundaries of transatlantic steamship and other uses in the harbor. At issue was the operation of the port as a whole and an institutional framework within which to govern it as infrastructure.

As part of this effort to find an appropriate institutional framework through which to govern the Port, non-governmental actors continued to publish their own studies and reports on the issue. The Chamber of Commerce issued a report in 1914, pushing the need for a comprehensive plan for marine terminals that would include the waterfronts of all New York boroughs as well as the New Jersey coast. Up until this point the efforts of “authorities and private interests have heretofore been directed solely towards the remedying of and planning for restricted areas.”\(^8\) The report continued:

A properly prepared plan for the New York Harbor and Terminals must take into consideration all of the waters of the Lower and Upper New York and Newark Bays, the Kill von Kull, Hudson and East Rivers and the western reaches of Long Island Sound, the entire terminal problem from the Amboys to the upper city limits, the industrial and manufacturing situation, the adjacent land used, or possible for use, as freight terminals, and the city traffic conditions incident to the transportation of the freight between warehouses and rail or water terminals.\(^9\)

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\(^8\) Committee on Harbor, Docks, Terminals, “Report of the Committee on Harbor, Docks, and Terminals in Regard to a Comprehensive Plan for the Development of the Port of New York” (January 20, 1914), 2, Folder 1: Committee on the Harbor, Docks, and Terminals, 1912-1922 [CHDT], Box 248, Committees, 1906-1978 [CMT], Commerce and Industry Association, 1873-1978 [CIA], NYCCIR, CRBML.

\(^9\) Committee on Harbor, Docks, Terminals, "Report of the Committee," 3.
The Chamber of Commerce went on to suggest that this body should be an interstate one, created by law in both New York and New Jersey and called the Port of New York Commission. It should consist of New York City officials, members of the Chamber of Commerce, Maritime Exchanges and other shipping and railroad interests, as well as officials from New York and New Jersey.  

This proposal met with a great deal of support from officials in both states. In New York, Mayor Mitchel pledged his support for any such commission.  

By 1914, the question was picking up steam. In a joint meeting between the Merchants' Association and the Chamber of Commerce, the Harbor committees of both organizations agreed to lobby the Mayor and other officials of New York City to begin work on a comprehensive study of the issues facing the waterfront not just in Manhattan, but elsewhere as well. The conceptual understanding of the entire harbor of the New York metropolitan region as a collection of potential separate infrastructure sites within a larger infrastructural place, it would appear, was beginning to gain traction amongst the waterfront growth coalition.

This, however, was easier said than done. For several years, despite the growing consensus on the need for a change to the governance of the region’s waterfront, there was no movement on establishing a review of the administration of the waterways as infrastructure. It was only with the crisis triggered by the First World War that a joint commission with strong institutional planning and governance powers was earnestly considered. By the fall of 1917, the pressures of huge volumes of troop and material movements made it clear that the port’s separate governing structures, the fleets of private lighters and railcars, the congested waterways, and the mix of private- and publicly-owned piers and wharves, was not up to the task of efficient circulation. Congestion was so bad at times that railcars waited in massive lines that stretched across New Jersey from the Hudson to the Delaware and into Pennsylvania. Railcars full of troops, material, and supplies from across North America converged on a handful of rail lines leading to Jersey City, Manhat-
tan, and Brooklyn’s transatlantic terminals. There, ferries, lighters, barges, and other vessels were used to convey people and goods to large navy ships moored at sites in the harbor. Then, these ships would have to be shipped out, often accompanied by fleets of tugs and military vessels.\(^{14}\)

The breakdown of circulation in and out of the Port of New York’s carefully crafted infrastructure sites during the First World War signalled the existence of larger issues with the extant boundaries of infrastructural place. One editorial explicitly blamed the wartime congestion on “the failure of the responsible authorities in the past to look beyond Manhattan.”\(^{15}\) While Manhattan’s west-side waterfront, along with a handful of sites in Hoboken, Jersey City, and Southern Brooklyn, had been effectively enframed as exclusive sites of transportation circulation, the same could not be said for the rest of the metropolitan region’s transportation nodes and connective corridors. This was particularly true with regards to the need to ensure circulation in places, such as the shipping lanes of the Hudson or the railway tracks of New Jersey, that were either impossible to materially bound or used for a variety of purposes from passengers to freight that were could not be stopped entirely. Meeting the temporary needs of larger flows of passengers, goods, or ships, was impossible to coordinate under the current system. The result was a harbor that did not function effectively as infrastructure.

The wartime crisis represented a clear failure of the Port as infrastructural place. The demands of the increased scale on the circulatory regime of the waterfront placed new pressures on the existing boundaries of the Hudson infrastructural sites. The demands generated by the crisis of war required authorities to provide the same sort of exclusivity, to expel non-circulatory users, and to ensure the ongoing work of repair and maintenance on a much wider scale than before. While neither the entirety of New Jersey nor New York could be an exclusively infrastructural place, something would have to be done to ensure circulation across the region. The linear nature of railway lines and the multifarious needs of non-transatlantic steamers, all of which were important features of the large-scale transportation network centred on Manhattan’s infrastructural place would need to be governed in ways which enabled circulation while excluding other uses. Moreover, it was necessary to create a system that would allow the governance of particular spaces in the region as infrastructural place on an ad hoc basis for the maintenance of the larger


circulation of ships, trains, cargo, and people in and out of the Port of New York during times of crisis. The specific form of enframing that had created the region’s infrastructural place up to this point was unable to accommodate these new demands.

In response to the crisis generated by the demands of war on the waterfront, the two states created the New York-New Jersey Port and Harbor Development Commission in 1917 as a way to tackle the port management problem. The commission would do so from a much more spatially and administratively extensive vantage point than had been the case previously. The effect of the new commission was to create a framework through which the logic of infrastructural place could be applied on specific sites within a wider, jurisdictionally bounded region. Such a move would create the potential of converting a site into infrastructure through institutional enframing as necessary and in an ad hoc manner. The commission’s mandate was to produce a plan for moving forward with waterfront construction, operation, and governance in a way that reflected the circulatory needs of the wider metropolitan region.

The commission’s report was a strongly worded and thoroughly researched recommendation that authorities enframe the entire Port as a site of potential infrastructure. This would be a cohesive whole made up of individual sites of variegated uses from the large-scale steamships of Manhattan’s westside or railway floats of Jersey City to the smaller produce or canal barges and fishing vessels consigned to peripheral locations in northern Manhattan, inland New Jersey waterways and Long Island. The potential infrastructural nature of the entire region was underscored by the report, which recommended provisions to allow administrators to convert undeveloped sites in places like Staten Island, South Brooklyn, or further afield in New Jersey as piers, wharves, and other necessary infrastructural sites.

The report claimed that the Port, if properly planned and managed, could handle twice the volume of trade it currently did. Accomplishing this would involve the creation of a unified system of rail and sea terminals, and the expansion of steamship berths in Manhattan and inland Newark. The waterways themselves would remain exclusively for the transportation businesses. The work would need to be done through organized, comprehensive planning that considered every part of the harbor, including the Hudson River, Newark and New York Bays, the Long Island Sound, and other surrounding waterways (See Figure 7.1). This planning, it was argued,

could only be carried out by an institution made up of actors from both states and the federal government.

To do this, the report proposed a treaty between New York and New Jersey to establish a port authority, with three commissioners from each state.\textsuperscript{17} This would require a new legal framework to be implemented, one that built on existing property and administrative law to make an effective infrastructural enframedment. The proposal for an interstate commission met with some resistance from local officials in New York and elsewhere who were unwilling to give up their authority and power over the waterfront.\textsuperscript{18} Attempting to allay fears about a loss of municipal power, Julius Cohen, counsel for the commission, made clear the legal case for a new institution. Congress, much as it had done with the NYHLB, could easily declare the creation of a port authority which would hold the powers of planning “under a sacred trust - for the benefit of the nation as whole.”

Moreover, such an institution would not upset existing property and contractual rights. The problem of creating the Port Authority was, in Cohen’s legal opinion, one “of details and form.”\textsuperscript{19} It was clear that the creation of a specific legal category of property on Manhattan’s waterfront as separate from the rest of the city had been effective. Leveraging these existing legal frameworks of infrastructural place would allow state and non-state actors to target new, more expansive and differentiated sites for the making of infrastructural place.

\textsuperscript{17} “To Develop the Port,” \textit{The New York Times}, December 13, 1918, 14.
Figure 7.1: Port Authority Boundaries, 1921
By 1918, the growth of cities in New Jersey and the Greater New York region meant that the material boundaries of the waterfront had been effectively changed. Places like Bayonne and Brooklyn were now sites as central to the operation of the Port as Manhattan was. Moreover, the creation of the NYHLB years earlier as the institutional arbiter of pierhead lines and associated harbour issues reflected the establishment of more expansive conceptual boundaries as well. Under the existing institutional form, however, the entire harbor was not governed as a cohesive infrastructural place. While the NYHLB could wield power over some aspects of the Port as a whole, each municipality, state, and even stretch of coastline were governed by a host of other administrative frameworks. The DOD in New York, local officials in Hoboken and Jersey City, and private owners in other parts of New Jersey and New York City each had their own rules and their own plans for expansion of waterfront infrastructure.

The potential for duplication, contradiction, and delay caused by such a piecework administrative framework could not be allowed to continue. The purpose of the interstate commission was to allow the dominant interests of the waterfront growth coalition – namely transportation firms, financiers, and industrial and retail capitalists - to wield direct power over the planning of the newly expanded and differentiated infrastructural place. This was in line with a move during this period towards the creation of public authorities through new legal framework of jurisdiction which gave increasing power to public-private partnerships.20

On April 30th, 1921, following the passage of laws in Albany, Trenton, and Washington, D.C., The Port of New York Authority was officially created. The authority was given control of all port improvements and developments, in cooperation with the federal government, including with the War Department, who continued to have the ultimate say. Its creation was the culmination of over twenty years of negotiations and contestations over the institutional boundaries of infrastructural place in New York's harbor. With its official oversight extending from central New Jersey to Yonkers (See Figure 7.1), a new institutional framework was in place that built on existing boundaries of infrastructure place established before 1921. More than this, a new spatial

framework of infrastructural enframing over a territory that was pockmarked with potential sites of infrastructure and non-infrastructure was created that was more expansive than ever before.

**Always Becoming Infrastructural Enframements**

The creation of the PANY in 1921 ushered in a new era of waterfront control – effectively ending the more than 200-year reign of localized waterfront growth coalitions in Manhattan. Now DOD officials, Manhattan’s lawyers, and others from the city operated under guidelines established by officials appointed in Washington, D.C., Albany, and Trenton. This new institutional framework, while carrying on the infrastructural enframing required for the transatlantic waterfront, would mark the end of the local governance that had begun with the Dongan Charter in 1686. The enframing of Manhattan’s waterfront, and indeed the entire New York harbour, however, would continue. More than this, the expansion of the infrastructural place’s boundaries, its wider institutional remit, and the diverse types of activities it would undertake reflected the changing circulatory requirements of the political economy of the Greater New York Area after 1921. The result was new spatial pattern of infrastructural place, with the material sites of infrastructure dotted across the urban landscape, overlaid with an institutional, conceptual, and legal set of boundaries that allowed these sites to operate as exclusively circulatory.

Today, the PANYNJ continues its exclusive institutional authority of the waterborne infrastructural place of the New York Metro Area. In the almost century of its existence, however, the PANYNJ has also engaged in the extensive expansion of the boundaries and the character of the infrastructural place it controls and operates. While the steamship terminals along Manhattan’s west side are long gone, the Port of New York continues to be one of the largest commercial ports in North America. However, the changing nature of maritime technology and the commercial needs of the largest global shippers have led to the overall transformation of infrastructural place over the last 100 years. The location, function, and the activities contained within the boundaries of infrastructural sites have changed considerably over time.

Not only have the spatial boundaries of infrastructural place changed over the last three centuries, but the qualitative nature of infrastructure has as well. From 1686, when Lieutenant Governor Dongan transferred ownership rights of Manhattan’s waterfront to New York City, to 2019,

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21 See Doig, *Empire on the Hudson*. 
the use of the waters of the Hudson River and New York Bay and the shoreline of Manhattan has changed considerably. The sailing ships docking at rickety wooden piers and the hundreds of metres-long container ships pulling into massive automatized slips, however, are linked in their relationship to infrastructural place. The circulation of goods and people carried out by these ships continue to drive officials to reshape the material form of the waterfront.

To ensure this efficient circulation, local, state, and federal officials, as well as transportation capitalists and a host of experts, would have to enact a range of legal, conceptual, institutional, and material practices. These geographic and qualitative changes that infrastructural place have undergone demonstrate just how flexible the enframement boundaries are. Whether for small-scale commercial-era sailing ships or world-record length steamships in the industrial era, infrastructural boundaries were the target of intense negotiation by government and private sector actors who were looking to meet the infrastructural needs of global transportation capital.

Over these years, the Port Authority’s officials, engineers, administrators, and their private-sector counterparts, reframed the material, conceptual and legal boundaries of infrastructural place in New York. The material configuration of the waterfront changed as ships grew bigger, and containerization required new technology for the distribution of cargo to trucks and rail. From the 1950s onward, the PANY abandoned pier development in Manhattan and repackaged the district as a site of redevelopment. In its place, it built a series of multi-modal marine terminals in Newark, Elizabeth, and Bayonne, New Jersey, and in Brooklyn and Staten Island, New York. Today, the Authority controls five consolidated terminals where ships from all the world’s major lines load and unload cargo bound for the interior of North America and around the world. While Manhattan’s west-side waterfront is no longer an exclusive infrastructural place, sites that were, in 1920, either undeveloped or used for other uses entirely, like Newark Bay, are now expansive and exclusive infrastructural places in their own right.

The Port Authority has expanded its institutional authority as bus and air travel supplanted both long-distance and local waterborne passenger travel. Over the last 70 years it has enframed airports, bus stations, and even commuter rail lines as part of New York’s infrastructural place. Key to this was a new spatial configuration that involved a differentiation in the scale of bounding

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being undertaken. Institutional bounding of infrastructural place exists at a much larger scale than the material or conceptual enframements of infrastructural sites does. A single unified space has been replaced by a pockmarked configuration. Indeed, while the Port Authority Bus Terminal in Midtown Manhattan, or LaGuardia Airport in Queens are spatially limited and located quite a distance from one another, the legal and institutional enframements which enable the policing and operation of these sites as materially infrastructural overlay both of them, and indeed all other sites within the jurisdiction of the PANYNJ.

Today, the Port Authority, aside from the five marine terminals mentioned above, controls five airports, four bridges, a four line commuter rail network, two automobile and rail tunnels, three bus terminals, four industrial parks, two ferry terminals, two waterfront redevelopment districts, and a major office building – the World Trade Centre. All of this today is managed through a framework of infrastructural place whose roots can be traced back to the creation of a set of rules around waterfront property of the 1680s. Indeed, taking our cue from Massey and others to look at place as a process, one that is inherently multi-scalar in nature, I argue that infrastructural place remains a useful analytic.

In particular, interrogating the changing power-geometries of place allow us to examine just how it is that these multi-scalar boundaries can be applied by government and private sector actors in ways which produce various sites as infrastructural, and others as not. Airports and bus stations for example, serve as nodes for different types of circulatory flows. What makes them both infrastructural, however, is precisely the way they enable and create these flows themselves. While all of New York City is clearly not infrastructural place, the selective enactment of boundaries over these places, via the powerful work of state actors over, for example, local fishing communities pushed out of Far Rockaway for the expansion of JFK Airport’s runway security measures, or of homeless people from the Port Authorities washrooms, all remain tied together by their attempts to create spaces exclusively for a specific-form of circulation. What remains central to both the boundaries and the exclusion of non-circulatory users and particular types of circulatory users and uses is the role of law as underlining state and private actor power. Just as in the case of re-

moving oyster barges from the Hudson, the exclusion of non-circulatory uses relies on property law and the policing of land use. By examining the circulatory flows of infrastructure, we can examine how infrastructural place remains useful both theoretically and on-the-ground for urban governance.

The stability of the institutional framework developed in the 1920s to oversee the New York metropolitan area’s infrastructural places demonstrates the underlying strength of infrastructural enframing. By governing these sites as separate from the rest of the city, bolstered by legal definitions of property and the creation of an exclusive set of knowledge and expertise, infrastructural places are particularly flexible to the needs of capitalism as a whole, underwritten by the state. More than anything, the flexibility of these boundaries is both a result and cause of the multifaceted nature of their composition. More than just the geographic range of these boundaries, their flexibility also applied to the type of activities going on within them. Thus, infrastructural enframing of the canal era, which allowed storage and warehousing on Manhattan’s shore was changed to prohibit such activities during the industrial era.

The makeup of the Port Authority, for instance, while set out in law, is also subject to different political appointments and relies on sets of expertise that, as they did in the 1870s, continue to change along with the needs of transportation capital. This flexibility enables the changing of boundaries while attempting to maintain the exclusively circulatory nature of infrastructural place. The logistics managers and maritime engineers working within laws governing the use of space and technology that change over time have a great deal of power over how the legal boundaries of place are shaped, settled, and shaped again. Existing in an altogether iterative relationship with one another, these laws, concepts, and material assemblages of slips, piers, and wharves, continue to both be shaped by the institutional authority of the Port Authority, and shape its administrative priorities.

This examination of infrastructural enframing has made it clear just how situated infrastructure is within the political economic structures of city development and urban life. Not only is it produced for and by place-dependent state and private actors, but the very technological and engineering rationale for its location, shape, and format are intricately linked with larger economic and political practices. The material form of piers, wharves, and slips, not to mention shipping channels and other spatially expansive infrastructure sites, is the product of negotiations and con-
sensus developed between state and private actors engaged in locally-dependent governing coalitions. All of this is underwritten by a highly flexible framework of property and administrative law that enables these relations to take place. Such was the case when DOD arguments with private landowners in the 1870s led to the creation of new infrastructural zones in Midtown Manhattan, or when similar discussions between shipping-line owners and Army Corps engineers resulted in extended piers and new transatlantic infrastructural place in the Hudson.

While infrastructure scholars have long discussed infrastructure as a ‘black box,’ the analysis presented here of the piers, wharves, and harbor through the lens of infrastructural place has demonstrated just how un-boxed infrastructure truly is. While New York’s waterfront infrastructure did exist as a technical drawing on an engineer’s drafting table, everything that went into and came out of the design existed in an iterative relationship with the legal, conceptual, material and institutional boundaries of place used to enframe the material space of the waterfront itself. To understand infrastructure requires us to move beyond the idea of a black box to explore how place as a multi-faceted, multi-sourced, and multi-scalar analytic can be used to understand infrastructure’s role in broader urban geographies.

This dissertation has demonstrated the continued relevance for place as an analytical concept through which to understand urban development and change. In particular, the idea of place, with its externally imposed boundaries, its spaces of articulation and interaction, and the attention paid to the diverse power geometries localized in space, allows us to interrogate the social relations of infrastructure. A focus on the social relations of infrastructural place also requires us to take into account the various types of flows that structure the power-geometries of these sites. Of particular importance here is the need to consider the legal geographies and the socio-legal frameworks which structure how land is used in cities. Through my work here I have brought into sharp focus the need to consider how property and law, as both outside and within systems of state power, shape the way infrastructure is governed, produced, and used.

Such an approach to infrastructure opens up the idea of these connective assemblages in ways which consider a multitude of approaches to the issue. While scholars have put forward ideas of more-than-material, or human infrastructure, these analyses have often been placed in opposition

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to other ways of understanding infrastructure. A framework of infrastructural place, however, allows us to approach infrastructural assemblages as various as ports, railway stations, or sewer pipes, as produced, enframed, and always becoming processes. Approaching infrastructure as place enables an interrogation of these significant sites of modern cities in ways which consider such issues as infrastructural finance, governance, public-private partnerships, environmental degradation and climate change, social relations, and technology as parts of the larger whole rather than as singular or isolated issues. Moreover, approaching infrastructure as a process enables us to interrogate the on-going work of constantly making, remaking, and transforming infrastructure as such.

What this dissertation has demonstrated is that infrastructural enframing is an always becoming process. Infrastructure, as a stable node within larger networked flows of all sorts of human and non-human phenomena, changes its material form in order to best facilitate these flows. More than this though, the vast array of human work required to carry out the enframing of spaces in the city, including the waterfront and the rivers, as infrastructure, mean that the shape of infrastructure is never quite as stable as it would appear at any given moment. Indeed, the boundaries of infrastructural place can also be re-made and removed as necessary, even though that may at times be extremely difficult and contentious. Nowhere is this as clear as in the case of the Chelsea Piers, the project which sparked the creation of the Port Authority in 1921.


Enframing and Unframing Infrastructural Place

Today, the Chelsea Piers are one of the only pieces of early twentieth-century steamship infrastructure remaining in Manhattan. Between 1960 and 1990, virtually all of the other industrial-era piers were torn down as air travel and container shipping led to the site’s irrelevance. All that remains are acres of wooden pylons sticking out of the water like a stubby, flooded forest along Manhattan and Hoboken’s shorelines. Three of the Chelsea Piers, though, remain standing. They do not host steam ships. Rather, the piers are home to a bowling alley, two indoor skating rinks, a field house and indoor soccer field, multi-level golf driving range, and a public park.29 Similarly, while Pier A, where the Department of Docks was headquartered until its reorganization in 1942, continues to exist at the Battery, it’s no longer a launch point for work and inspection boats. Rather, it hosts a bar and restaurant with expansive outdoor patios.30 The twenty-first century Manhattan waterfront is no longer an infrastructural place – it has become a site of leisure.

The present state of Manhattan’s waterfront demonstrates how enframing is an ongoing and contingent process deeply embedded in the political economic context of the world around it. To understand how this enframing that took place over two centuries and involved the work of hundreds of thousands of labourers, the detailed plans of engineers and lawyers, the investment of landowners and shipping lines, and the negotiations between state officials and capitalists, was undone, would take a similar length project. Nevertheless, the conversion of formerly infrastructural waterfront into leisure, residential, or commercial property, a situation that is by no means unique to New York, demonstrates the significance of these enframing processes for understanding urban space more broadly.

Indeed, we can see in this how infrastructural place changes over time according to the prevailing social relations of place. It requires constant work to ensure that it is operating in a state of good repair, that the boundaries of it remain firm. When these sites are no longer able to produce the types of circulation required, the return on investment and the benefit to capital writ large decline to an inadequate point. As such, infrastructural place is highly dependent on these larger constellations around them.

The recent history of Manhattan’s waterfront illustrates how old enframements become redundant and new ones emerge. The result is the production of a particular place within the city’s differentiated property market and complex land-use landscape. In many ways, the social relations of property and law enable and shape the contours of what place looks like. The production of waterways as infrastructural place during the industrial era meant that they are sites already cleaved off from the larger urban land market, with their own institutional oversight. By the middle of the twentieth century, however, technological changes in the shipping industry meant that these central-city waterways were and no longer required by the transportation capital they were enframed for. Underwritten, controlled, and produced for by the state, these became key sites for state-led redevelopment with very little friction from groups like property owners. All of this is still overseen by the Port of New York. It also forces us to ask questions about the malleability of the boundaries, the shifting character of urban governance, the impermanency of large-scale infrastructures, the aftershocks of decline, de-industrialization, and the changing nature of the urban land market.

Throughout this project, I have focused on how the waterfront was enframed as infrastructural place. Largely building on Massey’s conception of place, I have sought to present a situated understanding of infrastructure. I build on Massey by linking it with scholars from science and technology and infrastructure studies to expand our notions of place to include enframing via socio-technical and practices, particularly law. This study has suggested the various ways that urban space more generally is targeted for as being turned into enframements. My work suggests that contemporary features of urban development, such as large-scale airport complexes, suburban housing developments, or inner-city new build gentrification, would benefit from an analysis that includes notions of enframing. While infrastructure, as a particularly situated node which enables flows for large systems of production, is unique in many ways, the conclusions I’ve come to here suggest just how important this framework of land use and place can be for understanding the city. Moreover, this dissertation has demonstrated the continued relevance of place and our need to expand on it to understand the production of cities.

Turning back to the present day Chelsea Piers, which is now an exclusive site of leisure and recreation, points us towards some other critical questions to consider. In particular, we need to ask how the legal, conceptual, material, and institutional enframing of industrial era waterfront has created the necessary spatial conditions for urban redevelopment under neoliberal capitalism. Manhattan’s westside leisure trails and recreational sites for the city’s elites did not emerge from the industrial era city building projects that had a leisurely function such as Central Park or Riverside Park. Instead, they developed on the space that was built, enframed, and governed for over two hundred years as separate from the rest of the city, including from urban real estate markets. Similar redevelopment schemes around the world poses the same questions. Take London’s Docklands, a similar site of infrastructural enframing over the nineteenth and twentieth centuries. Today, as the Canary Wharf, it functions as one of the most significant sites of global real estate investment and financial control. From Baltimore’s inner harbour or Istanbul’s Golden Horn to Rio de Janeiro’s Porto Maravilha, waterfront infrastructural place are key sites of urban redevelopment, privatization, and financialization under neoliberalism.

Clearly, more work is needed to fully understand the connections between infrastructural enframing under the political economic structures of industrial capitalism and urban redevelopment under contemporary neoliberalism. This dissertation has demonstrated the efficacy of situating urban space within the framework of place that focuses on aspects of boundary making not often examined in urban geographic literature. Practices of legal enframing in particular, such as property law and eminent domain, are understudied aspects of urban place. This is a particularly glaring lacuna in studies of the urban landscape that has only recently begun to be addressed by scholars. As this dissertation has demonstrated, legal enframing undergirds much of how place is produced in the city.


Conclusion

This dissertation has examined the enframement of Manhattan’s waterfront as infrastructural place. I have developed this analytical framework by building on the work of scholars of place, science and technology studies, and infrastructure, in order to better understand how infrastructure is produced in the context of local ruling coalitions, and the political economic currents of the larger economy. In tracing out this process I have explored a broad history of Manhattan’s waterfront. From the colonial era to the end of the First World War, this dissertation has dealt with fundamental changes not just to the waterfront, but to the legal, economic, and political world as well. In the over two centuries of transformations explored here I have introduced a dizzying array of organizations, with an equally dizzying set of acronyms. This is to say nothing of all the names of engineers, lawyers, officials, capitalists, and others I have introduced who have shaped the enframement of such a relatively compact area as New York Harbor.

In doing so, I have attempted to demonstrate throughout just how socially, politically, and temporally situated the production of infrastructural place is. This is a story that needs to be understood and analyzed, within the context of its own wider historical geographies. Thus, this dissertation has exposed the various ways that infrastructure functions as a key process of capitalist urbanization, and the urbanization of capital as well. As a facilitator of flows of capital, ships, and passengers, and as a site of investment, control, and governance, Manhattan’s piers, wharves, and slips are more than simply infrastructure to enable the docking of ships and the loading of cargo. Rather, as I have demonstrated throughout this dissertation, they are both part of and a product of the enframing of space as infrastructural place.

My insistence throughout this work on exploring the enframement of urban space through four key sets of practices – the legal, conceptual, material, and institutional – is, I hope, a useful prompt for other scholars approaching similar issues. This is not to suggest that these categories are easily delineated, nor are they exhaustive. Rather, they bring together a range of actors to focus on the flows and forms of infrastructure, in ways which reflect the particular historical geographical context of New York City.

As I’ve pointed out in this chapter, there remains a number of questions to be explored related not just to Manhattan, but to the idea of infrastructural as a whole. More work is needed on how
law in particular creates infrastructure as an unstated category of land use, and how this is used by the state and private actors to shape urban space more generally. As well, research questions about the relationship between infrastructural place and post-industrial leisure and consumption are required. The conclusions drawn here are, I hope, a beginning in the effort to reframe how we understand urban infrastructure development historically and today.