x Cohabitation

Adaptation

A Climate Change Epoch x

2100

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2023

ACKNOWLEDGMENT

I would just like to say thank you to everbody who helped me on this amazing journey. There are too many people to thank for this, so I compiled a list to the right. I am super proud of the work I have produced, and I hope I can continue refining this beyond my academic studies. This is only the beginning to something greater!

Cheers.

Neil Daniel
Lafayette Cruise
John Ellis
N Jonathon Unaka
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Manuel Delgado
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Zoe (Secondary Advisor)

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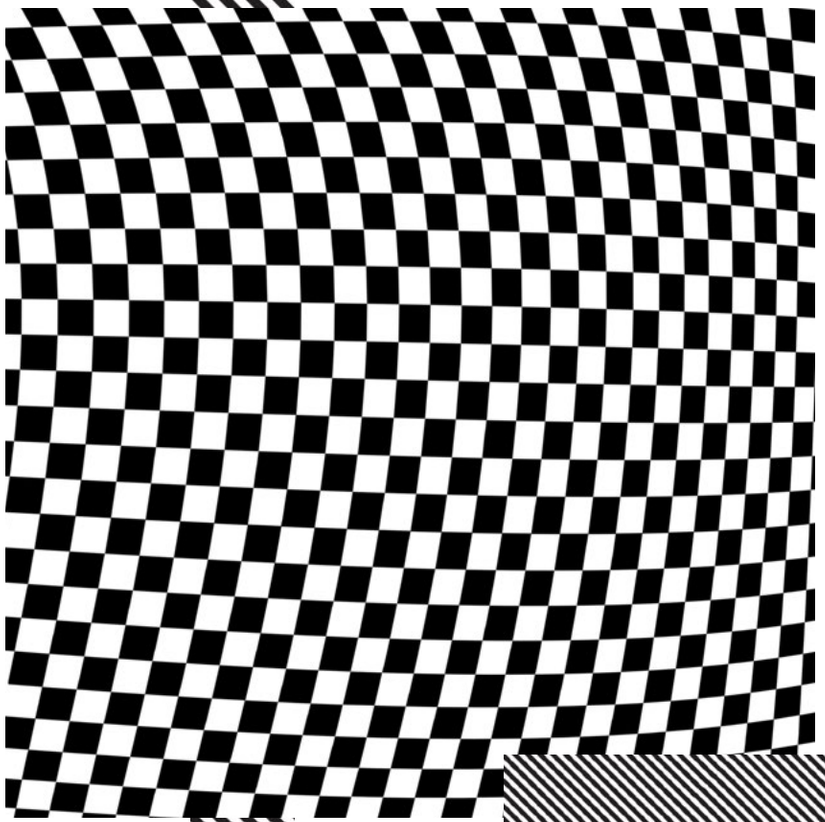

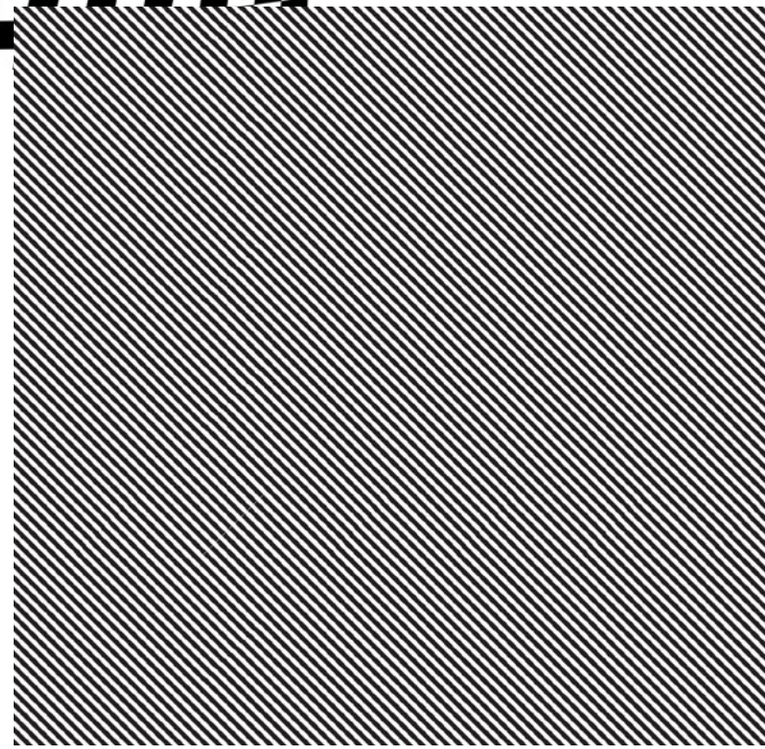

ABSTRACT

Some seventy-seven odd years in the future, the world as we know it will only be recognizable by those who are willing to accept it. The bustling metropolis of Boston Massachusetts has been transformed to appease the tides of Mother Nature as a consequence of human intervention. In the decades prior, humanity viciously fought to contain the effects of climate change, until many realized the colossal undertaking of such a battle. Municipalities across the globe had begun to accept that fighting the earth was no longer an option. Instead, the only hope forward was to adapt to a reality in which much of the teetering climate instability would be integrated as part of daily life. Boston, long ahead of climate change policy, was one of the first to dramatically shift this story.

Although this tale sounds like one of hope, it's merely a reality of just living. This reality is one filled with a continuation of a human response, a response that resides on the basis of reactivity.

Our species isn't the best at executing proactive plans. We can think critically and forward, but often we find ourselves taking on a challenge when we are approaching the threshold. We are surprisingly really good at crisis management when the only other option is absolute failure. We've seen it before with the industrial revolution when cities were choking on their own air, causing a near total collapse of powerful economic engines until people stepped in to avert the crisis. And although cities got better over the decades, they still live with yesterday's consequences with polluted rivers, toxic soil, and crumbling infrastructure. Progress to reverse the damages have been slow and costly, albeit they are happening.

So, following a logic that has become of our species for centuries, it wouldn't be irrational to believe that it will happen again. We are already within a storm, and the eye is approaching ever so closer. Climate change is this generation's greatest threat and humans will inevitably respond in a fight-or-flight fashion.

So then, what does a post-flood urban environment look like on the other side of the storm?

Many speculations today paint a grim picture that the world in the near future will be that of one residing in total chaos. Others believe that we can successfully weather the situation and bring upon progress in a more just world. The answer is both, and neither. Humanity has, and will continue to evolve and move on. Adaptation is hard, but not impossible, especially in which the only means of survival requires change. Most humans genuinely do fear death, afterall. Our coastal cities may even be in a state of disarray in seventy seven years from now. The images behind me are a depiction of that. Humanity survives but still has many questions to ask themselves on how they could improve their condition.

The seaport district became that flooded, vertical urban environment as a response to an inevitable situation.

Some things haven't changed much in several decades. The United States, if we presume is around in its current state, still operates on a capitalist system. Perhaps there are some aspects of how free-market capitalism has changed over the decades to address core issues, but the greater system still hangs over the nation. This, in return, continues to perpetuate a market driven economy. Seaport only became successful because the city of Boston had run out of space to build and thus, it became economically feasible to build over water once more. Private industry moved back in as profitability became desirable again, and in return altered the landscape into a bustling neighborhood. One that some may find uncomforting because there's still aspects of exclusionary practices that continue to follow us through this system.

There's plentiful amounts of LED billboards screaming for the attention of consumers, at the expense of light pollution and noise. Corporate shops line the pedestrian-scape as consumer culture still indulges in the need for easily accessible goods and services. Even city planning still isn't separated by the needs of privatized organizations. Gondolas and private helicopter pads lead many to areas of commerce. However, Highrises that once hosted offices fifty years prior are now molded into a mixed-use, vertical city hosting an array of public/private and civic services.

Even the idea of public space has changed, as the city worked to require new regulations on accessibility. Privately owned towers now must adhere to having publicly accessible pedestrian walkways inside, as the groundscape is no longer a viable space for traditional foot traffic. There is still a barrier of where the public can go, but the lines have been blurred as rooftops and entire floors became new spaces for plazas and gatherings.

The inevitable reality of the rising seas did not completely stop humanity from taking advantage of the new landscape. Even as walkability became limited on the original groundscape, a world of utilizing the water has sprung up. People now have the option to commute by boat, or shop and live on top of barges that adhere to the tides. It's a different way of living, but not one that is out of the ordinary. Interestingly enough, sea levels had only barely risen to make the neighborhood into a permanently flooded state, but areas still peak above the water line at low tide.

Ultimately, the world is a different place than the one we are used to living in today. However, it still shares many similar characteristics we have been exposed to all of our lives. Humanity continues to move on, adapt, and innovate in the age of the anthropocene. Our species, equally, still continues to struggle under certain economic systems, social hierarchies, and proactivity. People might have a hard time understanding a different reality to the one that they are used to, but the truth is, times change, not because we want them to, but because they have to. Welcome to the year 2100.

ORIGINS OF THE CLIMATE CRISIS

INTRODUCTION

Throughout human history, coastal cities have remained one of the most powerful economic engines for the global economy. Due to the opportunities they provide for trade, jobs and transportation, It's no wonder that thirty seven percent of the world's population resides in these urban oases. Easy and direct access to vast water bodies, such as oceans and seas, can be accredited for the success of many of the largest cities on Earth. However, centuries of extractive human development practices have lunged the planet toward an irreversible climate crisis that threatens to upend the status-quo. The primary component of water access, which has been key to the prosperity of coastal cities, is now jeopardizing their very existence through the destructive side effect of sea-level rise. In order to understand how our species can continue to positively inhabit the planet, we must examine the origin of the climate crisis: a lost connection between humanity and nature.

We must understand how humanity has brought itself this close to the brink of collapse. The industrial revolution is a good starting point, as carbon emissions began to exponentially increase over the course of the next two centuries from here. These emissions have already caused a warming of one degree celsius, with dire consequences already being felt. Ice sheets across the globe are melting at an alarming rate, which in return is increasing sea levels. This is creating an imbalance in a system that, for over twenty-five thousand years, has been relatively stable and accredited for the success of human advancement.

Because of the rapid changing of the Earth's climate, due in part to human development, we have now entered a new age known as the anthropocene. Since there is no playbook to cite from, we are entering a time of critical uncertainty. All of this can be traced back to the centuries of extractive practices that lacked empathy toward our natural environment. This corner cutting in order to get ahead has taxed the planet beyond repair, and with it comes a countdown clock pinned on our survival.

Seaport

THE HOLOCENE

WHAT IS THE HOLOCENE?

The Holocene Epoch is an interval of geological time that covered approximately the last eleven thousand years of Earth's history. It is largely accepted that the era began after the end of the last ice age, coinciding with the post-stone age history of humankind.[1] In this period, humans have developed substantially further from their six past evolutionary counterparts with the introduction of civilization, scientific & technological breakthroughs, religion and more. Although the rise of humanity has occurred through a vast portion of the holocene, there is an argument to be made of whether we have entered a new era known as the Anthropocene. The reason for the new era lays with the differentiation between the rise of humanity and its dominance over the planet's ecological systems.

One of the factors in how scientists can establish a geological time period is through carbon-14 dating. This process (also known as radiocarbon dating) is a method of age determination that depends upon the decay to nitrogen of radiocarbon. Putting it simply, scientists can analyze the molecules of atmospheric carbon dioxide found in fossils and/or rock layers to determine how much carbon they absorbed during their lifespan. This then gives us a reading of how much carbon could have been in the atmosphere at the time.

Figure 1.1 (Right) visually analyzes this recorded Co2 concentration in Earth's atmosphere. For much of the last eleven thousand years, Co2 concentration remained stationary at 270 parts-per-million (PPM). However, around the start of the first industrial revolution in 1750, Co2 particulate matter recorded in Earth's atmosphere began to rise exponentially as human development advanced. Over the course of less than 250 years, Co2 concentration has almost doubled at a staggering rate of 418 PPM. This is largely due in part from the burning of fossil fuels such as coal and oil that releases tremendous amounts of carbon into the Earth's atmosphere.

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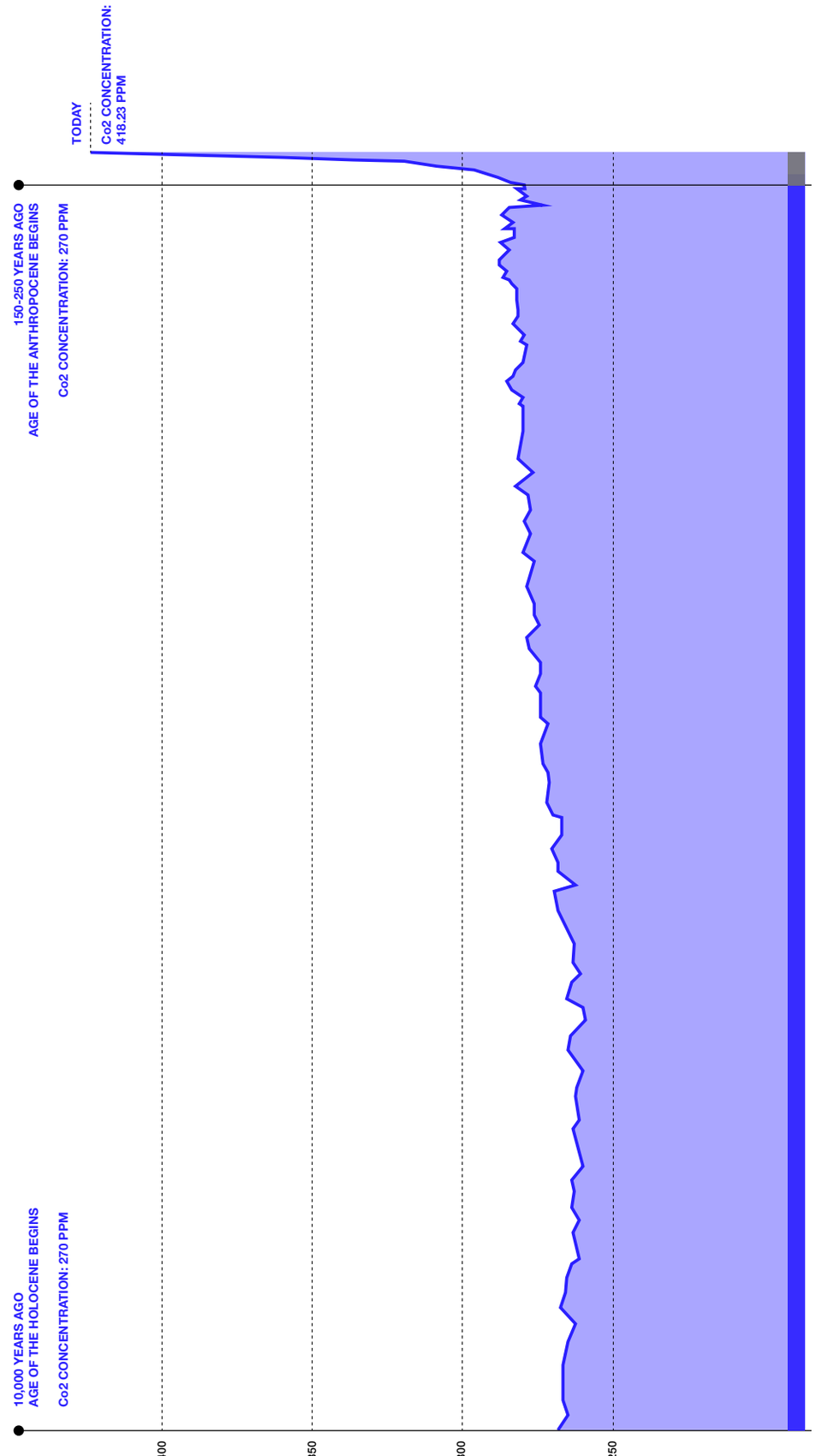


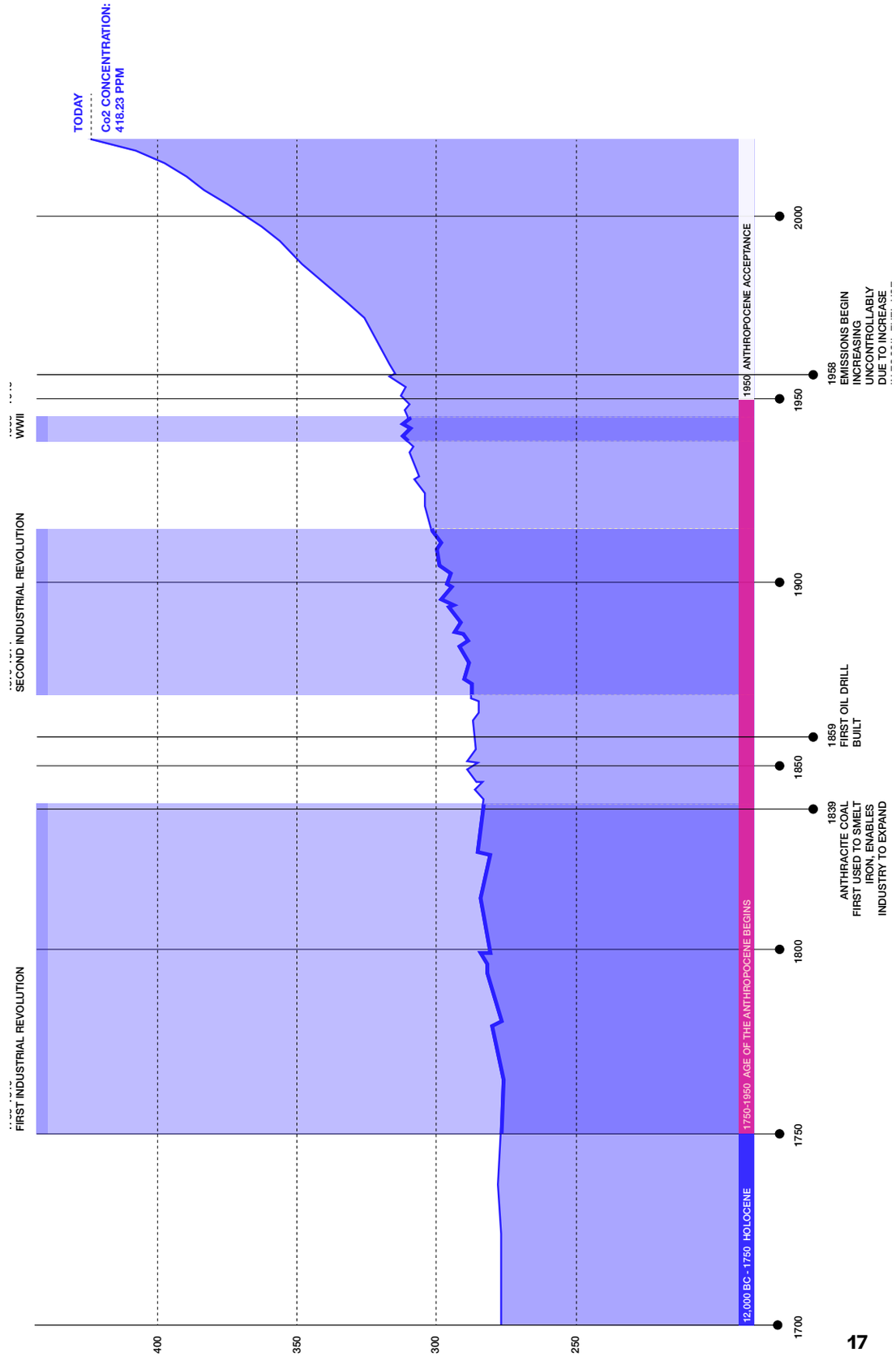
THE ANTHROPOCENE

The Anthropocene Epoch is an 'unofficial' geological time period. It's described as the most recent period of Earth's history when human activity began to have a significant impact on the planet's climate and ecosystems. The term 'Anthropocene' came to life in 2000 when chemist Paul J. Crutzen and limnologist Eugene F. Stoermer proposed to introduce the new geological era. In 2016, the Anthropocene Working Group (AWG) agreed that the era began in the year 1950 when the 'Great Acceleration' took off. The great acceleration is a period in which human development exponentially increased in the post-war era. However, there is ample evidence to suggest that the anthropocene began at a much earlier stage in human development.

Despite 1950 being largely symbolic of when things truly accelerated beyond control, there are a few periods as early as 200 years prior that were indicative that the human race had largely altered the Earth's climate. Looking at Figure 1.2 (Right), this chart depicts carbon concentration in Earth's atmosphere from the years 1700 up to 2020. In Figure 1.1 (Previous page), the chart analyzed roughly eleven thousand years of emissions hovering at an average of 270 PPM. When studying the era of the first industrial revolution (1750 - 1840), there is an obvious disruption to Co2 emissions levels in Earth's atmosphere over the course of 90 years. It wouldn't be until the second industrial revolution (1870-1914) that Co2 Emissions would cross the 300 PPM threshold. During this period, use of coal and oil expanded drastically, leading to a new era of energy generation.

These two eras of Human development have been a critical influence to the great acceleration in the post war era given the technological and scientific discoveries found in these time periods. Finally, World War II would come along when the United States developed and deployed the first Atomic weapon. Although it would be reasonable to assume that 1950 is a turning point for human development, it's not 'the' turning point for the anthropocene. Without the advancements made in the prior decades, human development wouldn't have been able to largely succeed in the later half of the 20th century. It's merely a result of that success.

Looking specifically at Boston, USA, the industrial revolution played a large role in the development of this significant port city. But how did Boston set itself up for success in the first place? That answer goes back even further to its founding. Boston was founded by European colonizers on the Shawmut peninsula in 1630. It was a small, wetland-based peninsula at the time, which made expansion relatively difficult.



Boston's Founding

However, given its easy access to the Atlantic paired with the protection of the Harbor islands from severe oceanic storm surges, Boston would become a hub in the early days of British colonial expansion. By 1644 the city would begin playing a large role in the Atlantic triangular slave trade, with merchants importing enslaved people directly from Africa to sell to the West Indies. It's noted that at least 175 transatlantic trips started from Boston, while a quarter of all white residents who owned estates from 1700-1775 to have owned enslaved people. During that same period, Boston's population more than doubled from 6,700 to 16,000 people; pinning it to being one of the largest cities during that time.

It's without a doubt that a city, whose early economy relied on the sale of human beings, would commit atrocities elsewhere. The ideas behind the 'anthropocene' stem entirely from 'anthropocentrism', or the idea that human beings are superior to all other beings and forms of life on Earth. (cosmologies) Humans often took the step of enacting a superiority complex within themselves, through the hierarchization of race, sex, class, disability and/or gender. The idea that humans are above all naturally leads civilizations to not only exploit and destroy the natural world, but to build entire economies off of slavery. There's almost little to no regard for those who reside beneath the wealthy and powerful, as the general population, alongside wildlife, continue to suffer.

The story of Boston's anthropocentrism would not stop at slavery. It never truly began at this point. It started from the day the city was officially founded in 1630 (perhaps even earlier as the location was a settlement prior to founding). British colonizers have largely been under this mentality before they stuck flags into the dirt of North America thanks to the Enlightenment era having begun a few years prior. It was this period of 'discovering' the north and south American continents that largely changed how Europeans viewed the world; a viewpoint that led to the separation of man from nature. That we as a species are above all.

Boston was founded off of this fundamental principle of exploitation. The Shawmut peninsula previously belonged to the Massachusett Tribe before having to forcibly leave the region over time through genocide and disease caused by British colonizers. In due time, the city would find itself in other exploitative realms such as the Industrial revolutions and urban renewal.

British enlightenment

In the intellectual revolution known as the Enlightenment (more specifically focusing on Britain) humanity experienced a profound transformation in its relationship with the natural world. This era, spanning the 17th and 18th centuries, witnessed the rise of thinkers who, intentionally or inadvertently, contributed to the separation between humanity and nature. By examining the ideas put forth by figures such as René Descartes and Francis Bacon, who were responsible for creating a divisive emergence of this argument of humanity and its separation from nature.

René Descartes, a philosopher of the 17th century, played a pivotal role in the conceptual separation of humanity and nature. In his renowned work "Meditations on First Philosophy," Descartes laid the foundation for modern philosophy by prioritizing the supremacy of human reason and consciousness. By proclaiming "Cogito, ergo sum" (I think, therefore I am), Descartes emphasized the primacy of human thought and self-awareness. This elevated status assigned to human cognition inadvertently diminished the interconnectedness between humans and the natural world. Descartes' emphasis on human rationality created a dichotomy that relegated nature to a mere object of study and manipulation.

Francis Bacon, another prominent figure of the Enlightenment, is credited with advancing the scientific method and empirical observation. In his seminal work "Novum Organum," Bacon advocated for a systematic approach to acquiring knowledge about the natural world. While his intentions were noble—to enhance human understanding of nature—his perspective inadvertently fostered a utilitarian view of the environment. Bacon's instrumental approach to nature as a means to achieve human progress and dominance over the natural world reinforced the growing divide between humanity and the environment. This exploitative mindset fueled the industrial revolution and subsequent ecological degradation. The negative impact of the Enlightenment-era separation between humanity and nature is evident in our contemporary world. By considering nature as a resource to be exploited and controlled, we have endangered delicate ecosystems, depleted biodiversity, and accelerated climate change. This detachment has given rise to a disregard for the long-term consequences of our actions, leading to environmental crises and the loss of natural habitats. Furthermore, the separation has also affected our collective well-being, as studies show that human disconnection from nature can have detrimental effects on mental health and overall quality of life.

The Enlightenment era brought about a separation between humanity and nature, fueled by the ideas and philosophies of influential figures like Descartes and Bacon. This division has had significant negative impacts, including ecological destruction, loss of biodiversity, and diminished human well-being, something that would carry on long into the present age.

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INDUSTRIALIZATION IN BOSTON

Boston's role in the Industrial Revolution and the subsequent expansion of the Seaport District provides an interesting glimpse into the transformative power of industrialization and the anthropocentric motivations that drove it. As a historically significant seaport, Boston's strong maritime history from its founding laid the foundation for its involvement in the industrialization process after the Revolutionary War. However, the creation of the Seaport District served pro-capitalistic economic purposes throughout its entire history, which carried negative consequences for the region and left a lasting impact on both the environment and social environment in the city.

The development of Boston's seaport district occurred over an extended period of time, with various phases of expansion and redevelopment. The earliest landfills in the harbor began in the late 18th century, but significant development and expansion occurred in the 19th and 20th centuries. The first major landfill project in the seaport district took place in the late 1800s, with the construction of piers and wharves along the waterfront. The area was gradually extended and filled in to accommodate the growing industrial and commercial activities associated with the city's role in the industrial revolution. This expansion continued into the 20th century, driven by the demands of the shipping industry, manufacturing, and trade.

Diving more into the Industrial Revolution, which gained momentum in the 19th century, propelled Boston into an era of unprecedented industrial growth. The city became a center for manufacturing, particularly in sectors such as textiles, machinery, and shipbuilding. Industrialization brought about significant changes in Boston's economic structure and workforce, attracting immigrants seeking employment opportunities in the burgeoning factories and mills.

It is crucial to acknowledge the precursor to industrialization and Boston's economic growth during this period. Slavery and resource extraction played integral roles in the city's economic development. The extraction of resources, such as timber for shipbuilding and raw materials for manufacturing, fueled the expansion of industries that contributed to Boston's economic prosperity. Simultaneously, the abhorrent practice of slavery, which was deeply intertwined with the economy of the time, further exemplified the anthropocentric mindset that underpinned the era.

The expansion of Boston's Seaport District, particularly through landfill, was a direct result of the city's industrialization and economic ambitions. Landfill projects were undertaken to reclaim land from the harbor, creating new areas for industrial infrastructure, warehouses, and commercial activities. This expansion came at the expense of natural ecosystems and altered the city's coastal landscape irrevocably. Wetlands and tidal flats were filled in, disrupting the delicate balance of coastal ecosystems and diminishing the biodiversity that once thrived there.

The negative impact of this expansion extended beyond the destruction of ecosystems. The Seaport, along with the Boston harbor, would remain polluted for a century to come, as zero regulation from dumping pollutants into waterways wasn't restricted until the Environmental Protection Acts of the 1970s.

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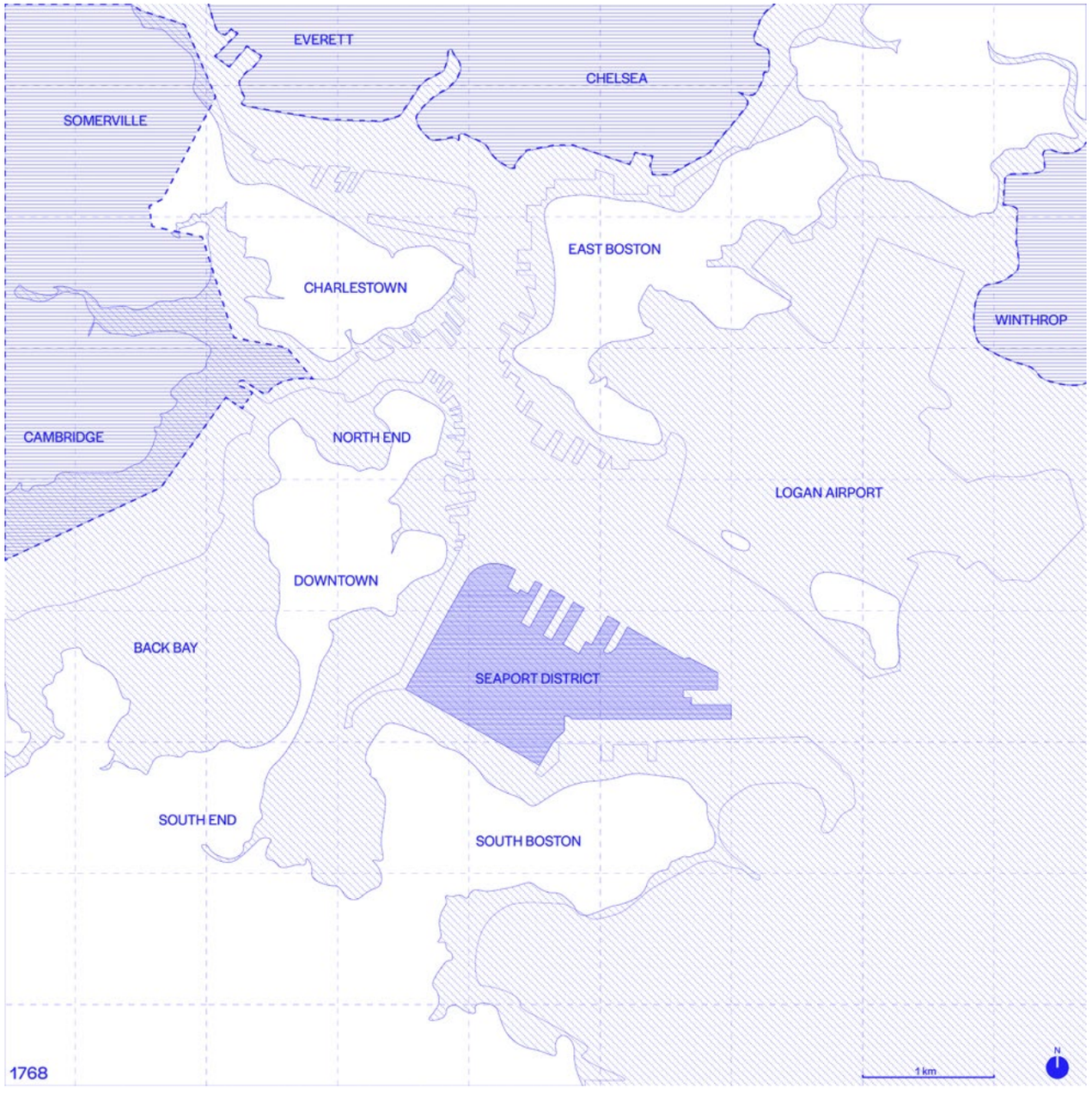
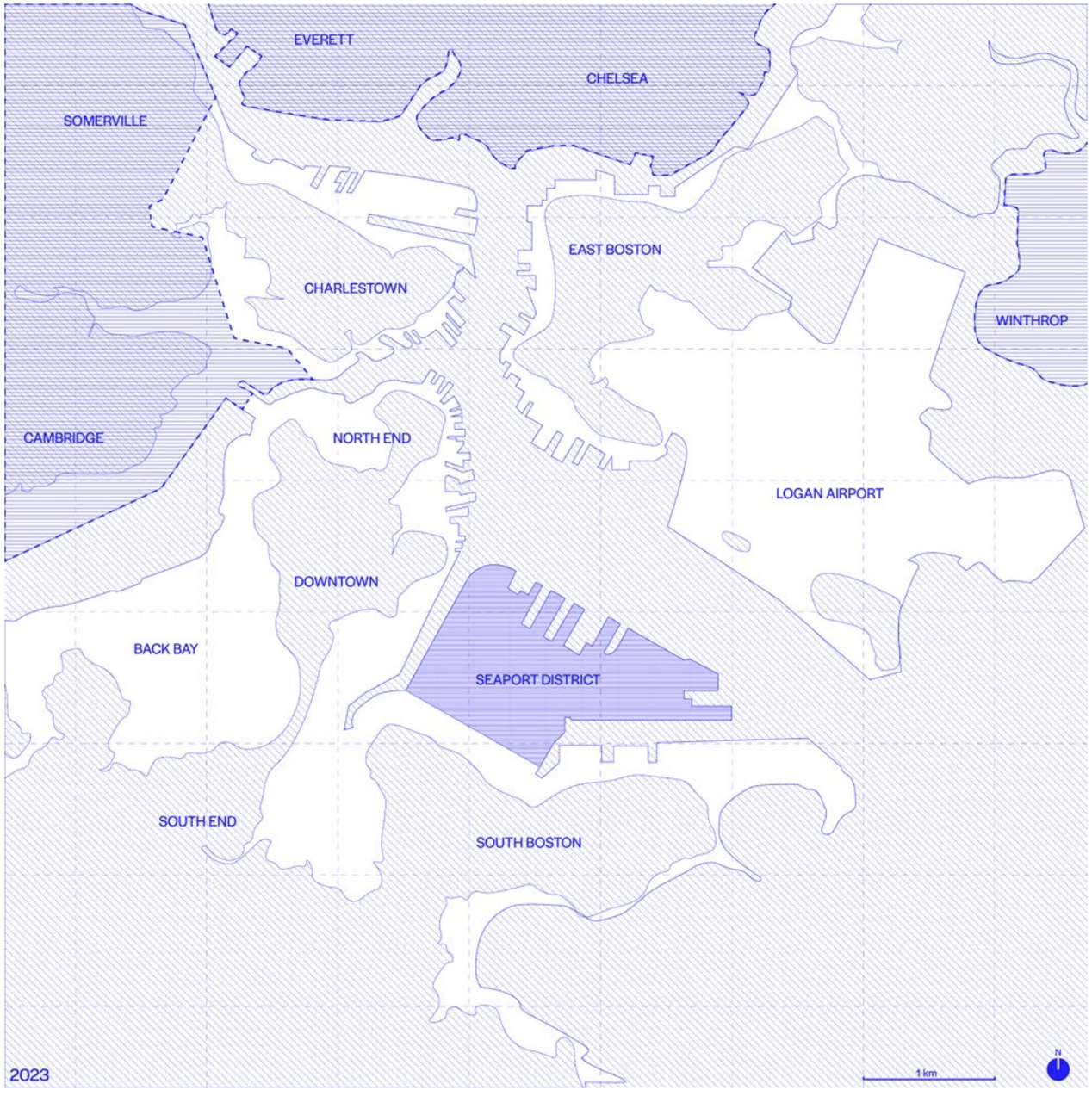
Aerial Image of the Seaport District, Facing Downtown Boston, in the Early 20th Century





HUMAN DEVELOPMENT OF BOSTON HARBOR

Over the course of the last three centuries, Boston harbor has seen a multitude of expansions that span as early as the 18th century. The diagram above depicts what the Boston harbor looked like back in 1768, with a faint outline highlighting the current land borders. Seaport District, highlighted in a deeper blue, too was not around in this period and sat in the heart of the harbor. It wouldn't be until the later half of the 19th century that this area would be infilled to make way for a commercial port lands that would aid in the exportation of goods globally.

The diagram above highlights all of the land that has been developed as of 2023. Three major areas make up a large portion of the infill of the Shawmut Peninsula and surrounding areas: Seaport / South Boston, Back Bay, and Logan Airport / East Boston. All three had very targetted reasons for the infill expansion. Back Bay made way for the explosive growth of the city's population. Logan Airport came at the expense of air travel and commerce, and finally Seaport found itself created to aid the city's industrial exports.

THE GREAT ACCELERATION & URBAN RENEWAL

The Great Acceleration, a term coined by scientists, refers to the rapid and unprecedented global changes that occurred during the 20th century across various socio-economic and environmental dimensions. Boston, like many other cities, experienced significant shifts during this period, which contributed to issues related to redlining, segregation, white flight, zoning policies, car-centricity, transportation, development, and climate change.

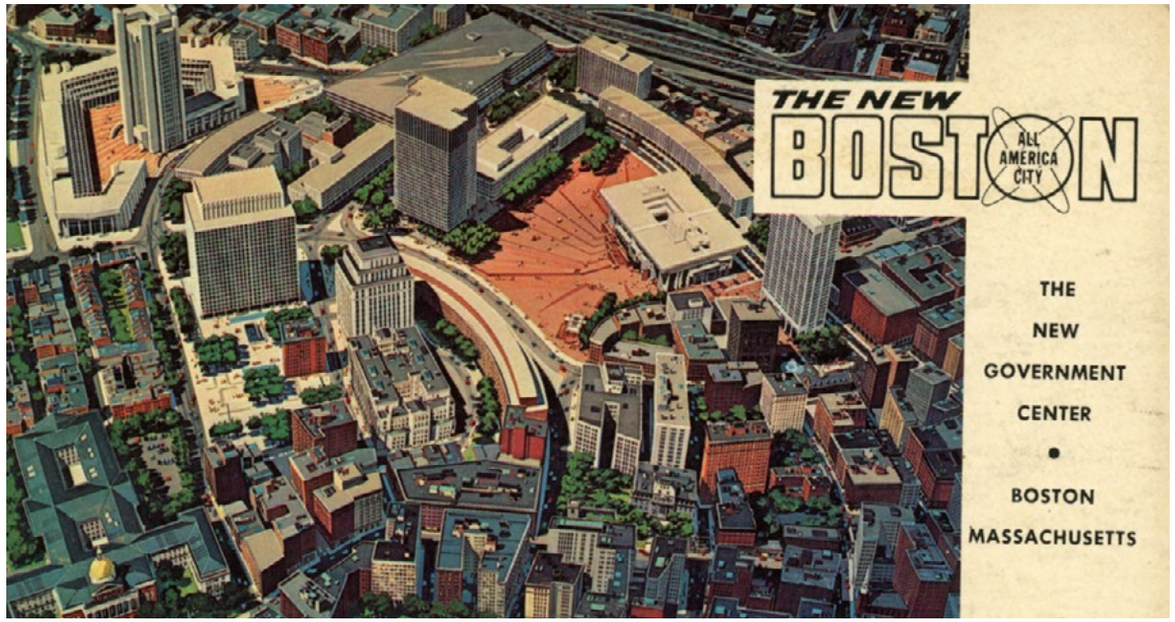
This era, which began around the 1950s, encompasses a wide range of phenomena across multiple domains. It includes exponential growth in population, urbanization, industrial production, energy consumption, and international trade. It also involves accelerated rates of technological advancements, scientific discoveries, and innovation in fields such as information technology, transportation, and medicine.

This period is marked by intensified human activities and their impacts on the Earth's systems. It has led to significant changes in the atmosphere, land use, oceans, and biodiversity. For instance, carbon dioxide emissions and greenhouse gas concentrations have risen rapidly, contributing to climate change. Land use changes, such as deforestation and urban expansion, have altered ecosystems and reduced biodiversity.

[The Great Acceleration] is often associated with post-World War II modernization and globalization, as well as the increasing interconnectedness and interdependence of societies worldwide. It has resulted in both positive and negative consequences, such as economic growth, improved living standards, technological advancements, but also environmental degradation, resource depletion, and social challenges.

When talking about Boston's economic trajectory during this time period, the decline of traditional industries, such as manufacturing and shipping, led to economic restructuring and a shift towards a service-based economy. This transition, coupled with changing transportation modes and land-use policies, influenced the redevelopment and repurposing of many neighborhoods, eventually including the Seaport District near the end of the 20th century.

When trying to understand how Seaport became the place it is today, we need to look back at some of the practices that shaped the city's zoning policy as early as the late 1930s. Redlining, a discriminatory practice by banks and lending institutions, played a significant role in perpetuating segregation and exacerbating social and economic disparities in Boston and other American cities. The practice, introduced to the city in 1938, involved labeling certain neighborhoods, predominantly those with high minority populations, as high-risk for lending. Redlining restricted access to mortgage loans and capital, stifling investment in these communities and perpetuating cycles of disinvestment and neglect. Segregation and white flight had profound effects on Boston during the post-war period of the 1950s to the 1970s, shaping the city's social dynamics, economic standing, and urban development. The rise of suburbanization and the corresponding outflow of white residents from urban areas contributed to significant changes in Boston's demographics and power dynamics. The phenomenon of white flight in Boston was driven by a combination of racial tensions, discriminatory housing practices, and 'perceived' opportunities in the suburbs (opportunities that often didn't exist). As African American families began moving into previously predominantly white neighborhoods, white residents, fueled by racism and fear, started relocating to suburban areas. This mass exodus of white residents resulted in a demographic shift, with a concentration of poverty and limited resources remaining in urban neighborhoods.



An artistic rendition of a "New Boston" in the early days of Boston's urban renewal program shows Government Center taking the place of Scollay Square. WEST END MUSEUM & Boston Globe

The busing crisis in the 1970s further exacerbated racial tensions and segregation in Boston. As a means to address racial imbalance in schools, a desegregation plan was implemented, which involved transporting students from predominantly white neighborhoods to predominantly black neighborhoods and vice versa. The most famous of this was the integration of Dorchester and South Boston students, two neighborhoods with a long history of racial tensions. This sparked violent protests, race riots, and widespread unrest, dividing the city along racial lines and deepening the divide between communities.

The flight of white residents to the suburbs had significant economic

implications for Boston. As the city's tax base eroded, it faced economic challenges and reduced financial resources to invest in urban infrastructure and public services. The loss of affluent residents and businesses contributed to a decline in the urban economy, exacerbating disparities between Boston's neighborhoods. This economic disinvestment further perpetuated cycles of poverty and limited opportunities in predominantly black and Latino communities.

The growth of the suburbs outside of Boston brought about changes in power dynamics and political influence. Suburban areas gained more political clout and resources, leading to a shift in decision-making processes that favored suburban interests over urban concerns. The expansion of the MBTA's commuter rail network further proved this, as Boston continued to design a hub and spoke model in which neighboring cities and townships only had direct access to one location [Boston]. The redevelopment + divestment in the city's subway system, including the relocation of the orange line out of Roxbury, as well as a continued unresolvement of the transit desert in Dorchester, laid further claim that Massachusetts politicians were favoring much more privilaged class citizens than others.

Moreover, the policies of urban renewal and modernism that emerged during the post-war period had a significant impact on Boston's urban fabric. In the name of progress and revitalization, neighborhoods like the West End, Scollay Square, the South End, and Roxbury were targeted for redevelopment through the use of eminent domain and the clearance of so-called "blighted" areas. These policies, enacted by the powerful Boston Redevelopment Authority (Now renamed the Boston Planning and Development Agency) disproportionately affected low-income and minority communities, leading to the loss of affordable housing, displacement, and the fragmentation of established neighborhoods.

Zoning policies were often, if only, influenced by discriminatory practices and exclusionary zoning, which further perpetuated segregation and limited affordable housing options. Zoning regulations also promoted car-centric development, prioritizing the construction of highways and parking infrastructure, which had negative implications for transportation, community cohesion, and air quality. This pro-car system would eventually devolve into the creation of the famously expensive Central Artery Project, also known as the 'Big Dig', which would play a central role in the redevelopment of the Seaport District in the 1990s and 2000s.

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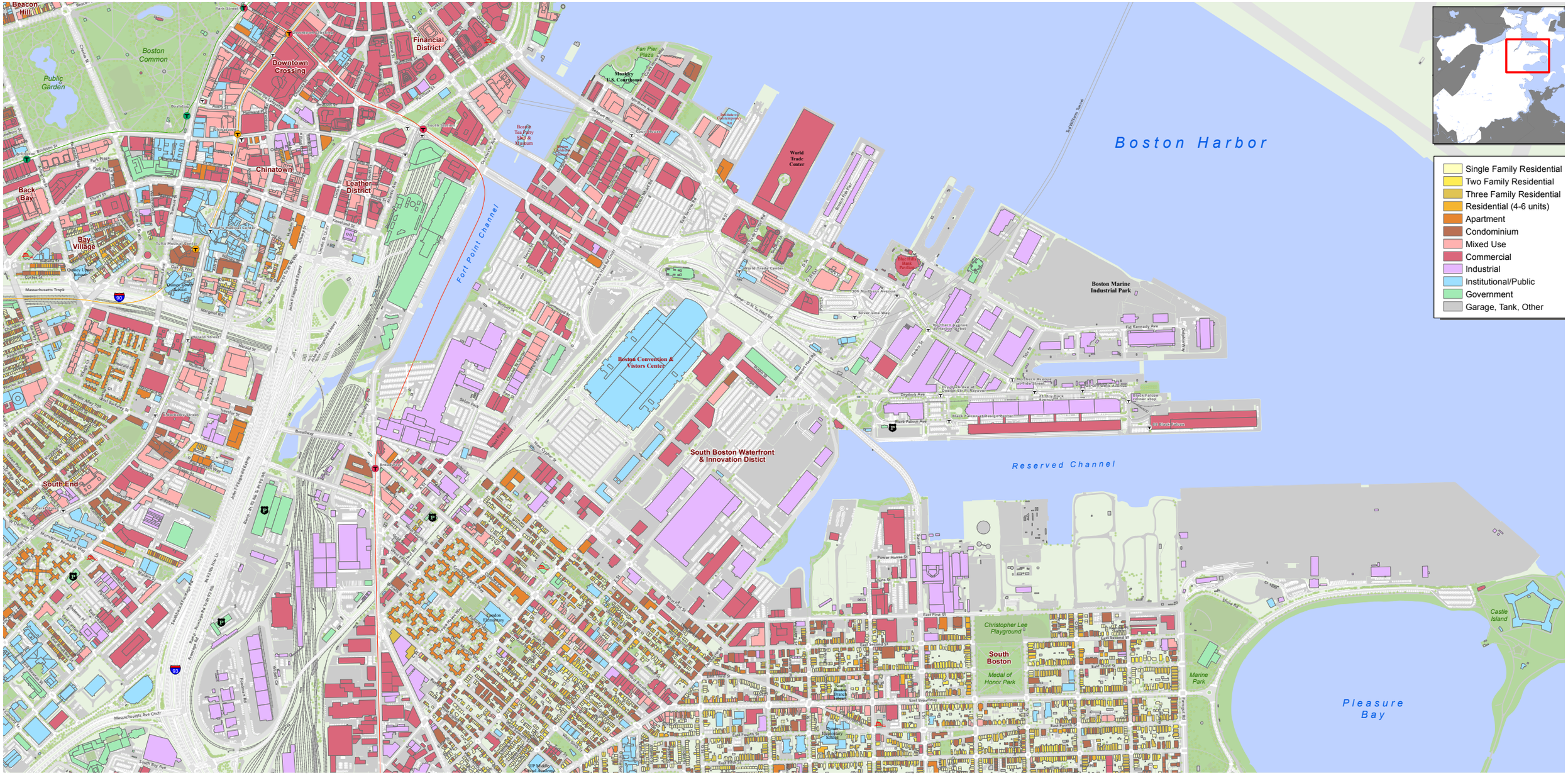
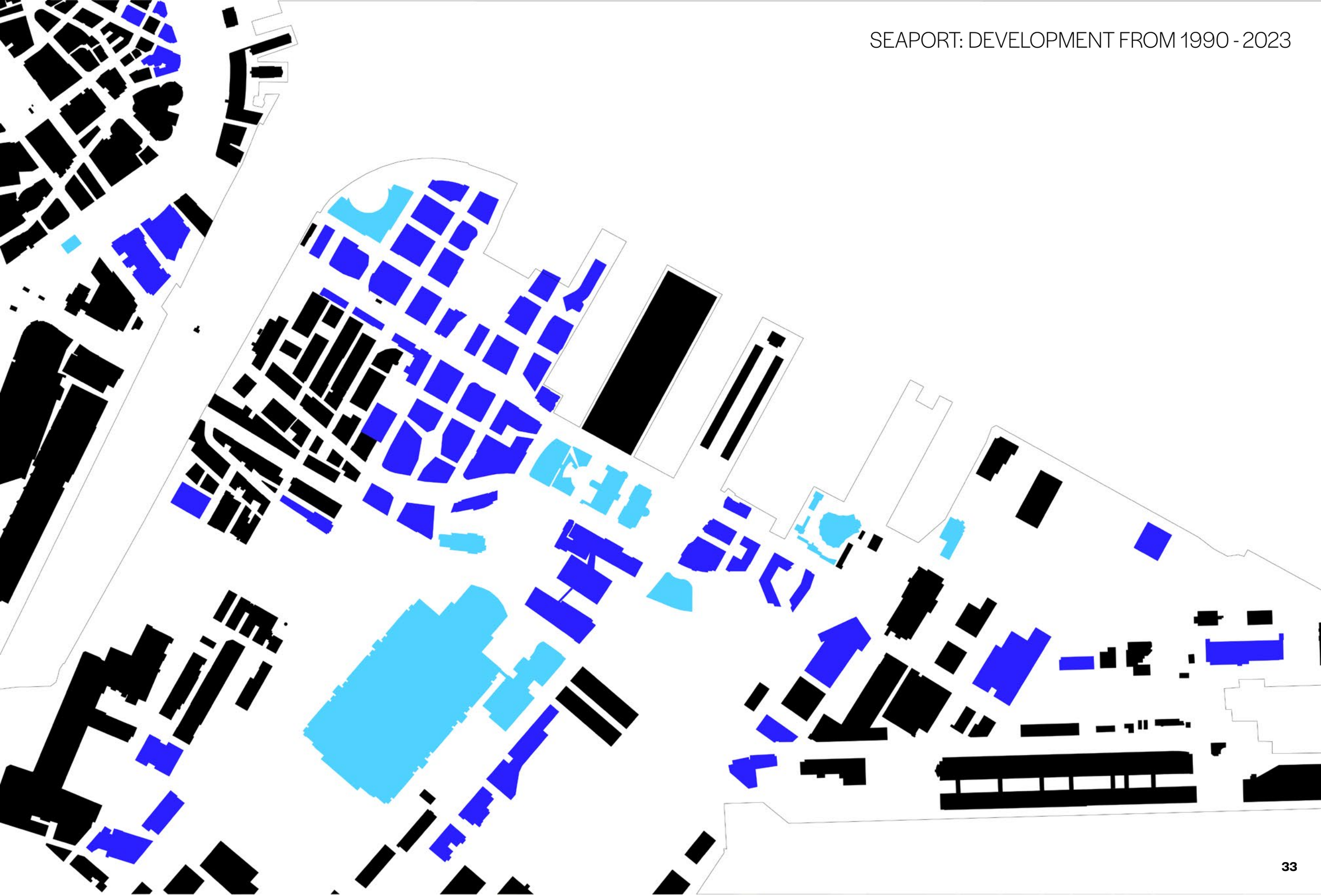
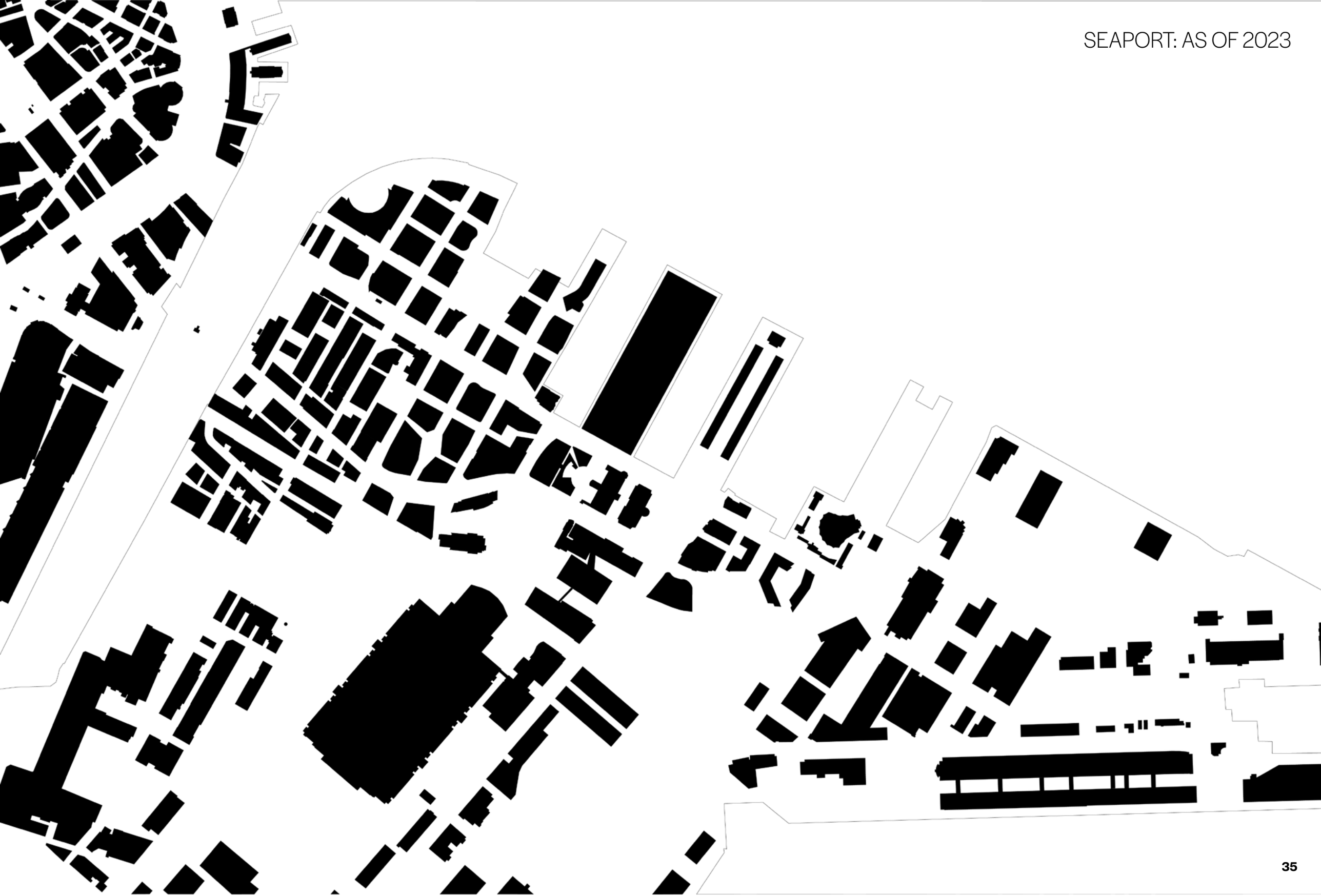


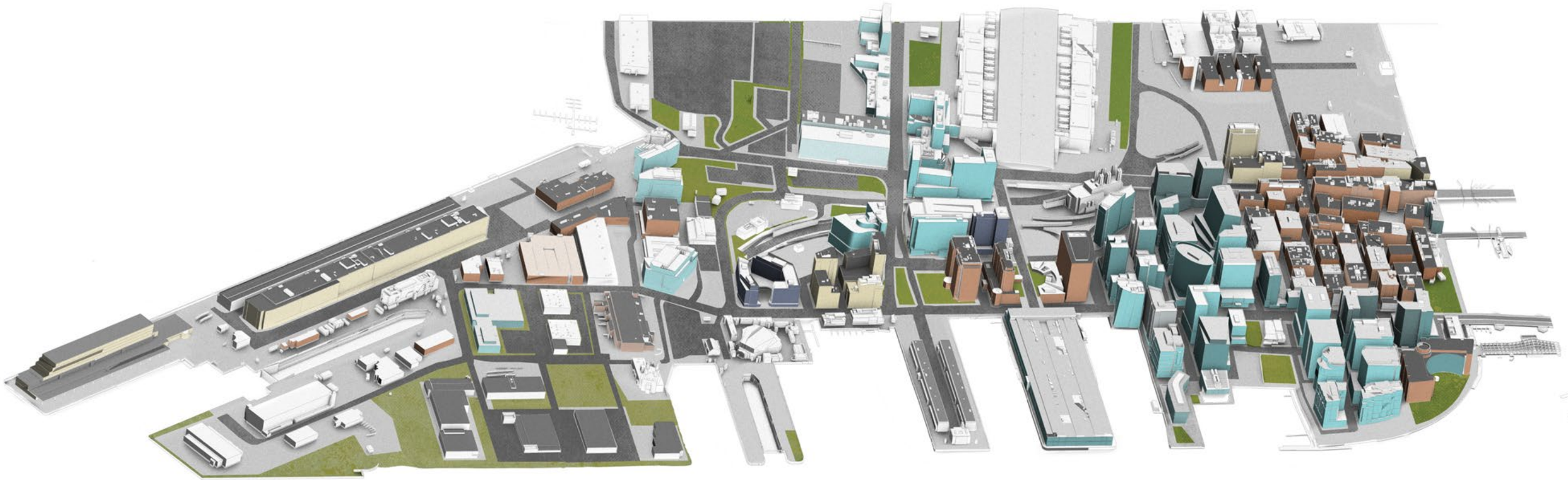
SEAPORT IN THE 21st CENTURY

Once industrialization collapsed in Boston, Seaport district would lay nearly abandoned for most of the post-war era. There were still exceptional industries, such as fishing and naval shipbuilding, but even those would succumb to the economic slowdown faced in the 1970s onward.

It wouldn't be until the Big Dig that Seaport would become a hotbed for prime real estate development again. The re-routing of Interstate 90 through the neighborhood (below grade), along with the introduction of the Silver Line (both of which would serve as direct connections to Logan International Airport across the harbor) would usher in billions of dollars in private investment. By the mid 2010s, Boston was seeing rapid growth in multiple sectors, leading to high demand for housing & service economy jobs. Seaport, in particular, had very little stopping it from taking advantage of the new economic opportunities as all the winds played in the neighborhood's favor. This would give Seaport the title for the fastest growing neighborhood in New England for years to come.







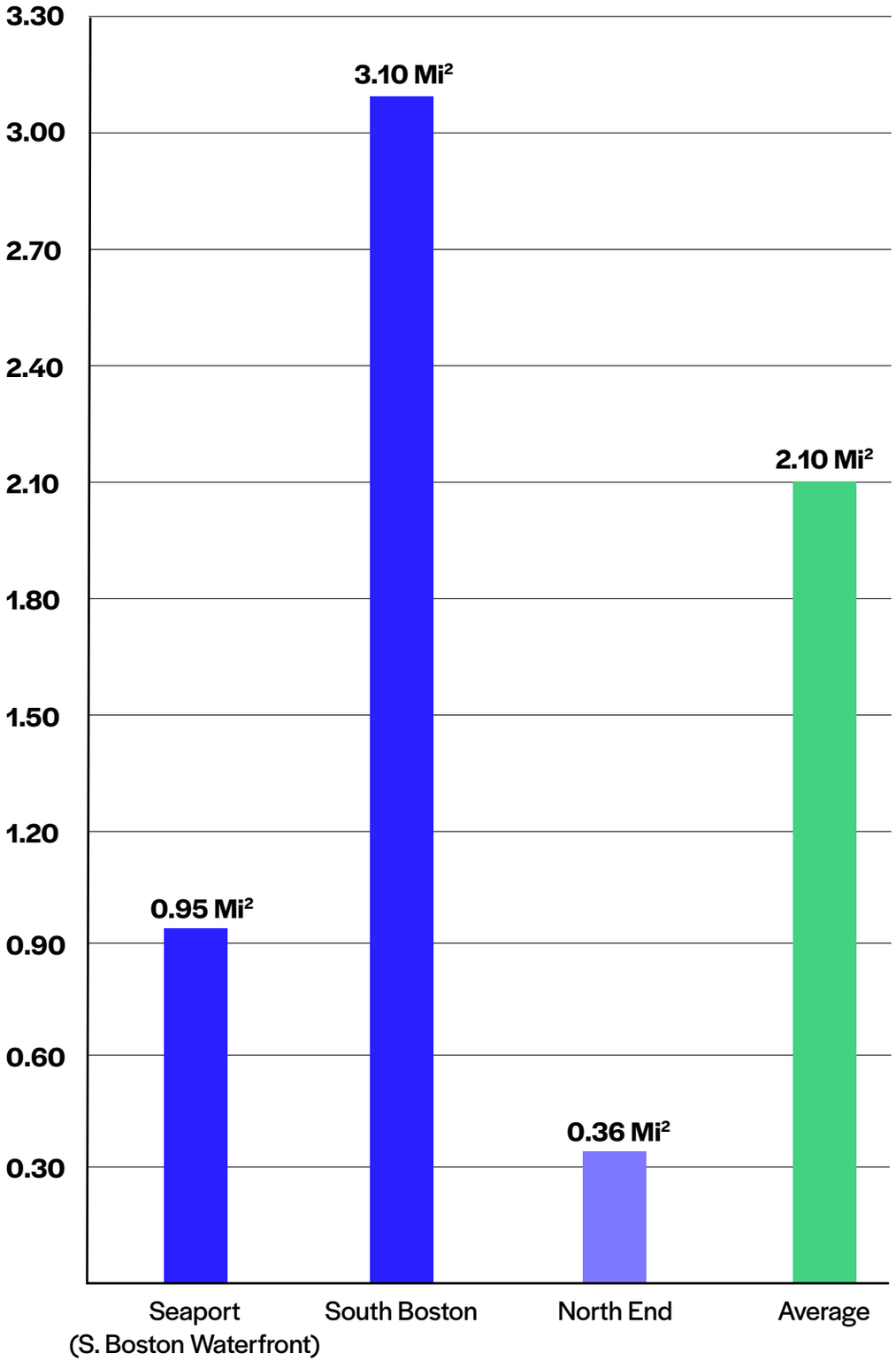
SEAPORT IN THE 21st CENTURY (CONTINUED)

However, despite Seaport's rapid success, there were an incredible amount of problems behind it. Despite the neighborhood having a great opportunity to re-invent a massive amount of parking lots and abandoned structures, Seaport would take a vastly different approach to what was originally envisioned to occur in the 1990s. Luxury housing developments would spring up left and right, and high-end corporations like PWC & John Hancock Insurance would move into glass and steel high rises. Public transportation access to the area was still very spotty, as the silver line only operated as a Bus Rapid Transit (BRT) route with lines that would have reliability issues as it merged with street traffic. The lack of transportation opportunities would lead to Seaport operating as a car-centric capitalist playground for the rich, as opposed to being a space properly integrated with the fabric of Boston.

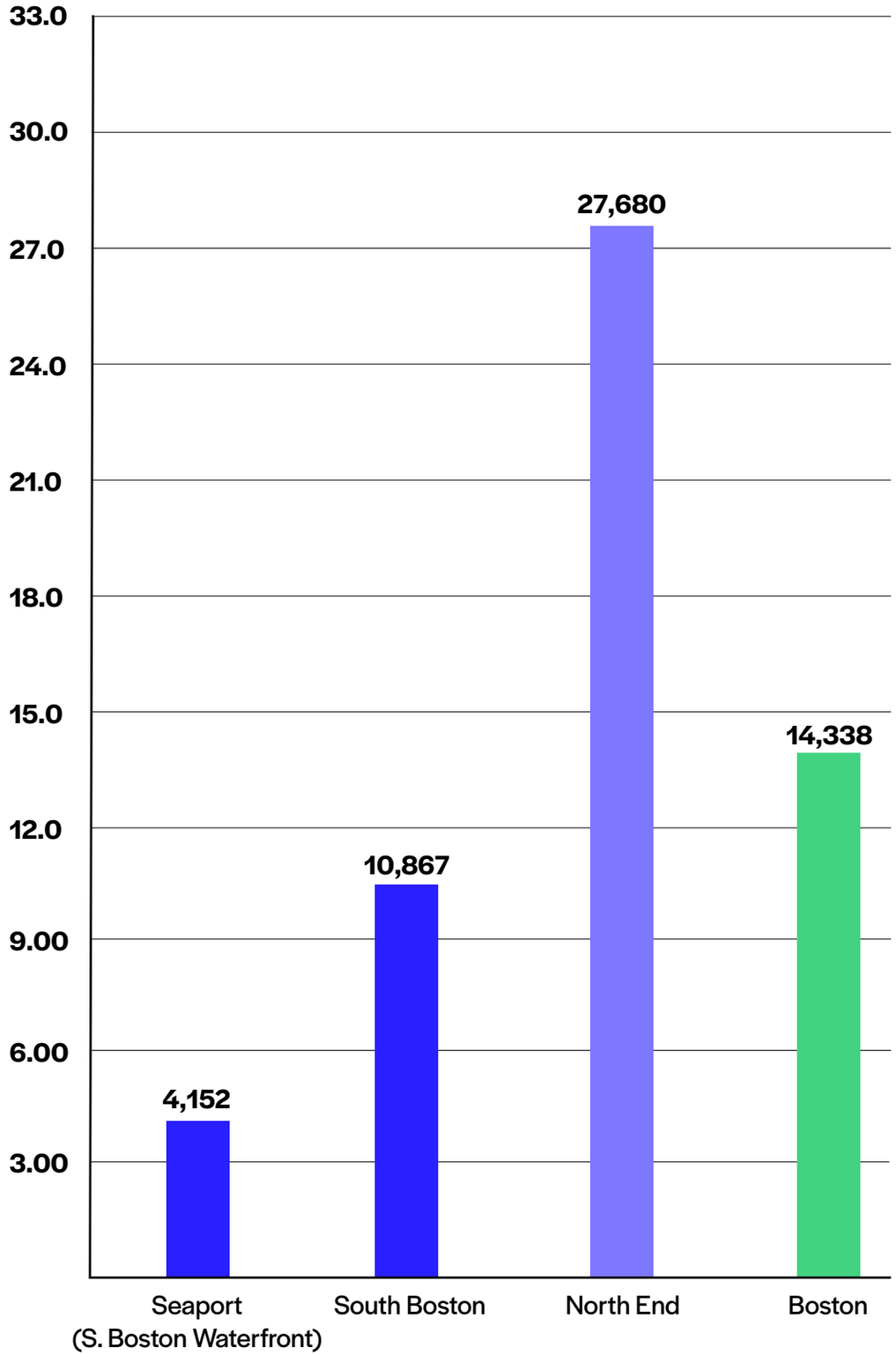
When looking at the graphs provided on the next page, Seaport's land use statistics become visual proof that it does not operate like the rest of the city. The neighborhood makes up nearly a square mile in space, yet harbors only under 4,000 permanent residents. This leads to a very poor population density that doesn't even rival other neighborhoods like the North End (which is nearly one third of the size with about seven times the amount of population density). For such a newly developed space, in a city with tremendous demand for housing, what went wrong?

Some of the few obvious answers are that the type of housing being developed in this space are luxury. Not only does that limit exactly 'who' can live there, but luxury developments have a tendency to waste more space on unnecessary amenities. Furthermore, Seaport didn't exactly build that much housing to begin with. Many new construction projects were reserved for single use zoning, with priority for corporate offices. These companies quickly moved in to build new headquarters and operate more like a tech-savvy, upscale office park than an actual community.

Much of what goes on in Seaport could barely be described as a healthy neighborhood and acts more as a 21st century attraction; no different to Disneyland or Mall of America. There's very little about this urban landscape that functions like a true neighborhood. Its void of culture, despite harboring a contemporary art museum. The industries are limited to 9-5 offices. The restaurants cater to higher tax brackets & Millenials willing to spend $8 on a cup of coffee. Housing is offensively out of control when looking at prices and income requirements. Its a space devoid of place.



Neighborhood Area (Square Miles)



Population Density (In Thousands)

WEALTH DISPARITY OF SEAPORT

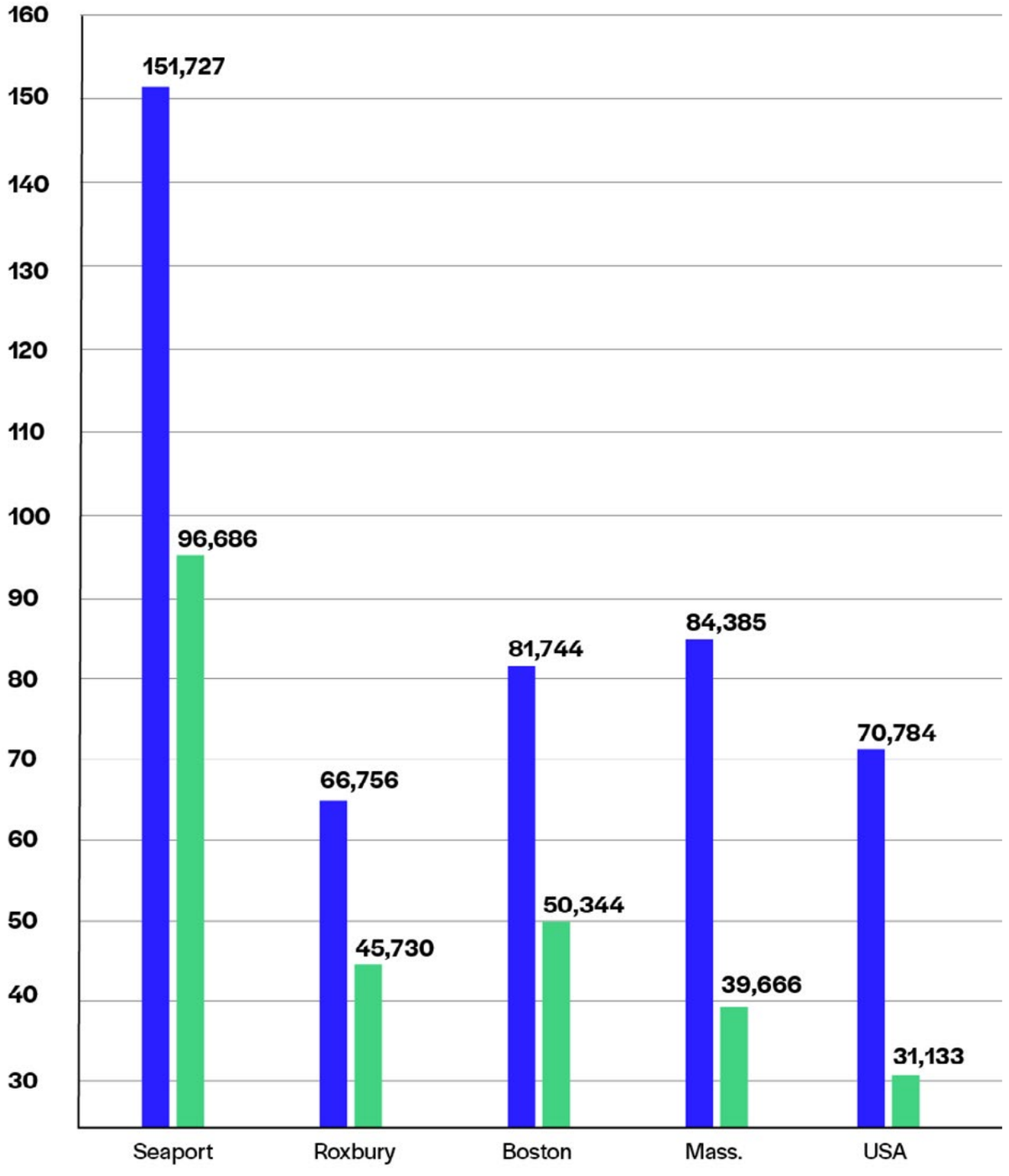
South Boston & the Seaport District have experienced rapid growth in the last decade, but has come at a cost of creating displacement. Despite a substantial land mass consisting of abandoned lots, Seaport instantly managed to design itself around a ‘pay for play’ economic zone, in which only the wealthy would be able to afford to live in. Paired with the high-end businesses to solidify the area’s standing, room for lower income residents would become significantly limited. This creation of a special economic zone without restriction has thus caused the neighborhood to experience some of the highest rent prices in the country. Listed below are some of the consequences to the creation of Seaport:

Gentrification and Displacement: The rapid development and gentrification in South Boston and the Seaport District have led to rising property values and increased cost of living. As wealthier individuals and businesses move into the area, there is often a displacement of long-time residents, particularly low-income communities. This can result in the loss of affordable housing options and the erosion of community cohesion.

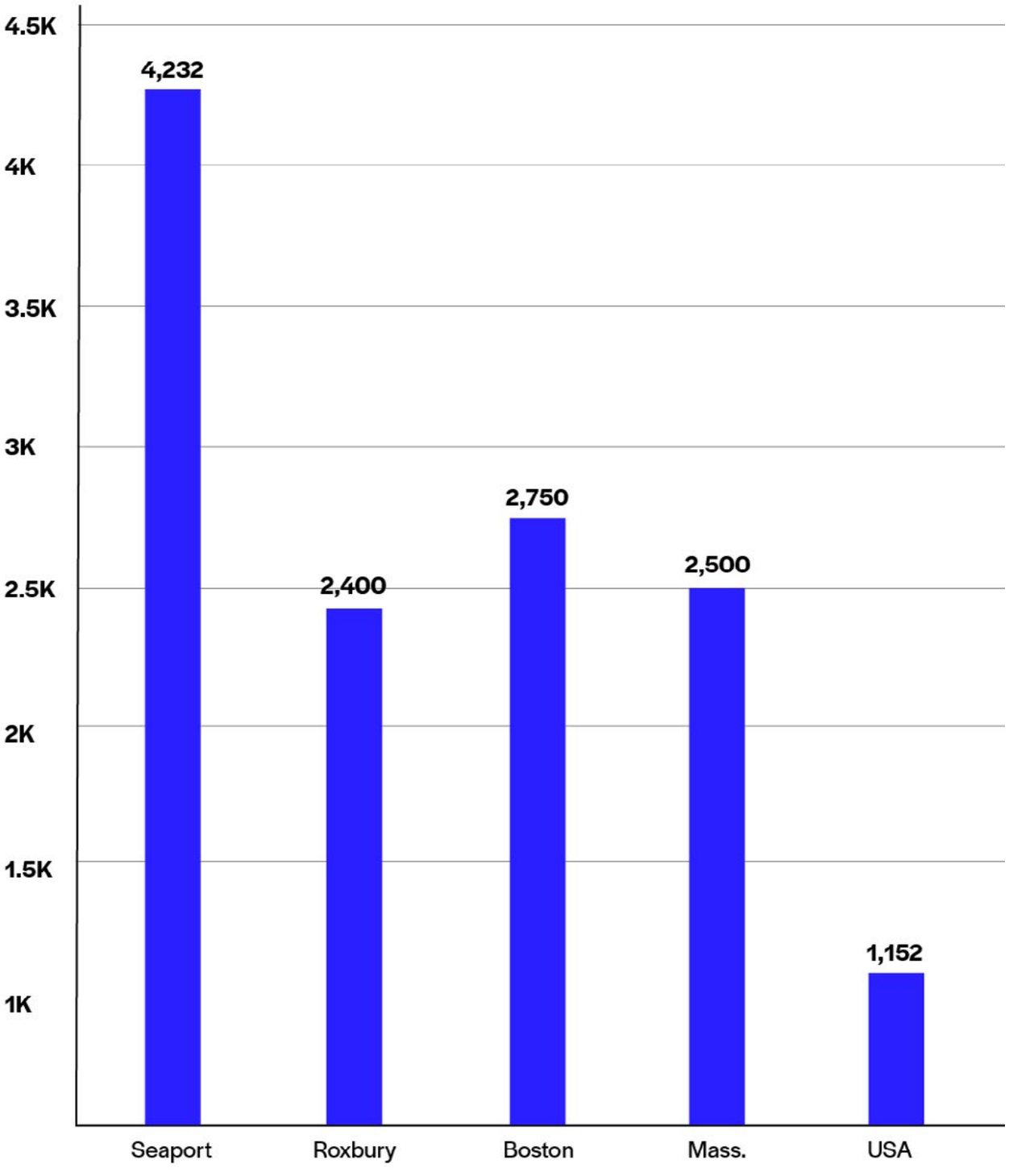
Housing Affordability: The increased demand for housing in South Boston and the Seaport District, driven by their attractiveness as desirable locations, has resulted in skyrocketing housing prices and reduced availability of affordable housing. This makes it challenging for lower-income residents to find affordable homes in the area, leading to housing insecurity and potential displacement.

Limited Economic Opportunities: Rising wealth disparities can exacerbate economic inequalities. In South Boston and the Seaport District, the concentration of high-end businesses and developments can create a divide in economic opportunities. Access to well-paying jobs and entrepreneurship prospects may become limited for local residents who lack the necessary skills or resources, further widening the wealth gap.

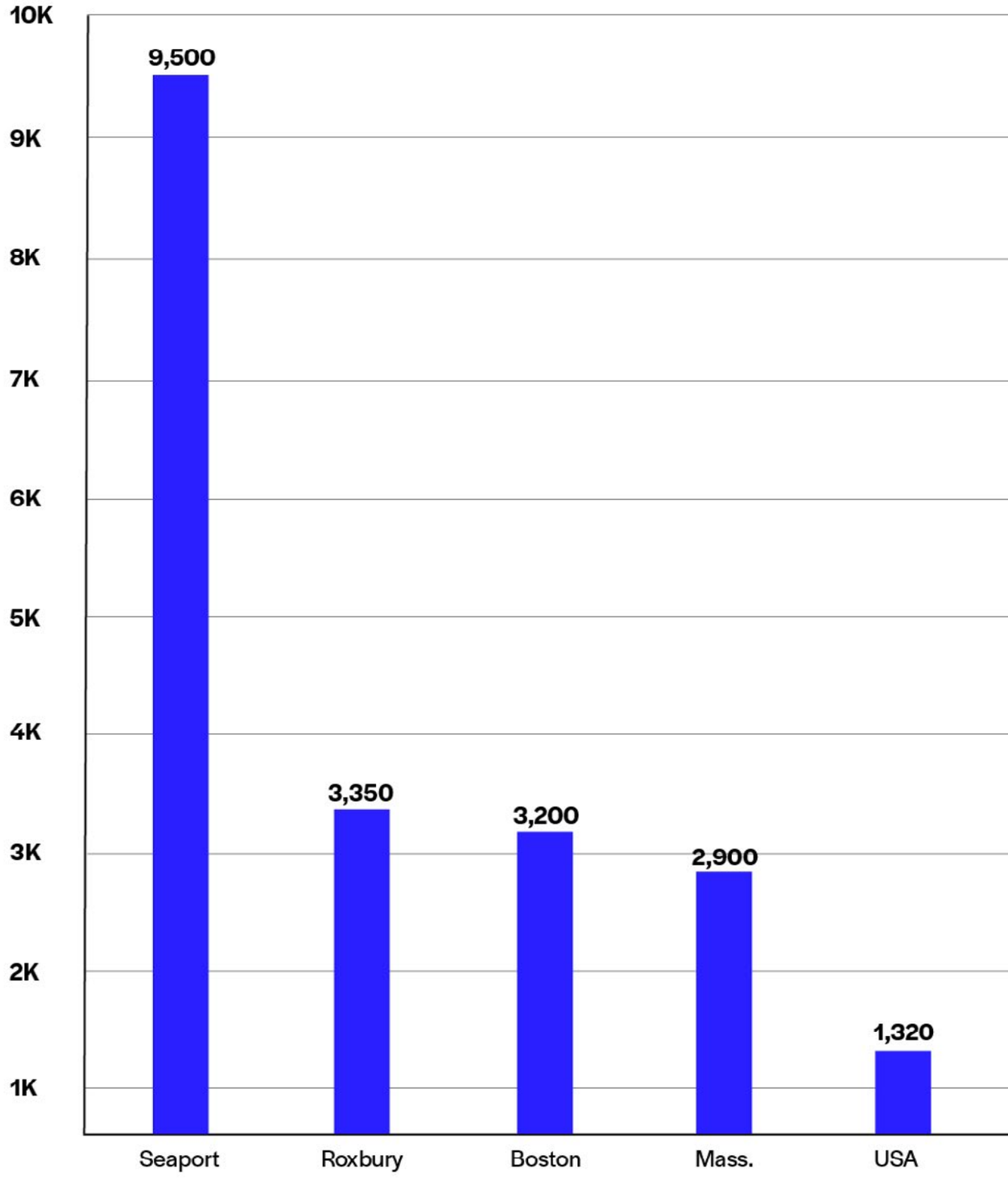
Social and Cultural Impact: The influx of wealthier individuals and businesses can significantly impact the social and cultural fabric of a neighborhood. The character and identity of South Boston and the Seaport District may change as local businesses and long-standing community institutions struggle to survive or are replaced by establishments catering to a wealthier clientele. This can lead to the loss of community spaces, cultural diversity, and a sense of belonging for long-time residents.



In the graph above, Seaport is shown to have a significantly higher-than-average annual income rate than that of other neighborhoods in Boston, or the USA as a whole. Medium individual income alone (in green) amounts to a staggering average of 96K. This figure is three times higher than the USA average, and more than double the Massachusetts average. Furthermore, this individual income average still pairs higher than all of the household income averages (blue) in other areas.



Median Rent (One Bedroom) | Renthop April 2023



Median Rent (Two Bedroom) | Renthop April 2023

OVERALL CLIMATE REALITY AND PROJECTIONS

Climate projections, if 'business as usual' policies continue to go forward, will objectively get worse in the coming decades. Sea-level rise is one of the biggest threats to the port city of Boston, to which this section will dive into that data further. However, before that is discussed, other issues will also affect the region as well. Beyond sea-level rise, some of the other effects related to human induced climate change involve the following:

Heat Island Effect: Climate change is expected to lead to rising temperatures in Boston. This rise in temperature exacerbates the urban heat island effect, where cities tend to be significantly warmer than surrounding rural areas due to human activities and the concentration of buildings and infrastructure. This can intensify heatwaves and contribute to heat-related health issues, injuries or death.

Heat Index & Temperature Rise: As temperatures increase, the heat index, which measures how hot it feels to the human body, will also rise. Higher heat index values can lead to heat-related illnesses and put vulnerable populations, such as the elderly and those with pre-existing health conditions, at greater risk. Heatwaves can also strain energy resources, particularly electricity for cooling, and increase the demand for water.

Decreased Air Quality: Climate change can worsen air quality in Boston. Rising temperatures and increased frequency of heatwaves can enhance the formation of ground-level ozone, a harmful air pollutant. Changes in weather patterns, including more frequent and intense precipitation events, can lead to flooding and release pollutants into the air from sources such as industrial facilities and transportation systems. These factors can contribute to respiratory issues and overall reduced air quality.

Intensified Storms and Flooding: Boston is already vulnerable to the impacts of extreme weather events, including intense storms and flooding. Climate change can lead to more frequent and severe storms, resulting in higher rainfall amounts and an increased risk of flooding. This can, and has already, disrupted infrastructure, damaged property, and threatened public safety. It is only expected to worsen over the course of the next few decades.

Water Availability and Quality: Climate change can also affect the availability and quality of water resources in Boston. Changing precipitation patterns may result in altered water supply dynamics, including changes in the timing and amount of rainfall. This can impact water availability for drinking, agriculture, and other essential uses. Additionally, increased stormwater runoff can carry pollutants into water bodies, affecting water quality.

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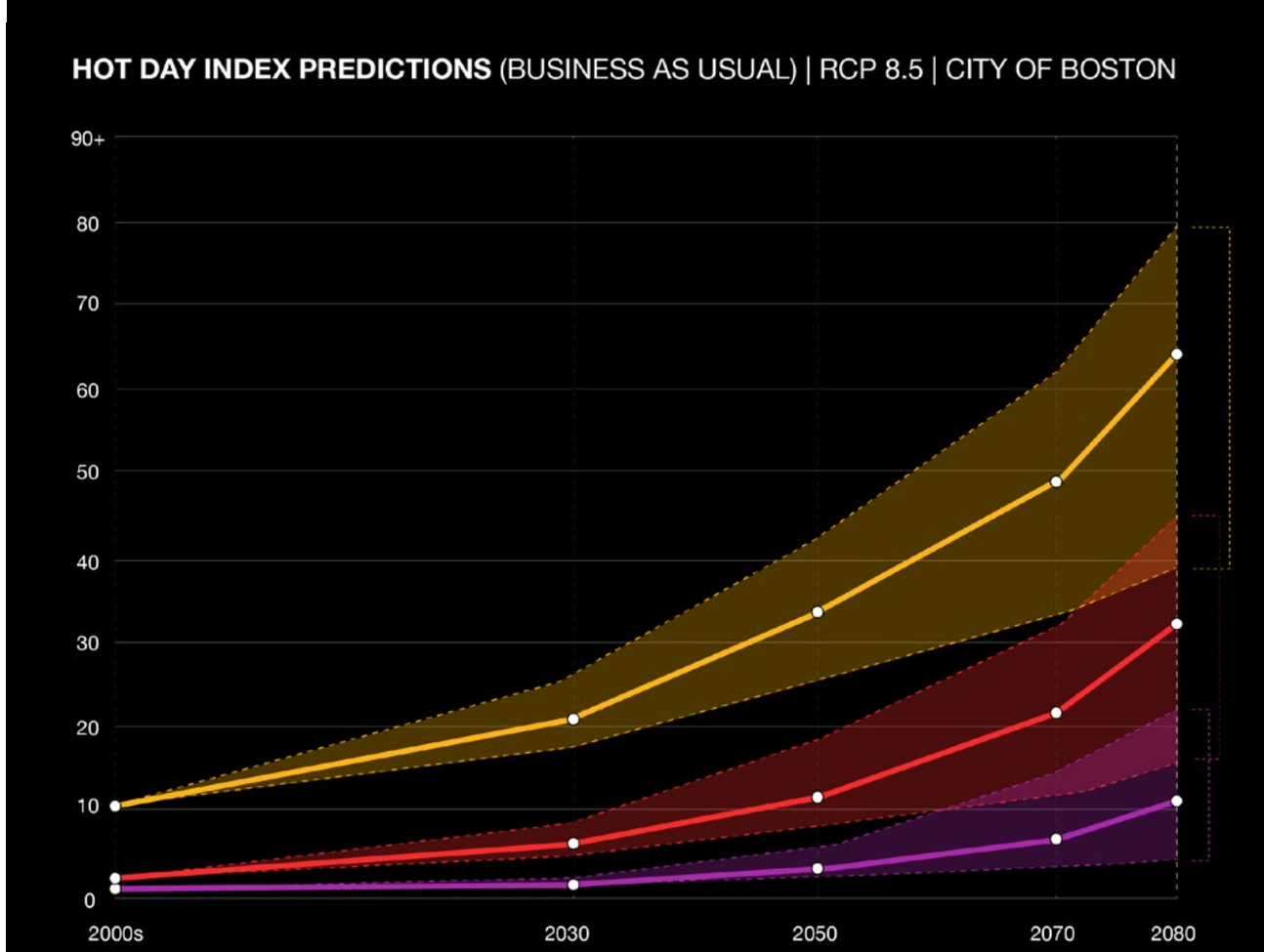
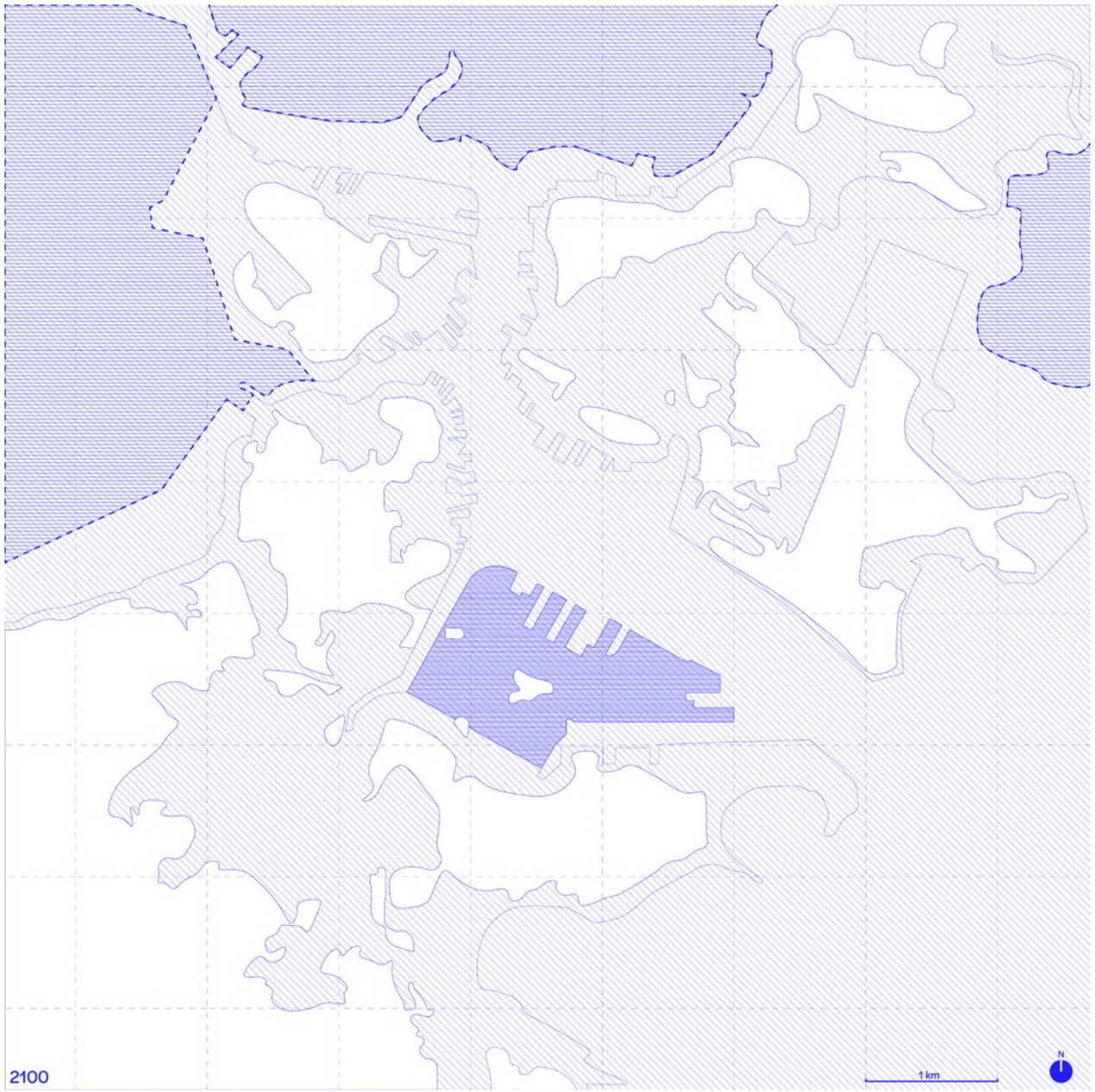
Boston.gov. "Climate Ready Boston," July 17, 2016. https://www.boston.gov/environment-and-energy/climate-ready-boston.

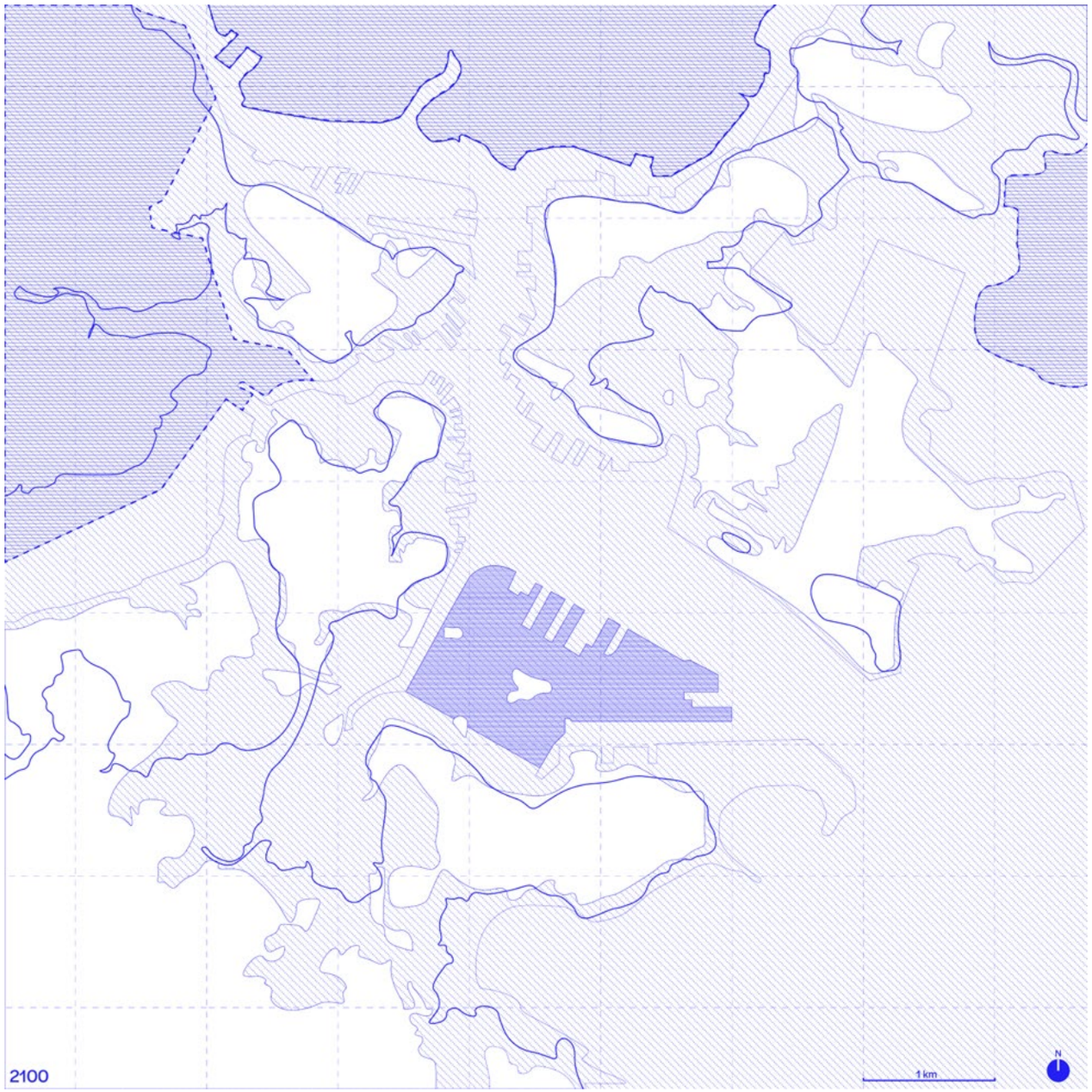


Sea-level rise is only one of many considerable issues that climate change will bring to Boston. The hot day index, which calculates how many hot days occur annually, is expected to rise significantly over the course of the next 75 years. The chart above exhibits a 'business as usual' policy that projects hot days to increase exponentially if very little is done to change course.

Chart as exhibited:
Yellow: no. days over 90F
Red: no. days over 95F
Purple : no. days over 100F

In current terms, Boston sees very little days that avergae temperatures above 95 degrees (without counting the heat island effect). However, over the course of the 21st century, those readings could skyrocket to averaging over 30 days. Temperatures over 100F could average anywhere between 5 and 25 days annually by 2080. Higher temperatures are very dangerous for residents as overheating can result in injury or death. It also puts strain on infrastructure networks not equipped to handle this type of weather, further jeopardizing the city's future.





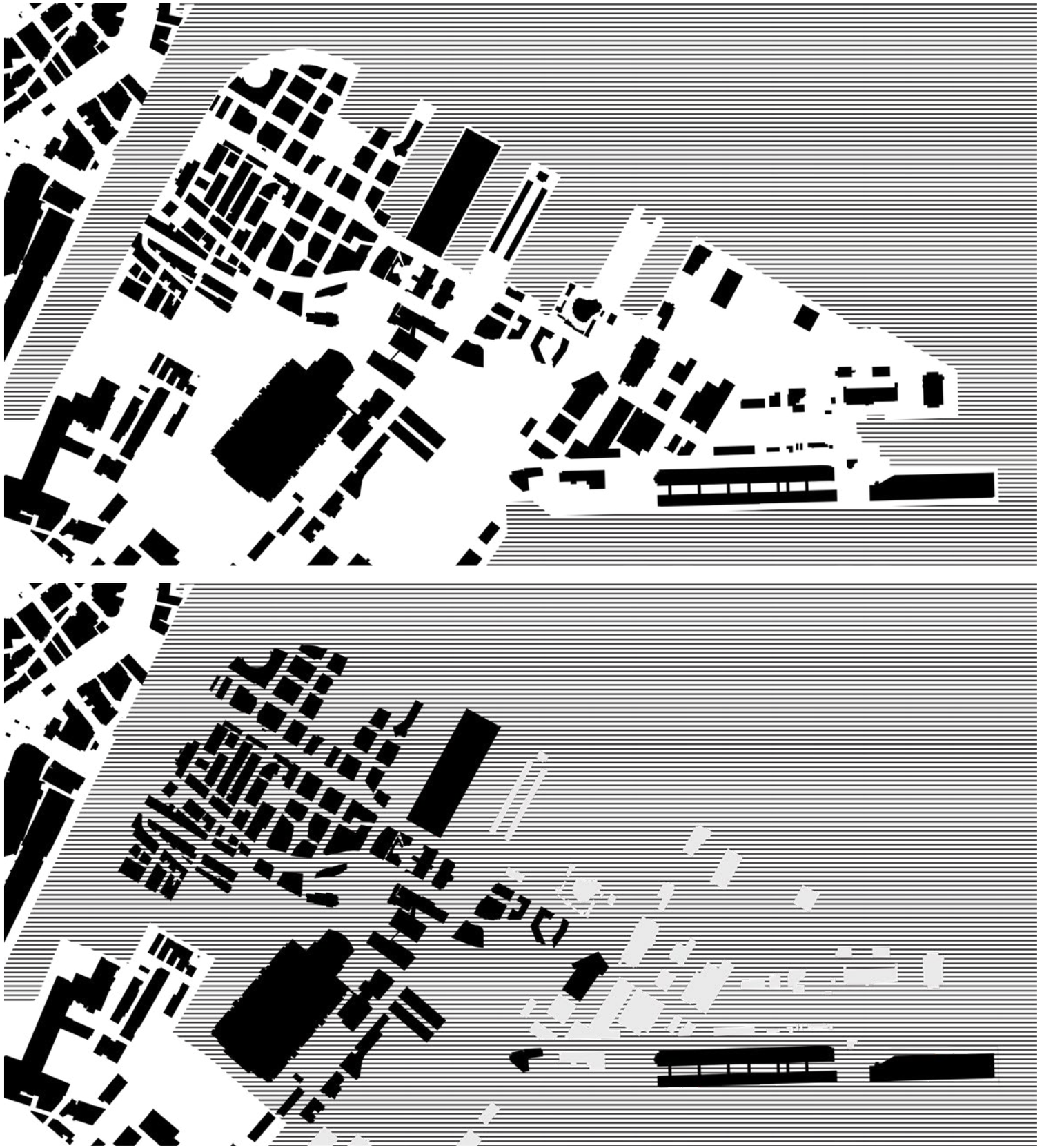
SEA LEVEL RISE PREDICTIONS

The maps depicted above utilize the 'Boston Climate Ready' data, in which sea-level projections for 2070 indicate at least a 40" sea level rise. This alone results in catastrophic flooding of the Boston harbor, and effectively puts the Seaport district below the water line at high tide. Although these maps are mere predictions, the oceans are expected to inevitably rise an additional two feet, despite even the highest level of human intervention to prevent climate change, by the year 2100. In the scenario listed for this proposal, seas are projected to rise up to 9 feet, or 108 inches. The data above does not properly reflect that 108" rise, however, these maps can potentially indicate the expected conditions for a low tide scenario in the harbor. This would be the theoretical 'low point' for water, as opposed to predicting a high tide, or mean. The map above this text, in particular, is a repeat of the one to its left, except introducing the original Boston land borders of the 1700s. This aimed to depict how landfill areas are seemingly at higher risk than that of the original lands, as most of the landfill is to be expected to be underwater in the future.

SEA LEVEL RISE CONTINUED

It's not a secret that Seaport is one of the most vulnerable neighborhoods in Boston. Even today, parts of Seaport flood during king tides. To assume that this condition will only worsen in time, is merely the truth. This rapidly developing neighborhood is putting all of its effort at risk as well, by continuing to ignore the dire reality that it is already facing. However, private developers do not seem to care as their means to an end mentality prevents them from thinking about this place generationally. Seaport will undoubtedly continue to face rising seas, along with additional climate related consequences.

The maps on the right try to capture that reality. The top one is the current conditions, where high tide remains beyond the land border, while the bottom image depicts what the neighborhood will face in the coming years as the atlantic slowly creeps closer inland. The buildings depicted in grey will especially be harmed by rising tides, as they are already low-level structures that stand little chance at being rehabilitated. Despite some structures having limited floor space in the western portion of the neighborhood, they remain closer to the financial heart of the city, and thus the likelyhood of its survival depends on its relativity to the city's center.



2100:
A CLIMATE CHANGE EPOCH

2100: A Climate Change Epoch

Imagine, if you will, a world where the air is thick with smog, the oceans are choked with plastic, and the ice caps are melting at an alarming rate. ***This is not a distant future, but a present reality.*** *The consequences of our actions today will haunt us for generations to come. The time has come for us to take action and make a change before it's too late. The clock is ticking, and the fate of our planet hangs in the balance. Will we rise to the challenge, or will we watch as our world crumbles before our eyes? The choice is ours, and the time to act is now.*

A Story of Urgency in the 21st Century

Some seventy-seven odd years in the future, the world as we know it will only be recognizable by those who are willing to accept it. The bustling metropolis of Boston Massachusetts has been transformed to appease the tides of Mother Nature as a consequence of human intervention. In the decades prior, humanity viciously fought to contain the effects of climate change, until many realized the colossal undertaking of such a battle. Municipalities across the globe had begun to accept that fighting the earth was no longer an option. Instead, the only hope forward was to adapt to a reality in which much of the teetering climate instability would be integrated as part of daily life. Boston, long ahead of climate change policy, was one of the first to dramatically shift this story.

The city's famous 'climate ready' plan [envisioned as early as 2014] to transform the harbor into a protective ecological seawall back in the first half of the twenty-first century would eventually be deemed unreliable (and with that, a waste of money). Levees have long proven to be a band aid solution to the greater threat of sea-level rise, as the method is fixated on singularity. In the case of Boston, the wall will only protect from how high it is built. In the age of climate uncertainty, there was no telling how much oceanic levels will climb. Globalization has its limitations as national sovereignty largely determines how each nation responds to emissions reductions. For an issue that affects the whole planet, it is unclear that humanity could come together to fight the greatest threat of our lifetimes. This variable, simply put, cannot guarantee the longevity of a seawall if there is no certainty to what the world will become.

Much of the failures of the 2020s [primarily for the United States] stemmed from the political division that handicapped progress. Although President Joseph Biden had won reelection in 2024, his short-lived second term still lacked policies that would drastically alter the course on addressing climate change. It wouldn't be until Kamala Harris would take Biden's place that congress would pass the Emissions Reduction Act of 2027, with the help of a narrow democratic majority. However, this bill would still only act as a drop in the bucket to what was needed to combat rising emissions. There was still no considerable regulation put on corporate America to reduce their footprint, as legal battles in the divided Supreme Court struck down on punishing companies in order to preserve their presence in the US job market. As a result, this continuation of unregulated capital would end up burdening the country from taking harsher measures for years to come.

Emissions reduction rates did not dramatically shift in the 2020s to necessary levels in order to limit the effects of climate change.

Besides the US, other nations such as China and Russia continued to produce higher levels of carbon emissions than their projected target reduction goals. The Russian Federation would go as far to exploit the crisis, as higher global temperatures resulted in the melting of the arctic.

The region is known to have a substantial amount of resources such as oil and gas. Furthermore, trade routes would become more accessible as a region that is historically frozen year-round, no longer experiences traditional weather patterns. Russia was not the only country to take advantage of this, as the United States and Canada also looked toward the new economic opportunities associated with global temperature increases in the northern hemisphere.

Despite an increased frequency of natural disasters, congress still refused to act on an impactful climate action bill until the Thwaites Glacier broke off from the West Antarctic Ice Sheet in the [northern hemispherical] winter of 2034. Known as the 'Doomsday glacier' by scientists, this portion of the western ice sheet was [at the time] projected to raise sea levels an additional two feet by the end of the century. It wasn't clear how long the glacier would take to melt, but it began to ring alarm bells globally. However, by this point, it was nearly impossible for the world to go back to the way things were.

By the end of the 2030s, many nations began to shift their understanding of how to approach this new reality as a last ditch effort to save civilization from collapse. No longer did many have the foresight to see a future in which the world's oceans would not swallow coastlines and islands. Early scientific studies in the 2010s had proven that, despite meeting the strictest emissions targets, the oceans levels would rise an additional two feet by the end of the century.

Twenty years on, those targets were never met, and thus the result of oceanic sea level rise has shifted dramatically to see a minimum rise of five feet. At this point, it was up to humanity to begin altering its approach to Earth's changing environment. Inevitably, the planet has shifted course, and thus the mindset of how this species must continue did too.

For Boston, new ideas began to emerge once the city recognized a seawall carried risks that were greater than its rewards. This time, instead of being fixated on how a city could protect itself from the inevitable, the question was altered to how a city can adapt to the inevitable. This simple fixation on how to approach climate change would alter the course of preparation. No longer was the conversation on protecting the existing built environment, but adapting to whatever the future holds for Earth. Although many were skeptical of what this approach would entail, and whether it would even succeed, the security of the city's future would have a higher chance than that of the latter.

At this point, time became an ever more valuable commodity as conversation behind seawall preparation dragged out over two decades, netting zero results. This was because many had hoped that the Federal government would have taken additional measures to combat rising emissions and aid cities who were deemed high risk. Unfortunately, help did not come and Boston did not prepare for an alternative solution. Furthermore, due to the crisis worsening over the decades prior, much of the money that once would have been available for climate prevention had been funneled into disaster recovery, as regions across the country continued suffering more than ever. Due to Boston's relatively mild climate conditions in comparison to other regions, the government's priorities remained on the forefront of contentious areas such as the Colorado River Basin, Gulf Coast and Florida. Additionally, congress still remained too divided in the first half of the 2030s to ensure adequate climate-preparation funding went toward cities deemed fundamental to the national economy. This in return, required the Commonwealth of Massachusetts to take matters into their own hands.

By accepting the consequences of sea level rise, the city began to prepare vulnerable neighborhoods to adapt in hopes of saving them. Seaport district, one of the most at-risk communities, would become its testing ground for developing a neighborhood of this future. A future in which humanity can cohabitate with the consequences of climate change. By the time action was taken it was already 2040; sea levels had risen roughly 3.5 feet by this time and Seaport was regularly flooding at high tide. No longer was the neighborhood becoming a viable place to live. Many large businesses would end up leaving the neighborhood as real estate values crumbled & access became more limited. However, despite the impending doom Seaport was facing, the city continued to invest in its future ability to adapt to the climate. Seeing that many structures in the neighborhood were being abandoned, Boston took it upon themselves to buy-back all of the land.

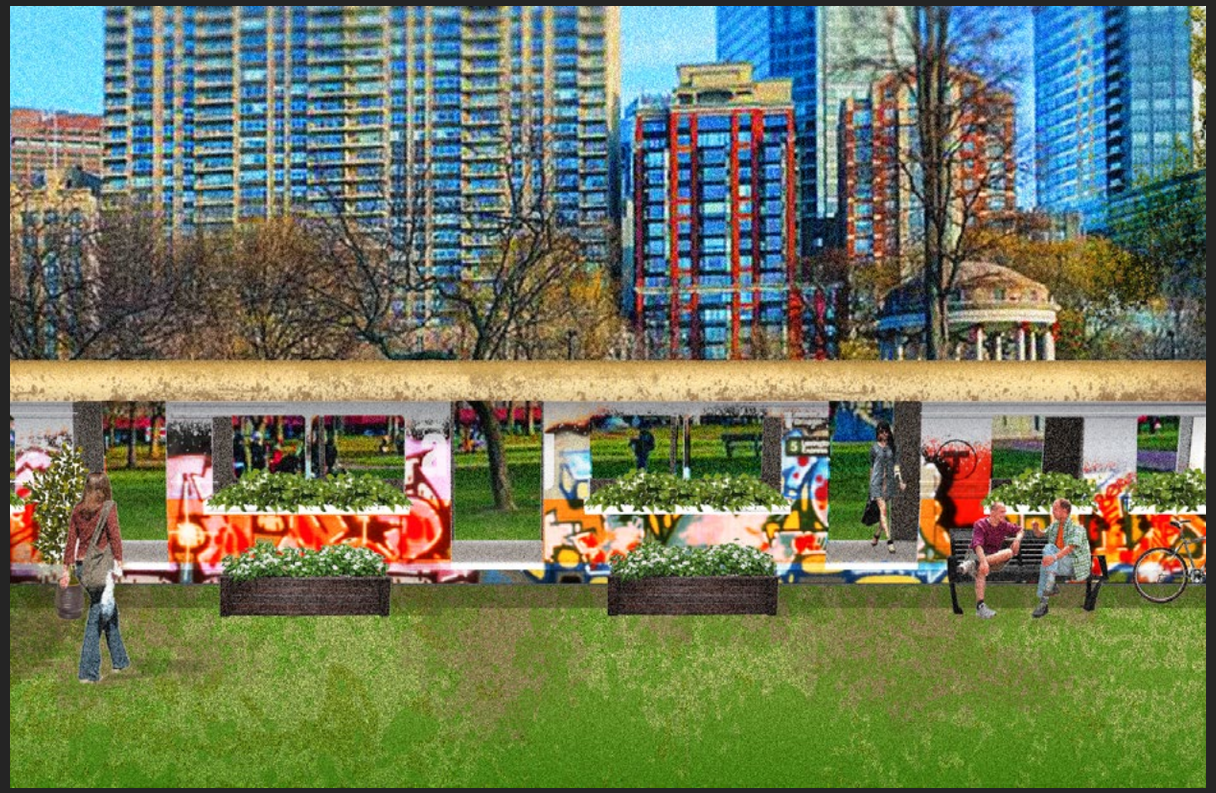
At the same time elsewhere, cities like Miami and New Orleans were being crippled by their inability to handle the rising seas and the ever increasing frequency of destructive hurricanes. New Orleans especially had the difficult decision to abandon much of its neighborhoods as the levee system that was rebuilt after Katrina continued to fail under pressure. Hundreds of thousands of residents began to turn to more climate-stable regions such as the Northeast and Midwestern United States. This mass-exodus from the south began a new, albeit much foreseen, crisis of climate refugees. Boston was a large destination for displaced people as the city, despite having to deal with sea level rise, offered more economic opportunities. This put a lot of strain on the city's housing needs as more people than ever were moving into the region. Space was becoming ever more limited within the city limits, and this would push Boston to develop new measures of densifying neighborhoods. Initial plans called for all of the Seaport district to be transformed into a floating city. However, time was running out and by 2050, alterations to the development led to the total abandonment of the eastern half of the neighborhood. Boston was spending billions of dollars annually to combat damages caused by storms and high tides. Any type of ambitious projects were largely being scaled back in order to tactically respond to immediate concerns. Furthermore, the interstate & BRT tunnels that ran below the city were no longer deemed habitable as flood waters were causing damages that were too costly to fix. The city was in trouble and needed to pivot its resources to best protect whatever they could in a reasonable time.

Instead of an ambitious floating city, many buildings would have to be altered in order to handle sea level rise on the first few levels. Furthermore, much of the below-grade infrastructure such as sewage needed to be brought above the water line, creating an unusual landscape of visible pipelines and other infrastructure adjacent to pedestrians. This provided a long-term cost effective solution that could guarantee that the neighborhood would adapt to ever rising seas. Given that very few people lived on the ground plane, and businesses have largely left years prior, relocation did not cause a significant impact. Additionally, because the ground plane was no longer viable in its current form, the city embraced a new system to make it functional: a network of water canals and estuaries. This alteration was considered much more viable, as renovating the streetscape brought in an opportunity for not only wildlife to develop, but provided a low-cost alternative to developing other forms of infrastructure that would easily adapt. Above the streets, the neighborhood started to function again as towers began connecting with one another utilizing indoor corridors and skybridges.

Over time, these indoor corridors would rapidly expand and begin to create a new pedestrian streetscape. Small businesses and shops started operating beside the corridors. Commercial towers would soon be renovated to handle the ever growing demand for housing units. Prior to new construction arriving in the coming years, much of the development occurring here was based on reviving abandoned structures. Homes were popping up both within office tower conversions, as well as on rooftops of low-rise structures that were left abandoned. In what seemed to be a once impossible situation, the Seaport began to grow again. Albeit, not to what was initially envisioned, but one that did work.

Back in the 2040s, the city set strict policies on maintaining sustainable practices that included the famous 'second life' infrastructure movement that required objects like decommissioned buses, barges, and trains to be utilized for various purposes [such as housing or skybridges]. The landscape of various neighborhoods have been altered by this factor over the decades,

East Side of Seaport, Abandoned



Second Life Infrastructure Movement: Abandoned Orange Line Vehicle turned into a public garden space

which has created a unique architectural environment. Seaport would become no exception to this, as they expanded upon this form of sustainability in order to reduce resource use in other sectors. Furthermore, as technology still managed to advance, sources like solar and wind power became increasingly affordable and maintained a high enough energy capture rate (paired with more efficient battery storage) to make neighborhoods fully self reliant.

This new breath of growth gave the city optimism to continue investing in neighborhoods susceptible to sea level rise. The experiment seemed to be working better than they had hoped. The old streets, once a place for cars and pedestrians, was now an oceanic canal supporting boat traffic and floating markets. Fish now swim below the feet of people riding to work. Additionally, to combat air-quality problems that the globe was facing, engineered moss has been adapted to building facades to deliver cleaner O2 in local climates. This 'green' movement has also been responsible for decreasing the heat island effect and improving a structure's envelope.

Demand started to justify new construction by the mid-2070s as Boston's population steadily grew in the waterfront regions. Furthermore, because of the high demand for new residential units, a once-inconceivable idea of creating a city above the water became economically viable as land values skyrocketed all over. However, there were still many issues that came with this. Boston itself did not have the proper resources to maintain control of the neighborhood, and thus heavily relied on private investors.

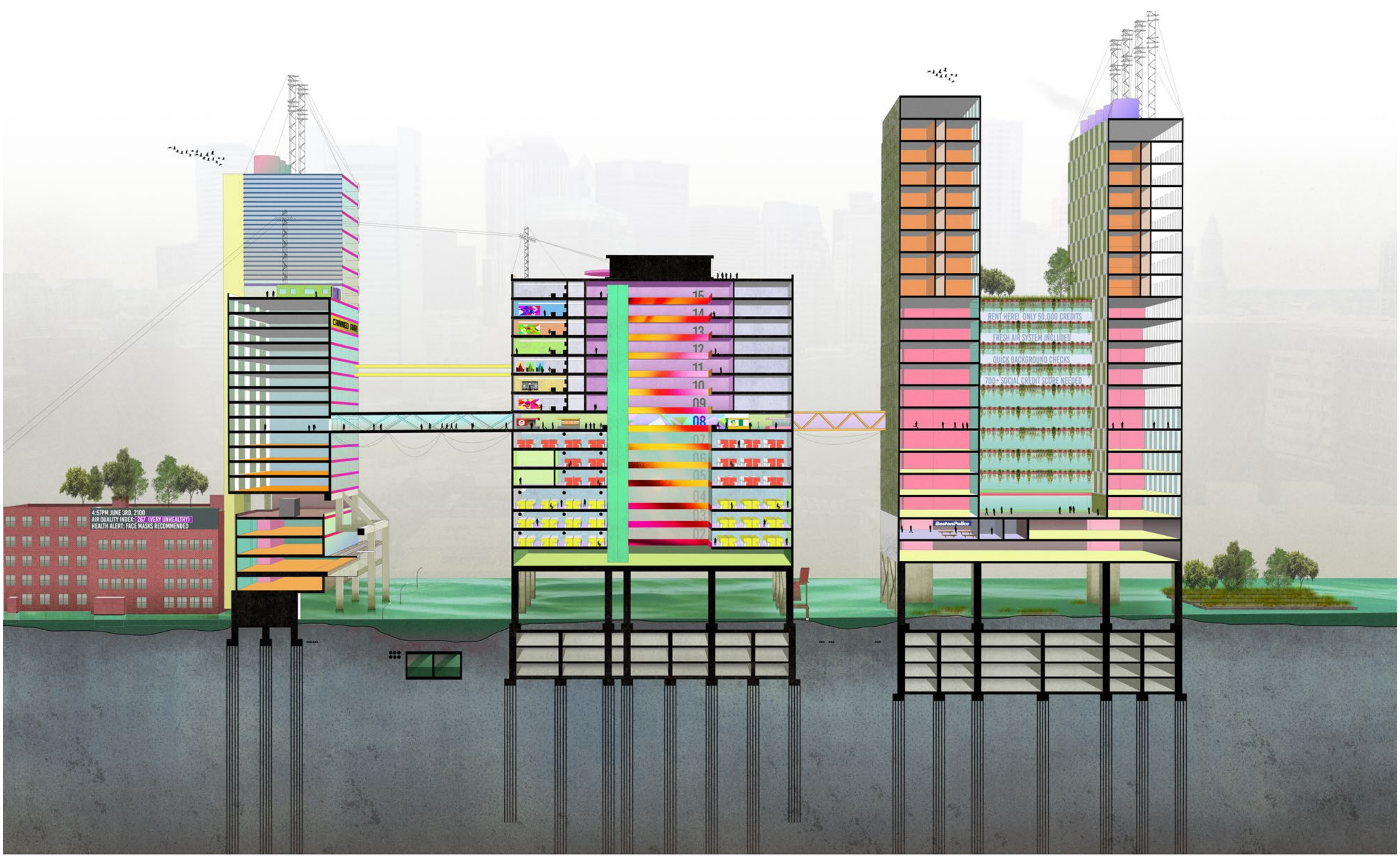
This, in return, created a repetition of what the neighborhood underwent back in the beginning of the 21st century. Despite the change of scenery, lack of policy making, and further private control began formulating the reality of a market based economy. This would further exclude lower income residents as demand for a higher tax bracket became desirable in this 'newly' redeveloped neighborhood. Seaport, once again, began to resemble itself prior to the mass exodus of the 2050s.

IMAGINE SEAPORT 2100: ISOMETRIC (PART 1)

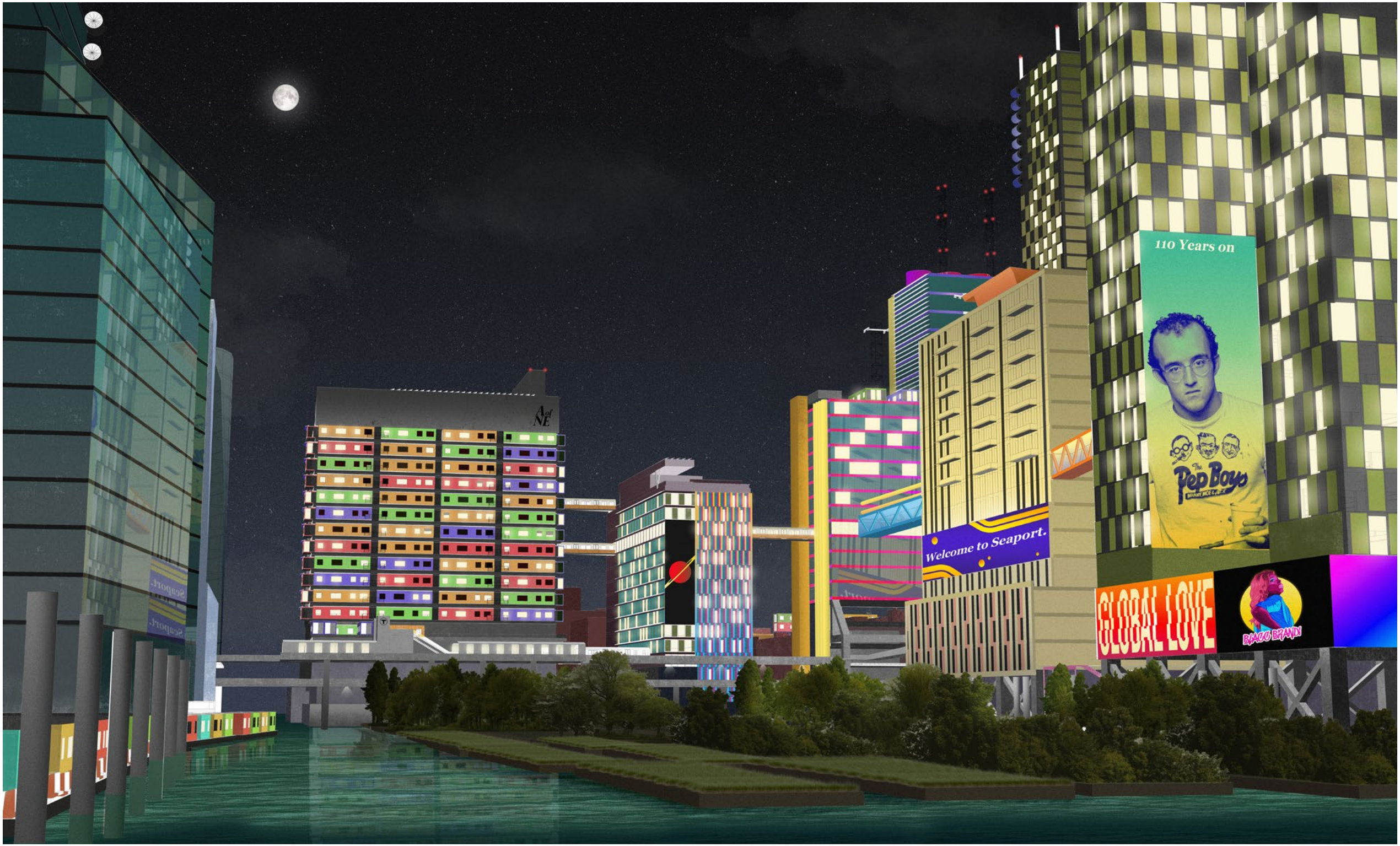
Its 2100, and Seaport is living through its third installment as a desirable urban environment. From the surface, it appears to be a signifcantly different place then its predecessors. However, when looking deeper through the cracks, perhaps that answer is more nuanced. This neighborhood managed to re-invent itself after a turbulent century of climate instability. A situation that merely acts as a 'new normal', and not of the unusual. Many are unphased knowing the seas continue to rise, air pollution continues to act sporadic and unpredictable, oceanic acidification remains a concern for Marine Biologists, and rising temperatures have altered how people live, but never fully resolved. This reality, just as ones that preceeded it, is remarkably no different. Humans pat themselves on the back for preventing downright catastrophe, yet still live in a world significantly altered by our intervention. Surely, its comforting that doomsday never came for our species, but there is nothing to celebrate about the countless lives that were lost on the way. Some would even go as far to claim that this world is still a dystopic hellscape for them, as inequalities still remain unsolved.

IMAGINE SEAPORT 2100: ISOMETRIC (PART 2)

However, there are still interesting takes on how urbanism is functioning in a 'waterworld' esque environment. It shows the power of human adaptation. Some even begin to wonder if our species has a fighting chance of longevity, one that could lead us down a path of true climate justice. One where that disconnection between humanity and nature no longer persists. There's ample opportunity to expand this neighborhood into the abandoned east side, in due time, especially as demand continues to kick upwards. Furthermore, the vertical city typology would continue to operate in a successful way as citizens of this urban experiment discover a more positive means of interraction and travel. The '15 minute city' ideology in this scenario would be sought after, as zoning allowed high rises to operate as micro-neighborhoods for residents and visitors alike. Given that much of how people live in this space requires micro-mobility, or walking, ease of access to resources becomes the standard, as opposed to past systems in which people relied heavily on personal vehicles to move around.



Sectional Perspective of Seaport, depicting the various vertical typologies that would be of this new reality



Sectional Perspective of Seaport, depicting the various vertical typologies that would be of this new reality

IN CONCLUSION...

Imagine Seaport 2100 isn't so much about climate change or architecture, despite such topics being presented so heavily throughout this story. It's hard to say that this topic has anything to do with design at all. This is a tale about humanity through my own lens. One filled with reactionary practices that plague our ability to thoughtfully move forward. One could even call it 'Post-Procrastination' instead of the title that was given in the beginning. This story is rooted much deeper in the problems that humanity has, and will, continue to face. Sea level rise is just another one of those impending challenges. Architecture is merely a tool to visually express how those challenges are addressed in this circumstance. But the true narrative being presented here is that history will repeat itself. We humans have an abysmal record of being proactive. You could even say it's a part of our nature to respond accordingly to what is in front of us, rather than ahead.

Surely, humans aren't going anywhere just because the apocalypse came knocking at our door. Many people today are living in an apocalyptic world, and we can still find a means of enjoying ourselves despite the ever mounting atrocities occurring around us. Just as this country celebrates the industrial revolution as a success to America's greatness, despite the millions of people who died in the process + paired with a century of polluted lands that continue to harm the environment to this day.

This exercise was meant to capture the nihilism that is the 'human divine' through a satirical lens. It aimed to make light of our impending doom because we humans simply don't take ourselves seriously until it matters. It isn't to say I have given up on the world. Oh no, quite the opposite actually (I feel that even having a vision of the future makes me rather quite optimistic). I'm merely an incredibly frustrated young person who has developed a perspective in which I always assume the worst in people. I wouldn't want to think like this in the slightest if I had even the smallest amount of confidence that our government (or simply those who are in charge of this country) would handle things in our best interests. However, even some of the most progressive, forward thinking localities struggle to even bother saving themselves. Boston is my home and even as the city has an incredible plan to address sea-level rise, little to nothing has been done to get shovels digging. I don't even blame others for having given up because the politicians who were voted in to serve the people do nothing of the sorts. There's a long history, one that continues to repeat itself to this day and probably tomorrow, of our needs being neglected in order to serve the interests of those at the top.

It would be even a fair assessment to claim that the United States was never really great. This nation has a long history of creating apocalyptic scenarios for many of its 'adversaries'. Native people, the original inhabitants of this land, still remain uncompensated for the genocide that this nation caused against them. Black Americans still fight every day for equal opportunity, let alone the growing desire for reparations. LGBTQ people like myself continue to watch congress decide whether or not we can be classified as first class citizens. Yes, there are also phenomenal things that this nation has accomplished. And I don't think it's necessary to remind you [the reader] again of the 'beauty that can be created within the apocalypse'. Now that climate change is here to stay, this nation is entering its phase of 'fight or flight' because it's finally beginning to affect the people our government didn't intend for it to. But who is to say we will get it right when there has been forty well documented years of this matter, and yet little to nothing has been done to reverse it.

I didn't feel right trying to predict a future filled with utopic fluff like the many that precede me. Nor did I feel it would be correct to envision a downright dystopian future in which humanity eradicates itself. Neither feel remotely accurate to our reality. Humans have shown that we can and will find a way to adapt. I have my own personal doubts on just how successful that may be, but it would be absurd to think that an invasive species like our own would be stupid enough to contradict the one thing we fear most: death.

Perhaps this country has a brighter future than one that I have hope in. But that would require a systemic overhaul that I simply don't see altering anytime soon. This republic still owes its success to capitalism, despite the horrors that come from it. People will hold onto that economic ideology so long as those who benefit from it remain in power.

In conclusion, Imagine seaport 2100 is not just a story of our future. It's a story of our past, and our present. The system that continues to quietly operate beneath our feet will hinder true progress, despite surface level alterations aiming to deceive us into believing it has changed. Adaptation is much more than about accepting climate change. It is a necessity to free ourselves from the turbulent path that our nation has gone down since its inception. Perhaps, we must try to imagine the future that we want, not the one we believe we deserve, in order to break that first barrier.

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Shaping Cities in an Urban Age presents a vast wealth of information pertaining to identifying current trends in city development across the globe. Much of the focus is sighted on issues of inequity, environmental catastrophe, and socio-economic concerns that hinder the development of urban environments; while approaching these concerns through a contemporary lens that inspires thoughtful planning. Much of the data spans roughly a forty year span to get a clear indication of future projections, with focus on urban environments that will be seeing a majority of growth in the decades to come. These focuses pertain primarily to cities in China, Central Africa, and India.

Emmerik, Mike. Vanstiphout, Wouter. Relats, Marta: "Are we the World? Randstad Holland, São Paulo, Istanbul & Rotterdam. Design and Politics #6" 010 Publishers, Rotterdam 2014

Design and Politics #6 offers a great question that many could learn from: Are models that work for one place actually applicable to another? By exploring Dutch policy in design and how it's been exported globally, many questions arise of whether this model has actual benefits for the external communities they serve. In a turn of thinking, many cities of the 21st century are tasked with a geo-political question of need, one that can only be answered internally. Furthermore, how do these different methods & approaches to design allow for the Netherlands to learn for themselves?

M.P. Freund, David: "The Modern American Metropolis, A Documentary Reader" Wiley Blackwell

The Modern American Metropolis introduces a series of stories and material that paints a synchronized history of US cities and suburbs over the course of 150 years. The timeline depicts a thorough and critical analysis of US urban policymaking that has formed the society we live in today. Much of the source material cracks down on the importance of examining the city beyond buildings, innovation, and politics. This collection proves to distinguish issues by focusing on a range of topics involving socio-economics, environmental change, technocracy, and contesting the meaning of citizenship.

Martin, L. (1972), 'The Grid as Generator', in Martin, L. & March, L. (1972) (editors), Urban Space and Structures, Cambridge University Press, Cambridge, 6–27.

The 'Grid as Generator' offers an original idea to rethink and overhaul our urban fabric. Leslie Martin's example of inverting the grid presents a solution that is viable in a multitude of capacities, but more importantly lives as an example of innovative thinking. Perhaps, the idea of practicing such a novel method is more important than the method itself. As we progress into the 21st century, we too need to have a 21st century mindset to solve the problems of today and tomorrow. This means to avoid limitation, and enhance explorative ideas that could be viewed, at times, extreme in their measure.

Lees, Loretta. Slater, Tom. Wyly, Elvin : "Gentrification" Taylor & Francis Group 2008

Preface: 'Gentrification is deeply rooted in social dynamics and economic trends. It's signs, effects and trajectories are to a large degree determined by its local context; the physical and social characteristics of the neighbourhoods in question, the positions and the goals of the actors, the dominant functions of the city, the nature of economic restructuring and local government policy. The study of the city should pay heed to this complexity.... In the end, the 'why' of gentrification is less important than the 'how' and the repercussions of the process.' (XV)

Hommels, Anique: "Unbuilding Cities: Obduracy in Urban Sociotechnical Change" The MIT Press 2005

Cities are considered to be dynamic and flexible spaces, never finished but always under construction, yet it is very difficult to change existing urban structures. They are often anchored down creating a history of its environment and contributing to the region, for better or worse. This book focuses on the idea of 'unbuilding' the city, through redesign and/or reconfiguration.

Dobraszczyk, Paul: "Future Cities: Architecture and the Imagination" Reaktion Books Ltd 2019

Many designers and artists of all backgrounds have tried imagining the city of the future. Often did these imaginations contrast scientific predictions, and, through time, often were they correct. Much of our imagination creates the future city, often with intention linked through our current experiences. This book dives into how our imagination is often linked to reality, much more than what is anticipated, and what designers of today could learn in order to predict tomorrow.

Ng, Edward (Editor): "Designing High-Density Cities: For Social & Environmental Sustainability" Earthscan, Edward Ng 2010

Since 2006, more than 50% of the human population on earth have lived in cities. This number will continue to climb over the next few decades. Because of predictions, urbanization and higher-density cities is an inevitable reality for human development. Higher density is especially becoming the norm in future development. US Cities are typically sprawled with low density, but will be changing as space runs out. This book touches on developing a healthier, more compact city and urban environment. With more consideration of better land use practices, conservation, improved transportation, etc.

Barnett, Jonathan. Bouw, Matthijs: “Managing the Climate Crisis: Designing and Building for Floods, Heat, Drought and Wildfire.” The Island Press, 2022.

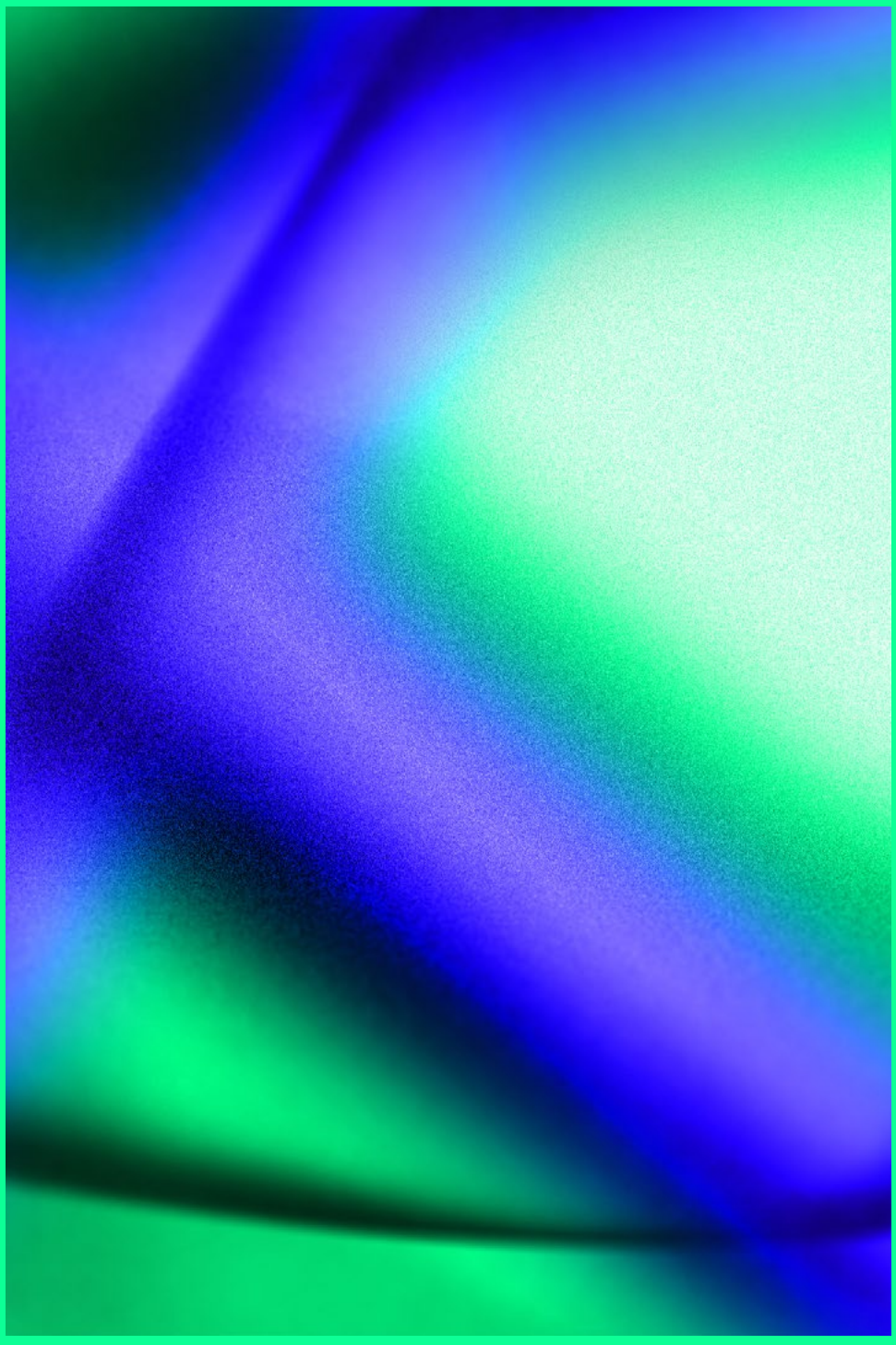
Managing the climate crisis is the best economic sustainability solution there is for the next century. The United States and the world are facing inevitable threats from mother nature, and this book tries to find practical resolutions to combat them. This structured guide to building resilience helps give a perspective of the cost and benefits of dealing with climate challenges that would ultimately put civilization on top.

Rothstein, Richard: “The Color of Law: A Forgotten History of How our Government Segregated America” Liveright 2017

In this book, Richard Rothstein explores the reality of how American cities became segregated. A primary focus on the twentieth century through policy, zoning, redlining, and laws that shaped how our cities operate today. The social strife that society faces today is a byproduct from the decisions made from the last 100 years at every government level. This book gives the opportunity to truly understand the complexity of our built environment and offers the chance for us to learn how we can reverse or fix it.

x Cohabitation

Adaptation



A Climate Change Epoch x

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