

ABSTRACT

Title of Thesis: HOBOKEN EXCHANGE: TRANSFORMING
A GATEWAY INTO AN EXPERIENTIAL
DESTINATIONS FOR CONSUMERS

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Architecture, Master of Real Estate
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Hoboken Terminal contains five modes of public transportation, each of which, connects Hoboken to its surrounding municipalities, the rest of New Jersey, and to New York City. Hoboken Exchange explores how public transportation could be used as a means to capture the value of people in an area. Through the use of a market hall, this project looks to connect detached places, capitalize on commuter movement, and utilize flexible design to ensure adaptation to future social and market needs.

HOBOKEN EXCHANGE: TRANSFORMING A GATEWAY INTO AN
EXPERIENTIAL DESTINATION FOR CONSUMERS

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Dedication

Thank you to my family, friends, and teachers for not only helping me throughout this profession, but also making me a better person in the process.

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Chapter 1: Introduction

Retail is more than just commercial establishments where people go to replenish goods to survive. It is an integral piece of the public realm in any city or neighborhood. In Stephen A. Kliment's book, *Retail and Mixed-Use Facilities*, Kliment states, "Shopping is the whole foundation of communal life. Whether in the form of a shopping center, a freestanding store, or a street-level shop, retail space makes up the bottom 30 feet of every city. It is the 'glue' that holds the city together".¹ Shopping is an activity in itself that inspires social interaction and gives people the ability to enjoy the city in which they live or in which they are visiting. Markets are a type of retail center that take on multiple forms in the urban environment. Throughout history, the markets have responded to place and time in order to provide the city with the ability to shop for produce. Although the primary uses of markets have changed over time, they are still establishments that attract people. The shape and size of market is a direct response not only to societal needs, but also to the urban scape. From markets that form from open space to large retail

¹ Kliment, Stephen A, Vilma Barr, and Jerde Partnership International. 2004. *Building Type Basics for Retail and Mixed-Use Facilities*. Building Type Basics. New York: Wiley.

entities that need direct access to infrastructure, the requirements of each type vary in the city.

Chapter 2: The Evolution of Retail

2.1 Downtown Shopping

Before the creation of automobiles, consumers shopped in the downtowns of major cities. Downtown shopping consisted of general stores and full line department stores. General stores carried general merchandised items that supplied consumers with a variety of supplies. Department stores followed general store and were one-stop shops for everything a person needed in to sustain their daily life. They had separate departments that catered to different needs anywhere from clothing, to hardware, to kitchen supplies, to toys, and everything in-between.² Department stores allowed the luxury for shoppers to compare products and prices while staying in the same location.³

2.2 Highways and the Creation of Suburbs

The advent of the mass production of the automobile forever changed the retail environment. Before the automobile, trains and ports created a system that connected major cities. It made sense that these cities acted as anchors with development

² Peiser, Richard B, and David Hamilton. 2012. Professional Real Estate Development: The ULI Guide to the Business. 3rd ed. Washington, DC: Urban Land Institute.

³ Tokosh, Joseph. 2019. "Is the Macy's in My Mall Going to Close? Uncovering the Factors Associated with the Closures of Macy's, Sears, and J.C. Penney Stores." Growth & Change 50 (1): 403–23. doi:10.1111/grow.12269.

occurring along the train line as a connecting stitch. As cars became more popular, people were not confined to the train line anymore; they were able to travel outward in any direction from the city. Individuals who were able to leave the congestion of the city and purchase cheap land took the opportunity.⁴

The expansion of the suburbs continued in 1956 when the United States of America passed the Interstate Highway Act. This act allowed for the investment of \$25 billion in funding highway infrastructure for 41,000 miles roads.⁵ More access allowed for further out reach into the isolated areas in the country.

2.3 The Regional Mall

The displacement of people into the suburbs created a demand for retail outside of the city. Downtown retailers took advantage of the demand and took their businesses in a trade area that would serve the suburban communities. In their article, “Dead Malls: Suburban Activism, Local Spaces, Global Logistics” in the *International Journal of Urban and Regional Research*, Vanessa Parlette and Deborah Cowen state, “The

⁴ Squires, Richard. 2008. “The Interstate Sprawl System.” *Society* 45 (3): 277–82. doi:10.1007/s12115-008-9081-9.

⁵ Boarnet, Marlon G. “National Transportation Planning: Lessons from the U.S. Interstate Highways.” *Transport Policy* 31 (January 2014) 73-82. doi:10.1016/j.tranpol.2013.11.003

regional mall became the ubiquitous retail form across the North American suburban landscape, touted by developers as the harbingers of community and shopping convenience in the shifting tide of urban form and investment”. The regional mall was a cultural staple to the suburban residents. ⁶

The Mall Creator: Victor Gruen

Victor Gruen was Jewish refugee from Vienna who escaped Hitler’s reign. He was a major contributor to chain store, department store, shopping center, and downtown designs. In the biography, *Mall Maker*, M. Jeffery Hardwick claims, “Gruen wanted to make shopping into a delightful and amusing way for people to while away their hours, temporarily to transcend their own concerns”. After World War II, Gruen and his partners’ business ventures fell until the department store, Milliron, requested a suburban store in southern California. With a new typology had to come a new school of thought. Milliron wanted an innovative center that was more than just a department store in a suburb. Gruen saw the addition of highway systems and the popularity of cars and introduced his version of a shopping center focused on the automobile. Milliron was a huge success and gave him public notoriety. From there he introduced the enclosed shopping center when working on Montclair Shopping Center in

⁶ Parlette, Vanessa, and Deborah Cowen. 2011. “Dead Malls: Suburban Activism, Local Spaces, Global Logistics.” *International Journal of Urban & Regional Research* 35 (4): 794–811. doi:10.1111/j.1468-2427.2010.00992.x.

Houston, Texas. This center would be covered due to the humidity in Houston, have two department stores, and a pedestrian street lined with window-shopping. Eventually, the project suffered from insufficient funds, but Gruen continued his pursuit of the shopping center. Following projects continued to suffer until Gruen realized that Department stores had the capital to partner with a developer to finance the project. Northland in Detroit was created in 1954 and was one of the most popular shopping centers in the country. The creation of the center propelled Gruens career to future malls and various Urban renewal projects.⁷

The Regional Mall Format

Victor Gruen's initial plans of regional malls consisted of a "merchandising plan" where anchor tenants would be the regional draw while leading shoppers past secondary tenants. From this philosophy different shapes and plans were formed. The first example is of Northland Center, which incorporates the centripetal form where the department store is centralized and all the secondary stores form around it.

A better situation for secondary tenants is the "dumb bell" plan with two anchors on opposite ends and secondary retail in between. An example of this center is Mayfair

⁷ Hardwick, M. Jeffrey, and Victor Gruen. 2004. *Mall Maker: Victor Gruen, Architect of an American Dream*. Philadelphia: University of Pennsylvania Press.

Shopping Center in Milwaukee, Wisconsin. The overall concept was applied to centers with three or four centers; all of which having anchors at the end.⁸

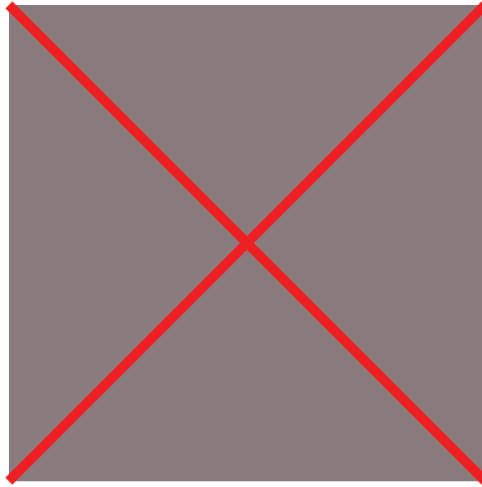


Figure 1: Northland Center Centripetal Plan (source: Maitland, Barry)

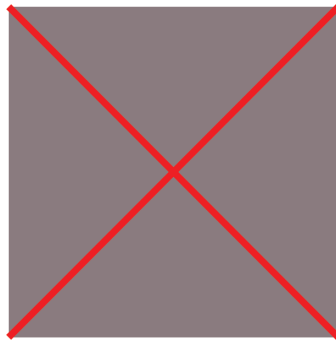


Figure 2: Mayfair, Milwaukee Dumbbell Plan (source: Maitland, Barry)

⁸ Maitland, Barry. 1985. Shopping Malls: Planning and Design. New York: Nichols.

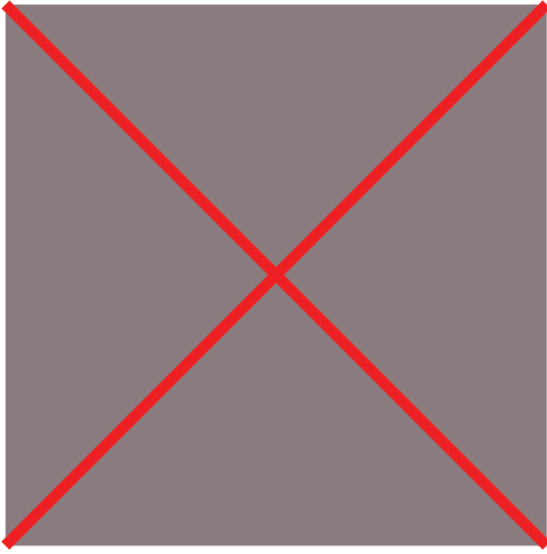


Figure 3: Lakehurst Center 3 Anchor Plan (source: Maitland, Barry)

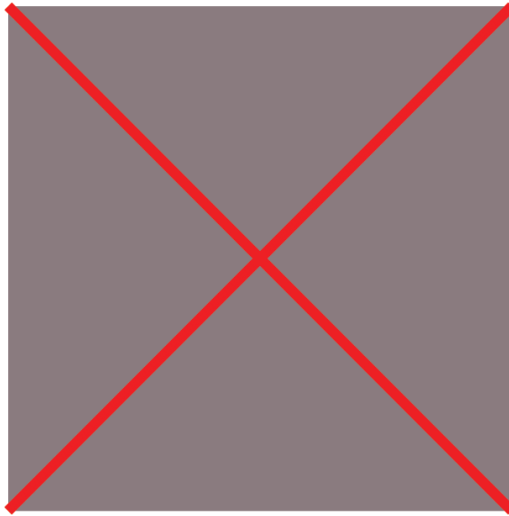


Figure 4: Woodfield Mall 4 Anchor Plan (Maitland Berry)

Victor Gamble wanted these centers to mimic urban main streets, but failed to do so. They were located in the middle of open areas and were surrounded

with parking.⁹ Many different layouts and schemes were varied over the regional mall, but the consistent factor was the department store anchors that the surrounding population required.

2.4 Big Box Commodity Retailers

Two categories of stores are mentioned in the *ULI Retail Manuscript* that led to the demise of department stores. Discount stores, such as Walmart, were able to reduce their operating costs, undercut the pricing of department stores, and locate themselves more conveniently to population clusters. These stores specialized in a model that provided consumers with cheaper products for everyday needs. In addition, the introduction of “Big Box Retailers”, also known as “Category Killers”, aided to the decline of department stores. The Big Box Retailers specialized in selling a specific commodity more conveniently at a lower cost point than the department stores. This model provided consumers with the convenience to go to a store that contained variety of a specific type of product. In both models, pricing and convenience were better provided at the discount store and big box retailer. These stores vary anywhere from 20,000 square feet for more specialized items to 120,000 square feet for the more general products. Examples of these “category killers” include Toys R’ Home Depot, PetsMart, Staples, and Us. Their ability to receive products directly from

⁹ Maitland, Barry. 1990. *The New Architecture of the Retail Mall*. New York: Van Nostrand Reinhold.

manufacturers and order products in large quantities allowed them to set lower prices for the merchandise.¹⁰

2.5 The Death of the Regional Mall

This transition in the way people were shopping for their commodity goods took people away from shopping at regional malls. At their peak, there were over 3000 regional malls located in the United States. Currently, there are around 1,100 left in operation. In the book, *The Death and Life of the Shopping Mall*, Josh Sandburn states, “Since 2002, department stores have lost 448,000 jobs at a 25% decline, while the number of closures this year (2017) is on pace to surpass the worst depths of the Great Recession”¹¹. Currently, the regional malls that remain are best in class specialty retail centers for their given trade area. People in the suburbs no longer need to go to a regional mall on a consistent basis.

2.6 Commodity Retail vs. Specialty Retail

Although the main goal of any retailer is to sell goods, not all of them operate the same way. In order to achieve a better understanding of how retailers work, it is

¹⁰ Parlette, Vanessa, and Deborah Cowen. 2011. “Dead Malls: Suburban Activism, Local Spaces, Global Logistics.” *International Journal of Urban & Regional Research* 35 (4): 794–811. doi:10.1111/j.1468-2427.2010.00992.x.

¹¹ Sandburn, Josh. 2017. “The Death and Life of the Shopping Mall.” *Time* 190 (5): 40–45.

<http://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=124223221&site=ehost-live>.

imperative to understand the differences between commodity and specialty retail. The distinction between the two is based on their intrinsic philosophies of how and what to sell to consumers. These philosophies influence the type of product that is sold, the purpose of shopping, and the design methodology of the entity.

Commodity Retail

The commodity retail model is focused on price and convenience. It is established on the convenience of the product and the price of the goods being sold. The convenience and price of items are directly correlated depending on the accessibility to the retailer. When a retailer is more convenient to get to, the prices of the products are generally higher. If the retailer is less convenient to get to, the prices are generally lower. An example provided in the *ULI Manuscript* written by Nick Egelanian shows the choice of a shopper on purchasing paper towel at four different locations.

Option 1

Option 2

Option 3

Option 4

Retailer	CVS Pharmacy	Safeway Grocery Store	Target	Costco
Location	Four city blocks from the Costumer	1.5 miles from the consumer	5.5 miles from the consumer	14.5 miles from the consumer
Price of Product	\$3.13 per roll	\$2.99 per roll	\$2.29 (multi pack)	\$1.79 (bulk pack)

Figure 5: Commodity Retail Price vs. Convenience Example (Source: Egelanian)

After studying the example, there are certain themes that appear between the types of retailers. The distance of the store, the price of the product, and the size of the store all factor into how they are selling their goods. As the distance is further and further from the concentration of the population, the retailer has to have a reason for people to shop at their location; thus, selling their products cheaper and in larger quantities.

Specialty Retail

Specialty retail has a different set of values, which separates it from the commodity retail model. The specialty retail model works by looking at the

product selection and overall place of the retailer. It is predicated on the spending of the discretionary income and the use of discretionary time. The trade area of a specialty retail center can span across states depending on the extent of the trade area is. These centers offer an experience that cannot be found on regular basis. People will travel further distances to these centers because of the attraction of the experience as a whole. The major concepts of price and convenience, which are found in the commodity retail model, do not apply to the specialty retail model.

Inherently, the two types of retail do not work effectively when in the same center. If a place is a destination, it is no longer convenient. The addition of commodity retail will be detrimental to the quality of stores in a specialty center. In addition, the rents in specialty centers are much higher than the rents in commodity centers. A commodity retailer will find it more advantageous to be located in an area that focuses on the price convenience model.

Chapter 3: The Consumers of Tomorrow

Inherently, human beings are consumers of goods and produce and the way we have gone about consuming throughout history has evolved. In order to understand future shopping tendencies, it is important to explore different generations of shoppers.

Important factors to look at include shopper values, upbringings, daily needs, discretionary incomes, spending power, and various other data. In retail design, it is important to know who is shopping and what they are going

The two important generations to look at are the Baby Boomers and the Millennials. Both generations account for around 70 million people and are both around 25% of the United States population. The shopping trends of aging Baby Boomers and the rising Millennials will determine how retail is handled in the present and in the future.

3.1 The Baby Boomers

The Baby Boomer was born after World War II between the year 1946 and 1964. By the year 2025, 20% of the United States population will be over 65 years old.¹² With improvements in healthcare and medicine, this generation projects to be older for a

¹² Parment, Anders. 2013. "Generation Y Vs. Baby Boomers: Shopping Behavior, Buyer Involvement and Implications for Retailing." *Journal of Retailing and Consumer Services* 20 (2): 189–99. doi:10.1016/j.jretconser.2012.12.001.

longer amount of time than any other generation in the past. At one point, they accounted for the most spending power in the United States. This is the cohort of whom major retailers used to form their marketing strategies around. Baby Boomers are an extremely important consumer profile that should not be overlooked when designing a retail center.

How did they shop in the past?

It is important to understand that the Baby Boomers are accustomed to a certain way of shopping. This generation grew up in a time when shopping was revolved around automobiles. Two major facets of retail are how people get to the site and how people get the products from the store to their home. Shopping centers had to be able to accommodate the ability to be accessible by car and the ability to provide parking to the consumer.

How does aging effect the way in which they shop?

Benjamin Franklin once cleverly stated that there are two constants in life: Death and Taxes. As human beings get older, their physical abilities diminish. Old activities that used to be easy get harder to do such as getting out of a car, bending over to reach for an item, having to walk across the entire store to get the needed item, or reading a label on medication. It is important to be able to account for the aging population in the design of retail. With all the discussion on making areas more vibrant and

focusing on the millennial shopper, it is still important to account for the other fifth of the population in retail design.¹³

How to they shop now?

There has been research done on how older generations shop now. Older generations have certain trends when shopping for items. Based on past experience and past purchases, they have a better idea of what suits them. In the terms of clothing, they already have an established wardrobe and are less likely to experiment with new brands and new looks. Their exploratory shopping consists of matching items with their current wardrobe.¹⁴

Overall the Baby Boomer generation has an established pattern in the way they shop. They are experienced and have been around many products, which leads them to knowing what stores they like to shop at and what brands have worked for them. When designing for this age group, it is important to take into account their physical abilities.

¹³ Underhill, Paco. 1999. *Why We Buy: The Science of Shopping*. New York: Simon & Schuster.

¹⁴ Underhill, Paco. 1999. *Why We Buy: The Science of Shopping*. New York: Simon & Schuster.

3.2 The Millennials

Generation Y or the Millennial Generation is named after the transition into the new millennium. Millennials account for 25% of the United States population and they are just catching their footing on the total spending power in the United States¹⁵. It is not fair to generalize all Millennials as having the same habits; however, they do generally share similar upbringings and use in technology.

Millennial Use of Technology

Generation Y grew up in a time of rapid technological development and are widely regarded as technologically savvy. This is the first generation that has had the Internet available to them since the moment they were born.¹⁶ The Internet is now a part of their everyday life. It is estimated that 97% of United States Millennials own a mobile device and 94% own a computer.¹⁷ Key aspects of the Internet to look at are the access to information and applications that are used on a daily basis. Today, information is readily available to anyone. This provides consumers with the ability to become exposed to new items and research products at leisure prior to purchase. The application of the internet stems to checking social media, to ordering ride

¹⁵ Calienes, Elizabeth, Candy Carmel-Gilfilen, and Margaret Portillo. "Inside the Mind of the Millennial Shopper: Designing Retail Spaces for a New Generation." *Journal of Interior Design* 41, no. 4 (2016): 47–67.

¹⁶ Holicza, Peter, and Esmeralda Kaděna. 2018. "Smart and Secure? Millennials on Mobile Devices." *Interdisciplinary Description of Complex Systems* 16 (3–A): 376–83. doi:10.7906/indecs.16.3.10.

¹⁷ Mangold, W.G. and Smith, K.T., 2012. Selling to Millennials with online reviews. *Business Horizons*, 55(2), pp.141-153.

shares, to transferring money; making most daily needs possible through the touch of a finger.

How they shop

Millennials are cautious about what others think about the products they own more than past generations. In the article, “The Mannmaven: An Agent for Diffusing market Information”, Klaus-Peter Wiedmann , Gianfranco Walsh, and Vincent-Wayne Mitchell describe mavens as both consumers and marketers. They are distributors of market information to their peers. The information they researched revolves around the concept that the younger generation relies on their peers for product information more than commercial sources.¹⁸ With their ability to research and shop via the Internet, they have the capacity to look beyond just basic product information. This generation is able to look at what values the brand has and look to purchase from companies that share similar ones.¹⁹ This adds a pressure on brands and shopping centers to become relatable and personable to the Millennial Generation.

¹⁸ Wiedmann, Klaus-Peter, Gianfranco Walsh, and Vincent-Wayne Mitchell. "The Mannmaven: an agent for diffusing market information." *Journal of Marketing Communications* 7, no. 4 (2001): 195-212.

¹⁹ Mangold, W.G. and Smith, K.T., 2012. Selling to Millennials with online reviews. *Business Horizons*, 55(2), pp.141-153.

The best way for shoppers to understand the product they are purchasing is to look at reviews provided by other consumers. Two terms used in the article “Inside the Mind of the Millennial Shopper: Designing Retail Spaces for a New Generation.” are “webrooming” and “showrooming”. Webrooming describes the act of browsing products online and purchasing them in store while showrooming describes browsing in store and purchasing the item online. Both examples show how Generation Y are using technology to find the best value for their purchase, but still value looking at a product in store.²⁰ Both methods give shoppers the ability to eliminate some options before they actually finalize a purchase.

Although each generation has their own values and methods in which they elect to shop, they still act based on individual motives, social motives, and on impulse.²¹ It is important for retailer to understand that they need to be flexible. Having both a physical and online presence is the standard for stores in today’s environment. This gives all generations the ability to browse, research, and buy items however they best feel comfortable. In brick and mortar stores, it is important take into account the physical limitations of human beings and the “dynamics of shopping”. People need to

²⁰ Calienes, Elizabeth, Candy Carmel-Gilfilen, and Margaret Portillo. “Inside the Mind of the Millennial Shopper: Designing Retail Spaces for a New Generation.” *Journal of Interior Design* 41, no. 4 (2016): 47–67.

²¹ Tauber, Edward M. "Why Do People Shop?" *Journal of Marketing* 36, no. 4 (1972): 46-49. doi:10.2307/1250426.

be able to navigate through a store, access goods, and be able to experience the product prior to purchase.²²

²² Underhill, Paco. 1999. *Why We Buy: The Science of Shopping*. New York: Simon & Schuster.

Chapter 4: Public Market History

The market hall typology as we have seen it today is a development of many different components from the past. Markets were important elements in any developed city. From the origins of the market in Europe, to the Middle East, to the United States, there has been a clear procession of the implementation and success of markets.

4.1 European

Markets have historically been areas where the exchange of goods took place. In ancient Greece, the agora was a flexible open space that was used for administrative, political, and religious activity; but was also a place of trade and commerce. Vendors would set up temporary stalls or rented spaces in stoas to sell and trade goods.

Likewise, in ancient Rome, the forum acted as the public commerce area. Some of these market areas are still used today, such as the Piazza Erbe in Verona, Italy.

Commerce hubs were not just places in open squares; streets were also areas trade. In the Islamic tradition, Bazaars offered the trade of goods, warehouses, inns, public baths, and other uses that supported the market.²³

France and Great Britain in the nineteenth began to design buildings that would contain the market. The constructions of the markets were based on the French state promoting the use of iron to support their iron industry. The use of iron allowed for architects to improve on the design of the typology by creating trusses to allow for

²³ Tangires, Helen. Public markets. WW Norton & Company, 2008.

light and air to get into the building while also eliminating the use of columns in the market space.

Market Regulations

It was important for a city to place and enforce laws in order to make the market appealing for vendors to sell their goods and to protect the public from unfair trade practices. Merchants and traders wanted to know that they would have the opportunity to be competitive in the market. A major regulation was to fight against forestalling. Forestalling is the purchasing of product before they reached the market. Cities would also try to instill “market peace” which would entail the maintenance of roads, the protection against thieves, and keeping the market in good order. Finally, the separation of certain products sold was important in creating a desirable location. Certain trades would only be able to operate at certain times and in certain locations. For example, the fish and meat vendors would be grouped together in separate locations in the market to keep the smell away from the rest of the vendors.²⁴

4.2 Islamic

The word Bazaar originated in Middle Persia and Armenia. The word means market place and is a gathering of shops where goods and services are traded. Over the course of history, the word spread to other civilizations and acquired three separate

²⁴ Tangires, Helen. Public markets. WW Norton & Company, 2008.

definitions: the marketplace, the market day, and the market as a whole. “The Islamic civilization was founded on the traces or pre-Islamic empires whose economies depended on entirely on trade and agriculture” The bazaar in pre-Islamic Arabia existed as either urban markets or seasonal temporary markets. The temporary markets would be hosted in different areas at different times of the months to encourage travel from one bazaar to another. The expansion of Islamic lands led to the development and placement of bazaars in different territories. Over time, the bazaars became integral pieces in the urban planning of cities. ²⁵

4.3 United States

*More than a mere convenience, it was the duty of the state to
provide facilities for the buying and selling of food. – Helen
Tangires*

Cities and towns in the United States needed to facilitate the ability for people to buy and trade food. The United States market customs, typologies, practices, and laws paralleled its European origins. Governments knew that markets were the towns/cities primary source of food and therefore made sure that they were properly located, financed, publicly supported, and flexible in design. In the early 20th century, officials believed that markets would be able to alleviate the rising food costs and lack of fresh

²⁵ Gharipour, Mohammad, ed. *The Bazaar in the Islamic City: Design, Culture, and History*. Oxford University Press, 2012.

foods. The United States Department of Agriculture created the Bureau of Markets in 1917. The Bureau developed a model market system for cities around the United States based on their size and location. The USDA assisted in food marketing, storage, and distribution.

4.4 Fall Out of Public Markets

Although markets were at one time, the major source of goods and produce in a city, they fell out of favor from the public. More convenient and cheaper options were created and the number of patrons in attendance decreased.

Industrialization of Agriculture

The markets in the United States struggled as the agriculture became industrialized and as large corporations were able to undercut pricing. The industrial production of food began in the 1920s. After World War I, the price of running a farm was more expensive than the revenue that farmers made from the produce. Farmers needed to take a business approach to the way they farmed. The first generation of college educated agriculture experts knew that they needed to be smarter about the trade and change the ways farming was thought of. Large-scale production, specialized machines, standardization of processes and products, reliance on managerial expertise, and continual evocation of efficiency were the standard in factory ran farms. In 1922, the Bureau of Agricultural Economics was established. This government entity ultimately formed national policy on the standard and practices of

farmers.²⁶ The constant pressure to feed the American population required the agriculture business to continue to promote efficiency of food production. More farmland was created, while the number of farmers decreased. This mass production and corporate control of food was a major threat to markets. Local vendors could not compete with the efficiency of the supply chain and the supermarkets price point. Markets in areas that could not support them ultimately closed.

4.5 Reintroduction

In recent years, the benefits of public markets have been revalued. Markets allow for the creation of special places in communities that could use a generation of value. The additions of markets provide a public space that the community could benefit from, an opportunity for the city to improve its image, give the population a healthier food source, and support local business

Place Creation and Public Image

Public markets add an element of place that cannot be duplicated in a grocery store. In the United States, markets are no longer an area of convenience and efficiency. Grocery stores have taken over as the areas to purchase food for convenience and lower price point. Markets cannot compete with the price point of large grocery giants; therefore, they are predicated on the place and produce model of retail. Public

²⁶ Fitzgerald, Deborah Kay. *Every farm a factory: The industrial ideal in American agriculture*. Yale University Press, 2003.

markets have left the commodity retail category and are now in the specialty retail category. The foods and services offered at a public market are typically priced at a higher range, but in return, the produce and place are of higher quality. The places that these markets created offer areas of social interaction and community events. In Rochester, New York, the public market offers events like community garage sales, concerts, and artist showcases.²⁷ The ability to come to a market and do more than just shop adds a value that commodity retail-oriented grocery store cannot compete with.

Health and Environmental Concerns

Public markets offer healthier alternatives that support smaller businesses in contrast to the large chains of producers. Organic food production started to reemerged as a viable market in the 1980s. The federal Organic Foods Production act was passed in 1990 as a part of the Farm Bill. This act regulates the structure and marketing of the organic food industry. Only certain produce could be recognized as truly organic. Organic produce is typically sold at farmers markets from vendors who also grow the food. Organic foods have restrictions on the type and amount of pesticides that are used on plants and limit the amount of antibiotics used in livestock. This reduces the amount that both the consumer and famer are ingesting. Pesticides have been associated with risks of diseases like Parkinson’s and cancers such as Hodgkin

²⁷ “City of Rochester.” n.d. *SPECIAL EVENTS AT THE PUBLIC MARKET*. City of Rochester. <https://www.cityofrochester.gov/marketevents/>.

Lymphoma.²⁸ To consumers, purchasing straight from the farm offers a notion of freshness, cost savings, and support of a small business.²⁹

Economic Opportunity

Markets allow small vendors a physical presence in an area in which they could thrive. Common entrepreneurs that might be looking for a physical presence in a market are online retailers. Online retailers use the Internet as a means to sell products. The selling of products both online and in brick and mortar stores is known as “multichannel retailing”.³⁰ In recent years, there has been an evolution from multichannel retailers to omni channel retailers. Various factors such as cell phones, social media, and tablets have increased the avenues in which retailers could sell and market their goods.³¹ Each avenue of shopping offers something different to the

²⁸ Mie, Axel, Helle Raun Andersen, Stefan Gunnarsson, Johannes Kahl, Emmanuelle Kesse-Guyot, Ewa Rembiałkowska, Gianluca Quaglio, and Philippe Grandjean. 2017. “Human Health Implications of Organic Food and Organic Agriculture: A Comprehensive Review.” *Environmental Health: A Global Access Science Source* 16 (October): 1–22. doi:10.1186/s12940-017-0315-4.

²⁹ Buck, Daniel, Christina Getz, and Julie Guthman. "From farm to table: The organic vegetable commodity chain of Northern California." *Sociologia ruralis* 37, no. 1 (1997): 3-20.

³⁰ Agnihotri, Arpita. 2015. “Can Brick-and-Mortar Retailers Successfully Become Multichannel Retailers?” *Journal of Marketing Channels* 22 (1): 62–73. doi:10.1080/1046669X.2015.978702.

³¹ Verhoef, Peter C., Pallassana K. Kannan, and J. Jeffrey Inman. "From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing." *Journal of retailing* 91, no. 2 (2015): 174-181.

consumer. A retailer with the ability to sell using various platforms gives them a level of flexibility and foot into multiple channels to sell goods.³²

³² Sonneck, Peter, and Cirk Sören Ott. "Future trends in multi-channel retailing." In *Retailing in the 21st Century*, pp. 221-238. Springer, Berlin, Heidelberg, 2010.

Chapter 5: Public Market Typologies

5.1 Open Air Market

The open-air market is the first type of organized trade in human society. It is the simplest form of a trade center and has been seen in multiple civilizations throughout time. In ancient Greece, the agora was a flexible open space that was used for administrative, political, and religious activity; but was also a place of trade and commerce. Vendors would set up temporary stalls or they would rent spaces in stoas to sell and trade goods. Likewise, in ancient Rome, the forum acted as the public commerce area. Some of these market areas are still used today, such as the Piazza Erbe in Verona, Italy. In colonial America, the markets were very similar to their European predecessors.³³ Regulations and rules were set in the cities in which they operated to create an area where merchants would want to be and an area where the public could not be taken advantage. Although the open markets of the past are no longer the main source of food for the city, they are still locations where consumers get to meet the people who grew and harvested the produce. Today's open markets provide local farmers and local businesses with the ability to sell their goods to the public.

The open-air market typically takes advantage of open publicly owned property. They are located in open areas such as a town square to allow for the congregation of

³³ Tangires, Helen. Public markets. WW Norton & Company, 2008.

merchants and vendors. The edges of the square define the borders of the market. There are very few, if any, permanent structures located in an open-air market that are specifically for retail use. The market utilized previously established public infrastructure to accommodate patrons along with their own equipment, accessories, and seating.³⁴ In a case study, done by Mark Francis Lucas Griffith called, *The Meaning and Design of Farmers' Markets as Public Space: An Issue-Based Case Study*, they two looked at five separate markets, Ithaca Farmers Market in Ithaca, NY, Downtown Farmers Market in Salt Lake City, UT, Dane County Farmers Market in Madison, WI, Durham Farmer's Market in Durham, NC, and Davis Farmers Market in Davis, CA, to discern similarities in design between them. The first resemblance was that each place had permanent features in the area that supported a distinguishable character. They described that fountain, entry gates, and seating were commonalities that gave the public space the ability to work as an open area in times when the market was not in session. The second factor was flexibility, which allowed for change based on seasonal and market changes. The third design similarity was that each market had a sense of wholeness. The markets felt like a piece of the neighborhood along with being cohesive in its own. Finally, the markets each inspired social interaction. They included social spaces where people had an opportunity to mingle. Although open markets have changed throughout time, the general structure remains the same.

³⁴ Tangires, Helen. Public markets. WW Norton & Company, 2008.

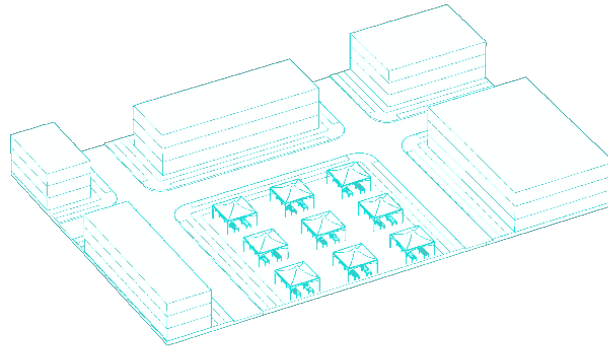


Figure 6: Open Air Market (source: author)

Farmers Market

A common example of an open-air market is a farmer's market. Farmers markets are seasonal operations that allow for local farmers to sell their produce directly to a concentrated population. Vendors sell their products in containers that are propped up with temporary structures. They might bring tents for shade and furniture for people to utilize. The ability to bring their own equipment affords them ability to stand out and be a unique entity within the market. The farmers typically harvest the crop that morning or the day before which eliminates the use of preservatives to make it have a longer shelf life. This typology is not new, but has had problems due to the low price point of grocery store chains. However, farmers markets offer a different experience

than grocery stores. The vendors are personable and know about the quality and processing of their produce.³⁵ Farmers are able to sell their produce at a retail price point and not a wholesale price point. They are also able to engage and get direct feedback from consumers. Along with the human scaled experience, many markets offer entertainers or caterers to patrons.³⁶

Urban Impact

Open air markets utilize the open space provided by municipalities. Not every open lot of land could become an open market, but this type is more flexible than the others due to the innate nature of having the minimal requirements to make. Although there is a focus on placing markets in urban squares, they are flexible enough to be places in parks and landscape in more suburban areas. No matter where they are located, municipalities are strategic in the placement of the markets in the area. Mark Francis and Lucas Griffith state that, "Successful markets respond to the surrounding neighborhood in their planning, design, and operation by integrating community groups and their culture into the market. In some cases, adjacent civic institutions and retail activities connect to the market through well-planned pedestrian walkways, bicycle routes, and open space networks. Other neighborhood attributes to be considered in planning a market include regional transportation systems, public

³⁵ Tangires, Helen. *Public markets*. WW Norton & Company, 2008.

³⁶ Trobe, Helen La. "Farmers' markets: consuming local rural produce." *International journal of consumer studies* 25, no. 3 (2001): 181-192.

transit, overflow parking, and other relevant aspects of the regional landscape”.³⁷

Despite the ability to place them anywhere, open markets are meant to enhance the experience of the city. An example provided by the authors is a location near a transportation hub. This gives the ability to eat and shop on their way home from work and also gives the vendors a constant flow of people. Another example is placing the market near other retail activity. Since people are out to shop, they might want to come the market to see what’s available in the market. They are great amenities that a city could use to promote certain areas and also help local entrepreneurs.

5.2 Street Markets

Street markets are similar to open markets in that they utilize public areas that the city provides. They differentiate in their shape and how people flow through them. Street markets take advantage of the close linear procession that occurs in the public realm. These can be located in vacant lots, along streets, or on bridges. The term street market could be interpreted in a variety of ways. One of which includes street vendors who set up informal temporary shops on streets. These vendors could be mobile and provide goods to areas outside the market or stationery along an

³⁷ Francis, Mark, and Lucas Griffith. "The Meaning and Design of Farmers' Markets as Public Space: An Issue-Based Case Study." *Landscape Journal* 30, no. 2 (2011): 261-79. <http://www.jstor.org.proxy-um.researchport.umd.edu/stable/43324378>.

established street. The mobile vendors offer their services to individuals who cannot get to the city's defined market space. Street vendors can be flexible in the placement of their shops, but they are at the mercy of their own decision as to where the best place to sell their goods is. In the past, the vendors would transport their goods via foot or by cart and set up shop along a sidewalk to sell their goods.³⁸ In today's world, we see the use of food trucks as mobile flexible modern application of street vendors.

The other type of street market consists of an established area in the middle of a wide street. In the academic article, *The American Public Market* by James M Mayo, Mr. Mayo states that "By locating a market building in a street, city officials were able to avoid not only selecting building sites large enough to house the market, but also negotiating for land prices after a site had been chosen. Some limitations, however, did exist. The local market committee had to locate these buildings on streets wide enough to allow traffic to pass on both sides of the market structure. As a result, market houses were usually located on major avenues instead of neighborhood streets". The street market was a popular type of market until the mid 19th century when the advent of cars created the notion that the streets needed to be vehicular based. Many of the street markets were removed in order to make space for cars.³⁹

³⁸ Tangires, Helen. *Public markets*. WW Norton & Company, 2008.

³⁹ Mayo, James M. "The American public market." *Journal of Architectural Education* 45, no. 1 (1991): 41-57.

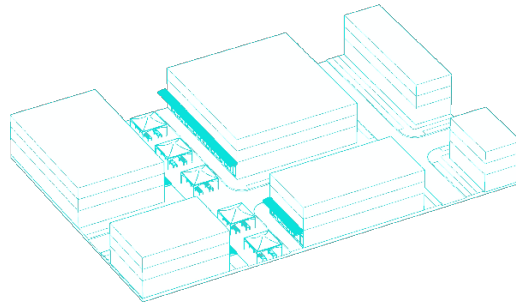


Figure 7: Street Market (source: author)

Bazaar

An example of a street market in is an Iranian bazaar. Bazaars are seen in many cities in the Middle East. They are covered public streets that are surrounded by shops on both sides. They could consist of one street or a network of streets. There are two primary forms of urban bazaars, planned and unplanned. The unplanned bazaars are organic in their procession and were usually dictated based economical needs of a city or by access to a public building. As the bazaar developed the building were constructed based on the path of the street. Planned bazaars tend to be more rational. During times of economic prosperity, planned bazaars were more common. Their conceptualization and orientation were based on them becoming the main street in the city. Bazaars are areas of socialization, commerce, and cultural interactions. In Mir Saeed Moosavi's article, *Bazaar an its role in the development of Iranian Traditional*

Cities, Moosavi states, “Iranian city planning is based on the idea that the form of cities, the shape of streets and spaces, reflected the people who inhabited them as well as their culture, religion and interests. Thus, public spaces of the city were of great importance for Iranian city planners. The most important of these was the bazaar, which housed many activities.” These streets were fundamental in the culture and survival of Iranian cities.⁴⁰

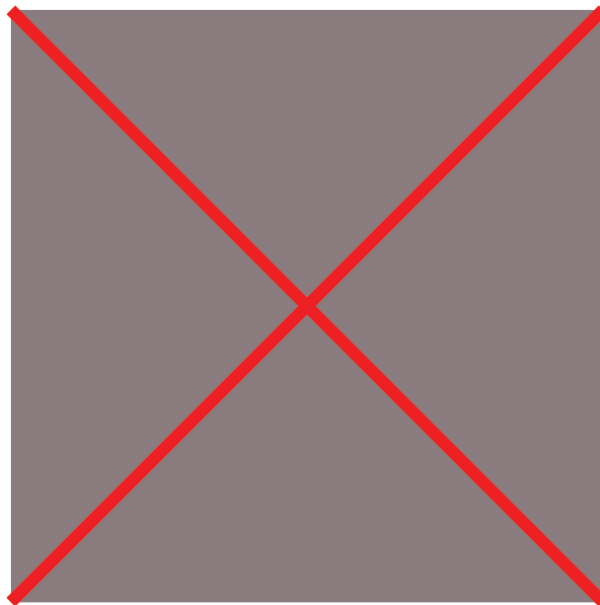


Figure 8: Bazaar of Kashan (Source: Moohavi)

⁴⁰ Moosavi, Mir Saeed. "Bazaar and its role in the development of Iranian traditional cities." In *Conference Proceedings 2005 IRCICA International Conference of Islamic Archaeology, Tabriz: Tabriz Azad University, Faculty of Art & Architecture*. 2005.

Urban Impact

Street Markets are some of the most active spaces in the city. However, they are not applicable in every street in a city; they have specific circumstances which allows them succeed. Certain streets in cities are residential based, others are service based, and some allow for lines of retail. Today, there are very little traces of market buildings in the middle of wide streets. It does not make sense from an access standpoint or a traffic standpoint. The street markets we see today are market streets with ground floor lined retail and some street vendors. These streets are concentrated where there is heavy foot traffic and a population that could support them. A lot of cities call their market street main street. These areas are typically in the downtowns of cities where the density is higher.

Like in most situations, there are benefits and downsides to successful to street vending. There are critiques as to congestion creations, public safety, and the professionalism of the vendors. In R. Bromley's review, *Street vending and public policy: a global review*, he/she weighs the benefits and disadvantages of street vendors. The review states that, "Pedestrians passing through street markets and people sitting in stationary or slow-moving vehicles are constantly exposed to the sight of goods and services on sale on the streets, and they will often make impulse purchases. Additional street vendors gravitate towards the congestion, because that is where available demand is concentrated. As a result, through a process of circular and cumulative causation, both street sales and levels of congestion are further

increased”.⁴¹ In this sense she is saying that the congestion that market streets cause is bad for the city. However, the opinion could be looked at in a sense that it is great for the retailers. If the retailers are doing well, the city is collecting sales tax. Another critique of the informal street vendor that Bromley makes is their solicitation of products to pedestrians and bikers. On one hand it might make people feel uncomfortable or unsafe to be approached about buying something, but on the other side the vendors are trying to make sales. There should be a level of respect between seller and buyer, but unpleasant interactions happen due to individuals’ behaviors. Streets designed to promote entrepreneurs to set up shops will carry a multitude of problems. Design and regulations could help mitigate some of the issues like trash and market standards, but there is very rarely a solution that works out for everyone. Regardless, the placement of any retail establishment has to be thoroughly thought out regarding the population density, demand, and access. Street markets need to be located on primary routes that provide pedestrians with easy access to both sides of the street.

⁴¹ Bromley, R., 2000. Street vending and public policy: a global review. *International Journal of Sociology and Social Policy*, 20(1/2), pp.1-28.

5.3 Markets in Public Buildings

This medieval originated typology is an example of both a shared building use and a partnership between a capitalism and state. This typology contains the market on the ground floor of a public building such as a town hall or courthouse. By allowing the vendors the ability to work indoors, the streets and open space are more ordered. As populations in cities grew, the space allocated for market use in this typology was no longer sufficient.⁴² The benefit of these structures is their mix of uses in a single structure. The mix of uses allows for the building to outlive its intended use and continue to be used as a public forum.

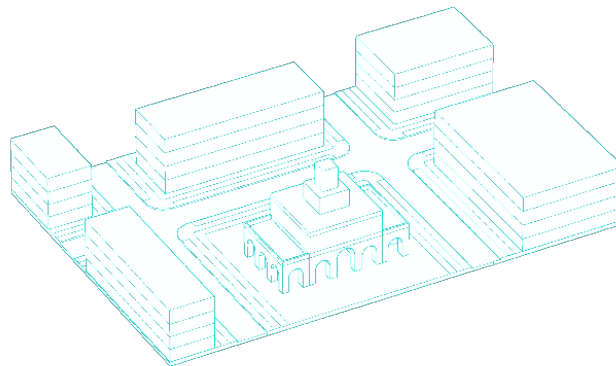


Figure 9: First Floor Market with Second Floor Town Hall (source: author)

⁴² Tangires, Helen. Public markets. WW Norton & Company, 2008.

Multi Use Public Building

Across the United States, there are various examples of buildings with a market on the ground floor and public areas on the second floor. Old Market House in Fayetteville, North Carolina was built in 1838. It is located at the intersection of four major streets. On the first floor, the market was located with an arcade that provided cover from the elements. This is where local farmers sold the meats and produce. The second floor was where the town hall was located. Today, it is no longer used as a market hall and the second floor has been repurposed as a library and offices for the Fayetteville Chamber of Commerce.⁴³

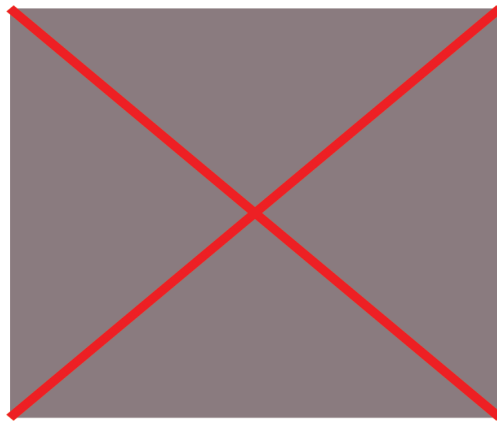


Figure 10: Old Market House Fayetteville, NC - First Floor Plan (Credit: Biggs, Archie A.)

⁴³ “NATIONAL REGISTER OF HISTORIC PLACES INVENTORY - NOMINATION FORM.” National Park Service. National Park Service. <https://www.loc.gov/resource/hhh.nc0020.sheet/?sp=5>.



Figure 11: Old Market House Fayetteville, NC - Second Floor Plan (Credit: Biggs, Archie A.)

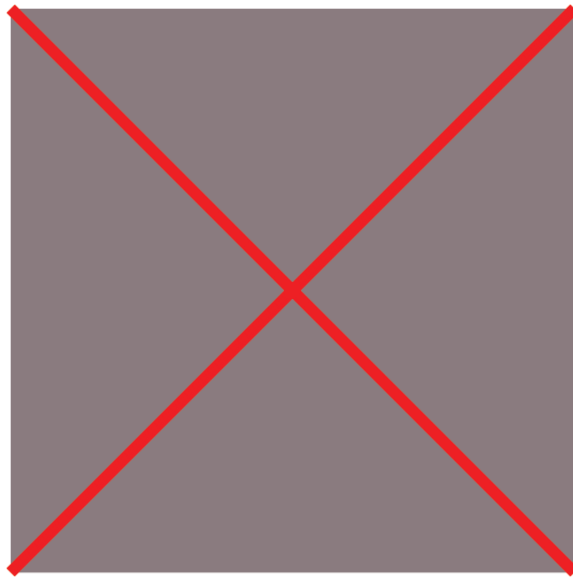


Figure 12: Old Market House Fayetteville, NC - South Elevation (Credit: Biggs, Archie A.)

5.4 Market Sheds

Market sheds are the simplest form of a covered market. The structure consists of a simple post and beam construction with few walls. The market is not enclosed and is open to the elements. The open nature of the structure provides for shade and many routes of accessibility into the market. In some cases, multiple sheds would be constructed in an organized way to separate buildings by food type. Their placement in the city or town was either in between a wide street to still allow for traffic on either side or in a market square. Another benefit of these structures was inexpensive constructions. ⁴⁴

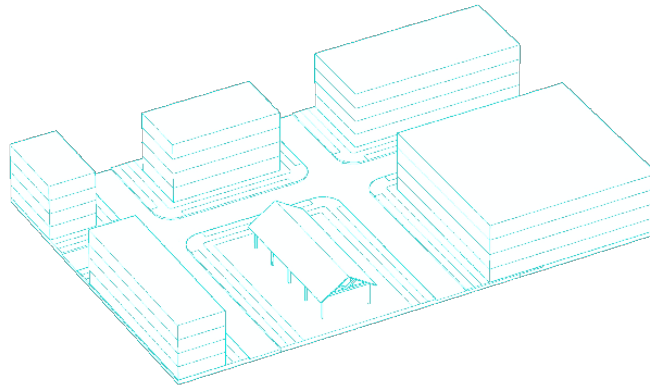


Figure 13: Market Shed (Source: Author)

⁴⁴ Tangires, Helen. Public markets. WW Norton & Company, 2008.

Open Air Sheds

Inherently, market sheds are temporary structures that were not meant to last long periods of time. Many of them have either been demolished or redone as temporary market halls. Centre Market in Wheeling, West Virginia is an example of a market shed being renovated as a permanent structure. The original market opened in 1853 and was joined with a second market in 1890. Thomas Pope designed the original market in a Greek Revival style. The combination of the style and available construction at the time could be seen in the iron casted Doric columns. Edward B. Franzheim designed the adjacent market in conjunction with the original.⁴⁵ The form of the market is linear, which resembles a stoa from ancient Greece.

5.5 Enclosed Market Houses

After the World's Columbian Exposition in 1893, The City Beautiful Movement took place within city planning. It was a time when cities were encouraging the construction of public buildings and public infrastructure to clean up cities and create places people wanted to be in. As a part of the city beautiful movement, municipalities believed that the creation of attractive markets would improve the quality of urban life.⁴⁶ In an attempt to make streets more transportation based and to create a more civic public space, many of the temporary sheds were torn down and replaced with permanent structures. The cities would encourage the use of

⁴⁵ Tangires, Helen. Public markets. WW Norton & Company, 2008.

⁴⁶ Tangires, Helen. Public markets. WW Norton & Company, 2008.

new materials like concrete, steel, tile, marble, glass, and brick to construct these establishments. The enclosed market ultimately allowed for trade to occur all year round. The inside of the market kept the food at a moderate temperate and provide people shelter from the cold when shopping for food. Since the building would last all year round, there was no need to assemble temporary stands or temporary seats within the facility. Enclosed markets provided the ability to for the construction of permanent fixtures and stands.

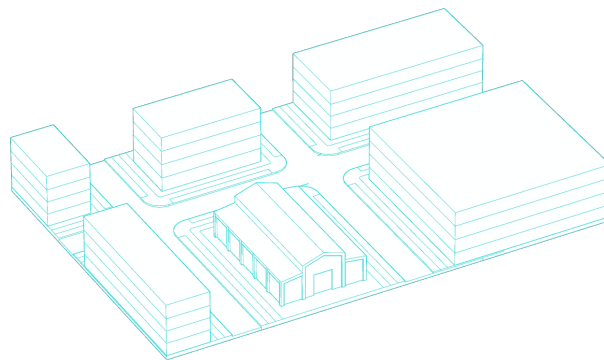


Figure 14: Enclosed Market (source: author)

Pike Place Market

Pike Place Market in Seattle, Washington is an example of an enclosed market hall. The site is located on Pike Street and borders Alaskan Way in Seattle's downtown. From 1890 to 1900, the population in Seattle nearly doubled. At the turn of the century, the price of food increased which led to unhappy citizens and farmers unable to sell their produce. In 1907, the city created a public market where farmers and the

consumers were able to meet. In the 1920, developer, Frank Goodwin saw an opportunity to build arcades that would make up the market. In 1963, the Pike Place Project was set to demolish the market for high-rise buildings, but an effort led by architect Victor Steinbrueck saved the market and established the Pike Place Market Preservation and Development Authority. Pike Place was approved for a renovation in 2008, which was completed in 2012 followed by the Pike Place Market Front completed in 2017.⁴⁷ From its conception, Pike Place Market is an example of how the demand for a formal retail entity in an area forced the municipality to create one. Even when an urban renewal plan attempted to remove the market from the area, people petitioned for its preservation. Today, the market is regarded as one of the best markets in the United States.

⁴⁷ "Pike Place Market." History | Pike Place Market. Accessed May 17, 2019. <http://pikeplacemarket.org/history>.

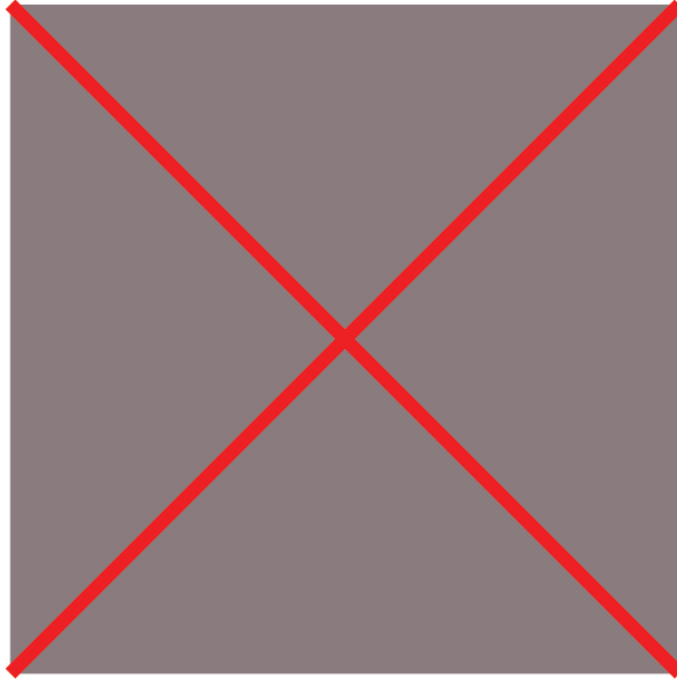


Figure 15: Pike Place Market (Source: City of Seattle)

Urban Impact

Unlike the open market and the street market, the enclosed market is a physical entity that establishes a place of commerce. The market is truly a building acting as a piece to a whole city. In the Leon Krier's *Res Publica Res Economica Civitas*, Krier separates the city into "res publica" and "res economica". The "res publica" are the civic buildings in the city with distinguishable architectural features and are meant for public use while the "res economica" consists of the rest of the buildings like housing and commercial uses. Both entities are equally important to the city because without one, the other does not exist. The enclosed market hall is a part of the "res publica" side of the spectrum. Although it may not be a publicly owned entity, it is a

communal commercial hub where the public goes for trade. The building acts as an important influence in the lives of the everyday public.

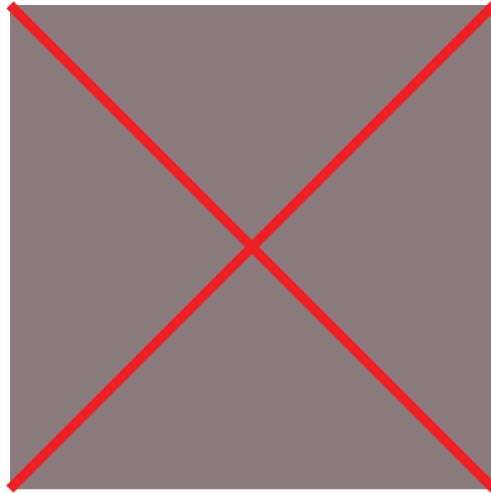


Figure 16: Civitas Diagram (source: Leon Krier)

The location of the enclosed market originally started with how the public entity would be able to support private enterprise. Retailers started to understand that people liked to complete all of their shopping needs in one trip, so locating the market near a department store made sense. Another reason for locating the markets in downtowns was access from a transportation network to bring people and food to the market.⁴⁸

The main idea behind the location of these public markets is that they need to be accessible to the public regardless if they are owned publicly or privately.

⁴⁸ Mayo, James M. "The American public market." *Journal of Architectural Education* 45, no. 1 (1991): 41-57.

Downtowns provide the best access and are usually located in the heart of urban cities. This affords everyone on the edges of the city an opportunity to access the enclosed market.

5.6 Central Markets

Railroads allowed for the mass transportation of food to the city from the farms. The train station became a pivotal location to set up a market. These locations were the single point where all the food was coming in. Consumers had the opportunity to purchase a variety of items in one location. The central markets would cover city blocks and be located in areas with a high density of consumers and businesses.

These massive areas acted as both a location for the everyday shopper as well as areas for secondary markets to purchase supplies. The number of central markets fell as grocery chains and supermarkets made the typology obsolete.⁴⁹

⁴⁹ Tangires, Helen. Public markets. WW Norton & Company, 2008.

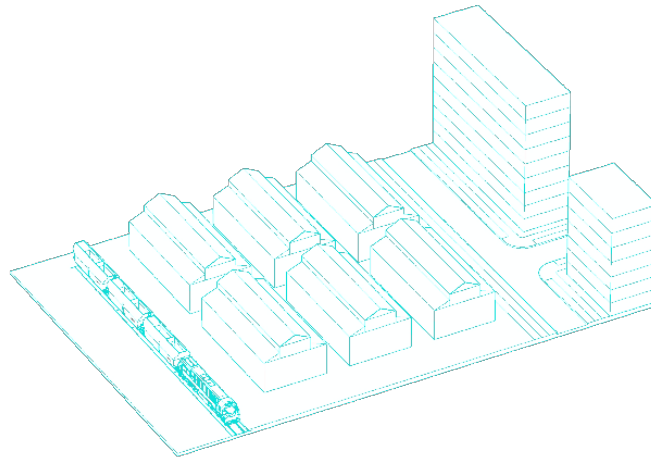


Figure 17: Central Market (source: author)

Center Market

Les Halles Centrales was the center market in Paris designed by Victor Baltard and Victor Emmanuel Callet. Prior to Baltard's design, the market was disorganized, crowded, and had a reputation of being unsanitary. The market consisted of around 330 temporary structures that were demolished for Baltard's design. Napoléon III and Haussmann pushed Baltard and Callet to construct buildings use iron construction. Baltard designed Le Halle with ten market halls using a combination of iron and glass. The design organized the markets in two rows of five with glass-covered streets. An important aspect to the design was the circulation of air. Building had high ceilings, to allow for ventilation. One of the main features of the design was the overall organization of space to allow for an easier way to trade and also improve the

health of the users.⁵⁰ As the population in France continued to grow, Les Halle became the largest food market in the world. The market was designed to accommodate a population of one million people, by 1900; the population reached 2.6 million and caused congestion. In 1954 the Parisian government conceived of a plan to decongest Paris and in 1959, the French government elected to move the markets into the suburbs. In 1969, the demolition of the market began to create an urban park and civic area.

5.7 Wholesale Terminal Markets

In the early twentieth century, high food prices and fear of food shortages forced governments to support the creation buildings that would store and distribute food to the area. The advent of railroads and refrigeration allowed for the wholesale selling of food. The early wholesale market centers were located in city centers. The three factors that removed them from the center were land pricing, shipping accessibility, and overcrowding. In 1955, the average rent for a retail center in downtown San Francisco was around \$40 per square foot while the wholesale terminal was around \$4. As a property owner, it did not make sense to have the market rent of a large entity be \$36 less per square foot than retailers a few blocks over. Many of the large buildings were demolished and redeveloped as a retail center type of development. The other factor that took wholesale terminals out of city centers was the access

⁵⁰ TenHoor, Meredith. "Architecture and biopolitics at Les Halles." *French Politics, Culture & Society* 25, no. 2 (2007): 73-92.

provided for delivery of good from outside the city. As population in the cities grew, the terminal market did not have any room to expand to accommodate the population. The surrounding area felt the impact of the congestion. The trucks could not access the terminal, the sidewalks were filled with vendors that spilled out from the market, and food that was unable to be stored inside were placed in streets. Food delivery was not efficient and it appeared that a change needed to be made in the placement of these markets.⁵¹ Wholesale terminal markets were created in the more industrial areas of the cities where trains and trucks would be able to transport food efficiently. Wholesale Terminal Markets were more than just a market, the type consisted of administration buildings, restaurants, and retail stores, with a produce shed, packing plant, auction house, cold storage plan, slaughterhouse, and various uses that revolved around the processing of food.⁵² It was in an area outside of the city where people would go to cut out the middleman in transporting their food to local vendors. This is where restaurants and local businesses would purchase their food in bulk

⁵¹ 2019. *Planning-Org-Uploaded-Media.S3.Amazonaws.Com*. Accessed May 17 2019. <https://planning-org-uploaded-media.s3.amazonaws.com/document/PAS-Report-70.pdf>.

⁵² Tangires, Helen. *Public markets*. WW Norton & Company, 2008.

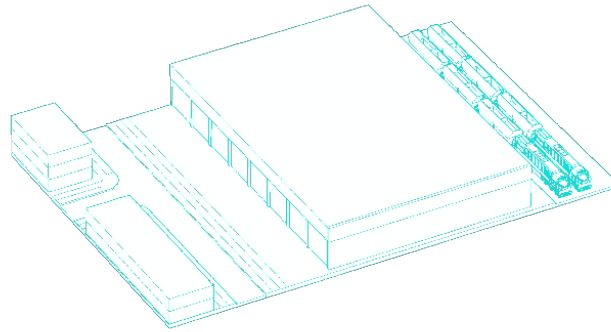


Figure 18: Wholesale Terminal (source: author)

Terminal Market

Fulton Fish Market was established in 1817 along the East River in New York. At the time, the market easily accessed by boats since shipping via waterways was the most efficient form of transportation. The market operated, as more than just a fish market, it was also an area to buy sails, food, and linen. In 1933, Mayor Fiorello LaGuardia made it an objective to reform public markets by demolishing all open-air markets and creating indoor markets in their stead. By 1935, the markets were run by the Department of Public Markets, Weights, and Measures. The department combatted unsanitary conditions and racketeering to establish a proper place for trade. In 1936, most of the structure of the existing fish market had collapsed and a new building was commissioned. The new market building was completed in 1939 and designed by Albert W. Lewis and John D. Churchill. The two accounted for many of the new

markets designed at the time. The market would be a location for the transportation, the preparation, and the selling of fish. It incorporated prefabricated construction and fireproofing which were prevalent in the lasted types of industrial buildings at the time. The popularity of the automobile grew in the early twentieth century. In the 1922, the Manhattan Borough President commissioned two major Highways along the waterfront. In 1954, creation of FDR drive was thought to help the building by separating arterial traffic and local traffic, but instead the highway acted as a divider and cut off the area from the city. After, the market struggled and was relocated to Hunts Point in the Bronx in 2005.⁵³ Although it was conceived prior to the report, the market follows a lot of the criteria provided by the Planning Advisory Authority as to its placement.

⁵³ "Fulton Fish Market: New Market Building". *The Municipal Art Society Of New York*. Accessed 17 May 2019.
http://www.newamsterdammarket.org/seaportvision/2008_Municipal_Art_Society.pdf.



Figure 19: Fulton Fish Market Plan (Source: Library of Congress)

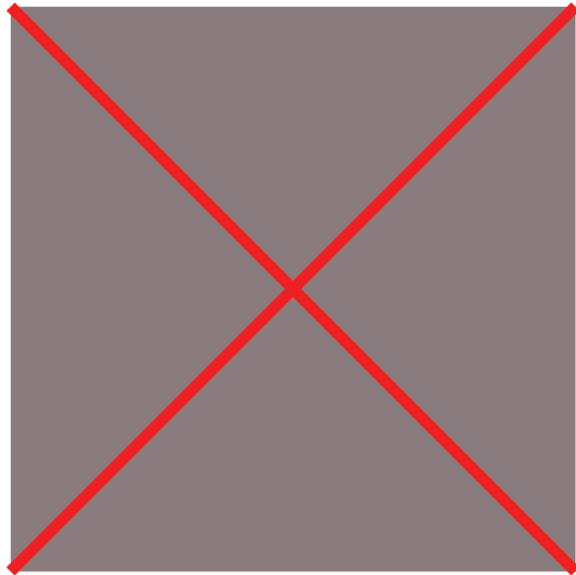


Figure 20: Dedication of New Market Building, 1939 (Source: New York Public Library)

5.3 Urban Impact

After the determination by city officials that the wholesale markets were no longer appropriate in the city centers, considerations were made to place them in new locations. The Planning Advisory Service (PAS) created a list of six considerations when choosing the location of a new Wholesale Terminal Market: First, the market should be convenient for local buyers. A map depicting travel distances for residence would help in determining how far is too far for local buyers. Second, the area should also be convenient for out of town buyers. Much of the business generated by Wholesale Terminal Markets comes from out of town shoppers looking for produce. Although, there is an inherent fact that out-of-town shoppers are not close, the location should keep them out of congested areas and provide an ease of access from major roads. Third, the market should take into consideration the location of rail lines. Since the food being transported is perishable, the delivery time is essential to the freshness of the produce. Fourth, much like the rail line consideration, the site should be able to be accessed by trucks. Fifth, the market will need the trucks to access the market, but it should avoid other vehicular traffic. The addition of streets that promote cars to drive by will cause congestion that will be detrimental the efficiency of the market. Finally, the price of the land on which to place the market should be cheap. The market will take up a lot of land and the price per acre, should be

considered.⁵⁴ The type is an example of how time, market influences, physical changes, and populations change the effectiveness of a use.⁵⁵ The wholesale market worked in cities when the density was appropriate for them. As population increased and new technologies surfaced, they were better served outside of the city.

The wholesale market has a very different set of urban impacts than the other types of markets. Unlike the open-air market and street market, the wholesale terminal market is not necessarily utilizing an established urban fabric as a framework for its being, instead it is more reliant on public infrastructure. It is a physical entity that contributes the food storage and distribution within a city. In the terms of its use, it is a piece of the city much like an enclosed market. However, unlike the enclosed market, the way in which a terminal market operates doesn't lend itself to be a "res public" building in a sea of "res economica" buildings. The wholesale market is an example of how a building that is essential to the public might be constricted in an urban setting. The market's focus on the efficient trade of food causes problems for both itself and the city.

⁵⁴ "Wholesale Produce Markets". *Planning Advisory Service* 70 (1955): 1-26.
<https://planning-org-uploaded-media.s3.amazonaws.com/document/PAS-Report-70.pdf>.

⁵⁵ Tracey-White, John D. *Wholesale markets: planning and design manual*. No. 90. Food & Agriculture Org., 1991.

Chapter 6: Retail Innovations and Design Impact

As technologies continue to advance, new innovations will shape how aspects of retail are designed.⁵⁶ The addition of technology in specialty retailing is not meant to make the shopping experience more efficient, it is meant to establish a completely new experience. Specialty retail is predicated on best in quality products and best in place experiences. In the world today, people are mesmerized with new innovations and technologies. Implementing design strategies that allow for innovate retailing technologies that could enhance the consumer experience will set a retail establishment apart from the rest of the competitors.

6.1 Autonomous Vehicles

The mass production of the car changed the urban form and culture of the United States in the early 1950s. It influenced the way people wanted to live and the way they were able to shop. The next huge innovation of transportation systems is beginning to be developed. The Automated Vehicle (AV) will have a large impact on the economy, on urbanism, and on society. The advancements of self-driving cars have greatly developed in the past couple years. Major car and tech companies like Google, Volvo, Mercedes, BMW, Audi, Ford, and Nissan are all in the process of

⁵⁶ Minsker, Maria. 2014. "More E-Commerce Experiences Are in Store." CRM Magazine 18 (11): 16. <http://search.ebscohost.com.proxy-um.researchport.umd.edu/login.aspx?direct=true&db=asn&AN=102601161&site=ehost-live>.

research and development of AV.⁵⁷ In the research based article, *Planning for Cars That Drive Themselves: Metropolitan Planning Organizations, Regional Transportation Plans, and Autonomous Vehicles*, Erick Guerra explains that the future of driving is upon us. He predicts that within the next 20 years, autonomous vehicles will be operating on streets and highways. There is a lot of uncertainty as to how to plan for driverless cars because of the potential scale of impact they contain.⁵⁸ Although they will have a large impact, it is possible to speculate some effects the cars might have. In the article, *Automated vehicles and the rethinking of mobility and cities*, the authors venture to say that the amount of space needed to park will be greatly reduced, older individuals will be able to be transported safely, bikers and pedestrians will be feel compelled to go out, and AV will reduce the CO2 levels in the atmosphere.⁵⁹ The impacts of driverless cars could be applied to architectural design. The ability to provide drop off areas for individuals taking this method of transportation is crucial to avoid congestion along main roads or parking areas. The amount of parking spaces could also be significantly decreased due to driverless cars being used more frequently than human automated vehicles, especially in a ride share

⁵⁷ Alessandrini, Adriano, Andrea Campagna, Paolo Delle Site, Francesco Filippi, and Luca Persia. "Automated vehicles and the rethinking of mobility and cities." *Transportation Research Procedia* 5 (2015): 145-160.

⁵⁸ Guerra, Erick. "Planning for cars that drive themselves: Metropolitan planning organizations, regional transportation plans, and autonomous vehicles." *Journal of Planning Education and Research* 36, no. 2 (2016): 210-224.

⁵⁹ Alessandrini, Adriano, Andrea Campagna, Paolo Delle Site, Francesco Filippi, and Luca Persia. "Automated vehicles and the rethinking of mobility and cities." *Transportation Research Procedia* 5 (2015): 145-160.

system. Also, there will need to be a new program element or building use that would support the maintenance of the fleet of AV. Overall, the impact that this innovation has on the future of architecture, urban planning, economics, and culture needs to be present in current design strategies.

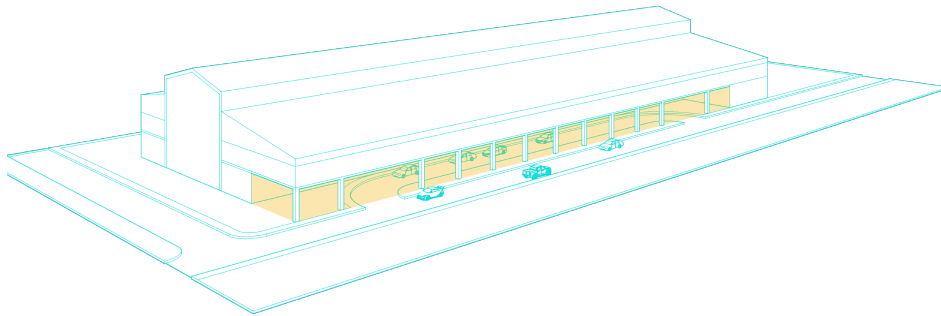


Figure 21: AV rideshare drop off zone (Source: Author)

6.2 Augmented Reality

Augmented Reality (AR) “supplements the real world with (computer generated) objects that appear to coexist in the same space as the real world”.⁶⁰ AR devices could

⁶⁰ Azuma, Ronald, Yohan Baillot, Reinhold Behringer, Steven Feiner, Simon Julier, and Blair MacIntyre. "Recent advances in augmented reality." *IEEE computer graphics and applications* 21, no. 6 (2001): 34-47.

be implemented in a variety of ways. Head worn displays (HWD) consist of the technology placed on or in glasses, goggles, and/or helmets that allow the viewer a free hand experience of being able to combine virtual reality and real life. More commonly, augmented reality could be located on mobile devices. The camera on phones is used to show the existing condition in front of the lens while an AR overlay is placed on the screen. Currently, this is done by furniture apps to see how a product looks in the house and also the social media app, Snapchat, for photo filters. Finally, the AR could be implemented via projected display. In this method, the AR overlay is projected directly on a surface. By using a multitude of surfaces, an entire virtual room could be created.⁶¹ The application of this technology could yield design changes in brick and mortar retail. Allowing customers, the ability to look at products applied to the situations in which they would use them would yield a whole new type of experience. This includes products such as cloths, accessories, furniture, jewelry, etc. The addition of virtual reality rooms in retail facilities could prove to be an innovative area where shoppers are able to experience items prior to purchase.

⁶¹ Azuma, Ronald, Yohan Baillot, Reinhold Behringer, Steven Feiner, Simon Julier, and Blair MacIntyre. "Recent advances in augmented reality." *IEEE computer graphics and applications* 21, no. 6 (2001): 34-47.



Figure 22: Augmented Reality Diagram (Source: Author)

6.3 Automated Checkout

Twenty years ago, having an individual check-out counter was the standard of leaving every store. Then, self-checkout systems became prevalent and the costumers were responsible for checking out their own items. Today, the major innovation that could eliminate or greatly reduce the amount of checkout counters in stores is automated checkout services. In the article, *New Automated Checkout Systems*, by Thorsten Litfin of the University of Applied Sciences in Osnabruek, Germany and Gerad Wolfram from METRO Group, the authors discuss a possible future of checkout services. The service accounts for costumers to carry around a tablet and scan the items as they place them in the cart. At the end of the shopping experience, everything is already totaled up and the checkout is made easier. In the two options

they presented, the checkout could either be carried out with a cashier at the end or the customer becomes his or her own cashier.⁶² This study could be taken forward and allow customers to use phones as their checkout device in stores. Amazon implements this strategy in their brick and mortar stores in 2017. Upon entering the store, shoppers scan their phones. The checkout technology accounts for whatever they leave the store with and automatically charges their prime account.⁶³ The architecture impact of this concept will eliminate the amount of checkout lanes needed to serve customers. In turn, this will provide space for more circulation, more displays, or a small café in the space previously used for checkout.

⁶² Litfin, Thorsten, and Gerd Wolfram. "New automated checkout systems." In *Retailing in the 21st Century*, pp. 189-203. Springer, Berlin, Heidelberg, 2010.

⁶³ Polacco, Alex, and Kayla Backes. "The amazon go concept: Implications, applications, and sustainability." *Journal of Business & Management* 24, no. 1 (2018).

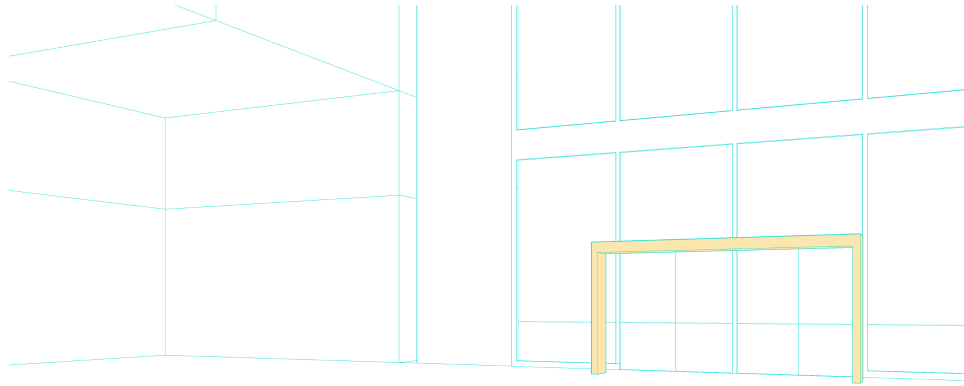


Figure 23: Self Checkout Security Threshold Diagram (Source: Author)

6.4 Smart Locker Terminals

A form of omnichannel retailing consists of buying online and picking up in store. “Smart Locker Terminals are parcel capable locker units in convenient and public locations in living neighborhoods, storing packages for all costumers in a certain area for a certain amount of time.” Costumers are able to shop online and chose a location for drop off at an assigned locker location. The consumers are then provided with a code via email, text, or website to access the locker. Current use of the lockers allows people to retrieve their package at their own convenience from a public access

point.⁶⁴ An example of the locker use in a brick and mortar store is Amazon Locker. Amazons brick and mortar Stores contain lockers where shoppers could retrieve their orders.⁶⁵

The design application of this method of retailing could be applied to shopping in brick and mortar stores. Stores could allocate areas near the front that allow for smart lockers where people could access their purchases. The model could be expanded into a different type of convenience. The smart lockers could be used as more than just for online orders, they could be used in conjunction with automated checkout in brick and mortar stores. Costumers would be able to browse a store, select and ring up what they would like to purchase, and have the store deliver the product straight to the locker. They would be able to access the lockers at the end of their shopping experience to avoid carrying purchases around.

⁶⁴ Faugere, Louis, and Benoit Montreuil. "Hyperconnected City logistics: Smart Lockers Terminals and last mile delivery networks." In *3rd international physical internet conference*. 2016.

⁶⁵ Rothaermel, Frank T., and Michael McKay. *Amazon. com, Inc.* McGraw Hill Education, 2015.

Chapter 7: Hoboken Analysis

7.1 Hoboken, New Jersey




HOBOKEN EXCHANGE SITE SELECTION MATRIX CRITERIA	- Newark, NJ - 4.2 acres	- Jersey City, NJ - 37.3 acres	- Hoboken, NJ - 1.3 acres			
						
Access to Public Transportation	Nearest Bus Stop = 2 miles NJ Transit = .75 miles Light Rail = N/A	- 5 -	Nearest Bus Stop = 0 miles NJ Transit = 1 miles Light Rail = 0 miles	- 10 -	Nearest Bus Stop = 0 miles NJ Transit = 0 miles Light Rail = 0 miles	- 10 -
Access to Public Amenity	Prudential Center Devils Plaza	- 3 -	Water Front Views to Manhattan Liberty State Park Newport Green Park	- 6 -	Water Front Views to Manhattan Pier A Park Pier C Park	- 8 -
Population for Development	Population = 285,184 Growth Factor = 2.9%	- 6 -	Population = 270,753 Growth Factor = 9.3%	- 9 -	Population = 55,131 Growth Factor = 10.1%	- 6 -
Site Walkability	Side Walk Size Road Size Walkability Score=80	- 6 -	Side Walk Size Road Size Walkability Score=87	- 5 -	Side Walk Size Road Size Walkability Score=95	- 9 -
Competition in Area	Street Shopping Valley Mall Plaza Outlet = 5 miles	- 8 -	Newport Plaza Shops at Lincoln Harbor	- 9 -	Newport Plaza Washington Street	- 6 -
Average Median Income	AMI= \$35,167 Percent Growth= 13.1%	- 4 -	AMI= \$66,264 Percent Growth= 4.8%	- 6 -	AMI= \$127,523 Percent Growth= 7.63%	- 8 -
Tourist Destination	Tourist Report	- 7 -	Tourist Report	- 8 -	Tourist Report	- 8 -
Surrounding Characteristics	No retail around Prudential Center	- 5 -	Big Box Retailers adjacent Offices New developments	- 6 -	Historic Downtown Main Retail Street Smaller scale	- 8 -
TOTAL SCORE	- 44 -	- 59 -	- 63 -			

Figure 24: Site Selection Matrix (Source: Author)

The location to implement a market building contains many key criteria that need to be taken account. As previously mentioned, markets are no longer commodity areas where people need to go to replenish their needs. They need to be looked at as specialty retail centers that are reliant on the spending of discretionary income. Key factors to determine the placement of a center is the population, competition, income, and access. The supplemental aspects that relate to place creation and accessibility include walkability, public transportation, and the existing characteristics of the site.



Figure 25: Site Location Map (Source: Author)

Hoboken offers a very unique situation in which the population is young and affluent, the city contains a major public university, and five different forms of public transportation converge at the Hoboken Terminal. The site offers the ability to both utilize and support the public transportation.

7.2 Demographics

Population

An important feature in determining the success of a retail entity is determining if the population could support the addition of retail. Hoboken is located in the denser part of New Jersey in Hudson County. The city is located on the Hudson River across

from Manhattan. Hoboken has a population of 54,379 people. Although a quarter of the size of other Hudson County cities such as Jersey City and Newark, it is in the nexus of the denser parts of New Jersey. Jersey City is located directly to the south of Hoboken City and contains a population of 270,750 people and Newark is located to the west has a population of 285,156 people. To the north, Union City has a population of 70,000 people. Despite having a smaller population, Hoboken has been growing. As shown in figure 6, the population increased almost 30% from 2000 to 2010, and almost 9% from 2010 to 2016. The city has had its population boom, but it is still growing at a slower rate.⁶⁶

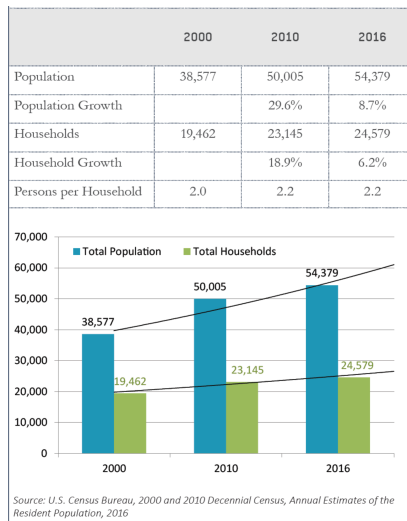
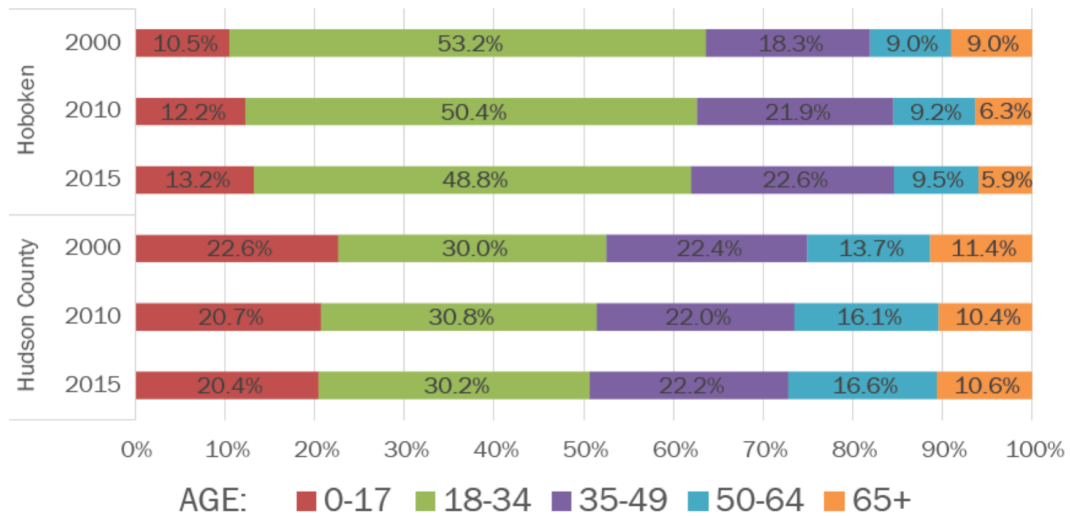


Figure 26: Population Growth (Source: US Census 2016)

⁶⁶ Favate, Susan. “2018 Masterplan Reexamination Report.” *2018 Masterplan Reexamination Report*. Hoboken, NJ: City of Hoboken, 2018.

Age and Income

It is essential to identify the type of people in the area to determine a merchandising plan for the market and potential retail. Hoboken is a city filled with young professionals. The median age in Hoboken is 31.8 years old. It is significantly younger than the rest of Hudson County.

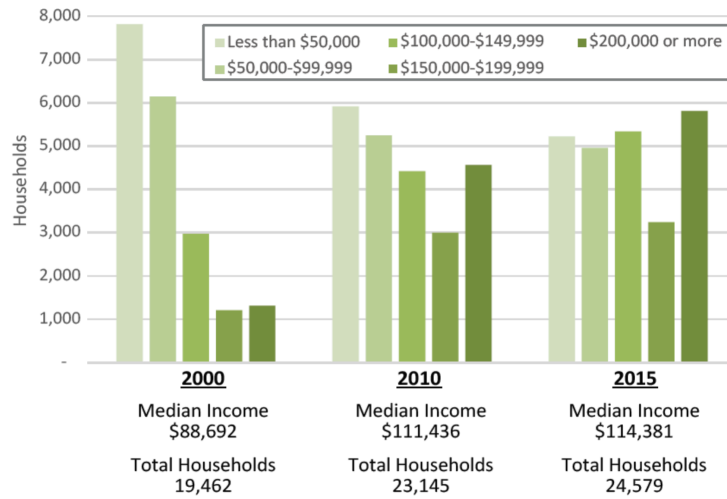


Source: U.S. Census Bureau, 2000 and 2010 Decennial Census, 2011-2015 5-Year Estimate American Community Survey

Figure 27: Hoboken Age Graph (Source: US Census)

Along with being the very young, it also has a much larger household income than the rest of the county. In the 2015 census, the median income in Hoboken was \$114,381 with only 1.92 people per household. It has increased around \$25,000 since

2000. Figure 8 depicts that the distribution of income is almost equal among those making less than \$25,000 and those making more than \$200,000. Hoboken does have disposable income to support a higher end retailer. ⁶⁷



Source: U.S. Census Bureau (2000 & 2010), American Community Survey (2015)
 Median income is adjusted for inflation (to 2015 dollars) but income categories are not adjusted for inflation.

Figure 28: Median Household Income Change (Source: US Census)

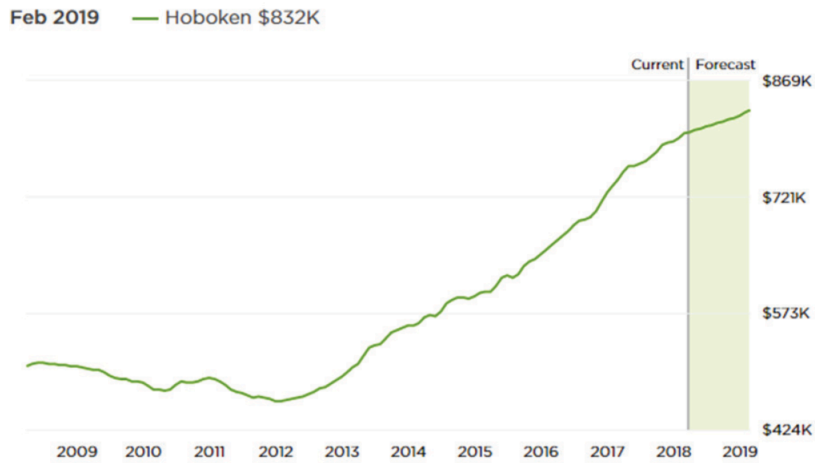
Housing:

To accompany the high-income levels in Hoboken is a high cost of living. There is a demand for housing in the area, which is increasing the value of the current stock.

The median home value as of 2017 is \$652,000, which is up from \$621,300 in 2016.

⁶⁷ Favate, Susan. “2018 Masterplan Reexamination Report.” *2018 Masterplan Reexamination Report*. Hoboken, NJ: City of Hoboken, 2018.

Around one third of the people in Hoboken own their home. This might be due to the high cost of living, transient nature of the people, or the fact that it is very dense and opportunity for renters is abundant. Overall, Hoboken is wealthier area in New Jersey with a constant flux of new people. It has reached its rise and continues to do so at a slower pace.



Source: Zillow Home Value Index. Zillow publishes several different measures of home values monthly including median list prices, median sale prices, and the Zillow Home Value Index (ZHVI), which is utilized to measure of changing home values over time. ZHVI methodology can be found at: <https://www.zillow.com/research/zhvi-methodology-6032/>

Figure 29: Median Income Values (Source: Zillow Home Value Index)

Education

Hoboken is a very well-educated area in New Jersey. The city contains a population in which 94% of the people contain a high school diploma. Also, 75% of the people living in the city have a bachelor’s degree or higher. The data might be skewed due to

the fact that Stevens Institute of Technology is located in the city. There are plenty of academics, faculty, and staff who live or rent in Hoboken. This adds to a demographic of people with disposable income who would be into new innovative specialty retail. ⁶⁸

7.3 Site Movement

Hoboken, New Jersey is a gateway into and out of Manhattan, New York. The city contains a transient population that is reliant on the public transportation in order to commute to and from work. The intermodal city contains five different forms of public transportation that all converge at the Hoboken Terminal.

PATH

The Port Authority of New York and New Jersey train line connects Hoboken to 33rd Street and the World Trade Center in Manhattan. The PATH train is the primary mode of transportation in Hoboken and is responsible for 30,000 riders on an average workday. ⁶⁹

⁶⁸ “U.S. Census Bureau QuickFacts: Hoboken City, New Jersey.” 2019. *Census Bureau QuickFacts*. US Census Bureau. Accessed December 16. <https://www.census.gov/quickfacts/hobokencitynewjersey>.

⁶⁹ “PATH Ridership Report.” *PATH Ridership Report*. New York, NY: Port Authority of New York and New Jersey, 2019.

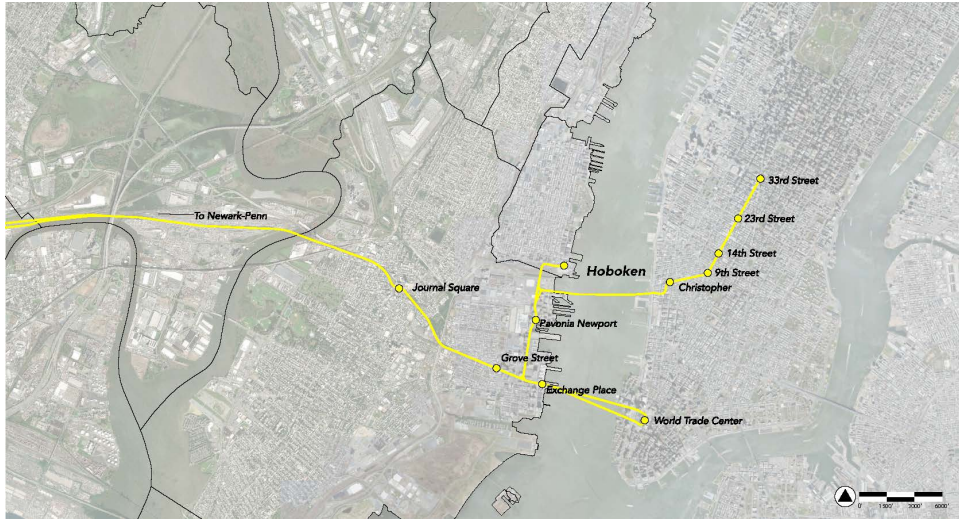


Figure 30: Hoboken PATH Movement (Source: Author, ARC GIS)

NJ Transit Rail

NJ Transit Rail is the primary connection into the rest of New Jersey. The rail line runs throughout the state making stops at cities such as Morristown, Trenton, Bayhead.⁷⁰ From Hoboken New Jersey, around 19,047 riders commute into and out of Hoboken via NJ TRANSIT rail.⁷¹

⁷⁰ “NJ TRANSIT FACTS AT A GLANCE.” *NJ TRANSIT FACTS AT A GLANCE*. NEWARK, NJ: NJ TRANSIT, 2017.

⁷¹ “FY 2018 Average Weekday Rail Boardings.” *FY 2018 Average Weekday Rail Boardings*. NEWARK, NJ: NJ TRANSIT, 2018.

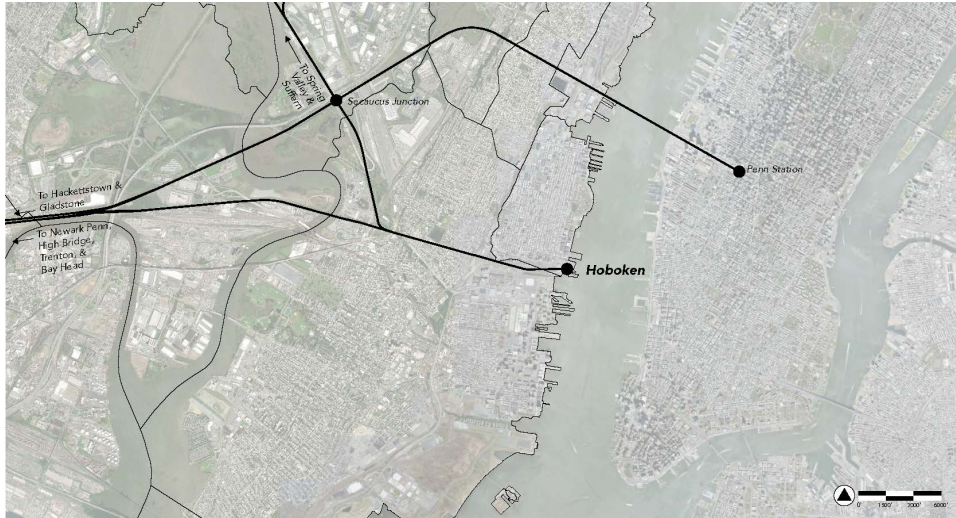


Figure 31: Hoboken NJ TRANSIT Movement (Source: Author, ARC GIS)

Hudson Bergen Light Rail

The Hudson Bergen Light rail runs through Hudson- Bergen County connecting major municipalities like Bayonne, Jersey City and North Bergen. The line has 23 stops and 3 services. The Hudson Bergen light rail is responsible for moving 51,336 riders on the average work day.⁷²

⁷² “NJ TRANSIT FACTS AT A GLANCE.” *NJ TRANSIT FACTS AT A GLANCE*. NEWARK, NJ: NJ TRANSIT, 2017.

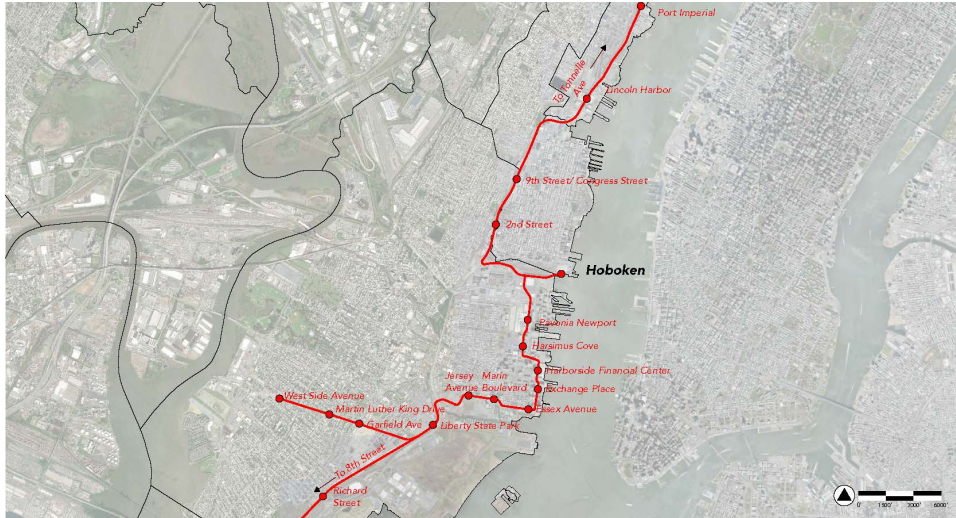


Figure 32: Hoboken Light Rail Movement (Source: Author, ARC GIS)

NJ Transit Bus

The NJ Transit Bus system also connects through the Hoboken Terminal. The bus system runs throughout the state of New Jersey; of which, six lines stop at the Hoboken Bus Terminal on the north end of the terminal. The six bus lines move about 35,480 riders on a typical week day.⁷³

⁷³ “NJ TRANSIT Median Ridership Report Hoboken Terminal.” *NJ TRANSIT Median Ridership Report Hoboken Terminal*. NEWARK, NJ: NJ TRANSIT, 2017.



Figure 33: Hoboken Bus Movement (Source Author, GIS)

Ferry

Finally, the ferry line is operated by New York Waterways. The Ferry is the least used mode of transportation, but accounts for 3,500 riders on a workday. It moves people to Battery Park City, Wall Street Pier 11, and Midtown 39th street.⁷⁴

⁷⁴ “Ferry Costumer Study Report.” *Ferry Costumer Study Report*. NEWARK, NJ: NJ TRANSIT, 2014.



Figure 34: Hoboken Ferry Movement (Source Author, GIS)

Synthesis

All of the mentioned movement systems create a circuit that connects at Hoboken Terminal. This does not just incorporate the movement into and out of Hoboken, but also the cross movement between transportation methods. In total between 100,000 and 140,000 people are moving through the Hoboken Terminal on a daily basis.

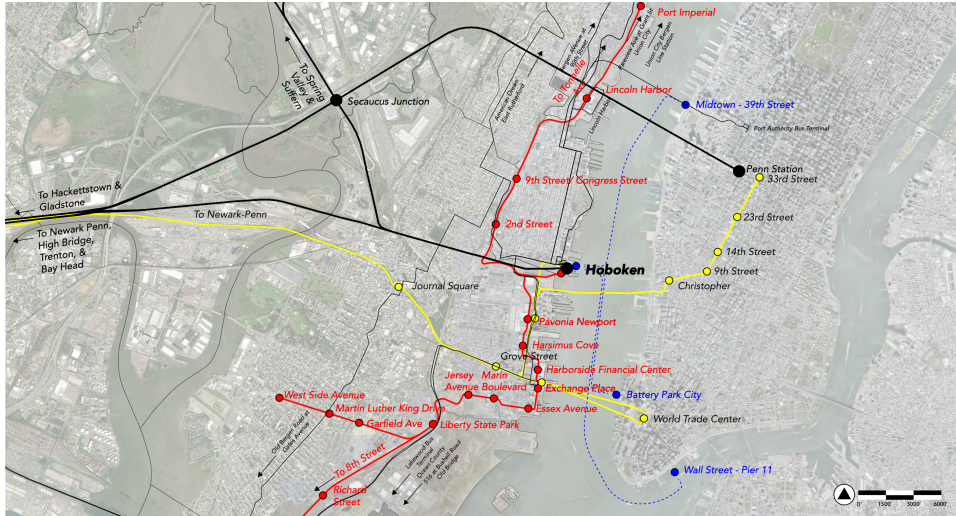


Figure 35: Hoboken Movement Synthesis (Source: Author, GIS)

8.4 Site Analysis

Boundaries

The municipal boundaries of Hoboken are a direct representative of the physical boundaries around the city. The city is confined by two man-made boundaries and two natural boundaries. The natural boundaries are located at the east end with the Hudson River and the west end with the south wing viaduct ridge. Both the north and the south borders are defined by rail lines. This creates a city environment that feels and works separately from Jersey City and Union City. The confined boundaries means that the city must be creative in its growth.



Figure 36: Hoboken Boundaries (Source: Author, ARC GIS)

Streets

Hoboken is organized by its regular block structure with a series of one-way streets. Washington Street is one of the few two-way streets in the city. Washington Street acts as the main street in the city with retail on the ground level and office and housing above. The street is very vibrant and busy for most of the day. Observer Highway is the main vehicular entrance into the city from major arterial roads such as the New Jersey Turnpike, Route 78, and Pulaski Skyway. There are three pinch points into the city along Jersey Avenue, Marin Boulevard, and Grove Street. This causes traffic on Observer Highway every day. Finally, Sinatra Drive is the eastern most road that connects Stephens Institute of Technology and the Hoboken Terminal. The street is defined with large trees and park space to the Hudson River.



Figure 37: Streets (Source: Author, ARC GIS)

Landmarks

The parks and municipal buildings are spread throughout the city of Hoboken. There is little to no congregation of recreational space and municipal buildings. This creates an environment that is truly mixed use. The variety of locations allows for residents a variety of options to use. However, there is an extreme lack of public green space in the city. About one percent of the city's area is useable park space.



Figure 38: Landmarks (Source: Author, ARC GIS)

Synthesis

Despite Hoboken being a smaller city, it does contain all the aspects that a large city has to offer. The two square mile city is walkable, contains a variety of places, is organized with an orthogonal grid, contains natural amenities, and offers residents the opportunity to live within ten minutes of a mega city.



Figure 39: Synthesis (Source: Author, ARC GIS)

8.5 Site Opportunities

Incomplete Street Wall

Upon arriving into Hoboken via automobile or bus, there is a lack of urban development and use on Observer Highway. To the north of the site are developed parcels ranging from parking garages to apartment buildings. The south end of the site is defined by railyard fencing. There is a buffer of parking and a bike lane, however the street is not very pedestrian friendly and causes a poor entry condition into the city

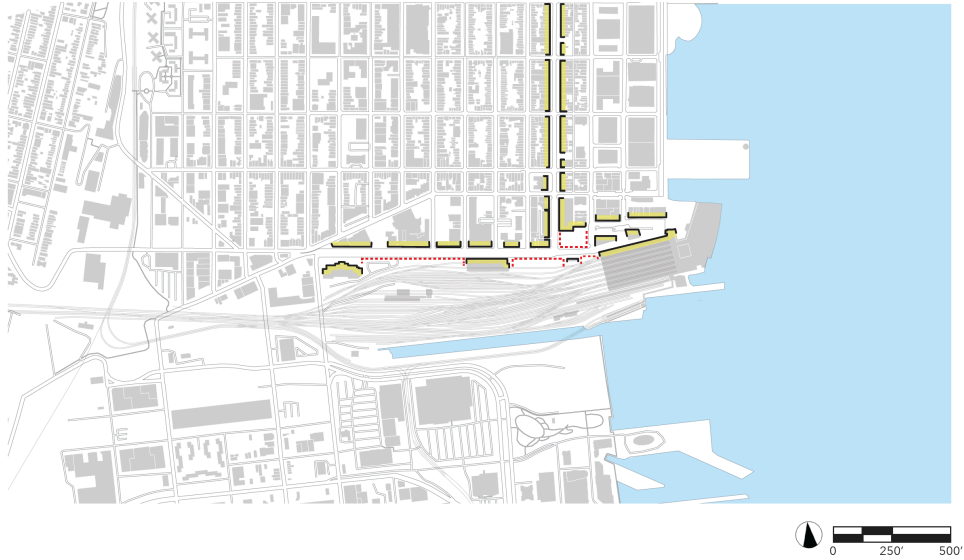


Figure 40: Incomplete Street Wall (Source: Author, ARC GIS)

Street Termini

As mentioned previously, Hoboken is defined by both natural and man-made boundaries. This results in the street network terminating in those boundaries. The east-west streets terminate with vistas into park space or into the Hudson River looking at Manhattan, NY. The north-south Streets terminate the Hudson Railyards, the bus terminal, or at an office building. There is a large opportunity to capture the value of these streets by terminating them in development or park space.

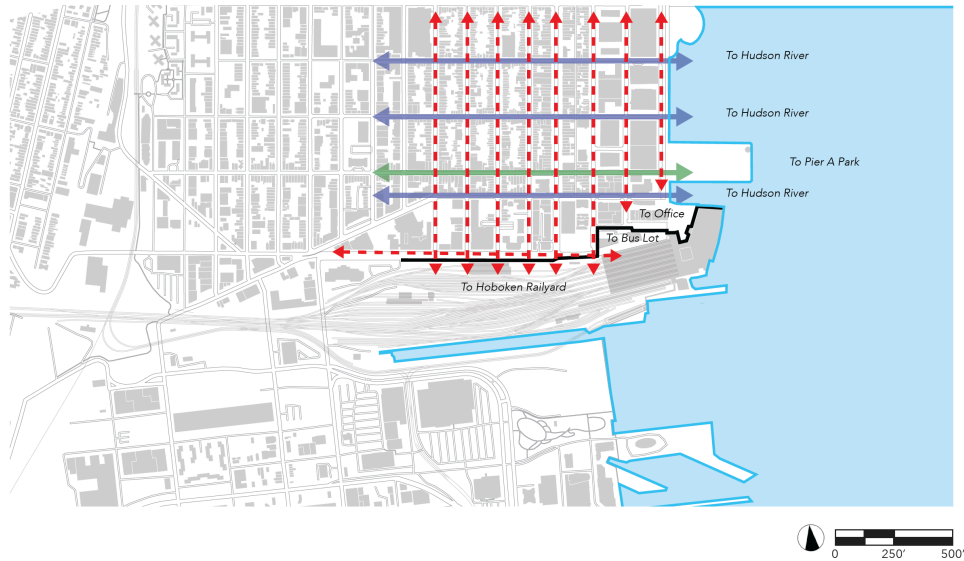


Figure 41: Terminating Streets (Source: Author, ARC GIS)

Disconnect Places

Within the network of the city, there are inherent connections between major places and streets. However, these connections are interrupted with pinch points that lead to a discontinuation of space. This can be seen how Washington Street meets Observer highway with a surface parking lot and a CVS. It can also be seen how Observer Highway Terminates at a bus only entrance into the bus terminal. There is opportunity to create a more cohesive complete connection of these places.



Figure 42: Disconnected Space (Source: Author, ARC GIS)

Chapter 9: Design

9.1: To Create, Renovate, and Connect Place

A major principle in capturing the value of land was to create places where commuters, shoppers, residents, visitors, and the workforce would be able to shop, play, relax, and work. Today, the terminal is only used as a means to get from point A to point B. It acts solely as a gateway to and from New York. A variety of places will allow people to become immersive within the city.

Place Creation and Renovation

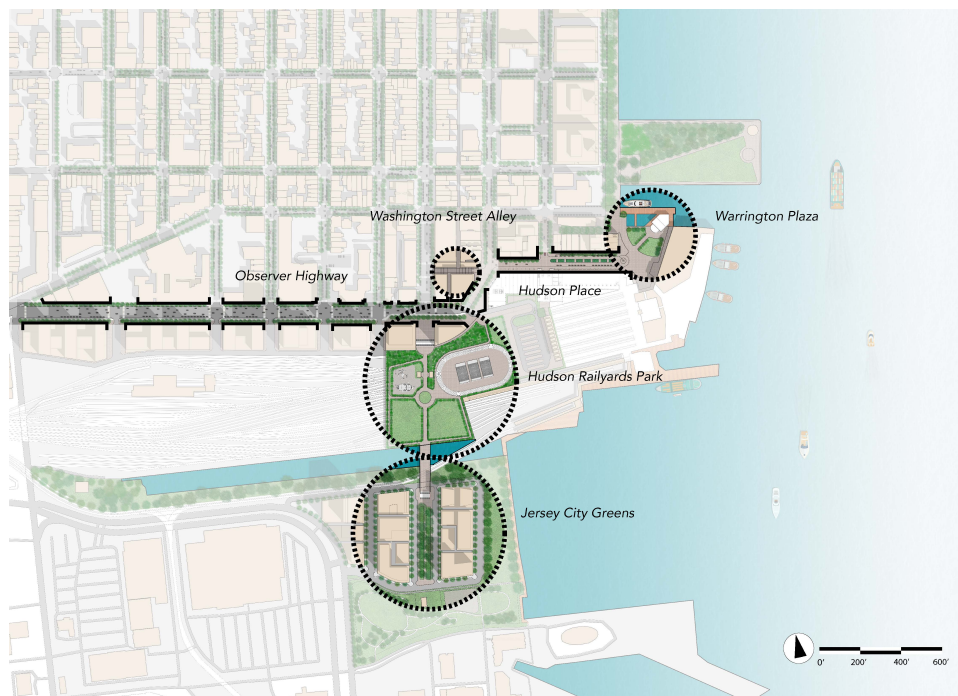


Figure 43: Places Diagram (Source: Author)

Warrington Plaza



Figure 44: Warrington Plaza (Source: Author)

Hudson Place



Figure 45: Hudson Place (Source: Author)

Washington Street Alley



Figure 46: Washington Street Alley (Source: Author)

Hudson Railyards Park



Figure 47: Hudson Railyards Park (Source: Author)

Place Connection

It is important to recognize that place should not just be created, it needs to be accessible and connected by some means. By both creating and connecting places the users within the city have an opportunity and access to a variety of experiences.



Figure 48: Hoboken Place Connection Diagram (Source: Author)

9.2 Capture the Value of People

The 100,000 to 140,000 people who pass through the terminal every day is substantial in terms of foot traffic and potential shoppers. These individuals have the ability to contribute to local businesses and boost the city's economy. Hoboken Exchange looks to monetize this foot traffic and create any area that both adds value to the terminal and gives the people an area to support the economy. The strategic location of the site

allows of Hoboken Exchange to terminate Observer Highway and River Street. The building is also visible from Manhattan and from Jersey City. The visibility is a marketing tool in itself that allows for this intervention to become a piece of commuter movement. In order for Hoboken Exchange to establish itself as a piece of the city and an entity people want to go to, it needs to both work with the existing movement patterns and attempt to provide potential consumers with attractive commodities and goods.

Masterplan Street Termini

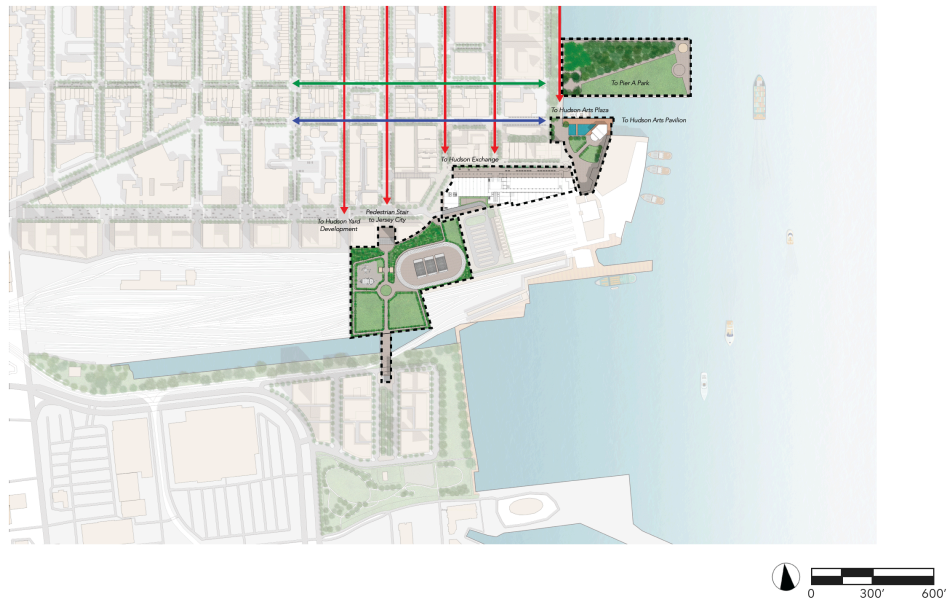


Figure 49: Masterplan Street Terminus (Source Author)

North Elevation



Figure 50: North Elevation (Source: Author)

East Elevation

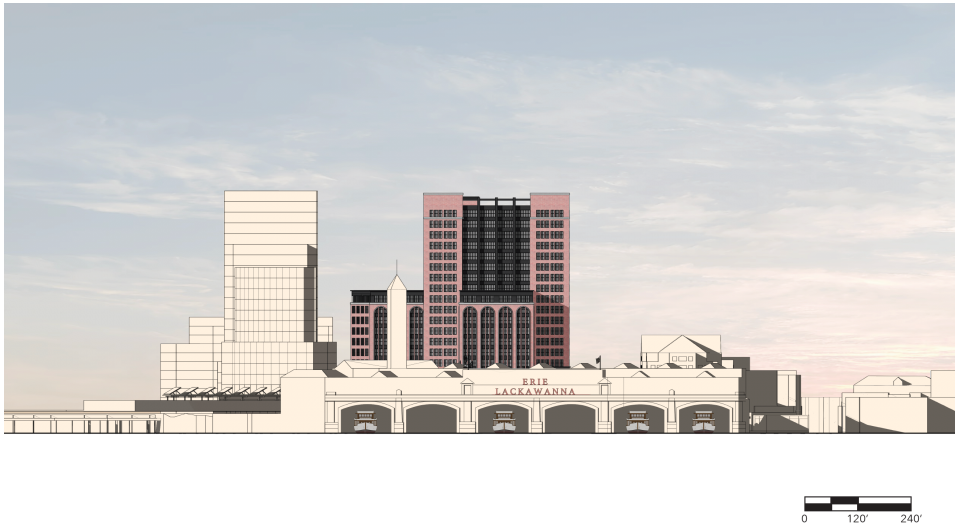


Figure 51: East Elevation (Source: Author)

First Floor Plan



Figure 52: First Floor Plan (Source: Author)

Second Floor Plan

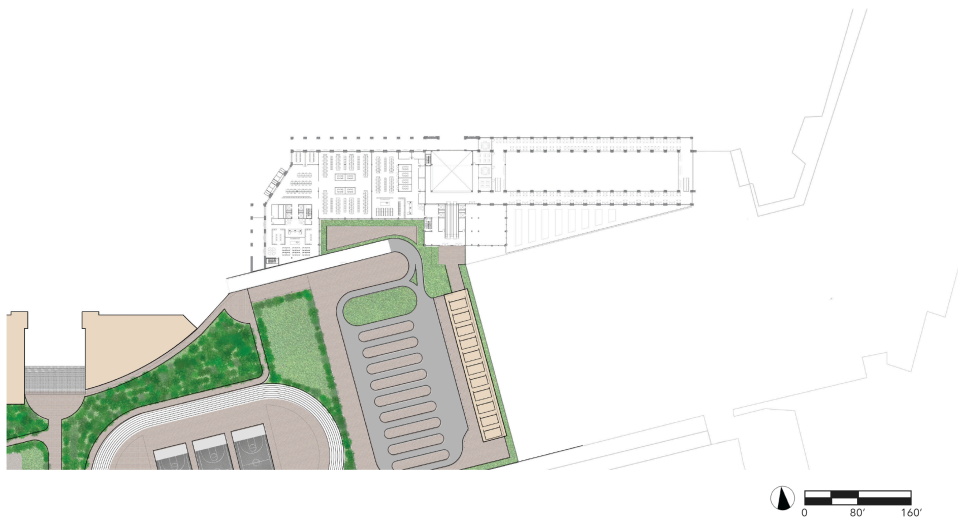


Figure 53: Second Floor Plan (Source: Author)

Typical Office Plan

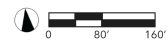
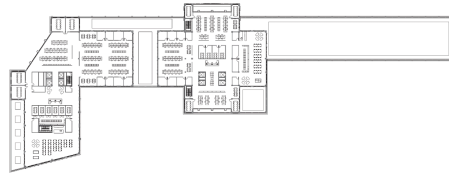


Figure 54: Typical Office Plan (Source: Author)

Commuter Movement Throughout Building

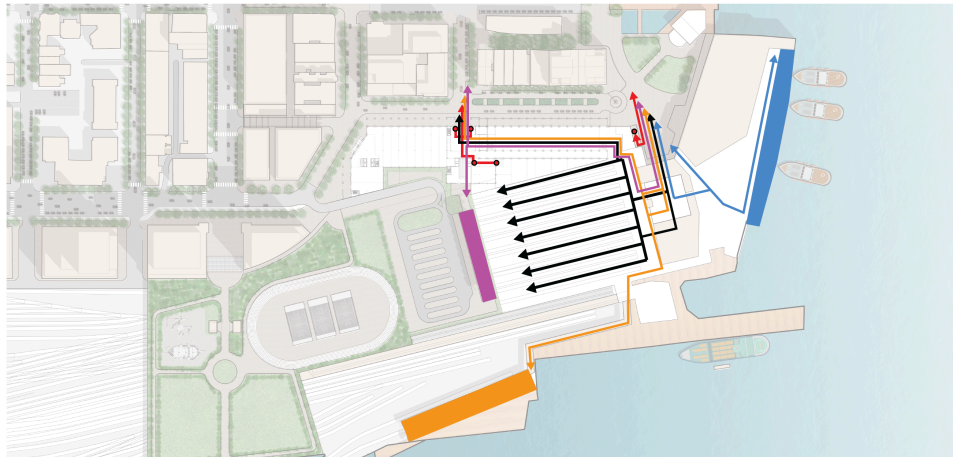


Figure 55: Movement Through Building (Source: Author)

Building Transects

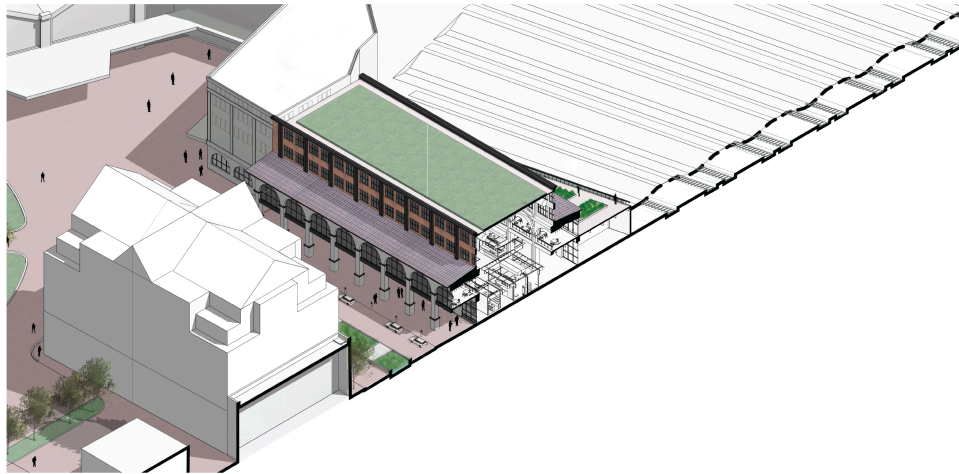


Figure 56: Market Hall Transect (Source: Author)



Figure 57: Lobby Transect (Source: Author)

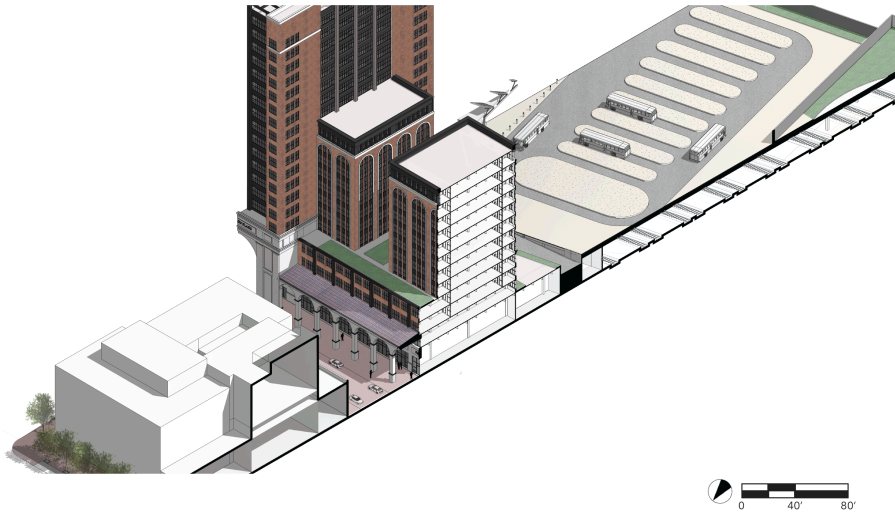


Figure 58: Bus Terminal Transect (Source: Author)

Arrival Perspectives



Figure 59: Walking from NJ TRANSIT (Source: Author)



Figure 60: Eating on the Mezzanine Level (Source: Author)



Figure 61: Commuting from Sinatra Drive (Source: Author)



Figure 62: Arriving from NJ TRANSIT Bus (Source: Author)

9.3 Flexible Design

Market demands and cultural norms are constantly shifting. In order to make sure the building responds to change was a crucial consideration in the design of Hoboken Exchange. Flexible design will allow the created areas the city and the building itself to adapt to change.

Hudson Place Flexibility

The design calls for Hudson Place to become an intermodal street between rideshares and pedestrians. In peak hours, the street can be used with this purpose to accommodate heavy travel. However, on less frequently traveled days, like the weekends, the street can operate as an event space or public market.

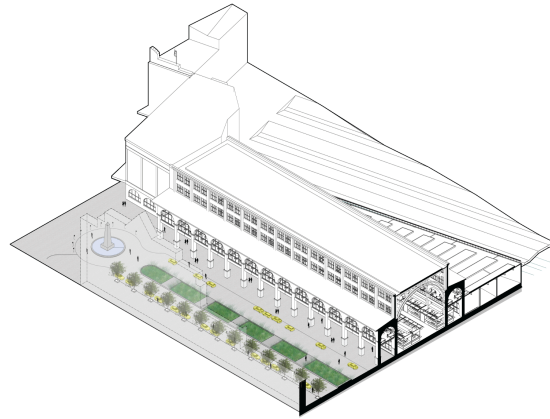


Figure 63: Taxi Pick Up Drop Off (Source: Author)

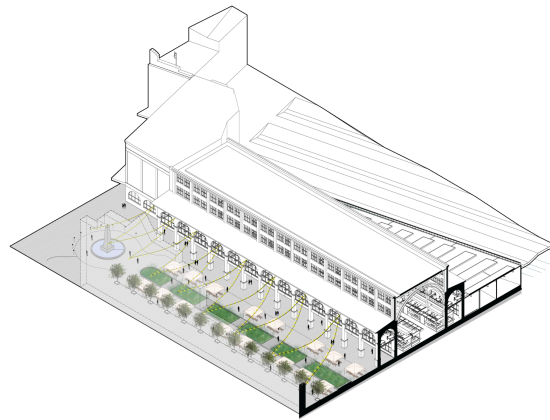


Figure 64: Hudson Place Market Festival (Source: Author)

Green Roof Flexibility

Another idea that applies to many commercial buildings is how to utilize the roofs, if at all. Hoboken Exchange is designed with the intent to create roof space that allows for a farm-to-table garden in which food vendors could grow organic produce and use

it for their own product. However, this venture might not succeed if the vendors do not need to grow their own produce. The roof can easily be modified to accommodate event space or outdoor eating space.

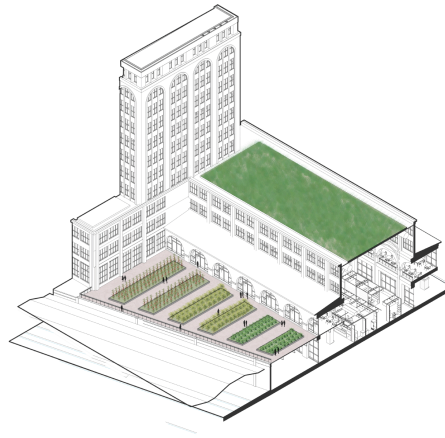


Figure 65: Flexible Farm-to-Table Roof (Source Author)

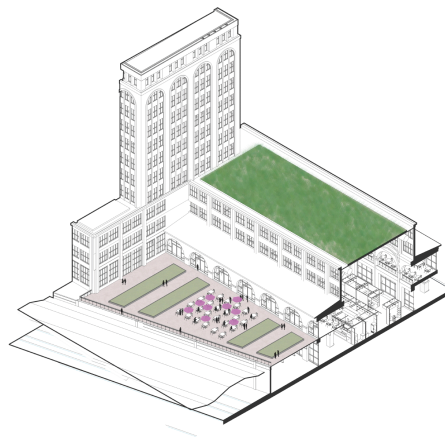


Figure 66: Flexible Roof Event Space (Source Author)

Typical Retail Flexibility

The success of the market hall can be optimized and theorized based on existing precedents and models. Built-in flexibility allows for Hoboken Exchange to adapt as time progresses and to account for the uncertainty of the future. The demising walls within the typical retail are used to define what retailers today use to fit out their stores. However, if Hoboken Exchange is doing well, it has the opportunity to expand the market hall format and create Hoboken Exchange West Market.

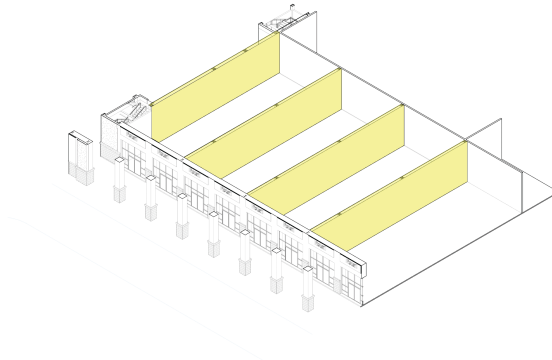


Figure 67: Typical Retail Demising Walls (Source: Author)

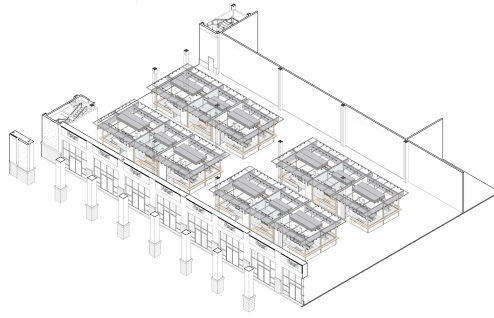


Figure 68: Open West Market (Source Author)

Market Hall Flexibility

The market hall might be the most volatile aspect to the success of the project. By creating modular units of market stalls, the orientation, design, feel, capture rate, and success of the hall could vary. The modular design of the market stalls includes a 10'x10' merchant stall, a 20'x10' merchant stall, a 15'x10' prepared food stall, and a 20'x10' prepared food stall. The stalls can be arranged in a variety of installations in an attempt to optimize the capture rate of the people.

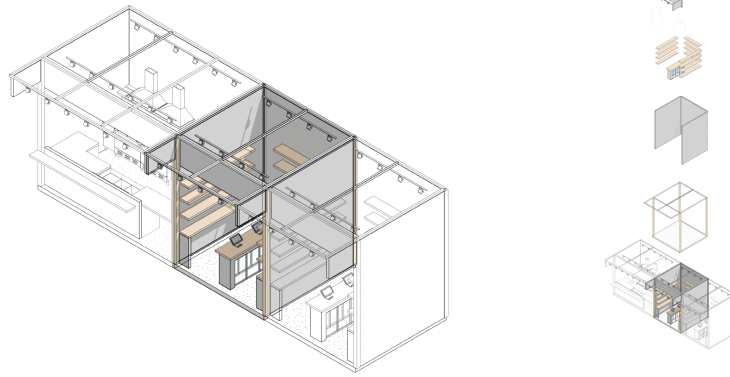


Figure 69: 10'X10' Merchant Stall (Source: Author)

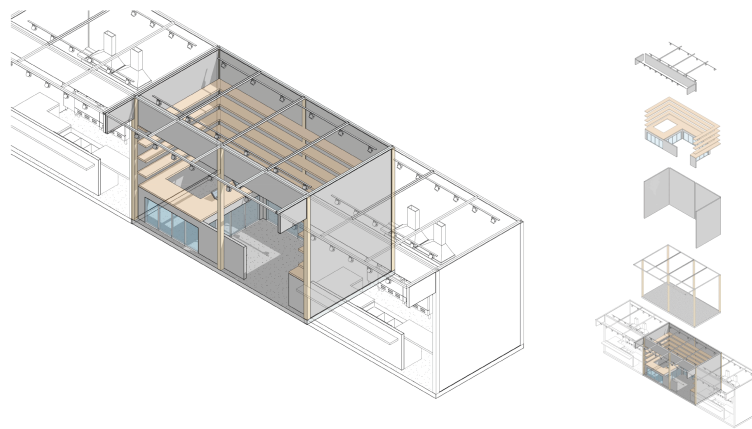


Figure 70: 20'X10' Merchant Stall (Source: Author)

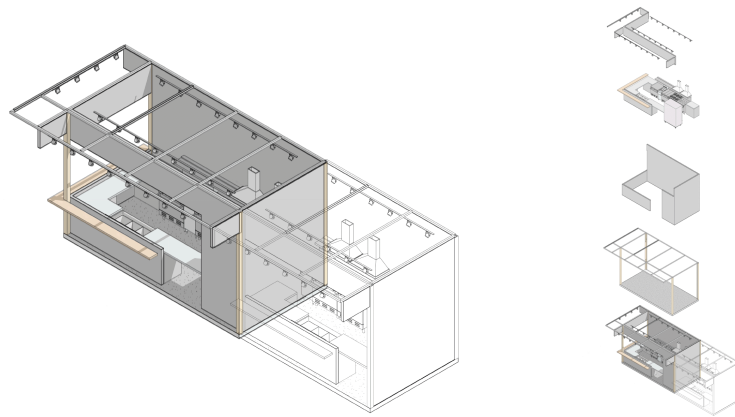


Figure 71: 20'X10' Prepared Food Stall (Source: Author)

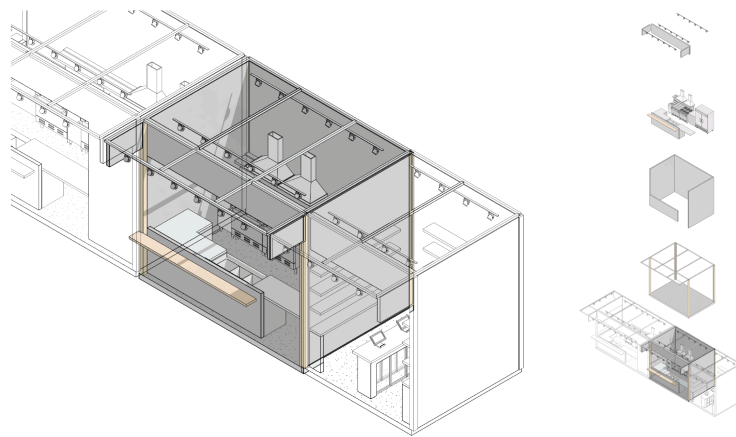


Figure 72: 15'X10' Prepared Food Stall (Source: Author)

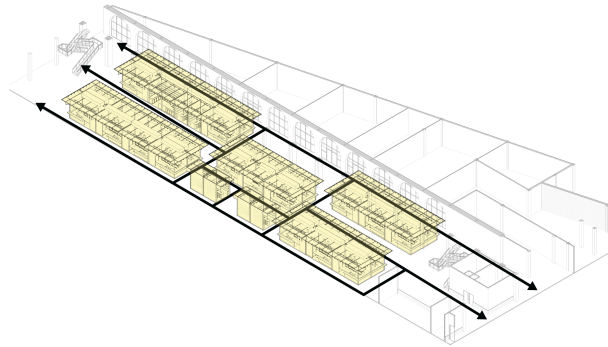


Figure 73: Through Circulation (Source: Author)

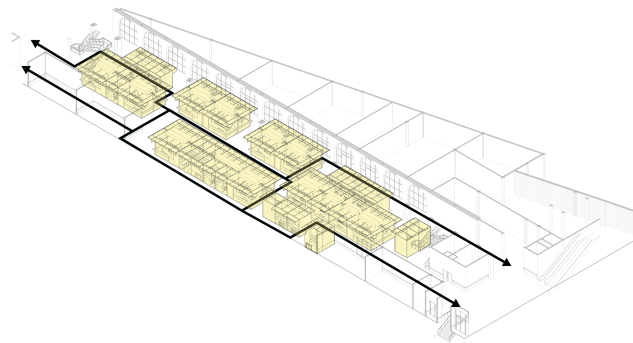


Figure 74: Gauntlet Circulation (Source: Author)

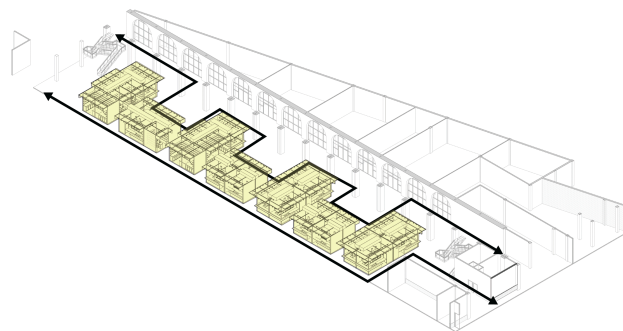


Figure 75: Pocket Retail Space (Source: Author)

Conclusion

Public Transportation is a major asset that municipalities have to offer its citizens. It provides people the freedom to travel in an environmentally friendly economically beneficial way. The city of Hoboken is a model of the effect that public transportation can have on a city. Hoboken Exchange serves is an exploration of how that public transportation could be used as a means to capture the value of the people that use these modes of movement.

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