The Great Retail Metamorphosis: How Americans Shop is How Americans Live

Metro Atlanta Case Study

Isabel Sepkowitz

Applied Research Paper

School of City and Regional Planning

College of Design

Georgia Institute of Technology

May 2018

Advisor: Dr. Subhrajit Guhathakurta

Table of Contents

Background overview and defining the problem

Retail is metamorphosing, but consumerism remains constant. This evolution is driven by innovation and technology, specifically the ability to purchase goods online. Consumers are still spending but are transitioning from physically shopping to online shopping. This decreases the need and function of the brick-and-mortar stores and spaces, such as regional malls. Physical retail stores cannot compete with the ease and accessibility of online shopping and the free to minimal price of delivery services, such as Amazon Prime. Retailers that are innovating omni-channel techniques (marketing over multiple channels, including physical stores and online devices)[1] to incorporate online technology and physical shopping will continue to evolve during the metamorphosis. With mobile technology, consumers can constantly be checking, viewing and potentially buying items on websites, on social media and through email. Retail that cannot compete are reducing the number of stores, going bankrupt, and closing altogether. Figure 1 tracks the number of stores closures from 2013 and the projections to 2019 with 2018 projected to have the highest number of stores closures. Credit Suisse reported that 8,640 will close in 2017, more than during the recession years, and forecast that 25% of malls will close by 2025 (Figure 2).[2] Credit Suisse also predicted that clothing purchased online will be 34% of all retail sales by 2030.[3] These closures lead to vacant stores and shopping centers from areas that were once thriving retail desintations. Closures are not specific to one region, but happening across the United States, specifically in suburban America where regional malls once dominated the

---

[1] Walker, Tommy. "Omni-Channel Retailing: What is Omnig-Channel Commerce, Really?" Shopifyplus. Last modified January 29, 2018. https://www.shopify.com/enterprise/omni-channel-retailing-commerce-what.

[2] Wahba, Phil. Major Wall Street Firm Expects 25% of U.S. Malls to Close by 2022. *Fortune.* 31 May 2017 http://fortune.com/2017/05/31/malls-retail-stores-closing/

[3] Wahba, 2017.

landscape. With 23 square feet of gross leasable area per person, the United States leads the
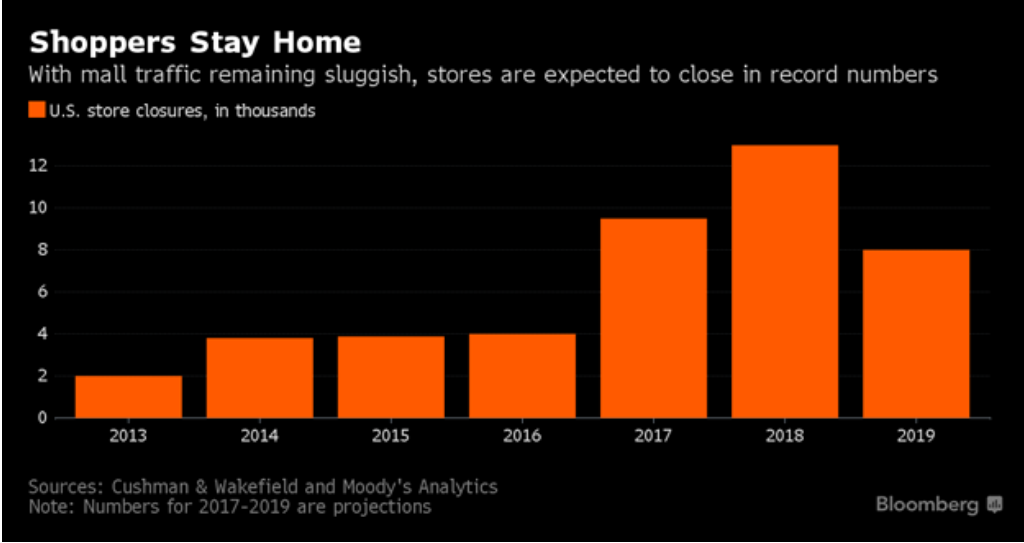
world in retail space per person.[4]

Figure 1. U.S. Store closures from 2013-2016 and projected store closures from 2017-2018. Data source:

Bloomberg, Cushman & Wakefield, Moody's Analytics.

Figure 2. Store closures and 2017 store closure estimate. Data source: Credit Source

---

[4] Cushman & Wakefield Global Cities Retail Guide. United States. Accessed April 10, 2018.
http://cwglobalretailguide.com/unitedstates/.

However, with change in technology, the current square feet exceeds the demand for brick and mortar space, leading to closures. The most extreme visual blight comes in the form of "dead" malls, where over 350,000 square feet or more of operating retail space and net operating income with over 35 stores[5] have dwindled to deserted storefronts and profit deficits. Horror and suspense movies have found new filming locations in these dead malls, such as *Gone Girl* (2014) that was filmed at the dilapidated Hawthorne Mall in Los Angeles, CA.[6] As stores become vacant, this can trigger a domino effect. Vacancy rates greater than the national average of 8.4% for regional malls[7] and overall neglect in maintenance of common spaces can further deteriorate the mall aesthetic. In addition to consumer purchasing behavior and customers buying online, many of these malls are beyond their natural life cycle of thirty years[8] and would require massive retrofits and renovations to compete with other shopping centers that often comes in the form of millions of dollars.[9] Malls were built with a specific customer base in mind: the typical nuclear, suburban household of the 1950's: a husband, a wife, and a few children. Many of the stores were especially catered to housewives. The suburbs of today have changed from the suburbs of fifty to sixty years ago, specifically the less traditional household structures, the decline of purchasing power in the inner-ring suburbs, and the suburbanization of poverty.[10] Given the

---

[5] Sobel, Lee et al. *Greyfields into Goldfields: Dead Malls Become Living Neighborhoods*. Congress for New Urbanism, 2002.

[6] Storm, Christian. "Go Inside the Creepy Abandoned Mall Featured in 'Gone Girl.'" Business Insider. Last Modified October 14, 2014. http://www.businessinsider.com/creepy-abandoned-mall-gone-girl-2014-10.

[7] McBride, Bill. "Reis: Mall Vacancy Ratee unchanged in Q4 2017." 04 Jan 2018. https://www.reis.com/cre-news-and-resources/calculated-risk-blog-reis-mall-vacancy-rate-unchanged-in-q4

[8] Lowry, James. "The Life Cycle of Shopping Center." *Business Horizons*. 40, no. 1 (1997): 77-86.

[9] Retail Research Point of View. Jones Lang Lasalle, LP (2017).

[10] Duany, Andres, Plater-Zyberk and Speck, Jeff. *Suburban Nation*. New York: North Print Press, 2010.

current status of declining malls across the country, some retail developers and real estate investment trusts (REITs) are hesitant to invest in such hefty financial renovations and simply take the do nothing approach. With declining sales volume and the closure of anchor stores, some malls are unable to make their loan payments.[11] Malls have not been dying quietly, the media has reported on this trend within the last year: "Here's What Could Happen to America's Hundred of Dead Malls;" "Malls are Doomed: 25% will be Gone in 5 years," "Ghostly Images of a Dead Mall Tell an American Story," "The Mall of the Future Will Have No Stores," "Here are the Retailers that Filed for Bankruptcy Protection in 2017," "Your local mall is dying unless you are rich." There is also an entire website devoted to documenting "dead malls."[12] One retail expert stated that, "400 of America's 1,100 enclosed malls will fail in the coming years. Of the survivors, about 250 will thrive and the rest will struggle.[13] Thus, dead and declining malls are making headlines nationwide. However, not all malls are declining, the high-end Class A malls are still thriving, but the Class B, C, and D malls are highly threatened.[14] These articles and

---

[11] Burke, Mack. "Struggling Regional Malls Reposition as Retail CMBS Space Sweats." *Commercial Observer*. December 7, 2017. https://commercialobserver.com/2017/12/retail-cmbs-at-risk-repositioning-regional-malls/.

[12] Fung, Esther. "The Mall of the Future will have no Stores." *The Wall Street Journal*. June 12, 2017. https://www.wsj.com/articles/the-mall-of-the-future-will-have-no-stores-1497268801; Isidore, Chris. "Malls are Doomed: 25% will be Gone in 5 years." CNN. June 2, 2017. http://money.cnn.com/2017/06/02/news/economy/doomed-malls/index.html; Sen, Conor. "Your Local Mall is Dying. Unless you are Rich." Bloomberg View. January 13, 2017. https://www.bloomberg.com/view/articles/2017-01-13/your-local-mall-is-dying-unless-you-are-rich; Smith, Aaron. "Ghostly Images of a Dead Mall tell an American Story." CNN Money. November 16, 2016. http://money.cnn.com/2016/11/16/news/dead-mall-photos-seph-lawless/index.html?iid=EL.

[13] Jan Kniffen. Intervfiew for CNBC. Story. "Retail rout points change. May 12, 2016. https://www.cnbc.com/video/2016/05/12/retail-rout-points-to-changes.html

[14] Sobel, *Greyfields into Goldfields: Dead Malls Become Living Neighborhood.*

professional insight are reporting the known problem, but there are still many unknowns during this retail metamorphosis.

Research Questions and Case Study Focus

What will be the rate of store closures? What will be the fate of regional malls? How will stores incorporate consumer behavior and technology into their marketing schemes and physical space? Do consumers prefer certain retail typologies, such as regional malls or urban street retail or lifestyle centers? Do consumers still value the shopping experience or want to do everything on their electronic devices? How should cities best be planned and retrofitted to respond to this decrease in retail space demand? How do e-commerce facility needs and employment skills differ from current brick and mortar stores? Will there still be a need for brick and mortar stores in the future?

These overview research questions are complex and do not have straightforward answers. However, they are the questions that stakeholders, real estate professionals, government officials and city planners need to be asking during this retail metamorphosis. This paper will address these factors to guide decision makers in anticipating future retail space demand and how this shift will affect the networks of cities and their associated suburbs. By focusing on Metro Atlanta and examining retail through a social, business, economic development lens, a literature review of retail location theory will be discussed. Then, a brief history of malls in the United States will and e-commerce behavior be overviewed. After that, the paper will then focus on Metro Atlanta to understand the current supply and market trends of malls and changing retail market, in terms of e-commerce businesses growth in Metro Atlanta. From there, the current supply and market and consumer data sources, specifically sales volume and employment data from 2012-2017, will

be analyzed and applied to metro Atlanta to understand the health of regional malls and shopping centers. Lastly, the data limitations and implications for further research will be highlighted.

Retail Location Theory and History

To understand the current retail metamorphosis, it is necessary to review retail location theory as retail is inherently linked to commerce and how and where people historically and currently exchange goods and services. As cities were established around this exchange, bid-rent theory suggests that retail land use will be the most expensive closest to the central business district to optimize profit of goods and services. The further from the downtown core, the land use rent will proportionally decrease and will first be occupied by industrial uses and then by residential uses.[15] As the bid-rent theory offers insight into retail placement in the downtown core, it does not fully explain shopping center locations, specifically regional malls prominent suburban locations. Central Place Theory better explains shopping center placement in suburban environments. It suggests given evenly distributed population and resources, retail stores are ranked in hierarchy along with other stores and services and will locate in hexagon-like formations based on range, maximum distance to travel, and threshold, minimum number of population required to support either the store or service.[16] While developed around several assumptions and focusing on towns in Germany[17], Central Place Theory principles are evident in

---

[15] Alonso, William. Location and Land Use: Toward a General Theory of Land Rent, Harvard Univ Press, 1964

[16] Christaller, W., and Baskin, C. W. 1966. Central Places in Southern Germany. Englewood Cliffs, NJ: Prentice Hall: 1966.; Losch, A. 1954. The Economics of Location. New Haven, CT: Yale University Press. (1954); Sevtsuk, Andres. Location and Agglomeration: The Distribution of Retail and Food Business in Dense Urban Environment. Journal of Planning Education and Research, 34, 4 (2014): 374-393, (2014)

[17] Christaller, W., and Baskin, C. W., 1966

shopping centers around America with different trade areas associated with population density and the type of shopping center or service. However, as Central Place Theory is only empirical, it provides a framework in understanding retail spatial location and planning.[18]

Retail Characteristics

The inconsistencies with the theory can be attributed to three main retail components that are constantly changing and influencing each other: social (consumer behavior), business (the creation and retention of stores), and economic development (the creation and expansion of jobs). Shopping centers provide social spaces to convene, businesses that sell goods and services, and places of employment for local workers. In some suburban communities, they are the prominent source of local employment by functioning as a commercial hub. Figure 3 depicts how these components interact with each other to better understand the different elements involved in the retail metamorphosis. Currently, changing consumer behavior around technology is the main driver of the retail metamorphosis. Just as the Industrial Revolution catalyzed a shift from the artisanal economy to the manufacturing economy, The Internet has catalyzed a shift from buying mass-produced items in the store to buying products online, even supporting an emerging online artisanal economy, such as Etsy. For example, demographic data denotes what type of stores will be supported and frequented in an area, but mobile and online purchases significantly reduces the need for physical retail space. Less space means less commercial activity in the brick and mortar store sand less employees are needed on site.

---

[18] Rodrigue, John. Retail Center Planning and Central Place Theory. California State University, Northridge, 1975. http://web.csulb.edu/~rodrigue/jps/jj/452paper.html

Figure 3. Venn diagram of retail components, including social behavior, business model and economic development.

Thus, assessing these factors as a retail network—rather than siloed supply chains of goods and services—will be beneficial in addressing substantial store closures and declining shopping centers and regional malls. The retail network would encompass all the elements of consumer behavior, technology advances, store retention and development, sales volume and job creation and the movement of goods and people involved in this network.

History of Malls in America

In order to better comprehend the massive closings and vacancies across the country, the history of malls in America will be discussed. For the past sixty years, Americans have been frequenting the suburban mall for shopping, dining, and entertainment. Austrian architect Victor Gruen built

the first enclosed mall in America called Southdale Center in Edina, Minnesota a suburb of Minneapolis in 1956—the same year as The National Federal-Aid Highway Act. After World War II as Americans began flocking to the suburbs with increasingly efficient public infrastructure and roads centered on automobile dependent lifestyles, Gruen proposed the mall as a gathering place for the car dependent suburbs, to drive, park and then walk to shop.[19] Gruen envisioned malls not just as shopping centers but as community centers of mixed-use developments with housing, dining, and shopping that provided the suburbs their own *agora.*[20] While enclosed malls provide unique spaces for shoppers, they are not public gathering spaces or third spaces (not home or work) that provide informal exchanges and meetings between residents.[21] Jane Jacobs' "public character," the drugstore owner who knows everyone in the neighborhood who keeps "eyes on the street"[22], does not exist in malls because malls are not situated in the streetscape within a neighborhood but rather occupy their own isolated zoned parcel, typically off arterial corridors near planned suburb neighborhoods.[23] Furthermore, malls have strict hours of operation, similar to any business, and management has the power to restrict or prohibit visitors. Unlike Main Street USA, malls have temperature controlled climate spaces that provide customers' air conditioning in the summer months and heat in the winter months. However, enclosed malls do have elements of the quintessential downtown Main Street, as they

[19] Carter, Charles. "What We Know About Shopping Centers." *Journal of Real Estate Literature*. 17, 2 (2009); 165-180.

[20] Gruen, Victor. *Shopping Town USA: The Planning of Shopping Centers*. Van Nostrand Reinhold, 1960.

[21] Oldenburg, Ray. *The Great Good Place: Cafes, Coffee Shops, Bookstores, Bars, Hair Salons*. 3rd. New York: Marlow & Company.

[22] Jacobs, Jane. *The Death and Life of American Cities*. Random House, New York: 1961.

[23] Jacobs, 1961.

internalized externalities and brought the main street attractions inside the building.[24] The

elements of Main Street, USA include: fountains, lighting, benches, central meeting places,—

often where Santa is set up during the holiday season— and street vendors in the form of mall

kiosks. Gruen's malls were purposely designed to stray the customer from the original shopping

destination to shopping and spending at other locations within the mall, often referred to at the

Gruen Transfer or the Gruen Effect.[25] As malls were replicated across the country, there was a

sense of sameness to them, and a unique mall culture was formed from mall walkers to mall

pageant shows to teenagers' first jobs and first dates. While malls developed their own intrinsic

culture, ultimately, Gruen's true goal of creating vibrant community centers only led to more

isolated places and leap-frog development. He is famously quoted at the end of his career stating,

"I refuse to pay alimony for these bastard developments. They destroyed our cities."[26] While the

popularity of American regional malls peaked in 1990,[27] Americans are diversifying where they

shop with other types of retail, such as factory outlets, strip mall, new urbanist downtowns, and

online (Figure 4). As Figure 4 highlights the trend of revitalized downtown trend, a future chart

would reflect revitalized or retrofitted regional malls as mixed-use centers and e-commerce

fulfillment centers in the next stage in the retail cycle. However, in dense metropolitan areas

---

[24] Paschingon, B and Gould, E. "Internalizing Externalities: the Price of Space in Shopping Malls.*" The Journal of Law and Economics*. (1998): 115-141.

[25] Trufelman, Avery. May 5, 2015. "The Gruen Effect." Podcast Audio. 99% Invisible. Episode 163. https://99percentinvisible.org/episode/the-gruen-effect/.

[26] Trufelman, 2015.

[27] Geiling, N and ESRI. "The Death and Rebirth of the American Mall." Smithsonian. November 25, 2014. https://www.smithsonianmag.com/arts-culture/death-and-rebirth-american-mall-180953444/

around the world, most notably Hong Kong and Singapore, enclosed malls are thriving as they maximize urban form efficiency adjacent to mass transit and high pedestrian volumes.[28]
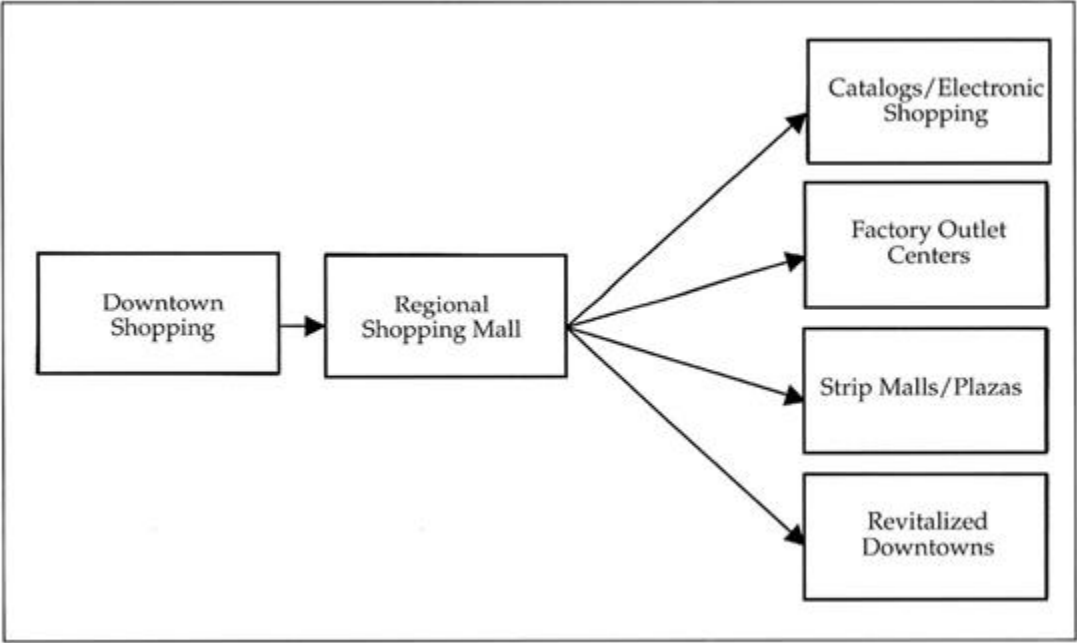

Figure 4. The restructuring of retail business in the United States. Data Source: Barnes, 2005.

Retrofitting Malls

Now as regional malls are closing and declining throughout America, renovation of these spaces and buildings will occur on a case-by-case basis, yet there are consistent trends in all of these cases: the age of the mall, vacancy rates, sales volume, the changing customer base and their preferences, including online purchases.[29] Aligned with the retail life cycle theory, malls operate on a life cycle from construction to demolition that follows early growth, to accelerated

---

[28] Al, Stefan. *Mall City: Hong Kong's Dreamworlds of Consumption*. University of Hawai'I Press, 2016.

[29] Sobel, 2002.

development, to maturity, to decline, typically on a 30-year time frame (retailing critical concepts.[30] When understanding the economic vitality of a mall, the age is a critical component. Without expansive retrofits to serve updated customer needs, malls begin to feel outdated in the architecture style that they were built, often reflective of that time period. Thus, regional shopping centers that have 30 years to maturity will be in the declining stage of their life cycle.[31] In adapting old malls, there is potential to reuse the space for other uses, such as education (institutional), office, hotel, residential and mixed-used walkable centers.[32] Complete renovation require strategic public-private partnerships to successfully implement retrofits of these colossal structures, including re-zoning and financing.[33] Applying the retail network ideology (Figure 3) to understand how consumer behavior and technology interactions influence business and economic development will be necessary during this retail metamorphosis.

E-commerce Behavior

To understand the impact of e-commerce on the retail, consumer purchasing behavior around e-commerce activity was analyzed on a national level. The quantifiable extent to which each individual consumers shop online is uncertain. However, there are data sources from U.S. Department of Commerce that document e-commerce trends. Further insight into consumer behavior is privately provided to retail businesses through focus groups and the emerging technology of geo-tracking that uses mobile phones and Wifi connections to reveal how

[30] Findlay, A.M. and Sparks, L. *Retailing: The environments for retailing*. New York: Routledge, 2002.

[31] Findlay, A.M. and Sparks, L, 2002.

[32] Dunham-Jones, Ellen. *Retrofitting Suburbia*. John Wiley & Sons: Hoboken, 2011.

[33] Sobel, 2002.

customers move around in stores[34]. According to the 2016 American Time Use Survey, the

average civilian hours per day allotted towards "Purchasing goods and services" 45 minutes with

21.6 minutes for consumer goods purchases and 6 minutes for grocery shopping. The average

civilian hours per day dedicated to "Travel related to purchasing goods and services" is 17.4

minutes.[35] For the survey, consumer purchases are defined as "the time spent on purchasing or

renting consumer goods, regardless of the mode in person, over telephone, or on the Internet."[36]

Thus, the 62.4 minute per day average spent on purchasing goods and traveling to purchasing

goods conveys the habitual nature of consumerism for the average American. Further delineating

retail sales, Figure 5 depicts the percentage of e-commerce sales in relation to all retail sales. For

the fourth Quarter 2017, the ratio of e-commerce sales to overall retail sales is 9 percent,

reflected in Figure 5. The Quarterly Retail E-commerce Sales Report defines e-commerce as

"sales are sales of goods and services where the buyer places an order, or the price and terms of

the sale are negotiated over an Internet, mobile device (M-commerce), extranet, Electronic Data

Interchange (EDI) network electronic mail, or other comparable online system. Payment may or

may not be made online."[37] This definition reflects the multitude of channels consumers prefer to

buy goods. The peaks in the fourth quarter are related to seasonality, specifically around the

---

[34] Siegal, Robert. June 16, 2014 "How Retailers Use Smartphones to Track Shoppers in The Store.All things Considered. How Retailers Use Smartphones to Track Shoppers in the Store."https://www.npr.org/2014/06/16/322597862/how-retailers-use-smartphones-to-track-shoppers-in-the-store

[35]American Time Use Survey, Bureau of Labor Statistics. https://www.bls.gov/tus/a1_2016.pdf.

[36] American Time Use Survey User's Guide. U.S. Census Bureau. 2017. https://www.bls.gov/tus/atususersguide.pdf

[37] Retail e-commerce sales are estimated from the same sample used for the Monthly Retail Trade Survey (MRTS). A stratified simple random sampling method is used to select approximately 10,000 retail firms whose sales are then weighted and benchmarked to represent the complete universe of retail firms. The MRTS sample is probability based and represents all employer firms engaged in retail activities as defined by the North American Industry

Estimated Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales:
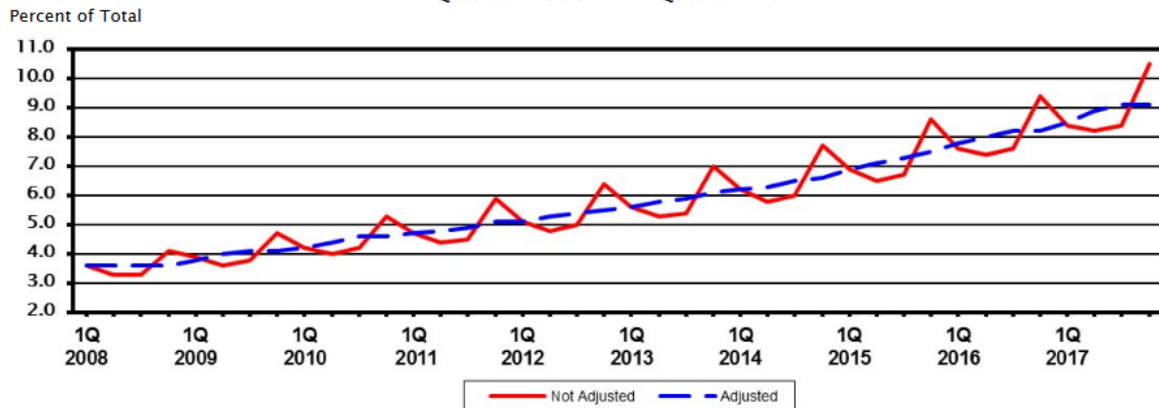1st Quarter 2008 - 4th Quarter 2017

Figure 5. Adjusted and Not Adjusted e-commerce sales from 2008-2017 by quarter. Data source: U.S. Department of Commerce. The not adjusted peaks occur in the fourth quarter during holiday shopping season.

winter holiday season. Since 2008, the non-adjusted rate has steadily increased from 3.5 percent to 9 percent. In further interpreting the graph, understanding the sales volume for in-store retail versus e-commerce retail is important. For example, in the third quarter of 2017, the adjusted e-commerce retail sales amounted to approximately $115 billion where retail sales overall amounted to approximately $1.27 trillion.[38] Much of the consistent increase can be attributed to Amazon, who accounted for 4% or retail sales in 2017 and 44% of e-commerce sales.[39] These percentages are only expected to increase with Amazon's recent purchase of Whole Foods and expansion of Amazon Fresh, where consumers can buy groceries online. The ease of mobile

Classification System (NAICS). (US Census Bureau; Monthly & Annual Retail Trade; https://www.census.gov/retail/ecommerce/how_surveys_are_collected.html)

[38] "Quarterly Retail E-Commerce Sales." U.S. Department of Commerce, Washington DC, 2018. https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

[39] Vena, Danny. "Amazon Dominated E-Commerce Sales in 2017." The Motley Fool. January 12, 2008. https://www.fool.com/investing/2018/01/12/amazon-dominated-e-commerce-sales-in-2017.aspx, One Click Retail

commerce[40] is a massive driver for Amazon's and e-commerce's success, and is projected to

increase to 45% of e-commerce sales by 2020.[41] Furthermore, e-commerce is continuing to

disrupt and change the retail economy and understanding the market trends will help influence

decision makers in future retail developments.

What are consumers buying online?

To understand how the demand for retail space will change in the future, it is necessary to

analyze what items that consumers are buying online, which will influence the physical space in

brick and mortar stores. Figure 6 reveals the most common items bought online are other

merchandise[42] and clothing and clothing accessories (including footwear). The clothing and

clothing accessories make up the majority of stores within malls, so as this percentage increases,

the need for brick-and-mortar space for clothing retail decreases. Furniture and home furnishing

is another category above the national average for e-commerce activity. Previously thought to be

resistant to internet sales, the Food and Beverage category is expected to increase. A study from

the Food Marketing Institute (FMI) and Nielson found that almost half of participants purchased

"packaged goods" online in the last three months.[43] If the need for grocery stores decreases due

---

[40] Mali, Nabeena. "Your M-Commerce Deep Dive: Data, Trends and What's Next in the Mobile Retail Revenue." Big Commerce. https://www.bigcommerce.com/blog/mobile-commerce/.

[41] Meola, Andrew. "The Rise of M-Commerce: Mobile Shopping Stats & Trends." Business Insider. Decebmer 21, 2016. http://www.businessinsider.com/mobile-commerce-shopping-trends-stats-2016-10 US Census Bureau, comScore, Statistics, BI Intelligence Estimates

[42] Definition "Other merchandise" to "include items such as collectibles, souvenirs, auto parts and accessories, hardware, lawn and garden equipment and supplies and jewelry" (Data source: New Insights on Retail E-Commerce)

[43] Weinswig, Deborah. "Online Grocery Set to Boom in 2018 (As Amazon Acknowledges Online Grocery a Tough Market to Crack)." Forbes. March 1, 2018. https://www.forbes.com/sites/deborahweinswig/2018/03/01/online-grocery-set-to-boom-in-2018-as-amazon-acknowledges-online-grocery-a-tough-market-to-crack/#586c0202520b.

to online spending, this will significantly affect many types of shopping centers and

neighborhoods. Thus, tracking national online spending statistics gives insight into consumer
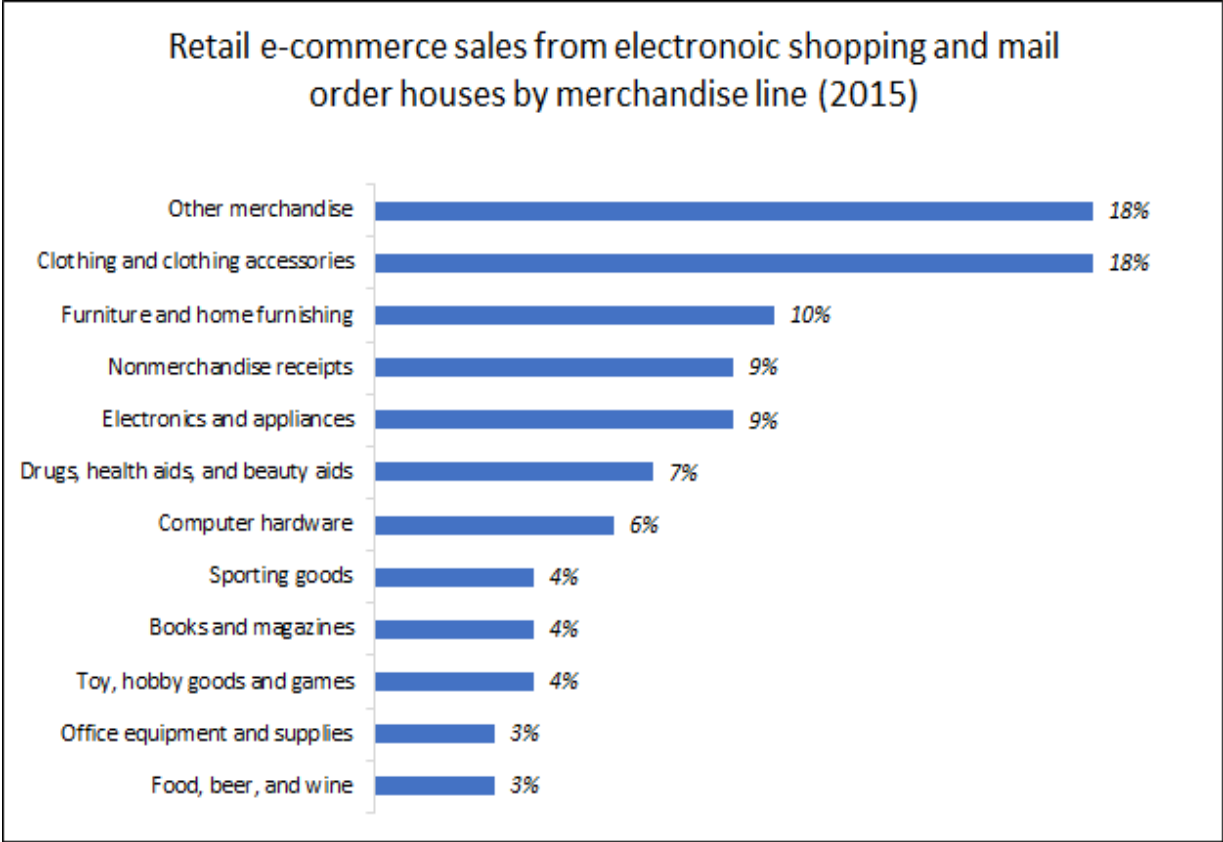
behavior and technology.

Figure 6. The percentage of e-commerce sales categorized by product type for NAICS 4541 (Electronic Shopping
and Mail Order Houses). Data source: U.S Department of Commerce, Office of the Chief Economist.

Case study: Metro Atlanta

As retail location theory and national retail market trends have been discussed, the paper will

now focus on Metro Atlanta to understand how retail trends and the health of regional malls at a

regional level. With the City of Atlanta with a population of 472,522 and the Metro Atlanta MSA

(29 counties) with a population of 5,535,837,[44] the greater Atlanta region has long been deemed the poster child for sprawl.[45] In a sprawling metropolis, malls popped up as planned unit developments were built and the freeway system was constructed on cheap, suburban land. Thus, Metro Atlanta will be optimal test bed to understand the future of regional malls.
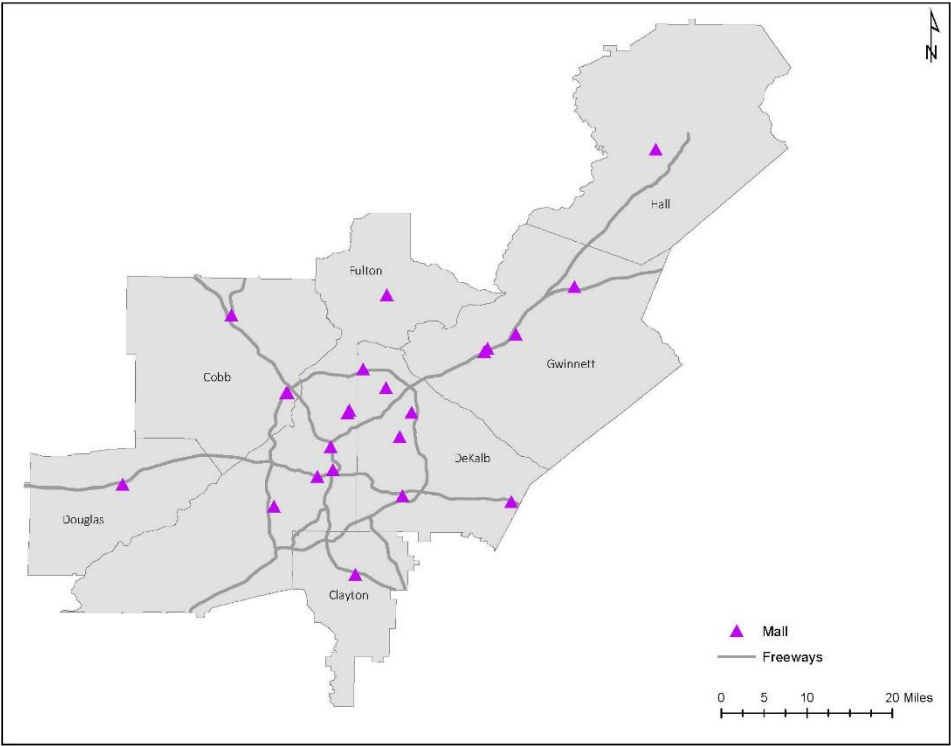

Figure 7. Map of regional malls in Metro Atlanta.

Current Supply of Malls in Metro Atlanta

 Similar to a real estate market analysis, the current, future and proposed supply of malls was analyzed to understand the anticipated demands for regional malls. There were no malls under

---

[44] Population. US Census Bureau, 2015.

[45] Mulholland, Quinn. "Urban Sprawl's Poster Child Grows Up." *Harvard Political Review.* February 28, 2016. http://harvardpolitics.com/united-states/urban-sprawls-poster-child-grows/.

construction or proposed in Metro Atlanta and the last regional mall (Sugarloaf Mills) was

opened in 2001[46] (Sugarloaf Mills). However, the majority of malls were built over thirty years

ago. Mixed-use or lifestyle centers, such as Atlantic Station, have been built more recently,

including Westside Provisions (Renovated Industrial Buildings and open-air lifestyle center,

2007), Ponce City Market (Renovated Industrial Building, 2014) and the Edgewood Retail

District (open-air lifestyle center, 2005) that host retail spaces with some overlapping stores that

are found in regional malls.[47] Some malls have remained very successful, some have satisfactory

sales volumes, some have declining sales, some have been demolished, and some have been

reused for other uses. In addition to the supply, the malls with vacant anchor stores were

identified, the malls include: 1) North Dekalb Mall (Dekalb County) 2) Southlake Mall (Clayton

County) 3) Gwinnett Place Mall (Gwinnett County) and 4) Greenbriar Mall (Fulton County). All

of these malls are in growing counties,[48] but with vacant anchor stores, aging infrastructure on

site, competition from nearby regional malls, and e-commerce activity, their future looks dismal.

Table 1 depicts the dead malls in the metro Atlanta region. These malls closed after over a thirty

years life cycle and now have other land uses onsite. These malls were located in the suburbs of

Metro Atlanta and faced pressures from other malls and a changing demographic base. For Cobb

Center Mall, the majority of the space was demolished, but Rich's department store remained

and a grocery store was built in an adjacent strip mall. Only Shannon Mall was affected by the

economic conditions during the Great Recession in 2008-2009, where now a 345,000 sq. ft.

---

[46] CosStar Data, 2016.

[47] CoStar Data, 2016.

[48] US Census (American Community Survey, 2015), Atlanta Regional Commission (Projected 2040 Population)

movie studio operates on-site that provides jobs for Georgia emerging film and television

industry.[49]

Table 1. Description of dead malls in metro Atlanta and their current use. Data Source: Deadmalls.com, Sky City

Name	Location	Opening	Closing	Demolition	Current Use
Cobb Center Mall	Smyrna, GA	1964	1995	1996	Grocery store; strip mall
Columbia Mall/Avondale Mall	DeKalb County, GA	1964	2001	2007	Walmart
Columbus Square Mall	Columbus, GA	1965	2003	2008	Library; School District Office
Shannon Mall (Union Station)	Union City, GA	1980	2011	2014	Atlanta Metro Studios

In addition to demolished malls, several malls in the Metro Atlanta region are diversifying their

uses. For example, Phipps Plaza in the City of Atlanta recently announced that it will incorporate

mixed-use development, including a hotel, office tower and fitness center.[50] At the Mall of

Stonecrest in DeKalb County, real estate developers recently announced that an entertainment,

sports complex will be integrated into the mall through an unused Kohl's store and adjacent

parcels to accommodate sports fields, stadiums and medical facilities.[51] Thus, mall developers in

Metro Atlanta are envisioning how to transition regional malls into other uses with under

construction and proposed developments.

E-commerce Businesses Metro Atlanta

---

[49] Hensley, Ellie and Sams, Douglas. "Shannon Mall to be Redeveloped into a New Film and TV Studio." *Atlanta Business Chronicle*. October 28, 2014. https://www.bizjournals.com/atlanta/real_talk/2014/10/shannon-mall-to-be-redeveloped-intoa-new-film-and.html.

[50] Green, Josh. "Fresh renderings: Phipps Plaza mixed-use overhaul is Moving Forward." Curbed Atlanta. March 9, 2018. https://atlanta.curbed.com/2018/3/9/17098098/phipps-plaza-nobu-hotel-buckhead.

[51] Parker, Jennifer. "Atlanta Sports City Taking Shape in Stonecrest." *CrossRoadsNews*. October 20, 2017. http://www.crossroadsnews.com/news/atlanta-sports-city-taking-shape-in-stonecrest/article_ccb3118a-b531-11e7-8f88-7359528b3d6d.html.

After the current supply of malls was researched, e-commerce retail businesses were analyzed in

Metro Atlanta to understand changing consumer behavior. It should be noted that e-commerce

businesses do not necessarily directly compete with regional malls in Metro Atlanta, but they

influence the local retail network. By filtering ESRI Business Data for 2011 and 2015 by NAICS

code (454111)[52], an increase in e-commerce shopping reflects the increase in total retail sales.

The overall NAICS code is 45411 that comprises retail not in brick and mortar store not limited

to: mail order houses, television orders, internet auction sites, web retailers.[53] For this

comparison to better understand consumer behavior, non-store retail businesses in metro Atlanta

were extracting through NAICS codes:

1) 454112 (Auctions, internet retail and electronic auctions retail) and

2) 454111 (audio and video content downloading retail sales sites, business to consumer

   retail sales internet sites, e-tailers, institutional pharmacies (exclusively on the Internet),

   Internet retail sales sites, and web retailers).[54]

When filtering the businesses, there were only two businesses that identified as 454112 in 2015

and none in 2011, so these two businesses were not included in the overall analysis. The increase

in business locations and average sales volume from 2011 to 2015 conveys the strength and

popularity in this emerging market (Table 2). These types of businesses increased by eight fold

from 2011 to 2015.

---

[52] The NAICS system coding changed in 2017. For the years, 2011 and 2015 the codes of interest stayed the same.

[53] 454110 Electronic Shopping and Mail-Order House. NAICS Code Description. https://www.naics.com/naics-code-description/?code=454110

[54] 454110 Electronic Shopping and Mail-Order House. NAICS Code Description. https://www.naics.com/naics-code-description/?code=454110.

Table 2. 2011 and 2015 Sales Volume and Employment Size for NAICS 454111 (Non-store Retail Businesses).

Data source: ESRI Business Analyst, 2015.

NAICS 454111 (Non-store Retail Businesses)

Category	2011	2015
Number of Businesses	41	365
Sales Volume Sum	64713	1461617
Sales Volume Average	1578	4004
Average Number of Workers	3.8	6.1

The locations of non-store retail businesses are clustered around City of Atlanta and in Fulton,

Dekalb, Cobb, and Gwinnett County, the most populous Atlanta MSA counties.
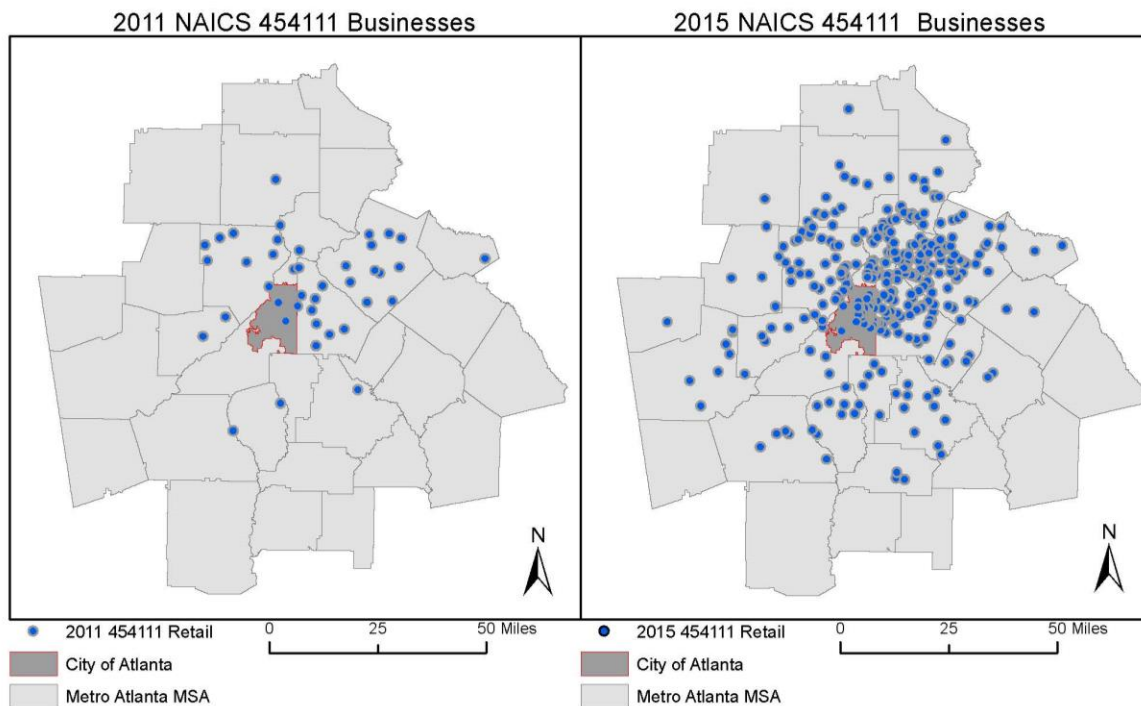

Figure 8. Map of 454111 Business (Non-Store Retail) in 2011 and 2015. Data source: ESRI Business Analyst 2015.

Further consumer research would be needed conducted to account for any overlap between local

brick-and-mortar customers and the purchase at these local non-store retail sites and to identify

competition between the non-store retail and shopping centers. This increase in non-store

businesses in Metro Atlanta also reflects the national trend of increased e-commerce businesses and sales. Figure 9 shows the spatial distribution of non-store retail, shopping centers, and regional malls in the Atlanta MSA.
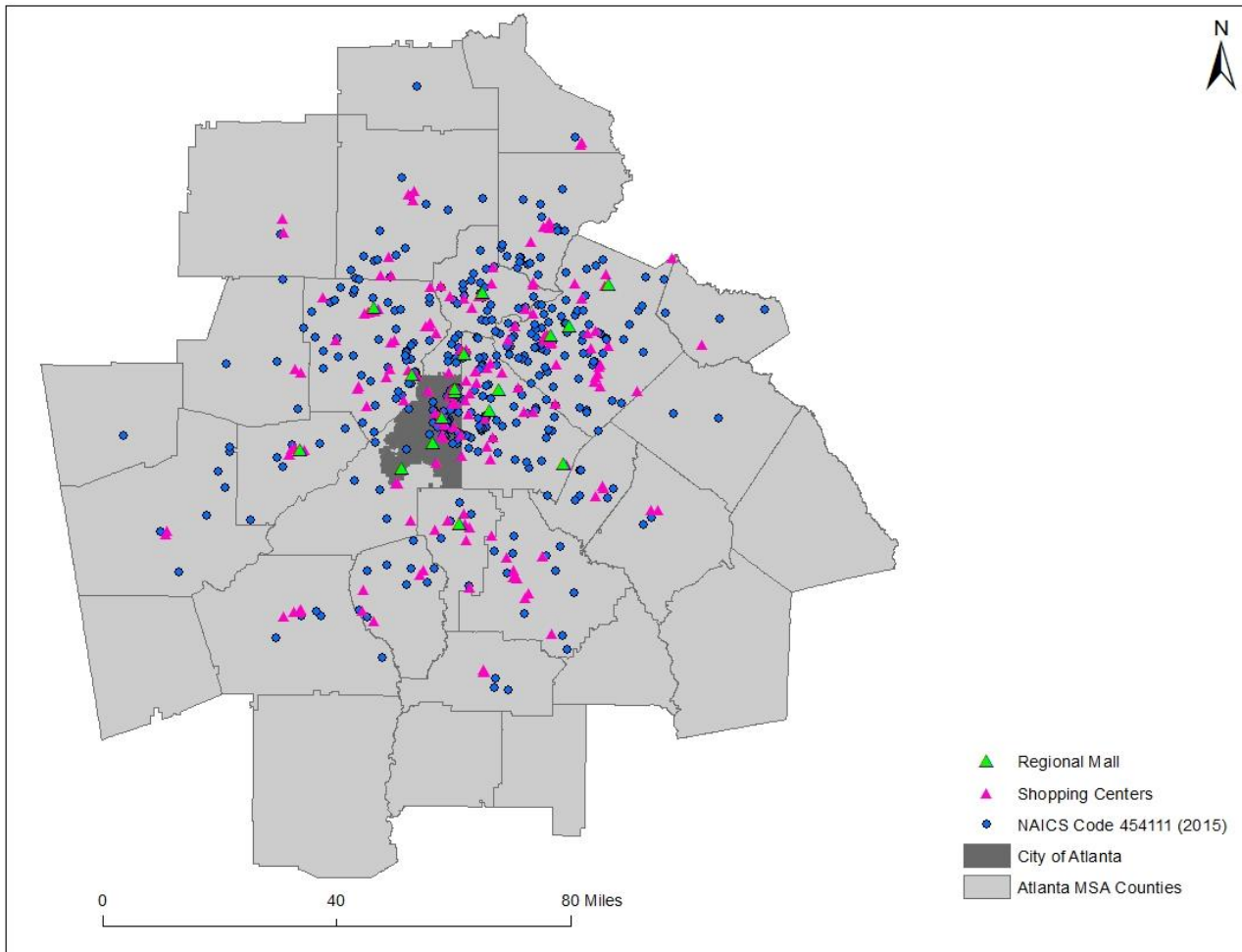

Figure 9. Map of Regional malls, shopping center and e-commerce businesses in Metro Atlanta MSA. Data Source: ESRI Business Analyst, 2015.

Methodology

To understand the fate of regional malls in Metro Atlanta, this study will focus on common stores located in regional malls as a representative sample to convey the success or decline of regional malls in Metro Atlanta. For this study, three regional malls were selected in different geographic areas of Metro Atlanta. Figure 10 displays the location of the following malls:

1) Mall of Georgia (Northeast)

2) Lenox Square (Central)
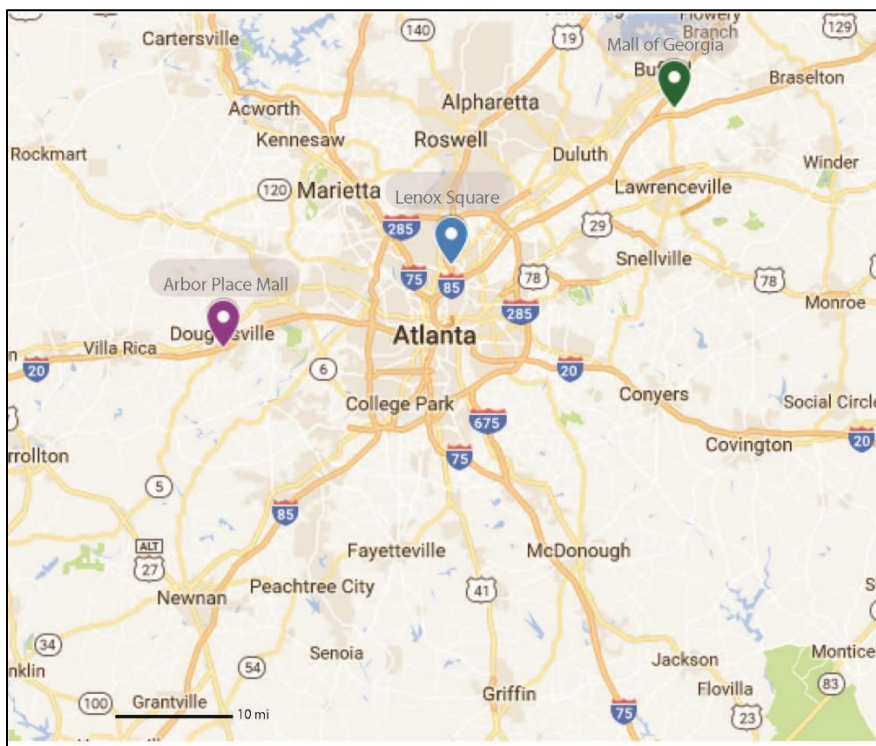
3) Arbor Place Mall (Southwest)

Figure 10. Map of Arbor Place Mall, Lenox Square and Mall of Georgia.

The store list of each of these malls was compared to find the same stores in each mall to compile a list of typical stores found in malls. Each mall had a variety of types of stores but

were consolidated into Department Stores, Clothing Stores, Accessories, and Health & Beauty Stores. For the purpose of this study, Food & Beverage, although present in each regional mall and included in retail sales, will not be included in the store comparison. Table 3 shows the stores selected from the sample. From this list, historical data from 2012-2017 was pulled from Reference USA for the Metro Atlanta MSA geography. From Reference USA, the name, Year, Primary SIC and NAICS code, the employment size, employment range, sales volume, sales range, years in database, years established and the latitude and longitude were extracted. The historic data provides the employment size and range and sales volume size and range for each business by year. After extracting the data, the store name and typology was identified and labelled for each address. From here, the average of sales volume and employment size were aggregated by retail typology by year to show the average sales and employment from 2012-2017. For 2017, the sales volume was not yet been reported. With close to 3,000 entries from 2012-2017 in Reference USA, the individual stores were then aggregated to the type of store from Table 3. Thus, after modifying, the data set longitudinally provided both quantitative (employment and sales volume) and qualitative (typology). Understanding the difference in store type performance based on typology will provide insight into the future of regional malls, specifically in terms of consumer purchasing behavior and economic development.

Table 3. Description of type of stores from selection process. Data source: Mall of Georgia, Lenox Square, Arbor

Place Mall.

Type of Store	Description	Size (Square Feet)	Store Name
Department (Anchor)	Variety of items (including clothing; accessory; household)	60,000-100,000	1) Macy's 2) Dicks 3) Dillard's 4) JCPenney 5) Belk's 6) Sears
Clothing	Men's; Women's; Children's	6,600-25,000	1) Forever 21 2)Aeropostale 3) American Eagle 4) Express 5) Hollister Co. 6) Gymboree
Accessories	Jewelry; Hats; Shoes; Luggage; Sunglasses	2,100-4,000	1) Icing 2) Lids 3) Sunglass Hut 4) Footlocker 5) Pandora
Health & Beauty	Vitamins; Retail and Service Oriented	1,400	1) GNC Live Well 2) LensCrafters
Total Stores			Department Stores (6) + Regular Stores (14)
Overall			22 stores

Source: eMarkter Retail

The typology categorization was based on the ICSC U.S. Shopping Center Classification and

Characteristics.[55] However, there were minor adjustments to this typology classification. The

retail typologies identified were: 1) Super regional mall; 2) Regional mall; 3) Commercial

Center; 4) Neighborhood Center 5) Power Center; 6) Strip Mall/Convenience Center; 7)

Lifestyle Center; 8) Mixed Use; 9) Stand Alone; 10) Urban Street Retail; 11) Factory Outlet.

The main changes to the ICSC Classification were the "Mixed Use" category and the "Urban

Street Retail" category. After adding the shopping center name and typology, the typologies

were extracted via Pivot Tables in Excel to be aggregated by year and by typology based on

---

[55] U.S. Shopping-Center Classification Characteristics. ICSC Research and Shopping Center.

average sales volume and average employment size. Then, each store within the overall store category, such as Department Store, was combined by typology and by year for the average sales volume and the average employment size. Figure 11-14 display the results from this process.

Table 4. Shopping Center Classification. Data Source: ICSC Research and Shopping Center.

| Type of Shopping Center	Description	Average Size (SF)	Trade Area Size	Atlanta MSA Example
Super Regional mall	Larger enclosed shopping center; fashion stores	800,000+	5-25 miles	Mall of Georgia
Regional Mall	Enclosed shopping center; parking around the perimeter	400,000-800,000	5-15 miles	North DeKalb Mall
Community Center (Large Neighborhood Center)	Discount store; supermarket, drug, large-specialty (big box)	20,000-60,000	3-6 miles	Medlock Corners
Neighborhood Center	Supermarket; convenience oriented	10,000-40,000	3 miles	Fairvew Oaks Shopping Center
Power Center	Category-dominant anchor, discount department stores, wholesale clubs; 3 or more big box stores	250,000 to 750,000	5-10 miles	Camp Creek Marketplace
Strip Mall/ Convenience Center	convenience stores		<1 mile	Wade Green Crossing
Lifestyle	Upscale national chains; open air	150,000-500,000	8-12 miles	Avalon
Factory Outlet	Discounted chain stores; open air	400,000	25-75 miles	The Outlet Shoppes at Atlanta
Mixed-Use	Retail plus other uses such as hotel, conference center, offices, residential, ect	Varying	8-12 miles	Atlantic Station
Urban Street Retail	Retail in downtown; urban environments	Varying	Varying	Downtown Atlanta
Stand Alone	One store	Varying	Varying	Many

Department Stores
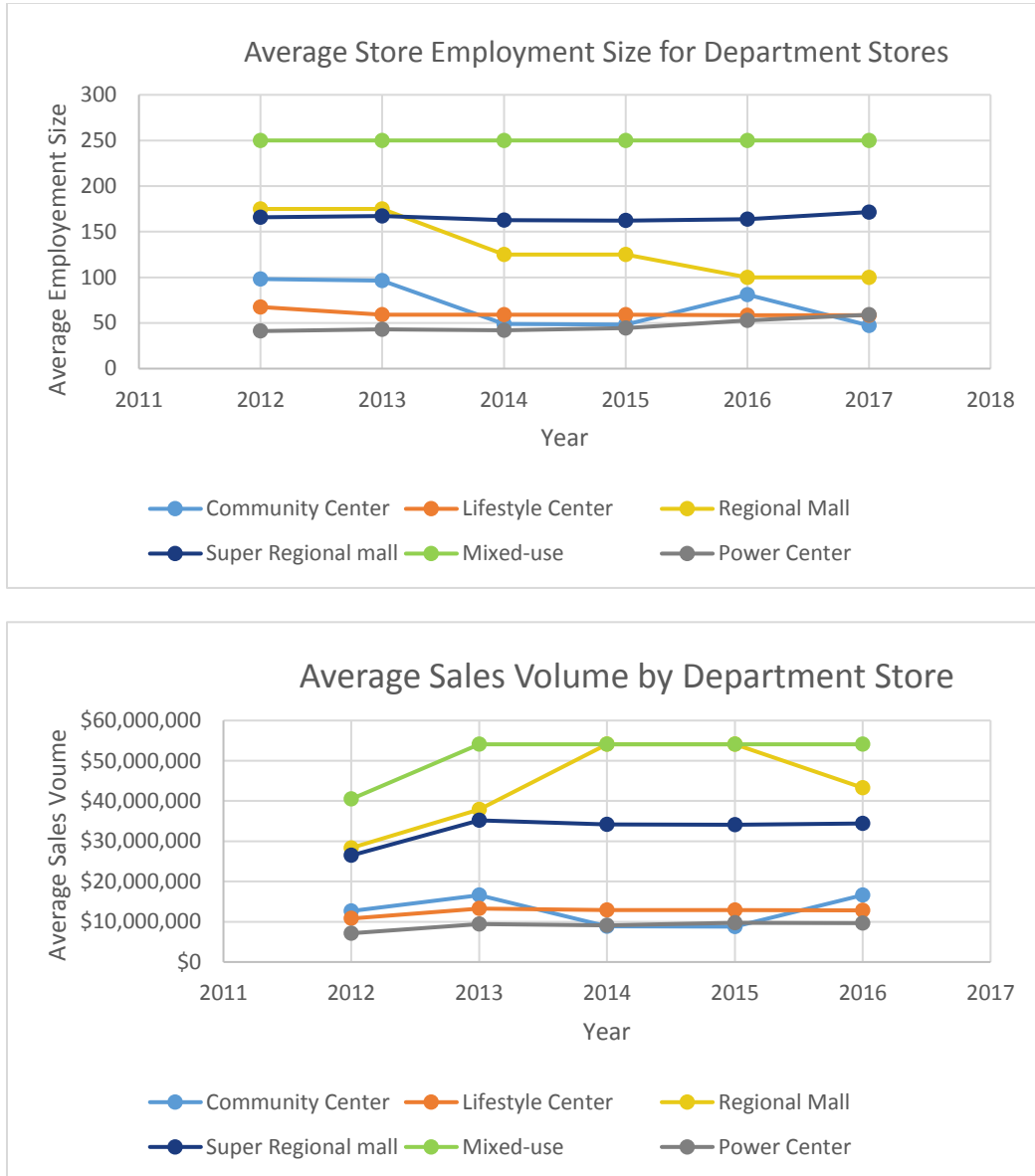
Figure 11. Average Sales Volume and Employment for Department Stores from 2012-2017 at six different typologies. Over 700 data entries with Super Regional Mall the most numerous typology identified. Representative sample from Macy's, Dick's Dillard's, JCPennys, Sears, and Belk's. Dick's was located at the most typologies. 2017 sales volume was not reported. Data source: Reference USA.
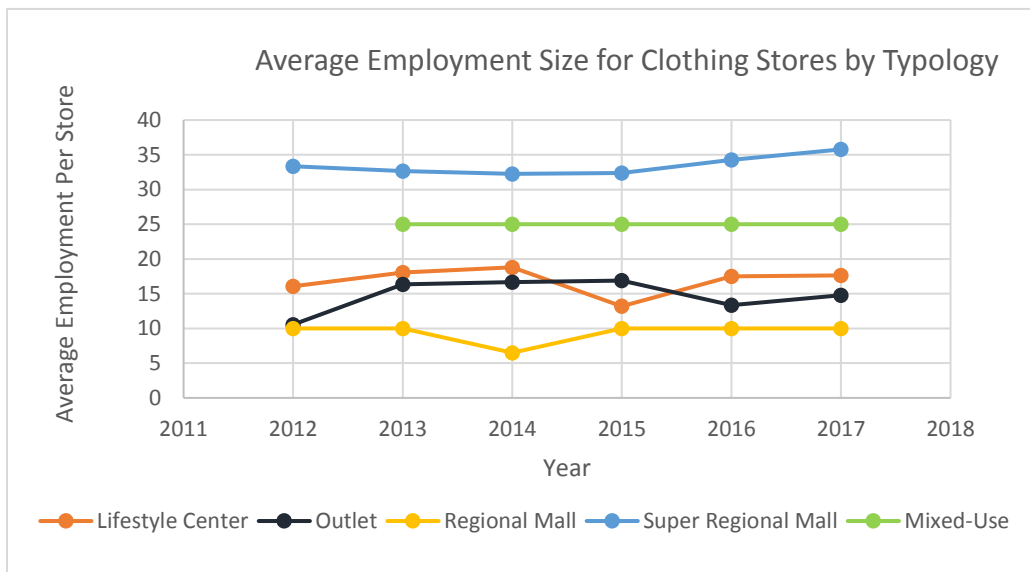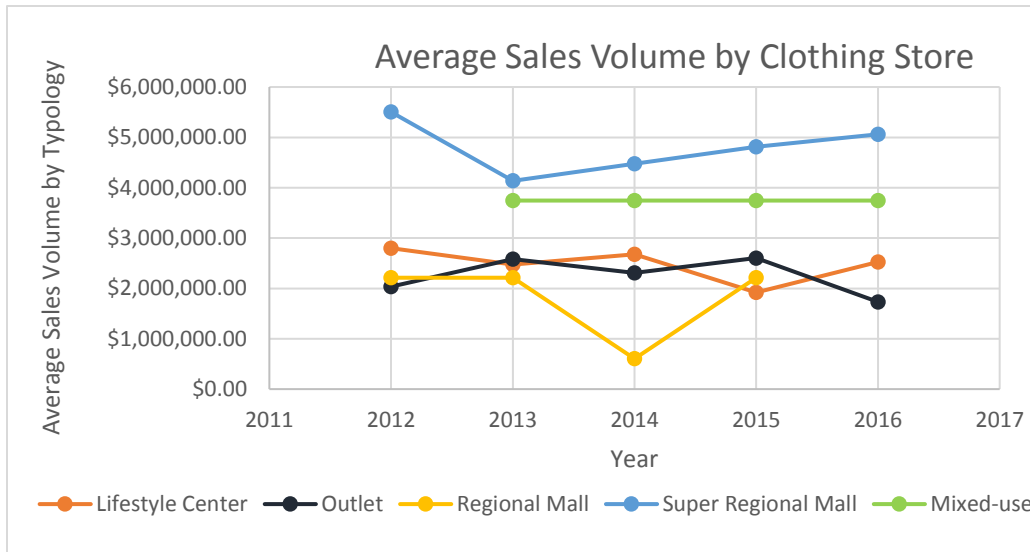
Clothing Stores

Figure 12. Average Sales Volume and Employment for Clothing from 2012-2017 at five different typologies. Over 700 data entries with Super Regional Mall the most numerous typology identified. Representative sample from Forever 21, Aeropostale, American Eagle, Express, Hollister Co., and Gymboree. 2017 sales volume was not reported. Data source: Reference USA.
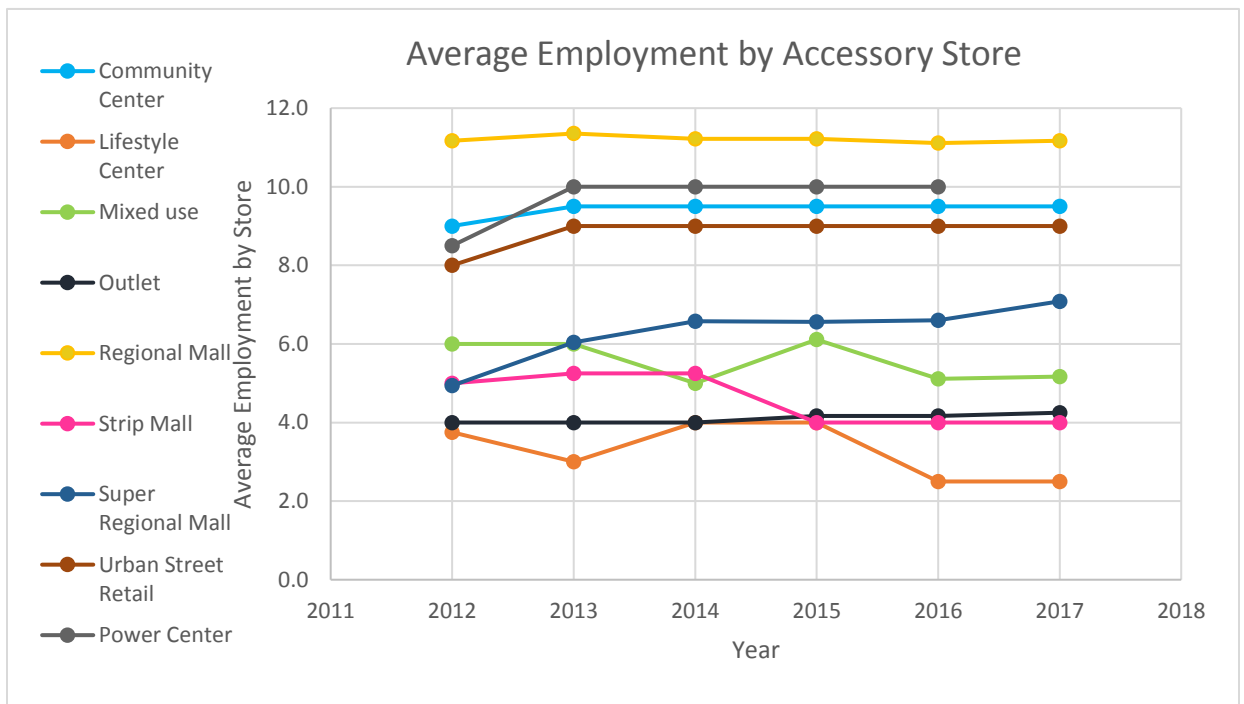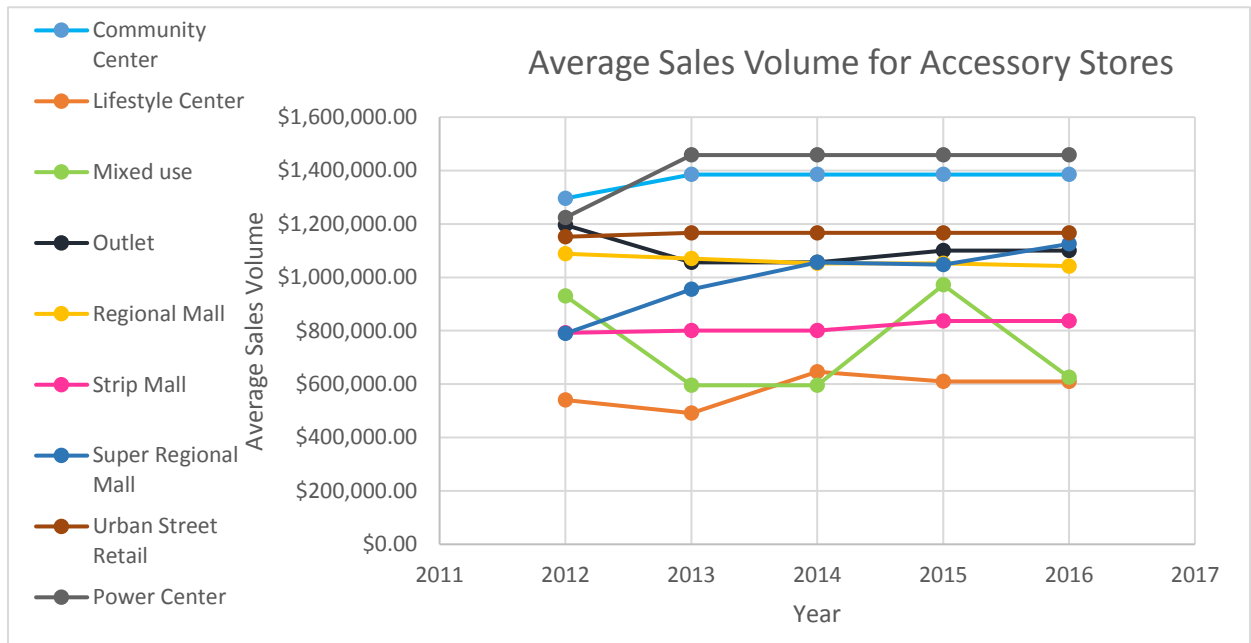
Accessory Stores

Figure 13. Average Sales Volume and Employment for Accessory Stores from 2012-2017 at nine different typologies. Over 700 data entries. Representative sample from Icing, Lid's, Sunglass Hut, Footlocker, and Pandora. 2017 sales volume was not reported. Data source: Reference USA.
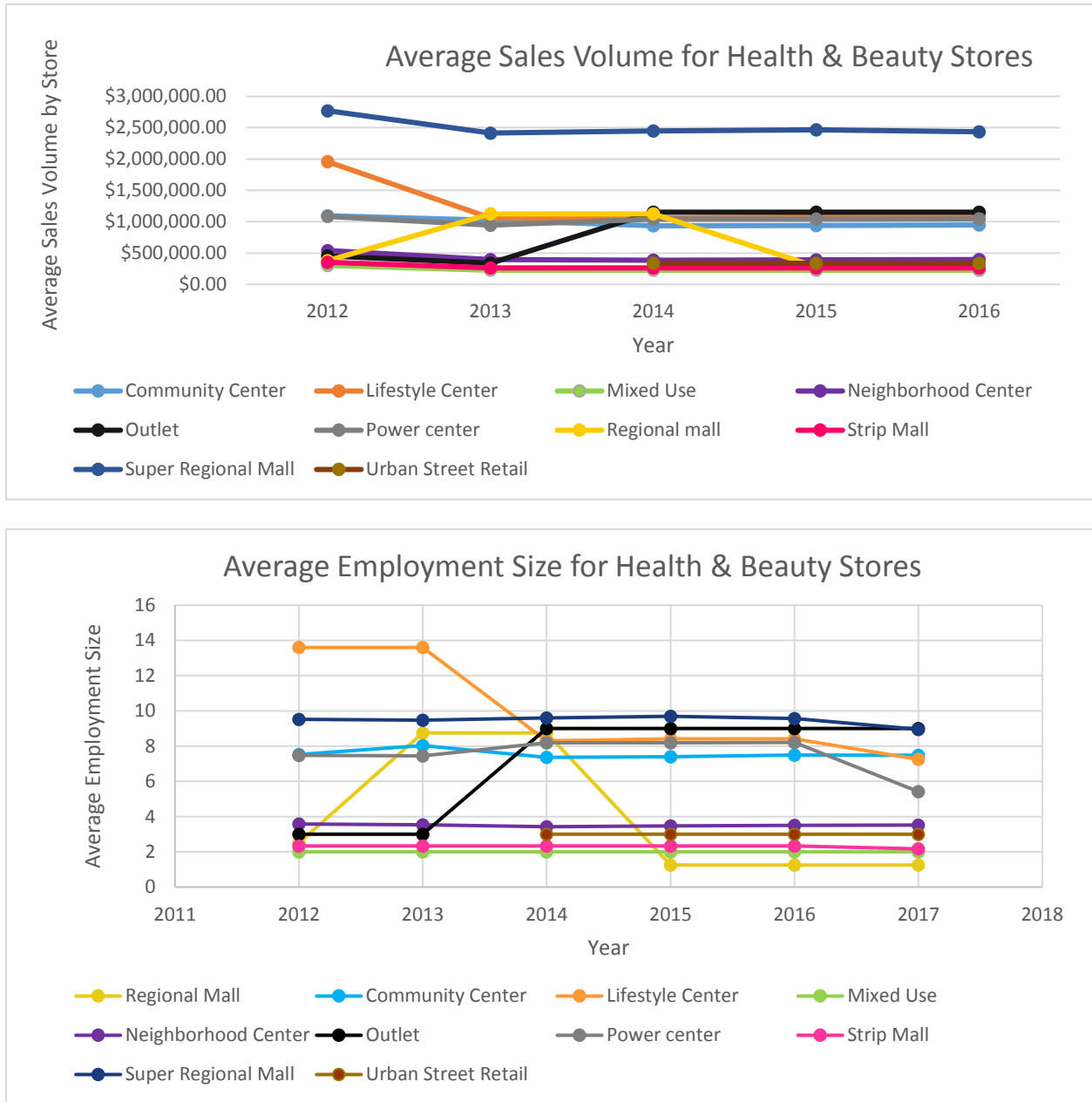
Health & Beauty

Figure 14. Average Sales Volume and Employment for Health & Beauty Stores from 2012-2017 at ten different typologies. Over 600 data entries. Representative sample from GNC and LensCrafters 2017 sales volume was not reported. Data source: Reference USA.

Results

The results will be discussed with general trends and then for each typology. Overall, Mixed Use and Super Regional Mall stores are increasing or remaining successfully steady. For example, the average for Mixed Use Department Store has 250 employees per store and an average of $55 million in sales volume per year. Department stores have the biggest business and economic impact per shopping center with the highest average number of workers and sales volume. For all of the store types, regional malls' average sales volume and employment size are declining over time.

Department Stores

With Department Stores, regional malls have decreased the average number of employees per store from 175 (2012) to 100 (2017). From 2013 to 2014, as the employees per store decreased, the sales volume increased. However, from 2015 to 2016 as employment size decreased, sales volume started to decrease as well. This downsizing of employment in stores is consistent with the national and regional trend of declining regional malls. For Department Stores, super regional malls are remaining constant in sales volume around $35 million and worker size around 175 workers. Power center, lifestyle centers and community center slightly decreased from 2012-2017 for employment and sales volume. Compared to the other types of stores, the sales volume and employment size is magnitudes greater. For example, the average employment size for 2012 for a department store is 100 employees for a Health & Beauty Store is 5 employees. Thus, increases and decreases in employment size and sales volume is much greater for department stores and can also affect the smaller stores as the anchor stores are bringing in customers.

Clothing Stores

For Clothing Stores, lifestyle, outlet and regional malls decreased in sales volume and employment size, which is consistent with clothing stores closing throughout the United States. The majority of Clothing Stores are found in Super Regional Malls that are performing consistent from 2012-2017. For regional malls, there was a data collection reporting error for 2014. As clothing stores continue to close throughout the United States, the lifestyle, outlet and regional malls decreasing trends reflect the decreased need for physical retail space.

Health & Beauty, Accessory Stores

Health & Beauty and Accessories Stores have ten and nine different typologies, respectively. These stores are smaller in average square footage, and they can be "basic needs" retail. Thus, customers can shop at many other locations for these types of goods, potentially decreasing the need for shopping mall trips. Also, the market area can be less than 1 mile for strip malls to 25 miles for super regional malls. This influences the customer base and shopping preferences, specifically if they are shopping for basic needs. For Accessory Stores, power centers and community centers have decreased in sales volume and employment size from 2012-2017. In addition for Accessory Stores, regional malls have surprisingly stayed constant and slightly increased for this category. Perhaps as anchor stores have less to offer customers, they go to the accessory stores for their purchases. For Health & Beauty stores, lifestyle and regional malls have seen a decrease in sales volume and employment size from 2012-2017. Super regional malls are increasing for Accessory Stores and remaining constant for Health & Beauty stores.

Data Limitations

As mentioned in the methodology section, these stores are a representative sample of sales volume and employment size typical of stores found in malls. The historic data provides insight into retail trends for different typologies.

Data Collection

Warehouse typologies were not included in the store typologies, but these locations were reported in Reference USA. There was one "Airport" typology for one year for Sunglass Hut but was not included in the average. There was some overlap between what was considered a Power Center and a Community Center. If a grocery store (including Walmart Supercenter, Sam's Club, or Costco) was located in the shopping center, for the purpose of this study, the shopping center was classified as a Community Center. Power Centers were identified with over three big box retailers located (or once located) in the shopping center. Not all stores were accounted for in each location for each year due to errors in reporting factors and/or store closure.

Further Research

While sales volume is an indirect measure of consumer behavior, more market research into customer shopping preferences, including location, will be critical in understanding the fate of regional malls and the future of retail. If customers value brick-and-mortar stores and the experience of in-person shopping, the retail typology preference will be extremely important in planning cities. For example, as a dying mall, Gwinnett Place Mall, only exemplifies this trend. The location is in a growing trade area and county, but the vacant anchor stores and high vacancy rates tell another store of where customers want to shop. Thus, the traditional trade area is not indicative of current customer preference and consumer behavior. The same is true for sales volume and employment size. As retail locations have many implications for stakeholders and decision makers, analyzing smart phone data would provide a more accurate picture of the retail

metamorphosis, becoming common practice in real estate development. Smart phone data could also provide demographic data, which would be additionally useful in understanding the customer base along with Millennial and Generation X shopping preferences. With this type of data, there are many potential studies that could be conducted around access, mobility (specifically walkability), sentiment analysis, and future retail developments. As previously mentioned not all retail stores are declining, including innovators, such as Apple and Amazon Pop-Up Stores. Customers are heavily frequenting these stores, so further research into the seamless integration between virtual and physical space would provide insight towards this retail shift from online presence to brick-and-mortar stores. Lastly, as brick-and-mortar retail jobs decline across the country, more research into comparing e-commerce fulfillment jobs and these jobs at a regional and local level will be essential in terms of economic development policy.

Conclusion

Analyzing retail trends on a national and regional level with Metro Atlanta, this study offers a holistic approach to understanding retail through the relationship between e-commerce, retail typologies, consumer behavior, retail businesses, and economic development. As retail locations have many implications for city planners, analyzing smart phone data would provide a more accurate picture of the retail metamorphosis. Focus groups and talking with customers would also provide insight into consumer behavior. There are many unknown factors during the retail shift, however from gathering historic sales volume and employment data for Metro Atlanta, malls and shopping centers are still financially and economically relevant to customers, even given some decreased sales volume trends. However, for how long and to what extent can only be projected and is yet to be determined. E-commerce is transforming the way people interact in

cities. The *agoras* became downtown centers that then became the suburban malls and now are drop-off package centers. With the demand for walkable, mixed use communities, there is a resurgence of small-scale retail in cities. However as record store closings continue in Metro Atlanta and across the United States, city officials, real estate developers, city planners need to identify the current and potential aging regional malls, strip malls and shopping centers to proactively facilitate plans and policies around the retail metamorphosis.

REFERENCES

Al, Stefan. *Mall City: Hong Kong's Dreamworlds of Consumption*. University of Hawai'I Press, 2016.

Alonso, William. Location and Land Use: Toward a General Theory of Land Rent, Harvard Univ Press, 1964

Burke, Mack. "Struggling Regional Malls Reposition as Retail CMBS Space Sweats." *Commercial Observer*. December 7, 2017. https://commercialobserver.com/2017/12/retail-cmbs-at-risk-repositioning-regional-malls/.

Carter, Charles. "What We Know About Shopping Center." *Journal of Real Estate Literature*. 17, 2 (2009): 165-180.

Christaller, W., and Baskin, C. W. 1966. Central Places in Southern Germany. Englewood Cliffs, NJ: Prentice Hall: 1966.

Cushman & Wakefield Global Cities Retail Guide. United States.   Accessed April 10, 2018. http://cwglobalretailguide.com/unitedstates/.

Duany, Andres, Plater-Zyberk and Speck, Jeff. *Suburban Nation*. New York: North Print Press, 2010.

Dunham-Jones, Ellen. *Retrofitting Suburbia*. John Wiley & Sons: Hoboken, 2011.

Fung, Esther. "The Mall of the Future will have no Stores." *The Wall Street Journal*. June 12, 2017. https://www.wsj.com/articles/the-mall-of-the-future-will-have-no-stores-1497268801.

Findlay, A.M. and Sparks, L. *Retailing: The environments for retailing*. New York: Routledge, 2002.

Garfield, Leanna. "Here's what could happen to America's Hundred of Dead malls." Business Insider. March 19, 2018. http://www.businessinsider.com/what-will-happen-to-closed-malls-2017-5.

Geiling, N and ESRI. "The Death and Rebirth of the American Mall." Smithsonian. November 25, 2014. https://www.smithsonianmag.com/arts-culture/death-and-rebirth-american-mall-180953444/.

Green, Josh. "Fresh renderings: Phipps Plaza mixed-use overhaul is Moving Forward." Curbed Atlanta. March 9, 2018. https://atlanta.curbed.com/2018/3/9/17098098/phipps-plaza-nobu-hotel-buckhead.

Gruen, Victor. *Shopping Town USA: The Planning of Shopping Centers*. Van Nostrand Reinhold, 1960.

Hensley, Ellie and Sams, Douglas. "Shannon Mall to be Redeveloped into a New Film and TV Studio." *Atlanta Business Chronicle*. October 28, 2014. https://www.bizjournals.com/atlanta/real_talk/2014/10/shannon-mall-to-be-redeveloped-intoa-new-film-and.html.

Isidore, Chris. "Malls are Doomed: 25% will be Gone in 5 years." CNN. June 2, 2017. http://money.cnn.com/2017/06/02/news/economy/doomed-malls/index.html

Jacobs, Jane. *The Death and Life of American Cities*. Random House, New York: 1961.

Kniffen, Jan. Intervfiew for CNBC. Story. "Retail rout points change. May 12, 2016. https://www.cnbc.com/video/2016/05/12/retail-rout-points-to-changes.html

Losch, A. 1954. The Economics of Location. New Haven, CT: Yale University Press. (1954)

Lowry, James. "The Life Cycle of Shopping Center." *Business Horizons*. 40, no. 1 (1997): 77-86.

Mali, Nabeena. "Your M-Commerce Deep Dive: Data, Trends and What's Next in the Mobile Retail Revenue." Big Commerce. https://www.bigcommerce.com/blog/mobile-commerce/.

Meola, Andrew. "The Rise of M-Commerce: Mobile Shopping Stats & Trends." Business Insider. Decebmer 21, 2016. http://www.businessinsider.com/mobile-commerce-shopping-trends-stats-2016-10.

McBride, Bill. "Reis: Mall Vacancy Ratee unchanged in Q4 2017." 04 Jan 2018. https://www.reis.com/cre-news-and-resources/calculated-risk-blog-reis-mall-vacancy-rate-unchanged-in-q4.

Mulholland, Quinn. "Urban Sprawl's Poster Child Grows Up." *Harvard Political Review.* February 28, 2016. http://harvardpolitics.com/united-states/urban-sprawls-poster-child-grows/.[1] CosStar Data, 2016.

Oldenburg, Ray. *The Great Good Place: Cafes, Coffee Shops, Bookstores, Bars, Hair Salons*. 3rd. New York: Marlow & Company, 1999.

Parker, Jennifer. "Atlanta Sports City Taking Shape in Stonecrest." *CrossRoadsNews*. October 20, 2017. http://www.crossroadsnews.com/news/atlanta-sports-city-taking-shape-in-stonecrest/article_ccb3118a-b531-11e7-8f88-7359528b3d6d.html.

Paschingon, B and Gould, E. "Internalizing Externalities: the Price of Space in Shopping Malls.*" The Journal of Law and Economics*. (1998): 115-141. [1] Trufelman, 2015.

Retail Research Point of View. Jones Lang Lasalle, LP (2017).

Rodrigue, John. Retail Center Planning and Central Place Theory. California State University, Northridge, 1975. http://web.csulb.edu/~rodrigue/jps/jj/452paper.html

Sen, Conor. "Your Local Mall is Dying. Unless you are Rich." Bloomberg View. January 13, 2017. https://www.bloomberg.com/view/articles/2017-01-13/your-local-mall-is-dying-unless-you-are-rich.

Sevtsuk, Andres. Location and Agglomeration: The Distribution of Retail and Food Business in Dense Urban Environment. Journal of Planning Education and Research, 34, 4 (2014): 374-393.

Siegal, Robert. June 16, 2014 "How Retailers Use Smartphones to Track Shoppers in The Store. All things Considered. How Retailers Use Smartphones to Track Shoppers in the Store."https://www.npr.org/2014/06/16/322597862/how-retailers-use-smartphones-to-track-shoppers-in-the-store.

Smith, Aaron. "Ghostly Images of a Dead Mall tell an American Story." CNN Money. November 16, 2016. http://money.cnn.com/2016/11/16/news/dead-mall-photos-seph-lawless/index.html?iid=EL.

Sobel, Lee et al. *Greyfields into Goldfields: Dead Malls Become Living Neighborhoods*. Congress for New Urbanism, 2002.

Storm, Christian. "Go Inside the Creepy Abandoned Mall Featured in 'Gone Girl.'" Business Insider. Last Modified October 14, 2014. http://www.businessinsider.com/creepy-abandoned-mall-gone-girl-2014-10.

Thomas, Lauren. "Here are the retailers that filed for bankruptcy protection in 2017." CNBC. September 23, 2017. https://www.cnbc.com/2017/09/23/here-are-the-retailers-that-filed-for-bankruptcy-protection-in-2017.html

Trufelman, Avery. May 5, 2015. "The Gruen Effect." Podcast Audio. 99% Invisible. Episode 163. https://99percentinvisible.org/episode/the-gruen-effect/.

Weinswig, Deborah. "Online Grocery Set to Boom in 2018 (As Amazon Acknowledges Online Grocery a Tough Market to Crack)." Forbes. March 1, 2018. https://www.forbes.com/sites/deborahweinswig/2018/03/01/online-grocery-set-to-boom-in-2018-as-amazon-acknowledges-online-grocery-a-tough-market-to-crack/#586c0202520b.

Vena, Danny. "Amazon Dominated E-Commerce Sales in 2017." The Motley Fool. January 12, 2008. https://www.fool.com/investing/2018/01/12/amazon-dominated-e-commerce-sales-in-2017.aspx, One Click Retail

Wahba, Phil. Major Wall Street Firm Expects 25% of U.S. Malls to Close by 2022. *Fortune*. 31 May 2017 http://fortune.com/2017/05/31/malls-retail-stores-closing/

Walker, Tommy. "Omni-Channel Retailing: What is Omnig-Channel Commerce, Really?" Shopifyplus. Last modified January 29, 2018. https://www.shopify.com/enterprise/omni-channel-retailing-commerce-what.

DATA SOURCES

American Time Use Survey, Bureau of Labor Statistics. https://www.bls.gov/tus/a1_2016.pdf .

American Time Use Survey User's Guide. U.S. Census Bureau. 2017. https://www.bls.gov/tus/atususersguide.pdf

CoStar Data, 2016.

 "Quarterly Retail E-Commerce Sales." U.S. Department of Commerce, Washington DC, 2018. https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

US Census Bureau, 2015

US Census (American Community Survey, 2015), Atlanta Regional Commission (Projected 2040 Population)

454110 Electronic Shopping and Mail-Order House. NAICS Code Description. https://www.naics.com/naics-code-description/?code=454110

U.S. Shopping-Center Classification Characteristics. ICSC Research and Shopping Center.