CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix A: MARKET ANALYSIS

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I. Introduction

New Orleans' commercial corridors serve a vital role in the economy, culture and quality of life of the city's neighborhoods. Beyond offering goods and services, they are vehicles for building community wealth by providing area residents job and business opportunities. They also offer public places that foster community interaction and a sense of place. Some primarily serve their local neighborhoods, while others attract visitors from across the region.

Since the city's depopulation began in the 1960s, many of these corridors have experienced disinvestment, and today suffer from underutilization in the forms of blight, vacancy, and reduced commercial activity. Often these corridors are located in low-income neighborhoods which, consequently, have lost access to convenient retail and job opportunities.

A. Why a Market Analysis?

This Market Analysis provides an in-depth evaluation of the economic environment near the six corridors studied in the Main Street Resilience Plan: Oretha Castle Haley Boulevard (O.C. Haley Boulevard), Newton Street, Broad Street, St. Claude Avenue, St. Bernard Avenue, and Alcee Fortier Boulevard. The analysis assesses corridor health, identifies distinct market challenges and assets, and establishes a range of realistic short and medium-term opportunities.

The following questions guided this process:

- What are the competitive advantages and critical assets along each corridor?
- What businesses are already successful on each corridor?
- Which industry clusters are present and which should be strengthened?
- Who are the important employers and who contributes most to economic growth?
- What essential services are being provided?
- What are the market weaknesses and challenges?
- What is the current real estate market condition?
- What is the current market area retail demand and supply?
- What are the opportunities for supporting new businesses?
- What are the impacts of New Orleans taxes, zoning, permitting, workforce, access, public safety, etc. on business location decisions?
- How can the Main Street four-point approach to revitalization through organization, promotion, design elements and economic restructuring be applied?

B. Approach and Methodology

Chapter II of the Market Analysis reviews the city's overall economic outlook by evaluating several demographic, economic and real estate indicators. Chapter II also summarizes findings from interviews of key participants in the main street and small business community, including real estate agents, business technical assistance providers, and city officials.

Following this citywide review, the study evaluates each corridor's economic, demographic, physical and social conditions to determine their market opportunities. The corridors are generally defined as the area within a one-tenth mile distance (one-to-two city blocks) of the main street, which captures commercial activity not directly facing the street but is nonetheless associated with the street's commercial identity. The individual corridor analyses are organized into three sections: a **Corridor Assessment**; an evaluation of **Market Potential**; and a **Summary** of opportunities and challenges. The methodologies and key terms used in the Corridor Assessment and Market Potential sections are described below.

Corridor Assessment

The Corridor Assessment describes each corridor's type, real estate market, accessibility, demographics and housing are assessed. It begins with a description of the Corridor Type, which considers the size and type of establishments in the corridor, the mix of local and national enterprises, their age, and the presence of anchor organizations.

Establishments are categorized into "businesses" and "nonprofits/non-businesses." Businesses generally include any profit-generating enterprise and include retailers and service providers. "Nonprofits/non-businesses" include charities, membership organizations (including churches), and government offices. While nonprofits do not generate the income and tax revenue associated with main street businesses, they nonetheless employ workers, pay rent, offer neighborhood services and attract visitors to their locations. Therefore, they can serve important roles in the health of commercial corridors.

Anchor organizations are physically rooted in the corridor – they are unable to easily pick up and move to another part of town, or to leave the region altogether. Anchors are also defined by the significant economic and social support they lend to their surrounding communities through large-scale employment, purchasing power, human services, philanthropy, or simply providing a place for people to gather. They are typically not-for profit organizations such as hospitals, education institutions, public agencies and churches.

The Corridor Assessments also include an overview of the commercial real estate market, summarizing recent trends in property sales and rents. These are important indicators of overall affordability, which can substantially impact the ability of establishments to remain on a corridor.

Corridors are then evaluated for their accessibility by three transportation modes: personal automobile, public transit, and walking/biking. Accessibility is a critical factor in corridor economic health, impacting the ease with which workers can get to jobs and customers can access businesses.

The Corridor Assessment then summarizes the market size, strength and trends of the corridors' surrounding neighborhoods, including demographic traits, daytime population and housing market characteristics.

Market Potential

The supply and demand for various retail categories are described and used to demonstrate market potential. Three market areas are determined: a **convenience market**, a **comparison shopping market**, and a **regional market**. Market areas vary according to the study area's context. For instance, the primary market area for Alcee Fortier Boulevard will differ from that of Broad Street. The market types and areas for each corridor are as follows:

Convenience Market

- Types of establishments include small groceries, pharmacies, personal services, eating and drinking places.
- The market is defined as residents and daytime population within one-half mile of the corridor.
- Customers are more likely to walk, bike or ride transit than Comparison or Regional Market customers (creating less demand for parking).

Comparison Shopping Market

- Types of establishments include general merchandise, large groceries, apparel, gas stations, large eating and drinking places.
- The market is defined as residents between a half-mile and up to five-mile driving distance from the corridor.

Regional Market:

- Types of establishments include Specialty goods, entertainment centers, destination-oriented eating and drinking places, events.
- The market is defined as residents who live up to a 10 mile driving distance from the corridor.
- For most corridors, this captures large portions of the entire urbanized south shore.

GCR analyzed 2015 retail sales and household demand data provided by Esri and Dun & Bradstreet for each of these three markets to determine which types of retail goods and services residents are purchasing outside of the study area.

Because each of the neighborhood commercial corridors are located outside the core hospitality districts (the CBD, Warehouse District and French Quarter) the market analysis does not consider the purchasing power of the city's tourist population. However, specific opportunities to attract visitor spending are discussed as pertinent, particularly regarding the O.C. Haley Boulevard corridor.

Automobile-oriented market opportunities, such as gasoline stations and car dealers, are excluded from the analysis. These types of uses largely conflict with the future land uses described in the City's Master Plan for the selected corridors. Also, because most automobile dealers are concentrated in suburban areas outside of the urban core, the high degree of leakage in this retail category would distort the big picture of the city's retail performance.

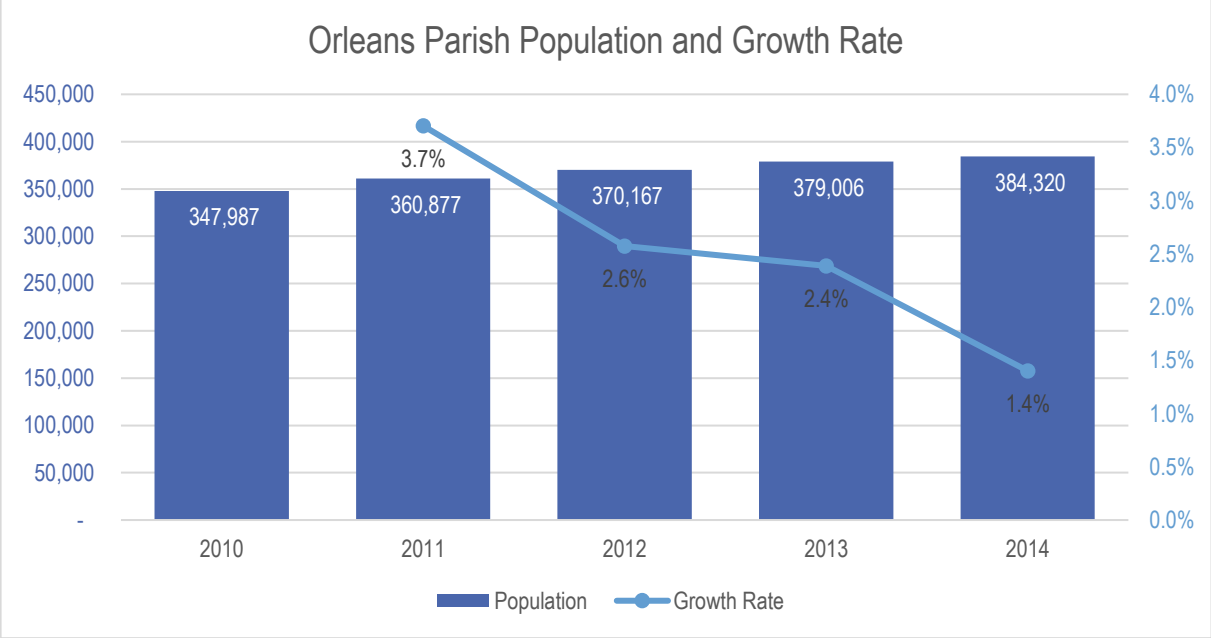
II. Citywide Overview and Summary

Because citywide trends impact all corridors, it is necessary to build a full understanding of the market challenges and opportunities facing each corridor. To that end, this section assesses population, economic and development trends throughout the city during the last five years and highlights the challenges and opportunities they present to small businesses and main street organizations.

A. Population

The City of New Orleans' population continues to grow by thousands of residents each year. But according to US Census Bureau estimates, the rate of growth has declined markedly in recent years, from 4.7 percent in 2011 to 1.4 percent in 2014 (Figure 1).[1] Should this trend continue, the city's population will plateau within the next several years. However, job growth and new residential construction should ensure the city's overall population growth – and subsequently, consumer expenditures – will remain net positive (See Section B).

Figure 1: Orleans Parish Population and Growth Rate



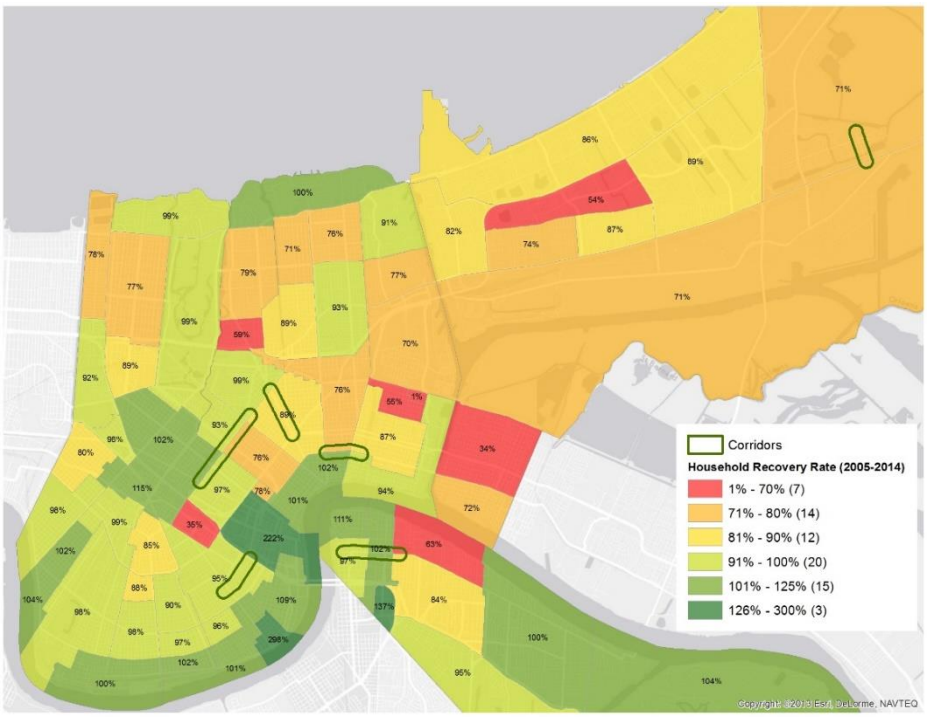
Source: U.S. Census Bureau Decennial Census and Population Estimates 2014

Across neighborhoods, population recovery since 2005 has been uneven. Large swaths of New Orleans East, as well as a parts of Gentilly, Lakeview, Tremé, the 7th Ward and Upper and Lower 9th Wards have yet to regain 80 percent of their pre-Katrina households (Figure 2). More promisingly, many of these neighborhoods have shown the highest rates of household

[1] U.S. Census Bureau Decennial Census and Population Estimates 2014

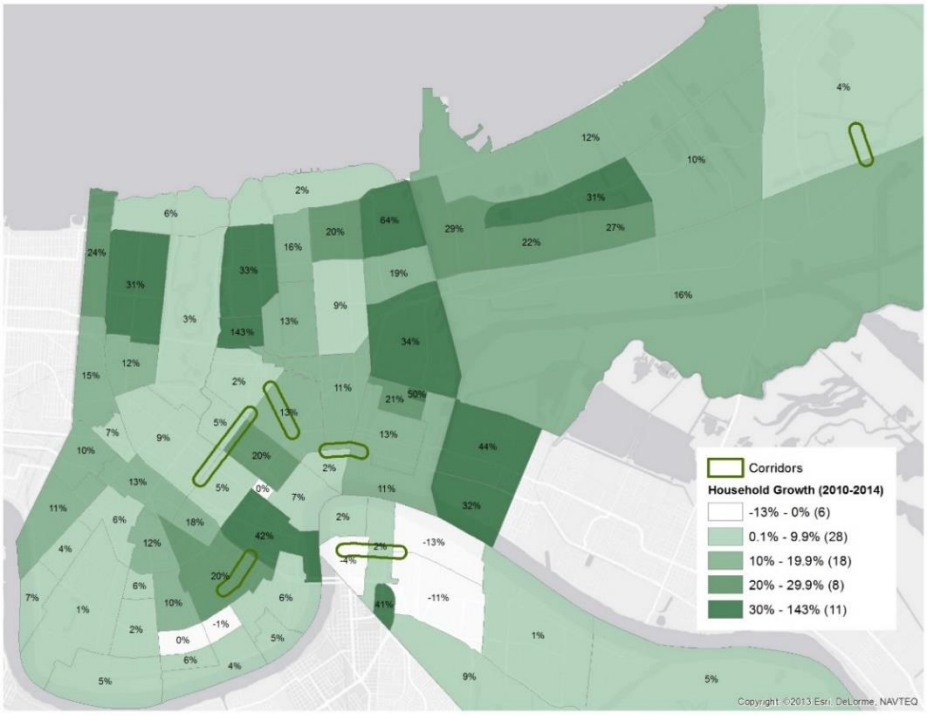
growth between 2010 and 2014. This growth bodes well for neighborhood-serving retail businesses, such as personal services, household goods and services, food stores, and eating and drinking establishments.

Figure 2: Neighborhood Household Recovery Rates, 2005-2014



Source: Vicki Mack and Allison Plyer, Neighborhood Growth Rates, The Data Center, Aug. 6, 2014.

Figure 3: Neighborhood Household Growth Rates, 2010-2014

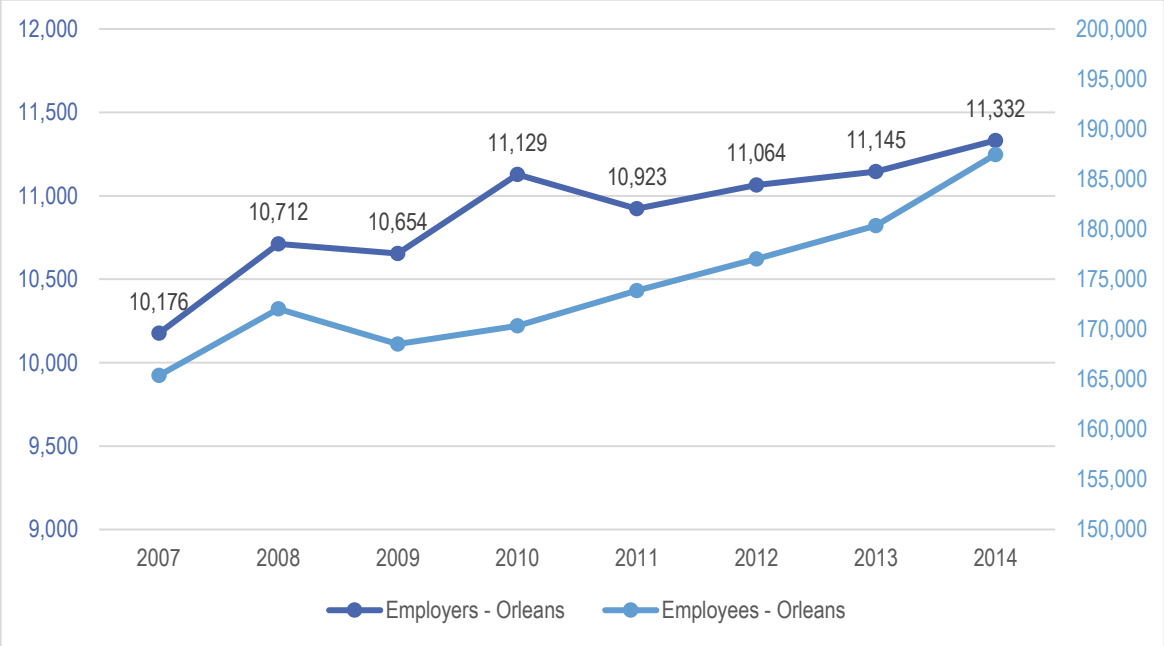


Source: Vicki Mack and Allison Plyer, Neighborhood Growth Rates, The Data Center, Aug. 6, 2014.

B. Job Growth

Job growth is a leading indicator of future population growth; people follow jobs. The city's accelerating job and business growth bodes well for its population. According to preliminary figures, the average number of monthly jobs rose from 180,368 in 2013 to 187,462 in 2014 – an increase of 3.9 percent. This is the largest annual growth rate since 2007-2008. Moreover, the number of employers has grown an average of 1.2 percent in each of the last three years – three times the rate of the region as a whole.

Figure 4: Employers and Employees, Orleans Parish



Source: Bureau of Labor Statistics, Quarterly Census of Employment & Wages

C. Public investments

Much of the activity driving economic growth stems from public investments in infrastructure, streets, public schools and other facilities. Recent major projects include:

Project	Size	Expected Completion Date
New Orleans Public Schools	$1.8 billion	2017
University Medical Center	$1.2 billion	2015
VA Hospital	$995 million	2016
Louis Armstrong International Airport	$826 million	2018
Sewer and Water repairs	$615 million	Ongoing
Levee and pumping station rehabilitation	$614 million	2016
Iberville Redevelopment	$600 million	2017
2 Canal Street (World Trade Center)	$364 million	2017
South Market District	$250 million	2017
National Disaster Resilience Competition Investments	$141 million	2021
N. Rampart/St. Claude Ave. Streetcar Line	$41.5 million	2016

Source: New Orleans CityBusiness "Top Construction Projects 2015"

D. Commercial and Retail Trends

1. Retail Market Supply and Demand

In recent years economic development agencies such as the New Orleans Business Alliance, Downtown Development District and Mayor's Office of Economic Development have worked to reverse a decades-long trend of retailer migration outside of city cores into suburban commercial districts. Retailers not only provide goods and services to neighborhoods, but also generate tax revenue for local governments and create job opportunities.

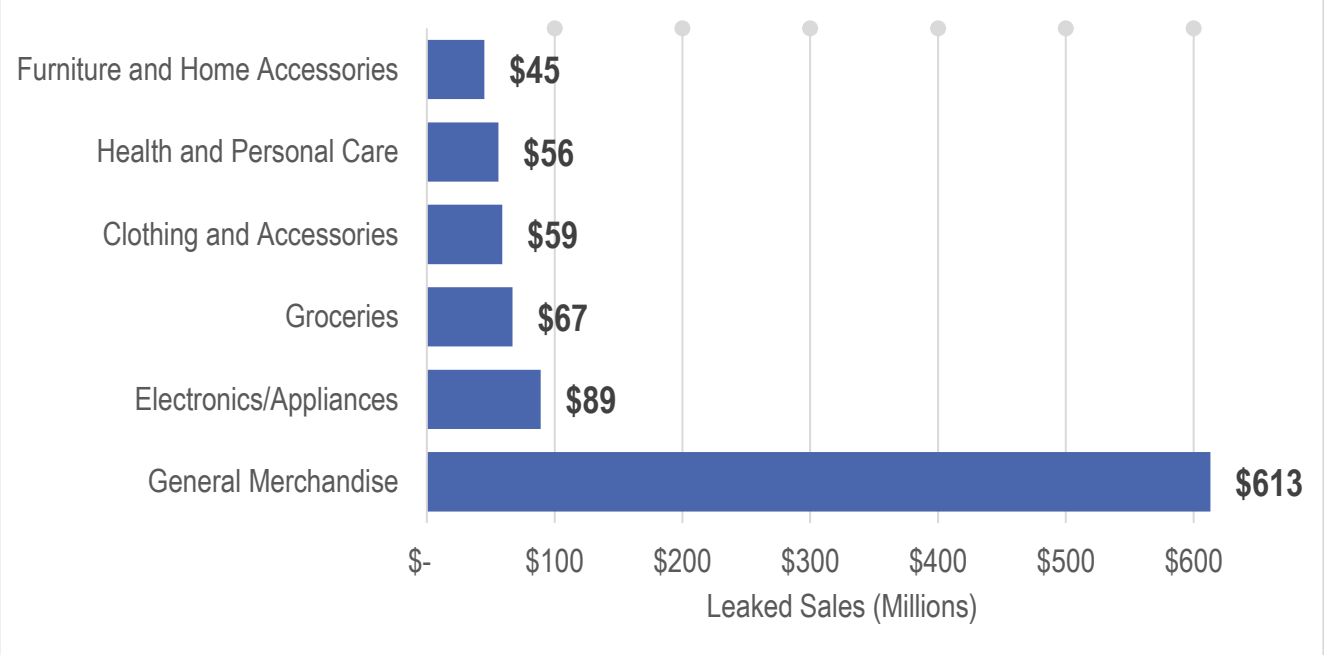
Numerous national brand-name outlets have entered the New Orleans market in the last several years, including Costco, Last Call at Neiman Marcus, Tiffany, H&M, and Michael's. The renovated Riverwalk Mall and newly constructed shopping centers Mid-City Market and Magnolia Marketplace, as well as newly constructed Walmart locations in New Orleans East and Gentilly demonstrate the wide range and scale of retail investments.

Still, an estimated $1.9 billion in retail sales – including online purchases but excluding food and drink – were expected to "leak" outside of Orleans Parish in 2015. This demonstrates significant opportunity for existing and new retailers in New Orleans.

Of the $1.9 billion leakage, $530 million is in motor vehicle sales. However, the scale and design of auto dealerships are generally incompatible with the traditional development patterns of Orleans' neighborhood commercial corridors. Moreover, state law requires vehicle purchasers to pay sales tax to the parish of their domicile rather than that of the transaction location, meaning that New Orleans receives tax revenue for vehicles purchased by Orleans residents outside of the city. Motor vehicle retailers are therefore not considered a high priority target.

Figure 5 breaks down the leaked sales by category, excluding motor vehicles. General merchandise ($613 million), electronics and appliances ($89 million), groceries ($67 million), clothing and accessories ($59 million), health and personal care ($56 million), and furniture and home furnishings ($45 million) stores are the largest categories of retail to lose sales to outside markets.

Figure 5: Orleans Parish Projected Sales Leakage by Retail Category, 2015



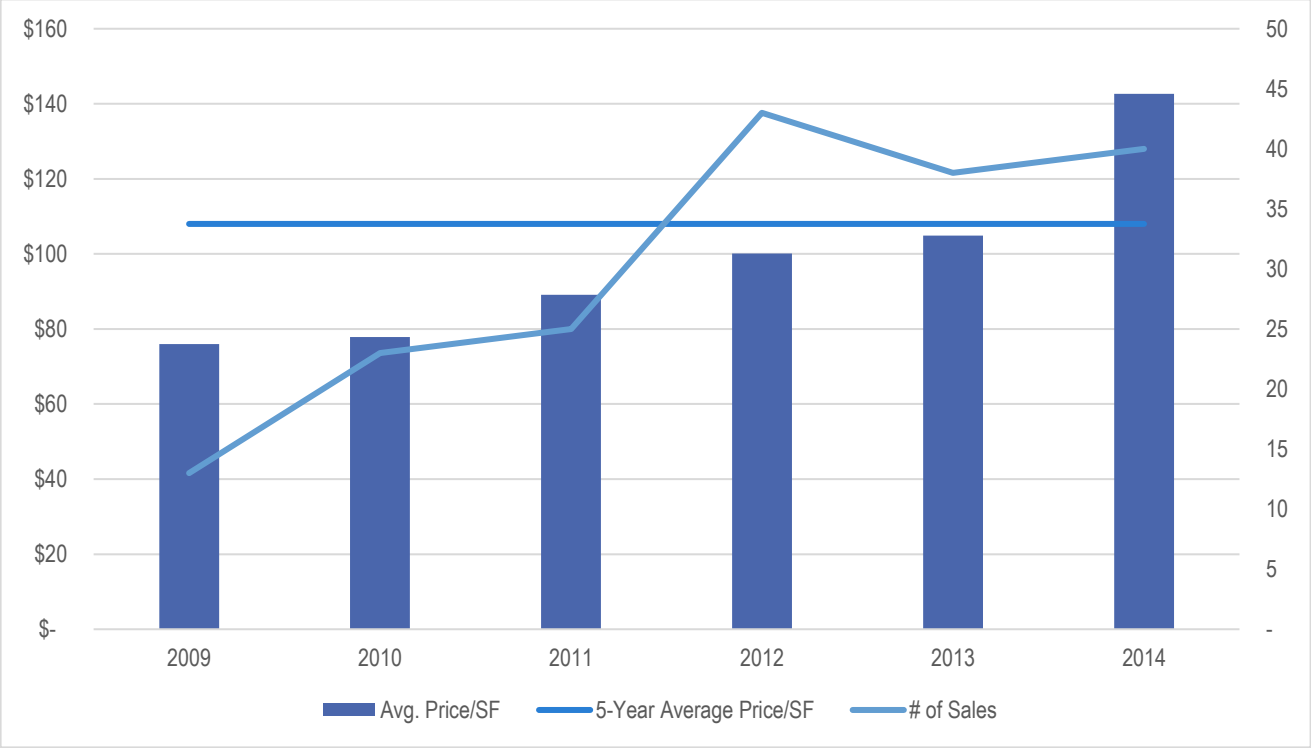
Source: Esri Business Analyst, 2015

In contrast, a handful of New Orleans business categories are estimated to sell $240 million in goods and services beyond local demand (surplus). Eating and drinking places comprise 84 percent ($203 million) of this surplus, including full service restaurants and bars, indicating the purchasing power of the city's nine million annual visitors.

2. Commercial and Retail Real Estate

From 2009 to 2014, commercial real estate sales in Orleans Parish have averaged $108 per square foot, and increased by 88 percent, from $76 per square foot in 2009 to $143 per square foot in 2014 (Figure 6).

Figure 6: Orleans Parish Commercial Real Estate Sales and Average Price per Square Foot



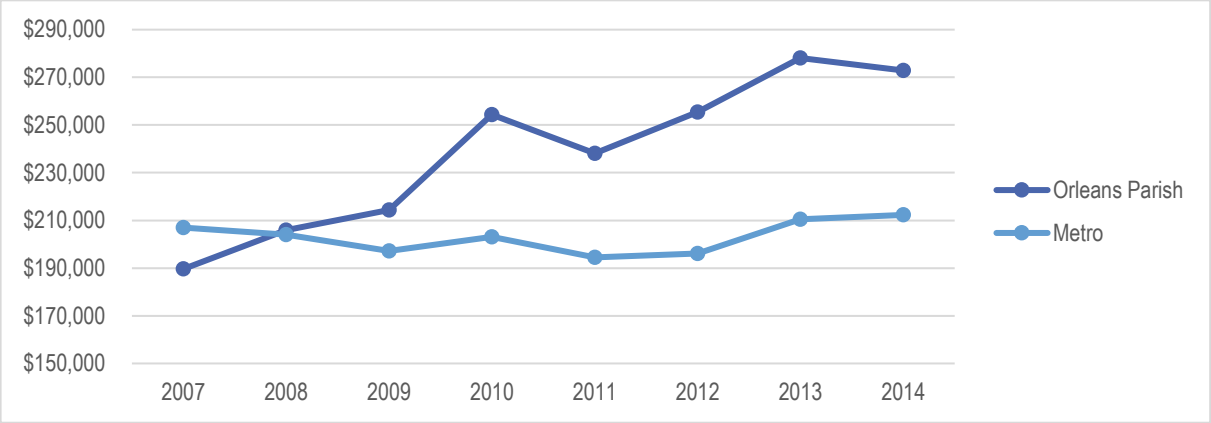
Source: Latter & Blum

E. Housing Trends

1. Owner-occupied properties

The average purchase price of single family homes has increased steadily since 2007, particularly compared to the stable regional trend (Figure 7). The increased price reflects rising demand – fueled by a combination of population gains, households leaving the rental market, and purchases of second homes – and an insufficient supply of properties on the market.

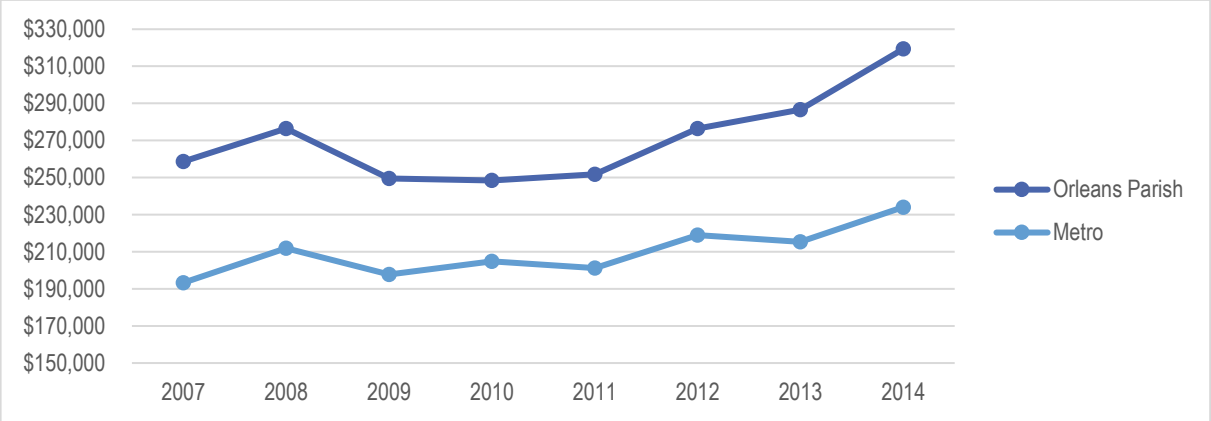
Figure 7: Average Single Family Home Sale Price



Source: University of New Orleans Real Estate Market Analysis: April 2015, Volume 47, Institute for Economic Development and Real Estate Research

Condominium sales have shown even stronger price growth, gaining about 23 percent in average sales price from 2011 to 2014 – a nearly $70,000 jump driven by increased prices in the CBD/Warehouse District and sales volumes in the Lower Garden District.

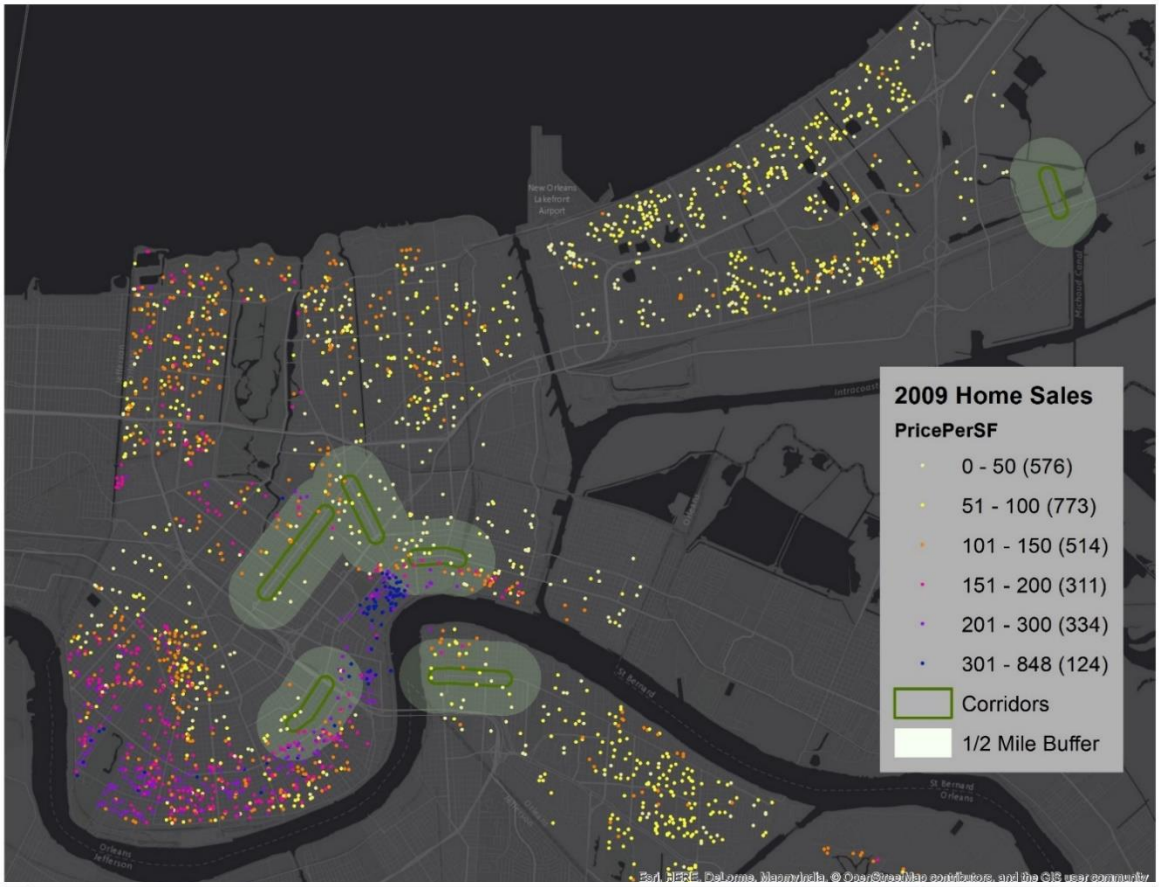
Figure 8: Average Condominium Sale Price

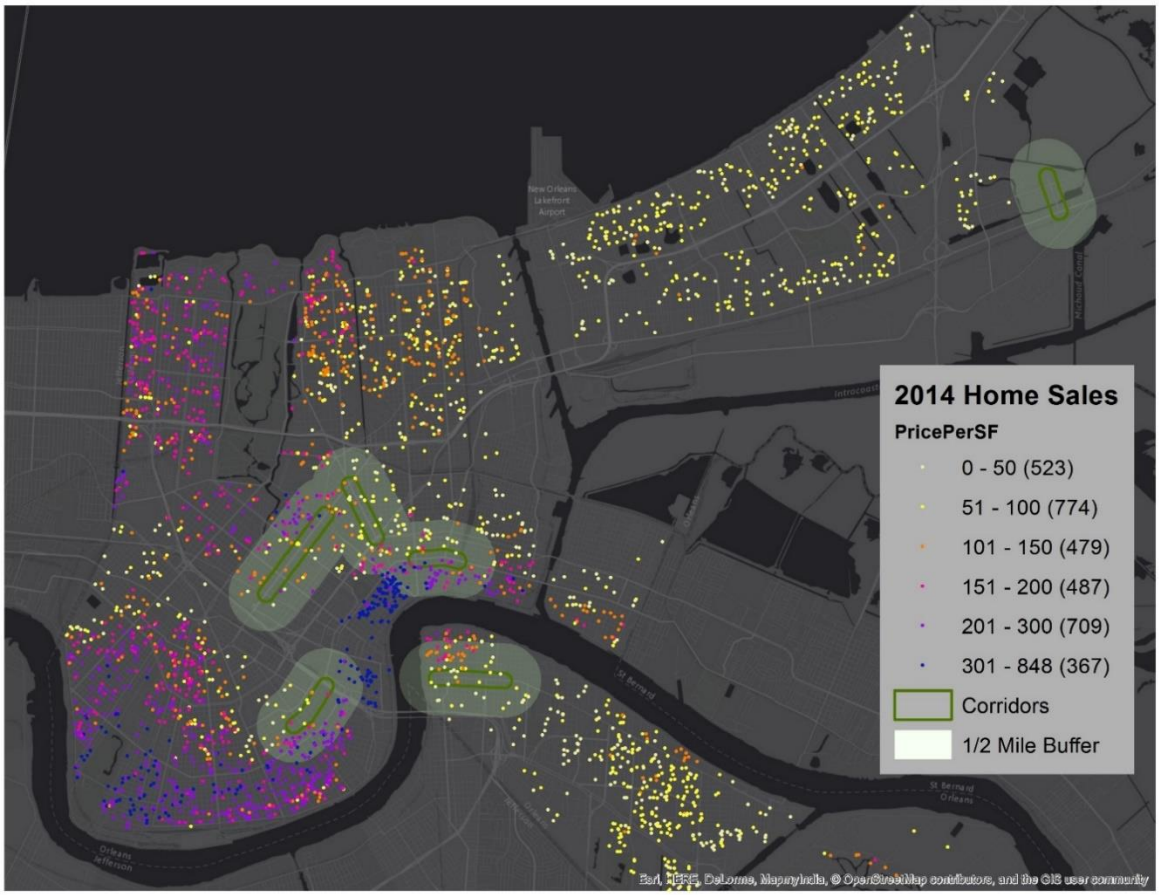


Source: University of New Orleans Real Estate Market Analysis: April 2015, Volume 47, Institute for Economic Development and Real Estate Research

From 2009 and 2014, individual home sale prices increased in 56 of 68 neighborhoods, and the citywide average climbed 32 percent, from $117 per square foot to $154 per square foot. Figure 9 shows locations of sales by price per square foot in 2009 and 2014. Among the neighborhoods with highest jumps are St. Roch, Holy Cross, Lakeview and Filmore. Most of the neighborhoods whose prices declined are located in Algiers and New Orleans East.

Figure 9: 2009 Home Sales (below) and 20014 Home Sales (bottom)- Prices per Square Foot



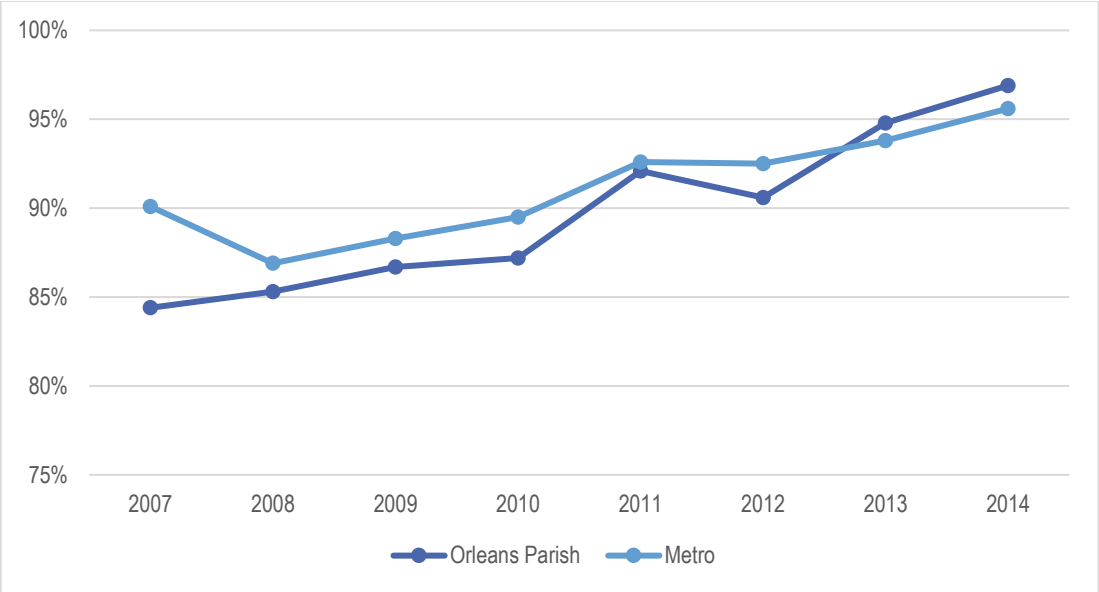


Source: New Orleans MLS

2. Rental

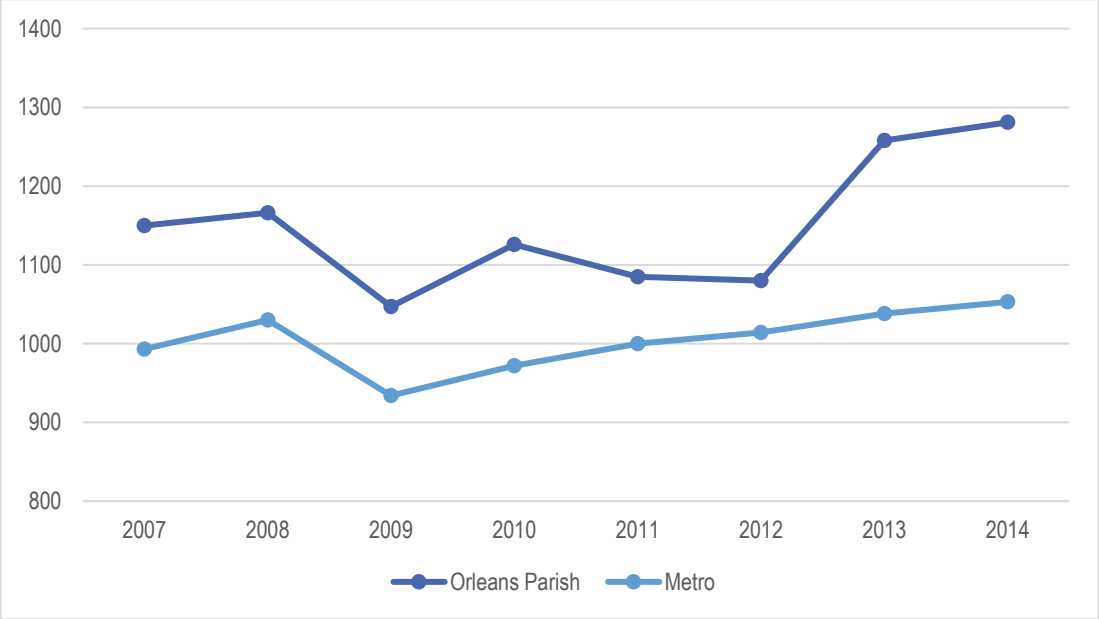
Increasing sales prices are not the only sign of a strong residential real estate market. Changes in rental market prices and occupancy rates also reflect the strong housing market. In 2013 Orleans Parish rental properties passed the regional average in occupancy, and they have consistently been more expensive. Population growth, those exiting the home ownership market, and purchasers of second or part-time homes in Orleans Parish each contribute to these trends.

Figure 10: Change in Rental Occupancy



Source: University of New Orleans Real Estate Market Analysis: April 2015, Volume 47, Institute for Economic Development and Real Estate Research

Figure 11: Change in Apartment Rents



Source: University of New Orleans Real Estate Market Analysis: April 2015, Volume 47, Institute for Economic Development and Real Estate Research

F. Stakeholder Feedback

To provide a qualitative perspective on citywide challenges and opportunities facing neighborhood commercial corridors, interviews and focus groups were conducted with select group of business owners, real estate agents, community developers, property developers, retailer recruiters, investors, and small business technical assistance providers.

Identified issues included:

- **Licenses and Permitting**. There is a need to establish a clear path to comply with City regulations, such as the fire code, restaurant code, and Americans with Disabilities Act. While interviewees recognized the improvements to this process, such as the City's "One Stop Shop," several business owners and real estate agents cited persistent delays and confusion in obtaining necessary licenses and permits to open and operate – particularly those selling alcohol or that operate commercial kitchens, or those located in historic structures.
- **Compliance with the Comprehensive Zoning Ordinance.** In August 2015, the City adopted a new Comprehensive Zoning Ordinance (CZO). While some developers cited its improvements in making regulations more consistent, and easing requirements in historic districts, others noted that the required "Neighborhood Participation Plan" can be burdensome, due to the length of time that this process adds to the process of developing or renovating a property or proposing a conditional use. Neighborhood opposition to various conditional uses also challenges potential businesses. Finally, some business owners stated that parking requirements, while in many cases reduced from the previous CZO, constrain the potential use of small properties that may not have adequate space for off-street parking. Although the City Planning Commission grants exemptions in some cases, this lengthens the process for opening a business. The business owners' concerns over potentially burdensome parking requirements are at odds with some community members, who expressed a growing need for more off-street parking. Residents and merchants near O.C. Haley Boulevard were particularly vocal about a parking shortage on the corridor. The conflict between business owners' requests for relaxed parking requirements and other stakeholders' desire for more parking indicates the need for a balanced, nuanced approach that generates an adequate supply of spaces without discouraging development. Any reduction in the CZO's parking requirements must be counterbalanced by the provision of parking through some other mechanism, such as public parking lots or structures.
- **High acquisition, rental and renovation costs**. Interviewees noted the escalating property costs, including those within the six corridors studied. Some of this was attributed to sellers asking for prices higher than market demand can fulfill. For instance, Broad Street area property owners are reluctant to negotiate on price in anticipation of increased demand to be fueled by the opening of the UMC and VA Medical Centers. Meanwhile, extreme asking prices in highly desirable corridors are causing spillover into lower cost corridors. In one example, an interviewee cited a Magazine Street property's advertised rental rate of $40 per square foot – about double the average city rate.
- **Shrinking access to capital.** Feasible redevelopment of blighted and vacant buildings in historic commercial corridors often hinges on access to New Markets and Low Income Housing Tax Credits. While many properties in the city are eligible for these credits, interviewed community developers noted that these are becoming much more competitive. In addition, tightened lending regulations at the federal level have made banks less willing to lend to small businesses that do not own the building they intend to occupy. Finally, developers of larger properties, which are more feasible to renovate or construct than multiple smaller properties, are experiencing greater difficulty identifying mid-size anchor tenants with a track record long enough to fulfill lender requirements.
- **A fragmented support community.** Multiple interviewees noted that the community of realtors, brokers, and clients relies on informal referrals, and that they would benefit from a more formal network that easily connects commercial tenants to landlords. Likewise, small business technical assistance providers are acquainted and refer clients to one another, but lack a formal system for connecting clients to necessary resources.

G. Summary of Citywide Findings

Citywide economic indicators demonstrate strong demand not just for retail goods and services, but also residential and commercial real estate. These are driven by continued job and population growth, which is likely to continue in the next several years, though at a slowing rate compared to the last five years.

This market strength should be encouraging to existing and potential retailers and service providers in Orleans Parish - particularly those selling general merchandise, electronics, groceries, clothing and accessories.

However, pressure on real estate costs can also threaten neighborhood commercial corridors, which, unlike large shopping centers, thrive on the presence of small businesses that require affordable rents and a barrier-free path for complying with regulations. These businesses and the commercial corridors they occupy would benefit from support with: the licensing and permitting process; ensuring compliance with the CZO; accessing capital; and strengthening brokerage and technical support networks.

III. O.C. Haley Boulevard

A. Corridor Assessment

The O.C. Haysley Boulevard corridor study area includes a one-tenth mile radius around the corridor, from Calliope Street to Philip Street. This captures one-to-two-block segments of cross streets and segments of South Rampart, Danneel and Baronne Streets.

Figure 12: O.C. Haley Blvd. Corridor Study Area

Source: Esri Business Analyst, 2015

1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 55 businesses and 36 nonprofit organizations inhabit the O.C. Haley Boulevard commercial corridor. Businesses occupy an estimated 250,000 to 300,000 square feet of space. Shopping districts of this size – known as "Community Shopping Centers" – typically offer a combination of convenience retailers and a broader array of clothing, household goods and specialty stores, as well as professional and personal services. These serve a broader trade area than just neighborhood residents and daytime populations of the immediate neighborhood.

Membership and social service organizations, such as churches, advocacy groups, and social services agencies, are the most common industries represented; they comprise 29 of the 36 nonprofit entities.

Of the 55 businesses, no single industry stands out as a business cluster within the O.C. Haley Boulevard corridor, as they span 18 different industries.

Table 1: O.C. Haley Blvd. Establishments, by Industry

Industry	Number of Establishments
Social Services	17
Membership Organizations	12
Engineering, Accounting, Research, Management, And Related Services	7
Eating And Drinking Places	7
Automotive Repair, Services, And Parking	6
Miscellaneous Retail	5
Educational Services	3
Amusement And Recreation Services	3
Food And Kindred Products	3
Real Estate	2
Security And Commodity Brokers, Dealers, Exchanges, And Services	2
Health Services	2
Electric, Gas, And Sanitary Services	2
Personal Services	2
Building Construction General Contractors And Operative Builders	2
Food Stores	2
Depository Institutions	2
Printing, Publishing	1
Construction Special Trade Contractors	1
Administration Of Environmental Quality And Housing Programs	1
Wholesale Trade-non-durable Goods	1
Apparel And Accessory Stores	1
Lumber and Wood	1
Executive, Legislative, And General Government, Except Finance	1
Business Services	1
Miscellaneous Repair Services	1
Justice, Public Order, And Safety	1
Automotive Dealers And Gasoline Service Stations	1
Legal Services	1
Total	**91**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

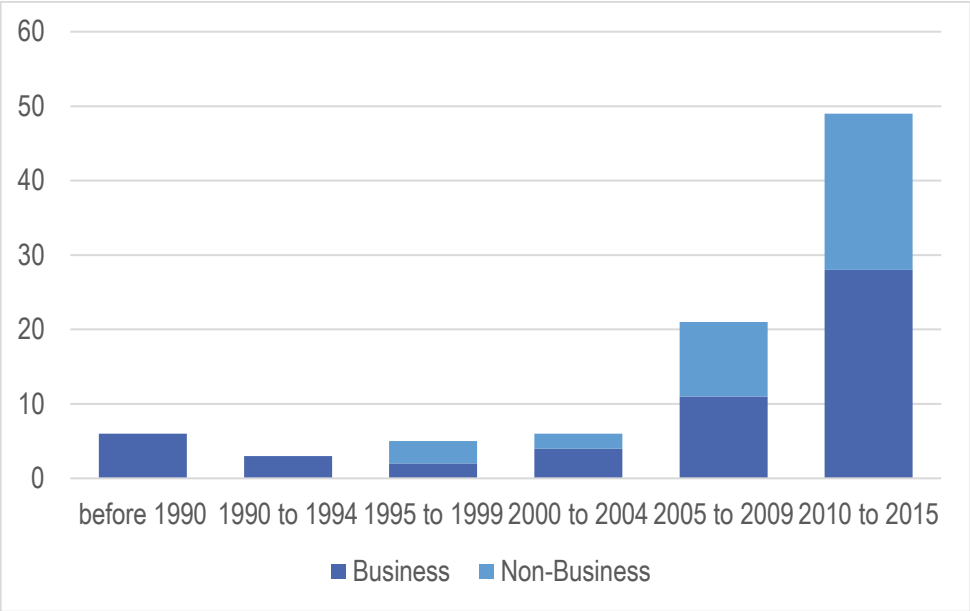
Local Businesses

O.C. Haley Boulevard is almost entirely comprised of independent organizations. Businesses include restaurants, professional services firms, and construction contractors. Only two of the 55 businesses on the corridor are chain franchises: Papa John's Pizza and Enterprise Rent-A-Car. These are each located on the block of O.C. Haley Boulevard on the CBD side of the Pontchartrain Expressway overpass, just outside of the study area for the Main Street Resilience Plan. Also present are branches of Hope Credit Union and Iberia Bank. The Trust for Public Land, the YMCA and the office of Senator Karen Carter Peterson are located in the corridor as well.

Business age

Nearly half of the establishments opened on the corridor during the last ten years have been nonprofit organizations. Many occupy office space, demonstrating the corridor's affordability relative to the Central Business District. The median year started of all nonprofits is 2011. Many of the existing businesses also have appeared since Hurricane Katrina: the median business year started is 2010.

Figure 13: O.C. Haley Blvd. Establishments by Year Started



Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

Anchors

The YMCA and James M. Singleton Charter School provide places for neighborhood youth to learn and play, in addition to employing over 100 adults. The New Orleans Redevelopment Authority also draws dozens of daytime workers, lends capital to area businesses through its façade improvement grant program and has built a five-story, mixed-use, new development at the heart of the corridor. The adjacent New Orleans Jazz Market and Southern Food and Beverage Museum are new nonprofit institutions that have the potential to anchor the corridor's budding reputation as an arts and culture destination, seeded by the Ashe Cultural Arts Center and Zeitgeist Multi-Disciplinary Arts Center.

Finally, the New Orleans Mission provides essential human services, such as room and board, to a significant portion of the city's homeless community. Although this institution does not produce retail and commercial benefits to neighboring corridor businesses, it serves a critical role in the resilience of some of the city's most vulnerable residents.

2. Commercial Real Estate Market

Property Values

Commercial property assessments in the O.C. Haley Boulevard corridor increased an average of 37 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors.

Vacancy

A survey of the O.C. Haley Boulevard corridor conducted in June 2015 revealed that 30 percent of buildings were unoccupied compared to the corridor-wide average of 23 percent.

Development Activity

Since January 1, 2012, 57 demolition, new construction and renovation building permits have been issued in the O.C. Haley Boulevard corridor.

Several high-profile development projects have recently been completed or are expected to be completed soon (Table 2). These span a range of uses, from commercial office space to dining establishments and nonprofit cultural institutions. Much of this growth has been fueled by public investments, particularly from the New Orleans Redevelopment Authority's Commercial Gap Financing Program. NORA's Façade Renew program has also successfully funded improvements to individual structures.

Table 2: Noteworthy Recent Developments and Public Investments

Name	Address	Use	Completion
Myrtle Banks Building	1139 O.C. Haley Blvd.	Coworking space, wholesale food, retail food and dining	2015
New Orleans Jazz Market	1436 O.C. Haley Blvd.	Entertainment	2015
Harrell Building	1409 O.C. Haley Blvd.	Commercial office, ground floor retail, affordable housing	2012
Café Reconcile (expansion)	1631 O.C. Haley Blvd.	Food and dining, commercial office	2014
Streetscape Project	From St. Andrew St. to Calliope St.	Public right-of-way	Expected 2016
Roux Carre	2000 O.C. Haley Blvd.	Startup food business incubator and gathering place	2015
Franz Building	2020 O.C. Haley Blvd.	Retail, commercial office	2012
Dryades YMCA Expansion	2220 O.C. Haley Blvd.	Recreation, educational	2012

3. Accessibility

Car Traffic and Parking

The O.C. Haley Boulevard corridor is conveniently located adjacent to the Central Business District – the geographic and economic center of the New Orleans metropolitan area. Its location adjacent to this district, US 90-B and Interstate 10 make it one of the most centrally located neighborhood commercial corridors in the region. Despite this situation, the most recent traffic counts of the corridor indicate an average daily traffic load of 8,000 to 9,000 vehicles – far fewer than typically required by national retailers. However, the significant daytime population in the CBD and the adjacency of high-traffic interstates offer substantial opportunity to attract potential retail customers and commercial tenants.

Parking is predominantly on-street and unmetered, though some larger businesses have limited off-street parking lots. No public parking garages or lots are available, which helps foster a pedestrian friendly environment. However, interviewed neighborhood stakeholders have experienced greater difficulty in finding on-street parking, due in part to increasing demand for parking caused by recent development activity.

Transit

O.C. Haley Boulevard's central location makes it highly accessible via public transit. The street is served by the 91-Jackson-Espalande bus route, which travels into the CBD, along the perimeter of the French Quarter and up Esplanade Avenue to Mid-City, or down Jackson Avenue through the Lower Garden District to Walmart.

The 15-Freret travels along O.C. Haley Boulevard from the CBD to Tulane and Loyola Universities.

The 28- M.L. King route traverses Simon Bolivar Avenue from M.L. King, Jr. Boulevard to the Union Passenger Terminal, three blocks from O.C. Haley Boulevard. This connects the neighborhood to Broadmoor, Freret and Uptown.

The St. Charles Avenue Streetcar is also located just three blocks from O.C. Haley Boulevard, and provides the most frequent service of any transit line in the city, from the Carrollton neighborhood to Canal Street in the CBD.

Additional connections to Algiers and the west bank of Jefferson Parish are available at and around the Union Passenger Terminal in the CBD, one block from O.C. Haley Boulevard. Terminals for the 101-Algiers Point, 102-General Meyer, 106-Aurora, 114/115-General DeGaulle-Sullen/Tullis, and the W-2, W-3 and W-8 Jefferson Transit routes are each located here.

Walking and Cycling

Located near the city's downtown core and situated within the historic street grid, O.C. Haley Boulevard is easily accessible from surrounding neighborhoods via walking. The elevated Pontchartrain Expressway serves as the only deterrent to entering the neighborhood on foot. Pedestrians may freely pass underneath the structure, but the gap in active land uses, auto-oriented design, and occasional encampments of homeless persons may serve as barriers to pedestrian travel between the corridor and the CBD.

Few dedicated bikeways directly serve the corridor. Baronne Street's buffered bike lane terminates within one block of the downriver end of the corridor, as do dedicated bike lanes on Loyola Avenue, but these do not enable protected crossings of the expressway underpass. The City is planning to complete a road diet on O.C. Haley Boulevard that will convert one automobile travel lane into a bike lane in each direction, making the street safer and more comfortable for cyclists and pedestrians.

4. Demographic, Economic and Housing Market Strength

Corridor Population

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole.

The convenience market is **dense:**

- The population density is nearly 4 times the city average (8,668 to 2,296).
- The aggregate income density is 3.6 times that of the city ($224 million compared to $62 million per square mile).

The convenience market is **older,** with **fewer families:**

- 55.2 percent of residents are over the age of 35, compared to 50.6 percent citywide.
- The average household size is 25 percent smaller than citywide average (1.83 to 2.43).
- 34 percent of households are families, compared to 53 percent citywide.

The convenience market has a concentration of **low income residents**:

- The median household income is 62 percent of the citywide median ($23,744 compared to $38,149).
- 36.7 percent of households have an annual income less than $15,000, compared to the city average of 21.9 percent.
- The neighborhood unemployment rate is 12.6 percent, compared to the citywide rate of 10.7 percent.
- 32.7 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

Corridor Housing Market

There are proportionally more rental housing units in the O.C. Haley Boulevard convenience market area than in the city as a whole, and they tend to be less expensive than the city median. Though the share of owner-occupied homes is small, the value of these homes is 31 percent higher than the city median. Within the study area, the highest priced sales since 2009 have occurred in the Warehouse District and Garden District.

The vacancy rate is also higher in the convenience market area than it is citywide. The area bounded by St. Charles Avenue, O.C. Haley Boulevard, Jackson Avenue, and Thalia Street, shows high vacancy rates – about 31 percent.

Table 3: O.C. Haley Blvd. Housing Market Indicators

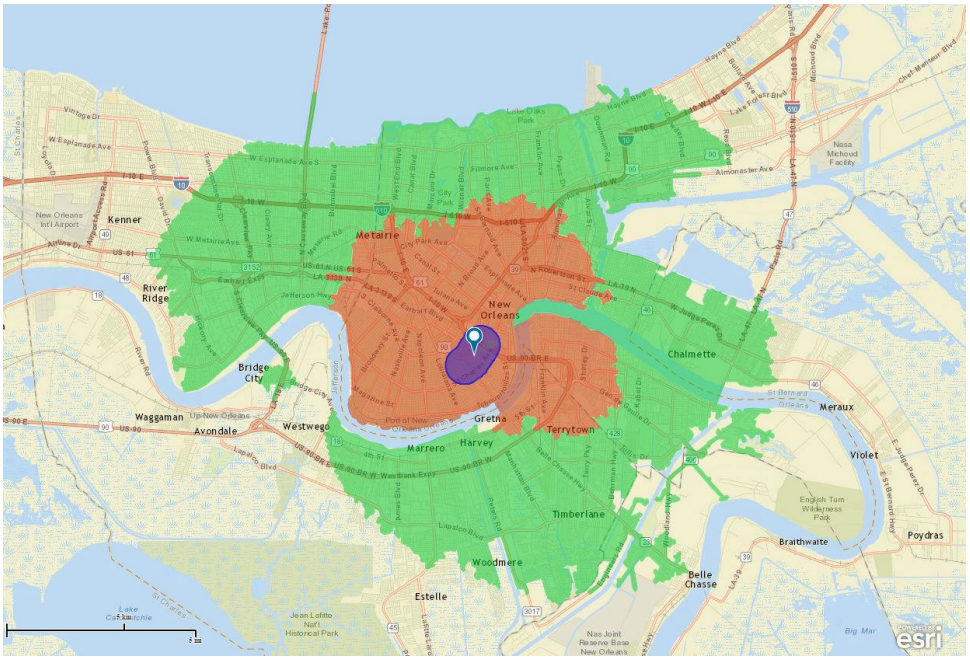
	O.C. Haley Blvd.	City
Owner-Occupied Units	16.9%	33%
Median home value	$241,824	$184,680
2009 Sale price per SF	$199	$122
2014 sale price per SF	$242	$161
Change in sale price per SF	22%	32%
Renter-occupied units	52.3%	41.7%
Median contract rent	$687 per month	$765 per month
Vacant units	30.8%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

1. Surplus/Leakage Analysis

Figure 14: Map of O.C. Haley Blvd. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to five mile distance), and regional (10-mile) trade areas. Capture rates of 25 percent, five percent and one-half percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage, or the amount of residents' dollars that are spent outside of the corridor. Aside from auto-oriented categories, there is significant leakage in the following retail categories:

1. Other General Merchandise Store: $17.8 million in spending outside the corridor;
2. Department Stores: $3.4 million in spending outside the corridor;
3. Electronics and Appliances: $2.3 million in spending outside the corridor;
4. Grocery Stores: $1 million in spending outside the corridor;
5. Sporting Goods / Hobby / Musical Instrument Stores: $778,364.

Figure 15: O.C. Haley Blvd. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	$ 17,981,857
Other Motor Vehicle Dealers	$ 587,386
Auto Parts, Accessories & Tire Stores	$ 833,895
Furniture & Home Furnishings Stores	
Furniture Stores	$ -
Home Furnishings Stores	$ 435,809
Electronics & Appliance Stores	$ 2,290,481
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	$ 354,455
Lawn & Garden Equip & Supply Stores	$ 454,345
Food & Beverage Stores	
Grocery Stores	$ 1,033,356
Specialty Food Stores	$ -
Beer, Wine & Liquor Stores	$ 256,701
Health & Personal Care Stores	$ -
Gasoline Stations	$ 9,815,179
Clothing & Clothing Accessories Stores	
Clothing Stores	$ 546,402
Shoe Stores	$ 334,804
Jewelry, Luggage & Leather Goods Stores	$ 160,723
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	$ 778,364
Book, Periodical & Music Stores	$ 52,039
General Merchandise Stores	
Department Stores Excluding Leased Depts.	$ 3,360,124
Other General Merchandise Stores	$ 17,774,414
Miscellaneous Store Retailers	
Florists	$ -
Office Supplies, Stationery & Gift Stores	$ 251,652
Used Merchandise Stores	$ 26,617
Other Miscellaneous Store Retailers	$ 378,586
Food Services & Drinking Places	
Full-Service Restaurants	$ -
Limited-Service Eating Places	$ 23,362
Special Food Services	$ -
Drinking Places - Alcoholic Beverages	$ -

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

Nearly 28,000 employees worked within the half-mile study area in 2015.[2] About 97 percent of these employees commuted from outside of the half-mile study area.[3] These commuters earned a combined income of nearly $1.5 billion. Of these earnings, the workers spent about $362 million on retail goods and services.[4] While the majority of these expenditures occured near their homes, the magnitude of purchasing power demonstrates a significant daytime market for retail goods and services in the O.C. Haley Boulevard corridor.

Table 4: Commuters within theO.C. Haley Blvd. Study Area

	Employees	Aggregate Wages
All workers in study area	27,893	$1,528,105,310
Commuters in study area	27,140	$1,486,846,467
Commuter retail spending (24.33% of income)		**$361,749,745**

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

Nearby general merchandise stores that may act as competitors to businesses on O.C. Haley Boulevard include Walgreens Pharmacy at 1801 St. Charles Avenue, Walmart Supercenter at 1901 Tchoupitoulas Street, Family Dollar at 2147 South Claiborne Avenue, and Dollar General at 2841 South Claiborne Avenue. Of these, only St. Charles Avenue rivals the O.C. Haley Boulevard corridor in its mix of businesses, pedestrian orientation and historic character.

C. Summary: Corridor Opportunities and Challenges

Opportunities

- Highly accessible, central location;
- Cluster of nonprofit commercial space;
- Adjacency to thriving real estate markets;
- Historic building stock;
- Dense market for convenience retail;
- Strong anchors;
- String of development activity;
- Large worker population.

Challenges

- High residential vacancy in surrounding neighborhood;
- Lack of parking;
- Reduced property affordability;
- Crime and perception of lack of safety.

[2] Infogroup 2015

[3] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

[4] The Bureau of Labor Statistics found that the average household spends 24.33 percent of income on retail goods and services, including food, household furnishings, entertainment, apparel and services. *Consumer Expenditures Mid Year Update – July 2013 through June 2014 Average*, April 2, 2015. Available at http://www.bls.gov/news.release/cesmy.nr0.htm

IV. Newton Street

A. Corridor Assessment

The Newton Street corridor study area includes a one-tenth mile radius around the corridor, from Teche Street to Berman Avenue (Figure 16). This captures two-block segments of cross streets and Homer and Diana Streets.

Figure 16: Newton St. Corridor Study Area

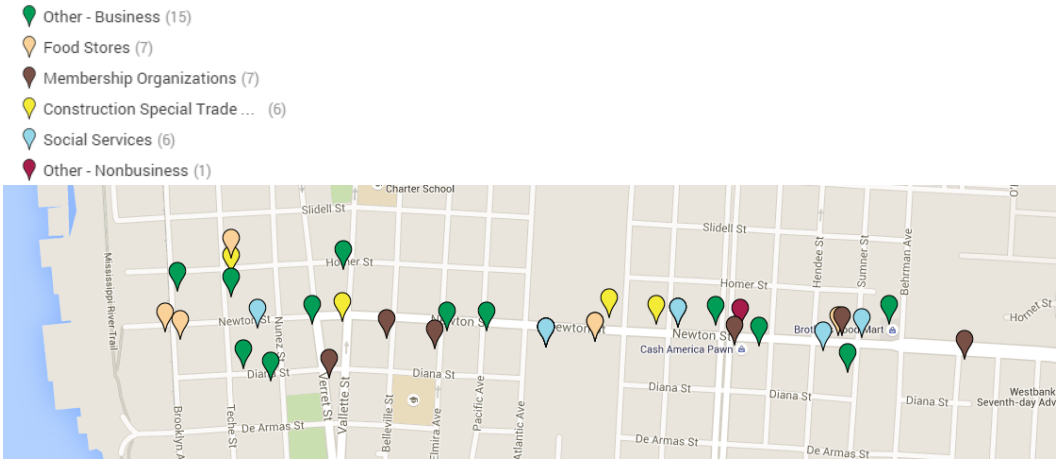
Source: Esri 2015

1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 30 businesses and 13 nonprofit organizations are located on the Newton Street commercial corridor. Shopping districts of this size – known as "Convenience Centers" – typically offer convenience retailers, professional and personal services. These primarily serve residents and daytime populations of the immediate neighborhood.

Figure 17: Newton St. Establishments Map



Source: InfoUSA and Google Maps, 2015

Membership organizations, such as churches and social clubs, and food stores are the most common industries represented; they comprise 14 of the 43 establishments on the corridor.

Table 5: Newton St. Establishments, by Industry

Industry	Number of Establishments
Membership Organizations	7
Food Stores	7
Social Services	6
Construction Special Trade Contractors	6
Miscellaneous Retail	2
Personal Services	2
Engineering, Accounting, Research, Management, And Related Services	1
Legal Services	1
Insurance Agents, Brokers, And Service	1
Business Services	1
Apparel And Accessory Stores	1
Printing, Publishing	1
Eating And Drinking Places	1
Executive, Legislative, And General Government, Except Finance	1
Real Estate	1
Wholesale Trade-durable goods	1
Automotive Repair, Services, And Parking	1
Animal Services	1
Health Services	1
Total	**43**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

Local Businesses

The Newton Street corridor is entirely comprised of independent establishments. Several factors may explain why national chain stores have passed over the corridor, including low traffic volumes, small parcel sizes, distance from a major interstate exit, and population decline.

Business age

Establishments on Newton Street tend to be stable, long-term occupants of the corridor. The median business year started is 2006; the median nonprofit year started is 2000.

Anchors

Abutting the eastern end of the Newton Street corridor, the 156-acre Federal City residential and commercial complex serves as the lone nearby anchor. The complex houses the Marine Force Reserves Headquarters, 1,500 Marine enlistees, a military charter school, hotel, and residences. A significant portion of planned commercial and residential uses have yet to be developed. Serving the residents, workers, and visitors to this potentially massive development poses a significant opportunity for Newton Street businesses.

2. Commercial Real Estate Market

The Newton Street centerline is the southern boundary of the Algiers Point Historic District. Properties on the north side of Newton Street between Teche St. and Atlantic Ave. are therefore subject to Historic District Landmarks Commission regulations, which govern building design and construction changes.

Property Values

Commercial property assessments in the Newton Street corridor increased an average 11 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors. This was the lowest rate among all corridors.

Vacancy

A survey of the Newton Street corridor conducted in June 2015 revealed that 31 percent of buildings were unoccupied, compared to the corridor-wide average of 23 percent. This is the highest rate among all corridors surveyed.

3. Accessibility

Car Traffic and Parking

Newton Street is an east-west corridor spanning the length of Old Algiers, and turns into Louisiana State Highway 428 (General Meyer Avenue). Combined, it is the only roadway between the northern edge of Algiers and General De Gaulle Drive that spans the entire east-west length of the west bank of Orleans Parish. It is well served by north-south cross-streets, including Teche Street, L.B. Landry Avenue and Nunez Street / Franklin Avenue. Entrances to and exits from US-90 Business are located approximately one mile from the center of the study area, which make downtown New Orleans accessible via a five mile drive.

Parking is predominantly on-street and unmetered, though some businesses have limited off-street parking lots. There is no evidence of a parking shortage.

Transit

The 100-Algiers Loop Owl, 101-Algiers Point, and 108-Algiers Local each serve the corridor and provide service to other neighborhoods in Algiers, to downtown New Orleans, and to Jefferson Transit's Wilty Terminal in Gretna.

The Algiers Ferry Terminal is located just one-half mile from the western portion of Newton Street, and provides pedestrian access to downtown New Orleans on weekdays from 6am to 9:45pm, on Saturdays from 10:45am to 8:00pm, and on Sundays from 10:45am to 6pm.

Walking and Cycling

Situated within a historic street grid, Newton Street is easily accessible via walking from surrounding neighborhoods.

Newton Street was recently repaved and striped with shared-lane markings for cyclists. As a low-volume, low-speed street it is relatively comfortable for cyclists even without a dedicated lane. Newton Street connects to the Mississippi River levee trail, which links downtown Gretna, the Algiers Ferry Terminal, and beyond to the Old U.S. Naval Base/Federal City.

6. Demographics

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole.

The convenience market is **dense:**

- The population density is over twice the city average (4,785 to 2,296 persons per square mile).
- The aggregate income density is nearly twice that of the city ($110 million compared to $62 million per square mile).

The convenience market is characterized by **moderate income** households:

- The median household income is 96 percent of the citywide median ($36,798 compared to $38,149).
- The neighborhood unemployment rate is 10.6 percent, compared to the citywide rate of 10.7 percent.
- 28.6 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

7. Housing

The proportion of owner-occupied versus renter-occupied versus vacant housing units within a half-mile of the Newton Street corridor is roughly equivalent to that of the city. However, the median value of owner-occupied homes is just 75 percent of the city median, and home sale prices per square foot increased just 11 percent from 2009 to 2014, compared to the 32 percent citywide average. Rents in the study area are similar to those citywide.

Table 6: Newton St. Housing Market Indicators

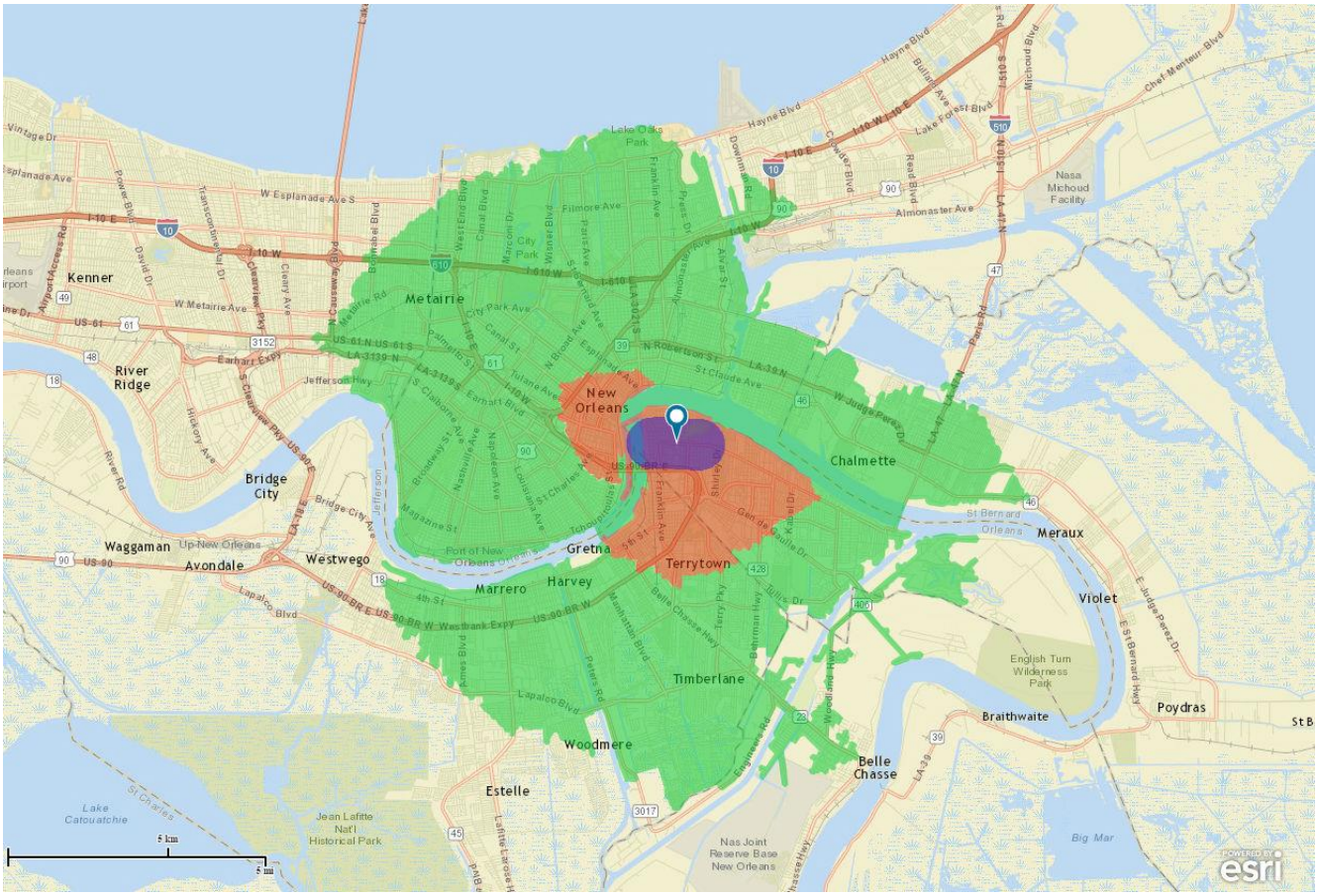
	Newton St.	City
Owner-Occupied Units	31.9%	33%
Median home value	$138,710	$184,680
2009 Sale price per SF	$80	$122
2014 sale price per SF	$89	$161
Change in sale price per SF	11%	32%
Renter-occupied units	45%	41.7%
Median contract rent	$769 per month	$765 per month
Vacant units	23.2%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

Surplus/Leakage Analysis

Figure 18: Map of Newton St. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to three mile distance), and regional (10-mile) trade areas. Capture rates of 25 percent, three percent and one-quarter percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage, the amount of residents' dollars that are spent outside of the corridor.

It should be noted that the trade areas and capture rates used for the Newton Street analysis are more modest than those used in the O.C. Haley Boulevard, Broad Street, St. Bernard Avenue, and St. Claude Avenue analyses. Newton Street's relative distance from the city center reduces its ability to draw customers from a wider area, thereby requiring adjusted trade areas and capture rates for an accurate analysis. However, the comparison trade market does include downtown New Orleans, accessible via the Crescent City Connection bridge and Algiers Point ferry.

Residents consume goods and services outside of the corridor in nearly all categories – that is, the corridor is under-retailed. Aside from auto-oriented categories, there is significant spending by residents outside the corridor in the following retail categories:

1. Other General Merchandise Store: $2.3 million in spending outside the corridor;
2. Health Care and Personal Care: $1.3 million in spending outside the corridor;
3. Limited-Service Eating Places: $991,386 in spending outside the corridor;
4. Department Stores: $981,365 in spending outside the corridor;
5. Clothing Stores: $977,432 in spending outside the corridor.

The leakage amounts are relatively low, suggesting that new retailers and service providers in these categories – particularly chain outlets - would likely require low overhead to overcome the risk of opening in this market's current conditions. However, the prospect of an improved customer base resulting from the opening of Deep South Studios, Federal City and riverfront residential development bodes well for existing and future businesses.

Table 7: Newton St. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	$ 4,329,273
Other Motor Vehicle Dealers	$ 177,063
Auto Parts, Accessories & Tire Stores	$ 333,465
Furniture & Home Furnishings Stores	
Furniture Stores	$ 244,355
Home Furnishings Stores	$ 141,237
Electronics & Appliance Stores	$ 641,592
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	$ 423,871
Lawn & Garden Equip & Supply Stores	$ 108,801
Food & Beverage Stores	
Grocery Stores	$ 841,695
Specialty Food Stores	$ 21,232
Beer, Wine & Liquor Stores	$ 19,172
Health & Personal Care Stores	$ 1,254,666
Gasoline Stations	$ 2,254,009
Clothing & Clothing Accessories Stores	
Clothing Stores	$ 977,432
Shoe Stores	$ 179,546
Jewelry, Luggage & Leather Goods Stores	$ 219,218
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	$ 217,397
Book, Periodical & Music Stores	$ 55,790
General Merchandise Stores	
Department Stores Excluding Leased Depts.	$ 981,365
Other General Merchandise Stores	$ 2,245,204
Miscellaneous Store Retailers	
Florists	$ 1,670
Office Supplies, Stationery & Gift Stores	$ 146,431
Used Merchandise Stores	$ 54,324
Other Miscellaneous Store Retailers	$ 267,093
Food Services & Drinking Places	
Full-Service Restaurants	$ 376,006
Limited-Service Eating Places	$ 991,386
Special Food Services	$ 70,014
Drinking Places - Alcoholic Beverages	$ -

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

In 2015 approximately 1,789 employees worked within the half-mile study area.[5] About 94 percent of these employees commuted from outside of the area.[6] These commuters earned a combined income of nearly $79 million, about $19.2 million of which was spent on retail goods and services. While the majority of these expenditures occurred near their homes, the magnitude of purchasing power demonstrates a modest daytime market for retail goods and services in the Newton Street corridor.

Table 8: Commuters within theNewton St. Study Area

	Employees	Aggregate Wage
All workers in study area	1,789	$84,117,231
Commuters in study area	1,680	$78,986,080
Commuter retail spending (24.33% of income)		$19,217,313

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

On the west bank, competitor shopping centers are relatively far removed from Newton Street. Commercial districts on General De Gaulle Drive and near to the Westbank Expressway in adjacent Jefferson Parish offer the nearest clusters of neighborhood shopping opportunities.

The convenience of downtown New Orleans and the French Quarter via the ferry service offers numerous competitors for comparison goods shopping and destination retail.

C. Corridor Opportunities and Challenges

Opportunities

- Proximity to Mississippi River Trail, Algiers Ferry Terminal and Algiers Point historic neighborhood;
- Low real estate prices provide opportunities for low cost startup space;
- Adjacency to large proposed developments;
    - Federal City;
    - Deep South Studios;
    - Riverfront properties owned by Kern Studios/New Beginnings.

Challenges

- Weak daytime population;
- Relatively removed from main traffic thoroughfares; low traffic volumes;
- Small parcel sizes;
- High rates of vacancy of commercial properties.

[5] Infogroup 2015

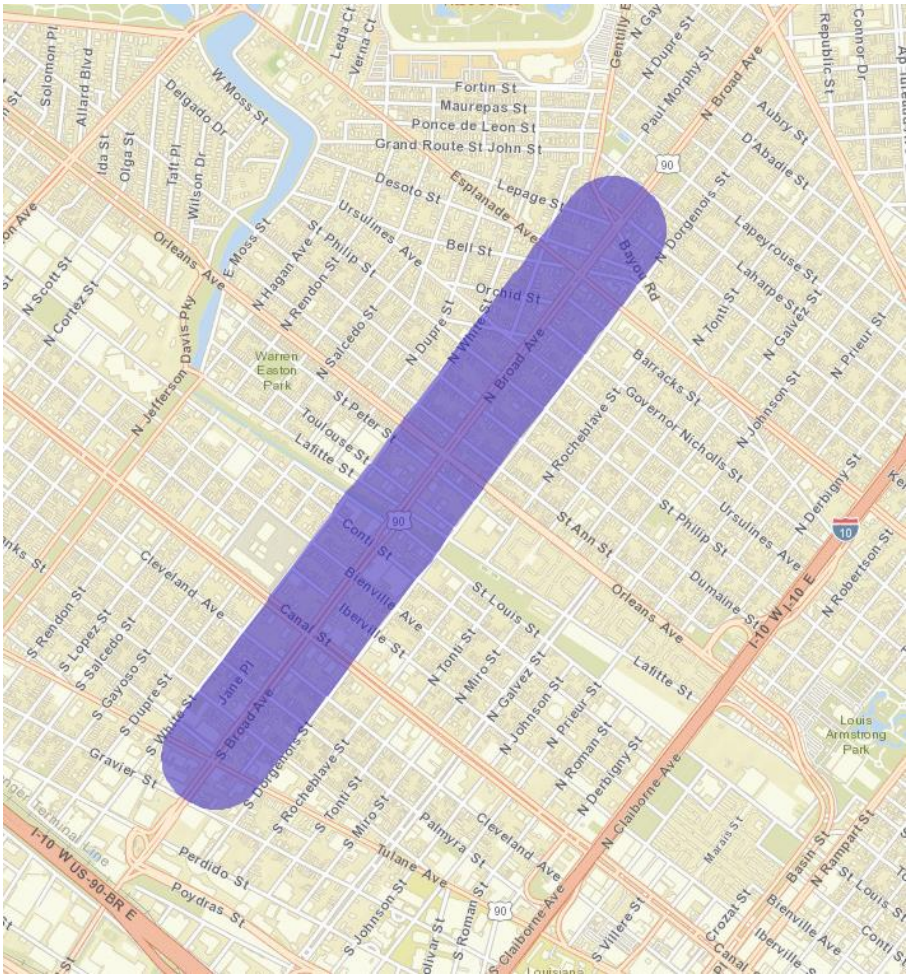
[6] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

V. Broad Street

A. Corridor Assessment

The Broad Street corridor study area includes a one-tenth mile radius around the corridor, from Tulane Avenue to Bayou Road (Figure 19). This captures two-block segments of cross streets as well as sections of White, Dorgenois and Crete Streets.

Figure 19: Broad St. Corridor Study Area



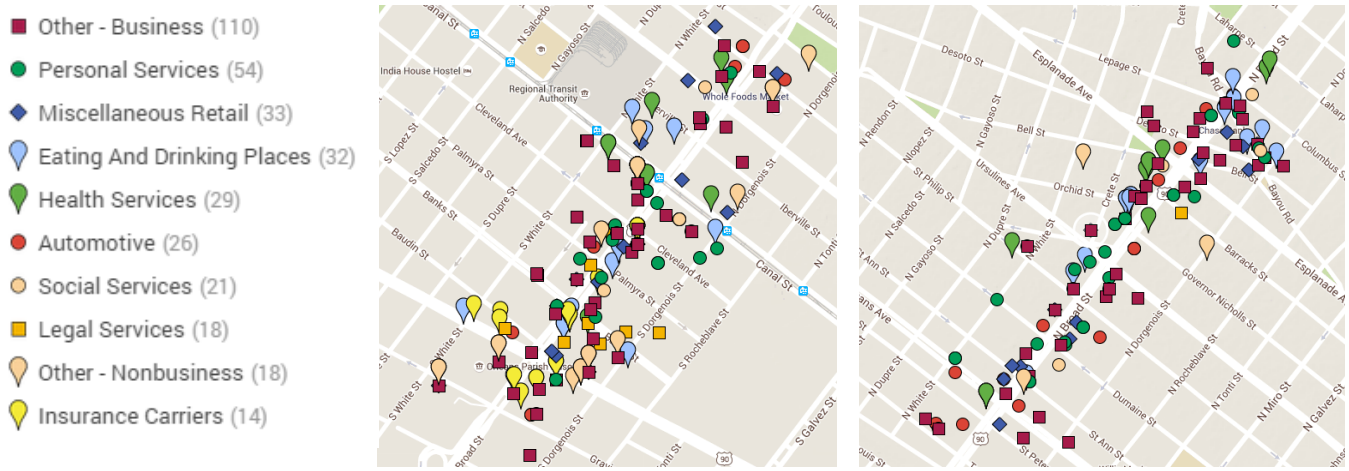
Source: Esri Business Analyst, 2015

1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 317 businesses and 38 nonprofit organizations are located on the Broad Street commercial corridor.

Figure 20: Broad St. Establishments Map



Source: InfoUSA and Google Maps, 2015

Personal services (such as barber shops, salons, accountants, and tax preparers), miscellaneous retail (including cell phone stores, pharmacies and beauty supplies), eating and drinking places and health services (clinics, dentists, and behavioral services) are the most common industries represented. Together they comprise 42 percent of all corridor establishments. These primarily serve a convenience market – neighborhood residents and the daytime population of workers.

Several comparison shopping retailers also line the corridor, including full service grocery stores, automotive dealers, home furnishings stores, legal and social services. These tend to draw customers from a wider market area.

Table 9: Broad St. Establishments, by Industry

Industry	Number of Establishments
Personal Services	54
Miscellaneous Retail	33
Eating And Drinking Places	32
Health Services	29
Social Services	21
Legal Services	18
Automotive Dealers And Gasoline Service Stations	14
Insurance Carriers	14
Construction Special Trade Contractors	13
Business Services	13
Automotive Repair, Services, And Parking	12
Food Stores	12
Engineering, Accounting, Research, Management, And Related Services	11
Membership Organizations	9
Real Estate	9
Justice, Public Order, And Safety	7
Wholesale Trade-durable goods	6
Depository Institutions	5
Building Construction General Contractors And Operative Builders	5
Insurance Agents, Brokers, And Service	4
Educational Services	4
Home Furniture, Furnishings, And Equipment Stores	4
Nonclassifiable and Other	26
Grand Total	**355**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

Local Businesses

Just 22 of the 355 establishments are chain or franchise enterprises. These are largely automotive supplies and services, such as AutoZone, Speedy and Advance Auto Parts, fast food establishments, dollar stores and pharmacies. Unlike many locally-owned establishments, these each offer substantial off-street parking and many include drive-throughs, catering to the many potential automobile-based customers that use Broad Street as a throughway.

Business age

The median year started for both businesses and non-businesses is 2010, indicating that half of all establishments on the corridor have begun operations in the last five years.

Anchors

The $2 billion University Medical Center (UMC) and Veteran Affairs (VA) Medical Center complex is located just two blocks from Broad Street, between Canal Street and Tulane Avenue. These large facilities are expected to draw thousands of employees, patients and caregivers from throughout the region, adding significant purchasing power to Broad Street's market and driving demand for quality housing located within easy commuting distance.

The ReFresh Project, a flagship redevelopment of Broad Street Community Connections, offers grocery retail, education, workforce development activities, and commercial office space under one roof. It serves as both a food hub and provider of community services, and has become one of the corridor's anchor establishments.

Located at the intersection of Broad Street and Tulane Avenue, the Orleans Parish Criminal Justice complex houses the Criminal District Court, the parish prison, and the Sherriff's Office and Police Department headquarters. While not typically

viewed as a community asset it draws a significant daytime population, as well as ancillary businesses such as the 14 bail bond enterprises clustered nearby.

2. Commercial Real Estate Market

Property Values

Commercial property assessments in the Broad Street corridor increased an average 37 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors.

Vacancy

A survey of the Broad Street corridor conducted in June 2015 revealed that 18 percent of buildings appeared unoccupied, compared to the corridor-wide average of 23 percent.

Development Activity

The UMC/VA Medical Center, which began offering services in August 2015, has spurred smaller-scale spillover development, such as food services on Canal Street and Tulane Avenue. The ReFresh Project and Lafitte Greenway, a bike and pedestrian path linking the French Quarter to Mid-City, have also catalyzed housing, office and entertainment developments.

Table 10: Noteworthy Recent Developments and Public Investments

Name	Address	Use	Completion
UMC/VA Medical Center	Canal St.	Health care services	2015
ReFresh Project	Broad St. at Bienville Ave.	Grocery stores, commercial office space, workforce training, dining, educational services	2014
The Broad St. Theater	636 N. Broad St.	Entertainment	2016
St. Bernard Project	2645 Toulouse St.	Office space, job training	Expected 2016

3. Accessibility

Car Traffic and Parking

Broad Street (US 90) is a major upriver-downriver arterial spanning the length the Mid-City and 7th Ward neighborhoods of central New Orleans. Downriver, it connects to Gentilly Boulevard and Chef Menteur Highway, leading to New Orleans East and St. Tammany Parish. Upriver, it crosses the Pontchartrain Expressway to the Broadmoor and Uptown neighborhoods. It is well served by lake- and river-bound cross streets, including Tulane Avenue, Canal Street, Orleans Avenue, and Esplanade Avenue. Much of the corridor is within one mile of entrances to and exits from Interstate 10. Traffic counts taken in October 2014 indicate average daily traffic volumes of 33,000 to 34,000 vehicles per day.[7]

Parking availability varies between establishments. Many businesses offer small off-street parking areas sited between the property line and structure. On-street, unmetered parking lanes are also available in each direction. There is no evidence of a parking shortage.

Transit

The 94-Broad route serves the entire length of Broad Street, connecting the Village de l'Est at the eastern edge of the city to Broadmoor in the center of town. It is the transit system's most heavily travelled bus route, and its riders frequently transfer to crosstown bus routes that serve downtown: the 39-Tulane, the Canal Streetcar, the 32-Leonidas-Tremé (Orleans Avenue), and the 91-Jackson-Esplanade

[7] Broad Street Corridor Streetscape Improvements, June 30, 2015, p. 34.

Walking and Cycling

Situated within a historic street grid, Broad Street is easily accessible via walking from surrounding neighborhoods.

Broad Street recently underwent a road diet between Bienville and St. Bernard Avenues, and was reduced from six lanes of traffic to four lanes, with dedicated bicycling lanes. The Lafitte Greenway crosses the study area at its midpoint, and enables safe cycling conditions for riders of all abilities from Louis Armstrong Park in Tremé to North Alexander St. in Mid-City. Esplanade Avenue also intersects Broad Street, and offers a dedicated cycling lane from Bayou St. John to Claiborne Avenue.

4. Demographics

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole.

The convenience market is **dense:**

- The population density is over four times the city average (8,718 to 2,296 persons per square mile).
- The aggregate income density is two-and-a-half times that of the city ($156 million compared to $62 million per square mile).

The convenience market is characterized by **low income** households:

- The median household income is 67 percent of the citywide median ($25,503 compared to $38,149).
- 32.7 percent of households earn less than $15,000 per year, compared to 21.9 percent citywide.
- The neighborhood unemployment rate is 15.2 percent, compared to the citywide rate of 10.7 percent.
- 36.8 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

5. Housing

Consistent with the household income indicators, the Broad Street study area has a higher proportion of renter-occupied homes than the citywide average. Likewise, the median home value is two-thirds of the citywide median. Rents in the study area are 7 percent lower than the city average.

These modest numbers, however, belie growing market demand for housing. From 2009 to 2014, the average sale price per square foot of homes jumped 45 percent, from $113 to $163, passing the citywide average. The Broad Street corridor's location near downtown New Orleans, proximity to the Medical Center complex, and inclusion of high-priced neighborhoods such as Bayou St. John each contribute to this trend, and indicate a trend toward higher income households. The increasing prices also suggest a constricted supply of housing for sale in the desired neighborhoods.

Table 11: Broad St. Housing Market Indicators

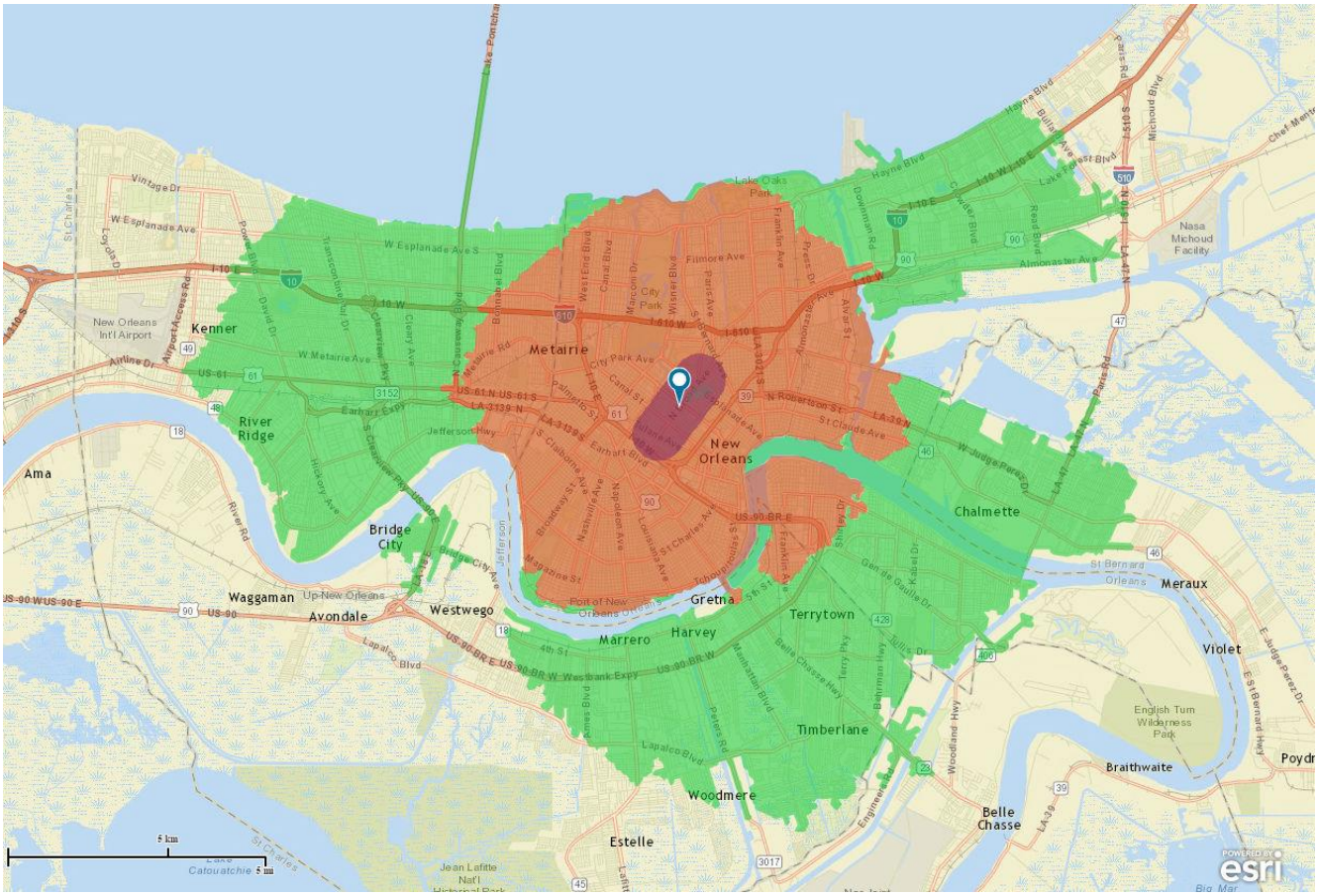
	Broad St.	City
Owner-Occupied Units	19.3%	33%
Median home value	$126,068	$184,680
2009 Sale price per SF	$113	$122
2014 sale price per SF	$163	$161
Change in sale price per SF	45%	32%
Renter-occupied units	49.5%	41.7%
Median contract rent	$711 per month	$765 per month
Vacant units	31.2%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

Surplus/Leakage Analysis

Figure 21: Map of Broad St. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to five mile distance), and regional (10-mile) trade areas. Capture rates of 25 percent, five percent and one-half percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage, or the amount of residents' dollars that are spent outside of the corridor. Aside from auto-oriented categories, there is significant leakage in the following retail categories:

1. Other General Merchandise Stores: $26.1 million in spending outside the corridor;
2. Department Stores: $7.3 million in spending outside the corridor;
3. Grocery Stores: $5.7 million in spending outside the corridor;
4. Electronics & Appliance Stores: $3.9 million in spending outside the corridor;
5. Clothing Stores: $1.6 million in spending outside the corridor.

Table 12: Broad St. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	$ 22,348,810
Other Motor Vehicle Dealers	$ 636,089
Auto Parts, Accessories & Tire Stores	$ 996,005
Furniture & Home Furnishings Stores	
Furniture Stores	$ 110,007
Home Furnishings Stores	$ 893,019
Electronics & Appliance Stores	$ 3,910,972
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	$ 626,359
Lawn & Garden Equip & Supply Stores	$ 561,671
Food & Beverage Stores	
Grocery Stores	$ 5,654,539
Specialty Food Stores	$ -
Beer, Wine & Liquor Stores	$ 237,485
Health & Personal Care Stores	$ 798,025
Gasoline Stations	$ 10,621,468
Clothing & Clothing Accessories Stores	
Clothing Stores	$ 1,642,684
Shoe Stores	$ 826,168
Jewelry, Luggage & Leather Goods Stores	$ 271,403
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	$ 1,610,745
Book, Periodical & Music Stores	$ 39,547
General Merchandise Stores	
Department Stores Excluding Leased Depts.	$ 7,288,321
Other General Merchandise Stores	$ 26,116,690
Miscellaneous Store Retailers	
Florists	$ 9,535
Office Supplies, Stationery & Gift Stores	$ 352,109
Used Merchandise Stores	$ 50,970
Other Miscellaneous Store Retailers	$ 721,469
Food Services & Drinking Places	
Full-Service Restaurants	$ 571,712
Limited-Service Eating Places	$ 1,582,491
Special Food Services	$ 144,021
Drinking Places - Alcoholic Beverages	$ -

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

In 2015, approximately 20,000 employees worked within the half-mile study area.[8] About 96 percent of these employees commuted from outside of the half-mile study area.[9] These employees earn a combined income of $960.1 million. Of these earnings, the workers spent about $233.7 million on retail goods and services. While the majority of these expenditures occurred near their homes, the magnitude of purchasing power demonstrates a strong daytime market for retail goods and services in the Broad Street corridor.

Table 13: Commuters within theBroad St. Study Area

	Employees	Aggregate Wage
All workers in study area	20,066	1,001,767,252
Commuters in study area	19,243	$960,694,795
Commuter retail spending (24.33% of income)		$233,737,044

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

Broad Street's central location within the metropolitan area means it is easy to access, but it is also easier for nearby residents to get to competitor shopping districts.

General merchandise is available at Costco and two Walmart Supercenters within a five mile driving distance. North Carrollton Avenue hosts two full service grocery stores (Winn Dixie and Rouses), and the French Quarter/CBD/Warehouse District entertainment districts offer significant dining and drinking competition.

C. Corridor Opportunities and Challenges

Opportunities

- Large daytime population;
- High traffic volume;
- Central location within city; easy transit and vehicle access;
- Adjacent to major employment centers, including newly opened University Medical Center and Criminal Justice complex;
- Strong housing market;
- Lafitte Greenway will bring customers on foot and bike to corridor.

Challenges

- Small parcels limit opportunities to develop densely;
- Blighted buildings are prevalent;
- Limited pedestrian traffic outside of major transit nodes (Tulane Avenue and Canal Street).

[8] Infogroup 2015

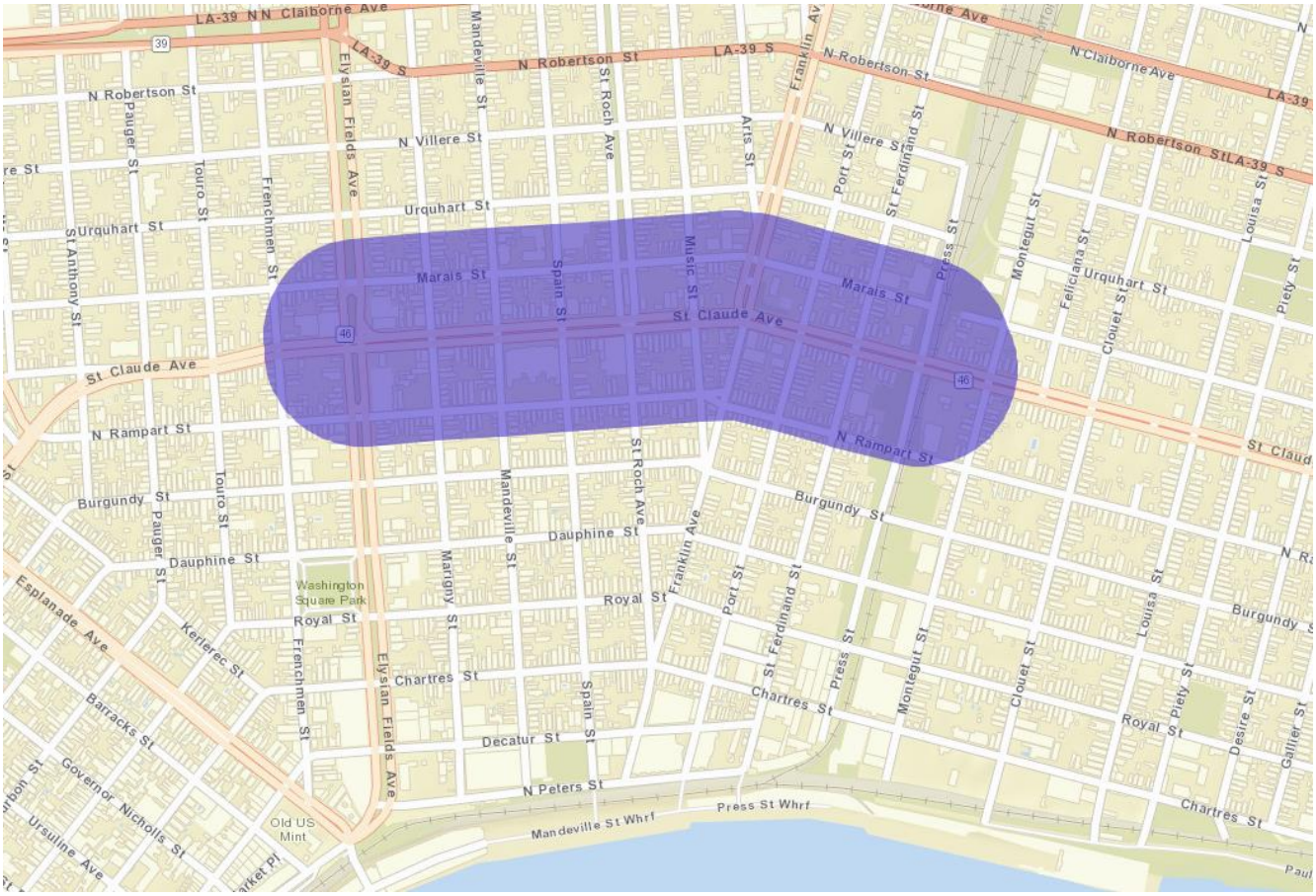
[9] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

VI. St. Claude Avenue

A. Corridor Assessment

The St. Claude Avenue corridor study area includes a one-tenth mile radius around the corridor, from Elysian Fields Avenue to Press Street (Figure 22). This captures two-block segments of cross streets and the parallel Marais and North Rampart Streets.

Figure 22: St. Claude Ave. Corridor Study Area

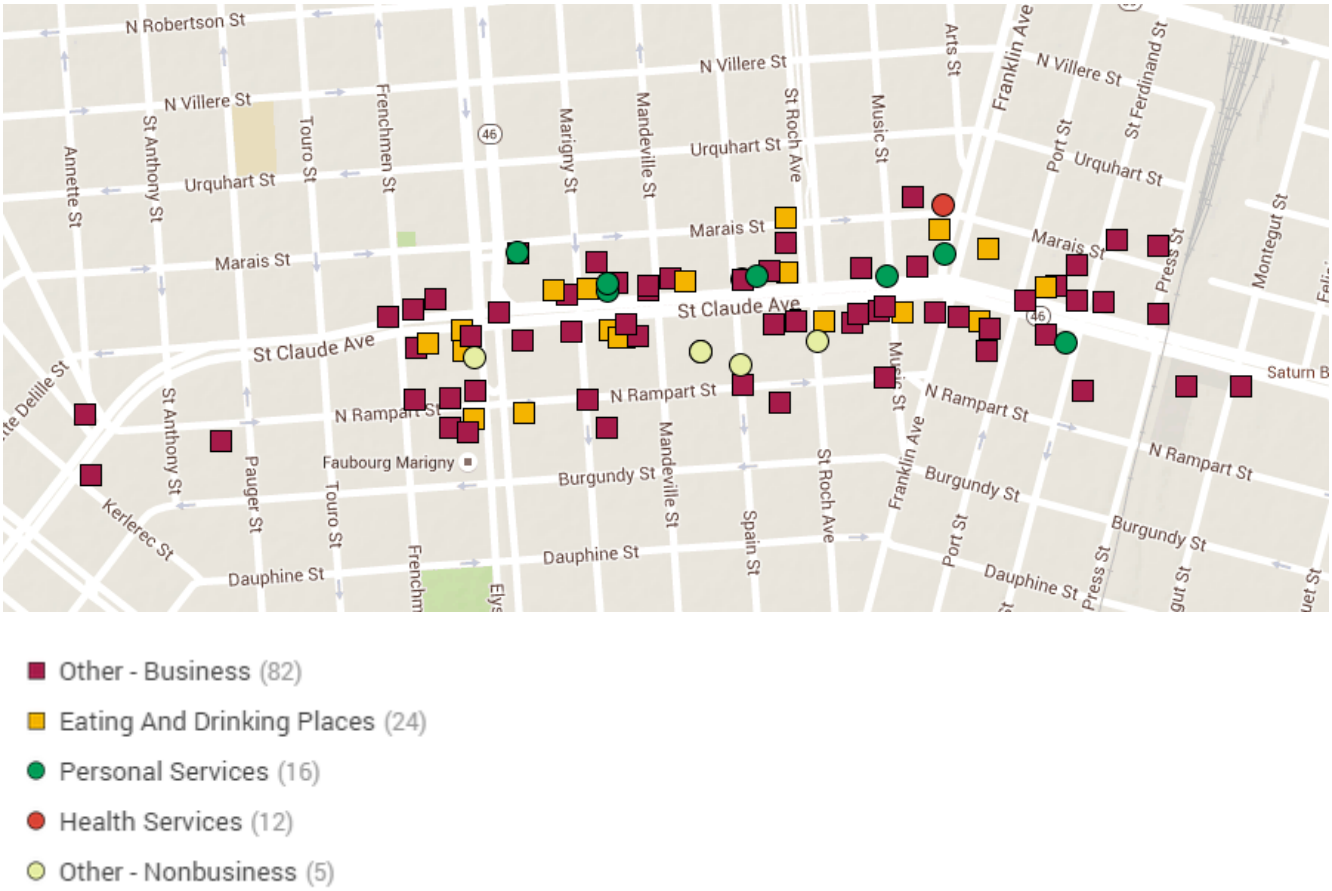


1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 134 businesses and 5 nonprofit organizations are located in the St. Claude Avenue study area.

Figure 23: St. Claude Ave. Establishments Map



Source: InfoUSA and Google Maps, 2015

Eating and drinking places (full and limited service restaurants, bars and cafes), miscellaneous retail (including cell phone stores, pharmacies and beauty supplies), personal services (such as barber shops, salons, accountants, and tax preparers), and health services (dialysis, physical therapy, and behavioral services) are the most common industries represented. Together they comprise 51 percent of all corridor establishments. These primarily serve a convenience market – neighborhood residents and the daytime population of workers. However, a handful of drinking places double as performance venues, which tend to attract customers from farther away than the immediate corridor vicinity.

Table 14: St. Claude Ave. Establishments, by Industry

Industry	Number of Establishments
Eating And Drinking Places	24
Miscellaneous Retail	18
Personal Services	16
Health Services	13
Hotels, Rooming Houses, Camps, And Other Lodging Places	6
Food Stores	6
Engineering, Accounting, Research, Management, And Related Services	6
Home Furniture, Furnishings, And Equipment Stores	5
Social Services	5
Automotive Dealers And Gasoline Service Stations	4
Apparel And Accessory Stores	4
Automotive Repair, Services, And Parking	4
Business Services	3
Building materials	3
Educational Services	3
Construction Special Trade Contractors	3
Amusement And Recreation Services	3
Other	13
Total	**139**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

Local Businesses

Just 11 of the 139 establishments are chain or franchise enterprises. These include a gas station, bank, pharmacy, tax preparation business and multiple fast food restaurants. These each offer substantial off-street parking and many include drive-throughs, catering to the many potential car-based customers that use St. Claude Avenue as a traffic throughway.

Business age

The median year started for businesses is 2010, indicating that half of all establishments on the corridor have opened in just the last five years and suggesting relatively high turnover of occupants.

Anchors

While not as significant in size as those on other corridors, the St. Claude Avenue corridor is home to a handful of landmark developments that have undergone revitalization and now serve as community anchors. The historic Colton School houses the KIPP Leadership Academy and Primary Schools (serving students K-8). The Healing Center is a multiuse space offering small commercial leases to physical and mental health practitioners, a small grocery, restaurant and performance space. The historic St. Roch Market, reopened in 2015, offers spaces for small food service start-ups and attracts customers from a wider market area.

2. Commercial Real Estate Market

Property Values

Commercial property assessments in the St. Claude Avenue corridor increased an average 31 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors.

Vacancy

A survey of the St. Claude Avenue corridor conducted in June 2015 revealed that 22 percent of buildings appeared unoccupied, compared to the corridor-wide average of 23 percent.

3. Accessibility

Car Traffic and Parking

St. Claude Avenue (LA 46) is a major upriver-downriver arterial connecting the CBD and French Quarter to the Faubourg Marigny and Tremé, 7th Ward, Bywater, St. Claude Avenue and Upper and Lower 9th Ward neighborhoods, and beyond into St. Bernard Parish. It is well served by radiating lake- and riverbound cross streets, including Franklin Avenue and Elysian Fields Avenue, which provide access to Interstates 10 and 610. Traffic counts taken in 2013 indicate average daily traffic volumes between 22,000 and 23,000 vehicles per day.[10]

Parking availability varies between establishments. Many independent establishments do not provide off-street parking, but most chain establishments offer ample parking. On-street, unmetered parking lanes are available on both sides of the avenue. There is little evidence of a parking shortage.

Transit

The 88-St. Claude/Jackson Barracks bus route serves the entire length of St. Claude Avenue, connecting the CBD to the St. Bernard Parish boundary. The 55-Elysian Fields route provides connections to the French Quarter, Gentilly and the University of New Orleans. The 80-Desire-Louisa line connects Franklin Avenue to the Upper 9th Ward, Tremé-Lafitte and the CBD.

The Regional Transit Authority is currently constructing a streetcar line along North Rampart Street and St. Claude Avenue, beginning at Canal Street and ending at Elysian Fields Avenue. This investment will provide yet another transit option to area residents, workers and customers, and may bolster real estate values and stimulate investments in properties.

Walking and Cycling

Situated within a historic street grid, St. Claude Avenue is easily accessible via walking from surrounding neighborhoods.

In 2007, the street became the site of the city's first dedicated bicycling lanes. Dedicated cycling lanes are also available on St. Roch Avenue from St. Claude Avenue to St. Roch Park.

[10] Louisiana Department of Transportation and Development – Average Daily Traffic Counts

4. Demographics

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole. The half-mile area includes the Marigny, 7th Ward, St. Claude Avenue and Bywater neighborhoods.

The convenience market is **dense:**

- The population density is over three times the city average (7,251 to 2,296 persons per square mile).
- The aggregate income density is nearly three times that of the city ($178.5 million compared to $62 million per square mile).

The convenience market is **older,** with **fewer families:**

- 57.9 percent of residents are over the age of 35, compared to 50.6 percent citywide.
- The average household size is only 81 percent of the size of the citywide average (1.96 to 2.43).
- 33.5 percent of households are families, compared to 53 percent citywide.

The convenience market is characterized by a mix of **low and moderate income** households:

- The median household income is 74 percent of the citywide median ($28,266 compared to $38,149).
- 27.6 percent of households earn less than $15,000 per year, compared to 21.9 percent citywide.
- 25.1 percent of households earn between $35,000 and $75,000 per year, compared to 27.6 percent citywide.
- The neighborhood unemployment rate is 13.6 percent, compared to the citywide rate of 10.7 percent.
- 29.1 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

The convenience market also has a high concentration of historic housing stock. 62.7 percent of housing units were built before 1940 – twice the citywide rate of 31.3 percent.

5. Housing

The St. Claude Avenue convenience market has the strongest housing market indicators of the six different corridors. Although its homeownership rate is less than the citywide average, the median home value is nearly as high as the citywide median, and median contract rents in the market are slightly higher than the citywide median.

Moreover, from 2009 to 2014, the average sale price per square foot of homes jumped 55 percent, from $171 to $264 – the highest figures among all six corridors. The area's proximity to downtown New Orleans, location on high ground near the river, historic housing stock, and inclusion of high-priced neighborhoods such as the Marigny, each contribute to this trend and indicate the growing presence of higher income households. The growing prices also suggests a constricted supply of housing for sale in the desired neighborhoods.

Table 15: St. Claude Ave. Housing Market Indictors

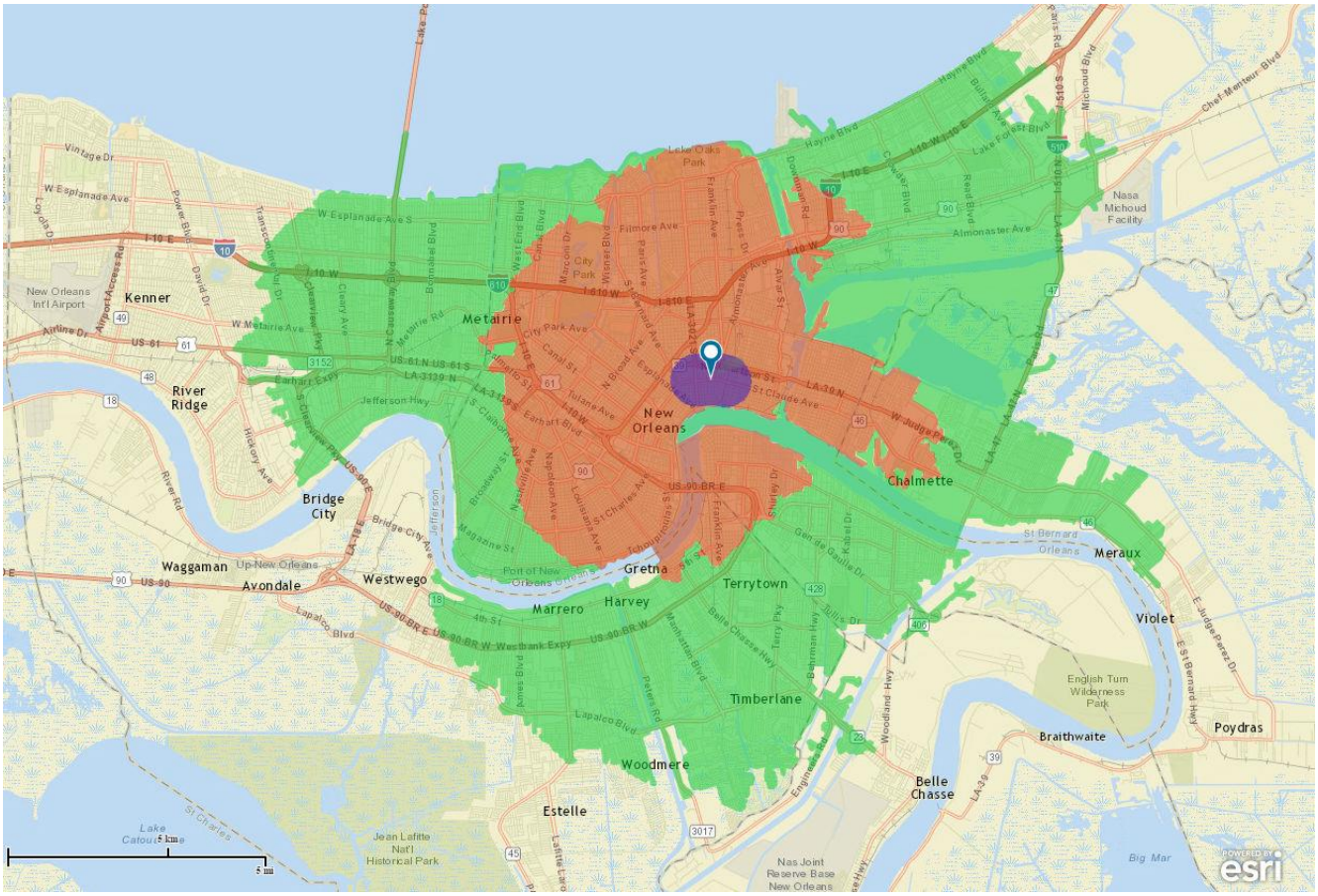
	St. Claude Ave.	City
Owner-Occupied Units	23.3%	33%
Median home value	$180,636	$184,680
2009 Sale price per SF	$171	$122
2014 sale price per SF	$264	$161
Change in sale price per SF	55%	32%
Renter-occupied units	45.8%	41.7%
Median contract rent	$780 per month	$765 per month
Vacant units	30.8%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

Surplus/Leakage Analysis

Figure 24: Map of St. Claude Ave. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to five mile distance), and regional (10-mile) trade areas. Capture rates of 25 percent, five percent and one-half percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage, or the amount of residents' dollars that are spent outside of the corridor. Aside from auto-oriented categories, there is significant leakage in the following retail categories:

1. Other General Merchandise Stores: $16.8 million in spending outside the corridor;
2. Grocery Stores: $6.1 million in spending outside the corridor;
3. Department Stores: $4 million in spending outside the corridor;
4. Electronics & Appliance Stores: $3 million in spending outside the corridor;
5. Health & Personal Care Stores: $1.4 million in spending outside the corridor.

Table 16: St. Claude Ave. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	15,683,868
Other Motor Vehicle Dealers	446,624
Auto Parts, Accessories & Tire Stores	201,994
Furniture & Home Furnishings Stores	
Furniture Stores	212,346
Home Furnishings Stores	685,021
Electronics & Appliance Stores	2,966,317
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	463,573
Lawn & Garden Equip & Supply Stores	481,165
Food & Beverage Stores	
Grocery Stores	6,139,658
Specialty Food Stores	-
Beer, Wine & Liquor Stores	214,995
Health & Personal Care Stores	1,445,861
Gasoline Stations	4,956,656
Clothing & Clothing Accessories Stores	
Clothing Stores	966,892
Shoe Stores	415,386
Jewelry, Luggage & Leather Goods Stores	192,831
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	782,129
Book, Periodical & Music Stores	64,525
General Merchandise Stores	
Department Stores Excluding Leased Depts.	3,958,672
Other General Merchandise Stores	16,765,478
Miscellaneous Store Retailers	
Florists	-
Office Supplies, Stationery & Gift Stores	296,372
Used Merchandise Stores	18,617
Other Miscellaneous Store Retailers	429,010
Food Services & Drinking Places	
Full-Service Restaurants	-
Limited-Service Eating Places	369,164
Special Food Services	-
Drinking Places - Alcoholic Beverages	-

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

In 2015, approximately 3,625 employees worked within the half-mile study area.[11] About 88 percent of these employees commuted from outside of the half-mile study area.[12] These employees earned a combined income of about $128.7 million. Of these earnings, the workers spent about $31.3 million on retail goods and services. While the majority of these expenditures occurred near their homes, the magnitude of purchasing power demonstrates a strong daytime market for retail goods and services in the St. Claude Avenue corridor.

Table 17: Commuters within theSt. Claude Ave. Study Area

	Employees	Aggregate Wage
All workers in study area	3,625	$146,726,475
Commuters in study area	3,179	$128,679,119
Commuter retail spending (24.33% of income)		$31,307,630

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

St. Claude Avenue's central location within the metropolitan area means it is easy to access, but it is also easier for nearby residents to get to competitor shopping districts. These are:

- General merchandise:
  - Costco and two Walmart Supercenters within five miles.
- Groceries (Full Service):
  - Winn Dixie and Rouses on North Carrollton Avenue;
  - Rouses in the Central Business District;
  - Whole Foods on Broad Street.
- Dining and Drinking:
  - The French Quarter/CBD/Warehouse District entertainment center.

C. Corridor Opportunities and Challenges

Opportunities

- Dense, mixed income convenience market;
- High traffic volume on St. Claude Avenue;
- Central location within city; easy transit and vehicle access;
- Adjacent to French Quarter and Frenchmen Street entertainment districts;
- Strong housing market with ample historic structures.

Challenges

- Poor pedestrian environment leads to limited foot traffic;
- Rapidly increasing property values raise concerns about affordability.

[11] Infogroup 2015

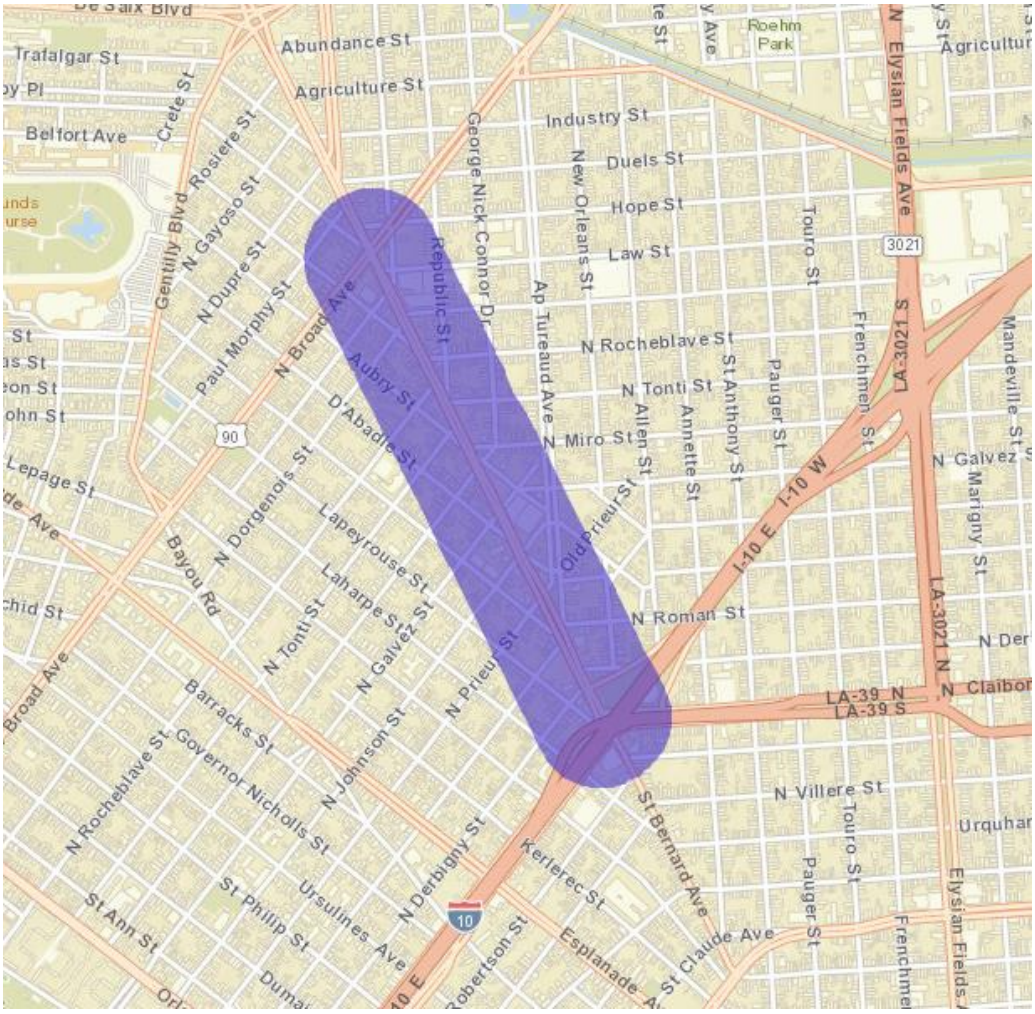
[12] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

VII. St. Bernard Avenue

A. Corridor Assessment

The St. Bernard Avenue corridor study area includes a one-tenth mile radius around the corridor, from North Claiborne Avenue to North Broad Street. This captures one-to-two-block segments of several cross streets and a three-block segment of A.P. Tureaud Avenue.

Figure 25: St. Bernard Ave. Study Area



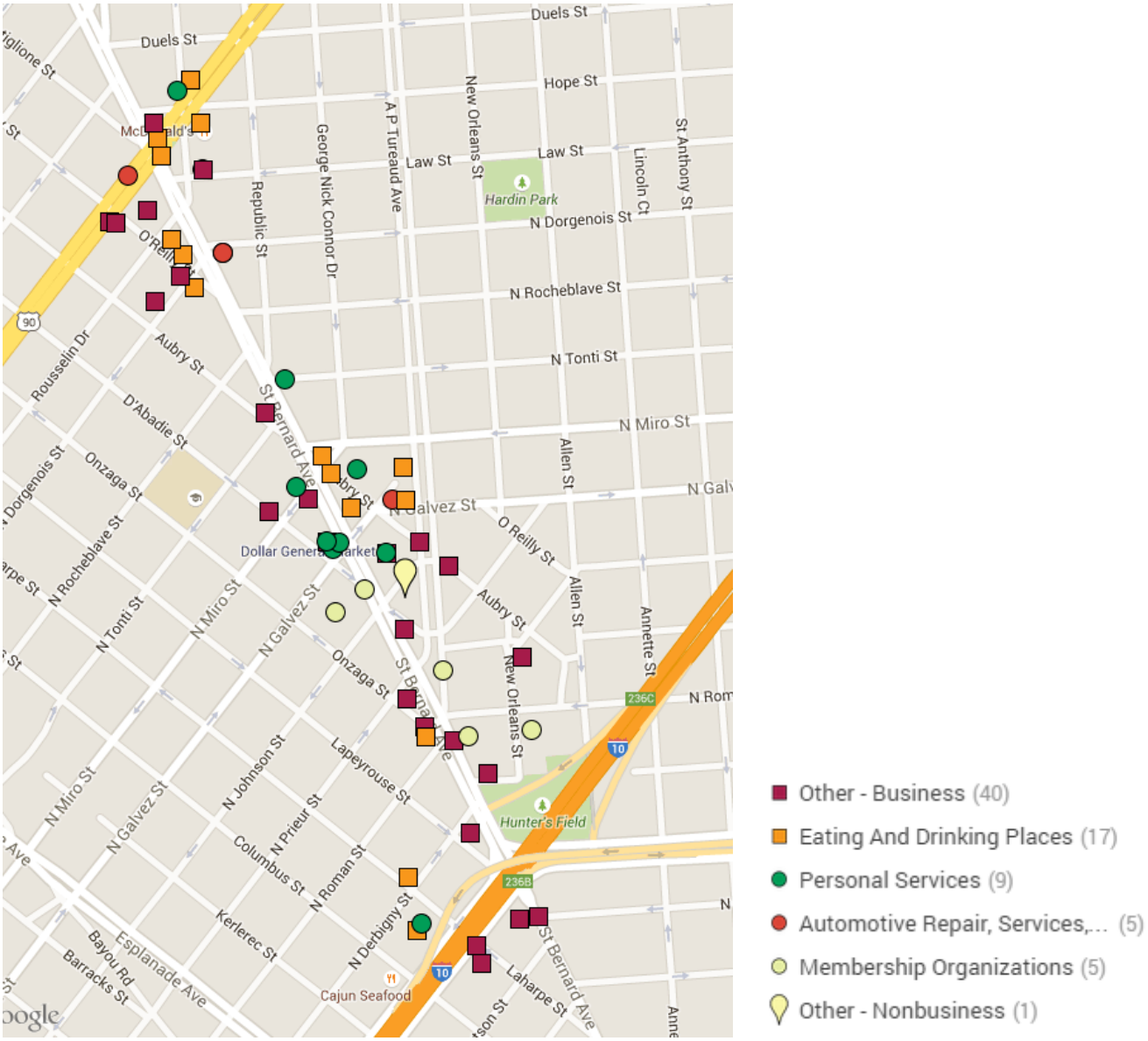
Source: Esri Business Analyst, 2015

1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 71 businesses and 6 nonbusiness organizations are located in the St. Bernard Avenue study area.

Figure 26: St. Bernard Ave. Establishments Map



Source: InfoUSA and Google Maps, 2015

Neighborhood serving retail, including eating and drinking places (17), personal services (9), miscellaneous retail (8) and food stores (6) are the most common industries represented.

Table 18: St. Bernard Ave. Establishments, by Industry

Industry	Number of Establishments
Eating And Drinking Places	17
Personal Services	9
Miscellaneous Retail	8
Food Stores	6
Construction Special Trade Contractors	6
Membership Organizations	5
Automotive Repair, Services, And Parking	5
Business Services	4
Legal Services	3
Apparel And Accessory Stores	2
Amusement And Recreation Services	2
Health Services	2
General merchandise stores	2
Nonclassifiable Establishments	1
Social Services	1
Agricultural Services	1
Insurance Agents, Brokers, And Service	1
Educational Services	1
Miscellaneous Services	1
Total	**77**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

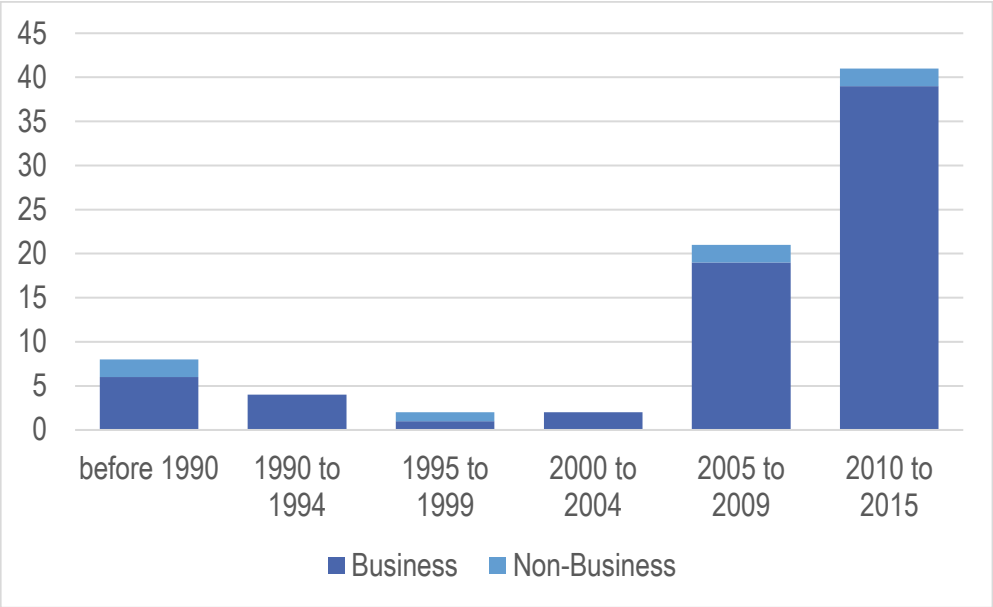
Local Businesses

Nearly all of the businesses on St. Bernard Avenue are independent establishments. Only eight of the 77 businesses on the corridor are chain franchises – namely fast-food restaurants and general merchandise stores. These are clustered at the shopping center between North Johnson Street and North Galvez Street.

Business age

Over half (41) of the establishments in the study area have opened in the last five years, and four out of five have opened since 2005, suggesting high turnover of tenants in commercial spaces. The median year opened for businesses is 2011; the median year opened for non-businesses is 2007.

Figure 27: St. Bernard Ave. Establishments by Year Started



Anchors

Corpus Christi Church and its adjacent school building, located between North Johnson and North Galvez Streets, serve as the most prominent anchors of the study area. The church renovated and opened the school building in summer 2015 as a community center with meeting space, a computer lab and gymnasium. Nearby, the vacant Nora Navra branch of the New Orleans Public Library is planned for renovation and reopening by 2017. This hub of social and community services will make this area a critical node in the corridor and neighborhood's resilience.

2. Commercial Real Estate Market

Property Values

Commercial property assessments in the St. Bernard Avenue corridor increased an average 37 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors.

Vacancy

A survey of the St. Bernard Avenue corridor conducted in June 2015 revealed that 22 percent of all buildings were unoccupied, compared to the corridor-wide average of 23 percent.

Development Activity

Two high-profile projects have recently been completed: the restoration of the Circle Foods grocery store and the Corpus Christi Community Resource Center. Each was supported by public investments. Circle Foods received a variety of funding sources, including tax credits, a Louisiana Office of Community Development grant and $1 million from the City's Fresh Food Retailer Initiative. The Community Resource Center was primarily funded by FEMA funds, due to damage caused by the floods of 2005.

Table 19: Noteworthy Recent Developments and Public Investments

Name	Address	Use	Completion
Circle Foods	1522 St. Bernard Ave.	Grocery store	January 2014
Corpus Christi Community Resource Center	2022 St. Bernard Ave.	Multipurpose community space	June 2015

3. Accessibility

Car Traffic and Parking

St. Bernard Avenue is a lakebound-riverbound arterial connecting the Marigny neighborhood to the 7th Ward, Gentilly and Lake Vista neighborhoods. It is well connected to adjacent neighborhoods with numerous cross-streets, and provides access to Interstate 10 at the southern edge of the study area and Interstate 610 north of the study area.

Parking availability varies between establishments. Most independent establishments do not provide off-street parking, while the Dollar General Market shopping center and other chain establishments do. On-street, unmetered parking lanes are available on both sides of the avenue. There is little evidence of a shortage of available parking.

Transit

The 51/52-St. Bernard bus route runs the length of the corridor and connects the CBD to the University of New Orleans. Connections to the 94-Broad Street, 84-Galvez, and 80-Desire Louisa (at Claiborne Avenue) provide convenient upriver/downriver access at the corridor's major intersections.

Walking and Cycling

Situated within a historic street grid, St. Bernard Avenue is easily accessible via walking from surrounding neighborhoods, though sidewalk conditions vary. Dedicated cycling lanes have been installed on both sides of the roadway.

4. Demographic, Economic and Housing Market Strength

Corridor Population

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole. The half-mile area includes the Tremé, Fairgrounds, and 7th Ward neighborhoods.

The convenience market is **dense:**

- The population density is nearly four times the city average (9,444 to 2,296).
- The aggregate income density is 3.6 times that of the city ($149.6 million compared to $62 million per square mile).

The convenience market has a concentration of **low income residents**:

- The median household income is 59 percent of the citywide median ($22,655 compared to $38,149).
- 32.6 percent of households have income less than $15,000, compared to the city average of 21.9 percent.
- The neighborhood unemployment rate is 15.7 percent, compared to the citywide rate of 10.7 percent.
- 35.7 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

Corridor Housing Market

The housing market is weaker in the St. Bernard Avenue convenience area than in other corridors. Over a third of housing units are vacant, and nearly two thirds of the occupied units are rentals. At $103,302 the median home value is just over half that of the citywide median. Nevertheless, housing sale prices have increased more quickly than the citywide average - 40 percent between 2009 and 2013 - suggesting that although the housing market remains weaker than the citywide market, it is changing.

Table 20: St. Bernard Ave. Housing Market Indicators

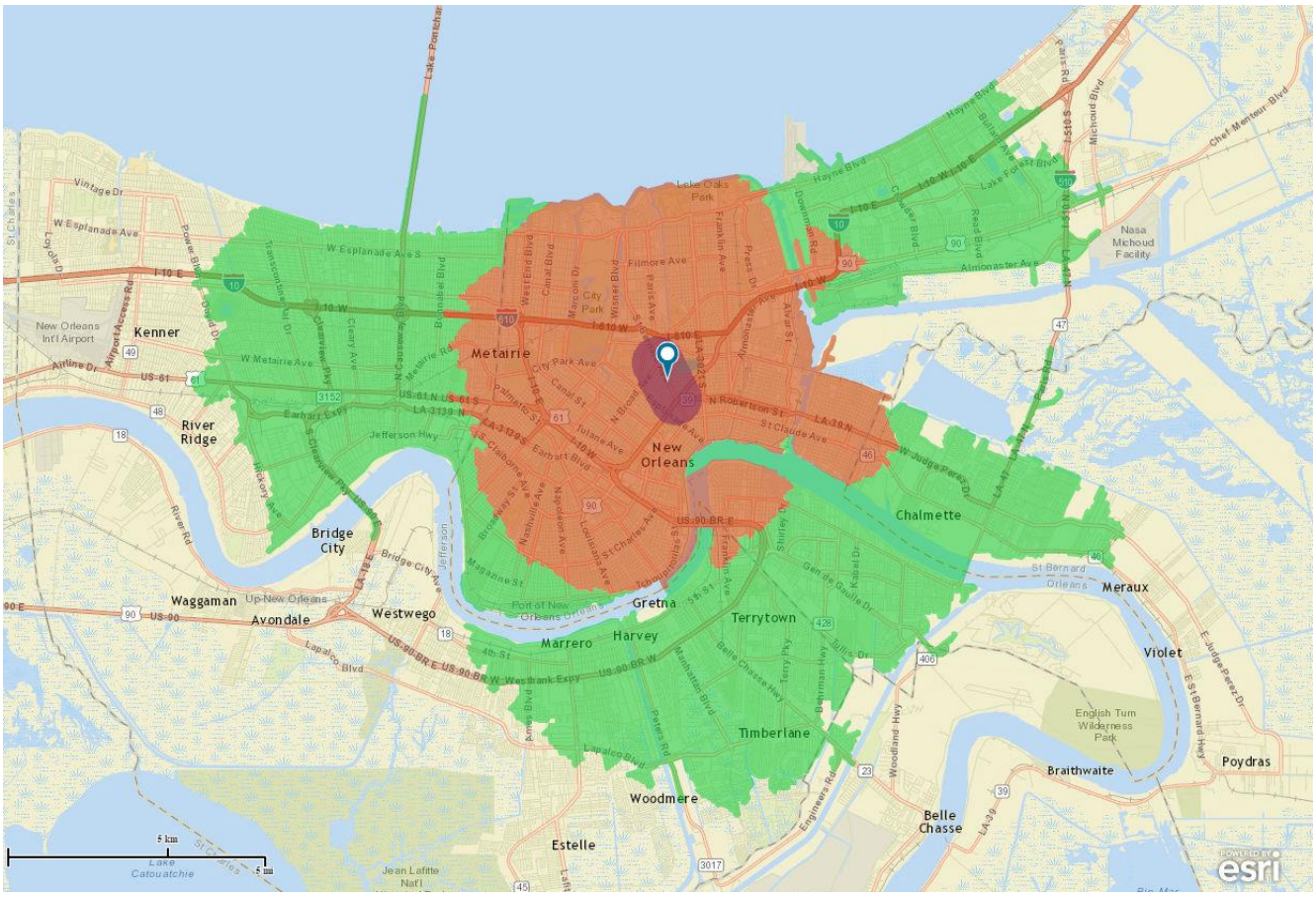
	St. Bernard Ave.	City
Owner-Occupied Units	21%	33%
Median home value	$103,302	$184,680
2009 Sale price per SF	$70	$122
2014 sale price per SF	$98	$161
Change in sale price per SF	40%	32%
Renter-occupied units	44.2%	41.7%
Median contract rent	$666 per month	$765 per month
Vacant units	34.9%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

1. Surplus/Leakage Analysis

Figure 28: Map of St. Bernard Ave. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to five mile distance), and regional (10-mile) trade areas. Capture rates of 25 percent, five percent and one-half percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage,

or the amount of residents' dollars that are spent outside of the corridor. Aside from auto-oriented categories, there is significant leakage in the following retail categories:

1. Other General Merchandise Stores: $21.1 million in spending outside the corridor;
2. Grocery Stores: $7.8 million in spending outside the corridor;
3. Department Stores: $5.4 million in spending outside the corridor;
4. Electronics and Appliance stores: $3.4 million in spending outside the corridor;
5. Sporting Goods / Hobby / Musical Instrument Stores: $1.4 million in spending outside the corridor.

High leakage in the general merchandise and grocery store categories, despite the presence of these types of retailers within the study area, demonstrates the high level of untapped demand in these categories.

Figure 29: St. Bernard Ave. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	21,034,680
Other Motor Vehicle Dealers	773,953
Auto Parts, Accessories & Tire Stores	630,425
Furniture & Home Furnishings Stores	1,391,335
Furniture Stores	466,629
Home Furnishings Stores	924,706
Electronics & Appliance Stores	3,353,826
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	463,393
Lawn & Garden Equip & Supply Stores	474,117
Food & Beverage Stores	
Grocery Stores	7,821,288
Specialty Food Stores	6,157
Beer, Wine & Liquor Stores	57,069
Health & Personal Care Stores	667,899
Gasoline Stations	8,221,682
Clothing & Clothing Accessories Stores	
Clothing Stores	1,227,395
Shoe Stores	635,767
Jewelry, Luggage & Leather Goods Stores	193,156
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	1,391,358
Book, Periodical & Music Stores	73,774
General Merchandise Stores	
Department Stores Excluding Leased Depts.	5,474,658
Other General Merchandise Stores	21,139,134
Miscellaneous Store Retailers	
Florists	-
Office Supplies, Stationery & Gift Stores	406,931
Used Merchandise Stores	24,642
Other Miscellaneous Store Retailers	807,676
Food Services & Drinking Places	
Full-Service Restaurants	643,786
Limited-Service Eating Places	1,130,839
Special Food Services	104,682
Drinking Places - Alcoholic Beverages	-

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

In 2015, approximately 3,060 employees worked within the half-mile study area.[13] About 94 percent of these employees commuted from outside of the area.[14] These commuters earned a combined income of about $129.5 million. Of these earnings, the workers spent about $31.5 million on retail goods and services.[15] While the majority of these expenditures occurred near their homes, the magnitude of purchasing power demonstrates a significant daytime market for retail goods and services on the St. Bernard Avenue corridor.

Table 21: Commuters within theSt. Bernard Ave. Convenience Market

	Employees	Aggregate Wage
All workers in study area	3,060	$137,299,522
Commuters in study area	2,886	$129,473,449
Commuter retail spending (24.33% of income)		$31,500,890

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

St. Bernard Avenue's central location within the metropolitan area means it is easy to access, but it is also easier for nearby residents to get to competitor shopping districts. These are:

- General merchandise:
  - Costco and two Walmart Supercenters within five miles.
- Groceries (Full Service):
  - Winn Dixie and Rouses on North Carrollton Avenue;
  - Rouses in the Central Business District;
  - Whole Foods on Broad Street.

C. Summary: Corridor Opportunities and Challenges

Opportunities

- Accessible, central Location;
- Dense market for convenience retail;
- Affordable real estate.

Challenges

- High turnover of businesses suggests unstable corridor environment;
- High proportion of low income residents indicates the needs for better jobs and more economic opportunity.

[13] Infogroup 2015

[14] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

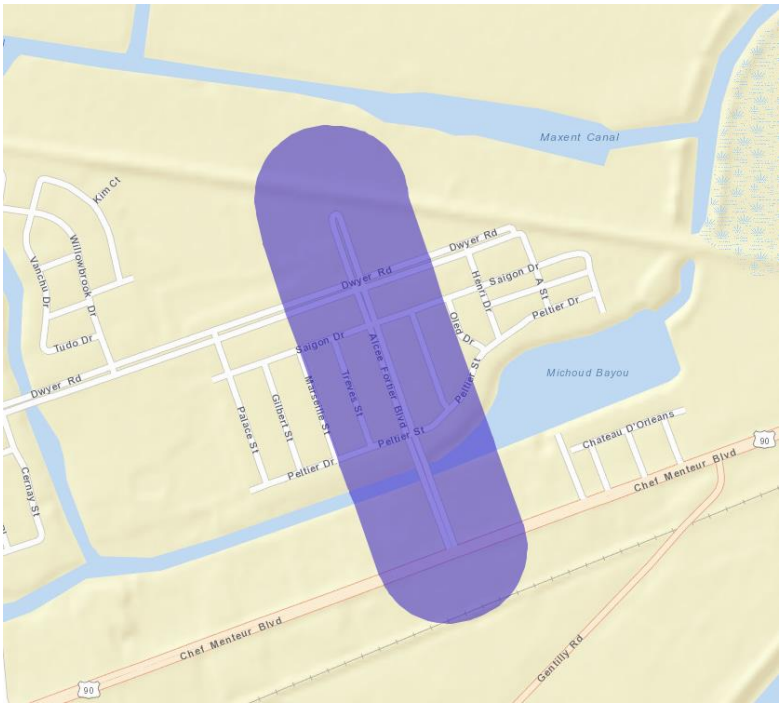
[15] The Bureau of Labor Statistics found that the average household spends 24.33 percent of income on retail goods and services, including food, household furnishings, entertainment, apparel and services. *Consumer Expenditures Mid Year Update – July 2013 through June 2014 Average*, April 2, 2015. Available at http://www.bls.gov/news.release/cesmy.nr0.htm

VIII. Alcee Fortier Boulevard

A. Corridor Assessment

The Alcee Fortier Boulevard corridor study area includes a one-tenth mile radius around the entire length of Alcee Fortier Boulevard. This captures its intersection with Chef Menteur Highway and the residential sections of the corridor north of the Michoud Lagoon.

Figure 30: Alcee Fortier Boulevard Blvd. Study Area

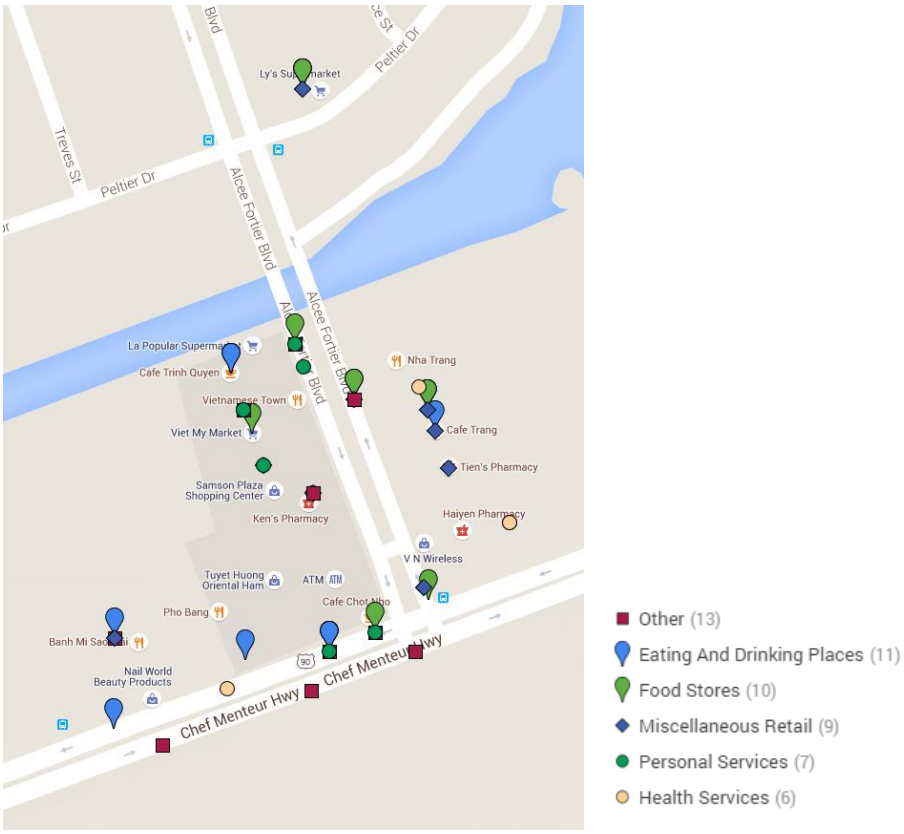


1. Corridor Type

Types and Sizes of Establishments

As of early 2015, 56 businesses and 1 nonbusiness organization occupy the Alcee Fortier Boulevard study area.

Figure 31: Alcee Fortier Blvd. Establishments Map



Source: Google Maps, InfoUSA 2015

Neighborhood-serving retail, such as Eating and Drinking Places (11), Food Stores (10), Miscellaneous Retail (9, including pharmacies, beauty stores and video stores) and Personal Services (7) are the most common industries.

Table 22: Alcee Fortier Blvd. Establishments, by Industry

Industry	Number of establishments
Eating And Drinking Places	11
Food Stores	10
Miscellaneous Retail	9
Personal Services	7
Health Services	6
Food And Kindred Products	2
Apparel And Accessory Stores	2
Transportation Services	1
Construction Special Trade Contractors	1
Building Construction General Contractors And Operative Builders	1
Wholesale Trade-non-durable Goods	1
Social Services	1
Depository Institutions	1
Legal Services	1
Business Services	1
General merchandise stores	1
Total	**56**

Source: InfoUSA 2015; City of New Orleans Occupational/General Business License data 2015

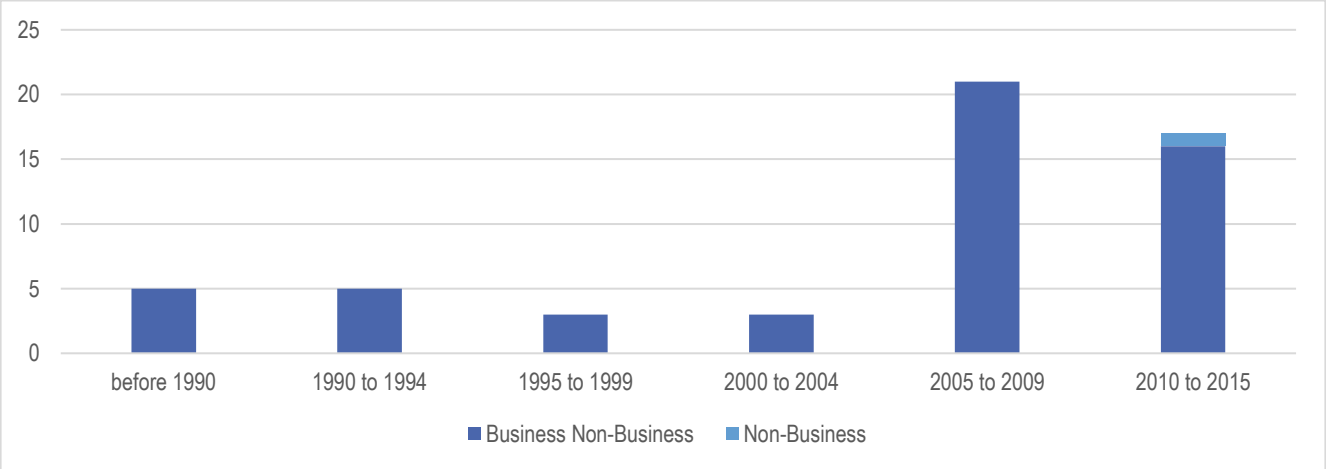
Local Businesses

Alcee Fortier Boulevard is entirely comprised of independent establishments, and most offer products and services to a predominantly Vietnamese American community.

Business age

The median opening year for all establishments is 2007. This older age, relative to other corridors, suggests greater stability of the business community – that is, businesses that open tend not to close over a short period of time.

Figure 32: Alcee Fortier Blvd. Establishments by Year Started



Source: InfoUSA

Anchors

Alcee Fortier Boulevard is home to the Mary Queen of Vietnam Community Development Corporation (MQVNCDC) and the Vietnamese American Young Leaders of New Orleans (VAYLA-NO). Each of these provide social services and community organizing activities, and are recognized as two of the most effective community-serving organizations in the city. Just outside the corridor limits, on Dwyer Boulevard, is Mary Queen of Vietnam Church, a religious and community anchor for the Catholic Vietnamese American community. While not immediately adjacent to the study area, this community hub nevertheless serves as an invaluable gathering and social space that draws residents and visitors.

2. Commercial Real Estate Market

Property Values

Commercial property assessments in the Alcee Fortier Boulevard corridor increased an average of 36 percent from 2011 to 2015, compared to a 34 percent average increase across all corridors.

Vacancy

A survey of the Alcee Fortier Boulevard corridor conducted in June 2015 revealed that only 14 percent of all buildings were unoccupied, compared to the corridor-wide average of 23 percent.

3. Accessibility

Car Traffic and Parking

Alcee Fortier Boulevard is a divided, four-lane roadway with parking lanes on each side. A recent streetscaping project installed new sidewalks, pedestrian streetlights and street trees. Ample parking is available between the commercial buildings and public right-of-way.

Transit

From its terminus on Michoud Boulevard., the 94-Broad Street bus traverses Village de l'Est and Alcee Fortier Boulevard before making its voyage down Chef Menteur Highway to Gentilly Boulevard and Broad Street. While convenient to access from the corridor, the roughly 52-minute journey to Canal Street or Tulane Avenue, where commuters can transfer to CBD-bound lines, makes transit a slow alternative to private vehicle trips. The available stops also do not provide amenities such as benches or shelters for riders.

Walking and Cycling

Although new sidewalks have been constructed, the low density development in the adjacent neighborhood means that relatively few nearby residents are within a short walking distance of the corridor. However, the small scale of the corridor and ample right-of-way creates the opportunity for walking between the various businesses once arrived. The community has partnered with the Louisiana Department of Transportation and Development (LADOTD) to design and construct a bike and pedestrian path along the Michoud Lagoon, including a pedestrian bridge just west of Alee Fortier Boulevard. While still under development, this project could provide significantly improved non-motorized access to the corridor.

4. Demographic, Economic and Housing Market Strength

Corridor Population

The demographic statistics below compare residents of the corridor's convenience market (the half-mile area surrounding the corridor) to the city as a whole.

The convenience market is **sparse:**

- Unlike all other corridors, the population density is less than the city average (1,564 to 2,296). Much of the half mile radius area is undeveloped.
- Likewise, the aggregate income density is only 28 percent of the city aggregate ($17.7 million compared to $62 million per square mile).

These low figures coupled with the high number of stable, corridor businesses suggest that the corridor's convenience market draws from a larger area than other corridors, or that the corridor's capture rate within the convenience trade area is

higher. Given its distance from other developed areas, either may be true. The retail Surplus/Leakage Analysis in the next section therefore applies a higher capture rate to the convenience market relative to those used in other corridor analyses (50 percent compared to 25 percent).

The convenience market has a concentration of **low income residents**:

- The median household income is 64 percent of the citywide median ($24,236 compared to $38,149).
- 30.1 percent of households have income less than $15,000, compared to the city average of 21.9 percent.
- The neighborhood unemployment rate is 15.3 percent, compared to the citywide rate of 10.7 percent.
- 40.6 percent of households live below the poverty line, compared to the citywide rate of 25.5 percent.

Corridor Housing Market

The convenience housing market is characterized by low prices yet a low vacancy rate of 11.7 percent, and an owner-occupancy rate identical to that of the city as a whole (33 percent).

Table 23: Alcee Fortier Blvd. Housing Market Indicators

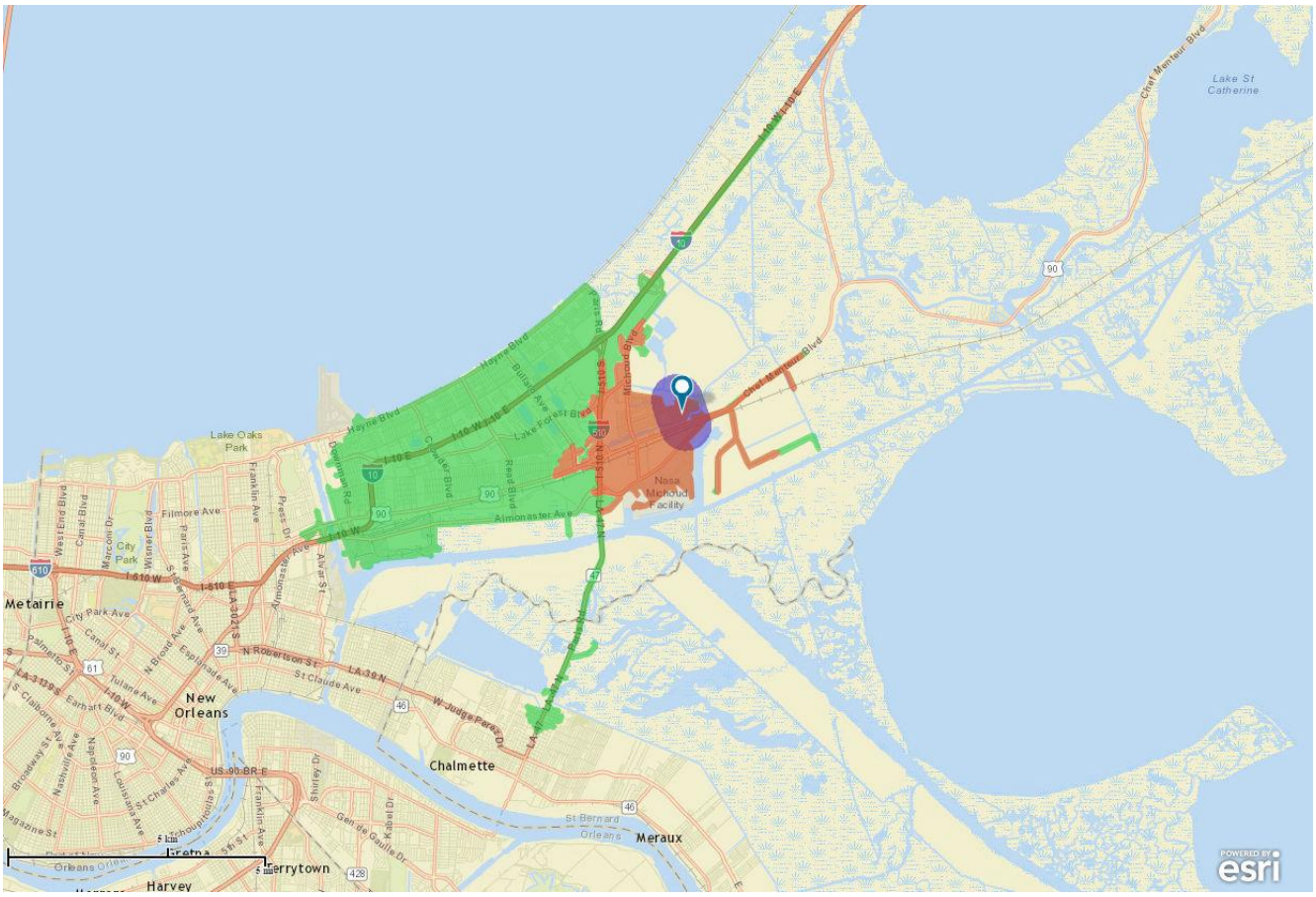
	Alcee Fortier Blvd. Convenience Market	City
Owner-Occupied Units	33%	33%
Median home value	135,405	$184,680
2009 Sale price per SF	Data unavailable	$122
2014 sale price per SF	Data unavailable	$161
Change in sale price per SF	Data unavailable	32%
Renter-occupied units	55.3%	41.7%
Median contract rent	$525	$765 per month
Vacant units	11.7%	25.4%

Sources: Esri Business Analyst 2015; MLS

B. Market Potential

1. Surplus/Leakage Analysis

Figure 33: Map of Alcee Fortier Blvd. Convenience, Comparison and Regional Trade Areas



Source: ESRI Business Analyst, 2015

Analyses were conducted at the convenience (one-half mile distance from the corridor), comparison (one-half mile to three mile distance), and regional (10-mile) trade areas. Capture rates of 50 percent, five percent and one-quarter percent were applied to each trade area, respectively. Supply and demand for each retail category were compared to determine leakage, the amount of residents' dollars that are spent outside of the corridor.

As noted previously, a higher capture rate has been applied to the convenience market near Alcee Fortier Boulevard due to its relative distance from other developed areas. In other words it is more likely to capture convenience-based customers who live in the immediate area than other corridors.

1. Other General Merchandise Stores: $1.5 million in spending outside the corridor;
2. Department Stores: $547,969;
3. Limited-Service Eating Places: $430,046;
4. Clothing Stores: $425,969;
5. Electronics & Appliance Stores: $277,780.

Figure 34: Alcee Fortier Blvd. Retail Market Potential

Retail Category	Market Potential
Motor Vehicle & Parts Dealers	
Automobile Dealers	1,616,652
Other Motor Vehicle Dealers	101,653
Auto Parts, Accessories & Tire Stores	97,782
Furniture & Home Furnishings Stores	
Furniture Stores	127,890
Home Furnishings Stores	99,707
Electronics & Appliance Stores	277,780
Bldg Materials, Garden Equip. & Supply Stores	
Bldg Material & Supplies Dealers	177,504
Lawn & Garden Equip & Supply Stores	54,606
Food & Beverage Stores	
Grocery Stores	79,421
Specialty Food Stores	42,344
Beer, Wine & Liquor Stores	53,349
Health & Personal Care Stores	213,994
Gasoline Stations	948,785
Clothing & Clothing Accessories Stores	
Clothing Stores	425,969
Shoe Stores	70,695
Jewelry, Luggage & Leather Goods Stores	22,525
Sporting Goods, Hobby, Book & Music Stores	
Sporting Goods/Hobby/Musical Instr Stores	99,034
Book, Periodical & Music Stores	11,566
General Merchandise Stores	
Department Stores Excluding Leased Depts.	547,969
Other General Merchandise Stores	1,514,094
Miscellaneous Store Retailers	
Florists	6,091
Office Supplies, Stationery & Gift Stores	63,678
Used Merchandise Stores	29,654
Other Miscellaneous Store Retailers	99,607
Food Services & Drinking Places	
Full-Service Restaurants	161,821
Limited-Service Eating Places	430,046
Special Food Services	41,370
Drinking Places - Alcoholic Beverages	29,215

Source: Esri Business Analyst, 2015

Notes:

- The length of the green shaded bars correspond to the size of the leakage within the category relative to other categories.
- Total potential is not shown for categories with multiple sub-categories. Our methodology for calculating market potential included assessing subcategories individually. These subcategory assessments are not additive at the category level.

Commuter Population

In 2015, approximately 685 employees worked within the half-mile study area.[16] About 98 percent of these employees commuted from outside of the area.[17] These commuters earned a combined income of $36.6 million. Of these earnings, the workers spent about $8.9 million on retail goods and services.[18] While the majority of these expenditures will occurred near their homes, the purchasing power demonstrates a modest daytime market for retail goods and services in the Alcee Fortier Boulevard corridor.

Table 24: Commuters within theAlcee Fortier Blvd. Convenience Market

	Employees	Aggregate Wage
All workers in study area	685	$37,325,578
Commuters in study area	672	$36,616,392
Commuter retail spending (24.33% of income)		$8,908,768

Sources: Wages from QCEW, 2014; Employment from Infogroup, 2015

Competition

Alcee Fortier Boulevard location at the eastern edge of the city's development makes it more difficult for regional and comparison markets to access, but also more inconvenient for its immediate market to access competitor shopping locations. An exception is the Walmart at Bullard Avenue and Interstate 10 – a four-mile driving distance from the corridor.

C. Summary: Corridor Opportunities and Challenges

Opportunities

- Stable, low vacancy commercial corridor and residential neighborhood;
- Affordability;
- Ample on and off-street parking;
- Convenience market is sparse but few competing shopping districts are nearby.

Challenges

- Distance from other neighborhoods limits access by customers who do not live or work in the immediate area;
- Low population and income densities may hinder growth of new businesses;
- Access by transit, walking and cycling can be a challenge.

[16] Infogroup 2015

[17] U.S. Census Bureau. 2015. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/

[18] The Bureau of Labor Statistics found that the average household spends 24.33 percent of income on retail goods and services, including food, household furnishings, entertainment, apparel and services. *Consumer Expenditures Mid Year Update – July 2013 through June 2014 Average*, April 2, 2015. Available at http://www.bls.gov/news.release/cesmy.nr0.htm

CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix B: Building Survey Methodology

Prepared by Waggonner & Ball Architects

The project team assessed all buildings on the six corridor study areas to document existing conditions, using the data collected to evaluate potential risks and opportunities resilience improvements to buildings, sites, and the streetscape. The team visually surveyed properties from the exterior; surveyors did not enter buildings to evaluate the interior. All surveys were conducted by professional architects.

The surveying team used digital tablets to complete the field evaluations, which were then used to export and process data. The survey contained 41 individual questions with a variety of response types, including yes/no, selecting from a list, and entering in text to provide surveyors with flexibility to document a variety of conditions.

The survey questions were designed to assess the site, the immediate streetscape, the building envelope, the roof, utilities, and exterior details. Site evaluation questions included whether or not a building existed on the property, its occupancy, the type of use, the presence of an accessory structure, and subsidence. Streetscape surveying addressed sidewalk and road conditions, the presence of street trees or planting strips, location and condition of catch basins, and entrance accessibility. Building envelope evaluation included the ground floor elevation above the curb, the type of foundation, construction materials, percentage of doors and windows on the street façade, window and door protection, appendages, gutter condition, and the general building condition. Roof assessment questions addressed the form and material, whether or not the building has a parapet, and rooftop items. The survey also evaluated the location of utility connections to the building; the elevation of mechanical, electrical, and plumbing systems; and the presence of backup power or solar panels. The last group of questions evaluated on-site parking, stormwater mitigation, and disconnected downspouts.

It should be noted that several questions involved subjective assessments. These included the physical conditions of buildings, gutters, roads, and catch basins. In such cases condition ratings were assigned based on the professional expertise and knowledge of the architects conducting the survey.

Survey results were sorted into the following categories: building use; foundation; construction; façade; openings; roof and appendages; utilities; water; and site. Organized by corridor, the data results clearly summarize existing conditions and indicate potential risks, such as unprotected openings or non-elevated equipment, as well as opportunities for improvement, like disconnecting downspouts or using planting strips for bioswales.

The data provide a general assessment of issues facing all six corridors; some results were similar across corridors while others varied widely. For example, percentages of vacancy rates, below average building condition, entrances with apparent barriers, unprotected windows, appendages, rooftop items, and non-elevated equipment are generally similar across the study areas. Survey results also show similar rates among all corridors for opportunities such as converting planting strips or parking lots for water management, and repairing catch basins.

Taken together the survey results can guide visionary, resilient retrofits that target specific issues relative to each corridor and across all study areas.

The results of the building survey are detailed below. Findings of particular concern are noted with a bold border.

		Alcee Fortier	Broad	Newton	OC Haley	St. Bernard	St. Claude	average
	total bldgs surveyed	19	146	74	62	73	87	461.00
Building Use	Vacant /Appears Unoccupied	14.0%	18.0%	31.0%	30.0%	22.0%	22.0%	**22.8%**
	In 'below average' or worse condition	5.0%	24.0%	23.0%	20.0%	26.0%	23.0%	**20.2%**
	Building Use - Commercial	57.9%	58.2%	31.1%	24.2%	30.1%	42.5%	40.7%
	Building Use - Institutional	0.0%	5.5%	8.1%	12.9%	5.5%	2.3%	5.7%
	Building Use - Industrial (Light)	0.0%	1.4%	4.1%	0.0%	1.4%	0.0%	1.1%
	Building Use - Mixed Use	36.8%	11.0%	2.7%	19.4%	4.1%	23.0%	16.2%
	Building Use - Religious	5.3%	1.4%	4.1%	9.7%	4.1%	1.1%	4.3%
	Building Use - Residential	0.0%	22.6%	50.0%	33.9%	54.8%	31.0%	32.0%
Foundation	Entrance with apparent barriers	30.0%	46.0%	45.0%	47.0%	62.0%	47.0%	**46.2%**
	Foundation on grade	81.0%	77.0%	71.0%	28.0%	52.0%	69.0%	**63.0%**
	Subsidence Issues	10.5%	13.7%	5.0%	4.8%	24.7%	17.2%	12.7%
Construction	Construction type - wood	89.5%	78.8%	90.5%	46.8%	79.5%	80.5%	**77.6%**
	Construction type - concrete block	10.5%	6.8%	8.1%	11.3%	1.4%	8.0%	7.7%
	Construction type - steel	15.8%	12.3%	1.4%	27.4%	19.2%	10.3%	14.4%
	Construction type - masonry	0.0%	2.1%	0.0%	14.5%	0.0%	1.1%	3.0%
Façade	Façade Material - wood	0.0%	22.6%	51.4%	30.6%	39.7%	39.1%	**30.6%**
	Façade Material - brick	36.8%	24.7%	24.3%	29.0%	21.9%	12.6%	24.9%
	Façade Material - stucco	10.5%	20.5%	10.8%	14.5%	13.7%	16.1%	14.4%
	Façade Material - metal	5.3%	2.7%	0.0%	3.2%	1.4%	0.0%	2.1%
	Façade Material - concrete block	15.8%	4.1%	0.0%	3.2%	2.7%	5.7%	5.3%
	Façade Material - vinyl siding	0.0%	4.8%	0.0%	4.8%	11.0%	0.0%	3.4%
	Façade Material - asbestos siding	0.0%	0.0%	0.0%	1.6%	0.0%	3.4%	0.8%
	Façade Material - combination	31.6%	20.5%	13.5%	12.9%	9.6%	23.0%	18.5%
Openings	Ground Level Openings >40% of façade	75.0%	43.2%	11.8%	62.9%	9.6%	37.9%	**40.1%**
	Upper Level Openings >40% of façade	15.8%	9.6%	1.3%	29.0%	12.3%	20.7%	14.8%
	Other Openings	31.6%	23.3%	25.0%	15.6%	12.3%	11.5%	19.9%
	Unprotected windows or doors	46.0%	51.0%	69.0%	67.0%	63.0%	53.0%	**58.2%**
Roof + Appendages	Roof Type - flat	68.4%	41.8%	12.2%	41.9%	20.5%	25.3%	35.0%
	Roof Material - shingles	21.1%	85.6%	78.4%	54.8%	89.0%	65.5%	**65.7%**
	Parapets	57.9%	34.2%	18.9%	53.2%	8.2%	27.6%	33.3%
	Rooftop Items	42.1%	37.7%	70.3%	32.3%	24.7%	60.9%	**44.6%**
	With appendages	50.0%	75.0%	47.0%	48.0%	41.0%	62.0%	**53.8%**
Utilities	MEP not elevated	50.0%	52.0%	58.0%	58.0%	60.0%	62.0%	**56.7%**
	Underground Electrical Supply	47.4%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%
	Solar Panels/Alternative Energy	0.0%	0.7%	0.0%	3.2%	0.0%	0.0%	0.7%
Water	Gutter Condition - in 'below average' or worse condition	10.5%	12.3%	46.7%	9.7%	20.5%	12.6%	18.7%
	Connected Downspouts	0.0%	10.3%	2.7%	19.4%	2.7%	8.0%	7.2%
	Planting Strip	57.9%	34.2%	85.1%	38.7%	82.2%	42.5%	**56.8%**
	On Site Parking	100.0%	52.7%	29.7%	41.9%	34.2%	29.9%	**48.1%**
Site	Road Condition - in 'fair' or worse condition	5.3%	17.1%	2.7%	64.5%	4.1%	4.6%	16.4%
	Catch basin condition - in 'below average' or worse condition	41.7%	19.7%	54.2%	27.3%	46.2%	25.0%	**35.7%**
	Stormwater Mitigation in off-street Parking areas	13.6%	6.2%	0.0%	27.4%	1.4%	4.6%	8.9%
	Storm drains in off-street Parking areas	31.6%	6.8%	1.4%	6.5%	1.4%	2.3%	8.4%

CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix C: Community Workshop Meeting Summaries

Prepared by Metro Source, LLC

O.C. Haley Boulevard

Main Streets Resiliency Planning Workshop, Round 1: June 16, 2015
Meeting Summary

In Attendance

Paul Cramer
Michael Robinson
Tabitha Skrobarcyzk
Priyo Majumdar
Larry Massey
Judith Dangerfield
Beth Jacobs
Melissa S. Lee
Dwight Norton
Miriam Belblidia
Trevor Williams

Relative to weather events, workshop participants noted little impact on the corridor and advised that flooding and storm damage is minimal. Participants advised that the relative age of many of the structures on the corridor potentially make the building infrastructure vulnerable to threats from fire and possible wind damage. Additionally, extreme heat was discussed as a potential stress on the corridor given the lack of shade. This concern was raised relative to the impact on foot traffic and transit users on the corridor.

With regard to economic impacts, participants advised that the limited parking availability is a major challenge, particularly given the development of high occupancy entertainment venues and multi-tenant office buildings. There was discussion about the viability of utilizing the area under the freeway as a paid parking facility, with revenues generated from the parking fees utilized to maintain the space and to support the Merchants Association.

Historic Preservation was noted as an impact, coupled with the need for an affordable housing mix and maintenance of a rental market in the community. As well, there was discussion about public spaces on the corridor and participants noted the NORA Place Making project, the theatre development, the history of Mardi Gras Indians and the Civil Rights history as potential platforms for development of public spaces on and around the corridor.

There was considerable discussion about maintaining the balance of affordability and the ability of corridor businesses to serve the adjacent community. It was recommended that an entrepreneurship program or project to move indigenous businesses in the Central City area to the O.C. Haley Boulevard corridor would support the ability of the corridor to serve the community. Compellingly, the Roux Carre project which is being implemented by Good Work Network is employing this strategy with plans to move the "Yacca Mein lady" to the O.C. Haley Boulevard corridor.

Main Streets Resiliency Planning Workshop, Round 2: August 10, 2015 Meeting Summary

Workshop held at regular meeting of O.C. Haley Boulevard Merchant's & Business Association

Participants advised that the resiliency planning model for O.C. Haley Boulevard must factor the demographic makeup of the surrounding area, noting their mantra of "community, culture and commerce" as the priorities of the Merchants Association. It was noted that some new businesses and investors choose to ignore and fail to serve the economy of the neighborhood, and participants recommended an honest discussion about affordability and displacement. It was noted that O.C. Haley Boulevard is fast becoming a destination corridor and Merchant Association members expressed resistance to "becoming another Freret Street". A productive conversation with property owners and developers around respect for the community was recommended, along with policies requiring Community Benefits Agreements (CBAs) for City subsidized projects.

Among the major challenges noted in the workshop was the issue of parking with participants advising that 100% parking waivers for area restaurants are a challenge for the corridor and the community. As such, stakeholders called for the identification of solutions to the parking problem that would enhance the economic activity on the corridor without creating a burden on residents in the surrounding area. A parking inventory was recommended, along with meters to subsidize off-corridor parking and development of improved spaces for parking (including the area under the expressway).

The reimbursement based façade improvement program was discussed with participants recommending a means for financing the program for small businesses that don't have the resources to pay for the improvement up front and then wait to be reimbursed by the grant.

Other specific requests of the stakeholders included access to the data collected in the planning process to support resource development efforts by the Merchants Association and other non-profit organizations in the area. As well, participants requested that the planning process result in "real implementation tools" that can be used by stakeholder organizations.

Newton Street

Main Streets Resiliency Planning Workshop Round 1: June 18, 2015
Meeting Summary

In Attendance

- Valarie Robinson
- Karri Maggio
- Rhondie Verrett
- Carl Tate
- Michael Verderosa
- Chantel Tate
- Danny Boewer
- Priyo Majumdar
- Larry Massey
- Judith Dangerfield
- Beryl Ragas
- Aaron Verrett
- Carlos Hampton
- Mario Washington
- Andrew Jones
- Joann Minor
- Dwight Norton
- Miriam Belblidia
- Trevor Williams

Participants at the meeting advised that since the Westbank of Orleans Parish was relatively undamaged by Hurricane Katrina, the Newton Street Corridor in particular (and the community in general) has seen little investment in infrastructure or community development. Members of the Merchants Association advised that there was no post-Katrina planning conducted by the City of New Orleans for Newton Street and the Algiers community, and ultimately the Merchant and Neighborhood Association members raised funds to support planning efforts.

Relative to weather impacts, participants noted little concern. In terms of economic threats, participants advised that the Federal City development project is a major threat to the corridor, as the Federal City developers have plans to recruit existing corridor businesses to relocate to the site.

Noting that Newton Street once served all of the basic retail and service needs of the community, participants advised that while crime is not a major challenge on the corridor, the perception of a lack of safety is a significant threat. It was noted that corridor businesses are not engaged in the association and have little interaction with each other or with the organized neighborhood associations. Participants advised that corridor businesses sell liquor to area residents, then call the police when their customers consume the beverages on, or proximate to their businesses. It was suggested that a gathering space for community residents (as opposed to a street corner) could mitigate the perception of danger.

Meeting participants recommended marketing the corridor as a cultural designation, noting the historic nature of the corridor and its unique history in the city's development.

Main Streets Resiliency Planning Workshop Round 2: August 3, 2015 Meeting Summary

In Attendance

- Valarie Robinson
- Karri Maggio
- Rhondie Verrett
- Chantel Tate
- Priyo Majumdar
- Larry Massey
- Beryl Ragas
- Joann Minor
- Dwight Norton
- Trevor Williams
- Judith Dangerfield

Participants expressed concern with the model for flood depths and advised of plans for surveying property to get the FEMA maps changed. Noting the clogging of catch basins as a contributor to flooding problems, participants suggested incentives for cleaning catch basins (as opposed to enforcement mechanisms).

Relative to recommendations around housing development, participants advised that former City Council person Kristen Palmer is redeveloping property in the area, noting the need for multiple developers to have interest in the entire area, not just the immediate area surrounding Algiers Point.

Stakeholders suggested a block-by-block strategy for housing development/redevelopment, noting the need to maintain a level of affordability in the area as a balance to the increase in housing values. The vulnerability to gentrification was discussed with stakeholders agreeing that more rooftops are key to the viability of the corridor provided that housing development activity balances affordability and market, and also rental and home ownership opportunities.

The Preservation Resource Center (PRC) was proposed as a potential stakeholder in the redevelopment process, however area residents advised the unwillingness of PRC to work in areas where there is a perception of crime. Moreover, participants advised that PRC does not generally bring community into the revitalization process.

With regard to the businesses on the corridor, participants advised that the business owners don't live in the community and generally don't want to be bothered. As such, participants advised that support for a Business Improvement or Security District would have to come from the residential stakeholders.

Relative to community gathering spaces, participants advised that the neutral grounds serve as a place for the 24-hour party as area residents congregate unlawfully and are perceived as a public nuisance by many property owners. Notions around creation of a public plaza, closing sections of the street to vehicular traffic, adding seating and looking at other public spaces such as the Arthur Monday Center were discussed by the participants.

St. Claude Avenue

Main Streets Resiliency Planning Workshop, Round 1: June 22, 2015
Meeting Summary

In Attendance

- Dwight Norton
- Priyo Majumdar
- Obi Onyenedym
- Judith Dangerfield
- Eric Parrie
- Larry Massey
- Robino Barnes
- Miriam Belblidia
- Trevor Williams

There was little discussion about impact to the corridor, with participants advising that traffic is the major stressor. It was noted that the traffic on the corridor is too fast and the ability to cross from one side of the street to the other is problematic.

Main Streets Resiliency Planning Workshop Round 2: August 20, 2015
Meeting Summary

The St. Claude Main Street presentation was conducted as a piggyback on a meeting sponsored by the newly organized St. Claude Merchants Association.

Participants discussed the notion of increased density development, advising that in spite of zoning allowances, increased density development does not align with the historic nature of the area.

St. Bernard Avenue

Main Streets Resiliency Planning Workshop, Round 1: June 23, 2015
Meeting Summary

In Attendance

- Vance Vaucresson
- Priyo Majundar
- Obi Onyenedym
- Judith Dangerfield
- Mona Lisa Saloy
- Dwight Norton
- Miriam Belbledia
- Trevor Williams

Participants advised that the corridor experiences flooding issues near Claiborne Avenue, but no other weather impacts were noted on the corridor. However, the flood threat to the adjacent community was noted, particularly the Seventh Ward community east of A.P. Tureaud Avenue.

Relative to economic threats, the absence of an organized Merchants Associations was noted, with participants recommending organizing businesses as a potential activity to support the corridor. Notably, participants recommended that the Main Street organization encompass the triangle between St. Bernard Avenue and A. P. Tureaud Avenues.

The unique "Creole" history of the community was discussed including the ties to the Catholic institutions in the neighborhood and the prominence of businesses owned and operated by neighborhood residents. Participants noted the development of the Corpus Christi/Epiphany Community Center as well as planned expansion of St. Augustine High School to the old Haspel site as potential economic drivers. Participants recommended promoting the Creole history and culture of the corridor, rebranding Creole as multi-ethnic identify.

Participants expressed the need for information on the changing demographics in the area to inform businesses of new market opportunities. Additionally, AirB&B was noted as a potential economic driver for the corridor and participants recommended making information on AirB&B permits available to businesses owners on the corridor.

Main Streets Resiliency Planning Workshop, Round 2: August 17, 2015
Meeting Summary

The St. Bernard Main Street presentation was conducted as a piggyback on a meeting sponsored by the City's Office of Neighborhood Engagement. Following the presentation members of the team were able to engage participants for input and feedback.

Participants noted the history of the corridor as a place where people both lived and worked, with residences atop the first floor store fronts.

It was suggested that tax incentives be utilized to help support revitalization of the corridor or some kind of tax exemption for businesses willing to invest on the corridor.

Pop-up retail was also noted as having the potential to better ensure the sustainability of the corridor as a retail or business destination.

It was noted that many corridor businesses are owned by people who don't live in the area and that a merchants association could help to organize corridor businesses around a viable redevelopment and sustainability plan.

Broad Street

Main Streets Resiliency Planning Workshop, Round 1: June 24, 2015
Meeting Summary

In Attendance

- Dwight Norton
- Jeff Schwartz
- Trevor Williams
- Judith Dangerfield
- Larry Massey
- Priyo Majumdar
- Miriam Belblidia

Relative to weather impacts it was noted that there is some flooding near the new theatre development that is being mitigated by the property owner.

With regard to economic threats it was noted that Broad Street is difficult to organize given the size and nature of the corridor and lack of economic benefit of proximity. Participants advised that there are certain areas of the corridor where proximity is beneficial, but that Broad Street businesses operate autonomously and see little benefit to their businesses in organized activity.

Main Streets Resiliency Planning Workshop, Round 2: August 6, 2015
Meeting Summary

The workshop was held at a regularly scheduled meeting of the Broad Community Connections organization.

Participants recommended that organizing and design for Broad Street should be broken up into sections that share an identity. As such, infrastructure and streetscape projects should be developed and conducted around nodes as some areas need more walkable infrastructure and other need more parking. As well, it was noted that the potential for shared resources for parking are limited given the absence of a viable merchants association.

Housing development was also discussed with participants noting the need for more affordability and the development of more multi-family housing. As well, the notion of increased density was discussed relative to development for the different phases of life, with different needs for housing single youth, young families and seniors.

Participants discussed the municipal blight in the area, suggesting that the City-owned sign-shop and the fleet fuel station be moved; with a specific recommendation that the fuel station moved to a higher elevation.

The façade improvement program was discussed with participants noting that the cost-reimbursement requirements of the program impede participation by small businesses who generally lack the funds to pay

for the improvements upfront. Replication of the RTA's F.A.R.E program was noted as a way to partner with a bank or financial institution to lend the funds for the improvement with the loan collateralized by the grant. The F.A.R.E program, uses a joint payee process and as such the reimbursement check is written to the business and to bank, reducing the risk of default.

Alcee Fortier Boulevard

Main Streets Resiliency Planning Workshop, Round 1: July 2, 2015
Meeting Summary

In Attendance

- Tom Haysley
- Tuan Nguyen
- Minh Nguyen
- Judith Dangerfield
- Larry Massey
- Lang Le
- Priyo Majumdar

Among the concerns expressed by community stakeholders was the question of how Alcee Fortier Boulevard became designated as the Main Street for the community as defined in this plan. Participants advised that Michoud Boulevard is considered the entrance to the community. It was noted that the Alcee Fortier Boulevard Corridor is neighborhood based, occupied by core, established businesses and having little room for growth and competition. However, Michoud Boulevard was noted as having the potential to be a foodie destination and participants pointed to relative availability of developable sites in the area. As such, participants recommended availability of and accessibility to market information and data on risk, opportunity, traffic patterns, etc. to assist area property owners in development and redevelopment decision-making.

With regard to weather threats, participants advised that the pump station for the area doesn't always work. However, it was noted that while the water level in the canal rises during a rain event, even when the pump is not working the canal has never overflowed its banks. Additionally, participants advised that power is always an issue in weather events.

Participants advised that the community leadership is working on walking/biking trail from Michoud Boulevard to Bayou Savage with funding from the state. As well, the community is working with the NORA Place-Making Project to make the neutral grounds in the area more walkable. It was noted that while many citizens, and most seniors in the community walk to the commercial corridors, but the community is far from walkable. Participants advised that there are no sidewalks on Alcee Fortier Boulevard or Chef Menteur Highway and that both corridors need to be more pedestrian friendly.

At the request of Mary Queen of Vietnam CDC, no round 2 workshop was conducted.

CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix D: Stormwater Infrastructure Resilience Report

Prepared by MSMM Engineering, LLC

Introduction

Stormwater management is a critical component of resilience in any community, but especially New Orleans. The city's unique geography, history of flooding, and complex drainage system demand a careful examination of infrastructure needs at all scales – region, city, neighborhood, and corridor. Recognizing the critical role of stormwater, this appendix of the Main Streets Resilience Plan provides an in-depth assessment of drainage infrastructure and flood potential near the six corridors.

Assessment Methodology

To establish a baseline understanding of current best practices, background research was conducted on infrastructure resilience, including its definition, relevant policies and programs, measures of criticality, and strengthening techniques. The following background research was reviewed:

1. Critical Infrastructure Resilience: The Evolution of Policy and Programs and Issues for Congress, by John D. Moteff, Specialist in Science and Technology Policy, in Congressional Research Service, 7-5700, www.crs.gov, R42683, August 23, 2012.
2. Urban Resilient Design Guidelines, by DESURB (Designing Safer Urban Spaces), December 2014.
3. Resilience, Vulnerability, and Adaptive Capacity: Implications for System Performance, by E. P. Dalziell, S. T. McManus, Department of Civil Engineering, University of Canterbury, New Zealand.
4. Flooding: Engineering resilience, by Institution of Civil Engineers (ICE), June 2008.
5. Resilience through Risk Prevention & Management & Environmental Sustainability, by Mr. James Goldstein, Senior Fellow, Tellus Institute, December 2013.
6. Resilience by Design, by Mayoral Seismic Safety Task Force, City of Los Angeles, CA, 2014.
7. Supplemental Tool: Incorporating Resilience into Critical Infrastructure Projects, US Department of Homeland Security, 2013.
8. FY 2014 Strategic Sustainability Performance Plan, National Science Foundation, June 2014.
9. Regional Disaster Resilience: A Guide for Developing an Action Plan, 2011 Edition, by the Infrastructure Security Partnership, September 2011.
10. USACE Climate Preparedness and Resilience Policy Statement, Unites States Army Corps of Engineers, June 2014.

The Project Advisory Committee (PAC) and consulting engineers identified several local datasets that could facilitate the assessment of stormwater infrastructure and its impacts on corridor resilience. These include:

1. Draft of City of New Orleans Drainage Master Plan.
2. Draft of City of New Orleans hydraulic model (SWMM) of the stormwater system.
3. QA/QC Inspection reports related to the Drainage System Engineering Assessment project that the City of New Orleans was conducting concurrently.
4. City of New Orleans Customer Complaints Database regarding storm sewer system deficiencies in the target corridors.
5. Greater New Orleans Urban Water Plan, Water System Analysis, Water Assignment map, and Water Assignment storage capacity table.
6. Shapefiles of streets and utility infrastructure.

7. In-house field QA/QC inspection reports developed as part of City of New Orleans Drainage System Engineering Assessment project.

The City's Drainage Master Plan identifies corridor drainage pump station (DPS) hydrologic-hydraulic basins and the corresponding SWMM model files for each Main Street Resilience Plan corridor as follows:

1. Broad Street: This corridor is within two separate drainage basins:
    a. Drainage Pump Station 3 (DPS03) basin contains the northern portion of the target corridor from St. Louis Street to Bayou Road.
    b. Drainage Pump Station 2 (DPS02) basin contains the southern portion of the target corridor from Tulane Avenue to St. Louis Street.
2. Oretha Castle Haley Boulevard: Drainage Pump Station No. 1 (DPS01).
3. St. Claude Avenue: Drainage Pump Station No. 19 (DPS19).
4. Newton Avenue: Drainage Pump Station No. 13 (DPS13).
5. St. Bernard Avenue: Drainage Pump Station No. 3 (DPS03).
6. Alcee Forties Boulevard: Drainage Pump Station No. 18 (DPS18).

Three key resilience indicators were derived from the data and mapped in GIS: (1) model-predicted flood depth for a storm with a 10% probability of occurring within any given year, also referred to as a 10-year storm; (2) average elevation of modeled drainage nodes within target corridors; and (3) known drainage infrastructure deficiencies. The results of this review were used during community workshop presentations to highlight areas of particular concern and to ground-truth the data with community input. The data was also used to plan and conduct a field GPS survey of the six corridors. The GPS survey data was imported into GIS and then compared with input data of the hydraulic model to verify that the model data accurately represented real-world conditions.

In addition to determining drainage infrastructure deficiencies based on model results, field inspections, and customer complaints, a high level analysis was conducted to evaluate the impact of reducing impervious surfaces on model predicted flooding along four of the six target corridors. The objective was to determine whether flooding would be reduced by increasing the amount of pervious surfaces. This exercise was conducted via hydraulic modeling within SWMM software, and was accomplished by adding a Low Impact Development (LID) object in the existing model. Within SWMM this parameter is termed LID Control 1, or Continuous Permeable Pavement systems, which are defined as "excavated areas filled with gravel and paved over with a porous concrete or asphalt mix". The permeable pavement was assumed to extend to the entire width of the roadway within the subject corridor. A primary difference between existing terrain and LID Control 1 terrain is the roughness coefficient for movement of stormwater on the surface, i.e. Manning's 'n'. This coefficient is usually 0.01 for urban roadways and parking lots, which was modified to 0.1 under the LID Control 1 condition. In effect, this slowed the stormwater flow along its way to the storm sewer system, and allowed additional time to infiltrate in the ground. LID Control 1 was applied to all drainage subcatchments along the target corridors. Model simulation runs were conducted on the resulting SWMM networks, and model predicted flooding was calculated as the difference between maximum hydraulic grade line (Max HGL) at a drainage node and the node's rim elevation. As with the subcatchments, only the drainage nodes along the target corridor were evaluated for changes in model predicted flooding between existing conditions and altered conditions, i.e. the reduced imperviousness condition.

It should be noted that each drainage basin contains several thousand subcatchments and drainage nodes, and the target corridors constitute a very small portion of a drainage basin. Reducing impervious surfaces

within a single corridor may therefore have a limited effect on the drainage basin as a whole. For example, Broad Street corridor is located within two separate SWMM model networks – (i) DPS01 and DPS02, and (ii) DPS03 and DPS04. The DPS01_DPS02 network contains 2,726 subcatchments, of which only 27 subcatchments are located within the Broad Street corridor, and the DPS03_DPS04 network contains 2,681 subcatchments, of which only 20 subcatchments are located within the Broad Street corridor. Therefore, only 1 percent of the subcatchments in these networks were modified to include pervious surfaces. These changes may not show an appreciable impact to modelled flood depths.

Summary by Corridor

1. Broad Street Corridor (Tulane Avenue to Bayou Road)

Broad Street Corridor	Existing Conditions, 10-year storm	Low Impact Development Conditions; 10-year storm
No. of nodes	67	67
No. of nodes flooded	18	10
% of nodes flooded	26.87%	14.93%
Length of corridor (mi)	1.35	1.35
No. of nodes flooded per mile	13	7

The Broad Street corridor experienced a reduction in model predicted flooding as a result of replacing existing pavement with pervious pavement in the subcatchments along the corridor. A total of 67 drainage nodes exist in the modeled network along the target corridor, of which 18 nodes experienced flooding under existing conditions. Under the altered conditions, only 10 of these nodes still experience flooding, and at a reduced level. The flooding depth as predicted by the model appears to be reduced for all drainage nodes by, with reductions ranging from 0.04 ft. to 0.38 ft. The data is presented in the table below.

Summary Results for Broad Street Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease of Model Predicted flooding depth (ft)
DPS03_15291	Broad St. corridor north part, St. Louis to Bayou	1.19	0.91	0.28
DPS03_15292	Broad St. corridor north part, St. Louis to Bayou	0	0	0
DPS03_15354	Broad St. corridor north part, St. Louis to Bayou	1.49	1.21	0.28
DPS03_15358	Broad St. corridor north part, St. Louis to Bayou	0	0	

Summary Results for Broad Street Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease of Model Predicted flooding depth (ft)
DPS03_15361	Broad St. corridor north part, St. Louis to Bayou	0.84	0.46	0.38
DPS03_19296	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19707	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19709	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19711	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19712	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19714	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19715	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19716	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19717	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19718	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19719	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19720	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19721	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19722	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19724	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19725	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19797	Broad St. corridor north part, St. Louis to Bayou	0.13	0	0.13
DPS03_19802	Broad St. corridor north part, St. Louis to Bayou	0.65	0.28	0.37
DPS03_19812	Broad St. corridor north part, St. Louis to Bayou	0.35	0	0.35
DPS03_19904	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_19910	Broad St. corridor north part, St. Louis to Bayou	0.14	0.07	0.07
DPS03_19911	Broad St. corridor north part, St. Louis to Bayou	0.38	0	0.38
DPS03_19912	Broad St. corridor north part, St. Louis to Bayou	0.65	0.56	0.09
DPS03_20005	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20009	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20011	Broad St. corridor north part, St. Louis to Bayou	0	0	

Summary Results for Broad Street Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease of Model Predicted flooding depth (ft)
DPS03_20014	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20204	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20236	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20239	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20245	Broad St. corridor north part, St. Louis to Bayou	0.04	0	0.04
DPS03_20663	Broad St. corridor north part, St. Louis to Bayou	0.7	0.4	0.30
DPS03_20674	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20715	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20723	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20726	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20762	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20802	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20813	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20816	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20819	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_20888	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_23912	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_37082	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_40885	Broad St. corridor north part, St. Louis to Bayou	1.59	1.31	0.28
DPS03_40902	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_40903	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_40910	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS03_40921	Broad St. corridor north part, St. Louis to Bayou	0	0	
DPS02_37233	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_37237	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_37247	Broad St. corridor south part, Tulane to St. Louis	0.05	0	0.05

Summary Results for Broad Street Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease of Model Predicted flooding depth (ft)
DPS02_38707	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_38708	Broad St. corridor south part, Tulane to St. Louis	0.05	0	0.05
DPS02_38798	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_39049	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_39061	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_39064	Broad St. corridor south part, Tulane to St. Louis	0.13	0	0.13
DPS02_39069	Broad St. corridor south part, Tulane to St. Louis	0	0	
DPS02_39433	Broad St. corridor south part, Tulane to St. Louis	1.43	1.34	0.09
DPS02_39536	Broad St. corridor south part, Tulane to St. Louis	1.28	1.19	0.09
DPS02_39667	Broad St. corridor south part, Tulane to St. Louis	0.28	0	0.28

2. Oretha Castle Haley Boulevard Corridor (Philip Street to Calliope Street)

Impervious characteristics were not altered in Oretha Castle Haley Boulevard corridor.

3. St. Claude Avenue Corridor (Elysian Fields Avenue to Press Street)

St. Claude Avenue Corridor	Existing Conditions, 10-year storm	Low Impact Development Conditions; 10-year storm
No. of nodes	25	25
No. of nodes flooded	24	20
% of nodes flooded	96.00%	80.00%
Length of corridor (mi)	0.582008	0.582008
No. of nodes flooded per mi	41	34

The St. Claude Avenue corridor experienced a reduction in model predicted as a result of replacing existing pavement with pervious pavement in the subcatchments along the corridor. A total of 25 drainage nodes exist in the modeled network along the target corridor, of which 24 nodes experienced flooding under existing conditions. Under the altered conditions, only 20 of these nodes still experience flooding, and at a reduced level. However, this reduction was minimal, ranging from 0.04 ft to 0.18 ft. The data is presented in the table below.

Summary Results for St. Claude Avenue Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease in Model Predicted flooding depth (ft)
DPS19_41241	St. Claude Avenue target corridor	1.24	1.11	0.13
DPS19_41280	St. Claude Avenue target corridor	1.24	1.11	0.13
DPS19_41281	St. Claude Avenue target corridor	0.06	0	0.06
DPS19_41283	St. Claude Avenue target corridor	0.23	0.15	0.08
DPS19_41285	St. Claude Avenue target corridor	0.10	0	0.10
DPS19_41408	St. Claude Avenue target corridor	1.62	1.5	0.12
DPS19_41441	St. Claude Avenue target corridor	1.17	1.04	0.13
DPS19_41520	St. Claude Avenue target corridor	0.96	0.83	0.13
DPS19_41522	St. Claude Avenue target corridor	0.7	0.59	0.11

Summary Results for St. Claude Avenue Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease in Model Predicted flooding depth (ft)
DPS19_41550	St. Claude Avenue target corridor	1.11	0.99	0.12
DPS19_41570	St. Claude Avenue target corridor	1.41	1.29	0.12
DPS19_41664	St. Claude Avenue target corridor	1.72	1.6	0.12
DPS19_41676	St. Claude Avenue target corridor	0	0	0
DPS19_41734	St. Claude Avenue target corridor	1.82	1.7	0.12
DPS19_41735	St. Claude Avenue target corridor	0.04	0	0.04
DPS19_42854	St. Claude Avenue target corridor	0.16	0.09	0.07
DPS19_42860	St. Claude Avenue target corridor	0.14	0.09	0.05
DPS19_42871	St. Claude Avenue target corridor	0.42	0.24	0.18
DPS19_42872	St. Claude Avenue target corridor	0.25	0.12	0.13
DPS19_42876	St. Claude Avenue target corridor	0.30	0.20	0.10
DPS19_42877	St. Claude Avenue target corridor	0.12	0.03	0.09
DPS19_42878	St. Claude Avenue target corridor	0.24	0.16	0.08
DPS19_42884	St. Claude Avenue target corridor	0.63	0.46	0.17
DPS19_42891	St. Claude Avenue target corridor	0.66	0.56	0.10
DPS19_42898	St. Claude Avenue target corridor	0.07	0	0.07

4. Newtown Street Corridor (Teche Street to Behrman Avenue)

Impervious characteristics were not altered in Newton Street corridor.

5. St. Bernard Avenue Corridor (North Claiborne Avenue to Broad Street)

St. Bernard Avenue Corridor	Existing Conditions, 10-year storm	Low Impact Development Conditions; 10-year storm
No. of nodes	44	44
No. of nodes flooded	24	24
% of nodes flooded	54.55%	54.55%
Length of corridor mi	0.80625	0.80625
No. of nodes flooded per mi	29.76744	29.76744

The St. Bernard Avenue corridor experienced a reduction in model predicted flooding as a result of replacing existing pavement with pervious pavement in the subcatchments along the corridor. However, this reduction was minimal, ranging from 0.01 ft to 0.11 ft. A total of 44 drainage nodes exist in the modeled network along the target corridor, of which 24 nodes experienced flooding under existing conditions. Under the altered conditions, all of the previously flooded nodes still experience flooding. The data is presented in the table below.

Summary Results for St. Bernard Avenue Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease in Model Predicted flooding depth (ft)
DPS03_19670	St. Bernard Avenue target corridor	0.16	0.15	0.01
DPS03_19674	St. Bernard Avenue target corridor	0.27	0.26	0.01
DPS03_19676	St. Bernard Avenue target corridor	0	0	0
DPS03_19677	St. Bernard Avenue target corridor	0	0	0
DPS03_19680	St. Bernard Avenue target corridor	0	0	0
DPS03_19681	St. Bernard Avenue target corridor	0	0	0
DPS03_19683	St. Bernard Avenue target corridor	0	0	0
DPS03_19686	St. Bernard Avenue target corridor	0	0	0
DPS03_19688	St. Bernard Avenue target corridor	0.1	0.05	0.05

Summary Results for St. Bernard Avenue Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease in Model Predicted flooding depth (ft)
DPS03_19690	St. Bernard Avenue target corridor	0	0	0
DPS03_19692	St. Bernard Avenue target corridor	0	0	0
DPS03_19693	St. Bernard Avenue target corridor	0	0	0
DPS03_19694	St. Bernard Avenue target corridor	0	0	0
DPS03_19697	St. Bernard Avenue target corridor	0	0	0
DPS03_19699	St. Bernard Avenue target corridor	0	0	0
DPS03_19701	St. Bernard Avenue target corridor	0	0	0
DPS03_19702	St. Bernard Avenue target corridor	0	0	0
DPS03_19703	St. Bernard Avenue target corridor	0	0	0
DPS03_20227	St. Bernard Avenue target corridor	0.57	0.46	0.11
DPS03_20271	St. Bernard Avenue target corridor	1.14	1.13	0.11
DPS03_20296	St. Bernard Avenue target corridor	1.11	1.08	0.03
DPS03_20322	St. Bernard Avenue target corridor	1.31	1.3	0.01
DPS03_20351	St. Bernard Avenue target corridor	1.91	1.9	0.01
DPS03_20358	St. Bernard Avenue target corridor	1.88	1.87	0.01
DPS03_20463	St. Bernard Avenue target corridor	0.62	0.6	0.02
DPS03_20480	St. Bernard Avenue target corridor	1.27	1.25	0.02
DPS03_20546	St. Bernard Avenue target corridor	1	0.99	0.01
DPS03_20556	St. Bernard Avenue target corridor	0.47	0.46	0.01
DPS03_20630	St. Bernard Avenue target corridor	1.11	1.03	0.08
DPS03_20632	St. Bernard Avenue target corridor	0	0	0
DPS03_20639	St. Bernard Avenue target corridor	0.8	0.7	0.10
DPS03_20642	St. Bernard Avenue target corridor	0	0	0
DPS03_20643	St. Bernard Avenue target corridor	0	0	0
DPS03_20647	St. Bernard Avenue target corridor	0	0	0
DPS03_21756	St. Bernard Avenue target corridor	0.74	0.74	0
DPS03_21799	St. Bernard Avenue target corridor	0.22	0.21	0.01

Summary Results for St. Bernard Avenue Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along corridor)	Decrease in Model Predicted flooding depth (ft)
DPS03_22204	St. Bernard Avenue target corridor	0.32	0.32	0
DPS03_22221	St. Bernard Avenue target corridor	0.62	0.6	0.02
DPS03_22239	St. Bernard Avenue target corridor	1.51	1.48	0.03
DPS03_22241	St. Bernard Avenue target corridor	0.84	0.82	0.02
DPS03_22243	St. Bernard Avenue target corridor	0.93	0.91	0.02
DPS03_22246	St. Bernard Avenue target corridor	1.24	1.22	0.02
DPS03_22346	St. Bernard Avenue target corridor	0.15	0.11	0.04
DPS03_22348	St. Bernard Avenue target corridor	0	0	0

6. Alcee Fortier Boulevard Corridor (Chef Menteur Avenue to Michoud Lagoon)

Alcee Fortier Blvd. Corridor	Existing Conditions, 10-year storm	Low Impact Development Conditions; 10-year storm
No. of nodes	5	5
No. of nodes flooded	0	0
% of nodes flooded	0.00%	0.00%
Length of corridor mi	0.260417	0.260417
No. of nodes flooded per mi	0	0

The Alcee Fortier Boulevard target corridor is relatively short compared to other modelled corridors, and only contains 5 drainage nodes within the target area. These drainage nodes did not experience any model predicted flooding under existing conditions, nor under altered conditions in which existing pavement was replaced with pervious pavement in subcatchments. The data is presented in the table below.

Summary Results for Alcee Fortier Boulevard Corridor				
Node ID	Location	Model Predicted Flood Depth (ft) 10-Year Storm Existing Conditions	Model Predicted Flood Depth (ft) 10-Year Storm Low Impact Development Conditions (Permeable Pavement along	Decrease in Model Predicted flooding depth (ft)
DPS18_102855	Alcee Fortier target corridor	0	0	0
DPS18_102857	Alcee Fortier target corridor	0	0	0
DPS18_102860	Alcee Fortier target corridor	0	0	0
DPS18_102868	Alcee Fortier target corridor	0	0	0
DPS18_102869	Alcee Fortier target corridor	0	0	0

Summary of all Corridors

	Alcee Fortier		Broad		St. Bernard		St. Claude	
	Existing	LID	Existing	LID	Existing	LID	Existing	LID
No. of nodes	5	5	67	67	44	44	25	25
No. of nodes flooded	0	0	18	10	24	24	24	20
% of nodes flooded	0.00%	0.00%	26.87%	14.93%	54.55%	54.55%	96.00%	80.00%
Length of corridor mi	0.26	0.26	1.35	1.35	0.80	0.80	0.58	0.58
No. of nodes flooded per mi	0	0	13.3	7.4	29.8	29.8	41.2	34.4

The Broad Street corridor contains the most drainage subcatchments and drainage corridors among all the corridors, and it showed the most improvement in model predicted flooding from a reduction in impervious characteristics. It is possibly that extending the reach of reduction in impervious characteristics to other areas adjacent to the target corridor could facilitate further reduction in model predicted flooding depth.

The St. Claude Avenue corridor exhibited moderate improvement in flooding characteristics due to LID control as well, even with significantly fewer drainage nodes and corridor length than Broad Street. In this case, it is also possible that extending LID controls to a larger area within the watershed, but beyond the immediate corridor, may result in appreciable flooding reduction.

The lack of appreciable reduction in flooding depths in the Alcee Fortier Boulevard and St. Bernard Avenue corridors could be due to a combination of factors – (i) the corridors are too small compared to the size of the drainage basin in which it is contained; and (ii) flooding under existing conditions is already at a low level (e.g. Alcee Fortier Boulevard does not evidence any model predicted flooding under existing conditions).

Recommendations

The following action items are recommended to improve the resilience of the target corridors to stormwater flooding:

1. Perform detailed hydraulic modeling of each corridor, and extended regions within drainage basins. These modeling exercises should include multiple Low Impact Development (LID) controls, and determine their comparative effectiveness in flooding reduction.
2. Projects that may yield information about the drainage system (inspection, assessment, survey, grant application, rehabilitation, new construction, etc.) should be used as opportunities to update the hydraulic models with data about current conditions.
3. Public outreach to the residential and business communities may be a useful tool to gauge the community's interest in instituting permeability modifiers, and the results of such interactions could be used to develop programs for strengthening community awareness and support.

CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix E: Assessment Methodology

Prepared by GCR Inc.

Introduction

The Main Street Resilience Plan includes 82 quantitative indicators of corridor resilience. These indicators were derived from multiple state and local sources, including the Building and Business surveys. This appendix provides an overview of each indicator, its source, methodology for calculation, and guidance on how it should be interpreted. Indicators are grouped by category, as described in the table below.

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Other Openings
Parapets
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Solar Panels/Alternative Energy
Subsidence Issues
Underground Electrical Supply
Unprotected Windows Or Doors
Upper Level Openings >40% Of Façade
Vacant /Appears Unoccupied
With Appendages

Active Living & Alternative Transportation

Average Bike Crash Per Mile

Description:

Automobile crashes per mile involving cyclists between 2008 and 2012

Source:

Regional Planning Commission, 2015

Methodology:

Data by corridor was provided by the RPC. The indicator was derived by dividing the number of crashes by roadway miles

Interpretation:

Average bike crashes per mile is an indicator of relative safety for cyclists. The citywide average between 2008 and 2012 was 1.09 bike crashes per roadway mile; the average for Main Street Resilience Plan corridors in the same period was 2.86 bike crashes per mile.

Average Bike/Ped Crash Per Mile

Description:

Automobile crashes per mile involving bikes or pedestrians between 2008 and 2012.

Source:

Regional Planning Commission for Jefferson, Orleans, Plaquemines, St. Bernard, St. Tammany, & Tangipahoa Parishes, 2015 (see citation and disclaimer below)

Methodology:

Data by corridor was provided by the RPC. The indicator was derived by dividing the number of crashes by roadway miles

Interpretation:

Average bike and/or pedestrian crashes per mile is an indicator of relative safety for cyclists and pedestrians. The citywide average between 2008 and 2012 was 2.77 bike and/or pedestrian crashes per roadway mile; the average for Main Street Resilience Plan corridors in the same period was 3.83 bike and/or pedestrian crashes per mile.

Average Ped Crash Per Mile

Description:

Automobile crashes per mile involving pedestrians between 2008 and 2012.

Source:

Regional Planning Commission, 2015

Methodology:

Data by corridor was provided by the RPC. The indicator was derived by dividing the number of crashes by roadway miles

Interpretation:

Average pedestrian crashes per mile is an indicator of relative safety for pedestrians. The citywide average between 2008 and 2012 was 1.68 pedestrian crashes per roadway mile; the average for Main Street Resilience Plan corridors in the same period was 4.28 pedestrian crashes per mile.

Bike Or Pedestrian Facility On Corridor

Description:

Proximity to existing and planned bicycle facilities

Source:

Regional Planning Commission, 2015 (see full citation and disclaimer below)

Methodology:

The indicator was created via a visual survey of the RPC's Bicycle Facility GIS layer. Alternatively, GIS may be used to select facilities within a given distance of the corridor.

Interpretation:

The presence of bike and pedestrian facilities contributes to economic resilience. High quality bike and pedestrian facilities provide an alternative mode for workers to access jobs and customers to access businesses. Walking and biking is a more affordable transportation option than vehicle ownership, and it may reduce congestion and air pollution by removing potential drivers from the road.

Park On Corridor

Description:

Presence of a park, playground, or other open space on the corridor

Source:

City of New Orleans, 2015

Methodology:

The indicator was created via a visual survey of the City's Open Space GIS layer. Alternatively, GIS may be used to select parks within a given distance of the corridor.

Interpretation:

Open spaces provide recreational opportunities, aesthetic improvements, and public gathering spaces for normal activities and post-disaster interaction. The presence of parks or other public spaces on or near a corridor contribute to both long-term resilience to stresses and short-term resilience to shocks.

Sidewalk Assessment

Description:

Visible sidewalk condition on each corridor

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Sidewalk quality impacts the ease with which workers can walk to jobs and customers can walk to businesses. Sidewalk quality varies widely across the city and the Main Street Resilience Plan corridors.

Basic Needs

Groceries On Corridor

Description:

Food stores (convenience and full services) within 0.1 mile of each corridor

Source:

City of New Orleans, 2015

Methodology:

Using the city's Grocery GIS layer, select food stores within a specified buffer of the corridor.

Interpretation:

The presence of groceries on or near a corridor contributes to resilience in multiple ways: it provides corridor users and nearby residents with accessible food options; it serves as an important component to emergency response in times of disaster; and it allows nearby residents to return to their homes more quickly following a disaster because they can easily access food. In other words, it allows corridors to be more self-sufficient. The proximity of groceries varies widely across the city's neighborhoods and the Main Street Resilience Plan Corridors.

Health Care On Corridor

Description:

Health care businesses within 0.10 mile of the corridor.

Source:

InfoUSA, 2015 & City of New Orleans, 2015

Methodology:

InfoUSA and New Orleans occupancy permits were combined, then duplicate records were removed. This provided a comprehensive list of open businesses, which were then geocoded. GIS was then used to select health related businesses within a specified buffer of the corridor.

Interpretation:

The presence of health care on or near a corridor contributes to resilience in multiple ways: it provides corridor users and nearby residents with accessible healthcare options; it serves as an important component to emergency response in times of disaster; and it allows nearby residents to return to their homes more quickly following a disaster because they can access care when necessary. In other words, it allows corridors to be more self-sufficient. The proximity of healthcare varies widely across the city's neighborhoods and the Main Street Resilience Plan Corridors.

Pharmacies On Corridor

Description:

Pharmacies within 0.1 mile of the corridor

Source:

City of New Orleans, 2015

Methodology:

Using the city's Pharmacy GIS layer, select pharmacies within a specified buffer of the corridor.

Interpretation:

The presence of pharmacies on or near a corridor contributes to resilience in multiple ways: it provides corridor users and nearby residents with accessible healthcare options; it serves as an important component to emergency response in times of disaster; and it allows nearby residents to return to their homes more quickly following a disaster because they can access medical supplies when necessary. In other words, it allows corridors to be more self-sufficient. The proximity of pharmacies varies widely across the city's neighborhoods and the Main Street Resilience Plan Corridors.

Business Preparedness

Business Communication Plans

Description:

Self-reported rate of businesses that have a written communication plan for contacting employees and/or customers following an event

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business Communication Plans provide business owners and employees a detailed, individualized guide for maintaining contact during and after a shock event. A high proportion of businesses with a written plan indicates a more resilient corridor. Of all businesses surveyed on the Main Street Resilience Plan corridors, 63 percent indicated they had a written Communication Plan.

Business Continuity Plans

Description:

Self-reported rate of businesses that have a written plan to ensure continued business operations following an event

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business Continuity Plans provide business owners and employees a detailed, individualized guide for returning to normal operations following a shock event. A high proportion of businesses with a written plan indicates a more resilient corridor. Of all businesses surveyed on the Main Street Resilience Plan corridors, 29 percent indicated they had a written Continuity Plan.

Business Emergency Preparedness Plan

Description:

Self-reported rate of businesses that have a written plan for reacting to emergencies

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business Emergency Preparedness Plans provide business owners and employees a detailed, individualized guide for responding to and recovering from a shock event. A high proportion of businesses with a written plan indicates a more resilient corridor. Of all businesses surveyed on the Main Street Resilience Plan corridors, 37 percent indicated they had a written Emergency Preparedness Plan.

Business Interruption Insurance

Description:

Rate of businesses with business interruption insurance, as reported by businesses

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business interruption insurance allows businesses to more quickly resume normal operations following a shock event. A higher rate of businesses with interruption insurance may indicate a more resilient corridor. Of the businesses surveyed on the Main Street Resilience Plan corridors, 42 percent indicated they maintain business interruption insurance.

Businesses With Backup Power Systems

Description:

Percentage of business reporting a generator or similar back-up power system

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Backup power systems allow businesses to maintain some operations during and after a shock event. While they may not allow a business to remain open, they can ensure critical systems such as security and refrigeration remain operational. Of the businesses surveyed on the Main Streets Resilience Plan corridors, 35 percent had backup power systems.

Employee Training On Emergency Plans

Description:

Self-reported rate of businesses that have trained employees on implementing the business emergency plan

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Employee training on emergency plans enhances individual business resilience by strengthening the ability of employees to carry out the actions outlined in the plan. A higher rate of employee training may indicate a more resilient corridor. Of the businesses with emergency plans on the Main Street Resilience Plan corridors, 50 percent indicated that employees were trained on their plans.

Flood Insurance

Description:

Rate of businesses with flood insurance, as reported by businesses

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Flood insurance allows businesses to more quickly resume normal operations following a shock event. While flood insurance is only required in FEMA-designated flood zones, it is available for purchase to all businesses. Low flood risk properties may still benefit from flood insurance following a very severe or unusual flood event. A higher rate of businesses with flood insurance may indicate a more resilient corridor. Of the businesses surveyed on the Main Street Resilience Plan corridors, 71 percent indicated they maintain flood insurance.

Civic Groups

Association Participation Rate

Description:

Approximate rate of participation of corridor businesses in an association, as reported by businesses

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business associations provide a mechanism for corridor merchants to advocate on their own behalf as a group, and to share resources during times of stress or shock. The level of participation among area businesses in the association can directly affect its effectiveness. Participation rates can vary widely, but more active participation may indicate greater resilience.

Business Association

Description:

Presence of a business association serving corridor

Source:

City of New Orleans, 2015

Methodology:

Registered business and neighborhood associations were identified using the City of New Orleans interactive online map. This information was supplemented with feedback gathered at neighborhood outreach meetings.

Interpretation:

Business associations provide a mechanism for corridor merchants to advocate on their own behalf as a group, and to share resources during times of stress or shock. Most Main Street Resilience Plan corridors had one or more active business associations.

Business Awareness Rate

Description:

Awareness of corridor associations, as reported by businesses

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Business associations provide a mechanism for corridor merchants to advocate on their own behalf as a group, and to share resources during times of stress or shock. The level of awareness of the associations among area businesses can directly affect their effectiveness. Awareness rates can vary widely, but increased awareness may lead to more active participation and therefore greater resilience.

Community Groups/Neighborhood Associations

Description:

Number of organizations serving the corridor that are registered with the City of New Orleans

Source:

City of New Orleans, 2015

Methodology:

Registered business and neighborhood associations were identified using the City of New Orleans interactive online map. This information was supplemented with feedback gathered at neighborhood outreach meetings.

Interpretation:

Neighborhood associations provide a mechanism for corridor residents and users to advocate on their own behalf as a group, and to share resources during times of stress or shock. Most Main Street Resilience Plan corridors had two or more active community or neighborhood associations.

Crime

All Calls, Percent Change, 2012-2014

Description:

All 911 calls resulting in NOPD dispatch between 2012 and 2014

Source:

City of New Orleans, 2015

Methodology:

911 calls to NOPD were retrieved from the City of New Orleans. This data was sorted by year and by crime type, then geocoded in GIS. Calls within a given buffer of each corridor were then selected.

Interpretation:

The relative safety of a corridor contributes to resilience by (1) providing an inviting place for customers to visit, employees to work, and residents to live; and (2) ensuring property and assets are protected from theft and damage. Between 2012 and 2014, 911 calls to NOPD for all crime categories dropped 11 percent citywide and 23 percent on the Main Street Resilience Plan corridors.

Perception Of Crime (Same Or Better)

Description:

Self-reported perception among businesses that crime rate has stayed the same or improved on the corridor

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

The relative safety of a corridor contributes to resilience by (1) providing an inviting place for customers to visit, employees to work, and residents to live; and (2) ensuring property and assets are protected from theft and damage. On the Main Street Resilience Plan corridors, 80 percent of businesses surveyed expressed a perception that crime has improved or remained the same on their corridor in the past year.

Property, Percent Change 2012-2014

Description:

911 calls for property crimes resulting in NOPD dispatch between 2012 and 2014

Source:

City of New Orleans, 2015

Methodology:

911 calls to NOPD were retrieved from the City of New Orleans. This data was sorted by year and by crime type, then geocoded in GIS. Calls within a given buffer of each corridor were then selected.

Interpretation:

The relative safety of a corridor contributes to resilience by (1) providing an inviting place for customers to visit, employees to work, and residents to live; and (2) ensuring property and assets are protected from theft and damage. Between 2012 and 2014, 911 calls to NOPD for property crime categories rose 5 percent citywide and 2 percent on the Main Street Resilience Plan corridors.

Violent, Percent Change, 2012-2014

Description:

911 calls for violent crimes resulting in NOPD dispatch between 2012 and 2014

Source:

City of New Orleans, 2015

Methodology:

911 calls to NOPD were retrieved from the City of New Orleans. This data was sorted by year and by crime type, then geocoded in GIS. Calls within a given buffer of each corridor were then selected.

Interpretation:

The relative safety of a corridor contributes to resilience by (1) providing an inviting place for customers to visit, employees to work, and residents to live; and (2) ensuring property and assets are protected from theft and damage. Between 2012 and 2014, 911 calls to NOPD for property crime categories rose 9 percent citywide but dropped 3 percent on the Main Street Resilience Plan corridors.

Employment

Percent Of Jobs Paying A Living Wage

Description:

Self-reported percent of businesses that pay employees $10 per hour or more

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Employees who make a living wage are better able to afford basic necessities. Businesses who pay living wages thereby contribute to reduced poverty and enhanced economic strength. On the Main Street Resilience Plan corridors, 83 percent of businesses surveyed reported paying a living wage to employees.

Rate Of Businesses Providing Internships/Youth Training

Description:

Self-reported percent of businesses that provide internships or youth training

Source:

Main Street Resilience Plan Business Survey, 2015

Methodology:

The Business Survey includes questions assessing this indicator. Results are reported as an average of responses by corridor.

Interpretation:

Internships and training contribute to economic resilience by creating a workforce that is better equipped to succeed in their current jobs and acquire higher-paying jobs in the future. On the Main Street Resilience Plan corridors, 23 percent of businesses surveyed provided some form of training or internship.

Flooding & Drainage

Average Drainage Node Elevation (Ft)

Description:

Elevation above sea level of City of New Orleans Department of Public Works hydraulic model drainage nodes.

Source:

City of New Orleans, 2015

Methodology:

Drainage node elevation was derived from the City of New Orleans Department of Public Works hydraulic model.

Interpretation:

Higher drainage node elevations indicate a reduced likelihood of damage from flooding. The average predicted flood depth for the Main Street Resilience Plan corridors was 0.29 ft. above sea level.

Catch Basins In Less Than Average Condition

Description:

Percentage of catch basins along corridor that are in below average or worse condition

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Drainage infrastructure deficiencies may reduce the effectiveness of the stormwater drainage system, thereby reducing resilience to shock events. On the Resilience Main Street Plan corridors, 35 percent of all catch basins were observed to be in below average or worse condition.

Claims Per Acre (0.25 Mile)

Description:

National Flood Insurance Program (NFIP) flood claims per acre within 0.25 mile of each corridor between May, 1978 and June, 2013.

Source:

City of New Orleans, 2015

Methodology:

Historic flood insurance claim locations were obtained from the City of New Orleans. One-quarter mile buffers around each corridor were created, and the area in acres was calculated. The number of flood claims was then divided by the number of acres in the buffer to determine flood claims per acre.

Interpretation:

The number of historic flood claims per acre indicates the relative frequency with which a given corridor has flooded. Among the Main Street Resilience Plan corridors, the average number of flood claims per acre was 1.95.

Flood Zones

Description:

Presence of Special Flood Hazard Area as noted on FEMA Preliminary Flood Insurance Rate Maps (FIRM)

Source:

FEMA, 2015

Methodology:

Special Flood Hazard Areas (SFHA) are available via FEMA Preliminary Flood Insurance Rate Map (FIRM). The FIRMs were compared to corridor location to determine presence of SFHA.

Interpretation:

A higher proportion of properties with in the FEMA Special Flood Hazard Area indicates a greater risk of flood damage.

Known Drainage Infrastructure Deficiencies

Description:

Describes deficiencies visible at street level on each corridor ("cb" indicates damaged catch basin)

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Drainage infrastructure deficiencies may reduce the effectiveness of the stormwater drainage system, thereby reducing resilience to shock events. Infrastructure condition varies widely across the city.

Maximum Predicted Flood Depth (Ft)

Description:

Predicted flood depth in feet above manhole rim following a 10-year storm event.

Source:

City of New Orleans, 2015

Methodology:

Predicted flood data was derived from the City of New Orleans Department of Public Works hydraulic model.

Interpretation:

Lower predicted flood depths indicate a reduced likelihood of damage from flooding. The average predicted flood depth for the Main Street Resilience Plan corridors was 1.1 ft. above the manhole rim.

Repetitive Loss Properties Per Acre (0.25 Mile)

Description:

Describes number of Repetitive Loss properties per acre within 0.25 mile of each corridor between May, 1978 and June, 2013.

Source:

City of New Orleans, 2015

Methodology:

Historic repetitive loss properties locations were obtained from the City of New Orleans. One-quarter mile buffers around each corridor were created, and the area in acres was calculated. The number of repetitive loss properties was then divided by the number of acres in the buffer to determine repetitive loss properties per acre.

Interpretation:

The number of repetitive loss per acre indicates the relative frequency with which a given corridor has flooded multiple times. Among the Main Street Resilience Plan corridors, the average number of repetitive loss properties per acre was 0.09.

Market Conditions

Change In Residential Price Per Square Foot, 2009-2014

Description:

Comparison of 2009 home sale price per square foot to 2014 home sale price per square foot within 0.25 mile of each corridor

Source:

Multiple Listing Service, 2015

Methodology:

The indicator was derived by subtracting the 2014 data from the 2009 data, then dividing by the 2009 data.

Interpretation:

The relationship between residential home prices and resilience is complex. Rising prices may indicate a strengthening economy and demand among homebuyers to live in the neighborhood. On the other hand, they may also indicate a growing lack of affordability that can negatively impact existing residents. Among the Main Street Resilience Plan corridors, average home sale prices rose 34 percent between 2009 and 2014. Increases ranged from 11 percent near Newton Street to 54 percent near St. Claude Avenue.

Local Retail Sales Potential (Millions)

Description:

Dollars spent by residents within 0.5 mile that are spend outside the area

Source:

ESRI Business Analyst, 2015

Methodology:

Sales data was obtained from ESRI Business Analyst.

Interpretation:

Corridors with high retail sales leakage indicate an unmet demand among local residents for more retail. Higher leakage could point to the potential need for increased business investment. Leakage varies widely across the city and by corridor type, and individual businesses will determine whether the observed leakage is sufficient to trigger investment.

Median Income

Description:

Median 2013 household income within 1/4 mile of each corridor

Source:

US Census American Community Survey, 2009-2013

Methodology:

The indicator was retrieved from the US Census.

Interpretation:

Median income is an overall indicator of resident resilience. Households with higher incomes may be more likely to be able to withstand and recover from stresses and shocks. The Median household income in New Orleans in 2013 was $37,146. Within 0.25 mile of the Main Street Resilience Plan corridors the median income was $25,963, or 30 percent lower than the city median.

Median Income Difference From City Median

Description:

Median 2013 household income within 0.25 mile of each corridor compared to Orleans Parish 2013 median household income. 2009-2013 ACS data compiled by and retrieved from ESRI Business Analyst.

Source:

US Census American Community Survey, 2009-2013

Methodology:

The indicator was derived by subtracting the corridor median income from the citywide median income, then dividing by the citywide median income.

Interpretation:

Median income is an overall indicator of resident resilience. Households with higher incomes may be more likely to be able to withstand and recover from stresses and shocks. In 2013, households within 0.25 mile of the Main Street Resilience Plan corridors earned 30 percent less than the city median.

Percent Change Commercial Assessment (2011-2015)

Description:

Change in commercial property assessment value from 2011 to 2015 within 0.1 mile of corridor

Source:

City of New Orleans, 2015

Methodology:

Commercial assessment values were obtained from the Orleans Parish Assessor's Office and then geocoded in GIS. Change in assessment was calculated by subtracting the 2015 value from the 2011 value, then dividing by the 2011 value.

Interpretation:

The relationship between commercial assessments and resilience is complex. Rising prices may indicate a strengthening economy and demand among businesses to locate in the neighborhood. On the other hand, they may also indicate a growing lack of affordability that can negatively impact existing businesses. Among the Main Street Resilience Plan corridors, the average commercial assessment increased 37 percent between 2011 and 2015.

Percent Population Change, 2010-2015 (0.25 Mile)

Description:

Comparison of 2010 and 2015 population within 0.25 mile of each corridor

Source:

US Census, 2010; ESRI, 2015

Methodology:

2010 population estimates were derived from the decennial US Census; 2015 population estimates were derived from ESRI forecasts available on ESRI Business Analyst. The indicator is the difference between the two represented as a percentage of change.

Interpretation:

Population change indicates overall growth or decline; resilient corridors can be expected to have stable or growing populations. The city's population grew by 9.8 percent between 2010 and 2015. On average the populations near the Main Street Resilience Plan corridors grew 10.2 percent during the same period.

Rent As Percentage Of Household Income

Description:

Comparison of 2013 median income and 2013 median contract rent within 0.25 mile of each corridor

Source:

US Census American Community Survey, 2009-2013

Methodology:

The indicator was derived by dividing the median household income by twelve, then dividing by the average contract rent.

Interpretation:

The percentage of income spent on rent is a standard indicator of affordability. Generally, households that spend more than 30 to 35 percent of their annual income on rent are considered to be cost-burdened. Neighborhoods with a significant portion of cost-burdened households may be facing problems with housing affordability. Such areas may become less resilient as residents have less disposable income available for withstanding and recovering from stresses and shocks. In 2013 the average household in New Orleans spent 25 percent of its income on rent, while the comparable figure on the Main Street Resilient Plan corridors was 32 percent.

Residential Price Per Square Foot, 2014 (0.25 Mile)

Description:

Home sale price per square foot within 0.25 mile of each corridor

Source:

Multiple Listing Service, 2015

Methodology:

Historic Multiple Listing Service sales prices were provided by a licensed real estate agent and geocoded in GIS. The sale price of each home was divided by the square footage to determine price per square foot. Sales within a given buffer of each corridor were then selected to derive the indicator.

Interpretation:

The relationship between residential home prices and resilience is complex. Rising prices may indicate a strengthening economy and demand among homebuyers to live in the neighborhood. On the other hand, they may also indicate a growing lack of affordability that can negatively impact existing residents. Among the Main Street Resilience Plan corridors, the average home sale price in 2014 was $171 per square foot. Prices ranged from $89 per square foot near Newton Street to $264 per square foot near St. Claude Avenue.

Retail Leakage Per Sales (0.5 Mi)

Description:

Ratio of dollars spent by residents living within 0.5 mile of corridor that leave the area to sales generated within 0.5 mile

Source:

ESRI Business Analyst, 2015

Methodology:

The indicator was derived by dividing the retail leakage value by the local sales value. Sales and leakage data was obtained from ESRI Business Analyst.

Interpretation:

Retail leakage per sales indicates the amount of sales on a corridor that come from local residents. Corridors that retain a higher amount of local retail dollars may be considered to be more self-sufficient and therefore more resilient. On average, 58 percent of all retail sales on the Main Street Resilience Plan corridors came from local residents.

Streetscape

Planting Strip

Description:

Describes presence of landscaping within right-of-way, either in median or adjacent to sidewalk

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

The presence of planting strips provide aesthetic enhancements, thereby making corridors a more attractive place to spend time and do business. They also offer potential spaces for the inclusion of stormwater management systems such as bioswales. On average, 57 percent of blocks on the Main Street Resilience Plan corridors included planting strips.

Road Condition - In 'Fair' Or Worse Condition

Description:

Describes visible roadway condition on each corridor

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Road condition is an overall indicator of infrastructure condition and can impact visual appeal. On average 16 percent of the Main Street Resilience Plan corridors exhibited Fair or Worse road conditions.

Structures

Building Use - Commercial

Description:

Percentage of buildings that are commercial use

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Building Use - Industrial (Light)

Description:

Percentage of buildings used for industrial purposes

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

One percent of Main Street Resilience Plan corridor buildings were found to have light industrial uses.

Building Use - Institutional

Description:

Percentage of buildings used for institutions such as schools or government offices

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Six percent of Main Street Resilience Plan corridor buildings were observed to have institutional uses.

Building Use - Mixed Use

Description:

Percentage of buildings with a mix of uses, such as commercial and residential

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

16 percent of Main Street Resilience Plan corridor buildings were found to have a mix of uses.

Building Use - Religious

Description:

Percentage of buildings used for religious purposes

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Four percent of Main Street Resilience Plan corridor buildings were found to have religious uses.

Building Use - Residential

Description:

Percentage of buildings that are used for residential purposes

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

32 percent of Main Street Resilience Plan corridor buildings were found to have commercial uses.

Connected Downspouts (Lower Is Better)

Description:

Buildings with connected downspouts, lower score is better

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Downspouts that are directly connected to the drainage system may contribute to overloaded stormwater infrastructure. Higher proportions of connected downspouts may lead to reduced resilience. On average seven percent of buildings on Main Street Resilience Plan corridors had connected downspouts.

Construction Type - Concrete Block

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Construction type impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: steel, concrete block, masonry, and wood. On average eight percent of Main Street Resilience Plan corridor buildings were found to be constructed of concrete block.

Construction Type - Masonry

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Construction type impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: steel, concrete block, masonry, and wood. On average three percent of Main Street Resilience Plan corridor buildings were found to be constructed of masonry.

Construction Type - Steel

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Construction type impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: steel, concrete block, masonry, and wood. On average 14 percent of Main Street Resilience Plan corridor buildings were found to be constructed of steel.

Construction Type - Wood

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Construction type impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: steel, concrete block, masonry, and wood. On average 77 percent of Main Street Resilience Plan corridor buildings were found to be constructed of wood.

Entrance With Apparent Barriers

Description:

Percentage of structures on the corridor with entrances that may present barriers to physically challenged individuals

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Barriers to entrances affect the ease with which disabled individuals can enter and exit a building. They therefore may discourage some customers from patronizing a business, and can present a physical danger to individuals during a shock event. On average 46 percent of Main Street Resilience Plan corridor buildings were found to have entrances with some type of barrier.

Façade Material - Asbestos Siding

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. On average less than one percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of asbestos siding, a material which is no longer available for use in commercial construction.

Façade Material - Brick

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average 25 percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of brick.

Façade Material - Combination

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average 19 percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of a combination of materials.

Façade Material - Concrete Block

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average five percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of concrete block.

Façade Material - Metal

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average two percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of metal.

Façade Material - Stucco

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average 14 percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of stucco.

Façade Material - Vinyl Siding

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average three percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of vinyl siding.

Façade Material - Wood

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Façade material impacts the degree to which a building can withstand shocks, particularly wind and wind-driven debris. Construction materials listed in order of strongest to weakest are: metal, concrete block, brick, stucco, wood, and vinyl siding. On average 31 percent of Main Street Resilience Plan corridor buildings were found to have facades constructed of wood.

Foundation On Grade

Description:

Percentage of buildings on corridor with ground floor at-grade

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Buildings at grade are more susceptible to flooding than those that are elevated. Higher proportions of elevated buildings indicate greater resilience to shock events. On average 63 percent of Main Street Resilience Plan corridor buildings were found to be at grade.

Ground Level Openings >40% Of Façade

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported. .

Interpretation:

Building openings allow more floodwater and/or debris to enter a building during a shock event. A lower proportion of openings may indicate more resilient buildings. On average, 40 percent of Main Street Resilience Plan corridor buildings were found to have 40 percent or more of their ground level facades comprised of openings.

In 'Below Average' Or Worse Condition

Description:

Percentage of buildings in "Below Average" or worse structural condition, as assessed from exterior inspection

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Buildings in poor condition are more susceptible to wind and flood events than those that are protected. On average 20 percent of Main Street Resilience Plan corridor buildings were found to be in Below Average or worse condition.

MEP Not Elevated

Description:

Rate of buildings with Mechanical, Electrical or Plumbing equipment at ground level.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Mechanical, electrical and plumbing systems at grade are more susceptible to flooding than those that are elevated. Higher proportions of elevated MEP systems indicate greater resilience to shock events. On average 57 percent of Main Street Resilience Plan corridor buildings were found to have MEP systems at grade.

On Site Parking

Description:

Lots on the corridor that include on-site parking.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

The relationship between parking and economic resilience is complex. The availability of ample parking helps to attract customers, and parking shortages are frequently cited as a major concern among businesses. But parking also reduces the amount of developable space on a corridor, can increase development costs, and may detract from a walkable environment. On average 48 percent of lots on Main Street Resilience Plan corridors were found to have off-street parking.

Other Openings

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Building openings allow more floodwater and/or debris to enter a building during a shock event. A lower proportion of openings may indicate more resilient buildings. On average, 19 percent of Main Street Resilience Plan corridor buildings were found to have non-façade openings (e.g., roof openings).

Parapets

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Buildings with roof parapets may be more susceptible to wind damage and roof leaks than other roof types. On average 33 percent of Main Street Resilience Plan corridor buildings were found to have parapets.

Roof Material - Shingles

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Shingle roofs may be more susceptible to wind damage than other roof types. On average 66 percent of Main Street Resilience Plan corridor buildings were found to have shingle roofs.

Roof Type - Flat

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Flat roofs may be more susceptible to leaks than other roof types. On average 35 percent of Main Street Resilience Plan corridor buildings were found to have flat roofs.

Rooftop Items

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Rooftop items may increase vulnerability to wind damage. On average 45 percent of Main Street Resilience Plan corridor buildings were found to have rooftop items.

Solar Panels/Alternative Energy

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Solar panels and other alternative sources of electricity may provide backup power following a shock event. They also indicate greater environmental sustainability. On average, less than one percent of Main Street Resilience Plan corridor buildings had alternative sources of electricity.

Subsidence Issues

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Subsidence indicates potentially unstable ground and foundations, and may be a sign of damaged subsurface infrastructure. On average 13 percent of Main Street Resilience Plan corridor buildings showed evidence of subsidence.

Underground Electrical Supply

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Underground electrical supplies are less likely to be interrupted during wind events. On average eight percent of Main Street Resilience Plan corridor buildings had underground electrical supplies.

Unprotected Windows Or Doors

Description:

Percentage of buildings on corridor with windows or doors without storm protection

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Unprotected windows or doors are more susceptible to wind and flood events than those that are protected. On average 58 percent of Main Street Resilience Plan corridor buildings were found to have unprotected doors or windows.

Upper Level Openings >40% Of Façade

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Building openings allow more floodwater and/or debris to enter a building during a shock event. A lower proportion of openings may indicate more resilient buildings. On average, 40 percent of Main Street Resilience Plan corridor buildings were found to have 15 percent or more of their upper level facades comprised of openings.

Vacant /Appears Unoccupied

Description:

Describes structures on the corridor that, appeared to be unoccupied based on exterior inspection.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Vacant buildings may be more prone to damage from shock events due to lack of maintenance. They may also indicate poor economic conditions. Higher vacancy rates are generally considered to be a sign of reduced resilience. On average 23 percent of buildings on Main Street Resilience Plan corridors appeared to be vacant.

With Appendages

Description:

Describes survey of structure exteriors as visible at street level on each corridor.

Source:

Main Street Resilience Plan Field Survey, 2015

Methodology:

The Field Survey included a visual assessment of this indicator. The average results by corridor are reported.

Interpretation:

Building appendages may increase vulnerability to wind damage. On average 54 percent of Main Street Resilience Plan corridor buildings were found to have appendages.

CITY OF NEW ORLEANS

New Orleans Main Street Resilience Plan

Appendix F: Business Survey Methodology

Prepared by GCR Inc.

Introduction

The Main Street Resilience Plan included a survey of all establishments on the six corridors. The surveys were administered in 2015 from May to September. Surveyors visited each corridor several times and recorded responses on tablet computers. Survey questions and their potential answers are listed below in the order they were presented to respondents.

General: Is the Name for this business correct?		
No	Yes	Don't Know

Business: Who are your primary customers?						
Immediate surrounding neighborhoods	Local (within several miles)	Regional (Orleans and Jefferson)	Specialty or Cultural Market	Tourism Market	Other _____	Don't Know

Business: From that same list, who are your secondary customers?						
Immediate surrounding neighborhoods	Local (within several miles)	Regional (Orleans and Jefferson)	Specialty or Cultural Market	Tourism Market	Other _____	Don't Know

Business: How to most of your customers decide to visit your business?	
Passing by	Destination

Law Enforcement: How would you characterize crime on your corridor?			
Low	Moderate	High	Don't Know

Law Enforcement: Over the last year or two, do you think crime on this corridor is:			
Decreasing	About the same	Increasing	Don't Know

Infrastructure: How often does the street in front of your business flood?			
Never	Every time it rains	Sometimes	Hardly ever

Infrastructure: How many days has your business been impacted by boil water advisories in the past 3 years?				
Never	1-3 days	4-7 days	More than 7 days	Don't know

Preparedness: If yes, have you trained your staff on the emergency plan and their duties?		
No	Yes	Don't Know

Preparedness: Do you have a written business continuity plan to ensure your business is prepared to overcome a range of interruptions to normal operations?		
No	Yes	Don't Know

Preparedness: Do you have backup generators?		
No	Yes	Don't Know

Preparedness: Do you have business interruption insurance?		
No	Yes	Don't Know

Preparedness: Specify 'Other Steps'
OPEN ENDED

Preparedness: Does your business have any mutual aid agreements in place to work together with other businesses before and after an emergency and/or disaster?		
No	Yes	Don't Know

Social Networks: Do you participate with _____ Main Street?		
No	Yes	Don't Know

Employment: How many full-time employees do you have?
OPEN ENDED

Employment: How many part time employees do you have?
OPEN ENDED

Social Networks: Are there healthy, affordable options to eat on your corridor?		
No	Yes	Don't Know

Employment: Do you provide internships or other youth training opportunities?		
No	Yes	Don't Know

Emergency: In the event of an emergency can your business be used as a shelter?		
No	Yes	Don't Know

Business: Do you own or rent/lease?	
Own	Rent/Lease

Survey: Who was interviewed for this survey?			
Manager	Owner	Employee	Other