

Understanding and Analyzing the Restaurant Permitting Process in the City of Boston

An Interactive Qualifying Project Report

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Abstract

Restaurants are an important part of the Boston economy; however, they are experiencing a delay in openings. The current process of obtaining permits and licenses to open a restaurant is confusing and inefficient, which may be causing this delay. In cooperation with Boston's Office of Business Development, we provided the City with a characterization of its restaurants and developed a timeline to map the permitting chronology of a select group of restaurants. In addition, we analyzed total process time, cycle time for individual permits, total fees and made recommendations to improve the efficiency of the current process.

Executive Summary

Restaurants are a key driver of the United States' economy. The restaurant industry generates revenue and creates jobs: two crucial factors that directly affect the status of the economy. The current mission of the City of Boston's Office of Business Development (OBD) is to "revitalize Boston's neighborhood commercial districts through design, technical, and financial support" (City of Boston, 2010a); one application of the OBD's mission is to assist restaurants by providing restaurateurs with access to the information and resources they need to legally open their restaurants. Over the past years, however, there has been a delay in the time taken for restaurants to open. Currently, the process of acquiring the correct permits and licenses in order to legally open and operate a restaurant can be very confusing and time consuming, especially for new restaurateurs. The goal of our project was to provide the Office of Business Development with a characterization of the restaurants in the City of Boston and make recommendations to improve the efficiency of the City's restaurant permitting process. In order to fulfill our project goal, we developed five objectives:

1. Create a master database of all Boston restaurants
2. Perform market segmentation to identify groups of restaurants with shared characteristics
3. Characterize and understand the current permitting process for one segment
4. Analyze the process chronology of permits in that segment
5. Recommend improvements to the Office of Business Development

A Master Database of Boston's Restaurants

In the City of Boston, there is currently no central source of data about restaurants. We collected information from four different databases (ABI, Assessing, DBA and Claritas), cross-referenced the data, and compiled a master database of every restaurant in Boston. After reviewing the records, we eliminated 199 restaurants because they had closed. The master database contained 72 different fields of information for 2,108 different restaurants. However, the total database was not complete. Many of the restaurants were missing fields of information due to the gaps found in the original databases.

After compiling the four databases we made two key observations:

1. **We found that only 60% of the total listings in the master database had complete profiles, and much of the City's data were not up-to-date.** There were large gaps of information in each field for many restaurants. This may have been due to a lack of updated data for each original database.

2. **Of the 2,108 restaurants currently doing business in the City of Boston, 30% are unregistered with the Office of the City Clerk.** The "doing business as" (DBA) certificate must be renewed with the City Clerk every four years. Every unregistered business in Boston is subject to a fine of \$300 per month.

Restaurant Segments in Boston

Boston has over 2,000 restaurants, which presents a large variety of characteristics for each one. We grouped restaurants based on similarities dependent on the fields of information found in the ABI database. Using AnswerTree, computer software designed for segmentation, we selected *jobs* as the dependent variable, and the program selected three more variables (*annual sales*, *square footage*, and whether the restaurant was a *single location* or *branch*) to characterize the market. The four segments that were created are shown in Figure A.

SALES (in thousands \$ annually)				
		0 – 500	500+	
SQUARE FOOTAGE		Small Size, Low Sales	Single Location	Branch
			0 – 2,499 ft.	466 Jobs Mean: 3 Sales Mean: 138
2,500 – 9,999 ft.		Large Size, Low Sales 462 Jobs Mean: 11 Sales Mean: 447		

Figure A: Segment map of restaurants in Boston

A large number of recently-opened restaurants are in the Large Size, Low Sales segment, which raises a concern for the city’s restaurant sector. Figure B shows the distribution in year of opening for restaurants in each segment. One can see that three of the segments include a

relative uniform distribution of long-established and recently-opened restaurants. However, the Large Size, Low Sales segment is dominated by the restaurants opened since 2002. Larger restaurants generally require higher operating costs, and with low revenue, they may struggle to stay in business. The large number of newer restaurants falling under the Large Size, Low Sales segment can be interpreted in two possible ways:

1. It is possible that, in the past, a lot of Large Size, Low Sales restaurants were opened. However, since they were larger in size and did not generate a lot of sales, they were closed down.
2. It is also possible that is a new phenomenon that has emerged among the new restaurants in Boston. Restaurateurs in Boston are opening larger restaurants; however, they are not generating a lot of sales.

In both cases, these large size restaurants may close down if they fail to generate higher sales. This would be harmful for Boston’s restaurant sector. It is possible that programs and services could be targeted at restaurants in this segment to increase their likelihood of success.

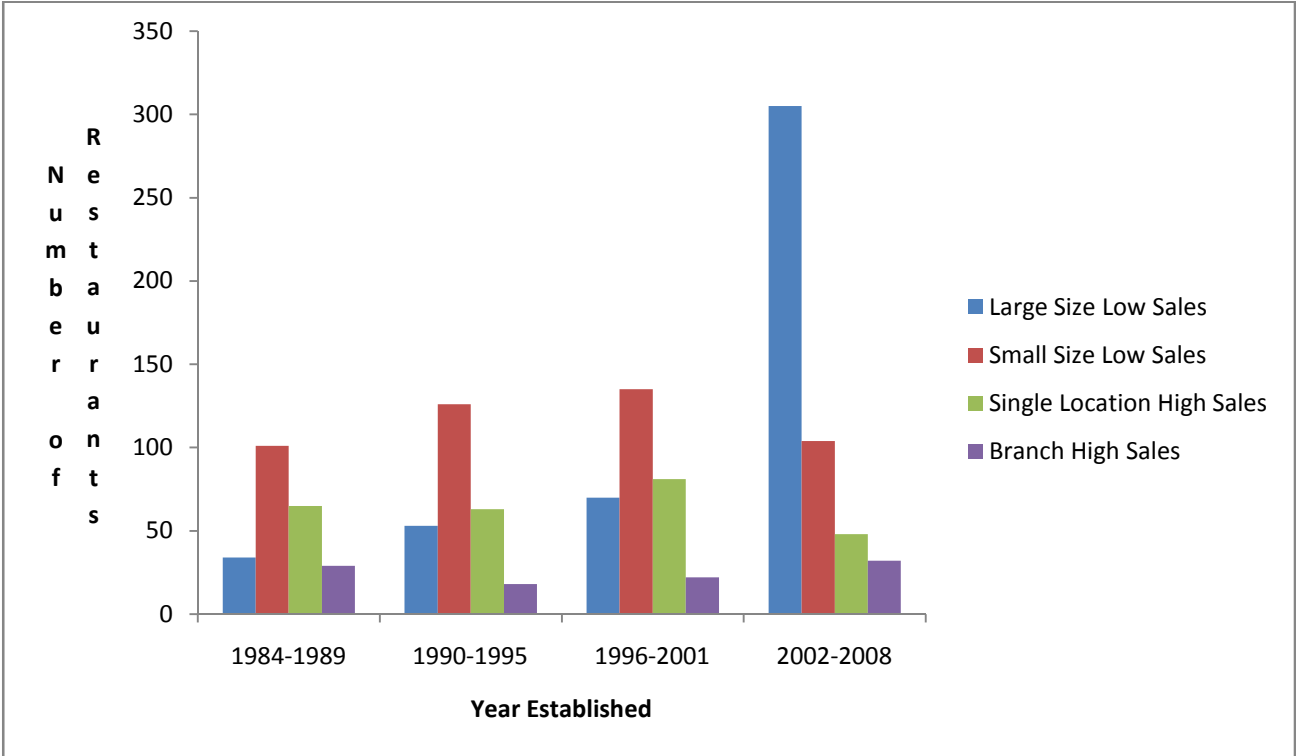


Figure B: Number of restaurants opened per year, sorted by segment

Of the four segments, we selected the Single Location, High Sales segment for the analysis of the permitting process. The goal of the OBD is to stimulate the economy by helping small businesses through job creation and increasing sales. This segment, which includes mostly small businesses, has a significant impact on the Boston's economy.

Permitting Process Analysis for the Single Location, High Sales Segment

In order to make our project feasible in the given timeframe, we selected a sample of 16 restaurants that offer outdoor seating, serve alcohol and were opened in the last 10 years from the Single Location, High Sales segment. Since many services offered by a restaurant require a separate permit from the City of Boston, we examined multiple permits in an effort to identify similar experiences in the permitting process. We obtained permit information such as time stamps and required fees from the Mayor's Office of Consumer Affairs and Licensing, Licensing Board, Inspectional Services Department (ISD) and the City Clerk's Office and created a timeline detailing the process time, cost and chronology of the permits obtained by each restaurateur. In addition, we identified the chronological order of events that a typical restaurateur would experience while navigating the permitting process.

From our analysis of the permitting process, we made several observations:

1. **We found that a common starting point for a comparatively shorter process was either completing the Long Form or the Alcohol License.** This is due to the complexity of these applications. Depending on the extent of renovations to be completed, the Long Form may need to receive approval from more than one department. The Alcohol License needs to be approved by both the City and the Commonwealth of Massachusetts.
2. **We determined a logical order of permits for restaurateurs to follow,** as shown in Figure C. Dual boxes indicate permits that can be applied for simultaneously.

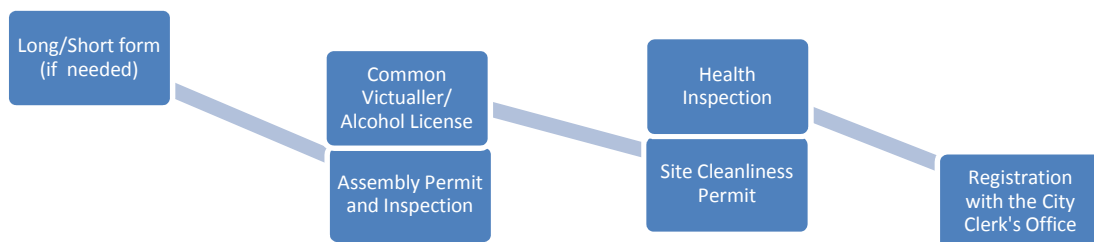


Figure C: A logical order of permit applications

- On average, for the sample of restaurants in our sample, a restaurateur takes 260 days to successfully complete the permitting process; however, we found that the process may range from 82 to 475 days.

Figure D depicts a timeline for the restaurants in our selected segment. For example, “Globe Bar & Grille” took 259 days to successfully complete the permitting process. The timeline also includes cycle time for each individual permit, as depicted by the blue lines.

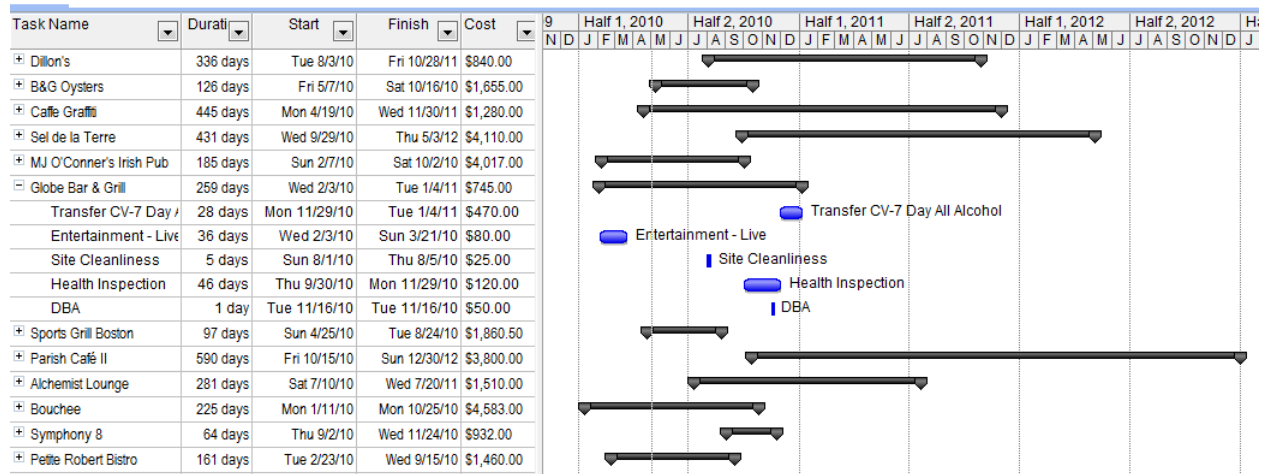


Figure D: Timeline of 12 restaurants in the sample population

Recommendations

Based on our findings, we identified ways to improve data management of restaurant databases and certain areas in the permitting process that may help improve efficiency. We presented the following recommendations to Office of Business Development:

- We recommend that the master database of Boston’s restaurants should be updated when the 2010 ABI and Assessing data is released.** The master database of restaurants is the most comprehensive listing of restaurants in the City of Boston. This listing was imperative to the completion of the project; however, two of the constituent databases of the master database, ABI and Assessing, were last updated in 2008. Since these databases are updated biannually, the master database will be more useful in the future if it is updated with the 2010 data. For a long-term recommendation, we suggest updating the master database every two years since the ABI data contains the most useful information out of the four databases used.
- The Office of Business Development would like to reach out to all prospective restaurateurs as they are beginning the restaurant permitting processes; specifically, the OBD wants to help those who have little to no experience attempting to open a

restaurant. **One way to reach first time restaurateurs effectively would be to contact them early on in the process.** As 10 out of the 12 applicants we studied, applied for either their Alcohol License or Long Form first, this would be a good stage to reach them at. Through cross-departmental negotiations it may be possible for the Inspectional Services Department and Licensing Board to send the OBD a weekly feed listing the restaurateurs who submitted either application. This way the OBD could then contact the restaurateur and offer them assistance with the process.

3. Since there is no central source of information for permits, the restaurateurs are often unaware of the permits that are required. **The OBD can help the restaurateurs obtain information about what permits are required based on the services offered by the restaurant by creating a *Required Permits Form*.** The form will consist of a checklist of the services that are offered by restaurants such as alcohol, entertainment, outdoor seating, fireplace, pool table, etc. The restaurateurs will be able to check the services that will be offered by their restaurant. The OBD will respond to the restaurateurs with information about the permits that will be required, where to obtain them, and how much they will cost.

Our deliverables and recommendations to the Office of Business Development will not only be useful for the purposes of our project, but also in its future restaurant related projects. We are hopeful that our project can help contribute in some way to Boston's vibrant and diverse restaurant scene and aid the OBD's mission to stimulate the economy through job growth.

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1. Introduction

Restaurants are a key driver of the United States' economy. Generating revenue and creating jobs are two crucial factors that directly affect the status of the economy, and the restaurant industry provides both. The National Restaurant Association (2010) estimates that, on an average day in the United States, the restaurant industry generates \$1.6 billion in revenues, and each \$1 million in profits results in the creation of 34 new jobs. The restaurant industry employs approximately 9% of America's workforce, and the quantity of this workforce is expected to grow by 7.5% by the end of 2020 (National Restaurant Association, 2010).

In the city of Boston, the Office of Business Development (OBD) is concerned with the growth and prosperity of restaurants and other small businesses. Its mission is to "revitalize Boston's neighborhood commercial districts through design, technical, and financial support" (City of Boston, 2010a). The OBD encourages more entrepreneurs to open new restaurants; however, the current permitting process for restaurants is confusing, time-consuming, and difficult to navigate, especially for new restaurateurs. The OBD has thus prioritized the need for understanding and improving the restaurant permitting process and has undertaken a long-term initiative to do so.

In 2009, a student group from Harvard University's Kennedy School of Government studied Boston's restaurant permitting process and concluded that "there are common points of confusion that every new restaurateur [will] experience" during the process of obtaining restaurant permits (Garcia, Maxwell, & Park, 2009). They found that restaurateurs tend to be uninformed about an effective way to complete the permitting processes required for their restaurants. There are 13 different city departments involved, and restaurateurs may need to complete up to 36 permit applications. There is no single department responsible for all of the mandated permits, thus making it difficult for restaurateurs to obtain all necessary information. The authors of the 2009 study suggested that better communication between permitting departments and eliminating duplication in forms could improve the process.

The Office of Business Development wants to take a closer look at the process chronology for particular types of restaurants as a next step in its long-term initiative to improve restaurateurs' experience. The 2009 study clearly defined the complexity of the permitting process in general; however, the process can vary for different types of restaurateurs. A barrier to this type of work is that there is no comprehensive database of restaurants in Boston from which to characterize those different types. Without a central database of restaurants, the OBD is unable to target a specific group of restaurants in order to fully understand the experiences with the permitting process.

The goal of this project was to provide the City of Boston with a characterization of its restaurants and make recommendations to improve the efficiency of the city's restaurant permitting process. We began by creating a comprehensive database containing information on the restaurants in Boston. We then segmented the restaurant market into different categories to narrow the scope and lower the complexity of our project given our short timeframe of seven weeks and to provide the OBD with restaurant segment profiles for other restaurant-related projects. We then identified areas for improvements by mapping the experiences of established restaurants in a specific segment of the restaurant market. After analyzing the experiences of the targeted restaurants, we identified the chronology of permits and made recommendations to the OBD. Ultimately, we hope that our recommendations will have a strong, positive impact on Boston's economy by reducing confusion and shortening the time necessary to open a restaurant.

2. Background

This chapter highlights the restaurant scene in Boston, its role in the economy, the different types of restaurants, and the rate of the growth of the restaurant industry. In addition, we discuss four databases of restaurant information used in our research and an overview of market segmentation. We then describe the current permitting process in Boston and the role of the Office of Business Development. Finally, we identify criteria and metrics that are typically used to evaluate permitting processes.

2.1 Boston Restaurants at a Glance

The culinary revolution of the 1980's caused the restaurant scene in Boston to explode (Schaffer, 2009). The city is full of many different places to dine out, providing a wide variety of cuisines to choose from. Altogether, restaurants in Boston form an important part of the city's economy. In this section, we will analyze the impact of the restaurants on the economy, the different types of restaurant databases, and the characteristics of restaurants in Boston.

2.1.1 Role of Restaurants in the Economy

Restaurants play a vital role in the national, state, and local economies. Figure 1 illustrates the significant impact of the restaurant industry on the national economy as the National Restaurant Association (NRA) claims that restaurant sales are expected to increase more than 50% in 2010 (National Restaurant Association, 2010). In Massachusetts, the NRA estimates that the restaurant industry employs 9% of the workforce and is projected to increase employment by 7.5% by 2020 (National Restaurant Association, 2010). The NRA estimates that every dollar spent by consumers in restaurants generates an additional \$1.02 for the state's economy, and the annual sales in 2009 were \$11.8 billion dollars in 2009 (National Restaurant Association, 2009). Furthermore, restaurant sales generate significant tax revenues for both the local and state government.

Sales

The U.S. restaurant industry's sales in 2010 will exceed a half-trillion dollars.

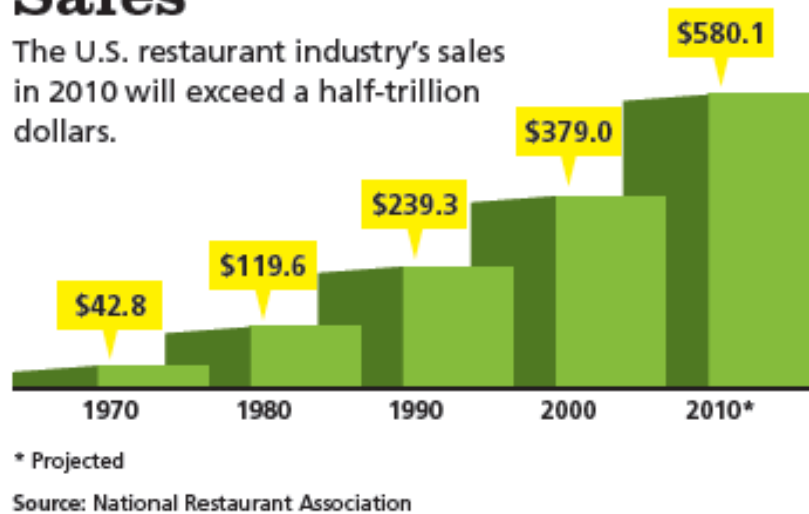


Figure 1: The projected increase in U.S. restaurant sales from 1970 to 2010 (used with permission from the National Restaurant Association)

2.1.2 Restaurants in Boston

It may be an intimidating time to open a restaurant because of the declining economy, but restaurateurs are still taking their chances with this risky business (Woolhouse, 2009). In 2009 alone, there were 121 new restaurant openings in the Greater Boston area (Boston's Hidden Restaurants, 2010). However, according to NPD Group, a market research firm in Port Washington, New York, at least 50 full-service restaurants in eastern Massachusetts closed during the first half of 2009 (Woolhouse, 2009). With 121 openings in all of 2009 and 50 closings in the first half of 2009, one may conclude that openings are barely outpacing closings.

The vast economic impact of restaurants on the Boston economy is associated with the spread and growth of a variety of restaurants throughout the city. There are approximately 7,000 restaurants in the Boston-Cambridge-Quincy metropolitan area (U.S. Census Bureau, 2007), and there are about 2,000 restaurants in Boston alone (Hammar, 2008). Figure 2 displays restaurant locations in the downtown Boston area; this map makes the abundance of restaurants in the city quite evident.



Figure 2: Restaurant location and density in downtown Boston, according to Google Maps

2.1.3 Restaurant Databases

Perhaps surprisingly, the City of Boston does not have a comprehensive database of its restaurants. The following is a description of each database's source along with its strengths and weaknesses.

1. **Claritas/Boston Prospector:** The Claritas Prizm, developed by Claritas, Inc., is a set of geodemographic clusters throughout the United States used for segmentation and marketing. Boston Prospector, controlled by GIS Planning Inc., allows users to search for available commercial buildings and sites as well as generate site-specific demographic and business analysis reports within the Claritas Prizm (Hammar, 2008). However, one limitation to this database is that the listings only contain business names and addresses.

2. **American Business Index (ABI):** The ABI database is a third-party source that contains restaurant information such as company address, owner address, telephone number, employment data, key contact and title, primary Standard Industrial Classification (SIC) code, year established, and both actual and estimated financial data.
3. **Assessing:** The Assessing Department for the City of Boston is responsible for determining the value of all real estate within the city limits for the purpose of taxation. Our project did not address taxes associated with the restaurants; instead, the purpose of this database was to provide additional listings.
4. **Doing Business As (DBA):** The City Clerk's Office maintains the DBA database. When restaurateurs register their restaurants with the city in order to obtain a DBA certificate, the restaurants are entered into the database. In addition to the initial registration, businesses must renew their DBA certificate every 4 years. We had access to both the new and renewal listings, which provided the names, addresses and file dates of the registered restaurants in Boston.

2.2 Market Segmentation

Restaurants vary greatly in terms of their size and services, and these variables influence the complexity of the permitting process. Characteristics of restaurant owners, such as their level of business experience and primary language, may also affect their permitting process. For these reasons, the DND is interested in segmenting Boston's restaurant market to study the permitting process and support restaurateurs in a more informed and targeted manner. *Market segmentation* can be a useful tool in order to examine patterns in these behaviors. In simplest terms, it is the division of a market according to some similarity or commonality between variables. The purpose of segmenting the market is to decrease the scope of a large area and target a smaller subdivision to better understand it. Market segmentation can be done with respect to many different user variables, such as geographic location, demographics, price ranges and employment size.

A key step in performing segmentation is to identify *variables* that are both *meaningful* and *actionable* then collect and compile all available data about them. Variables represent market characteristics, such as *alcohol service*, *employment*, and *price range*. They are determined to be meaningful if the data collected helps explain and predict customer activity; variables are said to be actionable if they help identify the customers and reach them with practical and proven marketing actions (Barron & Hollingshead, 2002). A variety of statistical methods can be used to divide segments according to similar variables in order to analyze a targeted area. After the selection of a specific segment, the top-priority customers can be

identified and further analysis may be conducted on the segment (Barron & Hollingshead, 2002).

2.3 Restaurant Permitting Processes

To successfully open a new restaurant, a restaurateur must obtain the proper permits that allow for the opening and legal operation of the establishment. In this section, we explain the importance of permits, the current permitting process in Boston, and criteria for an efficient permitting process. In addition, we discuss the Office of Business Development, its mission in Boston, and its relevance to and goals for our project.

2.3.1 Overview of the Restaurant Permitting Process in Boston

The Commonwealth of Massachusetts and City of Boston require permits for new restaurants. The purpose of a permit is to ensure that applicants safely and effectively adhere to required rules and regulations. A permit is authorized for a number of possible reasons, including (but not limited to) public health and safety, tax revenue, and construction. For example, the City of Boston Fire Department issues a permit that requires every establishment to adhere to fire alarm regulations in order to ensure public safety in the event of a fire (City of Boston, 2010b). If a business attempts to operate without the permits it requires, it may face immediate closure or other repercussions, which may be detrimental to its finances and the reputation of its owner.

The current Boston restaurant permitting process is explained in great detail by a process map created by a group of students from Harvard University's Kennedy School of Government, as shown in Appendix 7.1. A simplified version of the map, illustrating several of the main steps, is shown in Figure 3. According to the complete map, a restaurateur must take at least fifteen general steps in order to obtain all of the necessary permits. As shown in the top left corner of the map, the very first step for a restaurateur is to contact the appropriate neighborhood coordinator, a procedure completed through the Mayor's Office of Neighborhood Services, to "learn about neighborhood-specific issues that might affect the business" (City of Boston, 2010c). Once this is done, the restaurateur must then make decisions about new restaurant; these decisions involve issues such as zoning, construction, building safety and occupancy, fire codes and services available. How he or she makes such decisions determines the exact steps to take in order to make progress through the permitting process.

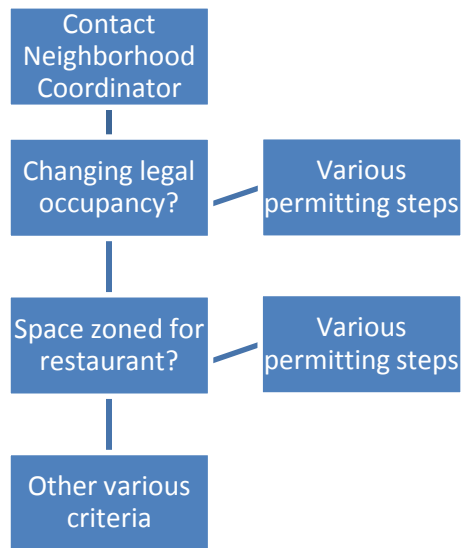


Figure 3: A simplified map of the initial stages of Boston’s restaurant permitting process

Each decision leads to further, more specific issues. If the restaurateur, for example, had decided that the new restaurant will serve alcoholic beverages, he or she must take action and apply for a liquor license. There are many branches in this hierarchal tree of restaurant permitting, and not until every issue is addressed may the new restaurant legally open.

In addition to this process map, the Harvard University’s Kennedy School of Government students created a “Customer Journey Map,” as shown in Appendix 7.2, which describes a general permitting process flow for restaurateurs who plan to perform any sort of construction, from minor repairs to major renovations. This map contains information about permits required for restaurants that either do or do not undergo construction. It presents a recommended sequence for obtaining permits based on three stages of the construction process: before construction; before gas, electrical, and plumbing; and after building work is completed. We used this map as a supplemental source of information about which permits are required and their priorities within the permitting process.

The aforementioned group of Harvard students studied Boston’s restaurant permitting process and found that the current process in Boston is “long, costly...inefficient” and unclear (Garcia et al., 2009). In turn, they identified several significant problems. The first problem is the “difficulty [for a restaurateur] to receive any type of guidance from any administrative sources and a lack of evidentiary standards of competence about the permitting process across employees in the relative departments” (Garcia et al., 2009). Secondly, some common points of confusion include the inability to know the “most effective way to begin [the permitting process]” and how permit applications should be prioritized (Garcia et al., 2009). Finally, a

general cause of frustration among restaurateurs is the lack of communication between the city’s regulatory agencies.

2.3.2 Criteria for Evaluation of the Efficiency of Permitting Processes

Through a review of previous studies of permitting processes in Boston and other cities, we identified metrics for evaluating the efficiency of a process (Figure 4). *Timeliness* and *clarity* are the metrics most commonly used to evaluate efficiency.

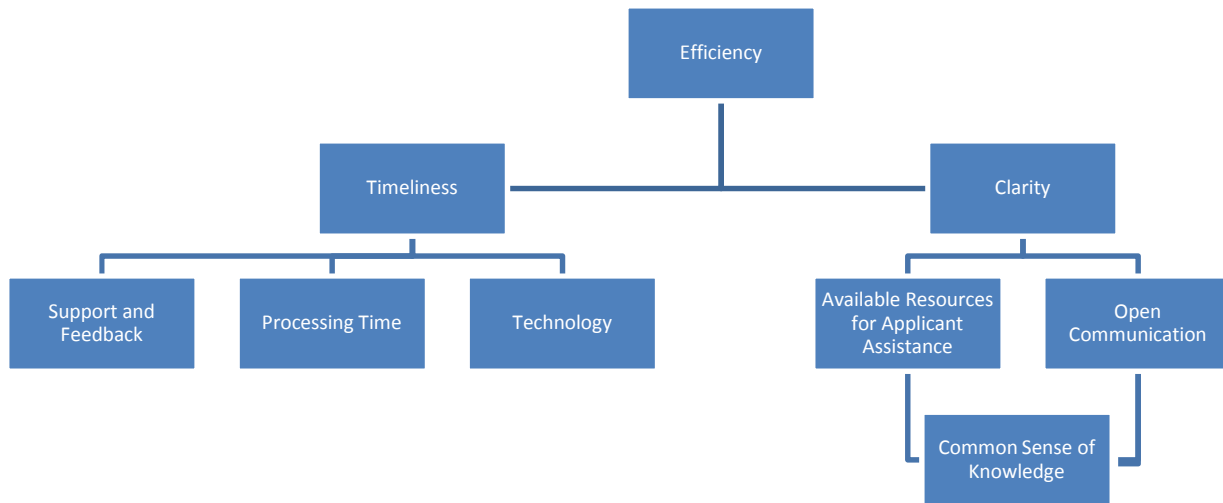


Figure 4: Metrics for Evaluating a Permitting Process

The timeliness of steps within a permitting process is a measurable metric of the process’ efficiency. Efficiency can be determined by the length of time in which applicants receive support and feedback, the actual cycle time for each application, and the technology involved in processing, availability, and storage of documentation within the departments.

Quick and relevant responses to questions, concerns, and application submission are important to the efficiency of a process. In their guide, *A Best Practices Model for Streamlined Local Permitting*, the Massachusetts Association of Regional Planning suggests making a “single point of contact:” a group of people who are extremely knowledgeable on the process, specifically available for any questions and concerns restaurateurs may have throughout the process. The Governor’s Office of Regulatory Assistance, in the state of Washington, also

created a suggestion manual: the *Local Government Permitting Best Practices*, a compilation of current practices of other governments. It suggests that setting up specific times for the applicants to meet with knowledgeable department officials not only allows for timely feedback but helps reduce the chances of permit denial due to application errors (Governor's Office of Regulatory Assistance, 2008).

Another element to consider is the time it takes for departments to evaluate their respective permit applications. The quicker an applicant receives approval or denial, the more efficient the process is; however, in many cases, due to factors such as the number of applicants, size of the city, and the limited number of staff members, departments are restricted to how fast each application can be processed. Given this, the Massachusetts Association of Regional Planning Agencies (MARPA) finds that it is also important to consider whether or not the city informs the applicant of the average processing time and/or if they establish laws that require decisions to be made by a certain deadline (The Massachusetts Association of Regional Planning Agencies, 2007).

MARPA proposed that the technology used within the permitting process, in regards to the processing and availability/storage of applications, may affect the total processing time. Given this, there are a few aspects to consider: are the applications available online, can they be submitted online, and are the applicants' files available on a database that is accessible by all departments? Manhattan, NY, recently took the initiative to provide application retrieval on the internet, in order to reduce travel time for applicants (New York City Department of Health and Mental Hygiene, 2008). Similarly, the Governor of Washington suggested that if a city installs a network or database that compiles all documentation submitted by each applicant into one file, departments will be able to access the applicants' information in a more timely and efficient manner than in a traditional paper-based filing system (Governor's Office of Regulatory Assistance, 2008). These databases will also help eliminate redundancies and duplications that are often found in the permitting process.

Clarity is a key determinant of the success of any efficient process as it helps create transparency through the process, thus allowing everyone to share a *common sense of knowledge* (basic understanding of the steps within the process). Whether it is open communication interdepartmentally or between applicants and departments, or if it is the availability of resources that defines a common sense of knowledge, establishing clarity within the process can help create a sense of unity between the departments and restaurateurs.

As concluded by the students from Harvard Kennedy School of Government, open communication, whether between a secretary and a departmental official, interdepartmental correspondence, or between an applicant and department, encourages a common sense of knowledge, helping to define a clear process for everyone involved. An example of poor

interdepartmental communication was discovered by Garcia *et al.* when a restaurateur in Boston attempted to submit his application with the required documents to the Boston Fire Department. The receptionist responded with “What are these?” and was unable to assist him further. The manager had to then step in order to provide him with further information, which left him uncertain that “the forms would be treated with the seriousness they deserved(Garcia et al., 2009).”

The permitting process of Marlborough, MA is illustrative of the efficiency that can stem from a common sense of knowledge. When attempting to open a business in Marlborough, one must first pay a visit to the Site Plan Review Committee. The Committee functions under the code of the Master Plan, which is a set of guidelines that clearly defines the rules and regulations of the permitting process, thus allowing all involved departments to follow the same set of rules and help restaurateurs navigate the system. City Engineer Patrick Clancy claims that meeting with everyone at once makes it easier for restaurateurs to get a clear cut and “coordinated set of recommended changes.” In addition, he says that “all of the developers go through the same process, and all respond positively to our 'one stop shopping' approach” (Mass Insight Corporation, 2000). The code of the Master Plan creates a beneficial situation for both developers and residents in which both groups of voices can be heard and decisions can be framed around everyone’s satisfaction.

Another measurable characteristic that promotes clarity is the encouragement of a common sense of knowledge through the availability of assistance to applicants. Oftentimes, each type of restaurant requires many different types of permits and restaurateurs may find that “from the onset, they do not know the most effective way to begin and...which forms should be filled out first, or which permit and license application should be prioritized” (Garcia et al., 2009) if there are no resources to help guide them along their journey. The Massachusetts Association of Regional Planning Agencies believes that these sources should not only include the sequence in which the process should be navigated but also the costs involved and the contact information for each permit authority. These resources should “present the information in different formats (narrative, matrix, and flow chart) to meet the needs of a variety of potential users” (The Massachusetts Association of Regional Planning Agencies, 2007).

Officials from New York City, NY, have made it a priority to aid restaurateurs through the permitting process by providing them with multiple sources of information. For example, one can go to the New York City Department of Health and Mental Hygiene in order to inquire about and submit the required paperwork. There are also a few organizations, such as Small Business Services and Business Solutions Center, which offer guidance to people who are trying to get their businesses up and running. Additionally, there are several online resources that

guide individuals through the necessary steps it takes to open a restaurant, including printable forms to fill out and where to submit them, along with a wizard to guide them through the sequence and variance of the system (New York City Department of Health and Mental Hygiene, 2008).

The current permitting processes of other cities, as well as the suggestions from studies conducted by other governments, illustrate that both timeliness and clarity drive the efficiency of a permitting process.

3. Methods

The goal of this project was to provide the City of Boston with a characterization of its restaurants and make recommendations to improve the efficiency of the city's restaurant permitting process. We broke down our project goal into five major objectives:

1. Create a master database of all Boston restaurants
2. Perform market segmentation to identify groups of restaurants with shared characteristics
3. Characterize and understand the current permitting process for one segment
4. Analyze the process chronology of permits in that segment
5. Recommend improvements to the Office of Business Development

In this chapter, we discuss the different methods used to conduct research and accomplish these objectives.

3.1 Creation of a Master Database of Boston Restaurants

As explained in the previous chapter, the Office of Business Development currently has access to four databases of restaurants in Boston, none of which are complete and all of which contain different fields of information. We set out to understand the content and limitations of each database and compile a single master database. This section describes the process and outcomes of such work.

Following is a description of the content and limitations of each database:

- **Claritas/Boston Prospector:** Boston Prospector is a free interactive internet mapping program updated annually. The program was last updated in early 2010, and it provided us with a searchable database, Claritas, that lists commercial buildings within the City of Boston. The search results yielded 2,251 restaurants and hotels in Boston. We searched through the data and eliminated 65 hotels, leaving us with a total of 2,186 restaurants. Although this data source was the most comprehensive, it provided only the business name and address of each restaurant.
- **American Business Index (ABI):** The ABI database is a third-party source that provided the most useful information for 1,392 restaurants in Boston. Last updated in 2008, the list provided us with information such as *annual sales, job quantity, year established, restaurant*

size (square footage), and whether a restaurant is a *single location or branch*; we used this information in our further analysis. We also looked into additional fields such as *ethnicity* and *neighborhood* in order to further characterize certain segments of the market based on restaurant location and possible language barriers that may exist between an owner and Boston’s regulatory agencies.

- **Assessing:** The Assessing Department for the City of Boston is responsible for determining the value of all real estate within the city limits for taxation purposes. Similar to the ABI database, this listing is updated biannually; it was last updated in late 2008 and provided 59 different fields of information. A limitation of this database is that it only contains information about structural attributes, rather than business characteristics. In addition, it omits the names of its listed businesses, so we found it less useful than the other data sources.
- **Doing Business As (DBA):** The City Clerk’s Office maintains the “doing business as” database for the City of Boston. New businesses, such as restaurants, are entered into this database when they register with the City to obtain a DBA certificate. In addition to the initial registration, businesses must renew their DBA certificates every 4 years. We used both the new and renewal listings in order to provide additional restaurant names and file dates for new and older restaurants.

Table 1: Summary of the restaurant database

Database	Number of Entries	Coverage* (%)	Year Last Updated	Number of Fields	Useful Fields
Claritas	2,186	89%	2010	2	Business Name, Address
ABI	1,392	62%	2008	54	Jobs, Sales, Square Footage, Year Established, Ethnicity
DBA	1,071	70%	2010	8	Name, Address, File Date
Assessing	405	10%	2008	59	Year Built/Remodeled, Property Type
Master	2,108		2010	72	Jobs, Sales, Square Footage, Single Location/Branch, Year Established

*Coverage indicates the percentage of listings found in both the respective database and the master database

We cross-referenced the four databases by searching for similar records. If an entry appeared on multiple databases, we counted the listing once and placed it in a separate spreadsheet. For each entry that appeared in only one or two databases, we validated the entries by searching for the restaurant using online search engines such as *google.com*, *urbanspoon.com*, and *yelp.com*.

After conducting online searches on these entries, we discovered that 199 restaurants from the constituent databases had closed. As evident from the inclusion of closed restaurants in the individual databases, we concluded that none of the databases were regularly updated. The master database lists all of the restaurants that we have found to still be in operation; however, the database is not 100% accurate and almost certainly undercounts the restaurants in Boston due to the outdated information from the individual databases.

Organized in a Microsoft Excel® workbook, the master database contains the listings of all restaurants; it is initially sorted by address, in ascending order. For each restaurant, there are 72 possible fields of information since all information from the constituent databases was retained. Since none of the constituent databases provided a complete listing of restaurants, many fields in the master database are incomplete.

There were a significant number of businesses not listed in the DBA database. There were 1,071 total businesses registered with the city and our master database contained 2,108 restaurants; approximately half of Boston's restaurants appear to be not legally registered with the City. After further investigating a sample of 300 unregistered businesses, we found that only 30% of them were actually unregistered. The remaining 70% were registered but not categorized as restaurants.

3.2 Market Segmentation

Categorizing the restaurant market into distinct groups was useful for both the purposes of the Office of Business Development and the scope of our project. The results of the categorized restaurant market will be a useful product for the OBD in its future restaurant-related projects. In addition, with the time constraint of seven weeks, segmentation narrowed the restaurant population and allowed us to evaluate the permitting process experiences of a smaller group of restaurateurs in a particular segment.

To perform market segmentation on the master database, we used AnswerTree, a segmentation software from IBM SSPS. AnswerTree performs CHAID analysis, which “detects interaction between a dependant variable and independent variables in a data set and establishes relationships between them” and presents these results in the form of a decision

tree (ICM Research, 2009). The segments in this decision tree are “maximally different from one another on the dependent variable” (The Measurement Group, 2005). We selected the *jobs* information field of the database as the dependent variable, to reflect the mission of the OBD to support job generation.

Of the remaining 71 fields, the software selected four segmentation variables that would result in the creation of distinct segments. The four variables were: *year established*, *annual sales*, *square footage*, and *single location or branch*. Ultimately, AnswerTree segmented the database on all variables except for *year established*; the most statistically significant segments came from the other three variables.

The variables selected by AnswerTree were meaningful; hence, we found them effective for segmentation. The *annual sales* variable was effective because the OBD is interested in restaurant segments that generate high sales. We also considered *square footage* to be an effective variable because of the zoning permits involved. Finally, whether a restaurant is a *single location* or a *branch* was useful because restaurateurs’ experiences with the permitting process may have differed with either type of restaurant. For example, a single location restaurant is likely to be a small business, and the restaurateur may not have much experience with the process. On the other hand, it is safe to assume a branch restaurant is franchised; thus, the corporation has already experienced the permitting process. The majority of the other variables in the database such as latitude, longitude, phone number, and owner information were not meaningful for the purposes of market segmentation.

It should be noted that all of the variables used for segmentation are found in the ABI database. The ABI listing contained information on only 62% of the restaurants in the master database, so the segmentation omits a significant number of restaurants. If the remaining 38% of restaurants not listed in the ABI database share common characteristics, the outcome of the segmentation might have been considerably different. The segment map shown in Figure 5 shows the four segments.

SALES (in thousands \$ annually)				
		0 – 500	500+	
SQUARE FOOTAGE			Single Location	Branch
		0 – 2,499 ft.	Small Size, Low Sales 466 Jobs Mean: 3 Sales Mean: 138	Single Location, High Sales 256 Jobs Mean: 40 Sales Mean: 1,673
2,500 – 9,999 ft.	Large Size, Low Sales 462 Jobs Mean: 11 Sales Mean: 447			

Figure 5: Segment map of Boston’s restaurant market

For the purposes of analyzing the permitting process for a specific group of restaurants, we targeted the Single Location, High Sales segment for the following reasons:

1. This segment is important to Boston’s economy because its restaurants have a high average number of employees and generate over \$500,000 annually.
2. We targeted the single location restaurants over branch restaurants because we assumed that restaurant chains are generally owned by corporations. The goal of the OBD is to provide assistance to small businesses; therefore, we chose single locations.
3. There were a significant number of restaurants in this segment (256) from which we could choose a sample restaurant population.

Once we selected a segment, we searched all of the restaurants’ listings on *yelp.com* to acquire additional data fields about them and prepare to choose a sample population. These additional fields were *alcohol service*, *outdoor seating*, and *year established*.

3.3 Characterization of the Current Permitting Process

In this section, we discuss two subsequent methods that we used to characterize the permitting process for restaurants in the Single Location, High Sales segment. First, we selected a sample population of restaurants to focus our study on, since performing analysis on the entire segment would be outside the scope and timeframe of this project. Secondly, we sought and analyzed archived data specific to the restaurants in this population to obtain information about their specific permitting process chronologies and fees.

3.3.1 Selecting a Sample Population of Restaurants for Study

We selected a sample of restaurants from the 256 listed in our segment by identifying those with similar characteristics in the following areas:

- **Alcohol Service:** We chose restaurants that serve alcoholic beverages in order to examine how liquor licensing affects the permitting process. We selected those that possess different types of liquor licenses, such as licenses for wine, beer, and hard liquor.
- **Outdoor Seating:** Restaurants with outdoor seating must obtain a *Use of Premises* permit, so we selected such restaurants to include this component of the permitting process.
- **Year Established:** We selected restaurants that completed their permitting processes in the last ten years. Within this timeframe, we did not expect elements of the permitting process to have changed significantly. Experiences that reflect any such changes would skew our research.

Approximately one-third of the segment's restaurants shared all three of the aforementioned attributes. In order to further narrow our sample population, we chose the 10 restaurants that opened most recently, between 2000 and 2008. This helped guarantee that these restaurateurs experienced the most recent permitting process. These restaurants were included in the ABI database, which was last updated in 2008. We also chose a sample of six restaurants from the website *hiddenboston.com* that were opened within the last two years; they also offered both alcohol service and outdoor seating but did not fall within our segment. We chose these particular restaurants to include study of the permitting process as a control to monitor whether changes over time could have caused the ten initial restaurants to navigate the process differently.

3.3.2 Archival Research for the Sample Population

We used a variety of archived data sources to characterize the current permitting process for the sample of 16 restaurants. The City of Boston’s *Small Business Resource Guide of Regulatory and Licensing Requirements* provided us with a general list of steps and priorities for obtaining required city licenses and complying with city regulations. From this list, we determined which city departments were necessary to visit. We visited these departments to obtain each restaurant’s permit and license applications, from which we recorded timestamps and required fees. The timestamps provided information about the dates of each transaction, such as submission and approval dates, and the fee statements offered information regarding the required fees for each stage of the application process. Ultimately, we obtained 10 applications, listed in Table 2.

Table 2: Permits and licenses by department

<u>DEPARTMENT</u>	<u>PERMIT/LICENSE</u>
Office of the City Clerk	Business Certificate (DBA)
Licensing Board	Common Victualler License Alcoholic Beverage License
Mayor’s Office of Consumer Affairs and Licensing	Entertainment License
Boston Fire Department	Inspection Certificate Assembly Permit
Inspectional Services Department	
Building Division	Long Form Short Form
Health Division	Health Inspection
Environmental Services	Site Cleanliness Permit

In addition to researching these applications, we referenced the *Alcoholic Beverages Control Commission (A.B.C.C.) Massachusetts Blue Book* for further information about alcohol licensing, such as application deadlines, licensing procedure details and a matrix of transactions and necessary documents.

3.4 Analysis of Data Pertaining to the Permitting Process

Through analysis of the data we collected from the departments listed in Table 2 we determined the approximate *process time* (the time it takes the restaurateur to navigate the entire process), *cycle time* (the individual time it takes for each application to be processed), the chronological order in which the required applications were filed, and the fees involved. We displayed the data in a Gantt chart and analyzed the data with the following questions in mind:

- How uniform or non-uniform is the process chronology? Is any particular chronology more efficient than another?
- Are there any similarities in cycle times for specific permits?
- Is the variability in processing time due to a single permit or multiple permits?
- Do specific permits account for the majority of the total permitting fees for a restaurant?

For the sample of 16 restaurants we determined both the minimum and maximum values for the total processing time, cycle time, and fees. In addition, we calculated the mean and standard deviation for each of those variables. Comparing these values from the user experiences that took the least amount of time with those that took the longest, we identified a logical chronology of application submission for restaurants in our segment.

3.5 Recommend Improvements

Based on our work creating the master database of Boston restaurants, performing market segmentation and analyzing permitting process chronologies, we sought to make recommendations in the following areas:

- Next steps for development of the master restaurant database
- Opportunities for additional characterization of restaurant segments
- Next steps for studying and improving Boston's restaurant permitting process

We submitted recommendations based on these ideas to the Office of Business Development to aid them in future restaurant initiatives and help them improve the efficiency of Boston's restaurant permitting process.

4. Findings

In this chapter, we discuss our analysis of restaurant market segments and the current permitting process. First, we present profiles describing the four segments of Boston's restaurant market. We also present findings regarding the permitting process for a sample of restaurants in the Single Location, High Sales segment; we include discussions about process time, application prioritization, departmental roles, and fees involved with the process.

4.1 Restaurant Segment Profiles

In this section, we present profiles of the four restaurant segments to further characterize each one. We identify differences in restaurant owner ethnicity, geographic location, and the age of the restaurants in various segments. We identify segments that could potentially be the target for future restaurant-related projects and also present a more detailed profile about the segment we targeted for permitting process analysis.

Figures 6 and 7 (p. 25) show the distribution of owner ethnicities and restaurant locations in each of the four restaurant segments. These fields of information are from the ABI database, and for the purposes of analysis we created some larger groupings in the following ways:

- **Ethnicity:** English fluency may influence restaurateurs' experience with the permitting process and their overall business success. None of the databases have information on owner's native language, but the ABI database has an *ethnicity* field with 11 different ethnicities. Complete ethnicity distributions in the four restaurant segments are shown in Appendix 7.4. However, since U.S./American or "white" is not one of the ethnicities, it is likely that the business owners report their ancestry rather than their actual ethnicity. For the purpose of further analyzing the ethnical distribution, we grouped the British and Irish ethnicities together as 'English and Irish'. It is likely that all restaurateurs who comprise this group are native English speakers. All the other ethnicities, such as Korean, Chinese, Greek, etc., were grouped together as 'Other ethnicities'. This group is likely to include more non-native English speakers. We should note that the ABI listings include only 62% of Boston's restaurants. Furthermore, within the ABI listings, only 43% of ethnicity fields were complete. Therefore, many Boston restaurants are not included in this ethnicity analysis.
- **Neighborhoods:** Back Bay, North End, Waterfront and Central were categorized as 'Downtown Boston'. The remaining neighborhoods (e.g., Roslindale, Roxbury, Allston/Brighton, etc.) were grouped together as 'Neighborhoods.'

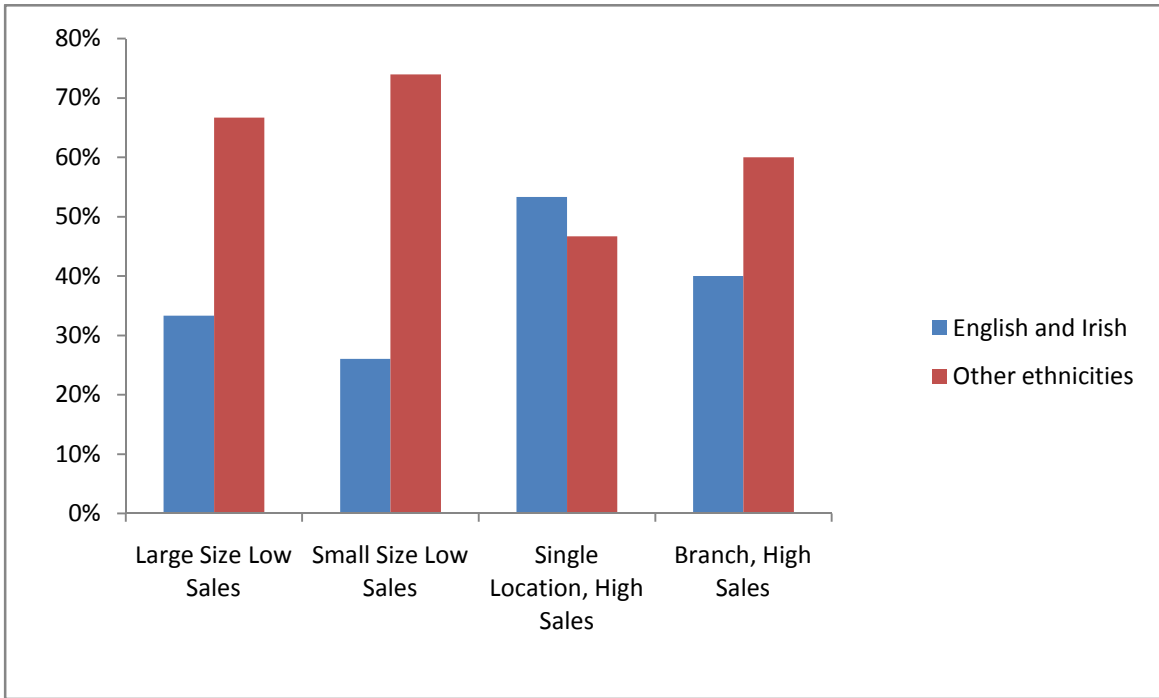


Figure 6: Percentage of owner ethnicities by segment

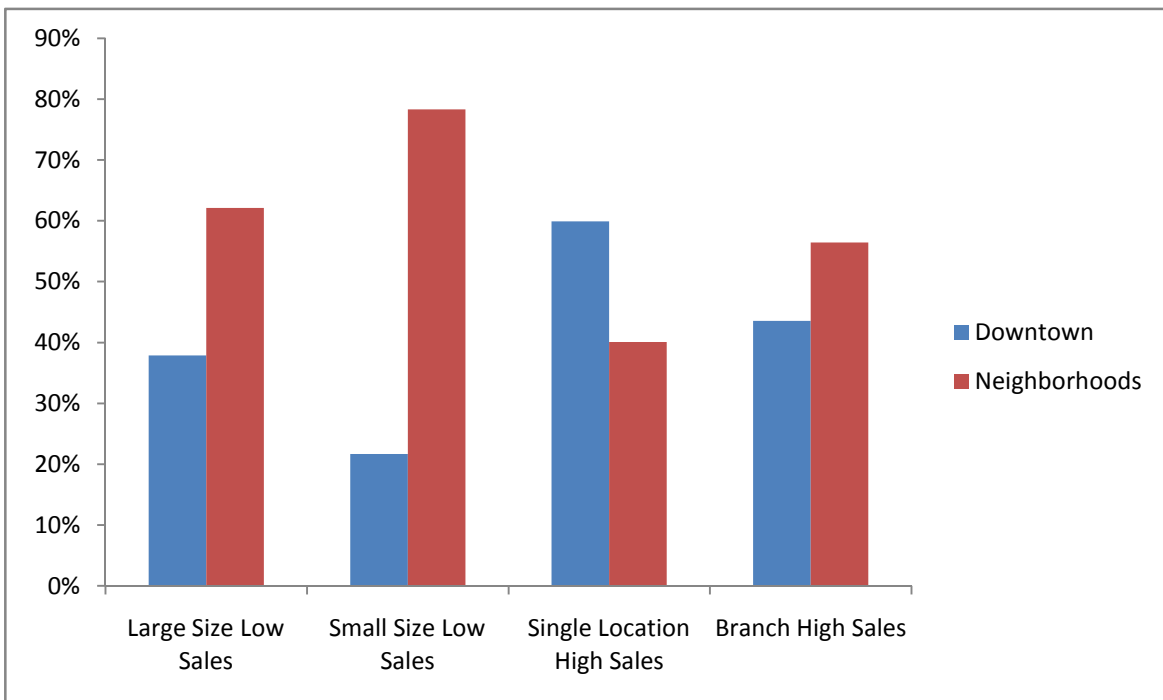


Figure 7: Distribution of restaurants in downtown Boston vs. surrounding neighborhoods by segment

Small Size, Low Sales

As seen in Figure 6, approximately three-fourths of the restaurants in the Small Size, Low Sales segment report an ethnicity that may not have English as its primary language. Thus, language barriers might be common for restaurateurs in this segment. These possible language barriers could affect their experience with the permitting process, their communication with the patrons of the restaurant, and the sales of the restaurants in the long run. However, since it is unknown what question was asked to record the restaurateurs' ethnicity, there may be other explanations for the majority of these ethnicities falling in the Small Size, Low Sales segment.

Figure 7 shows that a majority of the restaurants in the Small Size, Low Sales segment are located in the outskirts of Boston. Appendix 7.5 shows that a majority of the restaurants in Hyde Park, Jamaica Plain, Mattapan, Roxbury and West Roxbury are smaller restaurants and generate less than \$500,000 in revenue annually.

Large Size, Low Sales

The large number of recently-opened restaurants in the Large Size, Low Sales segment raises a concern for the city's restaurant sector. Figure 8 shows the distribution in year of opening for restaurants in each segment. One can see that three of the segments include a relative uniform distribution of long-established and recently-opened restaurants. However, the Large Size, Low Sales segment is dominated by the new restaurants opened since 2002. This means that a lot of newer restaurants have higher square footage and do not generate a lot of sales. Larger restaurants generally require higher operating costs, and with low revenue, they may struggle to stay in business. The large number of newer restaurants falling under the Large Size, Low Sales segment can be interpreted in two possible ways:

1. It is possible that in the past, a lot of Large Size, Low Sales restaurants were opened. However, since they were larger in size and did not generate a lot of sales, they were closed down.
2. It is also possible that is a new phenomenon that has emerged among the new restaurants in Boston. Restaurateurs in Boston are opening larger size restaurants; however, they are not generating a lot of sales.

In both cases, these large restaurants may close down if they fail to generate higher sales. This would be harmful for Boston's restaurant sector. It is possible that programs and services could be targeted at the restaurants in this segment to increase their likelihood of success.

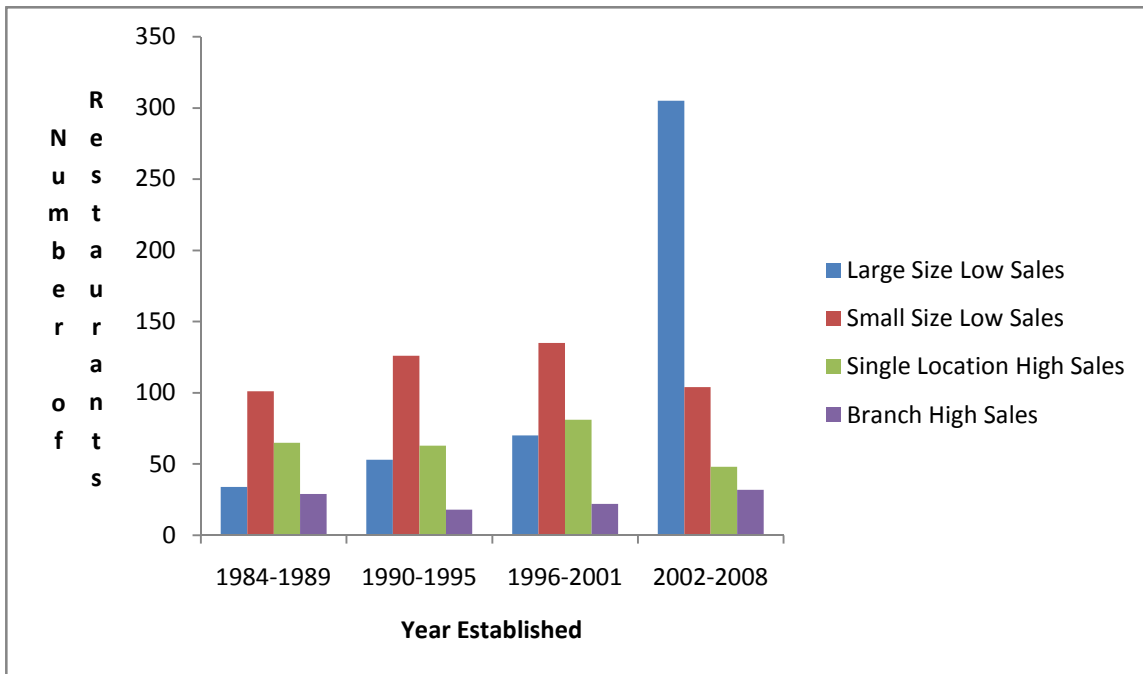


Figure 8: Number of restaurants per year, sorted by segment

Branch Location, High Sales

Our analysis showed that there are fewer franchised restaurants with high sales than single location restaurants with high sales. The franchise locations are spread out evenly through the neighborhoods of Boston. It is surprising to note that the highest percentage of franchise restaurateurs reported French ethnicity (30%). Due to the low number of restaurants within this segment, we did not discover any other significant findings.

Single Location, High Sales

Figure 6 shows that the majority of restaurateurs in this segment reported English or Irish ethnicities and thus we assumed to be native English speakers. It is evident from Figure 7 that this segment is flourishing the most in downtown Boston. This segment is dominated by well-established restaurants that opened between the years of 1984-2001; the restaurants that opened since 2002 comprise the smallest portion of the Single Location, High Sales segment.

We gathered additional data on the restaurants in this segment in order to further characterize the segment. Additional data fields such as *alcohol service*, *outdoor seating* and *price range* were gathered from *yelp.com*. The majority of restaurants in this segment have an average menu price between 11 and 30 dollars (per person). Alcohol service offered has a significant impact on the sales of a restaurant as more than 85% of the restaurants in this high sales segment serve alcohol.

After analyzing the neighborhood distribution, alcohol service and outdoor seating of restaurants in this segment, we concluded that the single location restaurants generating high sales are crucial contributors to the City's economy. The majority of these restaurants are located in Back Bay and Central Boston, provides outdoor seating, and serves alcohol.

4.2 Permitting Chronology for Twelve Restaurants in Boston

In this section, we present the permitting process chronologies for a sample of restaurants in the Single Location, High Sales segment. The names and locations of restaurants in the sample are shown in Figure 9.

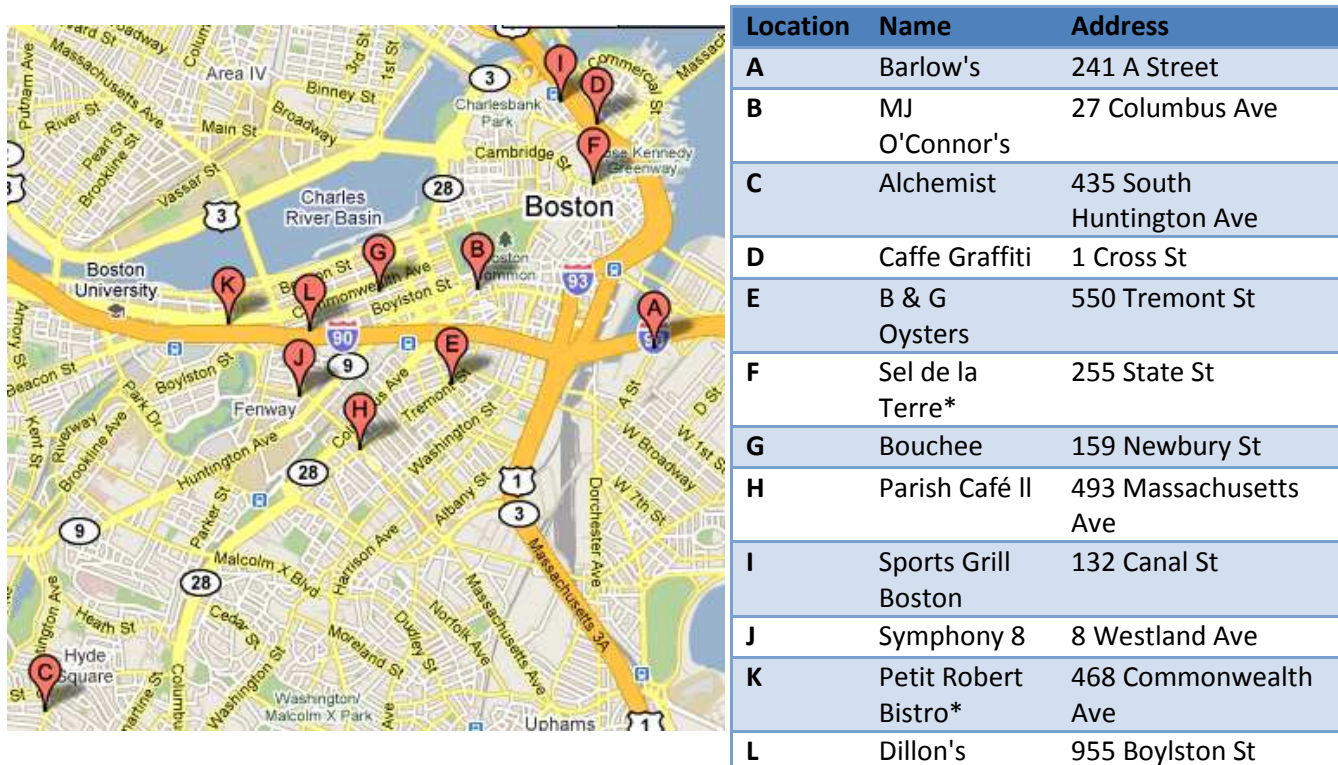


Figure 9: The 12 restaurants analyzed for permitting process chronology (*these restaurants now have more than one location in Boston, despite being categorized as 'single locations' restaurants. this may be due to the fact that the ABI data was last updated in 2008 and the new locations have opened since then)

Although the original sample population consisted of 16 restaurants, we chose to eliminate four as they were extreme outliers in the segment. Three of these restaurants had changed names several times, but the owners and restaurants remained the same; as a result,

From the cycle times, we determined a start and end date for each of the restaurants and calculated the process time. In Tables 3 and 4, we show the minimum, maximum, mean and standard deviation for the process time and cycle time, as well as the costs involved. As summarized in Table 3, we concluded the following about cycle and process time:

- In this sample, it took restaurateurs an average of 347 days to successfully open a restaurant. The process time ranged from 83 to 806 days, with a standard deviation of 224 days.
- The most complex step in the process was obtaining an Alcohol License, taking 98 days on average to get approval. The time it takes to obtain an Alcohol License depends on numerous factors, such as the need for a hearing with two weeks public notice along with approval from both the City and the Commonwealth. More details about the distribution in cycle times for Alcohol Licenses are shown in Figure 11. Figure 11 shows that three restaurants had Alcohol License cycle times greater than 123 days. The remainder ranged from 28 to 98 days. Thus, the mean is strongly influenced by those three outliers.

Table 3: Statistics for the permitting process and cycle times for 12 Boston restaurants

	Cycle Time (Days)				
	Process Time	Long Form	Alcohol License	Entertainment	Health Inspection
Minimum	83	24	28	1	2
Maximum	806	356	272	71	389
Mean	347	132	98	18	106
Standard Deviation	224	131	77	26	142
Restaurants with Data	12	7	10	12	12

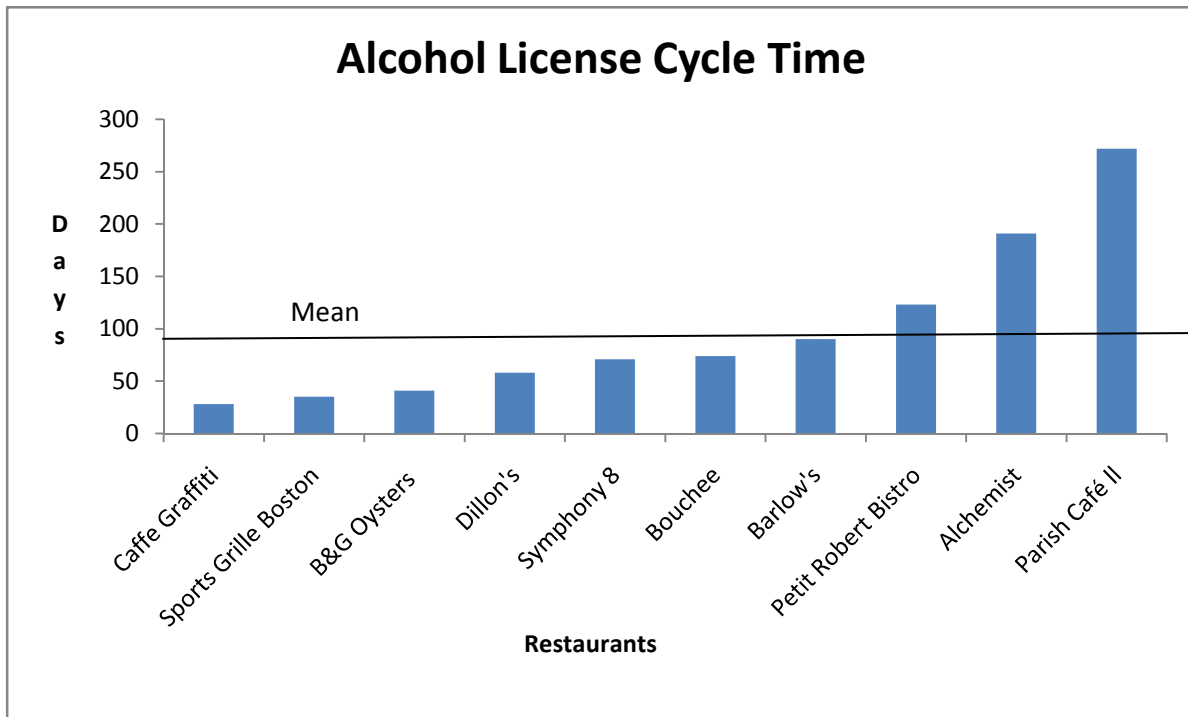


Figure 11: Alcohol License cycle times for the 10 restaurants in the Single Location, High Sales segment

As summarized in Table 4, we concluded the following about permitting application fees:

- Application fee totals ranged from \$865 to \$4,583, costing on average \$2,304 with a standard deviation of \$1,473. These fees do not account for money spent on renovations and purchasing an Alcohol License.
- Some fees are based on specific factors such as capacity and will naturally vary between restaurants. For instance, the Long Form has a sliding scale of \$10 per every expected \$1000 of renovations, and the health inspection fee varies for the services offered, such as frozen desserts, take-out, and dairy products.

Table 4: Statistics for the permitting application costs for 12 Boston restaurants

Cost (Dollars)						
	Total	Long Form	Alcohol License	Entertainment	Health Inspection	DBA
Minimum	865	50	370	80	140	50
Maximum	4,583	3,750	470	1,000	350	50
Mean	2,304	2,129	460	336	221	50
Standard Deviation	1,473	1,574	30	382	69	0
Restaurants with Data	12	7	11	12	11	12

From analyzing the cycle time and determining the process time we were able to identify a logical chronology of permits for restaurants in our segment. We did this by comparing the experiences of restaurateurs with the shortest process time to those with the longest and identifying similarities and differences that could account for the variance in completion time.

Shortest

- If a Long or Short Form was needed (only required if renovations are to be made) it was the first application submitted; if not, the Alcohol License was the first one. The Alcohol License needed proof of assembly permit and inspection from the fire commissioner by date of hearing. As we do not have the exact dates for a majority of the assembly permits and inspections we cannot say directly when in the process they fall. The assembly permit and the inspection can be completed simultaneously with the Alcohol License application; however, the assembly permit and the inspection must be completed before the Alcohol License hearing.
- The cycle time for a live entertainment license took up to 2.5 months; thus, it is more logical to apply for the license earlier in the process. However, a non-live entertainment license generally required only two days to receive approval and was completed towards the end of the process.
- The health inspection and site cleanliness permit (only needed if a dumpster is to be on the premises) were requested at the end of the process.

Longest

- The restaurant with the longest process time applied for the Alcohol License first (needing proof of assembly permit and inspection by the fire commissioner by date of hearing) then later in the process applied for the Long Form; as a result they had to renew their Alcohol License prior to opening, therefore increasing the process time and paying more fees.
- Two restaurants requested a health inspection prior to approval of their Long Form; as a result their health inspection cycle time was prolonged due to the fact that an establishment will not be approved until after construction is completed.

Based on these observations we concluded that a logical and efficient pathway to navigate the permitting process is the pathway shown in Figure 12. Since both the Long Form and Alcohol License are the most time consuming permits, it is a good idea to apply for them simultaneously. After approval of the Long Form and completed renovations, the applicant should request a health inspection and a site cleanliness permit. Not shown in this example is when in the process the restaurateur should apply for their entertainment license. If an applicant is applying for a non-live entertainment license, they can apply for it at the end of the process as it will take around two days; however, for live entertainment, they should apply for it earlier on in the process as it may take approximately two months.

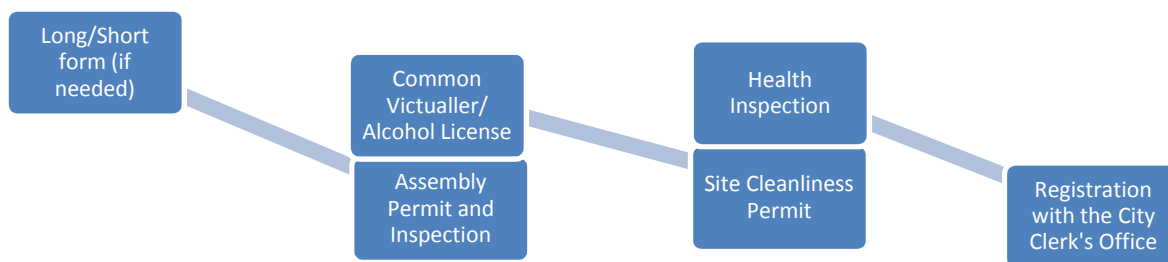


Figure 12: A logical pathway for restaurants in the Single Location, High Sales segment (double rectangle indicates can happen simultaneously)

As a result of the complexity of the current permitting process and the lack of guidance or a suggested pathway to follow, restaurateurs may struggle to navigate the process. This may be particularly true for first time users who are unfamiliar with the system. For example, the Lansdowne Pub was a restaurant in our segment that had closed for renovations. Upon re-

opening, they were able to quickly complete the process due to their prior experience. Providing restaurateurs with more information in regards to the range of fees, permits required, logical chronology of permit application, and processing time will make the process more transparent and easier to navigate.

5. Recommendations

In this section, we will present our recommendations to the Office of Business Development. First, we recommend ways to improve data management for the master database and its constituent databases. Secondly, we recommend that all permit applications should be available online. Our third recommendation highlights ways to contact restaurateurs earlier in the process and our final recommendation is to create a *Required Permits Form*.

5.1 Improve Data Management

- **We recommend that the master database of Boston’s restaurants should be updated when the 2010 ABI and Assessing data is released.** The master database of restaurants is the most comprehensive listing of restaurants in the City of Boston. This listing was imperative to the completion of the project; however, two of the constituent databases of the master database, ABI and Assessing, were last updated in 2008. Since these databases are updated biannually, the master database will be more useful in the future if it is updated with the 2010 data. For a long-term recommendation, we suggest updating the master database every two years since the ABI data contains the most useful information out of the four constituent databases.
- **We also recommend integrating the master database of restaurants with the *Salesforce* cloud database.** The Office of Business Development is currently working on implementing *Salesforce*, a type of cloud database that would be made available to all the city offices in efforts to be a single source of all the information relative to businesses in Boston. The existing master database of restaurants could be used as the starting point for the restaurant portion of the *Salesforce* database.
- **We suggest providing the ABI with a list of restaurants in the master database that were not listed in the 2008 ABI database.** The ABI database contains the most valuable fields of information in the master database; however, only 62% of the restaurants in the master database were listed in the ABI database. Providing the ABI with a listing of restaurants that comprise the remaining 38% will help fill the missing information for those records.
- **We recommend that the Office of Business Development work towards the collection of more restaurant data for the purposes of better analyzing the permitting process.** In terms of future research for analyzing the permitting process for restaurants, there

are a few variables that could be extremely helpful for analysis because they directly relate to the permitting process:

- Alcohol Service
- Number of restaurants owned
- Primary language of restaurateur
- Permits obtained by the restaurant

Since obtaining the Alcohol License is the most complex step in the permitting process, having information about which restaurants serve alcohol would be helpful to target a specific group of restaurants for analysis. Information about the number of restaurants owned can help the OBD distinguish first-time restaurateurs from the experienced ones. The primary language of the restaurateur can help the OBD recognize whether there is a language barrier or not. A list of permits obtained by each restaurant in the database can be obtained from the different departments in the City of Boston. The OBD believes that obtaining these fields of information from other departments is feasible.

- **We suggest providing the City Clerk's Office with a listing of unregistered businesses.** Approximately 30% of the restaurants in the master database are not registered with the City Clerk's office. Every unregistered business in Boston is subject to a fine of \$300 per month. This will not only generate money for the City but also help to better enforce business registration.

5.2 Make Permits Available Online

- **We recommend that all the permit applications be made available online.** After searching for the different permits available from the City of Boston, we concluded that these permits may be troublesome to acquire since they are located at different offices throughout the city. In order to address this problem, we recommend that *all forms be made available for online viewing*. Recently, the Inspectional Services Department has made the switch from paper to electronic forms and we suggest that other departments involved in the permitting process follow suit. Each form that is not available online could be scanned to create a downloadable version. With all forms available online for viewing and completion, a restaurateur will be able to access forms from a single location and print the necessary documents without having to travel throughout the city to pick up a paper copy. In addition to accessibility, a restaurateur would be able to copy and paste information for fields found in multiple forms, essentially reducing redundant paperwork.

- **In addition, we recommend that each online form is accompanied with contextual information such as prerequisites, fees, and timelines.** This would allow a restaurateur to have an understanding of the starting point of the process and the costs involved. Ideally, if the forms are located in one location, they could also be standardized in order to eliminate overlapping information and redundancies.

5.3 Contact Restaurateurs Earlier in the Process

The Office of Business Development would like to reach out to all prospective restaurateurs as they are beginning the restaurant permitting process; specifically, the OBD wants to help those who have little to no experience attempting to open a restaurant. **One way to reach first time restaurateurs effectively would be to contact them early on in the process.** As 10 out of the 12 applicants applied for either their Alcohol License or Long Form first, this would be a good stage to reach them at. Through cross-departmental negotiations, it may be possible for the Inspectional Services Department and Licensing Board to send the OBD a weekly feed listing the restaurateurs who submitted either application. This way, the OBD could contact the restaurateurs and offer them assistance with the process.

5.4 Create a *Required Permits Form*

Since there is no central source of information for permits, the restaurateurs are often unaware of the permits that are required. **The OBD can help the restaurateurs obtain information about what permits are required based on the services offered by the restaurant by creating a *Required Permits Form*.** Restaurateurs seeking assistance with what permits to apply for can fill out this form and the OBD can provide helpful information to the restaurateurs. The form will consist of fields such as the name of restaurant, location, and primary contact person's information. These fields will be followed by a checklist of the services that are offered by restaurants such as *alcohol, entertainment, outdoor seating, fireplace, pool table*, etc. The restaurateurs will be able to check the services that will be offered by their restaurant. The OBD will respond to the restaurateurs with information about the permits that will be required, where to obtain them from, and how much they will cost. A sample draft of the *Required Permits Form* is shown in Appendix 7.7.

Our deliverables and recommendations to the Office of Business Development will not only be useful for the purpose of our project, but also in its future restaurant related projects. We are hopeful that our project can help contribute in some way to Boston's vibrant and diverse restaurant scene and aid the OBD's mission to stimulate the economy through job growth.

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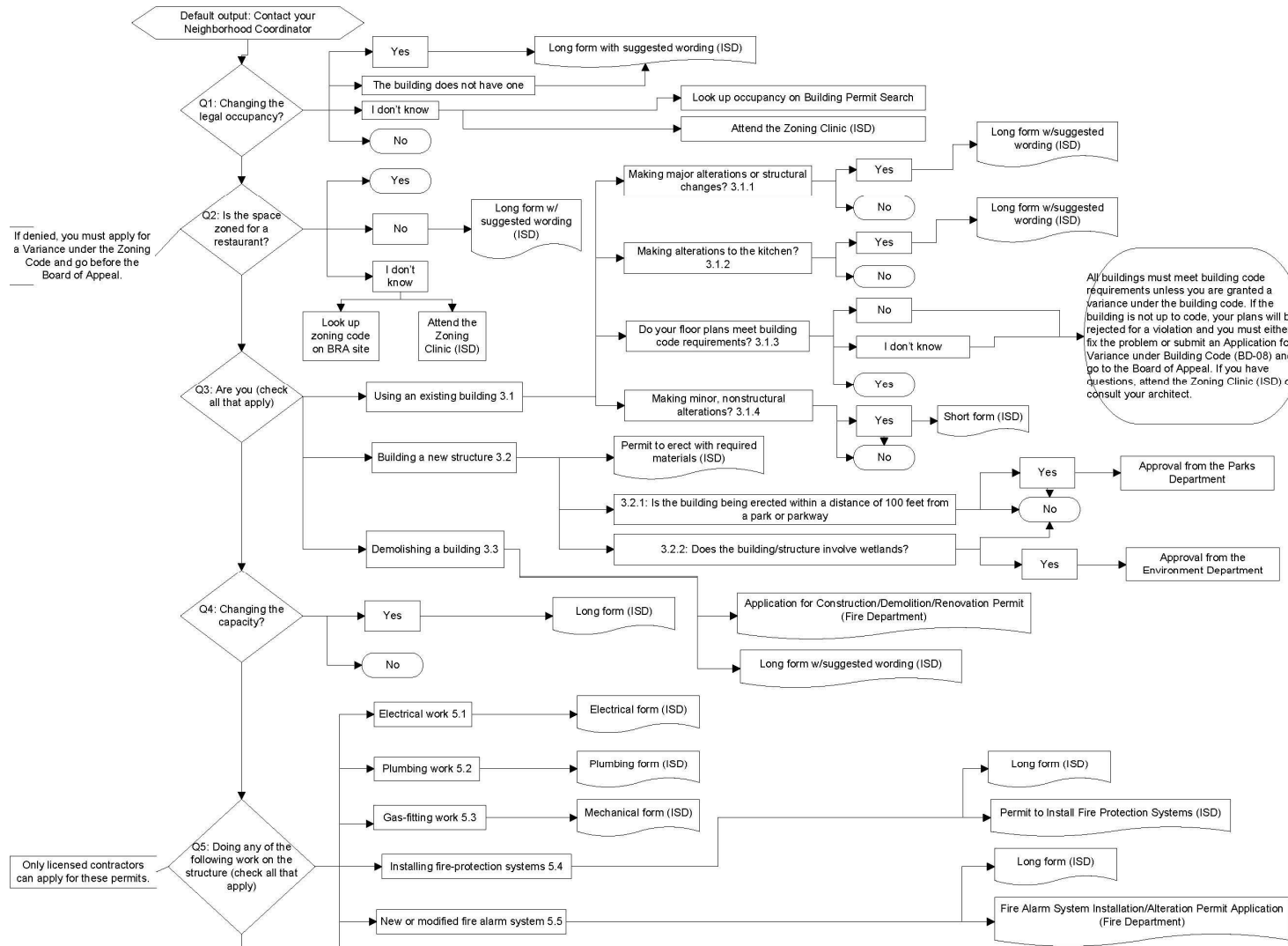
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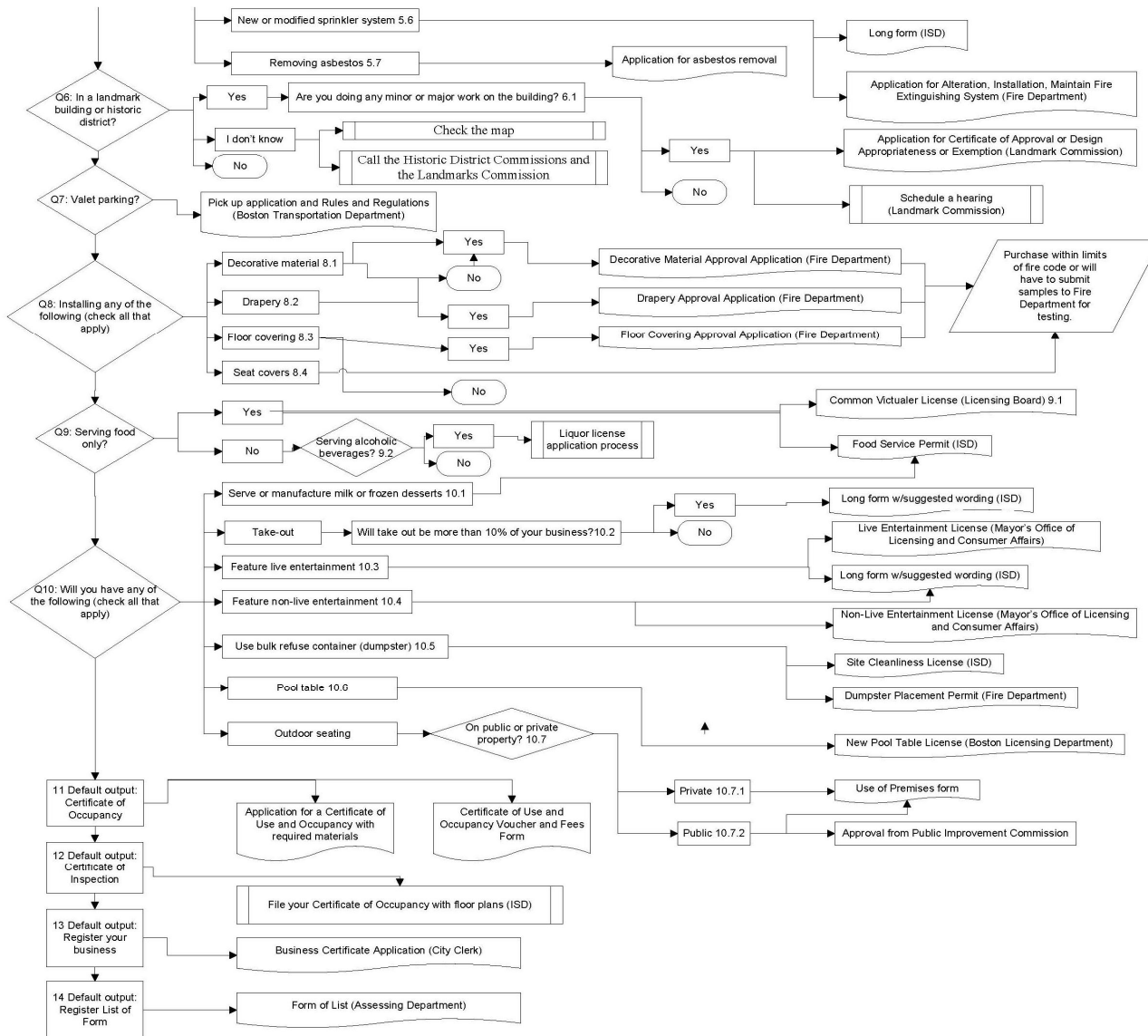
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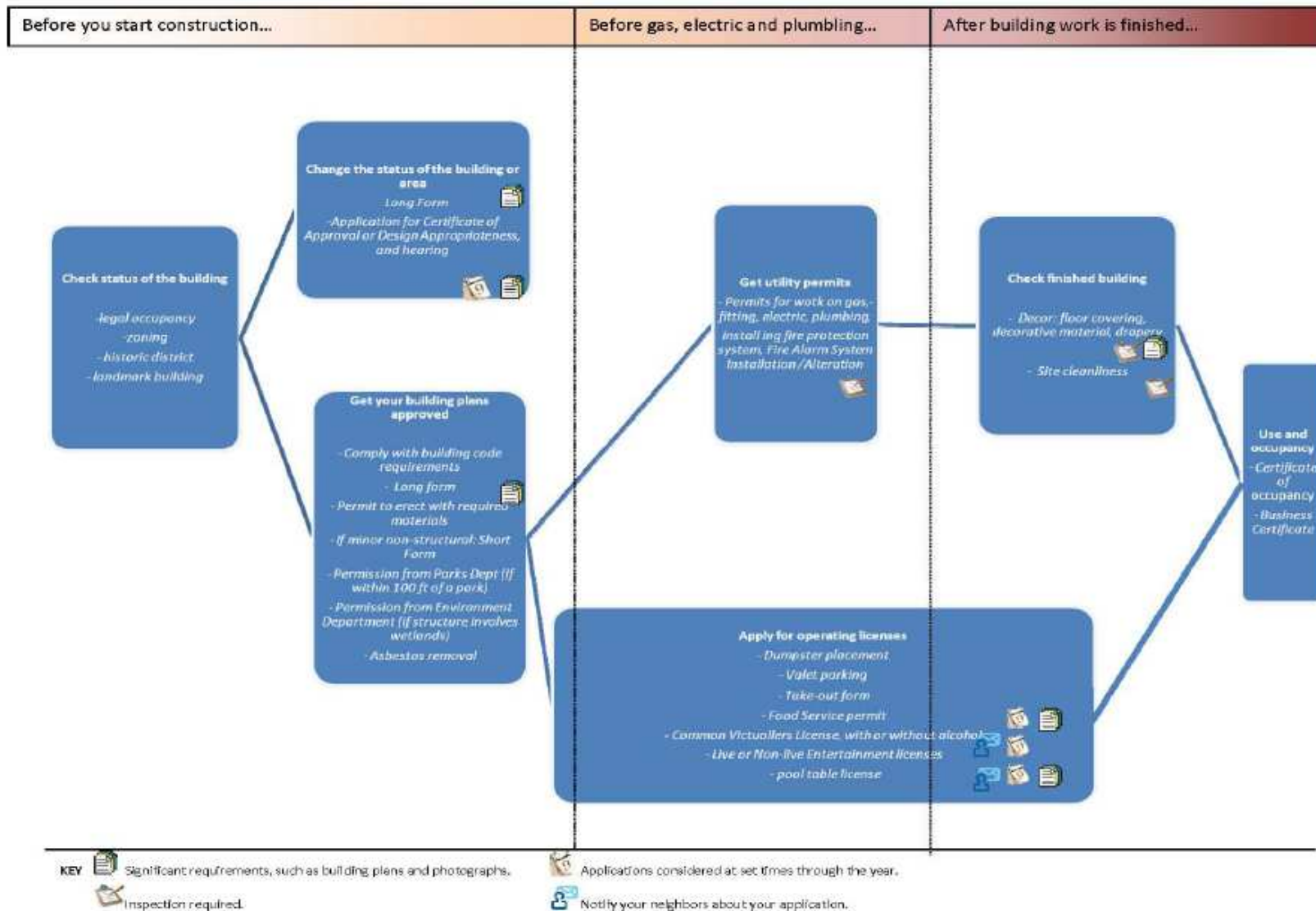
7. Appendices

7.1: Current Boston Permitting Process Map from Harvard Study





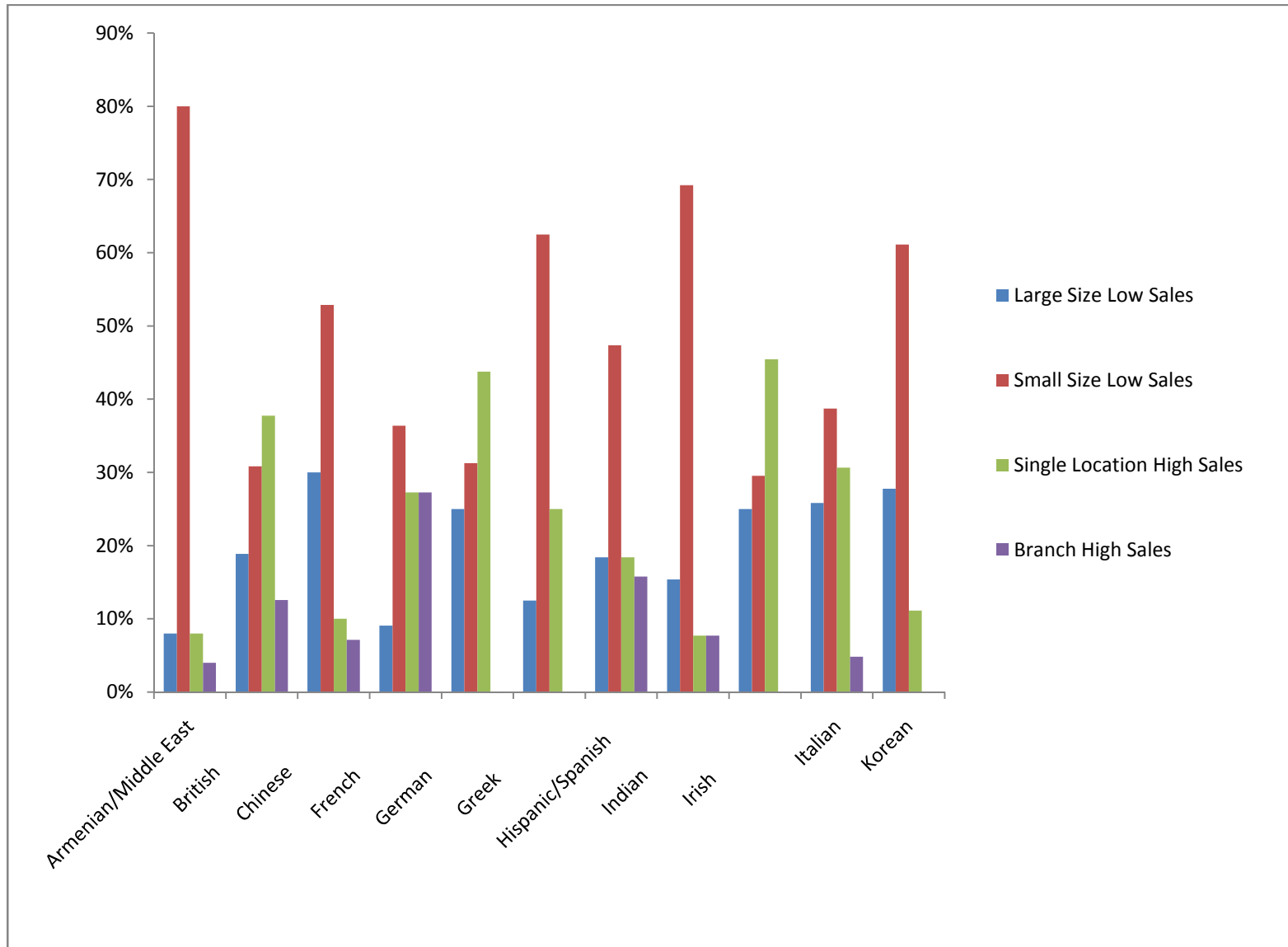
7.2: Customer Journey Map from Harvard Study



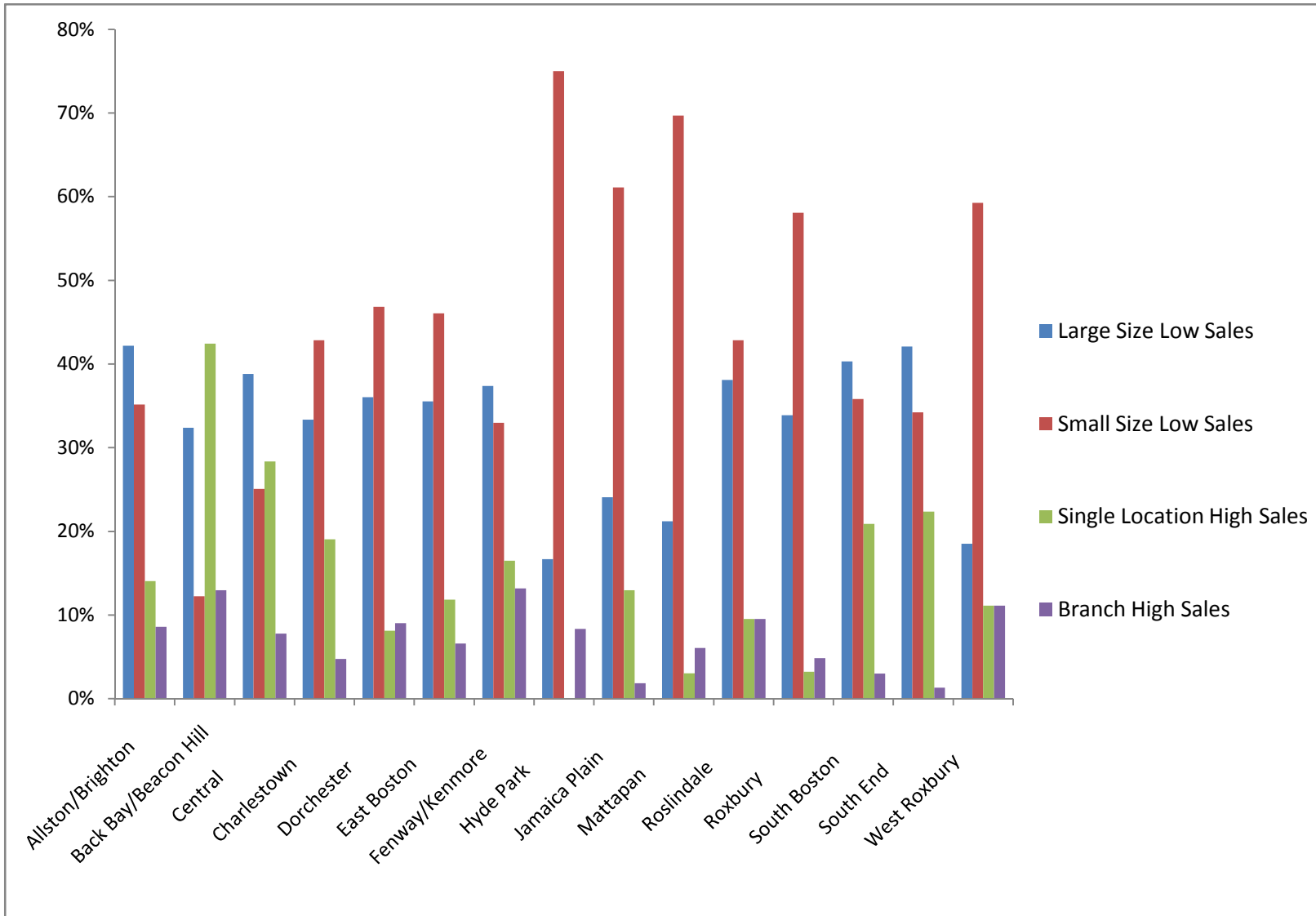
7.3: Database Variable Examples

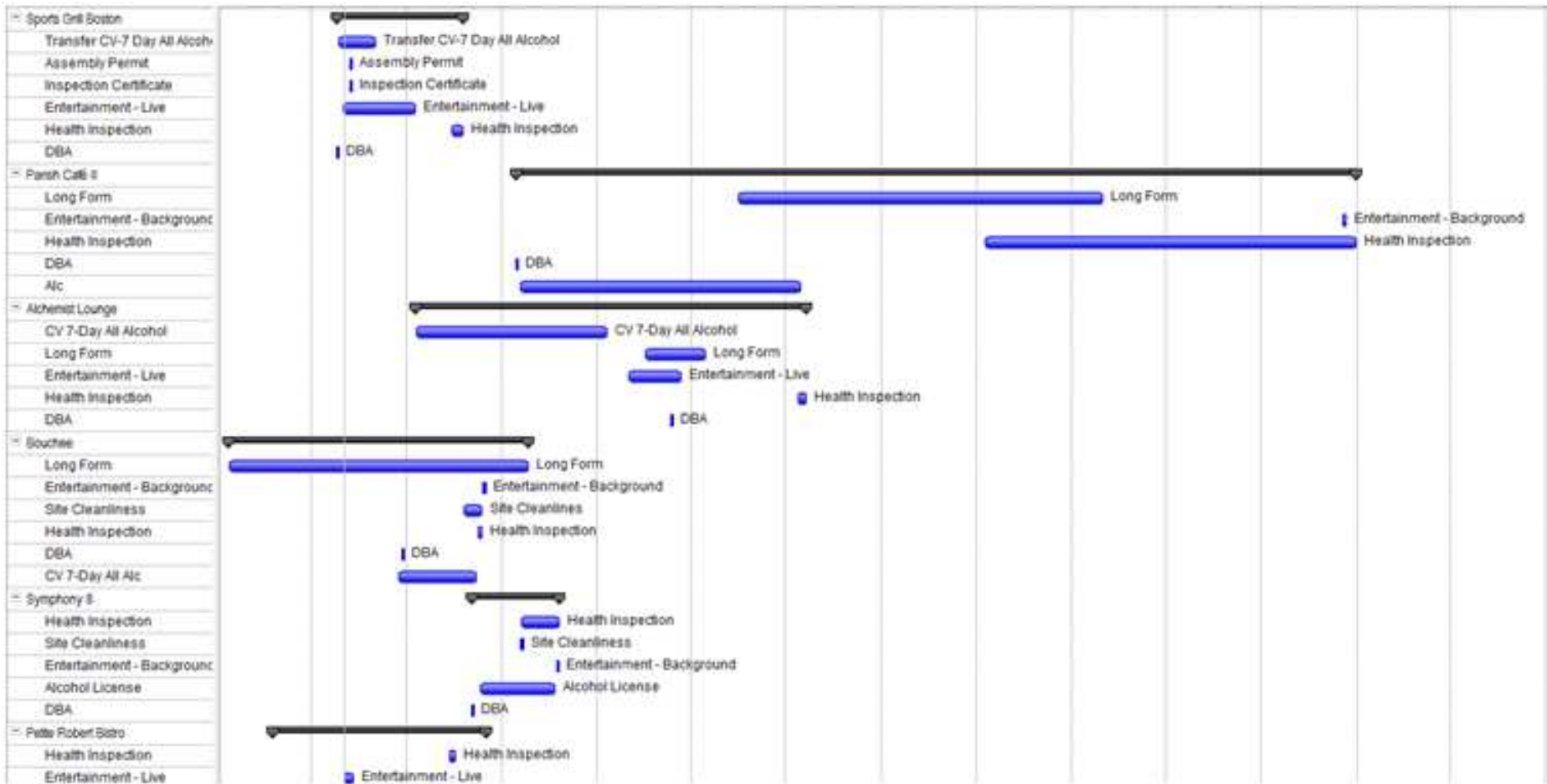
Claritas	DBA	ABI	Assessing
Name	Zipcodes	COMPANY	PID
Address	Business (DBA) Name	ADDRESS	CM_ID
	File Date	NEIGHD	ST_NUM
	Type of Business, Etc.	ZIP9	ST_NAME
	Business Address	PLACE	ST_NAME_SU
	File Number	NAICS_CODE	UNIT_NUM
	Owner(s) Name and Address	NAICS_DESC	ZIPCODE
	Additional Owner(s) Info, Etc.	SIC_CODE	PTYPE
		SIC_DESC	LU
		JOBS	EXEMPT_COD
		LOCALSALES	OWN_OCC
		NAME1	OWNER
		PHONE	MAIL_ADDRE
		FAX	MAIL_CITY
		PHONE800	MAIL_ZIP
		HQ_BRANCH	LANDVAL
		WK_AT_HOME	BLDGVAL
		OWN_LEASE	TOTALVAL
		SQ_FT_CD	GROSS_TAX
		SQ_FEET	LEGAL_AREA
		NUMBIZHERE	YR_BUILT
		ABI_ID	YR_REMOD
		BARCD12	GROSS_AREA
		LPID	LIVING_ARE

7.4: Ethnicity Distribution by Segment



7.5: Neighborhood Distribution by Segment





7.7: Required Permits Form

City of Boston
Office of Business Development

Required Permits Form

**** SAMPLE DRAFT ****

Name of Restaurant: _____ Address: _____

Primary Contact Name: _____ Primary Contact Address: _____

Primary Contact Phone Number: _____

Secondary Contact Phone Number: _____

Please check all the services your restaurant plans on offering:

Alcohol

Beer and Wine only

Full bar

Entertainment

Non-Live (TV, Jukebox, etc)

Live (Live band)

Outdoor Seating

Fireplace

Pool Table

The OBD will respond to the primary contact for the restaurant with information regarding what permits are required, where they can be obtained from and the costs of the permit within 5 business days.

Signature of Primary Contact: _____

Date: _____

Printed Name of Primary Contact: _____

7.8: Teamwork Assessment

We believe that over the past 14 weeks, we have learned a lot about teamwork dynamics especially working well together in a professional environment. Our group was very successful throughout PQP last term; however, upon arriving in Boston, our group struggled to maintain its productivity in the first couple weeks. This may have been attributed due to the change in environment, and the change of the original project goal. Upon our first team assessment, we quickly identified our weaknesses, such as lack of motivation and procrastination, and created action items in order to focus on areas of improvement.

We started by using work hours effectively and working outside the typical 9-5 timeframe. We met frequently to ensure that each group member was staying on task. This also improved the communication between the group members. We made daily agendas and set personal deadlines in order to improve productivity. We also enforced these deadlines to ensure our work was completed in a timely manner.

By week 3, we enforced these action plans and the team was in full-focus mode. We displayed some of our strengths including effective communication with the sponsor and advisors, taking pride in our work, equal distribution of work and actionable response to feedback. We met with Brian daily to discuss the progress of the project and also clarify any points of confusion. We also consulted with the advisors if we needed helpful advice on these issues. We believe we have put in a large amount of effort into this project. It is more than just a requirement for WPI; we hope that this project will have a lasting impact on the City of Boston. The database of restaurant listings we created is the most comprehensive database for restaurants in the City of Boston, which makes us proud of our work.

We are a group of friends, not just group members. On several occasions, we have met outside of work and had non-project related conversations. We know each other on a personal level, and this has helped us be more open and respect each other's opinions. We worked with a positive attitude, and maintained a healthy sense of humor.

Although we completed our project efficiently, we identified a couple areas for improvement that would help each individual in future projects such as MQP. In order to be effective, the individuals must put aside any differences or work to accommodate the different opinions other group members. Although it may be difficult to work diligently from day one, it is crucial that the group works effectively from the start in order to create the most potential for a successful project.