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# Charlton Fire Department Resident Expectations: Survey and Analysis


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# CHARLTON FIRE DEPARTMENT RESIDENT EXPECTATIONS



## **Charlton Fire Department Resident Expectations: Survey and Analysis**

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May 2, 2016  
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### **Abstract**

The Town of Charlton is located in the heart of the Massachusetts with a resident population of just under 14,000 people. The Charlton Fire Department serves the town for needs related to fire fighting, fire prevention, burning permits and inspection services along with emergency medical services. The Department has requested the assistance of the Clark University COPACE Capstone students in creating and conducting survey in order to get a sense of what the resident of the town know about the fire department and to better gauge their expectations about what the department can provide for them. The survey was formulated in conjunction with the Fire Department and was conducted for a two-week period in April 2016. This report seeks to summarize and analyze the survey formulation process, the results of the survey and recommend best practices for the Charlton Fire Department in their resident engagement efforts in the future.

### **Executive Summary**

Our capstone group comprised of two public administration students and two communications students and we were tasked with the responsibility of creating and facilitating a survey on behalf of the town of Charlton Fire Department. We received direction from the fire department to formulate the questions, while we made decisions on how to structure and format the survey using the Qualtrics system. The distribution of the survey was largely the responsibility of the fire department due to the formats we agreed on early in the process. Unfortunately, while we initially expected a paper and a digital version, we were only able to carry out the electronic distribution of the survey due to a last minute decision change made by the client. As a result we collected our survey responses within a two week time frame from being posted initially on the town website and Facebook page. The survey link was then distributed to 1500 students and target audiences in the community on flyers handed out by the client. This replaced our paper copy initiative with the hope that it would increase the response rate. We received some submissions outside of the two-week window for collection but for the analysis purposes of this survey we only analyze the results within the two-week timeframe. Any additional results collected will be forwarded to the Charlton Fire Department for their reference and for their use in the budget requests and in their future initiatives.

In summary, our results were varied and some-what lacking due to various factors that placed constraints on the survey distribution and the collection of the data. We found that the Charlton Fire Department has generally positive feedback in terms of engagement with the respondents however there were some issues with fire inspector portion of the survey responses. It would be more accurate to assess with a wider sample due to the bias that occurs with this small a sample size. The results may be mixed in many sections due to the lack of many

responses and in addition, to the likelihood that some one answered a question or filled out the survey due to an extreme perspective whether positive or negative. In addition, the greatest conclusion that we drew was that there was positive sentiment towards the fire department and that they are considered to be heavily invested and concerned with the community, as reported by the survey respondents based on their interactions with the fire department within the last two years. The survey asked about general information about the fire department to gauge how much they knew about the fire department and the boundaries in which they work. In addition, the survey assessed the resident's experience with emergency services, educational information, service offered by the fire department, the quality of the interaction with the fire department, burning permit processes and inspection services. Each survey topic has its own analysis provided in the report compiled by the group members. In addition we offer out recommendations for the future.

Our recommendations can be summarized as a combination of marketing and branding techniques for the fire department to consider in the future in order elevating their visibility and relationships with their constituents. Further, we suggest methods for improving the survey in the future with commentary on methodology, distribution recommendations, timeline for the survey to be conducted and ways in which they may be able to maximize the kinds of responses they are hoping to get from their community. There are many ways in which the obtaining of this kind of feedback can assist the department in their petition for additional funding in their budget request. However, they can also use that information to make assessments about their relationship with the community and ways in which the department can do better as it relates to things like the scheduling of the fire department inspection services.

### Table of contents

Charlton Fire Department Resident Expectations: .....	1
Executive Summary .....	3
Table of contents .....	5
Background .....	8
Summary of state of research or practice .....	8
Problem Statement .....	9
Purpose of the Capstone Project .....	10
Significance of the Study .....	10
Subsequent Sections.....	11
Chapter 2 Literature Review .....	12
Literature Review Components .....	15
Types of Published Documentation – Academic and Commercial .....	16
Investigation: Theories, Models and Research Studies .....	17
Chapter Three Methods.....	21
Research Design and Approach .....	21
Problem Specification .....	22
Setting and Sample .....	24
Eligibility Criteria .....	24
Execution process .....	25
Analysis .....	26
Chapter Four Results and Reflection .....	28
Research Questions .....	28
Analysis .....	28
Descriptors of Sample.....	50
Salient Issues.....	51
Conclusion .....	51
Chapter 5 Discussion, Summary, Recommendations and Conclusion .....	52
Recommendations for Practice .....	52
Why the study was done. ....	52

How the Study Was Done..... 52

The Interpretation of Findings ..... 53

Recommendations for Action ..... 53

Conclusion ..... 58

References..... 60

Appendices..... 61

Appendix 1 Project data sheet..... 62

Appendix 2 Responsibility Matrix and Project Plan..... 63

## **Section 1**

### **Introduction**

The town of Charlton is a town of just under 14,000 people located in central Massachusetts. Like thousands of other small towns around the United States they have a local board of town selectman and selectwoman who help to make decisions on behalf of the town's residents as it concerns local public services and local public institutions. Local governments and their associated agencies such as the police department, public schools and fire departments have an extremely important role to play in the wellbeing and security of the communities in which they serve. The decisions that are made on the local levels of government are arguably the most essential and impactful on the daily lives of citizens, perhaps more so than any other governing body or any one institution. The decisions that are made by these local selectman and selectwoman are essential to the local services provided in the town but also for the residents that utilize and rely on these services to conduct their daily lives and to ensure their safety and protection.

The annual budget determinations are an important part of the local governing process in which public funds are appropriated to the various agencies and departments that receive these funds for their operations. The town select committee will receive a request for the funds to be allotted for the fire department for the following year. With the addition of the data and analytics provided with the survey and the results, the anticipated outcome is that the fire department will have bolster their requests with the added input from the community concerning the expectations that they have for the fire department. The results can also help to inform the fire department on improvements in other areas such as customer service elements of their jobs and the interactions



they have with their residents in non-emergency situations. Lastly, the outcomes of this survey can help to inform them on some best practices in administering the survey again in the future.

### **Background**

The primary components that are essential for understanding this project are that the fire department has an annual budget process as part of their town appropriations process. This is where they submit a proposal for the upcoming fiscal year and outline their necessary expenditures and make requests for additional funds or allotments for equipment or new services. In order to successfully petition for additional funds and a greater allotment, the fire department must successfully demonstrate the need in their budget request and data or analytics helps to bolster the request. With a quantitative and qualitative analysis provided in the rest of the report, the fire department will have a greater sense of their level of engagement with their residents and will have a better sense of what they are doing well and what areas need improvement.

### **Summary of state of research or practice**

We consulted other fire departments around the United States as it concerns their social media and branding strategies. The fire departments of many large cities are successful in utilizing these various social media platforms to interact with their constituents in part because they have large operations but also because they serve millions of people and that allows for more branding and outreach opportunities. Later in the paper we will highlight the ways in which Charlton Fire Department has utilized social media well and how they may capitalize on this in the future. The recommendations we have are largely related to community engagement and elevating the stories of people in the community as they relate to and work with the fire department. As we will show, the Charlton fire department's most liked Facebook post was a picture of a young woman who had graduated from their volunteer training program. This helps

to show that elevating the stories from their communities as part of their social media strategies will go far for the department.

### **Problem Statement**

The problem that the Charlton Fire Department was hoping to address was ultimately the ranting of greater funding that would derive from the survey results and a more robust budget proposal. The problem statement for our purposes was assisting the fire department with this through the creation and conducting of a survey that would appropriately gauge the experiences of the residents in the town in their interaction with the fire department. In addition, we sought to gauge the resident expectations of the fire department in Charlton and gain a sense of how much they were aware of their fire department; the general question tab of the survey seeks to assess some of these questions.

The issue for the fire department was a lack of sufficient data as it relates to resident expectations and constituent satisfaction concerning the services that they provide the town. A greater understanding of these expectations and sense of satisfaction could help the fire department in a number of ways, but ultimately this data would assist in their budget request for the following fiscal year, with the hope that the data could demonstrate a need for increased personnel and/ or funding to help bridge the gap between the perceived capacity of the fire department and the residents and their actual capacity in reality. In addition, the survey could reveal the residents' understanding of their fire department and could assist in recommending improved practices for resident engagement and or improvements in customer satisfaction.

### **Research Questions and Hypotheses**

The research question broadly is what is the level of community engagement and interaction of the residents of Charlton with the fire department? More specifically we were

concerned with gauging the resident's awareness and their expectations of the fire department against the reality of what they face. Other questions that we asked as part of the research questions were how could we assess their levels of satisfaction? What kinds of questions might garner these results? What should the structure and logic of the survey be in order to yield the best results? Briefly, our hypothesis was that the fire department might be lacking in some areas of the survey questionnaire due to the lack of sufficient knowledge of the resident's awareness concerning fire department duties.

### **Assumptions**

An assumption of this project will be that the perceptions of the town and the realities for the fire department and their capabilities are different. Another assumption is that the survey results will help reflect the need for greater funding for the fire department, when in fact it is likely that we will need to do research and supplement the survey analysis with other data such as information from surrounding towns and similarly situated fire departments.

### **Purpose of the Capstone Project**

The project outcomes would be to supply the Charlton Fire Department with sufficient data and analysis of the survey results that they can successfully bolster their request for an increased budget for the following year. Simply would be to conduct a comprehensive survey of Charlton residents on their experience and perception of the Fire Department, collect and analyze the survey results, compile and organize survey results and analysis to be presented to the Fire Department for use in their budget request for the following year.

### **Significance of the Study**

The significance of the study may be to help improve the quality of services offered by the Charlton Fire Department through the greater understanding they will have of the

expectations of the people in their town. In addition, they may be able to adjust current practices to better suit the needs of those in which they serve. At the very least the fire department will have some data and analytics for their annual budget request and will have a framework for conducting the survey again in the future. At best the fire department will have enough convincing and demonstrable data to make their case that they should have the increase in funding in which they are requesting. Hopefully, the survey can be the beginning of improved operations for the fire department resulting in creating funding or equipment or perhaps a change in the way they interact with their constituency. In addition, the survey can help to facilitate the beginning of improved relations between the residents of Charlton and one of their town's most essential public institutions.

### **Subsequent Sections**

This section one portion of the paper describes initial ideas and necessary background information about the project and our process. We outline the problem statement, our research and project objectives and introduce the work conducted for this project. In the subsequent sections there will be an overview of trends in literature, a summary of methodology and process and survey results and analysis. Lastly, we provide some recommendations for the future with insights on how to repeat the survey in the future and the associated best practices. In addition, we outline a marketing plan and some branding suggestions for the fire department in order to better their customer engagement and involvement with social media.

## **Chapter 2 Literature Review**

### **Introduction to Literature Review**

The problem of Charlton Fire Department is that they are experiencing limited operating budget, which means the department is constrained by insufficient resources and is unable to develop. However, they have no data to prove it. They hope by doing this satisfaction survey, they would be able to acquire reliable data, which can be used to persuade the government to believe the department really needs more financial support.

Based on the problem Charlton Fire Department faced with, the survey concentrates on services that Charlton Fire Department provides with such as EMS and open burning permits. Since there are 54 questions, our team is able to get enough data and find out residents' opinions behind the number. The next step is how to come up with recommendations based on what we find. Those recommendations should be practical, effective and reasonable. How to do that? Learning some successful cases probably is a good idea. So our team did a lot of work to search other fire departments' stories and cases. It is interesting that we found a lot of successful fire departments really focus on how to build a closer relationship with their target audience. Those departments are doing "marketing" things such as branding and social media marketing.

Our team always thinks about one question that is why Charlton Fire Department was unable to obtain reliable data from residents of Charlton. After reviewing stories from other fire departments, our team assumed that it is because people of Charlton are unable to communicate with the department efficiently. That means the Charlton Fire Department did not do a good job of marketing themselves.

How to marketing for the fire department should be the most important part of our literature review. Two articles “Branding for the Fire Service” and “Create a brand for your department” present how to create the brand for a fire department. For the “Branding for the Fire Service” It contains four parts, namely the definition of brand, Care and Feeding of the Brand, The Personal Face of the Brand and Publicizing the brand. This is a great article, which is also the guidance for our team when we recommend a marketing plan for the Charlton Fire Department. For example, the corporate reputation mentioned in this article will be a very important for our recommendation. If we can build Charlton Fire Department as an extremely approachable organization, they are likely to “listen” more from their target audience.

“Community Involvement, Leadership, and Influence: A “System Approach” describes a “system” to integrate key elements of the fire and life safety mission into a community’s core leadership structure. In other words, this system will help the fire department can be more involved with the community. For example, partnering with other organizations is able to enhance the influence of the fire department in this area.

The three references mentioned before are all good articles, which can lead us to make good recommendations. However, we need more specific ideas to come up with some practical marketing plan. “For the Brotherhood, The Auburn Fire Department” is another literature our team reviewed. This book includes 72 pages of photographs presenting plenty of details about Auburn Fire Department’s daily life, such as staff meetings, public education for residents of Auburn, details about how they communicate with customers, etc. This is such a fantastic example about branding a fire department. We can actually “see” how close between staff and customer, how close between members of the fire department. It visualizes what happens in Auburn Fire Department. By presenting visional information, readers are extremely easy to feel

how close members of Auburn Fire Department and their customers are. And Auburn Fire Department succeeds in building “brotherhood” as their brand image.

“Community outreach ideas by NFPA” lists a lot of things fire department is able to make them more visible. We also reviewed some websites of successful fire departments in the US, such as New York City Fire Department, Chicago Fire Department, and Los Angeles Fire Department. How did they communicate with their customers? Did they hold some special events such as fundraising event? How about their social media strategies? By thinking those questions, our team is able to come up with some great ideas to help the Charlton Fire Department.

The Charlton Fire Department needs more money. Why don't they raise some money by holding some special events? “Fire Department Taking Unique Fundraising Approach” and “Unique Fundraising Ideas | NYC Fire Department & SoMuchSavings to Ride in Remembrance of 9/11 Fallen Brothers and the Nation's Wounded Heroes” are examples of the fundraising event held by other fire departments. Those two articles described how other fire departments hold fundraising events. For example, NYC Fire Department cooperated with SoMuchSavings to hold the event.

In the final, we also viewed “Charlton MA, Demographic Information”. Since we the marketing for the Charlton Fire Department, we should learn about demographic information about Charlton residents. In this report, it presents plenty of demographic information such as age range of Charlton, occupation situation in Charlton and so on.

### **Literature Review Components**

In the review of the research, we have found that there are several aspects that could benefit our study. The first thing our team considered about is academic papers similar to our project. We thought we could find something. So we tried Academic Onefile, Google Scholar, and ERIC to search scholarly articles. We typed keywords like fire department services, the satisfaction of fire department services into those websites. Some articles are found by our team; however, it is irrelevant to our topic. Our team excluded those articles. After that, we were unable to find many academic papers, which are really similar to our project. The only thing we found is the book “For the brotherhood, The Auburn Fire Department” in Goddard library online website.

After that, we started to search some web articles for commercial purpose. There are a lot of good articles. We finally found something by using search engine. By searching keywords such as fire department services, the satisfaction of fire department and marketing for the fire department. Some great articles have shown up. For example, during the process of literature review, our team focuses on how fire department “advertising” itself by marketing. Then we found “Create a brand for your department”, McAfee (2014) illustrated how to create a brand for a fire department, which allows people in town to learn more about the fire department.

Is there any other thing we are able to do? Doing case study is also the one way to achieve our goal that is coming up practical solution for Charlton Fire Department. We took a deeper research on how fire departments in other cities promote themselves. By studying their official website of fire departments in New York City, Chicago, and Los Angeles, we actually got some good ideas.



### **Types of Published Documentation – Academic and Commercial**

As we mentioned before, the published book is the one of the types of published documentation we have used. This book is “For the brotherhood, the Auburn Fire Department”. This book tells us how important for the fire department to build their own brand and how to do it successfully. Our team understands that illustrating what you want to say by visual format is one kind of possible way. And all images should be served for one purpose – let your target audiences understand what you want to say. This is the reason why our team includes this published book into our literature review is it

Except that, our team also has reviewed a lot of web articles telling our team how to do the marketing plan for the fire department. They are all for the commercial purpose and uploaded on the website. The biggest reason why those articles are put on the website is they are all high-quality content. Our team is able to come up with some good solutions based on what we learn from those articles. An academic report about demographic information of Charlton, MA is also a part of our literature review. Knowing information about residents of Charlton will ensure recommendations we make are practical. For example, population demographic information is the critical evidence for choosing right platform to approach target audience. Should we choose traditional media such as TV, newspaper or social media like Facebook, Twitter? Without knowing information about the population by age, we possibly use wrong media to engage with our target groups. Without civilian employment data, we cannot figure out what topics possibly are most popular in this town.

As I mentioned before, doing case study is absolutely beneficial for our project. Is there anything else we can do except reading web articles? Viewing official websites of successful U.S

fire departments detailed is a good way to do that. There is so much information about the fire department on the website. For example, we are able to know what platform they use to keep in touch with their customers, what strategy they use to brand themselves and what information they published on the website. Based on that, we are able to do more for the Charlton Fire Department.

### **Investigation: Theories, Models and Research Studies**

All literature resources our team reviewed show that the fire department currently needs their own strategic marketing plan. Branding the department is very important right now. The fire department should have customer-central mindset, which means the department should be more proactive instead of waiting for customers to ask for their services. Only in this way can they build a closer relationship with their customers and always know their opinions. They have to realize that it is impossible to fully understand their customers by a one-time survey. However, doing a survey is a good start. This is because the fire department is able to build a basic understanding of their customers. The next step is to make some recommendation to solve the problem the Charlton Fire Department is currently faced with.

Two articles “Branding for the Fire Service” and “Create a brand for your department” are pretty similar. They tell people what the brand is for a fire department and how to accomplish it. However, they focus on different sides. “Branding for the Fire Service” presents that brand is not simply marketing slogan, logo or symbol. It all depends on what your customers, business members, and the public's think. It emphasizes the importance of the way engaging with customers and partners. However, “Create a brand for your department” claims the department should really think outside of the box and reach out the community more to make themselves

more visible. PIER model, which is public information, public education, and public relationship, are mentioned. This is a good model we can use in our recommendation part.

“The Community Involvement, leadership, and influence: a “system” approach” actually use the similar model. It presents how important being involved with the whole community is. The difference is it develops the PIER model. It connects involvement to leadership and influence. It takes public education relating to fire and life safety as an example. There is a sentence in this article:

Fire and life safety education programs provide one of the most effective opportunities for community leadership in a way that is directly connected to the fire department’s mission. This point out the benefit of working with another organization is to integrate fire department with community leadership. Those three articles talk about what strategies could be used to brand the fire department. Our team also found some articles, which are more specific. “For the Brotherhood, The Auburn Fire Department” actually illustrate how to brand a fire department by visual information. There are tons of photos in this book, which is direct, easily understood and strong!

They will do anything and everything, including risking their lives, to save the lives of others. This sentence is put on the page 4, which tells us the key point of this published book is to show what brotherhood is for Auburn Fire Department. There are not many words to describe stories about Auburn Fire Department. Most of the content in this book are visual information. However, it is so easy that everyone is able to understand stories that the writer wants to say. That let our team understand the power of the pictures.

Except sharing stories with people, is there another way to brand the fire department? Special events could be the answer. For example, the tradition having firefighter calendar is the

example of holding a special event. The next two web articles: “Fire Department Taking Unique Fundraising Approach” and “Unique Fundraising Ideas | NYC Fire Department & SoMuchSavings to Ride in Remembrance of 9/11 Fallen Brothers and the Nation’s Wounded Heroes” are all relating to the fundraising event. “Fire Department Taking Unique Fundraising Approach” lists some ideas how to do fundraising.

“The Unique Fundraising Ideas | NYC Fire Department & SoMuchSavings to Ride in Remembrance of 9/11 Fallen Brothers and the Nation’s Wounded Heroes”, is a real case about fundraising event happened in NYC, which detailed shows how to cooperate with other company to hold a fundraising event. 9/11 incidences have hurt a lot of people including citizens of NYC. A fundraising event aimed at memorizing this incidence will help NYC Fire Department to build a closer relationship with people of NYC. At the same time, NYC Fire Department will also build a new connection with SoMuchSavings after this event. Just like the article “Community Involvement, Leadership, and Influence: A “System Approach” mentioned, being more involved with the community could bring the benefit to the fire department.

After reviewing some websites of successful fire departments in the US, we found those departments all use different social media to engage with customers. In the meanwhile, those departments also published diversified public reports on the website. Those websites are polished and customer-friendly, allowing people easily to find what they are seeking to.

In the end, our team wants to mention the “Charlton MA, Demographic Information” This report actually gives us much useful information. However, our team will not use it directly. If the results of the survey do not match the report, our team will use the data from the survey.

### **Conclusion**

Since there are not many academic papers relating to our topic, our team more relies on commercial articles come up with recommendations for the Charlton Fire Department. The survey is the most important part of this whole project. This is because the data from the survey are most updated and could be the base for understanding residents of Charlton, which is so important to the fire department. In the next chapter, we will precisely present how we conduct the survey, what method we deliver it, and how to analyze responses.

### **Chapter Three Methods**

#### **Research Design and Approach**

To conduct the research, we decided to use anonymous survey to collect data from the residents of Charlton. As we have designed, the CFD Project will be conducted through both paper and electronic surveys. In order to have people take the survey online, we input our survey onto the Qualtrics, which is the software required by Clark University. As for the paper surveys, were to be delivered by Charlton Fire Department to the participants who have no access to electronic survey, and the surveys will be collected by Charlton Fire Department and will not be monitored by the surveyors. However, the Charlton Fire Department decided to send out flyers with link to our online survey to those individuals. In addition, participants will not be instructed to put any identifying information about them on the survey itself.

The survey contains 54 question in total, but participants will take fewer questions depend on the way they answer them. In order to acquire information of how residents of Charlton think of the Fire Department, the survey questions are divided into seven parts. Besides the general questions that Charlton Fire Department wants to know how much residents know and feel about the department itself, the survey asks questions on areas including fire department interactions, emergency medical services (ambulance), fire department services, burning permits and education services. Questions such as “How did you interact with the fire department most recently?” can help fire department to know the frequency of interaction between the department and residents of Charlton. Questions such as “Did the Fire Inspector return your email or phone call in less than 3 business days?” and “Was the scheduling of the inspection convenient for you?” will show how the fire department has worked on the inspection services. To gather

information about how the fire department provides emergency medical services, we put questions such as “Did a Charlton Ambulance respond to your incident?” And we asked questions regarding the types of incidents and response time etc. to figure out how the fire department performs its services. Charlton Fire Department also wants to know whether its residents received any educational information from itself, so questions such as “Where and how did you receive the educational information from the Fire Department” and “Did you find the information useful” were asked in the survey.

The software we use to launch our survey is Qualtrics. As required by Clark University, Qualtrics is a software that enables users to do many kinds of online data collection (Martin, 2012) and analysis including market research, customer satisfaction and loyalty, product and concept testing, employee evaluations and website feedback (Qualtrics). Since the purpose of the Charlton Fire Department project is to conduct a customer satisfaction survey to determine town residents’ satisfaction with fire services, assess residents’ awareness of services provided and identify areas of new and improved services, we believe Qualtrics is the best tool for us to conduct the research.

### **Problem Specification**

The problem statement of our project is based on that the Charlton Fire Department hoping for a greater funding that would derive from the survey result and a more profit budget proposal. With this problem, our assignment is to assisting the fire department to conduct a survey that can give us information of how the residents in the town interact with the fire department. The problem that the fire department was confronting was a lack of sufficient data as it relates to resident expectations and constituent satisfaction concerning the services that they provide the town. Throughout our analysis of the data we collected from survey, we could have a deeper

understanding on these expectation and sense of satisfaction. In addition, by defining these data, we could come to the conclusion that the fire department do need increased funding to optimize its capacity in order to provide better service to its residents. The survey also showed us the residents' understanding of their fire department, which helps us to make recommendations on how to improve their engagement and bring higher customer satisfaction.

### **Identification and Definition of the Variables**

In this capstone project, there are several relevant independent variables that influence the result of outcome. The purpose of this case study is to find out how residents in Charlton perceive the services provided by the Fire Department. So the depend variable is the responded surveys we retrieve from the residents. Our goal is to analyze these survey result and figure out the satisfaction rate of the Charlton Fire Department.

There are many factors that might influence the responded survey. We launched the online survey on April 5, and people in Charlton are given two weeks to do the survey. The time frame decides whether can we have more responses. If the survey is given more time for Charlton's residents to take, the more responses we can get. The other independent variable can be the way our survey being delivered. With the assistance of Charlton Fire Department, the link to the survey was posted on Charlton town website and the Fire Department's official Facebook page, and they sent out flyers with the link to the survey to public schools, nursing homes and retirement communities. And the local TV channel, also post the news, which encourage people to take the survey. Since the survey is electronic, so there might be people who don't have access to computer or Internet, which might affect the number of responded survey. The way people answer the survey can also be a factor that might affect the final result. It is likely that some



people miss or skip some questions, and this may end up with incomplete results. And people have different opinions toward the Fire Department, so different answers may vary the results.

### **Setting and Sample**

In the Charlton Fire Department project, the survey is sent out both electronically and by flyers with the link on. The survey is anonymous and voluntary, and participants will not be coerced in any way. The participants will be the residents of Charlton, and residents within organizations of interest to the fire department, such as, public schools, nursing homes, and retirement communities. The survey is delivered to the residents of Charlton, online through Charlton town website, and flyers are delivered to organizations of interest to the fire department, such as, public schools, nursing homes, retirement communities, all persons who complete the survey will do so at their own choice.

In order to be compliant with human subjects research requirements, this survey is anonymous and participation is voluntary. The responses cannot be tracked back to participants. Any question may be left unanswered and the participant can drop out at any time. The respondents should not put any identifying information about themselves on the survey. We applied the Anonymous Survey Application, and the Clark Committee for the Rights of Human Participants in Research and Training Programs (IRB) has approved this study.

We planned to have 2 weeks to collect data. Our survey was posted on April 5<sup>th</sup> through online.

### **Eligibility Criteria**

From the data we have collected from Qualtrics, only some of the results are eligible for us to do the analysis. In order to conduct the research with eligible data, we have to eliminate those results that are not qualified for analyzing. Our survey was launched on April 5, but we had a

few of tests and preview, so any response we get before that date would be viewed as invalid. Additionally, those people who took the survey are not residents of Charlton also cannot be counted as eligible participants, which means their responses would not be useful for our analysis. This survey contains 54 questions, so it takes time and energy for the participants to finish. However, there might be some questions that are being left unanswered, so these missing data are not eligible for us to do any analysis.

### **Execution process**

Analyzing the data that we collect can be a vital process of the whole capstone project. We used Qualtrics to distribute the survey and all responses are stored in the software. This software kept all participants' answer and can be shown in both table and graphic format. When we analyze the result, we can access to the Qualtrics and click view report, next it will show how many people took the survey and the percentage of each response. During our execution process, we plan to have each person take charge on two parts of the survey, and analyze the answers by studying on the percentage of each question and to see how people think of the Fire Department. Qualtrics also allows you to export the whole results reports, which help us to better analyze on data and to get more specific analysis.

By processing and analyzing the data from the Qualtrics results report enable us to have a clear view on how residents of Charlton feel about the Fire Department. It is very straightforward to see from their answers and through the analysis, we can conclude what kind of service people feel satisfied about and what kind of service they think the Fire Department should improve. Then, based on the literature materials we have studied, we can form some recommendations for the Charlton Fire Department, so they can optimize their services.

### **Analysis**

In order to conduct the analysis part effectively, we made plans on how to organize and analyze the data we have collected.

Qualtrics is the tool we use to distribute survey and store the responses and data. The benefit of using Qualtrics as the tool is that it helps us by summing up numbers and providing statistical outcomes directly. We can access into the Qualtrics account and acquire the numerical results as well as graphs and tables. So for the quantitative research, Qualtrics plays an important role.

Since our survey is divided into 7 sections, so we planned to analyze each part separately. Each section focuses on one certain area of services the Fire Department provides, so our plan is to first take a look at the statistic result of each question, and to see the percentage of each answer. Throughout the statistic results Qualtrics has provided, we can figure out what kind of factors would lead to this result. For example, the question “I am completing this survey as a ...”, among 54 responses, 42 answered as homeowner, 10 answered as resident, only 3 answered as business owner and none answered as senior citizen. The reasons why business owner and senior citizen have low answer rate may be first there are fewer business owners in Charlton, and most of them interact less with the Fire Department. And for those senior citizens, we would assume that they don't have access to the Internet to complete the survey. While analyzing the factors that may affect the outcome, we can form some recommendations based on the literature materials we have reviewed. For each service, we can give recommendations to the Fire Department, which hopefully will enable them to optimize the service and increase the interaction between the Department itself and residents of Charlton.

During this research process, we have come across several obstacles that might constrain the response rate. Since the response rate determines whether we can have a comprehensive analysis, so the final result could be affected by a low response rate. The short time frame for the survey can be viewed as one of obstacles. For the anonymous survey, we must have the approval of IRB, which took us a week to apply and because of that, our survey couldn't be launched early as we have expected. And we only have two weeks to collect data. If we can be given more time to deliver to survey and collect data, we believe there will be more useful data to support our research. Another obstacle can be the not-user-friendly methods to deliver the survey. At first, we decided to conduct both electronic and paper survey, and the Fire Department would assist us to distribute the paper version to organizations of interest to the Fire Department, such as, public schools, nursing homes, retirement communities. However, the Fire Department decided to send out flyers with link to our electronic survey to those individuals. There are many people who don't have the access to Internet, which cause us lose a large number of potential responses. With the limited ways to reach out to people, our final result would not be as ideal as we have expected.

**Chapter Four Results and Reflection**

**Research Questions**

What are the resident expectations and level of engagement with the Charlton Department? What might the survey questions and the subsequent results be able to reveal about the department?

**Analysis**

**General Information**

Question: I am completing this survey as a

#	Answer	Response	%
1	Homeowner	41	76%
2	Business owner	3	6%
3	Senior Citizen	0	0%
4	Resident	10	19%
	Total	54	100%

From the result, homeowners and residents (94% of total responses) are main groups of responders. However, we also can see the business owner group is only six percent of the total number. This indicates the Charlton Fire Department probably lacks communication with business owners. Our team would recommend that the Charlton Fire Department should figure out how to fix this problem. This is because, without support from local companies, the Charlton Fire Department will have a hard time blending into the community. Why is this so bad for the Charlton Fire Department? If they are not more involved with the community of Charlton, they will not to be able to obtain more information from their target customers. Some local companies directly serve with residents of Charlton, allowing them to build a relationship with people. Those businesses could be the bridge connecting the fire department and the residents of Charlton.

Question: I am accessing this survey from

#	Answer	Response	%
1	Facebook	45	82%
2	Town website	4	7%
3	TV	0	0%
4	Other	6	11%
	Total	55	100%

The data tells us the Facebook page of the Charlton Fire Department is the most popular channel for responders, which means surprisingly social media have a big influence on Charlton residents. Why does our team use “surprisingly”? This is because demographic information from the town of Charlton shows there are not many young people who are 15-24-years-old in Charlton. Knowing this is important for our recommendation part. This is because we are able to recommend that the fire department should use more social media to communicate with their target audience. People who accessed the survey from the website are only 7%, which is the lowest one. The Charlton Fire Department should figure out why that happened.

Question: What type of fire department currently serves the town of Charlton?

#	Answer	Response	%
1	Full-Time	11	20%
2	Volunteers	4	7%
3	Call (Paid per call responded to)	1	2%
4	Combination (Made up of Full-time and Call personnel)	38	70%
	Total	54	100%

The Charlton Fire Department is staffed by full-time and on-call personnel currently, which means the number four is the correct answer. According to the result, 38 people (70 percent of total responders) knew this. That indicates most of the people in the town of Charlton have basic knowledge about their fire department. However, there are also four people who think volunteers serve the department. It probably means they have no idea about the Charlton Fire Department or they experienced something, which makes them think about in that way. For example, they have not interacted with enough professional fire department staff, leaving them with the impression that these staff maybe volunteers. The Charlton Fire Department should pay attention to those possibilities and figure out how to communicate with their target audience more appropriately. In this way, the department will have a better understand of their customers and enhance their services.

Question: What is the area in square miles of the Town of Charlton?

#	Answer	Response	%
1	30 square miles	3	6%
2	25 square miles	3	6%
3	44 square miles	41	80%
4	36 square miles	4	8%
	Total	51	100%

The correct answer is 44 square miles, which is selected by 41 responders. That indicates that 80 percent of responders know how large the town of Charlton is. However, the problem is the other 10 people (20 percent of total responders) thought Charlton is smaller than 44 square miles. These people underestimated the area of the Charlton Fire Department has to service. That

means people underestimated how much work the Charlton Fire Department has to do. We think this should be mentioned in the proposal.

Question: How many people are on shift at the Charlton Fire Department during the course of a day?

#	Answer	Response	%
1	0	0	0%
2	2	6	12%
3	3	12	24%
4	4	19	38%
5	5+	13	26%
	Total	50	100%

There are four full-time members on shift at the Charlton Fire Department during the course of a day. The answers we collected show only 19 people (38% of the total responders) know that. People who think there are less than four people on shift are 36 percent. And the last of responders thought the Charlton Fire Department have five or more than five member on during the course of a day. The result probably indicates people are uninterested in the Charlton Fire Department. The Charlton Fire Department should really pay attention to how to build consistent engagement with customers and how to let residents of Charlton know they are willing to communicate with and share more about the department.

Question: How many responses does the Charlton Fire Department respond to on an average yearly basis?

#	Answer	Response	%
1	0-499	6	12%
2	500-999	6	12%
3	1000-1499	16	31%
4	1500-1999	14	27%
5	2000+	10	19%
	Total	52	100%



The correct answer is over 2000, which is chosen by only 19 percent of total responders. It obviously shows that people of Charlton underestimated how much work the fire department need to do annually. This result is important for the CFD project. Since the purpose of doing the survey is to obtain reliable information, which can be used to prove that, the Charlton Fire Department actually should get more financial support from the government. The key point is how to prove it. If the truth is the most Charlton residents underestimated how much effort the fire department invests, they probably would not vote for giving them enough funds. This is because they think the fire department does not need additional money based on their misunderstanding. This analysis should be added to the proposal.

Question: Were you aware that there are only 50 working fire hydrants in the town, located primarily in the center of town and along Route 20 and Route 169?

#	Answer	Response	%
1	Yes	30	55%
2	No	25	45%
	Total	55	100%

This question is also to prove that the Charlton Fire Department lacks equipment. Forty-five percent of the people who responded to the survey did not know there are only 50 fire hydrants in the town of Charlton. As we known, fire hydrants are extremely important for water supply when a fire happens. If all fire hydrants are too concentrated, it could be a disaster when the fire happens in the rural area of the Charlton. This is because it could happen at some place, which is inaccessible to the fire hydrants. And 50 fire hydrants are definitely inadequate for the 44 miles of area. After people realize this problem, the Charlton Fire Department is likely to be allocated more funds from the government.

Question: Were you aware that your home insurance premium is varied, based on the availability and type of water supply nearest your home?

#	Answer	Response	%
5	Yes	37	67%
6	No	18	33%
	Total	55	100%

It shows that not everyone in town of Charlton knows the reason why the price of insurance is different. The Charlton Fire Department could be the character that teaches people how to check the price of insurance premiums since they know the location and type of the water supply in town of Charlton.

What services did you require? (Multiple choices)

#	Answer	Response	%
1	Fire Department Interaction	11	32%
2	Fire Inspection Services	8	24%
3	Emergency Medical Services	12	35%
4	Fire Department Services	9	26%
5	Burning Permits	11	32%
6	Educational Services	4	12%

From the chart above, we are able to see all services on the list are almost equally popular in the town of Charlton except educational services, which possibly indicates this service is not well known. The reason why this happened could be that the fire department has not publicized it.




Which types of services are you expecting to use in the future if you have not interacted with fire department last 2 years?

#	Question	Not at all	Somewhat likely	Very likely	Total Responses	Mean
1	Fire Department Interaction	13	4	1	18	1.33
2	Fire Inspection Services	15	3	0	18	1.17
3	Emergency Medical Services	11	7	0	18	1.39
4	Fire Department Service	15	3	0	18	1.17
5	Burning Permits	9	6	3	18	1.67
6	Educational Services	17	1	0	18	1.06

From the table, the most popular service is burning permits. And surprisingly, the most unwanted service is educational services. This may be because people have some misunderstanding about this service.

**Emergency Medical Services (Ambulance)**

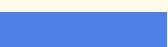

Question: Why was the ambulance requested?

#	Answer		Response	%
1	Motor Vehicle Accident		1	9%
2	Medical Emergency		9	82%
3	Other, Please explain		2	18%

Other, Please explain
Cardiac arrest

From this table, we can see that medical emergency is the most requested service. The Charlton Fire Department started to provide medical emergency service since 1989. As for the other category, one participant responded cardiac arrest, which is a very specific request. Based on this table, we can assume that residents of Charlton call ambulance because of medical emergency.

Question: What time of day did the incident occur?

#	Answer		Response	%
1	Day (8am-6pm)		5	45%
2	Night (6pm-8am)		6	55%

From this table, we can see that 45% people had the incident during the daytime and 55% people had the incident during the nighttime. So we can conclude that the incident happens at

anytime, and the Fire Department needs to have crew on duty all the time in order to send out ambulance immediately.

Question: Was the response time longer than you were expecting?

#	Answer		Response	%
1	Yes		3	27%
2	No		8	73%
	Total		11	100%

73% participants responded NO, which is a good result. Most people feel satisfied with the response time, which proves the Charlton Fire Department was efficient in answering residents’ call. However, there still are some people answered yes in this question, which indicates the Fire Department may have failed in keeping its efficiency. From our team’s point of view, it is necessary for the Fire Department to keep a quick response rate since the emergency happens so fast. An efficient response rate would result in better services.

Question: Did a Charlton Ambulance respond to your incident?

#	Answer		Response	%
1	Yes		11	100%
2	No		0	0%
	Total		11	100%

Participants all took the YES for answer. Apparently, the Fire Department keeps people on duty to make sure every incident being reported and ambulance being sent out.

Question: Was the crew that responded polite and professional?

#	Answer		Response	%
1	Yes		11	100%
2	Somewhat		0	0%
3	No		0	0%
	Total		11	100%

All participants chose YES. This indicates that emergency crew of the Charlton Fire Department is trained well and they all performed professionally while carrying out their duties. We would recommend the CFD to continue the training of EMTs and keep their performance in high quality.

Question: Did the crew explain the treatment that was necessary in an understandable way?

#	Answer		Response	%
1	Yes		10	91%
2	Somewhat		1	9%
4	No		0	0%
	Total		11	100%

Most participants approved that the crew did explain the treatment in an understandable way. So this also indicates the crew performed a very professional working attitude toward residents of Charlton.

Question: Overall, how satisfied were you with the Ambulance Service.

#	Answer		Response	%
1	Very satisfied		9	82%
2	Somewhat satisfied		2	18%
3	Not satisfied		0	0%
	Total		11	100%

There is no one feel unsatisfied with the Ambulance Service, which proved that the Charlton Fire Department did a great job in providing this type of service. With those two respondents who answered somewhat satisfied, we believe the Fire Department may have some missed services to some extent.

**Burning Permit**

Question: How would you rate the overall ease in obtaining a burning permit?

#	Answer		Response	%
1	Very easy		7	70%
2	Somewhat easy		0	0%
3	Not very easy		3	30%
	Total		10	100%

There are 70% respondents said it is very easy to obtain a burning permit, however, 30% answered not very easy. Those 30% respondents may have trouble accessing the online application or going to the fire station.

Question: Have you ever received a burning permit at the fire station before the online process?

#	Answer		Response	%
1	Yes		9	90%
2	No		1	10%
	Total		10	100%

Most people have received a burning permit at the fire station. Before there was the online process, getting a permit at the fire station is the only method and from this table we can see that the burning permit is in demand.

Question: How would you rate the overall ease in obtaining a burning permit using the online process?

#	Answer		Response	%
1	Very Easy		5	56%
2	Somewhat easy		1	11%
3	Not very easy at all		3	33%
	Total		9	100%

6 out of 9 respondents felt it is easy or somewhat easy to obtain a burning permit from the online application. For those 3 respondents, perhaps Internet is not a good tool for them. Some people may prefer the old way of doing things. Since most people feel comfortable using the online process, the Fire Department should continue this method and perhaps try to optimize it in

the future in order to make it more accessible and convenient to more residents. However, the Fire Department also needs to take those people who don't accept the online process into consideration, and keeps handing out burning permit at the fire station.

**Educational Information**

In this part of our survey, we had interest in where and how people receive educational information and we may know if this information is helpful. It is very important because educational information helps people to prevent fires.

1. Where did you receive the educational information from the Fire Department?

This question was not very popular with our respondents. We received only 5 responses.





#	Answer	Response	%
1	Child's school	2	40%
2	Senior center	1	20%
3	Firehouse tour	2	40%
4	Other (Please Explain)	1	20%

As we can see in result table, people receive education information in different places – schools, senior center, firehouse tour and others: Charlton Little League Coaches Clinic.

2. How did you receive the educational information?



This question answered by the same people as in the previous question – only 5 responses.



#	Answer		Response	%
1	Handouts		1	20%
2	Safety Demonstration		2	40%
3	Visit to Firehouse		2	40%
4	Other (Please Explain)		0	0%
	Total		5	100%



People receive educational information in different ways – handouts, safety demonstration and visit to firehouse.

3. Did you find the information helpful?

#	Answer		Response	%
1	Yes		5	100%
2	No		0	0%
	Total		5	100%

All respondents found the educational information helpful.

4. Would you be interested in more fire education programs, if available?

#	Answer		Response	%
9	Yes		4	80%
10	No		1	20%
	Total		5	100%

Most respondents (80%) would to be interested in more fire education programs.

5. What topics would you be interested in learning?

Text Response
Chimney Cleaning
Falls; 2nd floor fire rescue

This question is very interesting and useful for research. We see that people have interest in topic of chimney cleaning. To sum up, we see the interest of the population of Charlton in educational

information, although, we received only 5 responses in this section, but is a 10% of all the responses to our research.

**Fire Department Interaction**

In second part of our survey, we asked people about their interaction with the Charlton Fire Department. We are interested in ways of interaction, knowledge of the population of Charlton about the everyday shifts, and whether they have interacted with the Charlton Fire Department in the last two years. As a result, we received the next set of response:

6. How did you recently interact with the fire department?

On this question, we received 29 responses. Some persons gave two or more responses. The result was very expected.





Most respondents interacted with the Charlton Fire Department by telephone or personal visit (Emergency or Non-Emergency) – 18 responses or 62%. Only 11 responses or 39% of people interacted by email.

#	Answer	Response	%
1	In person (Non-Emergency)	18	62%
2	In person (Emergency)	14	48%
3	Telephone	17	59%
4	Email	11	39%
5	Other	10	34%

The results of this question – most people use tradition ways and forms of interaction (personal or by telephone), prefer personal contact, especially in emergency situations.

7. What types of shifts are worked during the course of the day?



On this question, we received 59 responses. Some persons gave two or more responses.

#	Answer		Response	%
1	8am- 5pm, Monday through Friday		4	7%
2	8am- 5pm Sunday and Saturday		0	0%
3	8am- 8pm Sunday and Saturday		3	5%
4	24 hours, 7 days a week		52	88%
	Total		59	100%

Eighty-eight percent of respondents understand that the Fire Department works constantly and continuously, day-by-day, 24 hours, 7 days a week. Understanding of this fact is a great result.

8. Have you interacted with The Charlton Fire Department in the last 2 years?

On this question, we received 85 responses.

#	Answer		Response	%
3	Yes		59	69%
4	No		26	31%
	Total		85	100%

The majority of respondents (69%) had interaction with the Charlton Fire Department in last two years. It is a target audience of this survey and their opinion is a most important for us. Many people did not have interaction with the Charlton Fire Department (31%).

9. What services did you require?

On this question, we received 58 responses. Some persons gave two or more responses.

#	Answer	Response	%
1	Fire Department Interaction	2	41%
2	Fire Inspection Services	16	28%
3	Emergency Medical Services	24	41%
4	Fire Department Services	18	31%
5	Burning Permits	19	33%
6	Educational Services		14%

As we can see from the table, all services of the Charlton Fire Department are required for the population of Charlton. Fire Department Interaction is important too because this is the first service which people use at the time of a problem. To sum up, we see the interest of the population of Charlton in Fire Department Interaction. Most of them prefer tradition ways of interaction (personal or by telephone) and understand that the Charlton Fire Department works around the clock. Sixty-nine percent of the population of Charlton had interaction with the Charlton Fire Department in the last two years, and it was different services.

As demonstrated by the results, we can conclude that people prefer traditional ways of interaction, such as in person (non-emergency, emergency) and by telephone. The Fire Department needs to pay attention to the call-center and reception service at the firehouse. The Charlton Fire Department needs to accentuate on multiple services of its work for improve of future interaction with the population. The current ways of receiving of educational information are successful. Despite the importance of educational information, the population does not take it seriously (only 5 responses). The Charlton Fire Department needs to develop current ways of sending educational information to the population, creating new educational programs, for instance: Chimney Cleaning.

**Fire Inspection Services**

14. Fire Inspection Services: Did the Fire Inspector return your email or phone call in less than 3 business days?

#	Answer		Response	%
1	Yes, it was timely		6	75%
2	No, it was not timely		2	25%
	Total		8	100%

A large difference in the experiences of the respondents, but again may be reflected by biases in opinion that are really strong negative or positive, difficult to draw from other than perhaps the service is inconsistent.

15. Did you receive proper instructions to remedy the issue(s)?

#	Answer		Response	%
1	Yes, suggestions were provided		4	100%
2	No, suggestions were not provided		0	0%
	Total		4	100%

This is indicative of a communications success as it relates to the technical expertise of the department and for customer service quality.

17. Did the Fire Inspector arrive on time for your appointment?

#	Answer		Response	%
1	Yes		5	63%
2	No		3	38%
	Total		8	100%

This could be remedied by an improvement in communications of the inspector.

19. Was the scheduling of the inspection convenient for you?

#	Answer		Response	%
1	Yes, it was		8	100%
2	No it was not		0	0%

	please explain.			
	Total		8	100%

The scheduling process was convenient however; the following questions reveal more detail for some respondents.

20. Did you experience any delays in scheduling your inspection?

#	Answer		Response	%
1	Yes		2	25%
2	No		6	75%
	Total		8	100%

A large difference in the experiences of the respondents, but again may be reflected by biases in opinion that are really strong negative or positive, difficult to draw from other than perhaps the service is inconsistent.

21. How long a delay did you experience?

#	Answer		Response	%
1	1 day		1	50%
2	1 week		1	50%
3	Longer than 1 week		0	0%
	Total		2	100%

A large difference in the experiences of the respondents, but again may be reflected by biases in opinion that are really strong negative or positive, difficult to draw from other than perhaps the service is inconsistent.

22. If The Fire Inspector was late or missed the appointment, was a courtesy call made to inform you of the situation?

#	Answer		Response	%
1	Yes		2	50%
2	No		2	50%
	Total		4	100%

This may be indicative of a communication failure, but it is difficult to say conclusively with so few results.



23. If the inspection failed, did the Fire Inspector explain the violation?

#	Answer		Response	%
1	Yes		4	80%

2	No		1	20%
	Total		5	100%



This may be indicative of a communication failure, but it is difficult to say conclusively with so few results.

24. Did you have to re-schedule your appointment because the Fire Inspector was unable to arrive on appointed day and time?

#	Answer		Response	%
1	Yes		2	29%
2	No		5	71%
	Total		7	100%

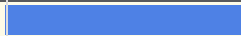

A customer service or community engagement issue may be reflected here in this questions, perhaps the department would have better approval if the process for making the appointment was streamlined, simplified or updated.

26. Was the Fire Inspector(s) professional?

#	Answer		Response	%
1	Yes		7	88%
2	Somewhat		1	13%
3	No		0	0%
	Total		8	100%

Overwhelming results indicate they were professional, however, since the response rate is so low, it may be worth investigating whether the fire inspection process could be improved.

28. Overall, how satisfied were you with the Fire Inspection Services?





#	Answer		Response	%
1	Very satisfied		5	63%
2	Somewhat satisfied		3	38%
3	Not satisfied		0	0%
	Total		8	100%

38% of the respondents here are not satisfied, indicating that the Charlton Fire Department has some customer service issues to work through for the fire inspection services. However, the question doesn't ask what portion of the inspection service they don't like, but if this big a percentage is unsatisfied, they should address it. In addition, these questions only have

8 respondents and as a result the question may reflect some biases, where only people with strong responses, positive or negative replied.

In summary, these questions had a low response rate. There are mixed results as it relates to experience of customers with inspection services. Residents get the service they need but there may be improvements to be made for the system and customer service components for inspection services such as how an appointment is made and whom residents interact with prior to the appointment date.



### Fire Department Services

36. Fire Department Services Why was the fire truck requested?				
#	Answer		Response	%
1	Fire Alarms Sounding		4	50%
2	Something on fire		2	25%
3	Strange odor		2	25%
4	Other, please explain		2	25%
5	Smoke		0	0%

Other, please explain				
Electrical problem due to water damage to house after ice melt				
Car crash				



Reflects the range of incidents prompting a call to the department.

37. What time of day did the incident occur?

#	Answer		Response	%
1	Day (8am-6pm)		4	50%
2	Night (6pm-8am)		4	50%
	Total		8	100%

Reflects that incidents may happen in equal numbers at night versus during the day.

38. Was the response time longer than you were expecting?

#	Answer		Response	%
1	Yes		3	38%
2	No		5	63%
	Total		8	100%



Mixed results here, people may not be aware of what goes into a response to an incident and what the timeline may be depending on the type.

39. You were expecting the fire truck to arrive in

#	Answer		Response	%
1	Less than 5 minutes		2	25%
2	5 Minutes to 9 minutes		6	75%
3	10 minutes to 14 minutes		0	0%
4	Greater than 15 minutes		0	0%
	Total		8	100%

Responses reflect the citizens expect prompt response; only the CFD will be able to determine if this is appropriate for their team and community.

40. Were the responding firefighters professional and caring?

#	Answer		Response	%
1	Yes, very professional and caring		7	88%
2	Somewhat professional and caring		1	13%
3	No, not very professional and caring		0	0%
	Total		8	100%

Overwhelming results indicate they were professional and caring.

41. Was the responding firefighters polite and courteous?

#	Answer		Response	%
1	Yes, very polite and courteous		6	75%
2	Somewhat polite and courteous		2	25%
3	No, not very polite and courteous		0	0%
	Total		8	100%

Mostly polite and courteous, with some exceptions.

42. Did the responding firefighters seem concerned about your needs?

#	Answer		Response	%
1	Yes		7	88%
2	Somewhat		0	0%
3	No		1	13%
	Total		8	100%

One respondent reported no they weren't concerned unclear is this is an outlier or indicative or understaffed personnel without more responses.

43. Were the responding firefighters actions thoroughly explained to you?

#	Answer		Response	%
1	Yes		5	63%
2	Somewhat		2	25%
3	No		1	13%
	Total		8	100%

Reflects that the department could improve their communications between themselves and the people in which they serve.

44. Did the responding firefighters answer all your questions completely?

#	Answer		Response	%
1	Yes		5	63%
2	Somewhat		2	25%
3	No		1	13%
	Total		8	100%

Reflects that the department could improve their communications between themselves and the people in which they serve.

45. Did the firefighters solve the problem they were called for?

#	Answer		Response	%
1	Yes		7	88%
2	Somewhat		1	13%
3	No		0	0%
	Total		8	100%

Reflects that most respondents are satisfied with their technical expertise or the department perhaps can't fix every problem it is called for.

46. Overall, how satisfied were you with the Fire Department Service?

#	Answer		Response	%
1	Very satisfied		5	63%
2	Somewhat satisfied		3	38%
3	No satisfied at all		0	0%
	Total		8	100%

Respondents are mostly very satisfied but there is room for improvement here, likely in the areas of communications, which the survey reflects.

In summary, residents responded that the very department responded promptly as expected. They reported that the firemen were courteous and professional, that they demonstrated concern and were attentive in responding to the call. Some responses indicate there could be greater explanations or answering of questions in these situations. It is difficult to draw conclusions without greater information, could consider adding an open-ended feature on customer service responses.

**Descriptors of Sample**

The sample consists of willing participants from the Charlton community who clicked the survey link. There is unlikely to be many senior citizens as the link provided was electronic only. The link was also provided to the parents of public school children who received the link on flyers distributed in the schools. We know that many of the respondents are social media users, having clicked the link from the Facebook and we can make other demographic assumptions based on respondents from social media. Due to the anonymity of the survey there are not many other conclusions we can draw from the results other than the demographical information that is warranted by the general information questions at the beginning of the survey.

### **Salient Issues**

The largest salient issue for our purposes would be the lack of the distribution of the paper copies and the last minutes change on that front. As a result the survey likely missed out on a large variety of demographics due to the lack of access to the survey link for some communities.

### **Conclusion**

The surveys reveal that those in the town according to the survey respondents generally regard the Charlton Fire Department as competent and professional. However, they have some communications issues and small customer service concerns that would likely be improved if they had greater staff and personnel. In addition, many of these concerns could be mitigated with a communications or community engagement action plan. We will outline some recommendations for improving their communications and perceptions by the town later on in this paper. The survey responses were quite limited within our timeframe and as a result it is difficult to draw comprehensive conclusions for every single question inquired about in this survey response.

## **Chapter 5 Discussion, Summary, Recommendations and Conclusion**

### **Recommendations for Practice**

#### **Why the study was done.**

The Department has requested the assistance of the Clark University COPACE Capstone students in creating and conducting survey in order to get a sense of what the resident of the town know about the fire department and to better gauge their expectations about what the department can provide for them. The survey was formulated in conjunction with the Fire Department and was conducted for a two-week period in April 2016. This report seeks to summarize and analyze the survey formulation process, the results of the survey and recommend best practices for the Charlton Fire Department in their resident engagement efforts in the future. The survey was done to provide the Charlton Fire Department with the necessary data for their budget request and proposal for July of 2016, in order to petition for more funding from the town select committee.

#### **How the Study Was Done**

Clark University COPACE students in the Masters of Public Administration conducted the survey and the Master's of Professional Communications programs in conjunction with the town of Charlton Fire Department and relevant administrators. The survey was created and formulated by the fire department and the Clark University students. The entry into the system used, Qualtrics, and the team of students did the subsequent logic formulated in order to facilitate the questionnaire. The distribution was done by the Charlton Fire Department using the town website and fire department Facebook page to list the link to the survey for residents to take. The

survey was open between April 5<sup>th</sup> into early May of 2016. The survey for the purposes of this capstone project ran between April 5<sup>th</sup> and April 20<sup>th</sup> 2016. There were 1500 flyers distributed to the families of public school children in the town and to the residents of a community of senior citizens in the town. This flyer provided the link to the survey online; no paper copies of the survey were distributed for this project as originally planned.

### **The Interpretation of Findings**

The implications of the findings are that the Charlton Fire Department is well regarded by their community, considered to be polite, professional and concerned with the wellbeing of the town and its residents. However, the survey does reveal some issues of engagement and knowledge concerning the fire department, as well as some small customer service issues. These are things that reflect that the fire department may want to review the ways in which they interact with their community, outside of emergency and life threatening situations. We recommend the department consider a social media, marketing and branding strategy with elements of customer service improvements in their areas related to non-emergency or community related issues in order to better connect with their constituents.

The findings we have also reflect some best practices for developing these social media and branding strategies as well as some customer service recommendations. In addition, there are some best practices we recommend for the administration of the survey in the future as listed below.

### **Recommendations for Action**

The result of the survey shows the Charlton Fire Department has failed to build a close relationship with their customers. A lot of people have underestimated how much work the fire department has to do. And some important information about the fire department, such as the

number of full-time members on the shift, and what type of the fire department serve to the Charlton, should be known. The department should figure out how to be more approachable and visible to their customers and how to become more involved with the whole Charlton community. So the goal of the marketing plan for the department should be to succeed in building a department that is extremely approachable, a multi-service fire department, and partnered with more local organizations.

The article “Branding for the fire department” mentions corporate reputations depend on what your customers think about you. And the customer is also divided into inner customers and outside customers. Who is the inner customer for the Charlton Fire Department? The staff of the Charlton Fire Department such as the firefighter, volunteers, and EMS staff are the inner customers. Have the Charlton Fire Department ever trained their staff to know how to communicate with customers appropriately? According to the data we collected, it shows 75 percent of total responders have interacted with fire department by communicating with staff personally (Not for emergency). We could say every Charlton Fire Department staff is the face of the department. Being polite, patient and professional should be the principle of being desirable staff. However, this is not enough. The Charlton Fire Department should train their people how to be a professional spokes people. What does this mean? We are trying to make people think the Charlton Fire Department is an extremely approachable organization. So as a spokes person for this organization, he or she should also be approachable. Leaving messages which; can help people to reach out to the staff of the Charlton Fire Department and is a good way to accomplish this. People will know how to easily contact the staff of the fire department. And people who work for the fire department should also know where residents of Charlton get

the most updated information relating to their daily lives. In this way, not only the staff, but also the department could be approachable.

To be an approachable organization, they should also work on how to build a bridge which; can connect them with their customers. After analyzing the question: By which way you access to the survey, 82 percent of people said it is by Facebook. Since the Charlton Fire Department uses a flyer which; contained a link to the survey as a way to deliver the survey to seniors, we are unable to collect any of data about these groups of people. However, 82 percent means most people except seniors know the Charlton Fire Department has a Facebook page and actually view it, which means social media marketing could work for residents of Charlton.

When our team reviewed their Facebook page, we found there are a lot of videos and photos showing working details, relationship with people and educational services. And people are capable of accessing the fire department by leaving a message on Facebook. This is really nice. However, they could do more, which means more and more people could start to interact with the department on social media. It could make the department become more approachable.

First of all, the fire department has to understand the basic principles of social media. On their Facebook page, there are no Hashtags! In the social media world, Hashtag is like the gate, which connects the Facebook page and users. By clicking on a Hashtag, people are able to see the list of posts using the same Hashtag. And Hashtags allow an audience to interact live during events, such as conferences, TV shows, and political events. If the Charlton Fire Department wants to interact with more people, they should start to use Hashtags. A comprehensive list of popular Hashtags at a certain time can be found at [Hashtag. Org.](https://www.hashtag.org/)

Secondly, there are a lot of social media such as Pinterest, Twitter, Youtube and Periscope. Different platforms have different features. The advantage of using multi-social media



is to amplify the outreach range of organization. Combining with different social media is a good strategy for enriching online content. For example, since each post on Twitter is limited to 140 characters, it could be online news updates or an information board; residents of Charlton would be able to know the emergent information or recent news by following the Charlton Fire Department Twitter account. By uploading photos on Pinterest, people will actually “see” many details about the Charlton Fire Department without leaving their homes. On LinkedIn, the Charlton Fire Department would be able to recruit their volunteers. More importantly, there is more of a chance for the Charlton Fire Department to be found online. In this way, the department is becoming more interactive and approachable than before.

Finally, the fire department should learn how to measure the performance of their social media accounts. How many people have interacted with you in the last season? How many comments have you received? Are they negative or positive? Have you responded to those comments appropriately? Which post is the most popular during the specific time period? The last one is so important and should be paid attention to. For example, a post that said congratulations to Brianna Johndrow for graduating the Massachusetts call/volunteer Recruit program was uploaded on March 3, which received 102 likes. Why did that happen? People like to be mentioned in the social media world. This is because it makes people feel a sense of involvement. And this is also effective social network marketing. The three comments about this post are all from Brianna’s friends or relatives. After that, those people realized the Charlton Fire Department has a Facebook page. They are all kind of connected with the Charlton Fire Department on social media world. Bringing more stories about people like the staff, volunteers, and customers into a social media platform is a good idea, which is proven by Brianna’s story. This is social media marketing.

The department should hire someone who actually understands the social media world. This is because social media can be extremely complicated and useless, even harmful for the department if people do something wrong. There are numerous messages in the social media world. You should be visible. It needs professional skills and experiences to ensure the effectiveness of social media marketing. And you have no control about what comments will be left on your page. If there are a lot of negative comments, it will absolutely ruin the reputation of the organization. So please be careful when you start to use social media.

Finally, associating with another organization to hold some special event is also a good idea for the Charlton Fire Department. For example, according to the “demographic information for Charlton, MA”, most Charlton residents work in the education industry, which probably indicates topics relating to education could be popular in this area. And this could be a chance for the Charlton Fire Department. The information about SAFE (Student Awareness of Fire Education) program is on the website of the fire department, which means the department actually also has educational services. The chief of the fire department could try to contact schools in Charlton to hold fire safety competitions for the children, aimed at educating the children about fire safety. There will be a prize for the child who has the highest score. The department will post photos of the competition on the website and social media and invite local journals to report this event. The purpose of holding this event is to be more involved with the community. The article “Community Involvement, leadership, and influence: a “system” approach” also mentioned the importance of public educational service for fire departments. Training the staff to be like spoke people, doing the right social media marketing, and building more connections with local organizations are three key points for branding the Charlton Fire Department.

Recommendations for improvement of the survey administration in the future include a variety of methods:

1. In person or door-to-door survey collection. Volunteers could be recruited through the schools for students looking for community service projects or partnerships with community organizations could be established to help with survey administration such as dropping off or picking up survey results from target locations.
2. Streamline the survey to include the most relevant and informative questions for the fire department's purposes, particularly those as it relates to the budget request.
3. Expand the methods of distribution, such as in person, paper copy, social media, town website, special events, presence at big local functions or gatherings like sports games or town hall meetings.
4. Expand timeframe of survey distribution; perhaps begin administration 6 months out of budget proposal writing in order to allow sufficient time for data collection and analysis.

### **Conclusion**

In summary, there are many things about this project that have could be improved upon in the future in order to yield better results and more comprehensive data for the Charlton Fire Department. The coordination between the two different teams working on the project, Clark University students and the Charlton Fire Department could be improved in order to ensure that the client follows through on their commitments to the project that are stated on the outset of the survey and project facilitation. The last minute decisions made the client to do flyers instead of the paper copies made it more difficult for us to complete the analysis and plan adequately for our project when a significant piece would not be getting done and would be completely out of

our control. In addition, the Charlton Fire Department is a professional and reliable department that is vital to the well being of the community in which they serve. In addition, they do many things very well according to their residents based on their survey results. However, the department also has some areas in which it could improve, also demonstrated by the data. These areas are related to social media, marketing and branding.

The fire department should seek to remedy some of these issues by using the data and analytics provided in this report and by the survey to successfully petition their town administration for increase in funding. In addition, they can use our recommendations to improve their perceptions from the town's residents using techniques to establish a brand and to improve their presence. Further, they can utilize the survey best practices for administering it in the future. Our recommendation is that implement the survey on a regular basis, perhaps annually or every two years. Using our best practices such as broadening the timeline of the survey and expanding the methodology of the survey they can yield a more comprehensive set of results and an increased response rate. They can utilize the subsequent data for their budget proposals but also use this data to help assess their engagement with and satisfaction of the town's residents.

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**Appendices**

**Appendix 1 Project data sheet**

**Sponsors:**

Charlton Fire Department in partnership with Clark University COPACE

**Project Objectives:**

- To conduct a comprehensive survey of Charlton residents on their experience and perception of the Fire Department
- Collect and analyze the survey results
- Compile and organize survey results and analysis to be presented to the Fire Department for use in their budget request for the following year

**Project Outcomes**

The project outcomes would be to supply the Charlton Fire Department with sufficient data and analysis of the survey results that they can successful bolster their request for an increased budget for the following year.

**In-Scope**

The scope would include the residents of Charlton and the Fire Department themselves. Other in scope elements would be those who take the survey in their capacities such as administrators or principals of the local schools.

**Out-of-Scope**

The out of scope elements would include components such as the surrounding towns and their Fire Departments. Other out of scope elements would include residents from outside the town of Charlton.

**Deliverables:**

- A comprehensive survey for assessing the town and their experience with the fire department
- Conduction of the survey and collected results
- Organized and compiled survey results

- Analysis of the survey results and recommendations in the form of a report or extensive policy memorandum

**Milestones/Timeframe**

#	EXAMPLE: Milestones	When
1	Approved project from Capstone Advisor	Jan. 2016
2	Initial Meeting with Client	Jan. 2016
3	Definition of client requirements	Jan. 2016
4	Data Sheet sign off by Client (a written proposal can be included if required by Capstone Advisor)	Feb. 29
5	IRB process and checklists	Feb. 29
6	Literature Review/Trends	March. 10
7	Scheduled Advisor Meeting Status Updates	
8	Assignments	
9	Self-Evaluations	April
10	Peer Evaluations	April
11	Final Capstone Report	April
12	Capstone Defense Presentation	April
13	Lessons Learned Document	April/ May

**Assumptions/Dependencies**

An assumption of this project will be that the perceptions of the town and the realities for the fire department and their capabilities are different. Another assumption is that the survey results will help reflect the need for greater funding for the fire department, when in fact it is likely that we will need to do research and supplement the survey analysis with other data such as information from surrounding towns and similarly situated fire departments.



A dependency of this project is that the outcomes depend on the successful completion of the survey and that the 10% threshold for responses is met. The subsequent analysis and recommendations are dependent on this portion being completed successfully.

## **Risks:**

### **Negative Risk**

A negative risk that may result as an obstacle in the project would be a lack of survey results, or survey results that are not of significance either through the actual responses or through insufficient numbers of responses.

### **Positive Risk**

Positive risks that may arise include the improved relationship of the Fire Department and the residents town of Charlton through their engagement and feedback on this project. Other positive risks include setting a precedent in the future for potential ways in which local departments such as the CFD can collect data and petition for more funding in their budget requests.

### **Project Measures of Success:**

- At least a 10% threshold met in the survey responses, would be about 140 responses for the Town of almost 14,000
- Increase in budget allocation for the following year by the requested amount by the CFD at least in part

### **Staffing/Resources**

- Natalie Omary- Extensive policy research and memorandum writing skills, experience with local, state, federal government and budget processes.
- Jingxin Wen- Skills with SPSS and the IRB process
- Junchen Chen
- Denis Kornev

**Appendix 2 Responsibility Matrix and Project Plan**



## Capstone Roles and Responsibilities Matrix

Responsibility Assignment Matrix (RAM) for Team Project Deliverables:

A = Accountable I= Input

Date Due	Task/Deliverable	Team Member	Natalie	Jingxing	Junchen	Denis
2/18	Capstone Roles and Responsibilities Matrix		I	I	A	I
2/18	Project data sheet descriptions		A	I	I	I
2/29	Proposal for project		I	I	A	A
2/29	IRB Application		I	A	I	I
2/29	Monthly status report		I	I	I	I
2/29	First Draft for survey		I	I	I	I
2/29	Interview with Captain		I	I	I	I