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ANALYZING THE RESETTLEMENT OF PUERTO RICANS POST- HURRICANE MARIA IN THE CITY OF WORCESTER, MASSACHUSETTS

By: Elianna Buckley, Josh Herlands, Marc Printz



Housing • Employment • Healthcare • Education



WPI

**Analyzing the Resettlement of Puerto Ricans
Post-Hurricane Maria in the City of Worcester, Massachusetts
The **E**ssentials: **H**ousing. **E**mployment. **H**ealthcare. **E**ducation.**

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Submitted to:

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Abstract

On September 20, 2017, Hurricane Maria made landfall on Puerto Rico, devastating the island and prompting an exodus of Puerto Ricans to the U.S. mainland. Projections of these migration numbers range widely. For our project, we made informed predictions of how many Puerto Ricans may arrive in the City of Worcester, Massachusetts and investigated what resources are critical for their resettlement.

Executive Summary

When Hurricane Maria made landfall on Puerto Rico, it not only left the entire island without power, but left residents without access to other key services, such as food and clean water. Post-Hurricane Maria, residents faced little-to-no access to medication, dialysis and oxygen machines, gasoline, and other necessities. A month after landfall, reportedly 875,000 residents were still without running water, 2.6 million residents without electricity, and 66% of the island was without cell service (Hsiang & Houser, 2017). Already facing an economic crisis involving a \$72.2 billion debt, the damage caused by Maria and the slow restoration of key services has prompted many Puerto Ricans to resettle on the U.S. mainland. The Center for Puerto Rican Studies estimates that 114,000 to 213,000 Puerto Ricans will leave within one year (Melendez & Hinojosa, 2017). The projections made by the Center for Puerto Rican Studies are the most commonly cited estimates. At time of write, whether these Puerto Ricans intend to stay for long or short-term is unclear.

Massachusetts is projected to receive the sixth largest number of Puerto Rican migrants post-Hurricane Maria within one year (Melendez & Hinojosa, 2017). As the city in Massachusetts with the second largest population of Puerto Rican residents prior to the hurricane, City of Worcester stands to see an influx of Puerto Rican migrants who are looking to resettle (Center for Puerto Rican Studies, 2016). Unfortunately, no formal projections on how many will arrive in the Worcester post-hurricane have been made. Ultimately, our project goal was to evaluate if the institutional resources for resettlement in the Worcester can absorb the number of Puerto Ricans we projected to arrive post-Hurricane Maria. Our team achieved this goal through the following objectives:

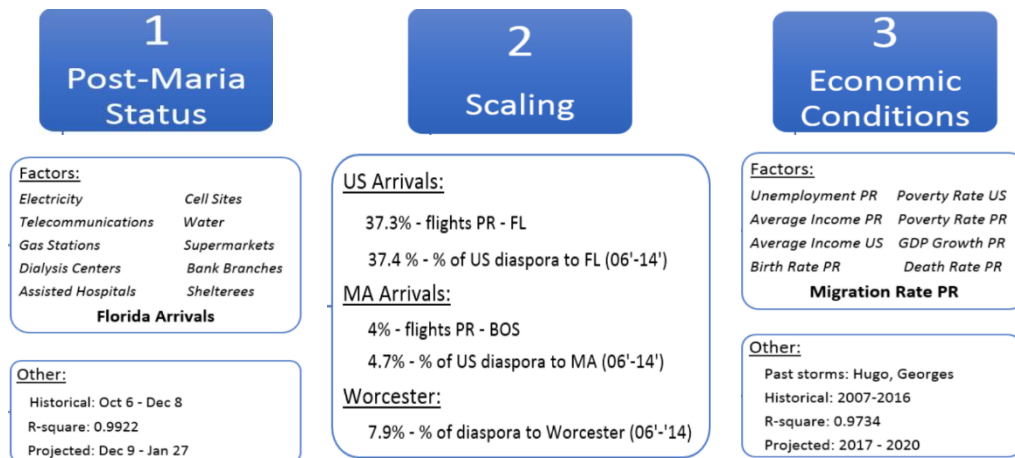
- **Objective 1-** Project how many Puerto Ricans will arrive in Worcester post-Hurricane Maria.
- **Objective 2-** Identify what kinds of institutional resources for the resettlement of Puerto Ricans are available in the City of Worcester.

To address Objective 1, we conducted further online research, supplement to what was already examined in Chapter 2.0: Literature Review. We examined data on past migration trends from Puerto Rico to the U.S. mainland, the pre-existing economic crisis in Puerto Rico, the restoration of services post-hurricane, and flights leaving the island for the U.S. mainland post-hurricane. In order to contextualize our projections, we asked our interviewees how many Puerto Ricans they, first, anticipated leaving the island and, second, expected to arrive in Worcester. A brief outline of those questions is displayed below.

- How many people do you anticipate will leave Puerto Rico post-Hurricane Maria?
- What do you believe are the main reasons for people staying?
- Do you think resources in the city will be able to accommodate them?

The first regression model, titled “Post-Maria Status”, uses data on the recovery of services in Puerto Rico from October 6th until December 8th (Figure 15) to calculate the number of Puerto Rican individuals that had arrived in Florida between October 4th and December 8th (Figure 17). October 6th was the first day that

Florida’s State Emergency Response Team (SERT) published data on the number of Puerto Ricans that had arrived in the state since October 4th due to Hurricane Maria. Data collection for Objective 1 ended on December 8th. The breakdown of our aggregate projection model is below.



To complete Objective 2, we conducted semi-structured interviews with a number of stakeholders in the City of Worcester who are helping with the resettlement of Puerto Ricans, and, attended private and public meetings. We interviewed them to learn what actions they were taking, what issues there were in helping the migrants, and how many migrants they projected would arrive in the city.

Through our research methods, we found that our projections are nearly four times greater than those of the Center for Puerto Rican Studies. Accounting for past migration trends to Worcester, we projected that a total of 2,436 Puerto Ricans will arrive in the City of Worcester between October 6, 2017 and January 27, 2018.

Post-Hurricane Maria, Mayor Joseph Petty and Congressman James McGovern identified that housing, employment, healthcare, and education are the four kinds of institutional resources critical for Puerto Rican resettlement in the City of Worcester. Through our interviews we found that the City of Worcester is least concerned with providing education and healthcare assistance to incoming Puerto Ricans. The majority of our interviewees perceived housing as the most pressing issue among the four. Although housing is indeed a problem, we found that in reality the most pressing issue is that incoming Puerto Ricans cannot acquire stable housing without employment, but they also cannot secure employment without stable housing; this presents a “chicken or the egg” scenario.

In analyzing the institutional resources available in Worcester it was immediately evident that the education and the healthcare system are able to accommodate for the influx of Puerto Rican migrants due to Hurricane Maria. Housing and employment, on the other hand, are both points of major concern due to their own individual problems and the chicken and egg situation. These resources are in dire need of assistance, especially if our projection of 2,436 persons arriving from Puerto Rico to Worcester between October 6, 2017 and January 27, 2018 is correct.

In accordance with our findings, we recommend the following: Increase statewide efforts by encouraging neighboring communities to be more proactive in supporting communities that are facing an influx of new residents from Puerto Rico and other regions affected by Hurricanes Irma and Maria.

1. Improve cross-communication amongst organizations, government officials, and residents by publicizing frequent updates on how the City of Worcester is aiding the incoming evacuees from Hurricanes Irma and Maria. Extending cross-communication across the Commonwealth of Massachusetts and neighboring states would create a broader and more unified front.
2. To minimize confusion and/or errors in data pertaining to the number of Puerto Ricans, and other evacuees displaced by Hurricanes Irma and Maria, arriving in the City of Worcester, implement a singular and overall more effective process of documentation.
3. Be considerate and recognize that those displaced from their homes by Hurricanes Irma and Maria, or in any case of conflict, are traumatized and should not be put under any sort of pressure to express their intentions of staying for long or short-term.
4. To address the issue of the language barrier with respect to employment, consider the need for English for Speakers of Other Languages (ESOL) Programs when applying for state funding.

In summary, this project exemplifies an issue of supply and demand. Ultimately, we recognized that even if institutions, such as the Worcester Public Schools, were not necessarily facing significant issues now, too big of an influx may lead to issues in the future. To translate that in terms of supply and demand, the demand (number of Puerto Ricans arriving) is unspecified and therefore, no matter the supply (institutional resources), the system (the City of Worcester) may be at risk.

Tying into our broader research question, which was,

What kinds of institutional resources for resettlement are critical for a U.S. community to prepare for an influx of internally displaced persons due to climate-induced disasters?

We found that: communication, both between organizations and stakeholders within a community, and, between communities, is key; housing and employment are critical factors for resettlement; communities need to be able to accommodate for any potential language barriers; and that communities need to be adaptable to the needs of incoming internally-displaced person.

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Authorship

The following report was written by all members of the team. The following table is a list of the main chapters (1.0-6.0) followed by the specific authors who were responsible for each respective chapter. Elianna Buckley and Marc Printz were responsible for editing all sections they did not write.

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Glossary of Terms

Abbreviation	Term
U.S.	United States
DOD	Department of Defense
UN	United Nations
IPCC	Intergovernmental Panel on Climate Change
UNHCR	United Nations High Commissioner of Refugees or United Nations Refugee Agency
IDP	Internally Displaced Persons
HECCMA	Higher Education Consortium Central Massachusetts
USAID	United States Agency for International Development
ACCI	Anthropogenic Climate Change Index
PDI	Power Dissipation Index
IDMC	Internal Displacement Monitoring Center
EJF	Environmental Justice Foundation
FEMA	Federal Emergency Management Agency
MEMA	Massachusetts Emergency Management Agency
PREPA	Puerto Rico Electric Power Authority
IEP	Individual Education Program
ESOL	English for Speakers of Other Languages
ESL	English as Second Language

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1.0 Introduction

In the words of the United States Department of Defense (DOD), “the National Security Strategy, issued in 2015, is clear that climate change is an urgent and growing threat to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources such as food and water” (DOD, 2015). The impact of climate change is already evident in that some 24.2 million people were displaced globally by natural disasters in 2016. According to a 2009 projection, there may be 150-200 million climate migrants worldwide over the next 50 years (Moriniere, 2009). Now more than ever, it is critical to prepare for this future threat.

Researchers have observed some correlation between global warming, a phenomenon of climate change, and Atlantic hurricane activity. This includes increased frequency, intensity, how quickly it intensifies, and storm duration (GFDL, 2017). One very recent case of rapid intensification was Tropical Storm Maria. On September 17th, 2017 Hurricane Maria was classified as a Category 1 storm. One day later, the hurricane had escalated to a Category 5 storm. According to one source, this record breaking intensification marks Hurricane Maria as a climate-induced disaster (Romm, 2017). On September 20, Hurricane Maria made landfall on Puerto Rico. The hurricane not only left the entire island without power, but left the residents without access to other key services, such as food and clean water. Post-Hurricane Maria, residents faced little-to-no access to medication, dialysis and oxygen machines, gasoline, and other necessities. Reports from late October suggested that water-borne diseases, such as leptospirosis, were beginning to break out (Levenson & Smith, 2017). A month after landfall, reportedly 875,000 residents were still without running water, 2.6 million residents without electricity, and 66% of the island was without cell service (Hsiang & Houser, 2017). Already facing an economic crisis involving a \$72.2 billion debt, the damage caused by Maria and the slow restoration of key services (e.g. electric grid, clean water, healthcare, food, etc.) has prompted many Puerto Ricans to resettle on the U.S. mainland. All told, estimates of those leaving Puerto Rico for the U.S. mainland ranged from 114,000 to 213,000 residents within one year, to, “tens of thousands, possibly 1 million or more over time” (Melendez & Hinojosa, 2017; Cabranes and Lopez, 2017). At time of write, whether these Puerto Ricans intend to stay for long or short-term is unclear.

Puerto Rico is a U.S. territory, which means these migrants can be more appropriately referred to as internally displaced persons (IDPs). By definition, internal displacement describes the situation in which persons are forced or obliged to leave their homes within the borders of their own country in order to avoid political conflict, persecution, widespread violence, and, natural and human-made disasters (UNHCR, 2008). According to Principle 18 and Principle 23 of the “Guiding Principles on Internal Displacement,” which was adopted by the UN in 2004, IDPs have the right to an adequate standard of living, such as “basic sheltering and housing” and “essential medical services”; “opportunities for employment”; and “education” (Egeland & Deng, 2004). Such a guideline can prove useful in identifying what kinds of basic needs for resettlement a community should consider critical when preparing for an influx of internally displaced migrants. Ultimately, this study explored what kinds of institutional resources are critical for resettlement in a U.S. community, such as the City of Worcester, when preparing for an influx of internal migrants displaced by climate-induced disasters.

Massachusetts is projected to receive the sixth largest number of Puerto Rican migrants post-Hurricane Maria within one year (Melendez & Hinojosa, 2017). As the city in Massachusetts with the second largest population of Puerto Rican residents prior to the hurricane, Worcester stands to receive an influx of Puerto Rican migrants who are looking to resettle (Center for Puerto Rican Studies, 2016). Unfortunately, no formal projections on how many will arrive in the city post-hurricane have been made. Ultimately, our project goal was to evaluate if the institutional resources for resettlement in Worcester can absorb our projected number of Puerto Ricans arriving post-Hurricane Maria. Throughout our project, we worked with key government officials as well as organizations who are aiding incoming victims from Puerto Rico. At the end of the project term, our team developed an informational brochure on what resources for resettlement are available in the city, as well as compiled a listing of the institutional resources in the City of Worcester for stakeholders. Our final deliverable included a website that is projected to be live on January 13, 2018.

2.0 Literature Review

To best understand the 2017 record-breaking migration trend that is the exodus of Puerto Ricans to the U.S., we organized Chapter 2.0 by discussions of climate change and climate migrants, the history of Puerto Rico, the impact and trends of Hurricane Maria first in Puerto Rico, and then in the United States. A more specific breakdown of the chapter begins with a discussion about the relation between climate change and the uprising trend of climate migrants. In addition, Section 2.1 also argues what to appropriately call these Puerto Ricans arriving in the U.S. post-Hurricane Maria. Section 2.2 includes a brief history of Puerto Rico where the chapter particularly addresses the island's relationship to the United States, its ever-increasing economic crisis, and Puerto Rico's historic migration trends pre-hurricane. Section 2.3 and Section 2.4 both present in detail the effects of Hurricane Maria. However, Section 2.3 offers information pertaining to the current conditions of Puerto Rico, published Intel on where Puerto Ricans have left as well as places they have resettled to, and lastly, projections about Puerto Ricans leaving post-Maria. Finally, Section 2.4 provides insight on the massive migration trend Hurricane Maria has caused in the U.S. The chapter offers a comparison between Hurricane Katrina and Hurricane Maria to gain an idea of what the future of Puerto Rico will potentially be.

2.1 Climate Change

The following section starts with a discussion about the rising threat of climate change in recent years. The section explains the correlation between climate change and the intensification of climate-induced disasters. The 2017 Atlantic hurricanes are introduced as supporting evidence to that correlation. The section lastly addresses the distinction between climate migrants who cross their country's borders and those who cross within their country's borders.

2.1.1 The Threat of Climate Change

Climate change describes any long-term change pertaining to temperature, sea level, precipitation patterns, etc. (Earth Science Communications Team, n.d.). The most apparent changes in Earth's climate are global warming and the rise of sea-level. Over the recent decade, climate change has been an important topic of discussion as it ultimately poses the threat of exacerbating, or making worse, environmental disasters. As disasters continue to intensify, the severity of the aftereffects increases subsequently. The Intergovernmental Panel on Climate Change (IPCC) has taken a lead role in the field of climate change to understand the causes, and impacts of climate change. In one such report titled, "Climate Change 2007: Impacts, Adaptation and Vulnerability," the IPCC compiled nearly a thousand pages worth of data composed by of hundreds of international experts (IPCC, 2007). Needless to say, the IPCC has provided a wealth of information on climate change.

Strains of infrastructure

The U.S. Department of Defense also recognizes the threat of climate change for the future in a statement they released in 2015, it "is clear that climate change is an urgent and growing threat to our national security, contributing to increased natural disasters, [climate migrant] flows, and conflicts over basic resources such as food and water" (DOD, 2015). As this alludes to, future climate migrants will not only be the result of climate-induced natural disasters, but climate-induced conflicts. Climate

change will not necessarily cause more natural disasters and conflicts, but it will act as a threat multiplier. Climate change “aggravates existing problems... such as poverty, social tensions, environmental degradation, and weak political institutions... that threaten domestic stability in a number of countries” (DOD, 2015). Along with the DOD, the United States Agency for International Development (USAID) also recognized the growing threat and has explored the implications of climate change for conflict and security. Researchers voiced similar beliefs to the DOD in which they claimed that climate change will potentially “lead to destabilizing social and political consequences or even triggering or escalating armed conflict” (Reiling & Brady, 2015).

Cases of Climate Change

Syria: Global warming, a phenomenon under climate change, has not only led to melting glaciers that result in rising sea-levels, but has affected global precipitation patterns. As both humans and food production rely heavily upon access to clean water, fluctuations in precipitation patterns have had wide reaching effects. From 2006 to 2011, the worst drought on record ravaged Syria, destroying crops and forcing farming families to relocate to urban cities for work (Fischetti, 2015). Between the decrease in food production and increased demand for food in urban centers, food prices consequently rose. The increase in food prices only supplemented strain on the country’s ongoing civil dispute. For years, Syria saw a mass refugee flow of Iraqi people who fled to avoid the ongoing Iraq civil war. As the colloquialism goes, the drought was the ‘straw that broke the camel’s back’. A study published in “Proceeding of the National Academy of Science” found that the “drought in Syria, exacerbated to record levels by global warming, pushed [the] social unrest in that nation across a line into an open uprising in 2011. The conflict has since become a “major civil war with international involvement,” that has triggered an exodus of Syrians to Europe (Fischetti, 2015).

Africa: Lake Chad was once a large body of water that sustained Niger, Nigeria, Chad and Cameroon. Reported in a National Geographic story, “Climate change [has] contributed to its drastic reduction in size by almost 90 percent in the last 60 years” (Stacke, 2017). The receding waters resulted in a number of different issues involving economic strain, illnesses, and violence. The story specifically described that the disappearing lake has severed an “economic lifeline between Chad and Nigeria,” become a “health hazard,” and left “thousands without their major market” that once was a vital trading post for fishermen, farmers, and traders between Chad and Maiduguri (Stacke, 2017).

Islands: Island nations, on the other hand, have dealt with a contrasting issue of too much water. The island nations of the Tuvalu, the Maldives and Indonesia, for example, have been threatened by rising tides. Tuvalu is expected to go completely underwater in about 10 years (LA Think Tank, 2010). While citizens in Tuvalu were intending to immigrate to New Zealand or Australia, the president of the Maldives was looking to relocate his entire nation to the mainland. In Indonesia, about 85% of the population resides on the coastal regions. Globally, about 1/3 of coastal countries have more than 10% of their land within 5 meters of sea level (LA Think Tank, 2010). One source projects that tides will rise by 2 meters at the end of the century and undoubtedly, instigate a massive migration (Dennis, 2016). Another projection suggest that areas will “gain unwelcome water with coastal flooding affecting between 11 and 170 million additional people each year” (Brown, 2007).

United States: Developing nations are not the only ones facing climate-induced conflicts. “Case studies indicate that in addition to exacerbating existing risks from other factors (e.g. social, economic, and political fault lines) climate-induced stress can generate new vulnerabilities (e.g. water scarcity) and thus, contribute to instability and conflict even in situations not previously considered at risk” (DOD, 2015). The United States has experienced this firsthand as droughts and wildfires devastate California and the Midwest. In the same states, people are also reportedly engaged in non-violent water conflicts (Goode, 2015). Sources suggest that situations will only get worse as these states, or the ‘breadbasket’ of the U.S., are projected to become, more or less, a desert in the approaching decades (Nuccitelli, 2015).

Intensification of Events

Since 1975, per degree Celsius of anthropogenic global warming, there has been an increase of 20-30% of Category 4-5 hurricane episodes (Romm, 2017). This is documented in **Figure 1**. The anthropogenic climate change index (ACCI) is a measure of human-induced warming. Over the past 60 years, the proportion of Category 4-5 hurricanes has risen to about 20-40% of all hurricane occurrences. Not only that, but a 2016 study found that “the vast majority (79 [%]) of major storms are rapid intensification storms,” and “the most intense storms are those that undergo rapid intensification” (Romm, 2017). Researchers observed there to be some correlation between Atlantic sea surface temperatures, and the Atlantic hurricane Power dissipation Index (PDI) (GFDL, 2017). PDI is an aggregate measure of Atlantic hurricane activity that includes frequency, intensity, and storm duration. Reportedly observed, both Atlantic SSTs and PDI have mounted abruptly since the 1970s. Moreover, some evidence reveals that “PDI levels in recent years are higher” as seen in **Figure 2** (GFDL, 2017).

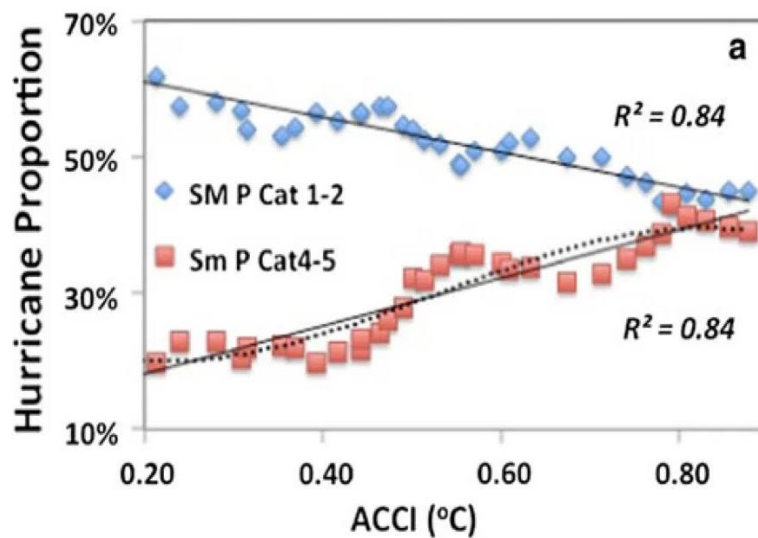


Figure 1: Per Degree Celsius of Anthropogenic Global Warming ¹

¹ (Romm, 2017)

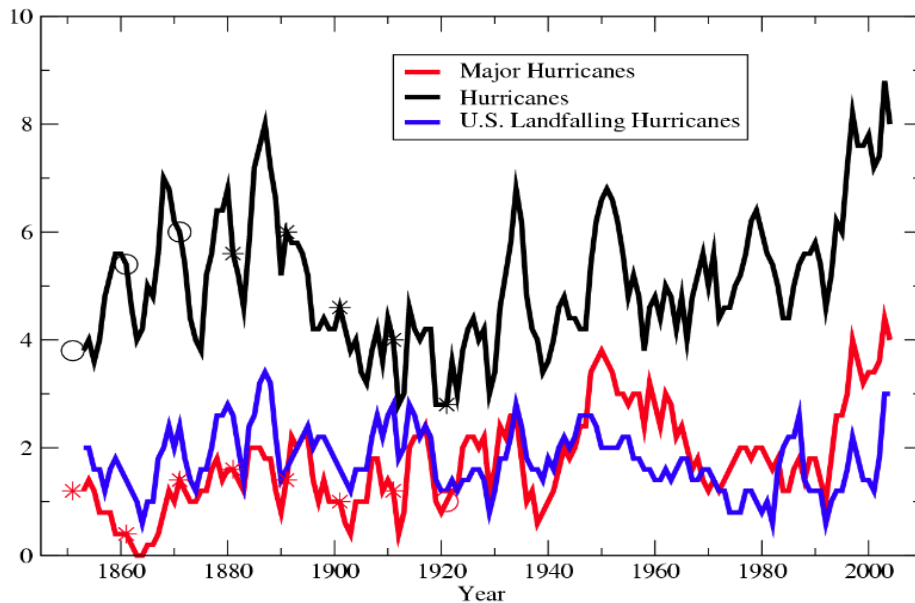


Figure 2: Atlantic Basin Hurricane Counts (1851-2006) ²

Climate change can increase slow onset events that range from civil war to droughts and rising tides. Additionally, climate change can enhance rapid onset events such as storms (Romm, 2017). While slow onset events produce a level of concern, rapid onset events pose more severe threats as they can transpire overnight. This leaves little opportunity to prepare nor can projections, particularly about migration trends, be developed. One type of rapid onset event is hurricanes.

Implications for Climate Change

One strategy for mitigating climate-induced disasters is simply to take actions to improve the climate. Such initiatives is a tremendously slow and gradual solution, but can be achieved just the same by adjusting environmentally harmful behaviors. Those behaviors consist of greenhouse gas emission, pollution, deforestation and so much more. Governments worldwide such as London have already taken initiatives toward climate-change mitigation as reported by the IPCC. Long-term, the threat of climate change may be mitigated by reducing environmentally damaging activities. Nevertheless, climate change is inevitable and will have massive implications for the future.

Implications of climate change for the future is this:

Taken as a whole, the range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time. ³

-IPPC

Nearly a decade ago, the growing threat of climate change is old news. However, are stakeholders who are potentially at risk to be affected by events exacerbated by climate change aware today of this looming threat? Others express concern about what the ramifications for economic and social development, and political stability will be as a result of climate change (Reiling & Brady, 2015).

² (GFDL, 2017)

³ (IPCC, 2007).

Undoubtedly, climate change will have a huge footprint globally as it already has in the past. The IPCC suggested that the threats presented by climate change “are typically focused at a local scale” and so, the responsibility falls upon the local authorities to address and prepare for such disasters (IPCC, 2007).

2.1.2 The Rise of Climate Migrants

The IPCC also recognizes the linkage between climate change and migration. They make the argument that migration, in one aspect, is a common response to disasters and a large number of displaced persons are more likely a consequence of extreme calamities. Interesting enough, the IPCC noted to disregard the correlation (not altogether) between causality of migration and environmental disasters since migrants may have multiple motivations or displaced by multiple factors. In addition, the IPCC clarifies that the link between climate change and migration is not as direct as it seems. Essentially, projections of the number of future climate migrants is deduced as “at best, guesswork” by IPCC (IPCC, 2007). Again, the topic of migration is extremely complex as the reasons for migration are manifold as well not proven to relate straightforwardly to climate change. To recap what the DOD stated earlier, climate change poses as a threat as it has contributed to “conflicts over basic resources such as food and water” (DOD, 2015). Similarly, IPCC argues that natural resources have reportedly become increasingly scarce as a result of climate change and has triggered a competition over natural resources (IPCC, 2007).

The Scope of Human Migrants

By definition, human migration is the movement of people from one place of origin to another with the intention of settling short or long-term (Human Migration, 2016). The phenomenon is quite complex as migration is examined in many aspects depending on circumstance, perspective, and more. Those aspects include time (short-term or long-term), place (inside or outside of country borders), and casualty (force or choice). Causality itself is considerably difficult to discuss as reasons for migration can be broken down in several ways. Firstly, causality can be distinguished by whether motives for migration involved an external factor such as violence (war & persecution), disaster (accidental & natural), or government enforced demands (mandatory evacuation). Some cases of migration involving external forces can be referred to as displacement. Migration can also be a voluntary decision in which person move on their own accord for personal gain (opportunities relating to health, finances, education, or family). In actual fact, motive for migration can be a combination of any of these. The most popular form of migration in the global context is immigration. For example, a person who moves to the U.S. temporarily with the intention to receive education and return to their home country is identified as a nonimmigrant student (UC Regents, n.d.). For the purpose of this study, we analyzed Puerto Ricans who are U.S. citizens migrating within their country on the account of a natural disaster. Some aspects of this particular migration trend, however, are not as easily identified for the time being; the hardest aspect being for how long Puerto Rican migrants intend to stay on the U.S. mainland. The discussion of what these Puerto Ricans are will further be deliberated in Section 2.1.3.

In 2016, there were 244 million migrants dispersed across the globe where the majority of migrants came from Asia, Latina America, and Africa. Some 6.9 million people were displaced globally due to conflict and violence (IDMC, 2016). Comparatively, 24.2 million people were displaced due to natural

disasters for a total of 31.1 million displaced peoples in 2016. As seen in **Figure 3**, the majority of those displaced by conflict were in Sub-Saharan Africa (38%) and the Middle East and North Africa (30.7%).

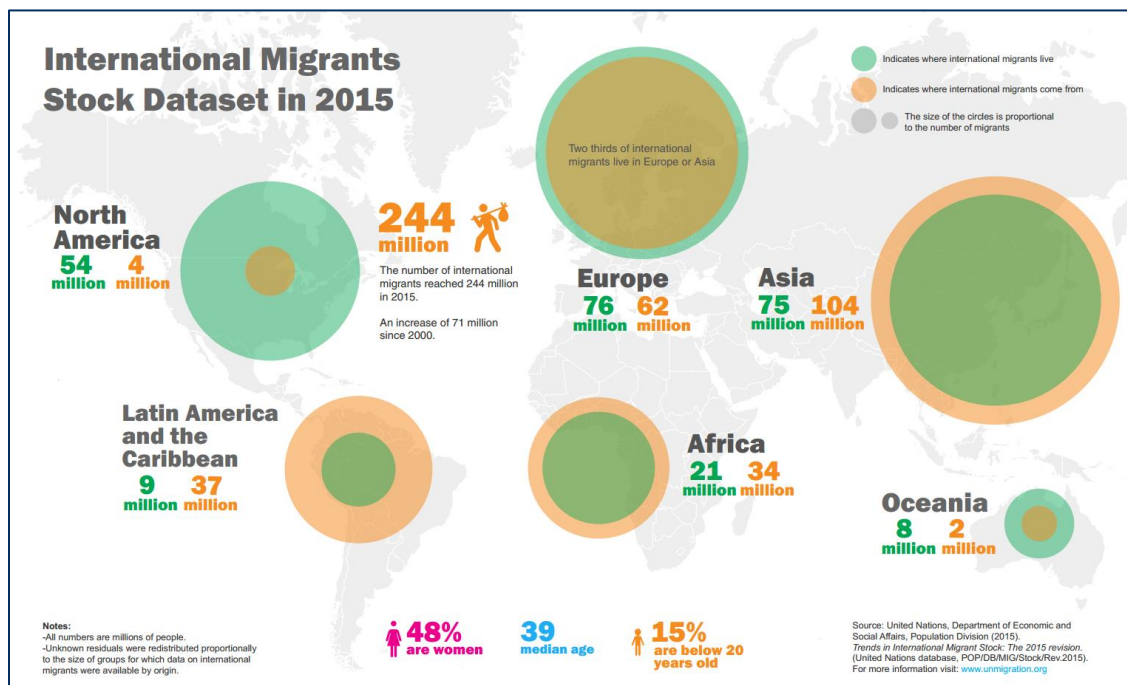


Figure 3: Map Distribution of Internal Migrants by Conflict or Violence⁴

Meanwhile, the majority of people affected by natural disasters were in China (7,434,000), Philippines (5,930,000), and India (2,400,000) (IDMC, 2016). Displacement issues are not only unique to developing nations. The United States, in fact, had the fifth largest displacement due to natural disasters (1,107,000 persons) (IDMC, 2016). While a staggering amount of people in China, India and the United States have been affected, they are a relatively small percentage of the total global population when compared to other nations. For example, Cuba has a displacement of about 9,500 people per 100,000. This equates to an average of a little under 10% of the Cuban population (IDMC, 2016).

Climate Refugees vs. Climate Migrants

Talk about climate change is not relatively new, however only in the last 2 decades has the discussion of persons displaced by climate-induced disasters been relevant. As it has already been established, thousands of people have been affected by natural disasters. Those who migrate across borders in response to these natural disasters however are not necessarily defined under any concrete term. In the words of the United Nations Refugee Agency (UNHCR), the “term ‘climate refugee’ is misleading because in international law the word ‘refugee’ describes people fleeing war or persecution and who have crossed an international border” (UNHCR, 2017). In addition, the UNHCR distinctively argues that climate change creates internal displacement (within a country) rather than solely external displacement (outside a country). The UN Refugee Agency appropriately has replaced ‘climate

⁴ (IDMC, 2016)

refugees' with the following definition: "persons displaced in the context of climate change" (UNHCR, 2017). On the UN Refugee Agency's website, it is stated that "refugees... are defined and protected in international law, and must not be expelled or returned to situations where their life and freedom are at risk" (UNHCR, 2017). There is resistance in the political sphere to expand the definition of 'refugee' to include climate refugees because of concerns that if the UN chooses to do so, stakeholders and communities would quickly run out of resources trying to help them. The concept of climate refugees first appeared in 1958 in William Peterson's "Typology of Migration". The author proposed a type of migration called "primitive migration", that "result[s] from an ecological push: a movement related to man's inability to cope with natural forces" (Peterson, 1958). The evolution of name calling for climate refugees has in fact been tracked over time. From the years 1996 to 2007, researchers came up with the following terms in order: environmental migrants, ecological migrant, environmentally displaced person, eco-refugee, climate-change exile, climate refugee, environmental displacee (Moriniere et al., 2009).

The Future is Climate Migrants

As countries experience burgeoning populations due to the rise of climate migrants, systems starts to fail. According to the Director of the Environmental Justice Foundation, systems include "homes and infrastructure, food and water and human health" (Vidal, 2009). As put by Andrew Simms, the director of the New Economic Foundation, "it will inevitably be the case, that, climate [migrants] will move to the next nearest available place... you add the burden of dealing with large influxes in population and you're going to see a global domino effect of stresses and strains and conflicts and flash points, which will inevitably, and inexorably, find its way to the doors of Europe and North America" (LA Think Tank, 2010). Developed countries are investing millions of dollars into national security to try and avoid the outside the domino effect threat. As presented in the documentary *Climate Refugees* (2010) by Lester Brown, the founder of the Earth Policy Institute, "as the list of failing states grows longer, the question becomes, how many failing states before we have a failing civilization" (LA Think Tank, 2010). The Environmental Justice Foundation (EJF) estimates that climate change will result in some 150 million climate refugees by 2050 (Vidal, 2009). Likewise, Norman Myers additionally projects there will be 150-200 million new climate migrants in the next 50 years (Moriniere et al, 2009). Furthermore, the EJF also estimates that about 10% (500-600 million people) are at risk of climate displacement (Vidal, 2009).

2.1.3 The 2017 Atlantic Hurricanes

The 2017 hurricane season saw four Category 4-5 storms. Alone slow onset events and rapid onset events can be devastating, however collectively, the results are catastrophic. This can be seen in the case of Bangladesh, which is a country of more than 150 million people, and is situated at 0 feet above sea level facing a great risk of rising tides. (Vidal, 2009). The country has experienced more than 70 climate-related natural disasters in the past 10 years and as such, Bangladesh has been called the "ground zero for climate change" (LA Think Tank, 2010). Hurricanes don't start off as hurricanes. Essentially, in the Atlantic, the hurricanes start of as tropical storms.

Hurricane Harvey

On August 24, Harvey upgraded to a Category 4 hurricane and made landfall around Arkansas and Texas. Two days later, the hurricane downgraded to a tropical storm again causing extreme floods. Over 6 days, a combined of 27 trillion gallons of rain flooded Texas and Louisiana. The death toll reportedly was 82 people and total losses costed the U.S. about \$75 billion (CNN, 2017).

Hurricane Irma

Hurricane Irma lasted from August 31- September 11, 2017 and caused the most destruction on the Caribbean islands. From August 31 to September 5, the storm intensified from a Category 3 to a Category 5. Cuba experienced the worst of the hurricane, at a high Category 5, with winds of 125 mph. Along with Cuba, the Bahamas was hit and the Caribbean reported 44 people dead. In the case of Puerto Rico, Hurricane Irma did far less damage than Maria as it just “skirted Puerto Rico” in the North (Johnson et.al, 2017). That’s not to say that Irma wasn’t devastating. Irma reportedly knocked out electricity that left 1 million Puerto Ricans in the dark (Johnson et.al, 2017). Puerto Rico Electric Power Authority (PREPA) is the sole provider for electricity in Puerto Rico. The 1 million residents who faced power outages represented almost 70% of PREPA’s customers on the island. In addition, residents in Puerto Rico flocked gas stations and schools were cancelled (CNN, 2017). After Hurricane Irma, once again a tropical storm, made landfall on Florida, the death toll in the U.S. was 61 people and multiple power outages were reported (CNN, 2017).

Hurricane Maria

Hurricane Maria rapidly increased from a tropical storm into a Category 5 hurricane. The storm first hit the Caribbean island of Dominica and caused instant devastation on September 18. The hurricane moved on to the island of Puerto Rico as a Category 4 hurricane and considered the “strongest storm to hit Puerto Rico in 85 years” (CNN, 2017). With an island-wide power outage, the island faced multiple issues. The following displays updates by Federal Emergency Management Agency (FEMA) about Puerto Rico’s conditions 45 days after Hurricane Maria in **Figure 4**. Reports of course are not updated past the point of this span of this project timeline.

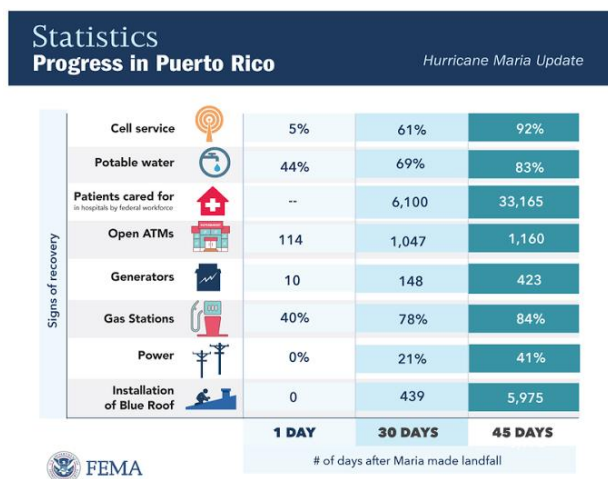
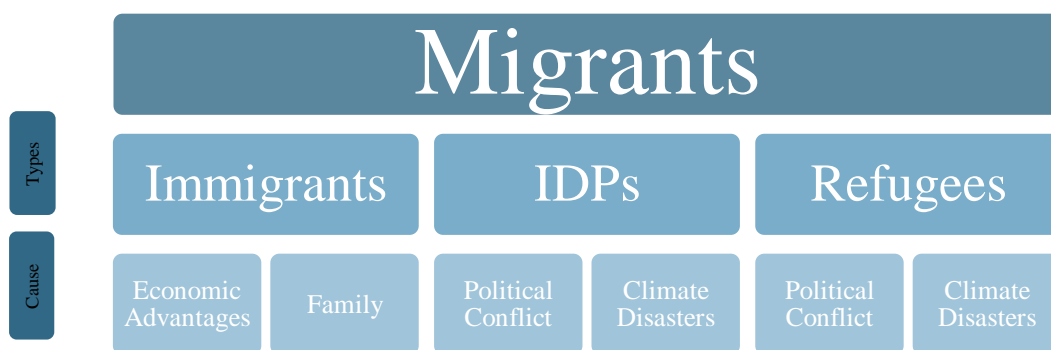


Figure 4: FEMA Post-Maria Service Restoration

The 2017 Atlantic hurricane season had a total of ten hurricanes, six of which were Category 3 or higher. Three of these hurricanes- Harvey, Irma and Maria- caused much destruction in the United States. As a result of these storms and their lasting impacts, many Americans have been displaced from their homes. While those in Puerto Rico are indeed U.S. citizens, a new poll by Morning Consult, as highlighted in an article by the New York Times, found that more than half of Americans are not aware that they are citizens. Congress has recognized Puerto Ricans as U.S. Citizens since 1917 by the Jones-Shafroth Act.

A multitude of persons in the government and key non-governmental organizations, and various individuals, it became clear that there is not a commonly accepted term for what to call the people displaced by the recent hurricanes. With respect to the island of Puerto Rico, sources have referred to people leaving the island post-hurricane as ‘residents’, ‘evacuees’, ‘self-evacuees’, ‘victims’, ‘migrants’, or ‘internally displaced persons’. Since Puerto Rico is a U.S. territory, other sources refer to them as ‘U.S. citizens’. On a broader scale, the movement of humans from one place to another can be defined as human migration; therefore, it is correct to simply refer to them as ‘migrants’. On a more specific level, however, it is not so simple. As seen below, ‘migrants’ includes immigrants, internally displaced persons (IDPs) and Refugees⁵ Migrants who have “been forced to flee his or her country because of persecution, war, or violence” are refugees according to the UN Refugee Agency⁶. The key words to consider in this definition are ‘flee’ and ‘country’. Refugees are migrants who cross their country’s border as a result of conflict. Although climate disasters are another cause for refugee migration, it is not recognized in international or U.S. policy. Although the root cause for migration is commonly different for immigrants compared to refugees (advantage versus necessity), they are also persons who cross national borders.



Per the United Nations High Commissioner for Refugees (UNHCR)⁷, migrants who are forced or obliged to leave their homes and move within the borders of their own country in order to avoid political conflict, persecution, widespread violence, or, natural or human-made disasters are referred to as internally displaced persons. Because Puerto Ricans are citizens, this proves the most accurate term to use when referring to persons displaced within the United States by the recent hurricanes.

⁵ Although asylees, among others, fall under the term ‘migrants’, we omitted it for simplicity.

⁶ UNHCR. (2008). Protecting internally displaced persons: A manual for law and policymakers.

⁷ Romm, J. (2017). Deniers dismiss link between climate changes, super-hurricanes as ‘idle chatter.’ It’s anything but.

To be even more precise, because the recent hurricane season was exasperated by climate change, we can consider Hurricanes Harvey, Irma and Maria as climate-induced disasters. Thus, we can preface the previous term (IDP) by saying that persons recently displaced within the U.S. due to the 2017 Atlantic hurricane season are internally displaced persons by climate-induced disaster.

2.2. Puerto Rico

This section presents a brief history of the island of Puerto Rico. Firstly, the section discusses Puerto Rico's distinctive relationship with the U.S. The island's ever-mounting economic crisis is then explained. The last sub-sections examine Puerto Rico's migration trends before Hurricane Maria and, then the current state of Puerto Rico as well as the exodus of the island's residents to the mainland since September 20.

2.2.1 History: The U.S. and Puerto Rico

Puerto Rico was first a colony of Spain from 1492 until 1898. When Spain lost the Spanish-American War in 1898, the island became a U.S. territory. In 1900 the U.S passed the Foraker Law which established civil government and free commerce between the U.S and the territory (Rivera). By the Jones-Shafroth Act of 1917, the residents of the island were granted U.S. citizenship (Boissoneault, 2017). It wasn't until 1950 that the U.S allow Puerto Rico to draft their own constitution, leading to the transition of the island's political status from protectorate to Commonwealth.

In 2017 the island of Puerto Rico was home to over 3.4 million people (Rivera, n.d) pre-Hurricane Maria. Located in the Caribbean Sea, the island covers a total of 8,959 sq. km, which is roughly three times the size of Rhode Island. Despite 66% of the island being covered by mountains, the region has a diverse range of landscapes, ranging from rain forests and rivers, to beaches and deserts (Rivera, n.d). In terms of climate, Puerto Rico experiences an average temperature of 80 degrees Fahrenheit year-round.

The Commonwealth is divided into 78 municipalities – government units that are subdivided into smaller barrios (neighborhoods) and managed by elected mayors. Along with San Juan being the most densely populated municipality on the island, it is also the capital of Puerto Rico.

Unfortunately, the island is vulnerable to the Atlantic hurricane season, which typically occurs between the months of August to October. Before Hurricane Maria, Hurricanes Hugo and Georges were recorded as the worst disasters in Puerto Rico's history. Hurricane Hugo, a Category 3, made landfall on September 18, 1989. While the death toll was only 12 people, the hurricane caused about \$1 billion in property damage. Hurricane Georges, though only a Category 1 storm, caused torrential rain for 2 days, resulting in catastrophic flooding. Floods devastated part of the island's infrastructure (e.g. electric grid, potable water, sewer services, and homes) as well as crops and poultry. All told, Hurricane George's damages were about twice as expensive as Hurricane Hugo's.

2.2.2 History: An Economic Crisis

Before it was a U.S. territory, Puerto Rico was economically dependent on its agricultural industry. Between the years 1898 and 1930, sugar accounted for 40% of the cultivated land, 50% of the agricultural labor force, and 30% of the economic activity in Puerto Rico (Rivera, n.d.). Over time, the island lost its competitive advantage on staple agricultural production due to the rise of industrialization post World War II. Puerto Rico's historic heavy reliance upon sugarcane created an unbalanced economic structure that deterred economic modernization. After the war, the U.S. sought to industrialize Puerto Rico's agricultural economy by incentivizing pharmaceutical companies and manufacturers to come to the island through numerous tax breaks (Kranz, 2017). The tax breaks and other incentives are known as "Operation Bootstrap". By 1950, the agricultural industry accounted for only 35.9% of the labor force and generated 24.3% of the net income of the island (Ayala, 1996).

Operation Bootstrap, formerly known as "The Industrial Incentives Act of 1947", was established post WWII to attract private U.S. capital to Puerto Rico. More importantly, the federal Act granted private firms a ten-year exemption from insular income and property taxes, municipal taxes, and industrial licenses (Ayala, 1996). By 1956, the manufacturing sector produced an income that exceeded that of the agriculture industry. Despite positive economic growth, total employment in Puerto Rico decreased as 450,000 Puerto Ricans migrated to the U.S. mainland from 1950 to 1960 (Ayala, 1996). The outgrowth of postwar Operation Bootstrap led to the introduction of "Section 936" in 1976.

The U.S. made an effort to promote further economic progress in Puerto Rico with Section 936, originally titled "26 US Code § 936: Puerto Rico and Possession Tax Credit," an Act that provided tax incentives to local manufacturing businesses operating in Puerto Rico (Rivera, n.d.). From 1976 to 1993, the section allowed the profits earned by American companies to be exempt from federal taxes. In 1993, this was replaced with Section 30A, which granted American companies to claim 60% of wages and capital investment as non-taxable income (Rivera, n.d.). The introduction of Section 30A was proposed to essentially compete with low-wage workers in Mexico. Though the economy flourished for a time, the tax break ultimately did not result in large enough returns from jobs creation, contributing to the federal government's tax deficit. In 1996, the U.S. Congress deemed the section too costly and decided to repeal the law. The law was entirely phased out by 2006 (Kranz, 2017).

By 2006 Puerto Rico's economy had become dependent on these tax plans. When the section was discontinued, most American businesses, along with the job opportunities and money, left the island. After 2006, there was little indigenous entrepreneurship to replace the lost companies (Kranz, 2017). To make matters worse, Puerto Rico has faced a crippling government debt-crisis for decades. Today the country faces an ever-mounting debt of \$70 billion and an unemployment rate of 11.5%. The island's economic crisis has been the primary driving force for Puerto Ricans migrating to the U.S. mainland in recent years (Kranz, 2017). Puerto Rico's economic crisis and the impact of Section 936's phase out in 2007 are seen in **Figures 5 to 7**.

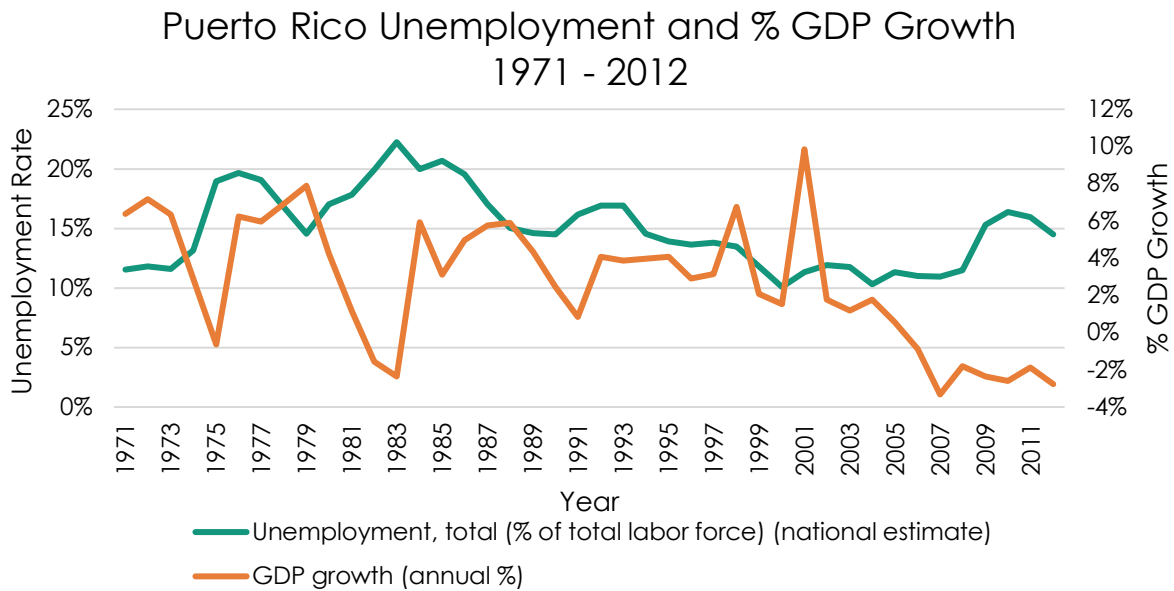


Figure 5: Puerto Rico Unemployment Rate and GDP Growth (1971 – 2013)⁸

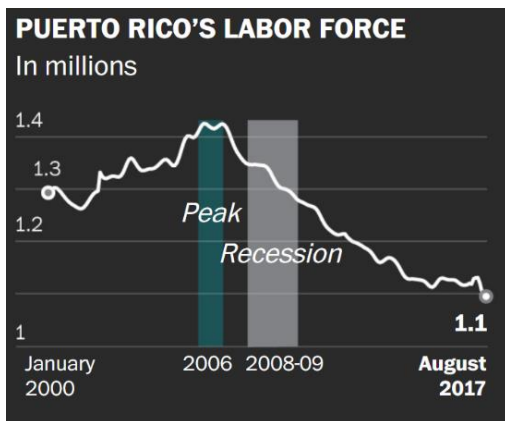


Figure 6: Puerto Rico's Labor Force (2000-2017)⁹

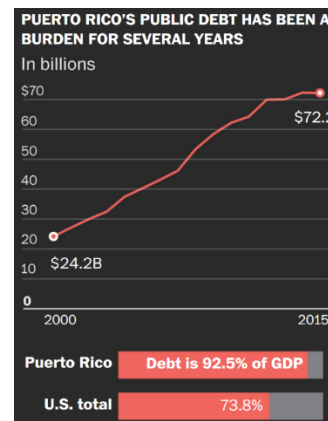


Figure 7: Puerto Rico's Public Debt (2000-2015)¹⁰

Though the movement of Puerto Ricans due to the economic crisis is an example of migration for economic advantage, and not necessarily internal displacement, migrants due to Hurricane Maria are indeed IDPs.

2.2.3 Pre-Hurricane Maria: Migration Trends

Looking at data accumulated by the United Nations Population Division on Puerto Rico's birth rate, death rate and population from 1960 to 2015, it is possible to calculate how many individuals have left the island each year. According to the United Nations Population Division:

⁸ (United Nations Population Division, 2017)

⁹ (Lu & Alcantara, 2017)

¹⁰ (Lu & Alcantara, 2017)

When there is insufficient data, net migration is derived through the difference between the overall population growth rate and the rate of natural increase (the difference between the birth rate and the death rate) during the same period.

-United Nations Population Division ¹¹

It stands to reason that by then multiplying the net migration rate by the population for the given year, an estimation for the number of migrants can be determined. In doing so for the data provided from 1960 to 2015, the following migration pattern is found.

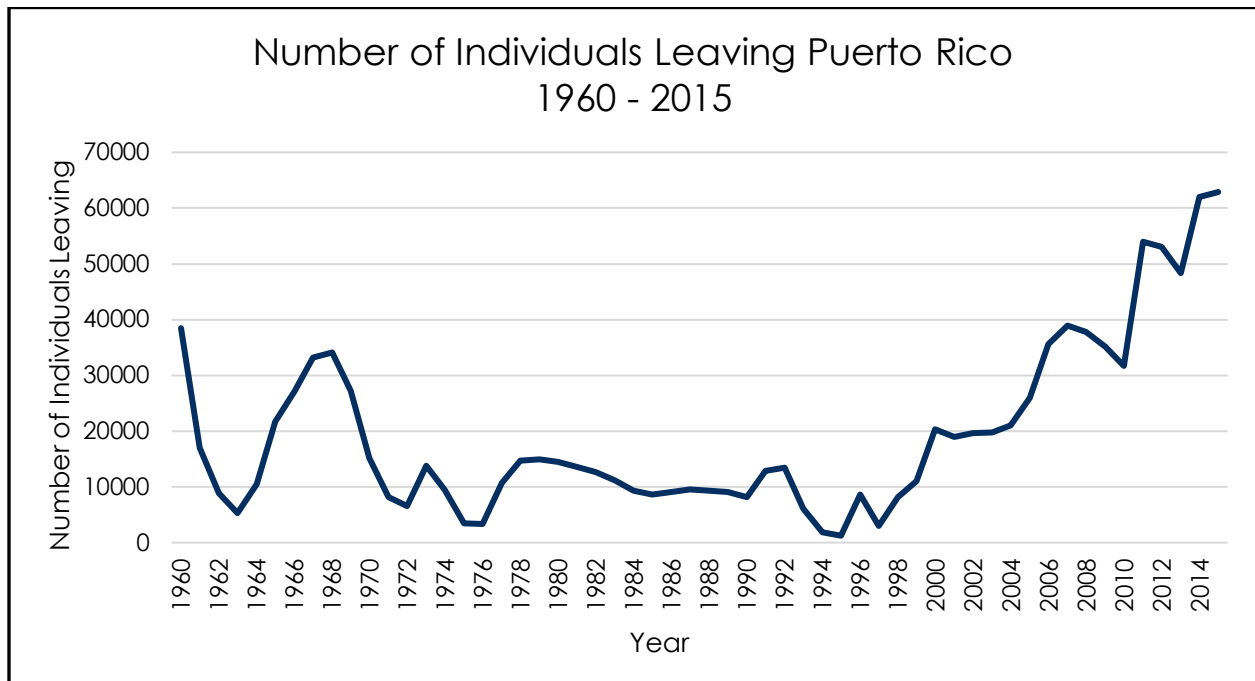


Figure 8: Estimated Number of Individuals Leaving Puerto Rico (1960 – 2015)¹²

According to **Figure 8**, from 1960 until 1997, fewer people left Puerto Rico each year. In 1997 when the phase out of Section 936 was announced, the trend quickly reversed. From about 2004 to 2007 there was spike in migrants as the last of the companies left the island. In comparing **Figures 9** and **10**, it can be deduced that from 2010 to 2015 many of the Puerto Ricans that left were from higher income municipalities.

¹¹ (United Nations Population Division, 2017)

¹² (United Nations Population Division, 2017)

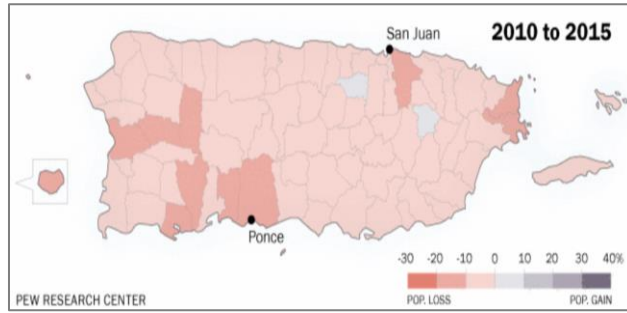


Figure 9: Puerto Rico’s Population Decline by Municipality (2010-2015)¹³

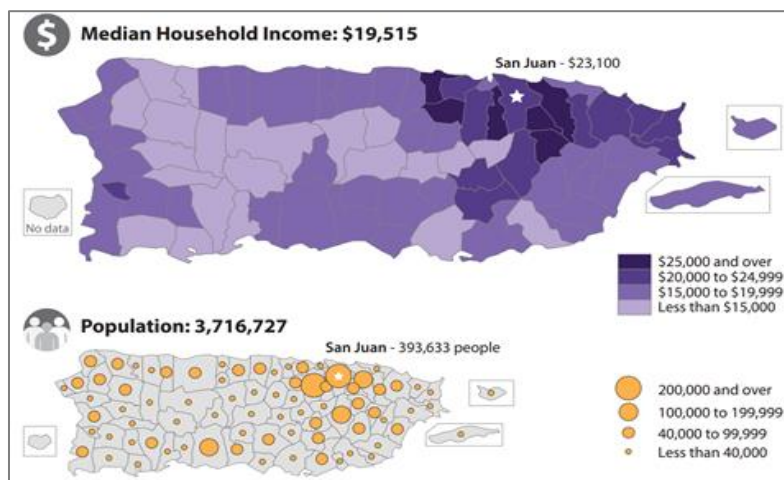


Figure 10: [Top] Median Household Income [Bottom] Population (2012)¹⁴

2.2.4 Current Conditions

On September 20, Hurricane Maria made landfall on the island of Puerto Rico. The hurricane not only left the entire island without power, but left the residents without access to food and clean water. Post-Hurricane Maria, residents were faced with little-to-no access to medication, dialysis and oxygen machines, gasoline, and other necessities. Reports from late October suggested that water-borne diseases, such as leptospirosis, were beginning to break out (Levenson & Smith, 2017). A month after landfall, reportedly 875,000 residents were still without running water, 2.6 million residents without electricity, and 66% of the island was without cell service (Hsiang & Houser, 2017). Although difficult to determine which areas of Puerto Rico were most impacted by Hurricane Maria, **Figures 9 to 10** offer some insight.

Figure 11 shows areas that were likely damaged based upon changes to the ground surface. The map was created by comparing before and after Hurricane Maria interferometric synthetic aperture radar

¹³ (Pew Research Center, 2016)

¹⁴ (Census Bureau, 2012)

(InSAR) images of Puerto Rico obtained by the Copernicus Sentinel Satellites. The color variation from yellow to red denotes a larger ground and building surface change (NASA, 2017).

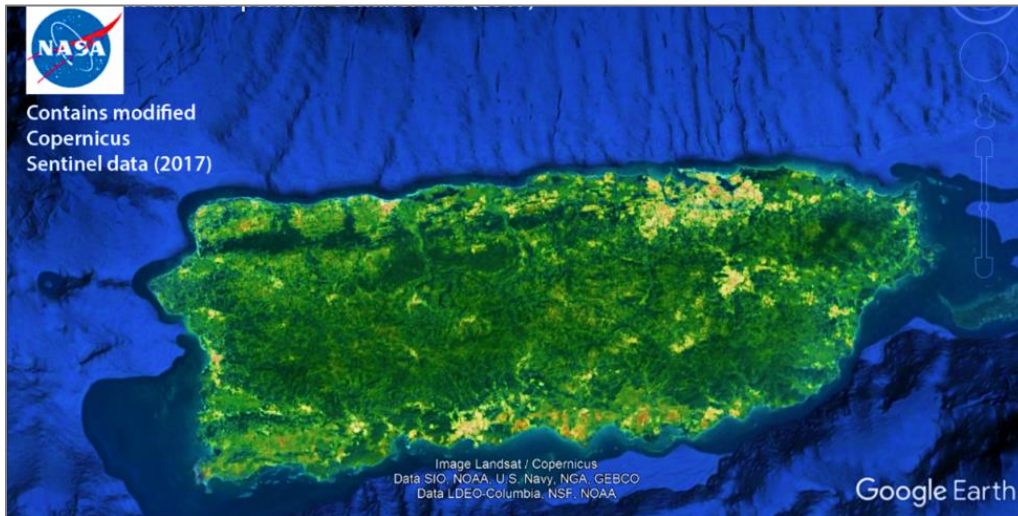


Figure 11: Ground Surface Change¹⁵

Figure 11 shows the change in the number of deaths across Puerto Rico between September 2015 and September 2017. Although this is not a perfect representation of how many people may have died due to Hurricane Maria, since it doesn't account for the island's rising death rate or other factors, it does help give an idea. A larger number of deaths in an area may elude to there being higher damage, less access to medication, a higher population of strained elderly, more crime or some other factor. The map was compiled by the New York Times (Robles, 2017). There were about 1,052 more death in September of 2017 than of 2015 (see **Figure 12**).

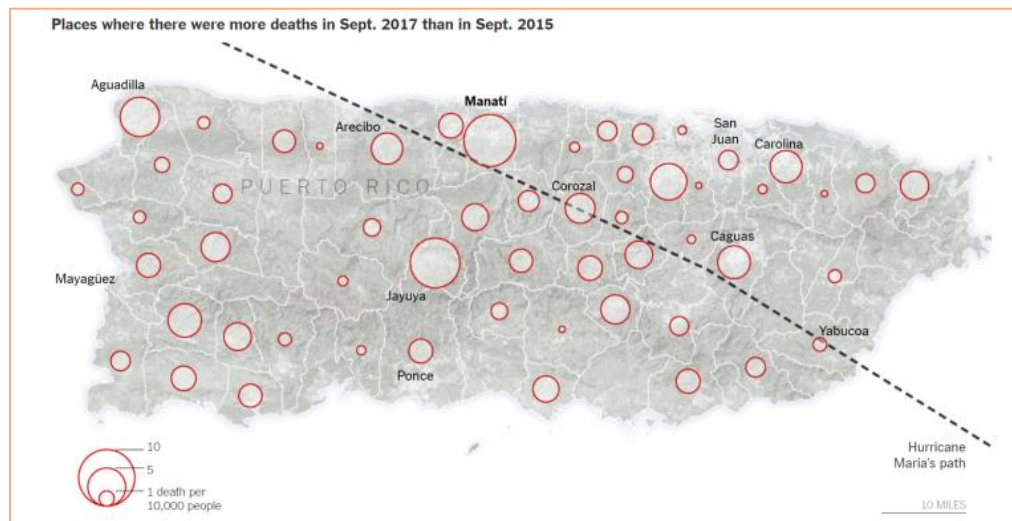


Figure 12: Hurricane Maria Deaths¹⁶

¹⁵ (NASA, 2017)

¹⁶ (Robles, 2017)

Figures 13 and 14 demonstrate the percent of out-of-service cell sites that have been restored, and the places where electricity has been restored, respectively. Comparing the two, it may be deduced that the areas that still have a high amount of out-of-service cell sites and little electricity restoration may be areas that are more damaged. The damage may be to the grid, actual facilities themselves or roads (thus restricting access). The maps were posted on status.pr on December 8th.

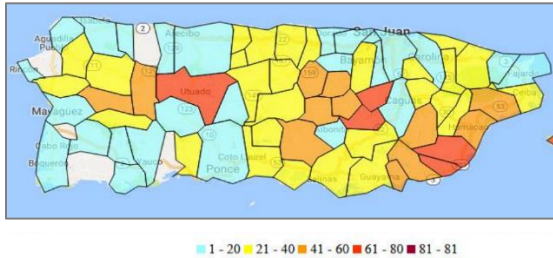


Figure 13: Percent Out-of-Service (Oct 6)¹⁷



Figure 14: Electricity Restoration (Oct 6)¹⁸

As of December 8th, updates by status.pr, a website run by the Puerto Rican Government that posts daily updates on Puerto Rico’s recovery, claim that 68.4% of the island had power, 92.8% has water and 77.8% has cell service. Because status.pr doesn’t offer historical data, we were able to track the restoration of 10 different services in Puerto Rico from October 6 to Dec 8 by using a website archiving service (**Figure 15**). To note, AEE Generation represents the amount of electricity that has been restored.

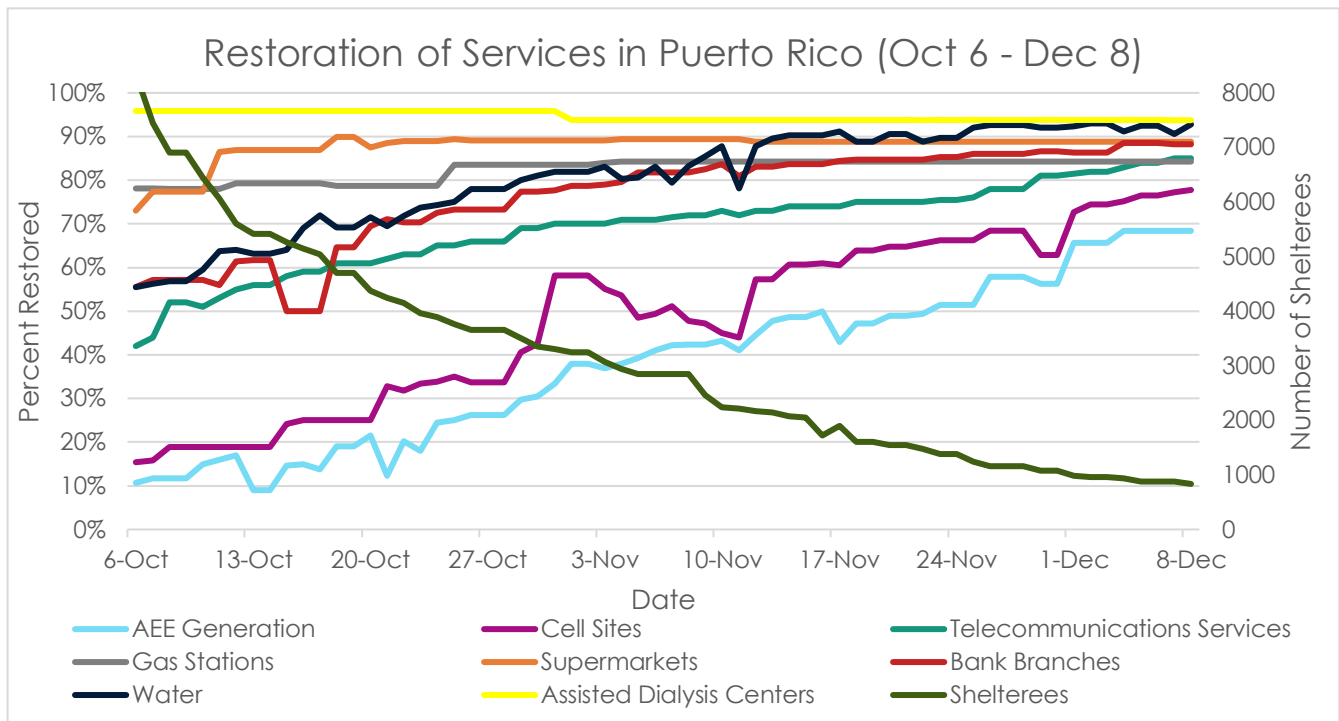


Figure 15: Restoration of Different Services (Oct 6-Dec 8)¹⁹

¹⁷ (Government of Puerto Rico, 2017)

¹⁸ (Government of Puerto Rico, 2017)

¹⁹ Adapted from (United Nations Population Division, 2017)

2.2.5 Post-Hurricane Maria: Exodus

Comparing literature review, there is little consistency on how many people are projected to leave Puerto Rico and over what time span. It is possible that some of this inconsistency may be attributed to how many days after Hurricane Maria made landfall that the projections were formulated. The more time that had passed since, the more real-time data they would be able to account for.

Throughout literature review and our interviews, the projections that were cited time and time again were those made by the Center for Puerto Rican Studies in early October. Those projections are based upon multiplying the average annual migration of Puerto Ricans to the U.S. between 2006 and 2014 by a factor of two (best case scenario) or three (worst case scenario). During an interview, Jorge Rodriguez Senior, who was the director of PREPA a few years ago, told us that Puerto Rico's government had its own internal, unpublished projection. These key projections are provided below (see **Figure 16**).

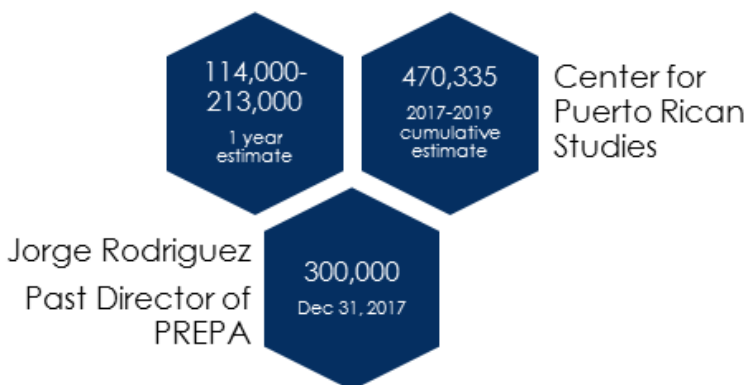


Figure 16: Key Projections²⁰

Since October 6th, Florida's Division for Emergency Management has posted near daily updates on how many individuals have arrived in Florida from Puerto Rico since October 4th. A compilation of this data is presented in **Figure 16**. Comparing this data to the projections from the Center for Puerto Rican Studies and Jorge Rodriguez, it is evident that the migration is larger than originally thought. The number of individuals that arrived in Florida between October 6th and December 8th alone already surpassed the Center for Puerto Rican Studies' one-year estimate. Even if the number of individuals arriving in Florida from Puerto Rico represents 75% of the total in the United States, the U.S. total will easily pass Jorge Rodriguez's projection by December 31. If, on the other hand, Florida represents 50% of total U.S. arrivals, then total U.S. arrivals passes the Center for Puerto Rican Studies' 2017-2019 cumulative estimate. This disparity between what has been previously projected and what is occurring warrants the need for new projections.

²⁰ (Melendez & Hinojosa, 2017; Rodriguez, 2017)

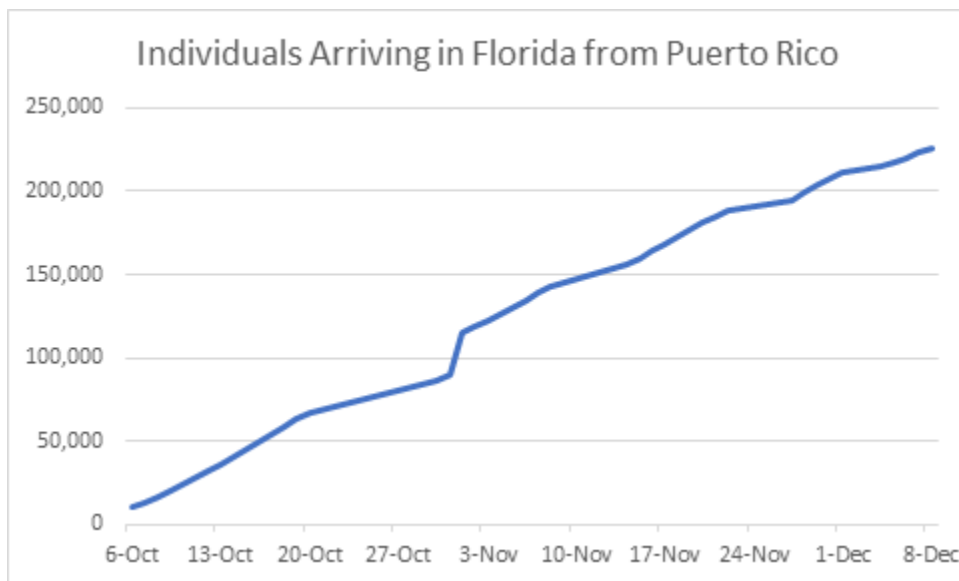


Figure 17: Individuals Arriving in Florida²¹

Projections aside, in the week following Hurricane Maria, locals in Patillas, Puerto Rico estimated that some 60% of the town’s residents favored leaving the island. This mentality seemed to be consistent nationwide since the airports in Puerto Rico were packed with residents waiting to get on a flight to the U.S. mainland (Cabranes & Lopez, 2017). Some waited for days, sleeping on the floor during the night.

In a brief interview with Today News on September 28th, Governor Ricardo Rossello said that “if conditions are inhospitable, if we don’t have the resources to rebuild properly, then yes” an exodus will occur (Today, 2017). Looking at **Figure 15: Restoration of Different Services (Oct 6-Dec 8)**, it has been more than two months since Puerto Rico had normal electricity, water and cell service capacity. In some parts of Puerto Rico, they have not had electricity since early Hurricane Irma. Comparing this to how many people have arrived in Florida (**Figure 17**), we see that the potential exodus did indeed occur.

2.3 The United States

This section presents a brief history of overall migration and Puerto Rican migration to the United States. Second, the section discusses the post-Hurricane Maria diaspora in the United States both at the state level and specific to Massachusetts. The last sub-sections examine what institutional resources for resettlement are available for Puerto Ricans in the City of Worcester.

2.3.1 History: Migration Trends in the U.S.

Hurricane Katrina

This is not the first time that the U.S. has seen a mass exodus of internally displaced migrants due to climate-induced disasters. More than a decade before the 2017 Atlantic Hurricanes, Hurricane Katrina demonstrated just as devastating effects of rapid intensification due to climate change. In late August

²¹ (Division of Emergency Management, 2017)

2005, Hurricane Katrina was a Category 5 storm but downgraded to a Category 3 before making landfall on New Orleans, LA. In New Orleans, floods surged over 5 m high as well as covered 70-80% of New Orleans (IPCC, 2007). In addition, with 55% of the city's properties inundated by these floods, the region's property losses accumulated to over US\$40 billion. Aside from flooding, Katrina laid devastation to New Orleans in parallel to Hurricane Maria's effects on the island of Puerto Rico. People in New Orleans "ran out of food and supplies," as well as living "with no power" (Jan & Martin, 2017). Additionally, Hurricane Katrina displaced 650,000 people and destroyed over 217,000 homes along the Gulf Coast (IPCC, 2007). Those displaced went to neighboring states such as Atlanta, GA, and Houston, TX. One source suggests that "while a natural disaster may induce people to move, migrants are often still able to choose their destination" (Paxson & Rouse, 2008). This can be seen in the aftermath of Hurricane Katrina where as many as 250,000 evacuated from New Orleans to Houston. Nearly 10-16% of those evacuees made Houston their home for good (Jan & Martin, 2017).

What is important to note is this, Katrina left thousands displaced and induced people to migrate somewhere else in one way or another, "never to return" (Jan & Martin, 2017). In 2015, there was a consensus that New Orleans had not return to what it had once been. Interesting enough, sources speak to the fact that Katrina and its aftermath did not affect all equally and that some areas had come back richer.

At this time, there is no evidence or knowledge that leads to identifying whether Puerto Ricans displaced by Hurricane Maria will return to the island or stay here permanently. Needless to say, Katrina may be similar to Maria in the sense of rapid intensification as well as the similar damaging effects, however there stands a significant difference between those affected, New Orleans and Puerto Rico. While those displaced back then along with those displaced recently are U.S. citizens, migration motives create a divide in these similarities. In respect to Hurricane Katrina, people in New Orleans were evacuated by mandatory state demands and thus left. In regards to Hurricane Maria, there is a gap in what the motive for migration is because the migration is currently happening and is projected to continue for a few months.

Past-Migration Trends

Hurricane Maria aside for the moment, the United States is undoubtedly recognized as a 'hotspot' for migrants. Not only classified as a developed country, which is an attractive attribute for migrants coming from developing countries, the U.S. has many, large cities and strong industry. Historically, urban areas have been key destinations for migrants due to large economic activity (thus strong job markets) and increased housing opportunities. Not surprising, the top five states by number of immigrants in 2015 were California (10.7 million), Texas (4.7 million), New York (4.5 million), Florida (4.1 million), and New Jersey (~2 million) (Zong & Batalova, 2017). There was a total of 46.6 million foreign-born persons in the U.S. in 2015. As a reminder, immigrants are just one type of migrant. Expanding to that broader definition, there were about 54 million migrants (immigrants, internally displaced persons, refugees, et cetera) in the U.S. in 2015. This represented 22.1% of the total 244 million migrants globally in that year (UN DESA, 2015). Looking at **Figure 18**, which shows the number immigrants in the country from 1850 to 2015, it is clear the number of immigrants has

risen drastically since the 1970s. That said, the percentage of immigrants versus the total U.S. population has risen much slower due to a burgeoning overall population.

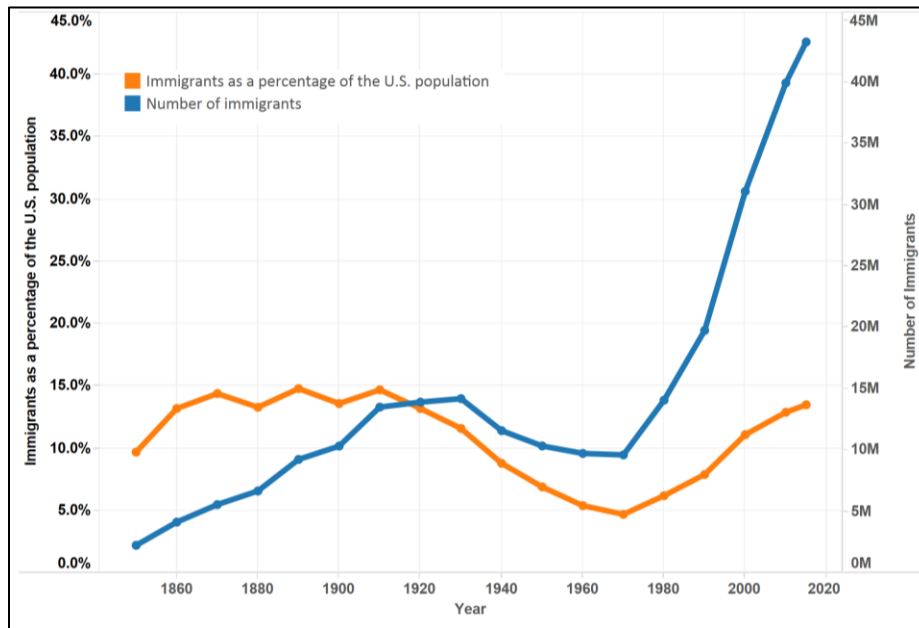


Figure 18: Number of Immigrants and Their Share of the Total U.S. Population, 1850-2015²²

2.3.2 Pre-Hurricane Maria: Puerto Rican Diaspora in the U.S.

In 2015, there were reportedly 1,740,000 Puerto Ricans living in the United States. Looking at **Figure 19**, much of the total (island and mainland born) Puerto Rican population in the United States in 2010 was concentrated to Southern California, Florida, New England and Texas. Comparing this to **Figure 20**, it is seen that island born persons that had migrated to mainland prior to 2010 settled in areas that had established populations of Puerto Ricans. This supports the notion that Puerto Rican migrants tend to flock to areas where their friends, family and existing Puerto Rican communities are.

²² (Migration Policy Institute, 2017)

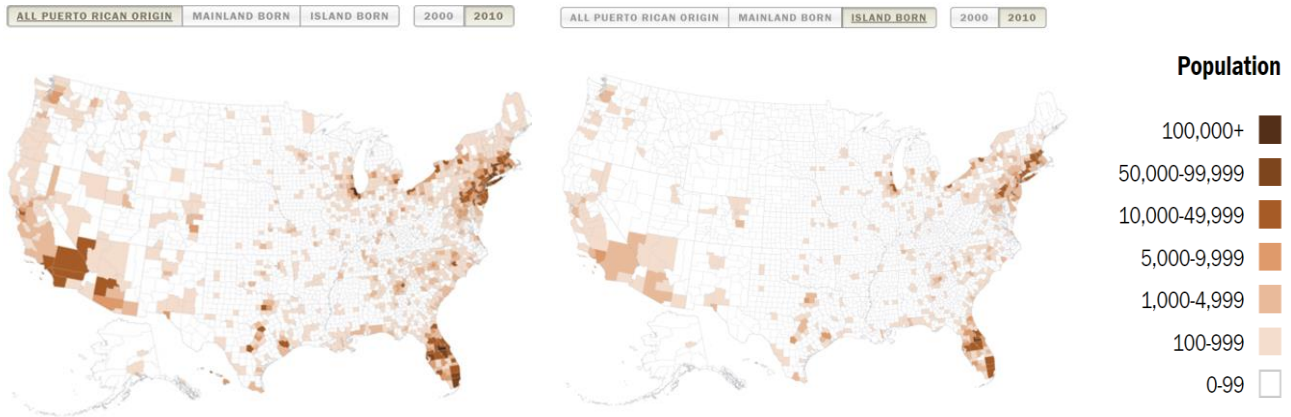


Figure 19: Total Puerto Rican Population by County: 2010²³

Figure 20: Island Born Puerto Rican Population by County: 2010²⁴

As part of the Center for Puerto Rican Studies’ Hurricane Maria projections, they included a breakdown for the 10 states they estimated would receive the largest number of migrants. This breakdown was based upon the average number individuals that had arrived in each state annually between 2013 and 2016. The table is organized from greatest to least based upon the 2013-2016 migration proportions. Comparing past migration distribution proportions to the actual Puerto Rican population in the state and the figures above proves utile because it shows how although migrants are settling in areas with existing Puerto Rican communities, they are not distributing in accordance with total population proportions.

Rank	State	Puerto Rican Population 2016	Average Migrants 2013-2016	Migration Estimates	
				Lower Bound	Upper Bound
	United States	5,450,472	64,933	114,396	212,607
1	Florida	1,067,747	24,221	40,998	82,707
2	Pennsylvania	444,263	6,333	6,542	27,051
3	Texas	196,460	5,500	5,276	27,153
4	New York	1,081,110	3,822	7,350	11,877
5	New Jersey	470,143	3,251	3,504	13,572
6	Massachusetts	319,042	3,109	3,868	13,773
7	Connecticut	298,245	2,614	3,676	11,334
8	Ohio	122,204	2,420	680	13,107
9	California	214,255	1,145	894	6,741
10	Illinois	209,638	1,015	1,918	3,285

Table 1: Center for Puerto Rican Studies Projected Diaspora on mainland US²⁵

The only source that provided regular updates on how many individuals had arrived from Puerto Rico since Hurricane Maria was Florida’s Division for Emergency Management. They post near daily

²³ (Pew Research Center, 2014)

²⁴ (Pew Research Center, 2014)

²⁵ (Melendez & Hinojosa, 2017)

updates. The result from October 6th until December 8th may be seen in **Figure 21**. Comparing this data to **Table 1**, it is quite clear that as of December 8th arrivals in Florida alone exceeded the Center for Puerto Rican Studies' upper bound, post-hurricane projection for both Florida arrivals and total U.S. arrivals. As far as we could tell, no updated projections have been published since. The disparity between what was projected and what is occurring clearly warrants the need for making our own.

2.3.3 Post-Hurricane Maria: Puerto Rican Diaspora in the U.S.

Since migrants from Hurricane Maria are likely to flock to areas where their friends, family and existing Puerto Rican communities are, these are likely key locations for post-Hurricane Maria diaspora. Operating on this assumption, and that they will follow 2013-2016 migration trends, it is expected that migrants leaving Puerto Rico will distribute across the country as shown in **Figure 21** and listed in **Table 1**.

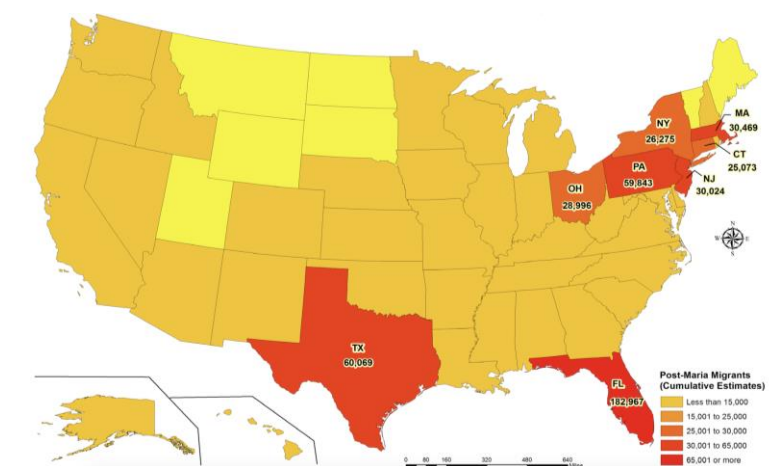


Figure 21: Post-Maria, Puerto Rican Diaspora: 2017 Cumulative Estimates²⁶

2.3.4 The Commonwealth of Massachusetts

As seen in **Table 1**, in 2016 Massachusetts had a population of 319,042 Puerto Ricans; the state with the sixth highest. Furthermore, between 2013 and 2016 an average of 3,109 migrants arrived annually in the state. From 2006 to 2014 the state received approximately 16,400 total Puerto Ricans; this represents 4.7% of the total Puerto Rican migrants that arrived 2013 to 2016. The distribution of the existing population and new arrivals across the state can be seen in **Figure 22**.

²⁶ (Melendez & Hinojosa, 2017)

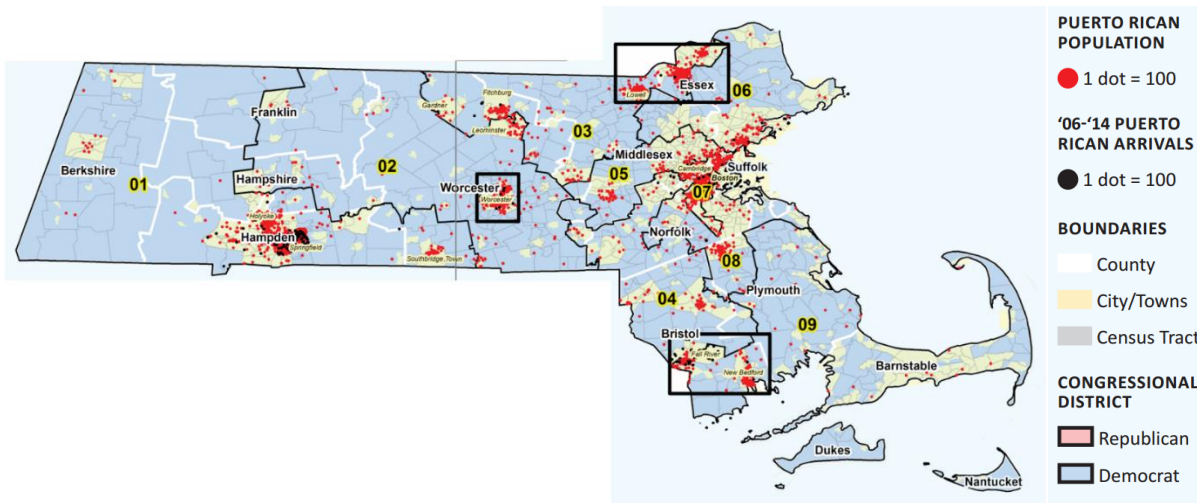


Figure 22: Existing & Arriving Puerto Rican Population Diaspora in Massachusetts²⁷

A graphical representation of the percent distribution of the existing Puerto Rican population and new arrivals across Massachusetts counties between 2006 and 2014 can be seen in **Figure 23** below.

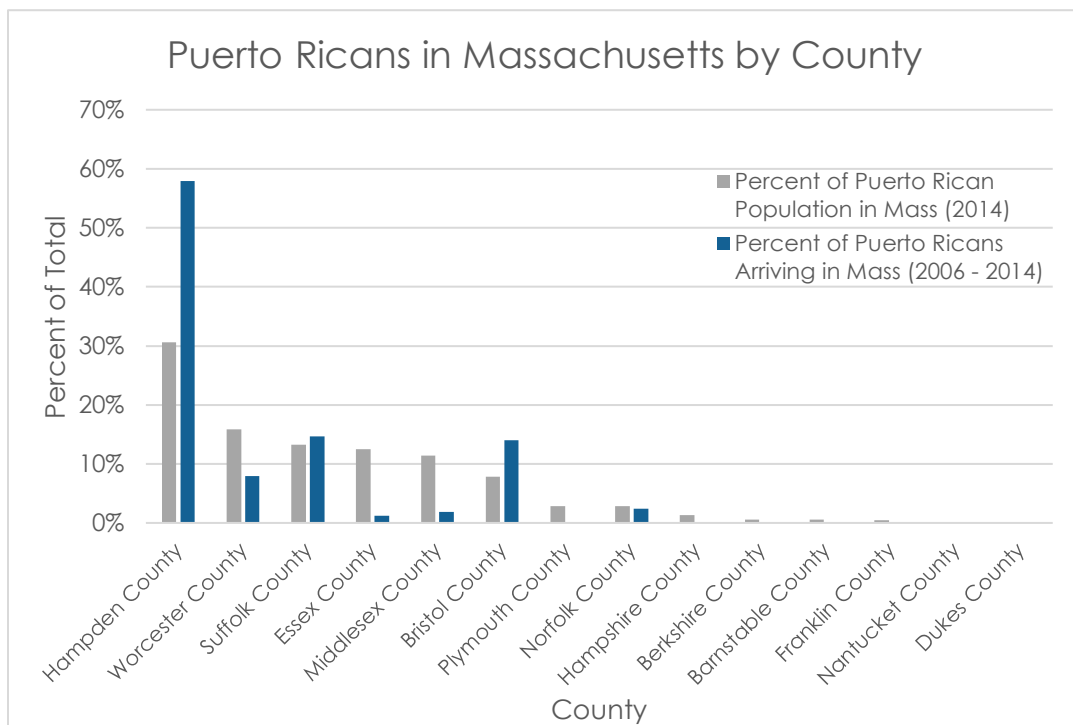


Figure 23: Percent Distribution of Puerto Ricans in Mass by County²⁸

Throughout our literature review the only projection for the number of Puerto Ricans arriving in Massachusetts that we came across was produced by the Center for Puerto Rican Studies (**Table 1** and **Figure 21**). The 1-year projection estimated that Massachusetts would receive about 13,773 individuals. The 2017-2019 projection estimated that 30,469 individuals would arrive to the state (Melendez & Hinojosa, 2017).

²⁷ (Center for Puerto Rican Studies, 2016)

²⁸ (Center for Puerto Rican Studies, 2016)

2.4 The City of Worcester

This chapter introduces the location our project is focused upon: The City of Worcester. The section starts with a preface as to why Puerto Ricans are migrating to Worcester. The last sub-section provides insight accumulated from online research as to what individuals and organizations within the City of Worcester have done to assist the incoming Puerto Rican migrants. The information expressed herein ultimately set the baseline of what kinds of institutional resources will be focused on as well as what issues should be addressed for the project.

2.4.1 Pre-Hurricane Maria: Puerto Rican Migration

According to the Center for Puerto Rican Studies, prior to Hurricane Maria Worcester County had about 45,150 Puerto Ricans in residence, representing 5.6% of the county's total population and 15.9% of the total number of Puerto Ricans in Massachusetts in 2014. Between 2006 and 2014 the county received approximately 1,300 additional Puerto Rican migrants. This represented 7.9% of the total number of Puerto Ricans arriving in Massachusetts during those years (Center for Puerto Rican Studies, 2016). The distribution of the existing population and arrivals may be seen in **Figure 24**.

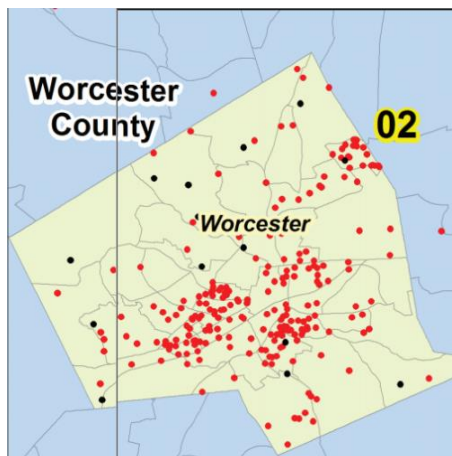


Figure 24: Distribution of Puerto Ricans in Worcester County²⁹

2.4.2 Post-Hurricane Maria: Puerto Rican Migration

Despite extensive literature review, we did not come across any projections for Puerto Rican migrants arriving in Worcester County due to Hurricane Maria. This warrants the need to make our own projections.

2.4.3 Post-Hurricane Maria: Actions Taken

Post-Hurricane Maria the City of Worcester is preparing for the arrival of the island residents. Since the hurricane made landfall on the island many meetings in Worcester have been held to discuss the future of Worcester in respect to the incoming Puerto Ricans. Mayor Joseph Petty has put in place a special advisory board for housing, education, employment and healthcare. The purpose of the boards

²⁹ (Center for Puerto Rican Studies, 2016)

is to help determine how many displaced Puerto Ricans have arrived and to “develop the most effective processes to offer [aid]” (O’Connell, 2017).

Housing

It is well documented that Puerto Ricans are migrating from the island and arriving in the City of Worcester due the effects of Hurricane Maria. Alex Corrales, the Executive Director of Worcester Housing Authority, has expressed concern about the shortage of housing for those arriving in Worcester. Specifically, the low-income housing market operated by the Worcester Housing Authority was already at capacity prior to the hurricane. At time of write, the Worcester Housing Authority has instituted two short-term housing solutions. First, they introduced a temporary preference for hurricane victims in the low-income housing market. Second, they extended the length of the guest-stay limit to allow Puerto Ricans to stay with their relatives longer (O’Connell, 2017). Both prior and post-hurricane they offered Section 8 housing vouchers to help those in need find affordable housing. So far the City of Worcester has seen a united front among local leaders.

I want them to feel welcome here.

-Joseph Petty, Mayor for the City of Worcester³⁰

[Our team will do] everything we can do to ensure there is assistance and support in place..

-James McGovern, Congressman³¹

Healthcare

There is a major lack in information on where arriving Puerto Ricans should go for healthcare. The only systems in place at time of write were that organizations such as CENTRO and the Family Community Center could help arriving migrants register for MassHealth and direct them to the appropriate organization for further assistance.

Employment

A 2014 report by the Center for Puerto Rican Studies found that the unemployment rate for Puerto Ricans in Massachusetts was 16.5%. The national average on the U.S. mainland was 11.6%, while it was 18.9% in Puerto Rico. Furthermore, the “average earnings of full-time, year-round Massachusetts Puerto Ricans (\$43,027 for men and \$39,546 for women) were” 28% “lower than for stateside Puerto Ricans (\$50,756 for men and \$42,263 for women)” (Center for Puerto Rican Studies, 2016). That said, earnings were 20% higher than for those in Puerto Rico. So, although Puerto Ricans in Massachusetts do earn more and a greater percent are employed than in Puerto Rico, they are worse off compared to the national mainland average.

Looking forward, School Committee Member Brian O’Connell and fellow committee member Dianna Biancheria supported the idea that “teachers from Puerto Rico could have skills, particularly in language education that the district could use”. Furthermore, Biancheria stated “it truly could be a win-

³⁰ (O’Connell, 2017)

³¹ (O’Connell, 2017)

win situation” in respect to providing job opportunities to arriving Puerto Rican in the school system. (O’Connell, 2017).

Education

There are two parts to consider with respect to Puerto Rican students enrolling in Worcester schools. One side is the capacity in which schools can accept and enroll the younger generation of these Puerto Rican evacuees. The other side is the potential impact of an abrupt increase in enrollment within schools. According to the “Telegram”, a local online newspaper, local officials are concerned about the longer-term effects of a sudden influx of student enrolling as well as the need for additional funding (O’Connell, 2017).

School committees in Worcester are strategizing ways to achieve a smooth integration of Puerto Rican students. As part of this they have proposed that the State Department of Elementary Education [DESE] “relax its licensing requirements to allow Puerto Rican teachers” to teach in Worcester schools. Roberto Diaz of Centro Las Americas, supports this idea due to the benefit of having Puerto Rican teachers be able to help arriving Puerto Rican students adjust in the schools more smoothly. As evidence he described how he had moved to the U.S. when he was nine and how difficult his transition into the states was. According to Mr. Diaz, having a Puerto Rican teacher “kind of made [him] feel [he] was at home” (Palumbo, 2017). Within Worcester, the school population is 41.8% Hispanic, and therefore is already well equipped to manage Spanish speaking students (Castillo, 2017).

3.0 Methodology

The goal of this project was to evaluate if the institutional resources in place in Worcester can absorb the projected number of Puerto Ricans arriving post-Hurricane Maria. As there were no pre-existing projections for Puerto Rican migrants arriving in Worcester due to Hurricane Maria, this warranted the need to make our own. We accomplished our project goal through the following objectives:

- **Objective 1:** Project how many Puerto Ricans will migrate post-Hurricane Maria to the City of Worcester, Massachusetts.
- **Objective 2:** Identify what institutional resources for resettlement are in Worcester for post-Hurricane Maria, Puerto Rican migrants.

3.1 Overview of Research Methods

Our research plan for this project is outlined below in **Figure 25**. To address Objective 1, we conducted further online research, supplement to what was already examined in Chapter 2.0: Literature Review. We examined data on past migration trends from Puerto Rico to the mainland U.S., the pre-existing economic crisis in Puerto Rico, the restoration of services post-hurricane, and flights leaving the island for the mainland U.S. post-hurricane. To complete Objective 2, we conducted semi-structured interviews with a number of stakeholders in the City of Worcester who are helping with the resettlement of Puerto Ricans, and, attended private and public meetings. A list of our interviewees can be found on **Appendix B**. We interviewed them to learn what actions they were taking, what issues there were in helping the migrants, and how many migrants they projected would arrive in the city. A list of the meetings attended can be found in Section 3.1.

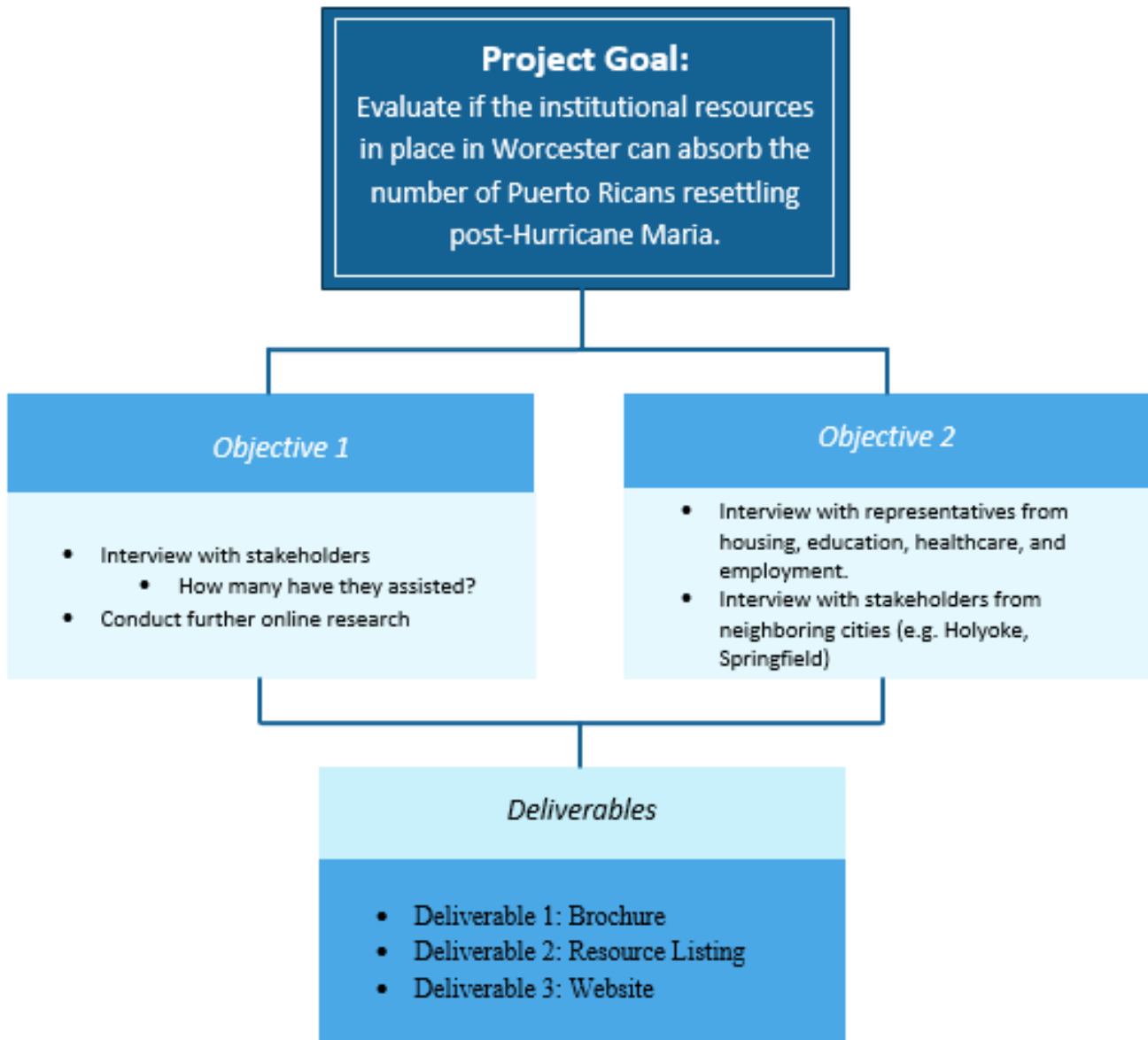


Figure 25: Overview of Research Methods

3.2 Objective 1: Projection of Puerto Ricans Coming to Worcester

Our Interviewees' Projections

To contextualize our projections, we asked all 13 interviewees how many Puerto Ricans they, first, anticipated leaving the island and, second, expected to arrive in Worcester. Each interviewee was asked the same projection questions. A brief outline of the questions is shown below:

- How many people do you anticipate will leave Puerto Rico post-Hurricane Maria?
 - Over what time span? (in months)
 - Why do you think this?
 - What evidence or supporting information do you have?
- How many Puerto Ricans do you expect to come to the City of Worcester?

- Why do you think this?
- Do you think resources in the city will run out of capacity for them?
- How many Puerto Ricans have come to you for assistance post-hurricane?
- How long do you think the majority of Puerto Rican migrants are staying? (Respond in months)
 - What do you believe are the main reasons for people staying?
 - Where are these people living now?
 - Who are they living with? (e.g. with family, friends, hotel, own place, homeless)
- What are their main challenges since arriving in Worcester?

Unfortunately, few people offered projections and when they did the estimates were never on the same time scale (i.e. by December one-year) or about the same geographic area (i.e. United States, Central Massachusetts, Western Massachusetts). Several interviewees also cited the Center for Puerto Rican Studies report rather than offering their own projections. The outcome of these interviews is discussed in the following Chapter 4.0 Findings & Analysis.

Our Projections

As established in Sections 2.2.5, 2.3.2, and 2.4.2, we needed to establish our own projections for how many people may migrate from Puerto Rico to the United States and to the City of Worcester. To do so we created two regression models in Microsoft Excel and used various statistics for scaling the data to the United States as a whole, the Commonwealth of Massachusetts, and Worcester. The aggregate model accounted for 28 different factors including economic data, migration trends, and service restoration statistics for Puerto Rico. **Figure 26** provides a brief overview of the models and scalars.

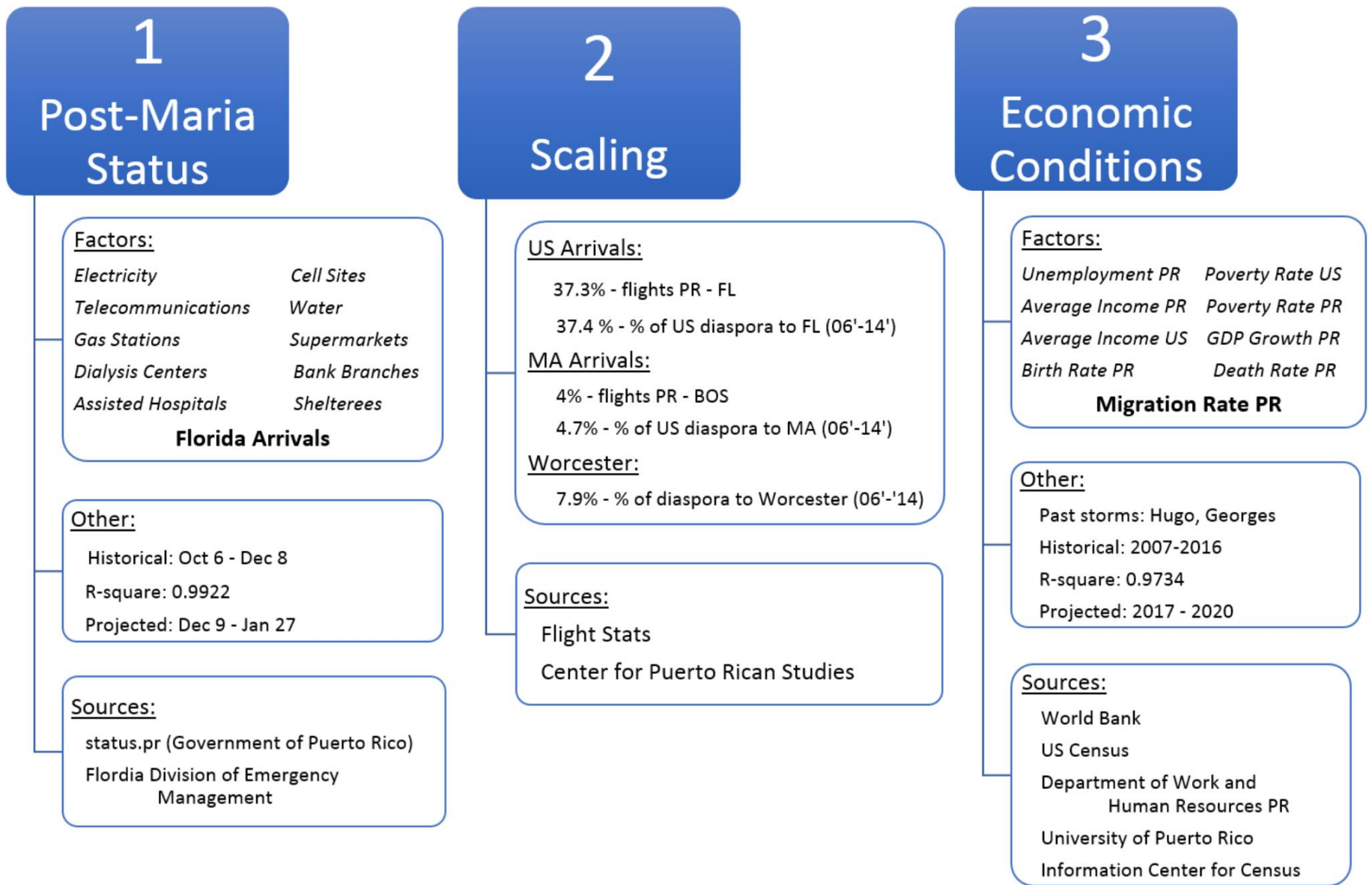


Figure 26: Overview of Aggregate Projection Model

Step One

The first regression model, titled “Post-Maria Status”, uses data on the recovery of services in Puerto Rico from October 6th until December 8th (**Figure 15**) to calculate the number of Puerto Rican individuals that had arrived in Florida between October 4th and December 8th (Figure 15). October 6th was the first day that Florida’s State Emergency Response Team (SERT) published data on the number of Puerto Ricans that had arrived in the state since October 4th due to Hurricane Maria. Data collection for Objective 1 ended on December 8th. The regression equation for *Individuals Arriving to Florida* is provided below. The coefficients were rounded to one decimal place.

$$\begin{array}{l}
 \text{Individuals Arriving to Florida} \\
 \hline
 1,487,162.2 \\
 +(84,224 * \text{AEE Generation}) \\
 +(35,762.3 * \text{Cell Sites}) \\
 +(29,138.1 * \text{Telecommunications Services}) \\
 -(361,375.5 * \text{Gas Stations}) \\
 -(298,177.6 * \text{Supermarkets}) \\
 +(74,336.3 * \text{Bank Branches}) \\
 -(36,544.8 * \text{Water}) \\
 +(2,389.9 * \text{Assisted Hospitals}) \\
 -(1,046,807.9 * \text{Assisted Dialysis Centers}) \\
 -(23.4 * \text{Number of People in Shelters})
 \end{array}$$

The model had an R-square value of 0.9922. This means that the model was 99.22% accurate in predicting the number of Puerto Ricans that had arrived in Florida between October 4th and December 8th. First, we projected the restoration of each individual service using a combination of the ‘Forecast’ function in Microsoft Excel and a two-degree polynomial trend line (which had an R-square value of 0.85 or higher). Next, we ran the regression equation using the projected restoration of the services to estimate how many Puerto Ricans may arrive in Florida between December 9th and January 27th, 2018. By January 27th, the following factors are projected to be restored to pre-Hurricane Maria levels:

- AEE³² Generation (electricity)
- Cell Sites
- Telecommunications Services
- Bank Branches
- Water
- People in Shelters

Potential flaws in the model includes, but are not limited to: inaccurate reporting on status.pr of restoration progress; not including other factors, such as the number of schools and businesses that are temporarily or permanently closed; inaccurate projections for the restoration of services on the island; potential future power outages and set-backs to the restoration of services; and not including persons that left between when Hurricane Maria made landfall on September 20th and when SERT began

³² Autoridad Energia Electrica

keeping records on October 4th. In summary, this regression model projected the number of individuals that may arrive in Florida from Puerto Rico betwixt October 4th, 2017 and January 27th, 2018.

Step 2

After projecting the total number of individuals that may arrive in Florida from Puerto Rico between October 4th and January 27th, we scaled it to the potential number of total arrivals in the United States, the Commonwealth of Massachusetts, and the City of Worcester.

Conducting a random sample of eight days betwixt October 6th and December 8th, we were able to determine what the average percent of total commercial departures from Puerto Rico to the U.S. mainland that were arriving in Florida was³³. We prefaced ‘total’ because we aggregated data from each of three airports in Puerto Rico that had flights to the mainland. The two other commercial airports only flew within the island and/or Caribbean. We justified using this proportion as an appropriate scalar rather than the historic percent of Puerto Rican migrants that arrived in Florida between 2006 and 2014 (**Table 1**) because only so many people can arrive in the state as there are flights available. Thus, it stood to reason that by dividing the total number of Florida arrivals by the percent of departures headed to Florida, we could estimate the total number of arrivals to the U.S.

Using the same method, we could estimate what proportion of total U.S. arrivals from Puerto Rico may arrive in Massachusetts due to the downed services. Referring to Figure 23, it was estimated that between 2006 and 2014 Worcester County received 7.9% of the total number of Puerto Rican migrants that came to Massachusetts (Center for Puerto Rican Studies, 2016). By multiplying this by the total estimated arrivals to Massachusetts, we projected how many migrants may come to Worcester.

Potential flaws in scaling include, but are not limited to: an inaccurate determination of how many total commercial flights from October 6th to December 8th that left Puerto Rico for the U.S. mainland went to Florida and Massachusetts due to a small sample size; the average plane departing for Florida or Massachusetts may have carried a greater or fewer number of passengers than the average commercial flight to the U.S. mainland between October 6th and December 8th; flights may not necessarily have been full; passengers could have included a disproportional number of Puerto Rican residents to others (i.e. visitors to the island that were trapped due to the storm, disaster aid volunteers); not including private flight departures from Puerto Rico to the U.S. mainland; and those arriving in Massachusetts not dispersing as they did between 2006 and 2014.

Step 3

When developing our projections, we assumed that once services are restored on January 27th, Puerto Ricans will continue leaving for the U.S. mainland due to the island’s economic crisis. The second regression model, titled “Economic Conditions”, uses economic data from 2007 to 2016 (including Figure 5) to calculate the migration rate. The regression equation is provided below. The coefficients were rounded to seven decimal places.

³³ We used a professional level subscription to flightstats.com, a website that records historical flight data. Ideally, we would have analyzed data for each day, but it would have cost nearly \$10,000 (10 cents per flight) to export the data to Microsoft Excel. Because it took an average of 30 minutes to analyze one day’s worth of data, we were limited in what we could reasonably accomplish for the sample size.

$$\begin{array}{l}
 \text{Migration Rate} \\
 \hline
 0.03398701 \\
 - (0.0000015 * \text{Mean U.S Household Income}) \\
 + (0.0000037 * \text{Mean PR Household Income}) \\
 - (0.0409599 * \text{PR Unemployment Rate}) \\
 - (0.0440474 * \text{Annual \% GDP Growth}) \\
 - (0.1390581 * \text{U.S Poverty Rate}) \\
 - (0.0455072 * \text{PR Poverty Rate})
 \end{array}$$

The model for *Migration Rate* had an R-square value of 0.9734. This means that the model was 97.34% accurate in predicting the migration rate between 2007 and 2016 using the six economic factors. We then projected each individual economic factor using a combination of the ‘Forecast’ function in Microsoft Excel; a two-degree polynomial trend line (which had an R-square value of 0.85 or higher); the effects of Hurricane Hugo and Georges on the Puerto Rican economy; and other sources’ projections on how Hurricane Maria will affect Puerto Rico’s economy. Running the regression equation using these projected factors, we were able to estimate what the migration rate might have been between 2017 and 2020 without Hurricane Maria, and what the best and worst-case scenarios may be due to Hurricane Maria. As described in Section 2.2.3, using the projected migration rate, projected natural rate and the island’s population in 2016, we were able to estimate the total number of migrants leaving the island annually between 2007 and 2020.

Potential flaws in this model include, but are not limited to: inaccurate historical data on the economic factors; inaccurate projections for the economic factors and natural rate; Puerto Rico having a different population in 2016 than what was reported by the United Nations Population Division; the summation of the migration rate and the natural being an incomplete representation of population growth; and economic factors not being as strong of a reason for migration as assumed.

Step 4

Referring to Table 1, between 2006 and 2014 Massachusetts received 4.7% of all Puerto Rican migrants arriving on the mainland. We assumed that flights return to normal upon the restoration of key services on the island and those leaving the island due to the economic crisis post-Hurricane Maria will follow past migration trend. By multiplying the number of projected arrivals in the United States by 4.7%, we determined how many may arrive in Massachusetts. By multiplying Massachusetts arrivals by 7.9% we determined how many may arrive in Worcester.

Step 5

The final step in creating our model for projecting the migration of Puerto Ricans to the U.S. and Worcester from January 1st, 2007 to December 31, 2020 was to aggregate data from the previous four steps. First, we included the historical data from 2007 to 2016. Then, we added the projected migration due to economic conditions from January 1st, 2017 to September 19th, 2017 (Step 3) plus the projected October 4th to December 31st migration to the U.S. mainland due to the downed services in Puerto Rico post-Hurricane Maria (Step 2). Next, we added the projected January 1st, 2018 to January 27th migration due to downed services in Puerto Rico (Step 2) plus the projected migration (best and worst-case) due to economic conditions post-Hurricane Maria for the remainder of 2018 (Step 3). Finally, we

included the projections (best and worst-case) for the migration due to the economic crisis for 2019 and 2020 (Step 3).

The Massachusetts and Worcester projections were produced via the methods above and the scaled number of migrants projected to arrive in the state and city (Step 2 & 4).

Potential flaws in the aggregate model may include, but are not limited to: any of the previously mentioned potential flaws; incorrectly assuming the migration diaspora will return to 2006-2014 proportions following January 27th, 2018; assuming 100% of individuals leaving Puerto Rico move to the United States mainland; and human error. That said, the aggregate model does account for 27 factors, past data, how Hurricanes Hugo and Georges affected the Puerto Rican economy, and both regression models have an R-square value above 0.95.

3.3 Objective 2: Identify Institutional Resources in Worcester

The purpose of this objective was to identify what institutional resources for resettlement are in place in Worcester for victims of Hurricane Maria from Puerto Rico. In addition to identifying what institutional resources are in place, we aimed to understand how the institutions providing the resources were adjusting post-hurricane. Examining how interviewees, and their organizations if applicable, were doing in relation to aiding the Puerto Ricans was an important aspect to understand. Furthermore, we wanted to identify what efforts were successful so far and what issues were the interviewees facing. Moving forward, we aimed to compare the differences or similarities between what was working and what was not.

During one particular meeting held by CENTRO in which representatives from various housing authorities were in attendance, it became clear that the attendees were not all on the same page concerning what housing resources were available. Moreover, the meeting revealed there was a lack of conformity in which these housing authorities were not aware of one another's efforts; this meaning that an issue highlighted by one individual was in fact already being addressed and handled. Once again, the findings from these meetings and interviews will be presented in the next chapter. The meeting came to a close with Juan Gomez, the President and CEO of CENTRO, requesting that we create, along with an updated version of their informational brochure, a resource listing of all the housing resources in place in Worcester. As he described, the listing would prove useful in addressing the lack of awareness of the resources actually in place. The lack of awareness was a repetitive theme we recognized when conversing with other stakeholders in Worcester. As such, others approved of our efforts to develop a resource listing; in this, we decided to broaden the focus of the resource listing from housing resources to resources involving housing, employment, education, healthcare, and so forth.³⁴

In respect to the interviews we conducted for Objective 2, we divided the interviews into four sections by way of the following components of resettlement:

- Housing Component

³⁴ Additional information on the resource listing can be found on **Appendix I, Deliverable 2: Resource Listing**.

- Employment Component
- Healthcare Component
- Education Component

As will be discussed in later sections, housing, employment, healthcare, and education were the four major components of resettlement that the City of Worcester was addressing in relation to the resources critical for Puerto Ricans arriving post-Hurricane Maria. After concluding this with a number of individuals as well as Dan Racicot, we aimed to interview individuals from all aspects. In this, we were able to interview two individuals who could, in-depth, provide insight on the housing side (public housing & private-market housing). In addition, we were able to secure an interview with the superintendent of the Worcester Public Schools for the education component, as well as a combined interview with two key stakeholders for the healthcare component.³⁵ The rest of the interviews unaccounted for in the previous section involved individuals who were able to discuss, at great length, at least two or more components. Two of those individuals involved a representative from Holyoke and another from Springfield. As mentioned earlier, Springfield and Holyoke are ranked number 1 and 2 as the cities with the largest established Puerto Rican populations in Massachusetts pre-Hurricane Maria; that being said, they were also assisting a number of Puerto Rican migrants post-hurricane. Ultimately, these two interviews were very informative in which we were able to then compare how other cities were handling the situation. More so, what issues were the two cities facing and did those issues mirror that of which the City of Worcester was facing.

Though every interview was unique and accompanied by a set of particular questions, the 13 interviews included some of the questions outlined below:

- When you and/or your organization initially heard of Hurricane Maria, were you in any way aware that Worcester would be a destination for these Puerto Rican evacuees?
- What was your first action to prepare for the influx of Puerto Ricans?
- How many Puerto Rican migrants, if any, have come asking you for assistance?
 - o Do you keep records of the number of Puerto Ricans you have assisted?
 - o Where do you direct them to?
- During the initial meeting with these migrants, what is their primary request or need?
- What is your process for managing these Puerto Ricans?
- Have you been able to meet their needs? If no, do you refer them to another organization?
 - o What issues have you faced, if any, when aiding these Puerto Ricans?
- What's the biggest issue in respect to what the City of Worcester cannot provide?
 - o (e.g. housing, employment, healthcare, and education)
 - o Why do you think this?

Interviews with Puerto Ricans

The purpose of this project, it was important to understand the side of Puerto Rican migrant who have come to Worcester since Hurricane Maria. Accumulating a number of Puerto Rican perspectives was

³⁵ One again, the table of interviews can be found on **Appendix B**.

ideal to analyze what issues Puerto Ricans were facing when arriving to Worcester and comparatively examining their responses to the institutional perspectives. However, with the time allotted as well as the traumatic state in which Puerto Ricans who had arrived were in, we made the decision not to interview Puerto Ricans. Fortunately, as a result of mutual connections, CENTRO was able to connect us with Elias Pinto, a Puerto Rican who had arrived in Worcester post-hurricane and is also currently employed by CENTRO. Mr. Printz was able to secure an interview with a former Puerto Rican individual whom he had worked with; Jorge Rodriguez was another individual who migrated from Puerto Rico to Worcester just days after the hurricane. Our aim for the interviews with the two Puerto Ricans was to understand what their transition to resettling in Worcester was like, what issues they faced, as well as what their future plans were in respect to resettlement for short or long-term. The interview outlines for Mr. Pinto and Mr. Rodriguez can be found on **Appendix H**.

Stakeholders & Interviews

We attended a number of insightful meetings held by key stakeholders in the City of Worcester. We identified those stakeholders, for the purpose of our project, to be any individual or institution actively working to aid the incoming Puerto Rican victims of Hurricane Maria in resettlement. By labeling these particular individuals as stakeholders, we were able to allocate a grouping of individuals to potentially establish our findings through; identifying these stakeholders paved the path to the next stage of our research project which was whom to interview. The following list displays a select few of the total stakeholders we interviewed:

- To be clear, online research and data collection concluded on December 8, 2017.

Having conducted further online research, we were able to establish a strong foundational understanding of Puerto Rico's situation as a whole. We acquired foundational understanding about: data post-Hurricane Maria about Puerto Rican migration trends and projections; national historical migration trends due to disasters such as Hurricane Katrina; and what institutional resources for resettlement the Commonwealth of Massachusetts was providing the victims of Hurricane Irma and Maria. This research acted as a supplement to the preliminary research we conducted and reported in 2.0 Literature Review. In addition, we were then able to determine who to reach out to³⁶, further developed our project objectives, and formed the necessary focus of our interview questions.

³⁶ A big thanks to Linda Looft for connecting us as well with Dan Racicot and Sarai Rivera. These individuals and their affiliation can be found on **Appendix B & C**.

4.0 Findings and Analysis

Through online research, various meetings along with a total of 13 interviews, our team accumulated a plethora of information about institutional resources for resettlement in Worcester as well as numbers to develop our projections about Worcester. From these investigations, we were able to discover not only the resettlement resources the City of Worcester deemed critical for the incoming victims of Hurricane Maria from Puerto Rico, but what the largest issues the City of Worcester is facing. In addition, we were able to aggregate hard numbers pertaining to how many Puerto Ricans Florida has seen post-hurricane, how many Puerto Ricans Worcester has aided since Hurricane Maria, and more. In the following chapter, we describe our findings in relation to the two objectives previously defined in Chapter 3.0. First, in order to contextualize our findings, we discuss our online research that established the foundation in which we began developing our projections.

4.1 Meetings & Additional Efforts

In the following section, we discuss the meetings we attended around the City of Worcester. We were made aware of these meetings through contacts such as Linda Loof, as well as Gladys Rodriguez-Parker. We later discuss our additional efforts in regards to events that were outside of our IQP work day (e.g. 9:00 A.M - 5:00 P.M.)

Meetings

Supplementary to our interviews, our team attended a total of seven meetings and conferences in Worcester. These meetings proved useful as we were kept well informed and updated with new information pertaining to arriving Puerto Ricans in Worcester throughout the project term. Those meetings are listed below followed by a brief description concerning the purpose of those meetings.

- *Oct. 6, 2017-* An introductory meeting with Gladys Rodriguez-Parker to discuss potential research topics of IQP. One of the topics we had in mind was addressing the resettlement of Puerto Ricans in one way or another.
- *Nov. 2, 2017-* A press conference held by Amor Para Puerto Rico to discuss what the organization has done to assist Puerto Ricans post-Maria and the organization's objectives for the future.
- *Nov.9, 2017-* A meeting with 2 of the 5 policemen from Worcester Police Department who completed volunteer work in Carolina, Puerto Rico post-Hurricane Maria.
- *Nov. 15, 2017-* A meeting held by CENTRO with an attendance of representatives from different housing authorities (e.g. Worcester Housing Authority, Friendly House, Landlord)
- *Nov. 15, 2017-* A meeting titled "Fuerza Puerto Rico" put on by WPI's Office of Multicultural Affairs to raise awareness for Puerto Rico hurricane relief.
- *Nov. 20, 2017-* A meeting with Karen Pelletier (Chamber of Commerce) to discuss briefly what the office of Chamber of Commerce was doing to assist the incoming Puerto Ricans post-Hurricane Maria.
- *Nov. 28, 2017-* An event titled, "Evacuee Employment Workshop" that was organized to discuss how opportunities for jobs could be best designed and broadcasted for victims from Hurricane Irma and Maria arriving in Worcester.

Additional Efforts

Our team sought to extend our efforts beyond just completing our IQP project. While attending meetings, we were made aware of several efforts and opportunities to aid the cause; we extended our own donations as well as sought out other opportunities for clothing donations.

- *Nov. 3, 2017-* About 10 students, including our team of 3, from the Puerto Rico IQP group along with our advisor Brigitte Servatius attended and donated money at a salsa benefit that was organized to fundraise money for Puerto Rico. Matthew Sanches was in charge of putting the fundraiser together. In attendance, was Mayor Joseph Petty, as well Dan Racicot (Chief of Staff), who discussed a little about the amazing efforts that organizations have done to aid the Puerto Rican relief efforts.
- *Nov. 27, 2017-* An informal meeting with Jim McLaughlin³⁷ to discuss if the system in place at the WPI Campus Center for lost and found would be open to donating the lost items, specifically clothes, to incoming Puerto Ricans.
- *Dec. 1, 2017-* At her open-office hours, Elianna and Marc met with the President of Worcester Polytechnic Institute, Laurie Leshin. There, we briefly discussed our project as well as inquired if and what she was doing to assist Puerto Rico.³⁸ Leshin described that WPI allowed for MEMA to use a WPI owned warehouse for a month to stock pallets of relief supplies for Puerto Rico.
- *Dec 15, 2017-* By working with Mr. Printz's past high school and middle school, Innovation Academy Charter School, they were able to donate the school's collected lost and found items to aid Puerto Ricans arriving in Worcester.

³⁷ McLaughlin is the Assistant Dean of Student Programs at WPI & Director of the WPI Campus Center. He oversees all programs and services in the Campus Center, Student Activities department, and Events department.

³⁸ Leshin described that WPI Administration has extended support to all WPI students who come from the regions disturbed by the September hurricanes.

4.2 Findings for Objective 1

Finding #1: Accounting for migration trends due to Hurricane Maria, we project that a total of 2,436 Puerto Ricans will arrive in the City of Worcester between October 6, 2017 and January 27, 2018.

From our first model as shown below, we projected that the rate at which Puerto Ricans are arriving in Florida will slow considerably as services are restored to normal (**Figure 27**). This seems to make sense because as services return to normal, business and schools are more likely to resume, thus there is less of a reason for individuals to leave the island.

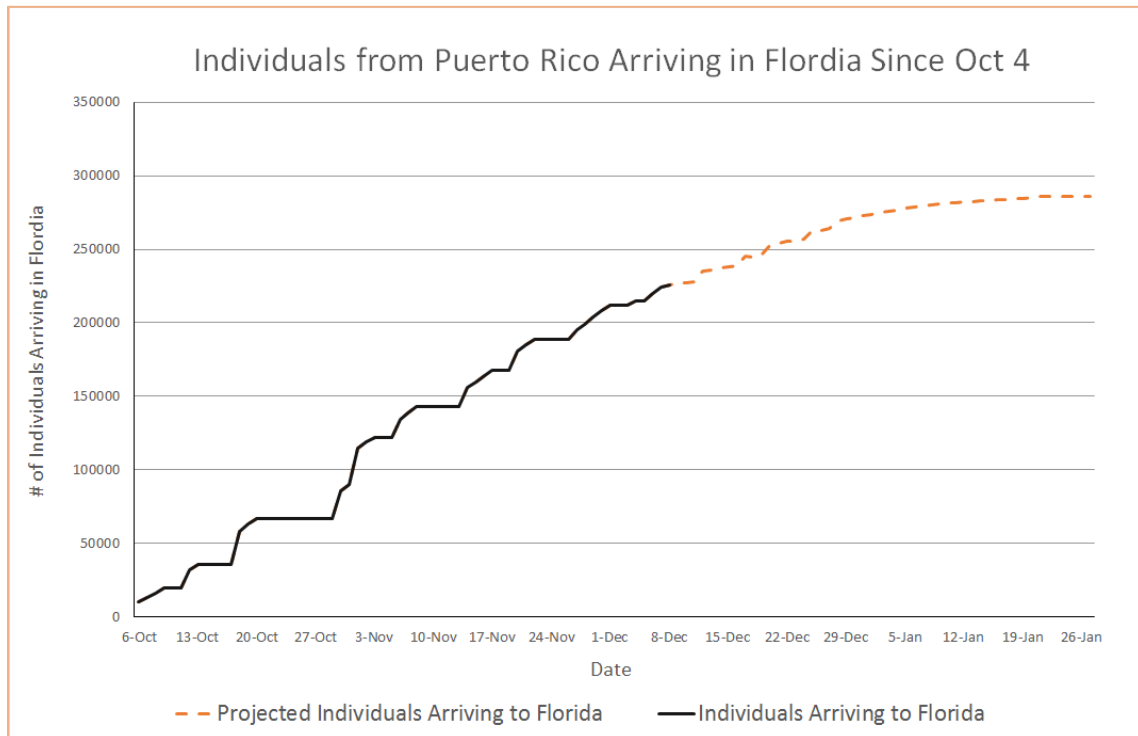


Figure 27: Projected Total Number of Puerto Ricans Arriving in Florida

From the random sample of nine days between October 4th and December 8th we found that 37.4% and 4% of flights going to the United States were arriving in Florida and Massachusetts, respectively (**Table 2**). Interestingly, the proportion of flights headed to these states matched the percent of the total Puerto Rican population that migrated to U.S. mainland between 2006 and 2014 that these states received (**Table 1**). While Texas was only dissimilar by a factor of 2.5, New York and Georgia were much larger. A comparison of the results is tabulated below.

Destination	Florida	Massachusetts	New York	Georgia	Texas	Other
% of flights from Puerto Rico to U.S mainland Oct 6 - Dec 8	37.4%	4.0%	23.5%	13.8%	3.3%	18.0%
% of Average Annual Number of Arriving Migrants 06'-14'	37.3%	4.8%	5.9%	n/a	8.5%	43.6%

Table 2: Proportion of Flights and Past Migration to the U.S. Mainland³⁹

Using this data, our aggregate model projected that approximately 764,500 individuals would migrate from Puerto Rico to the U.S. mainland by January 27th due to the downed services (e.g. water, electricity, cell service). We also found that between 2018 and 2020 roughly 70,000 to 100,000 individuals would leave the island annually. Combining this data yields **Figure 28**. Comparing our projection to that made by the Center for Puerto Rican Studies (**Figure 29**), we found that our projection for those leaving due to Hurricane Maria is nearly four times larger. This either implies that either our model is grossly inaccurate, or, the exodus is far larger than what the Center for Puerto Rican Studies estimated.

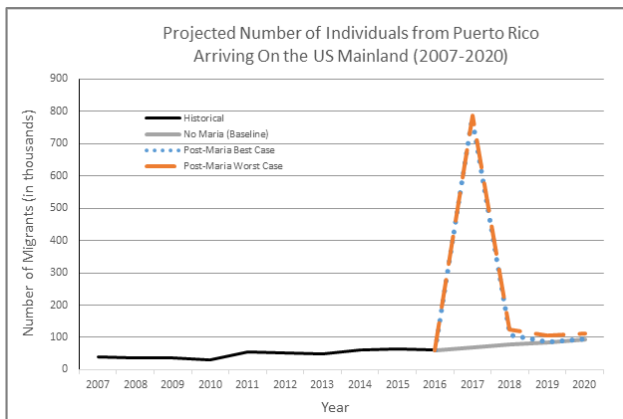


Figure 28: Projected Puerto Rican Migration⁴⁰

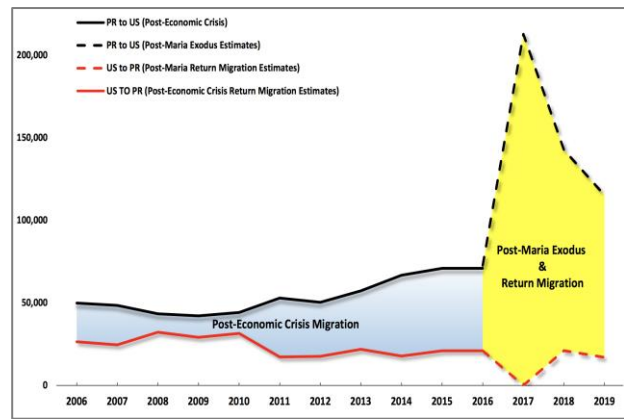


Figure 29: Puerto Rican Migration Over Time⁴¹

While the Center for Puerto Rican Studies was able to project how many people would return to the island, we were not. Although they were accounted for when projecting the net migration, we were unable to determine the specific number of persons immigrating to the island. In asking interviewees how long they thought these migrants may be staying, we quickly found that they were either unable or unwilling to answer. As put by Ryan Forsythe⁴² and Congressman James McGovern:

³⁹ (Division for Emergency Management, 2017; Melendez & Hinojosa, 2017)

⁴⁰ Data from: (United Nations Population Division, 2017; American Community Survey, 2016; Government of Puerto Rico, 2017; Center for Puerto Rican Studies, 2016; Center for Puerto Rican Studies, 2017; Flight Global, 2017; International Monetary Fund, 2017; The Economist Central Intelligence Unit, 2017; Agencia Informativa Latinoamericana Prensa Latina, 2017)

⁴¹ (Melendez & Hinojosa, 2017)

⁴² Vice President of Enrollment Management for Worcester State University

That's a really hard question for these young people to answer... We began asking those questions of the students when they arrived...unfortunately, the emotion, the trauma, post-traumatic stress...is so incredibly powerful that simply asking that question can be a trigger of at least difficult thoughts, if not very emotional reactions.

-Ryan Forsythe, VP of Enrollment Management at WSU

There is some concern that if people leave, they won't come back... in many respects, that's not the argument we should be having right now. We should be focused on saving lives... that's all we should be talking about.

-James McGovern, Congressman ⁴³

In looking at **Figure 29**, we see that the Center for Puerto Rican Studies projects that not only will a larger number of people leave the island, but a fewer number will return post-hurricane. Although we do not have any evidence to support our reasoning, we concur with this projection.

We also put our projections into perspective by graphing what the migration's impact would have upon Puerto Rico's total population (Figure 30). If our projections are correct, then the island would lose nearly 27% of its population by December 31, 2020.

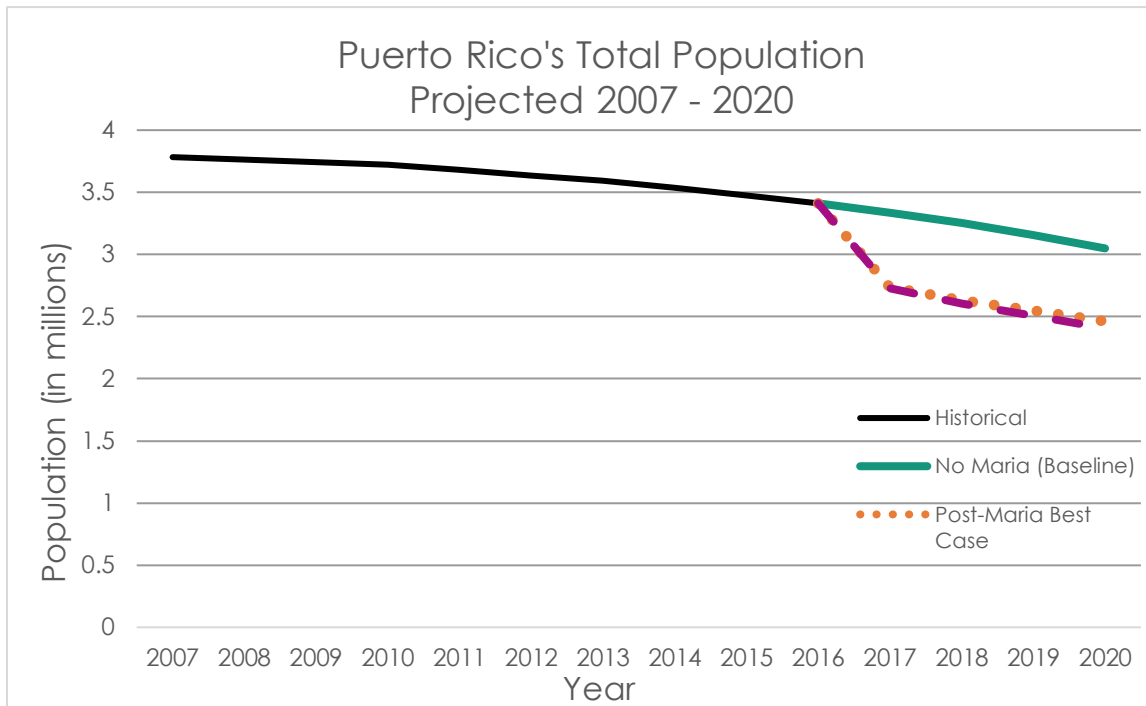


Figure 30: Puerto Rico's Projected Total Population 2007-2020

If 27% of the population left the island there would be massive implications for its economy. First, the government would accumulate more debt due to having a smaller tax base and there being fewer utility customers. This means that Puerto Rico would be less capable to properly maintain essential services

⁴³ (O'Connell, 2017)

(e.g. the electric grid and roads) which may further discourage businesses and residents from staying. This issue is exacerbated by the fact that the island’s population is aging (**Figure 31**). This is due to a falling birth rate and the younger generations migrating to the U.S. mainland. As the number of young professionals decreases, and, older generations age out of the work force, there are fewer workers. This also discourages businesses from staying.

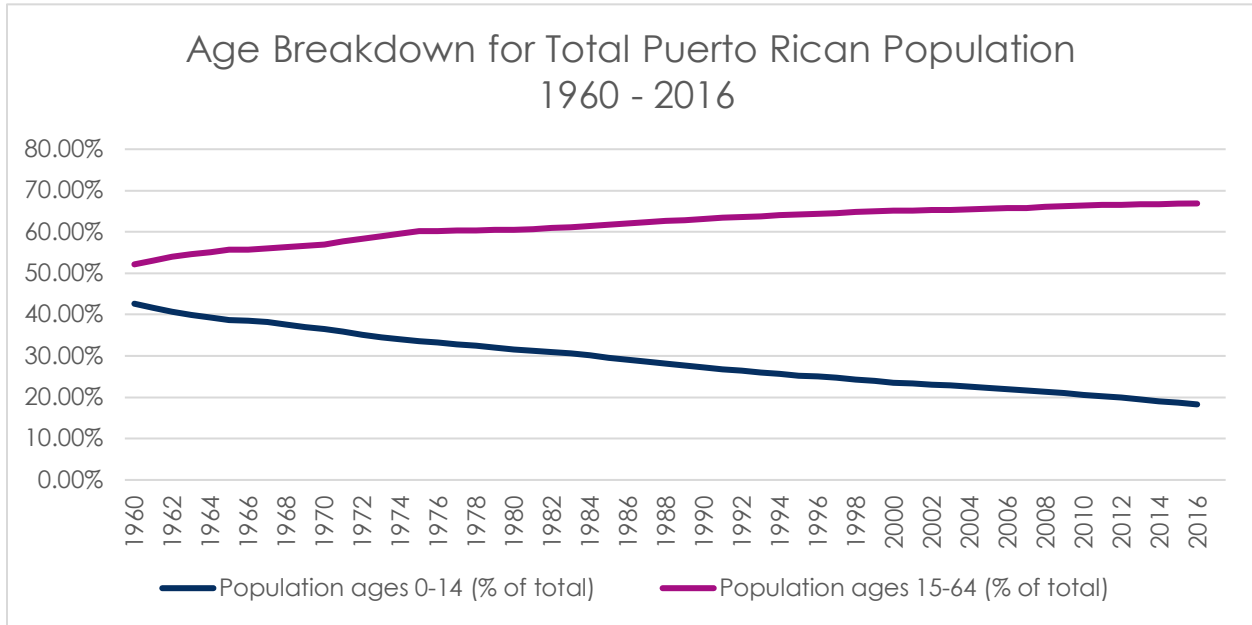


Figure 31: Age Breakdown for Puerto Rico (1960-2016)⁴⁴

Scaling our projections to the Commonwealth of Massachusetts and the City of Worcester, we estimated that 24,320 and 1,928 individuals, respectively, will have arrived by December 31, 2017 (Table 3). We project these numbers will grow by 26% by January 27, 2018.

	Cumulative Persons Projected to arrive from Puerto Rico since Oct. 4, 2017			
	Dec. 31, 2017	Jan. 27, 2018	31-Dec-20 Best Case	31-Dec-20 Worst Case
Massachusetts Overall	24320	30731	41915	43856
Hampden County	14088	17801	24280	25405
Worcester County	1928	2436	3323	3476

Table 3: Cumulative Projected Arrivals Since Oct. 4, 2017

Comparatively, as of November 27th, CENTRO⁴⁵ had aided 207 individuals and; Worcester Public Schools had received 218 students from Puerto Rico and the U.S. Virgin Islands between October 5th and November 30th; and Mass211 had received 177 disaster requests by December 8th in Worcester. Even if no individuals were double counted between institutions, the total is still far from the 2,436 persons that we had projected. Even in scaling the one-year projection the Center for Puerto Rican Studies made for Massachusetts to Worcester, which yields 1,092 persons, it is still larger than what the city has seen so far. As a result, we can conclude that either both projections are inaccurate, many more persons will be arriving in the coming months, or there is a significant population of Puerto

⁴⁴ (United Nations Population Division, 2017)

⁴⁵ The main point of contact for Puerto Ricans arriving post-hurricane in Worcester County.

Ricans that has arrived in Worcester that the city is unaware of. Although we cannot draw conclusions due to our small sample size, it is worthy to note that of the two migrants we interviewed, one had no plans to use CENTRO, Mass211, nor had any children. He had already found a job, bought a car and was living at his sister's house.

It is important to note while we assumed that Worcester would receive 7.9% of the migrants arriving to Massachusetts in correlation with 2006-2014 trends, evidence suggests this proportion could be much larger (Center for Puerto Rican Studies, 2016). According to data provided by the Department of Primary of Secondary Education for Massachusetts, as of November 27th Worcester had received 14.7% of the total number of students that had arrived from Puerto Rico post-hurricane and registered in Massachusetts public schools. Thus, it is possible that our projections for Worcester are low.

4.3 Findings for Objective 2

Within this section, our findings are discussed regarding what kinds of institutional resources for resettlement are in place in the City of Worcester for incoming Puerto Ricans. This will include a discussion of what was found from interviewing 13 stakeholders in the City of Worcester along with attending 7 meetings.

4.3.1 Finding #2: Housing, Employment, Healthcare, Education

Finding #2: Post-Hurricane Maria, Mayor Joseph Petty and Congressman James McGovern identified that housing, employment, healthcare, and education are the four kinds of institutional resources critical for Puerto Rican resettlement in the City of Worcester.

In preliminary conversations with various stakeholders in Worcester, it became clear to us quite early on that housing, employment, healthcare and education were the most important kinds of institutional resources critical for Puerto Rican resettlement. Through literature review we found that these categories are also recognized on an international level. In 2004 the UN Refugee Agency adopted Francis Deng's 2nd Edition of "The Guiding Principles on Internal Displacement." According to *Principle 18* and *Principle 23* of the Guiding Principles, IDPs have the right to an adequate standard of living, such as "basic sheltering and housing" and "essential medical services"; "opportunities for employment"; and "education" (Egeland & Deng, 2004). During the interview process we asked each interviewee which of the four kinds of institutional resources is of greatest concern with respect to the influx Puerto Ricans to Worcester. The result is provided below.

The following table displays our interviews with stakeholder in correlation to what topics the interviews actually covered:

Affiliation	Housing	Employment	Healthcare	Education
1. Representative of Congressman McGovern	X			X
2. CENTRO	X	X		
3. Puerto Rican Migrant	X	X	X	X
4. Workforce Career Center		X		
5. Landlord in Worcester	X	X		
6. Puerto Rican Migrant	X	X	X	X
7. Worcester Police Department	X			X
8. Worcester State University	X			X
9. Worcester Housing Division	X	X		
10. Worcester Public Schools	X			X
11. Representative from Holyoke	X	X		X
12. Representative from Springfield	X			X
13. Worcester Health & Human Services		X	X	

Table 4: Scope of Interviews & Topics Discussed

This table is important to note as the table demonstrates which topics were not as frequently discussed in interviews. As highlighted in red, our findings will not be developed as much regarding the resettlement aspect of healthcare. However, **Table 4** is insightful as it reveals what stakeholders from different city departments were able to say about other departments. For instance, Worcester Housing Division was able to speak to both housing and employment.

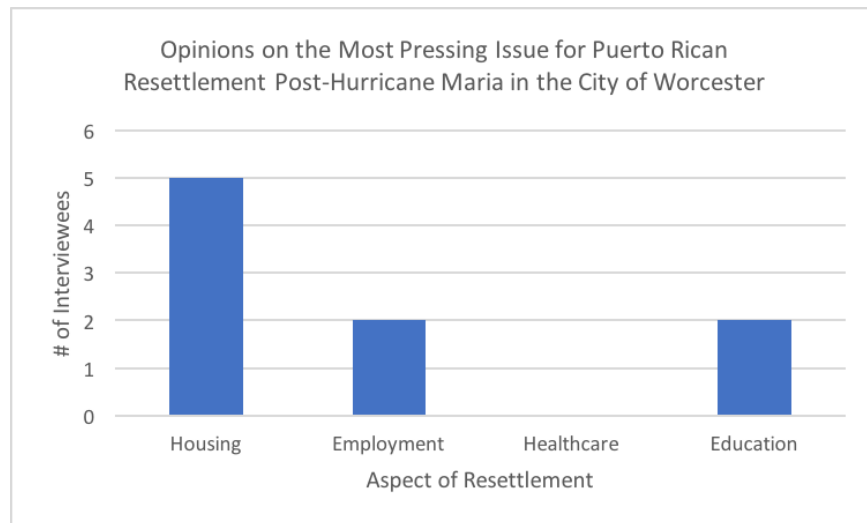


Figure 32: Opinions on the Most Pressing Issue

4.3.2 Finding #3: Healthcare

Finding #3: Post-Hurricane Maria, the City of Worcester is least concerned with providing healthcare assistance to incoming Puerto Ricans.

As Puerto Ricans are U.S citizens, they qualify for MassHealth. This allows them access to healthcare, no matter their financial background. Because MassHealth is accepted state-wide, Puerto Ricans may

approach any healthcare provider in the state. This spreads the load, ensuring that no one healthcare provider becomes overwhelmed to a point that they cannot handle the incoming Puerto Ricans.

I truly think we have a good healthcare system in the sense that, I think everybody is geared for access.

-Matilde Castiel, Commissioner of Health and Human Service

Specific to Worcester, various healthcare stakeholders in the city meet regularly to address any questions and/or issues that may have come up. These meetings also allow them to be up to date on the services that are provided throughout the City of Worcester and which services Puerto Ricans should be directed to.

Based on the **Figure 32**, it is evident that none of our interviewees perceived healthcare as a point of concern.

4.3.3 Finding #4: Education Component

Finding #4: The Worcester Public Schools Administration revealed that despite receiving 218 students from Puerto Rico and the U.S Virgin Islands between October 5th and November 30th, the administration remains confident in accommodating the incoming students.

Interestingly, the two stakeholders that identified education as a point of concern (Figure 32) were not actually from the education sector. In speaking with the Superintendent for Worcester Public Schools, she discounted this concern.

Worcester Public Schools have an open enrollment program, allowing them to accept new students throughout the year. As such, they are always able to accommodate incoming students, hurricane or not. In the past, some of the students who have arrived to WPS from across the world have been political conflict refugees. The schools system has counselors available to help these students with the transition. WPS also offers programs that aids those in need acquire any school or other supplies they may require. This includes, but is not limited to: warm winter clothing, boots, food and backpacks with school supplies. There are even washers and dryers available to these migrants upon arrival. Due to having robust, pre-existing system, WPS has not had to make any sudden accommodation for the influx of Puerto Rican students post-hurricane.

As seen in Figure 33, new students registering with WPS are distributed across all academic years⁴⁶. This wide distribution, and the fact that there are over 30 schools in the WPS system, has spread the load of the incoming students post-hurricane so that no systems have been strained. With respect to the 218 students that had arrived between October 5th and November 30th, the majority entered the 1st and 9th grades. Although the large number entering 1st grade is merely coincidence, the number of 9th graders has to do with there not being academic records for these students. When entering primary education, students are placed by their age. When entering secondary education, on the other hand, students are placed by the number of credits they have. Because some of the high school students arriving from Puerto Rico and the U.S Virgin Islands to Worcester do not have their academic records on hand, they are placed in 9th grade regardless of their age and what academic year they were in previously.

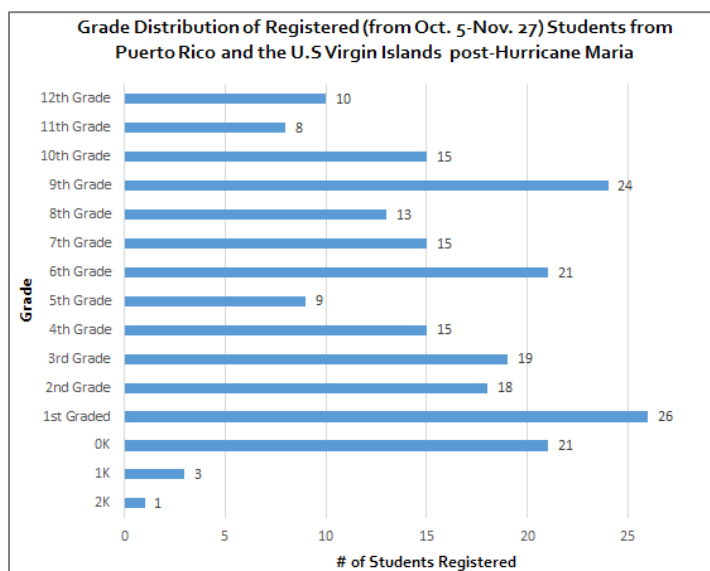


Figure 33: Grade Distribution of Students Registered in WPS Post-Hurricane⁴⁷

Although resources have not been ‘strained’, per say, WPS has encountered an unanticipated cost of translating the Individual Education Plans (IEP) of incoming students from Spanish to English. Two thirds of the students that registered between October 4th and November 30th had an IEP. While the cost may be mounting, Maureen Binienda noted that,

[The school administration is] keeping a record of the [financial impact of the influx of Puerto Rican students] so eventually, the state... may provide some more funding.

-Maureen Binienda, Superintendent of Worcester Public Schools

⁴⁶ Grade 2k refers to children in preschool who are three years old or younger. Grade 1k refers to children in preschool who are four years old. Grade 0k refers to children in kindergarten.

⁴⁷ (Worcester Public School Administration, 2017)

Despite the large proportion of arriving students having some type of special need (psychological, a learning disability, or the language barrier), overall, the school system has not needed to hire many additional staff members. Some schools have hired additional teachers for English as a Second Language (ESL) classes.

In other locations, such as the cities of Holyoke and Springfield, they are experiencing some difficulties. In Holyoke there is a lack of counseling programs for the arriving students. On top of the emotional distress from the language barrier, devastation caused by Hurricane Maria, moving to Massachusetts and uncertainty about their future, some of students came without their family.

You miss your family, you miss your friends, you probably lost a lot, you've seen people lose a lot and you don't know what's going to happen. You're incredibly traumatized and it's just a really hard environment to learn...

-Marcos Marrero, Director of Planning and Economic Development

According to Marcos Marrero, these arriving students will suddenly start crying in the classroom. Counseling resources were reportedly already at capacity prior to the hurricane; they are now over capacity.

Springfield, on the other hand, is dealing with higher transportation costs. By law schools in Massachusetts must provide transportation to individuals in need if they live greater than two miles away. Because there is not a FEMA covered hotel in Springfield, transporting these students to the hotels in the area has been costly.

4.3.4 Finding #5: Housing

Finding #5: There is consensus among our interviewees that housing is the most pressing of the four kinds of institutional resources for resettlement in the City of Worcester.

Looking at Figure 32, five interviewees specified housing is most pressing issue for accommodating these Puerto Rican migrants in Worcester. The housing issue is subject to worsen as more people arrive from Puerto Rico (demand increases while supply decreases). It is important to note that the problem of housing, is not a new issue.

Housing is the biggest piece and we don't even have housing here for our own people, let alone [Puerto Ricans] who are coming in.

-Matilde Castiel, Commissioner of Health and Human Services

In analyzing data compiled by the American Community Survey in 2016 (Figure 34), although Worcester's rental and homeowner vacancy rates are higher than those of Massachusetts, they are decreasing. This implies that there are fewer apartments and houses available. Although there is higher homeowner vacancy rate, it is conceivable that incoming Puerto Ricans will not be able to afford one before finding employment. So, it stands to reason that the majority will be searching for rental apartments. According to Marcos Marrero, low income housing provided by the Worcester Housing

Authority is already at capacity and has a long waiting list, thus, incoming Puerto Ricans will need to enter the private housing market.

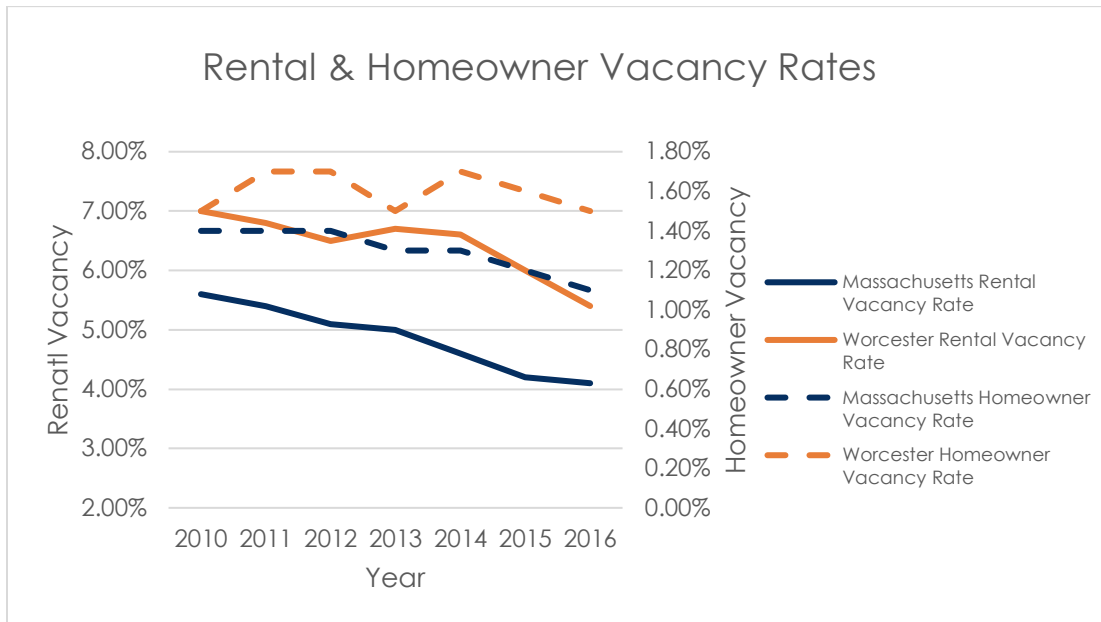


Figure 34: Rental & Homeowner Vacancy Rates (2016)⁴⁸

The issue is that there are not sufficient low income housing options in the private market. Looking at Figure 35, asked rent asked for vacant units in Worcester is much higher than what Puerto Ricans were paying on the island in 2016. Although Puerto Ricans do earn more money on the U.S. mainland, this disparity may discourage arriving migrants from living in the city.

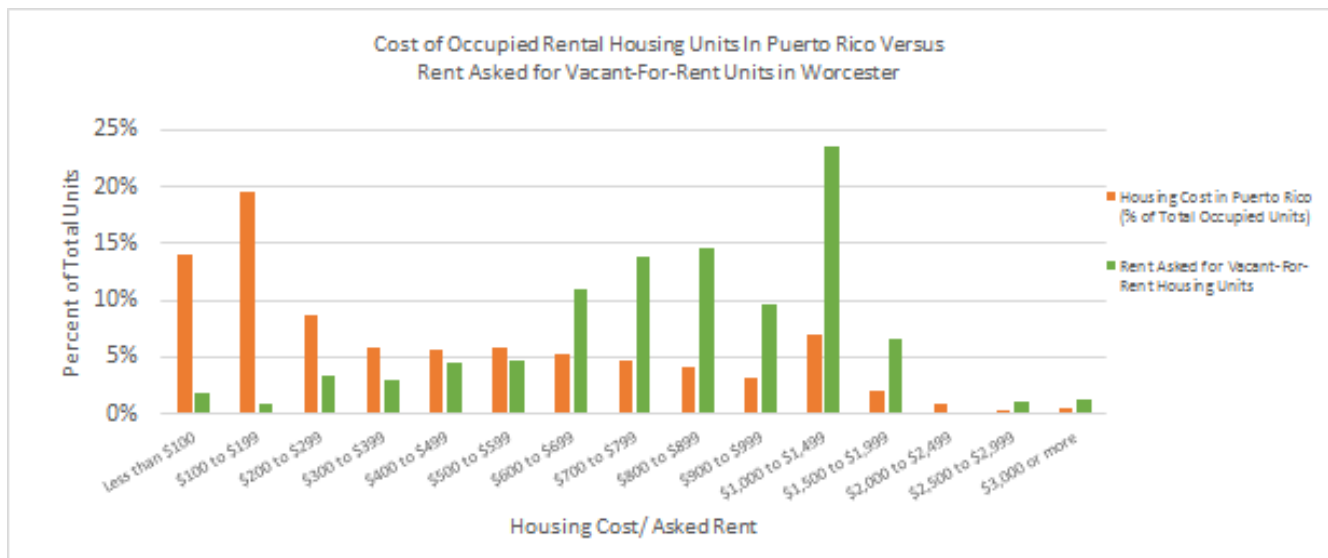


Figure 35: Housing Costs in Puerto Rico vs. Available Housing Cost⁴⁹

⁴⁸ (American Community Survey, 2016)

⁴⁹ (Adapted from: American Community Survey, 2016)

To rent an apartment in Worcester in the private housing market, the rent must not exceed 30% of your monthly income. As denoted by Scott Dennett, the average cost of a 2-bedroom apartment in Worcester is \$1,100. According the Center for Puerto Rican Studies⁵⁰ the average income in 2014 for Puerto Rican individuals in Massachusetts who were born on the island was \$41,287. Calculating the maximum rent that said income could afford in Worcester, we found that even if incoming Puerto Ricans were able to find employment, the average individual could only afford up to \$1,032 in rent. Furthermore, in analyzing the percent of households per income bracket in 2016 in Puerto Rico, we also found that 70-82% of households could not afford the average 2-bedroom in Worcester based on their income in Puerto Rico. Clearly there is disparity between what incoming Puerto Ricans can afford and what is available to them.

Two programs that incoming migrants can apply for to help address this issue are the Massachusetts Rental Voucher Program (MRVP) and Worcester Section 8 voucher program. MRVP vouchers offer recipients financial aid in the public housing market in Massachusetts. Worcester Section 8 vouchers are similar to the MRVP but can only be used in private housing market in Worcester.

4.3.5 Finding #6: Employment

Finding #6: Though jobs are available to Puerto Ricans arriving in the City of Worcester, these jobs do not necessarily line-up with their skillsets.

Though there are jobs available in Worcester, many are entry level positions that a large portion of arriving Puerto Ricans are overqualified for. Although the state is looking to see if licensure in Puerto Rico can be easily transferred to Massachusetts, when this was written there had not yet been any results.

Even if the portion of the incoming Puerto Rican population that are professionals could transfer licensure, they may still not find employment due to the language. While a number of people may have some level of English language proficiency, others do not. Even those that are proficient may still struggle because different terminology may be used within their profession. Although there are various English language learning programs available in the city, they are at capacity. It also takes considerable time to become proficient.

The individuals that have come through here, English is not their first language. That may slow the process down a bit trying to identify job opportunities that are applicable to their situation and needs.

-Janice Weekes, Director of Workforce Central Career Center

Efforts have been made by CENTRO, the Workforce Central Career Center and the Family Resource Center to have job fairs for arriving Puerto Ricans.

⁵⁰ (Center for Puerto Rican Studies, 2016)

4.3.6 Finding #7: Housing and Employment

Finding #7: Without stable housing, Puerto Rican migrants cannot secure employment. Without stable employment, they cannot secure housing.

Setting aside what was mentioned in Findings #6 & #7, realtors generally don't rent apartments to people that cannot prove their income stream. So, even for arriving professionals who could hypothetically afford an apartment, realtors will not rent it to them unless they can prove their income stream. Even if arriving Puerto Ricans could pay for the first few months of rent out-of-pocket, realtors are still unwilling to rent to them. Likewise, employers are hesitant to hire individuals who do not have stable housing, thus there is a chicken and egg scenario. We deem this the most pressing concern in resettling Puerto Ricans in Worcester.

[It is a] catch 22 [scenario], what came first, the chick or the egg?
-Scott Dennett, Realtor and Landlord

One large step in addressing this issue would be for the state to allow for some degree of licensure reciprocity. The Worcester Housing Authority is also investigating potential solutions that would allow arriving migrants to be able to rent apartments in the private housing market without having employment.

4.4 Analyzing Objective 1 & 2

Tying Objectives 1 & 2 together, a community cannot determine which resources are critical for the resettlement of incoming migrants displaced by a climate-induced disaster if the community is not sure of how many may arrive. It comes down to making Thanksgiving dinner. If you cook for five people and 500 show up, then that is a massive problem. There won't be sufficient food for everyone. In this analogy the dinner represents the community and the food represents the institutional resources for resettlement.

In analyzing the institutional resources available in Worcester it was immediately evident that the education and the healthcare system are able to accommodate for the influx of Puerto Rican migrants due to Hurricane Maria.

Housing and employment, on the other hand, are both points of major concern due to their own individual problems and the chicken and egg situation. These resources are in dire need of assistance, especially if our projection of 2,436 persons arriving from Puerto Rico between October 6, 2017 and January 27, 2018 is correct.

4.5 Deliverables

Whilst conducting our research methods for Objectives 1 and 2 of our project goal, we began developing our three deliverables.

Informational Brochure

The first deliverable we tackled was the informational brochure for CENTRO. When preparing for the incoming Puerto Ricans arriving in the City of Worcester, CENTRO hastily created a resettlement brochure to guide the victims of the recent September hurricanes. The original brochure can be found on **Appendix I, Deliverable 1: Informational Brochure**. After interviewing Louise Jeffy of CENTRO, she informed us that the old brochure needed to be refined. We were more than happy to comply with her request. In the old brochure, CENTRO outlined the initial 3 steps that incoming Puerto Ricans should follow when first arriving in Massachusetts. The three steps were:

- *Step 1*- Register with FEMA
- *Step 2*- Register with Massachusetts
- *Step 3*- Register with CENTRO

In our new version, we chose to not define these ‘steps’ in numerical order for a few reasons. The following is the new outline for steps:

- A) Call Mass 211
- B) Register with CENTRO
- C) Register with FEMA

The first reason was that CENTRO discussed that they would help to the best of their ability incoming Puerto Ricans including registering with FEMA. In addition, by calling Mass 211, CENTRO noted that the helpline would direct Puerto Ricans post-hurricane to CENTRO for further assistance if applicable. Essentially, cases vary for every Puerto Rican and so, steps can be done in any order or omitted altogether. The contents displayed inside the brochure covered brief descriptions about the key resources available for the incoming Puerto Ricans. The resources outlined were housing, healthcare, education for students 18 & under, and veterans support. Having discovered the four critical aspects of resettlement, we chose to include employment opportunities in the grouping of resources. Moreover, we broadened the scope of education for students 18 & over as well. It was interesting to note that along with our interview findings, CENTRO had also presented information attesting to our finding regarding limited housing in the following statement displayed in the old brochure:

A limited number of programs are available to help displaced persons access housing. Rules vary for private or public housing. For more information, contact CENTRO.
-CENTRO

These were the biggest edits we chose to make in our new version of the brochure.⁵¹ Additionally, we translated the brochure into Spanish with the help of Elias Pinto, to accommodate for incoming Puerto Ricans post-Hurricane facing a language barrier.

Resource Listing

Discussion of a resource listing was first proposed by Gladys Rodriguez-Parker. As we moved through the project term, we talked to several stakeholders⁵² including Sarai Rivera about the possibility of developing a resource listing. In these discussions, we were met with immediate support and approval to do so. To preface the approval of these stakeholders, a similar theme among discussions was the fact that several were not aware of the institutional resources in the City of Worcester that are in place to aid the incoming victims of Hurricanes Irma and Maria. Amidst developing the resource listing, we came across a document that the Commonwealth of Massachusetts had published to address the arrival of these victims. The document titled, “Massachusetts Hurricane Recovery Resources for Evacuees,” presented a number of resources provided by FEMA, MEMA, and the Commonwealth of Massachusetts (Commonwealth of Massachusetts, 2017). In our resource listing, we included some of those statewide resources offered in that particular document. The overall structure of our resource listing was organized (in tables) by resources offered by the Commonwealth of Massachusetts and then resources offered by the City of Worcester. **Figure 36** is a snapshot of our table description that we provided within our resource listing titled, “Resource Listing of the Institutional Resources in Place in the City of Worcester, Massachusetts.”⁵³ Though the focus of our project is on Puerto Ricans arriving post-hurricane, we opted to developing a resource listing that would not be limited to helping just Puerto Ricans, but it could prove to be useful for future cases. By this, we mean the City of Worcester can reference this document at any time in the case of providing aid to any migrant arriving to the City.

⁵¹ The new version of the brochure can be found on **Appendix I, Deliverable 1: Informational Brochure**

⁵² To recap, stakeholders included a mix of the individuals we interviewed as well as individuals who led the meetings as discussed in Sections 2.4.3 and Chapter 3.1.

⁵³ Further information on the resource listing can be found on **Appendix I, Deliverable 2: Resource Listing**

<p>Table Description</p>	<p>The following table is a listing of institutional resources that are currently assisting the evacuees of Hurricane Irma and Maria. The three WPI students deemed included resources they deemed appropriate (and were aware of) for the audience that this document is intended for. The listing does not report all existing institutions or resources in the City of Worcester. The intended audience consists of persons or institutions involved in addressing the resettlement (in the City of Worcester) of persons displaced by natural disasters. The purpose of this document is to expand awareness of the institutions and individuals who are actively working to address and assist the incoming Puerto Ricans and other American victims of the recent 2017 Atlantic hurricanes. The intention for this document is that it will also be utilized for future cases of incoming evacuees or displaced persons searching for resettlement assistance in Worcester.</p> <p>Structure of Table</p> <p>The table is organized by institutions and resources that are available statewide [the Commonwealth of Massachusetts] and then citywide [the City of Worcester]. The first table, which covers the resources available statewide, includes:</p> <ol style="list-style-type: none"> 1. FEMA 2. MEMA 3. Other Resources <p>The second table, which describes the resources available citywide, is organized by the four categories of resources that these students identified through interviews and literature review as essential for resettlement:</p> <ol style="list-style-type: none"> 1. Housing 2. Employment 3. Healthcare 4. Education <p>Furthermore, there is a fifth sub-section that is labeled miscellaneous for resources that did not fit within any of the four key categories of resettlement. All resources that are reported in the table below are followed by a brief description of what they are and/or what further programs the institution offers⁵.</p>
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Figure 36: Snapshot of Resource Listing Table Description

Furthermore, we compiled a table of contact information of the institutions that provide the resources we presented in the document.⁵⁴ This deliverable not only addresses the question of what kinds of institutional resources for resettlement are in place for the arriving Puerto Ricans (and other victims of Hurricane Irma and Maria), but also how to appropriately address the Puerto Ricans migrating to the U.S. mainland. Ultimately, we tied in our project focus and findings into this resource listing.

Website

More than halfway through the project term, our team was given a third task. That task resulted in the development of our third deliverable, a website. Amor Para Puerto Rico is a community action working group established after Hurricane Maria with the aim to support relief efforts for Puerto Rico (Amor Para Puerto Rico). The local nonprofit organization raised more than \$25,000 towards Puerto Rico relief efforts as reported by local newspaper Telegram on November 2, 2017. In addition, their energy is concentrated on projects addressing “food sustainability and infrastructure rebuilding n Puerto Rico, and resettlement efforts in Worcester (Moulton, 2017). As of now, Amor Para Puerto Rico⁵⁵ is only active on one form of social media, Facebook. That being said, Ms. Rodriguez-Parker introduced us to Amor Para Puerto Rico to discuss future plans on how to extend the impact of their efforts. Having little presence on social media, which is the largest and quickest form of spreading news, we settled on the next big thing, a website for Amor Para Puerto Rico. However, the team faced a major issue, which was all members lacked the necessary skills set to design a website. Through mutual connections, we were able to recruit a fourth WPI student.

⁵⁴ The contact list consists of addresses, numbers, websites, and emails if applicable.

Nathan Rosenberg is pursuing a major in robotics engineering and has a background in computer science. After 2 meetings with Amor Para Puerto Rico, and with the help of Mr. Rosenberg, our team was on our way with developing a website. The website will comprise of the following features:

Website Amor Para Puerto Rico

- Information about the Amor Para Puerto Rico
- An interactive map of the municipalities in Puerto Rico that links users to second-party websites that provide information about those municipalities
- Stories of the experiences of Puerto Ricans arriving in Worcester post-hurricane
- A link to Amor Para Puerto Rico's Facebook page
- A blog and pictures of the organization's efforts
- A means to donate

Unfortunately, a website requires much time to create; something we did not have much of given the scope and duration of our project. As such, the website is still in progress and is projected to be live on January 13, 2018.⁵⁶

⁵⁶ Additional information including a timeline of the website development can be found on **Appendix I, Deliverable 3: Website**.

5.0 Conclusions & Recommendations

Summary of Findings

The following is an aggregated listing of the project findings we just discussed:

- **Finding #1:** Accounting for migration trends due to Hurricane Maria, we project that a total of 2,436 Puerto Ricans will arrive in the City of Worcester between October 6, 2017 and January 27, 2018.
- **Finding #2:** Post-Hurricane Maria, Mayor Joseph Petty and Congressman James McGovern identified that housing, employment, healthcare, and education are the four kinds of institutional resources critical for Puerto Rican resettlement in the City of Worcester.
- **Finding #3:** Post-Hurricane Maria, the City of Worcester is least concerned with providing healthcare assistance to incoming Puerto Ricans.
- **Finding #4:** The Worcester Public Schools Administration revealed that despite receiving 218 students from Puerto Rico and the U.S Virgin Islands between October 5th and November 30th, the administration remains confident in accommodating the incoming students.
- **Finding #5:** There is consensus among our interviewees that housing is the most pressing of the four kinds of institutional resources for resettlement in the City of Worcester.
- **Finding #6:** Though jobs are available to Puerto Ricans arriving in the City of Worcester, these jobs do not necessarily line-up with their skillsets.
- **Finding #7:** Without stable housing, Puerto Rican migrants cannot secure employment. Without stable employment, they cannot secure housing.

Summary of Evaluation

The City of Worcester can accommodate our projected number of 2,436 Puerto Ricans arriving to the city between October 6th and January 27th in respects to healthcare and education.

A lack of risk awareness or institutional capacity can also have an important influence on [communities] as experienced in the United States during Hurricane Katrina
-IPCC⁵⁷

⁵⁷ (IPCC, 2007)

5.1 Conclusions

Taking into consideration of all findings presented in the previous chapter, we were able to achieve both of our project objectives. We evaluate that based on our projection that 2,436 Puerto Ricans will arrive in the City of Worcester between October 6, 2017 and January 27, 2018, the city can accommodate in respect to healthcare and education, but not in respect to housing and employment. Following this evaluation, we identified areas for improvement for Worcester in aiding incoming Puerto Ricans. Additionally, we were able to apply our project findings to a global context with the following research question:

What kinds of institutional resources are critical for resettlement in a U.S. community to prepare for an influx of internally displaced migrants from climate-induced disaster?

Adapting this question in respect to our project:

What kinds of institutional resources are critical for resettlement in the City of Worcester to prepare for an influx of Puerto Ricans from Hurricane Maria?

In essence, our findings from Objective 2 alone can be used to answer this question in the following manner: in order to prepare for an influx of Puerto Ricans evacuating post-Hurricane Maria, the kinds of institutional resources critical for resettlement in the City of Worcester are housing, employment, healthcare, and education. However, we chose to approach this question considering an additional aspect: can the institutional resources in place accommodate for the number of persons we project to arrive in the City of Worcester. A breakdown of the research question in respect to our project goal is shown below:

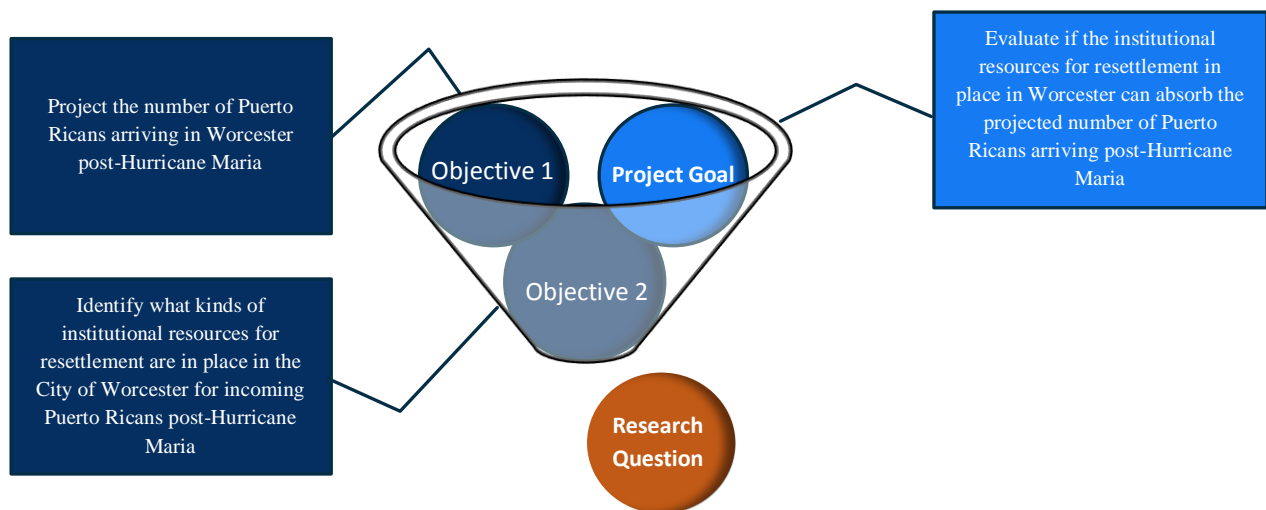


Figure 37: Breakdown of Research Question

As mentioned earlier, the entirety of this project exemplifies an issue of supply and demand. Ultimately, we recognized that even if institutions, such as the Worcester Public Schools, were not

necessarily facing significant issues now, too big of an influx may lead to issues in the future. To translate that in terms of supply and demand, the demand (number of Puerto Ricans arriving) is unspecified and therefore, no matter the supply (institutional resources), the system (the City of Worcester) may be at risk. That being said, there is no way to develop a projection about the future with exactitude, hence is why it is termed an estimation. Nevertheless, an estimate is more helpful than not in cases such as the influx of Puerto Ricans arriving to the City of Worcester.

5.2 Recommendations

After aggregating our findings, we proposed a set of recommendations for the city to consider for future preparation. More importantly, we aimed to address the issues highlighted within our findings regarding what institutions were struggling with by offering strategies. All upcoming recommendations are introduced with the issue we are addressing followed by a brief explanation of the strategy.

Recommendation #1: Increase statewide efforts by encouraging neighboring communities to be more proactive in supporting communities that are facing an influx of new residents from Puerto Rico and other regions affected by Hurricanes Irma and Maria.

We developed this recommendation to address how the City of Worcester can better prepare for the influx of these Puerto Ricans. When asked the questions, ‘do you have the capacity’ as well as ‘if you are at or over capacity, what are you doing to address these extra people’, Janice Weekes laid emphasis on the fact that all 31 workforce career centers across the Commonwealth of Massachusetts are united in supporting one another:

We are part of a network of a statewide of career centers. If numbers increased in such a way that our current staff couldn't handle it, by all means we would make a call to our sister agencies across the commonwealth and they would send staff in to support us.

-Janice Weekes, Director of Workforce Central Career Center

Just as Massachusetts' career centers have demonstrated a united front and are prepared to help one another, it is imperative that neighboring communities do the same. This recommendation is not limited to Puerto Ricans or Hurricane Maria. This is due to the fact that several regions in the United States, as well as the Caribbean Islands, were affected first-hand by the recent September hurricanes. Due to the storms thousands have been displaced from their homes. It is pertinent that the United States as well as other regions that neighbor disaster-stricken-regions to be united in providing aid to these victims in need. In addition, communities will better acclimate to the situation of receiving influxes of Puerto Ricans and other displaced persons if the community is reinforced by neighboring communities. Below, a quote acquired from one of our interviews reinforces the importance of a united front,

Understand that [there are] challenges with resources... also [try] to encourage the state to be more proactive in the cities and towns that are receiving this amount of folks coming to these areas.

-Representative from Holyoke

This recommendation is especially pertinent due to the documented rise in natural disasters due to Climate Change (Section 2.1.1).

Recommendation #2: Improve cross-communication amongst organizations, government officials, and residents by publicizing frequent updates on how the City of Worcester is aiding the incoming evacuees from Hurricanes Irma and Maria. Extending cross-communication across the Commonwealth of Massachusetts and neighboring states would create a broader and more unified front.

Through our investigations we realized there was a discrepancy between what institutional resources were in place in Worcester and what stakeholders were actually aware of. Furthermore, there wasn't uniform agreement on which of the four types of institutional resources are of most concern (Figure 32). The two stakeholders that identified education as a point of concern (Figure 32) were not actually from the education sector. In speaking with the Superintendent for Worcester Public Schools, she discounted this concern.

I mean, it just seems like there's a lack of communication between every party.

-Police Officer

With respect to tracking the number of persons that had arrived in Worcester, Jackie Reis, a spokeswoman for Massachusetts Department of Secondary Education (DESE), said that “we are tracking student numbers... we will provide that information to the governor and legislature for their consideration” (O’Connell, 2017). Whilst developing projections and conducting interviews we found that this data was either not available or confidential. Without transparency communication can only improve so much. Our team attempted to improve this communication issue by developing our second deliverable, the resource listing. This deliverable was an effort to enhance awareness about the institutional resources available state and citywide for stakeholders in the city; we submitted our deliverable to over 30 individuals who had expressed interest.

Recommendation #3: To minimize confusion and/or errors in data pertaining to the number of Puerto Ricans, and other evacuees displaced by Hurricanes Irma and Maria, arriving in the City of Worcester, implement a singular and overall more effective process of documentation.

Through online research and conducting interviews, we were able to aggregate much data on the number of Puerto Ricans who have arrived in the City of Worcester. We found that these numbers lacked more in-depth descriptions and they had different units. Below, **Table 5** offers two cases during the project term in which we came across rather confusing data. The left most column presents the numbers in the exact fashion in which we were first given the data followed by authorship of the data, and essentially an analysis of what's included and what's not.

Example	Author	Brief Description	What's included	What's not included/Error																																																																																																
<ul style="list-style-type: none"> • 127 cases • 101 individuals • 106 household • Total= 305 	CENTRO	<p>This data as specified by CENTRO was last updated on September 27, 2018. In entirety, the data represents the number of Puerto Ricans that CENTRO has tracked in respect to who they have personally helped post-hurricane.</p> <p>NOTE:</p>	<ul style="list-style-type: none"> • units are expressed in 'cases', 'individuals', and 'household'. • total number • date in which the data was last updated 	<ul style="list-style-type: none"> • total number lacks any form of unit. • 'Households' does not specify how many children are divided across t households. • 'Household' does not distinguish parental status (single parent or both parents). • a breakdown of ages • dates of arrival • CENTRO does not define the scope of a 'case' ? <ul style="list-style-type: none"> ○ what counts as a 'case' ? ○ confusion on whether these individuals and households are considered cases. • The sum of cases, individuals, and households does not equate to the 'total' that is recorded. <ul style="list-style-type: none"> ○ ERROR: 334 ≠ 305 																																																																																																
<table border="1"> <thead> <tr> <th colspan="3">PRVI_FamilySummary</th> </tr> <tr> <th>Arrived in Worcester</th> <th># Families</th> <th># Students</th> </tr> </thead> <tbody> <tr><td>10/05/2017</td><td>2</td><td>5</td></tr> <tr><td>10/10/2017</td><td>5</td><td>8</td></tr> <tr><td>10/11/2017</td><td>2</td><td>2</td></tr> <tr><td>10/13/2017</td><td>4</td><td>6</td></tr> <tr><td>10/16/2017</td><td>7</td><td>10</td></tr> <tr><td>10/17/2017</td><td>12</td><td>16</td></tr> <tr><td>10/18/2017</td><td>8</td><td>10</td></tr> <tr><td>10/20/2017</td><td>5</td><td>8</td></tr> <tr><td>10/23/2017</td><td>7</td><td>12</td></tr> <tr><td>10/24/2017</td><td>5</td><td>9</td></tr> <tr><td>10/25/2017</td><td>1</td><td>2</td></tr> <tr><td>10/26/2017</td><td>1</td><td>1</td></tr> <tr><td>10/27/2017</td><td>2</td><td>6</td></tr> <tr><td>10/30/2017</td><td>6</td><td>8</td></tr> <tr><td>10/31/2017</td><td>3</td><td>8</td></tr> <tr><td>11/01/2017</td><td>5</td><td>5</td></tr> <tr><td>11/02/2017</td><td>4</td><td>4</td></tr> <tr><td>11/03/2017</td><td>7</td><td>11</td></tr> <tr><td>11/06/2017</td><td>3</td><td>3</td></tr> <tr><td>11/07/2017</td><td>5</td><td>6</td></tr> <tr><td>11/08/2017</td><td>4</td><td>5</td></tr> <tr><td>11/09/2017</td><td>5</td><td>7</td></tr> <tr><td>11/13/2017</td><td>8</td><td>12</td></tr> <tr><td>11/14/2017</td><td>8</td><td>10</td></tr> <tr><td>11/15/2017</td><td>3</td><td>3</td></tr> <tr><td>11/17/2017</td><td>4</td><td>7</td></tr> <tr><td>11/20/2017</td><td>4</td><td>5</td></tr> <tr><td>11/21/2017</td><td>7</td><td>12</td></tr> <tr><td>11/27/2017</td><td>5</td><td>7</td></tr> <tr><td>Totals</td><td>142</td><td>208</td></tr> </tbody> </table>	PRVI_FamilySummary			Arrived in Worcester	# Families	# Students	10/05/2017	2	5	10/10/2017	5	8	10/11/2017	2	2	10/13/2017	4	6	10/16/2017	7	10	10/17/2017	12	16	10/18/2017	8	10	10/20/2017	5	8	10/23/2017	7	12	10/24/2017	5	9	10/25/2017	1	2	10/26/2017	1	1	10/27/2017	2	6	10/30/2017	6	8	10/31/2017	3	8	11/01/2017	5	5	11/02/2017	4	4	11/03/2017	7	11	11/06/2017	3	3	11/07/2017	5	6	11/08/2017	4	5	11/09/2017	5	7	11/13/2017	8	12	11/14/2017	8	10	11/15/2017	3	3	11/17/2017	4	7	11/20/2017	4	5	11/21/2017	7	12	11/27/2017	5	7	Totals	142	208	Worcester Public School Administration	<p>This data denotes the number of students from Puerto Rico and the U.S. Virgin islands post-hurricane that the WPS Administration recorded in respect to those registered in Worcester Public Schools.</p>	<ul style="list-style-type: none"> • units include dates of arrival, '# of families', and '# of students' • total number • begin and end date in which data was recorded: '10/05/2017-11/27/2017' • correlation between # of families that the # of students came from that day (e.g. a total of 5 students, who were registered in the Worcester Public Schools on 10/05, came from 2 families) 	<ul style="list-style-type: none"> • grade distribution • school distribution across all WPS • a breakdown of ages • a correlation is useful, though it is also not since it doesn't specify how many students came from each of the families specified. • table represents a grouping of students from Puerto Rico and the U.S. Virgin islands
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Comparison between the two examples	[1] difference in grouping: CENTRO was only accounting for Puerto Ricans vs. WPS administration accounted for both U.S. Virgin Islands and Puerto Rican students. [2] possibility of overlapping data: due to confidentiality rights, organizations cannot measure their numbers against others. [3] only commonality between the two records are units in 'households' and 'families'.																																																																																																			

Table 5: Puerto Rican Data Comparison

Ultimately, records and numbers that we came across were so inconsistent in what was accounted for that it presented a significant issue in our analyses of the total numbers of Puerto Ricans that Worcester has seen. All things considered, records from Mass 211, CENTRO, and the WPS administration of the number of arriving Puerto Ricans equated to about 600 total. Our projection suggested there would be a total of 2,436 Puerto Ricans from October 6, 2017 and January 27, 2018. If our projections are accurate, then this equates to nearly 1,800 persons that have been unaccounted for.

Recommendation #4: Be considerate and recognize that those displaced from their homes by Hurricanes Irma and Maria, or in any case of conflict, are traumatized and should not be put under any sort of pressure to express their intentions of staying for long or short-term.

When first developing our own projections for the number of Puerto Ricans coming to Worcester post-hurricane, we considered investigating whether these displaced persons plan on staying long or short term. We were not able to acquire that information for two reasons. First, none of interviewees could project how many individuals may arrive in Worcester nor how long they might stay. Second, interviewees described how they simply avoided asking incoming migrants how long they would stay.

That's a really hard question for these young people to answer... We began asking those questions of the students when they arrived...unfortunately, the emotion, the trauma, post-traumatic stress...is so incredibly powerful that simply asking that question can be a trigger of at least difficult thoughts, if not very emotional reactions.

-Ryan Forsythe, VP of Enrollment Management at WSU

In one sense, aiding these victims of the September hurricanes is a discussion of moral obligation. To put emphasis on 'moral', the priority should be simple, helping these people who are in great need. Tying this back to our recommendation, the discussion of one's intentions for duration of stay is not necessarily valuable on the moral side of things. We are not discounting that there are implications pending how long these migrants stay, we simply suggest stakeholders be mindful of what these displaced persons have gone through.

There is some concern that if people leave, they won't come back... in many respects, that's not the argument we should be having right now. We should be focused on saving lives... that's all we should be talking about.

-James McGovern, Congressman⁵⁸

Recommendation #5: To address the issue of the language barrier with respect to employment, consider the need for ESOL⁵⁹ Programs when applying for state funding.

As highlighted in Findings 4.0, employment and housing issues go hand-in-hand; the underlying issue parallels that of the phrase 'the chicken and the egg'. Furthermore, although Puerto Ricans may have the skillset for a wide range of potential jobs, they may be limited by the language barrier, thus unable to take them. For this reason we recommend that the City of Worcester consider adopting programs,

⁵⁸ (O'Connell, 2017)

⁵⁹ English for Speakers of Other Languages

such as ESOL, that will help address this language barrier. As found through our interviews, organizations such as the Workforce Central Career Center and the Worcester Public Schools, all intend to apply for state funding for possible language programs for the upcoming year.

Right now, in the city of Worcester, we do not offer ESOL... trying to get funding to assist with opening up those floodgates so that those services can be provided and also support [other] services.

-Janice Weekes, Director of Workforce Central Career Center

6.0 Reflections

Before every Interactive Qualifying Project at WPI, there is a preparatory term in which students must complete a mandatory course called ID2050. In this course, students develop a project proposal consisting of an introduction, literature review, and methodology. The seven week course ultimately functions as a period to prepare for their IQP project and receive critiques from project advisors on their project proposal.

Our initial project was sponsored by La Compañía para el Desarrollo Integral de la Península de Cantera. This organization works to improve the neighborhood of Cantera through different community development projects. Ultimately, the organization's ability to improve Cantera was limited to funding from the Puerto Rican government. In order to receive additional funding La Compañía requested that our team collect socioeconomic data pertaining to Cantera that would potentially be useful to the organization in applying for grants. For our project we aimed to gather socioeconomic data about Cantera and compile that data in a detailed report that we would submit to our sponsor.

Two weeks before departure, Hurricane Maria made landfall on Puerto Rico. Due to the devastation, the International and Global Studies Department at WPI cancelled the Puerto Rico IQP. They then assisted in relocating the Puerto Rico group (about 2 dozen students) to WPI's project center and the Worcester Idea Lab in the center of Worcester.

The following term, the five groups in the Puerto Rico IQP reduced to four groups due to several people leaving the IQP. Every teams faced the major setback of no longer having. Once again, our team, which decreased to three members, developed a new project focus. Wanting to help Puerto Rico however possible, we spent several days trying to decide on related project topic. Fortunately, with the help of Linda Looft⁶⁰ we were introduced to the Senior District Representative of Congressman James McGovern, Gladys Rodriguez-Parker. Ms. Rodriguez-Parker readily proposed the idea of compiling a map or listing of the institutional resources available to the victims of Hurricane Irma and Maria. Upon discussions with additional organizations and government officials, it became evident that such a listing would indeed be useful for all parties. We hope that this listing will prove useful in the future when assisting any migrant. As such the City of Worcester can refer to this document as needed.

Hoping to help Puerto Ricans with finding resources for resettlement in the City of Worcester, we compiled an informational brochure for Centro. We were under way with developing these two deliverables when we received a third request. Amor Para Puerto Rico - a community action group established after Hurricane Maria with the aim to fundraise money and assist Puerto Rico - asked our team to create a website for them. Such a website would prove useful in directing Puerto Rican evacuees as they arrive in Worcester as well improve communication about Puerto Rico in the

⁶⁰ WPI's VP of Government and Community Relations

city. With already much to do and lacking website development skills, we recruited an additional WPI student (Junior) outside of the Puerto Rico group to assist us- Nathan Rosenberg.

Our IQP undoubtedly kept us busy, but of course the overall project and experiences were extremely rewarding. The project timeframe proved to be limiting to the amount of tasks we could complete, but ultimately, we are proud of what we were able to do. As the project term came to a close, our three deliverables, as well as our final report, really came together. The entire project was an amazing experience for the three of us. We were faced with a multitude of tasks which proved challenging given the short time allotted for the project and having to start from scratch at the beginning of the term. It was also quite rewarding to be able to converse with important city figures, an opportunity that we would not have had without this IQP. The City of Worcester has performed admirably in response to the calamities and it was an honor to be able to add to it.

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Appendix A: Description of Interview Procedure

The following section will provide a brief description of the interview process. For the purpose of this study, our IQP project team of three students will conduct semi-structured interviews. For the majority of our in-person interviews, one student will act as a scribe to record the interview while the other will act as the interviewer conducting the interview. For phone-interviews, our interviewing team of two will make it known to the interviewee that they are on speaker. For every interview, both in-person and over the phone, we will begin with the following prompt:

Interview Preface A (for non-PR migrant):

*Hello (name of Interviewee),
You are speaking with _____ and _____. We would like your permission to record this interview to later review and use the information discussed. A little about this project and ourselves: we are students from Worcester Polytechnic Institute completing a project about the influx of Puerto Rican migrants arriving in Worcester. More specifically, we are focusing on the four main components of resettlement, which are housing, employment, healthcare, and education. The purpose of this interview is to learn about what you or your organization is doing to assist these Puerto Ricans. We hope to understand what resources are in place in Worcester to handle these migrants and what your contribution is in respect to that. Furthermore, if you are able to provide any quantitative information, such as non-identifying data, on the Puerto Ricans who have come to you for assistance, we would appreciate that particular data. You are part of a study in which all data and information that is collected will be later analyzed to evaluate if the resources in place in Worcester have the capacity to absorb the projected number of Puerto Ricans arriving here. We want to inform you that the information we collect from you will **NOT** be published in your name or the name of your organization, should we obtain any information that would jeopardize your reputation and/or job. This interview will be no longer than one hour and is completely voluntary. You are at liberty to, at any time, opt out of any question you do not wish to answer. Your time and help is greatly appreciated. If there are any concerns or questions, feel free to ask before we start. We will now begin the interview.*

Interview Preface B (for PR migrant):

*Hello (name of Interviewee),
You are speaking with _____ and _____. We would like your permission to record this interview to later review and use the information discussed. A little about this project and ourselves: we are students from Worcester Polytechnic Institute completing a project about the influx of Puerto Rican migrants arriving in Worcester. More specifically, we are focusing on the four main components of resettlement, which are housing, employment, healthcare, and education. The purpose of this interview is to learn about your experience in respect to resettling in Worcester. We hope to understand the process in which you were connected with resources and your living situation post receiving assistance. You are part of a study, in which all data and information that is collected, will be later analyzed to evaluate if the resources in place in Worcester have the capacity to absorb the projected number of Puerto Ricans arriving here. We want to inform you that the information that we collect from you will **NOT** be published in your name, should we obtain any information that would jeopardize your reputation, job, privacy and/or safety. This interview will be no longer than one hour and is completely voluntary. You are at liberty to, at any time, opt out of any question you do not wish to answer. Your time and help is greatly appreciated. If there are any concerns or questions, feel free to ask before we start. We will now begin the interview.*

After the preface, our interviews will begin with general questions that are taken from one or more of Appendices C-G.

Appendix B: Table of Interviewees

Interviewees	Title	Affiliation
Gladys Rodriguez-Parker	Senior District Representative	Congressman James McGovern (District 2 of Massachusetts)
Louise Jeffy	VP of Programs	CENTRO (Worcester)
Elias Pinto	Puerto Rican Migrant post-Maria	Self (Maraguay, PR)
Janice Weekes	Director	Workforce Central Career Center (Worcester)
Scott Dennett	Realtor & Landlord	The Dennett Group
Jorge Rodriguez Jr.	Puerto Rican Migrant post- Maria	Self (Aguadilla, PR)
David Rojas	Officer	Worcester Police Department
Ryan Forsythe	VP of Enrollment Management	Worcester State University
Miguel Rivera	Director	Housing Development Division (Worcester)
Maureen Binienda Katherine Kerr	Superintendent Chief of Staff	Worcester Public Schools Superintendent
Matilde Castiel Kathy Esparza	Commissioner Community Relations Specialist	Health and Human Services Office of Human Rights & Disabilities (Worcester)
Representative of Carlos Gonzalez	State Representative	10 th Hampden District
Marcos Marrero	Director	Planning and Economic Development (Holyoke)

Appendix C: Table of Contacts

Contacts	Position	Affiliation
Gladys Rodriguez-Parker	Senior District Representative	Congressman James McGovern (District 2 of Massachusetts)
Linda Looft	WPI Assistant VP	Government and Community Relations (Worcester)
Louise Jeffy	VP of Programs	CENTRO (Worcester)
Daniel Racicot	Chief of Staff	Mayor Joseph Petty (Worcester)
Sarai Rivera	City Councilor	Worcester
Karen Pelletier	Director of Higher Education and Workforce Partnerships	Worcester Regional Chamber of Commerce
Amor Para Puerto Rico	n/a	n/a
Sarah Slutterback	Coordinator	Homeless Education State (Massachusetts)
Jorge Rodriguez Sr.	Former Executive Director of PREPA ⁶¹ (2006-2008)	Father of Jorge Rodriguez Jr.

⁶¹ The Puerto Rico Electric Power Authority (PREPA) is the main provider for electricity established in Puerto Rico.

Appendix D: Interview Questions for Housing Component

The following is a list of questions that will be used for interviews that pertain to this component of resettlement. These questions are in no particular order. Based upon their organization and role, participants will not be asked every question in this listing during the interview.

1. Prior to Hurricane Maria, did you assist Puerto Rican migrants?
 - a. If yes, did you run into any problems or challenges finding them housing?
 - i. If yes, what were they and why?
2. Do you know how the cost of housing in Puerto Rico compares to Worcester?
 - a. What's the average monthly rent for an apartment in Worcester?
3. How many available apartments do you have on the market?
 - a. Off the market?
 - b. How many people can the apartments house?
 - c. What's the turnover rate?
4. How long does it typically take people to get housing?
 - a. What documentation is necessary to secure housing?
 - b. Have you had and/or seen any issues with a lack of documentation?
5. Do you believe Puerto Ricans arriving here will have the financial means to acquire housing?
 - a. Please elaborate.
 - b. What type of records or papers do you look for from these Puerto Ricans?
 - c. What are your thoughts on lowering monthly rent, at least temporarily, to aid incoming migrants?
 - d. Do you have any concerns about providing housing to these Puerto Ricans?
 - i. i.e. tenant rights
6. Are you aware of any realtors/landlords who are or would be willing to assist Puerto Ricans?
 - a. How much have you communicated with other realtors/landlords?
 - b. Have you collectively developed any future plans?
 - c. What were common concerns discussed among everybody?
7. Are you aware of any regulations or laws that have been adjusted to allow Puerto Ricans to stay with family or friends?
 - a. How have you communicated with the city government?
 - b. Do you believe these people are staying for short-term or long-term?
 - i. Why?
8. Are you aware, that of the four key components of resettlement (housing, education, healthcare, and employment) many officials in Worcester express housing as the biggest issue?
9. There is a conundrum that Puerto Ricans not able to secure housing without stable jobs, yet they are not able to secure jobs without stable housing. What are your thoughts on this?
10. What are your plans moving ahead?

Appendix E: Interview Questions for Employment Component

The following is a list of questions that will be used for interviews that pertain to this component of resettlement. These questions are in no particular order. Based upon their organization and role, participants will not be asked every question in this listing during the interview.

1. Will you please provide a brief summary of what you or your organization does for the City of Worcester?
2. On your website, you request that job seekers attend a seminar that gives an overview of the services, resources and options available at the career center. Considering the large Latino population, are there bilingual staff to assist Spanish speaking people? Yes
3. Prior to Hurricane Maria, had you hired any Puerto Rican migrants?
 - a. If yes, did you run into any problems or challenges assisting them? Please elaborate.
4. What types of jobs are these migrants hired for? 79 families (200 individual-113 students) (under 5) 2 individual (husband and wife) English proficient ~ not great
 - a. i.e. skilled versus unskilled
5. Post-Hurricane Maria, are there any systems in place for hiring incoming migrants? Yes (system of priority ~ flagged Puerto Rican individuals who registered (ESOL)
 - a. e.g. job fairs, Dunkin Donuts' Puerto Rican hiring effort, etc.
6. Have you seen an increase in applications and/or cases since Hurricane Maria? How many?
 - a. How many people did you normally handle pre-Hurricane Maria?
 - b. How many people are you handling now post-Hurricane Maria?
 - c. On average, how long does it take for one of these migrants to acquire a job after 'registered as a member of the career center' and after submitting applications?
 - d. What is the placement rate? Do you have any actual numbers on how many have acquired jobs since arriving in Worcester?
7. What is your capacity?
 - a. Do you have availability or have you reached full capacity?
 - i. What is your waiting period before you can serve someone?
 - b. If you are at or over capacity, what are you doing to address these extra people? Are you sending them to other organizations?
 - i. If so, which?
 - c. What do you need to be able to effectively handle the increased number of people? (e.g. resources, support, etc.)
8. Where do you think other organizations might be in terms of capacity?
9. Do you think it will get easier or harder in coming months?
10. What barriers are there in terms of language for these migrants when applying for jobs?
11. What do you believe the biggest issue Puerto Ricans will face coming to Worcester?
12. Are there any issues with certification and/or documentation for getting jobs?
 - a. e.g. teachers
13. There is a conundrum that Puerto Ricans not able to secure jobs without stable housing, yet they are not able to secure stable housing without a job. What are your thoughts on this?

Appendix F: Interview Questions for Healthcare Component

The following is a list of questions that will be used for interviews that pertain to this component of resettlement. These questions are in no particular order. Based upon their organization and role, participants will not be asked every question in this listing during the interview.

1. Prior to Hurricane Maria, did you assist any Puerto Rican migrants?
 - a. If yes, did you run into any problems or challenges assisting them?
 - i. e.g. language barrier
 - ii. Financial means? Insurance?
2. What types of health care programs do you have for incoming migrants?
 - a. FEMA?
 - b. e.g. elderly children, families, disabled persons
 - c. We heard $\frac{2}{3}$ of the Puerto Rican students who have been registered in the Worcester public schools are special needs. Is your department doing anything to help address that?
 - i. Could you clarify what 'special needs' is referring to?
 - ii. Is the language barrier considered 'special needs'?
 1. Special needs? Where to put them?
 - a. Available space or housing for these particular persons?
 - d. What about handicap? And elderly?
3. Are you directly working with other institutions? Community Partners?
 - a. Relationship to...
 - i. FRC location in Worcester
 - ii. UMass Memorial
 - iii. Other family centers (Kennedy Family Center)?
 - b. In respect to housing, education, and employment?
 - c. Who are you redirecting Puerto Ricans to, if anyone?
4. Have you seen an increase in applications since Hurricane Maria?
 - a. How many?
 - b. Are these Puerto Ricans coming in with insurance and/or documentation? How many people did you normally handle pre-Hurricane Maria?
5. How many people are you handling now post-Hurricane Maria?
6. Do you have any data on how many people have applied for MassHealth post-Maria?
 - a. Eligibility requirements?
7. What is your capacity?
 - a. Do you have availability or have you reached full capacity?
 - i. What is your waiting period before you can serve someone?
 - b. If you are at or over capacity, what are you doing to address these extra people? Are you redirecting them to other organizations?
 - i. If so, which?
 - c. What do you need to be able to effectively handle the increased number of people?
 - i. (e.g. resources, support, etc.)
8. Where do you think other organizations might be in terms of capacity?
9. Do you think it will get easier or harder in coming months?
 - a. In terms off the numbers of Puerto Rican migrants?
 - b. In terms of the financial impact on the city of Worcester?
10. What do you believe the biggest issue Puerto Ricans will face coming to Worcester?

Appendix G: Interview Questions for Education Component

The following is a list of questions that will be used for interviews that pertain to this component of resettlement. These questions are in no particular order. Based upon their organization and role, participants will not be asked every question in this listing during the interview.

1. How many Puerto Rican students have been registered in schools since the Hurricane?
2. Do you have a breakdown of which school is receiving the most?
 - a. Perhaps by Elementary, Middle, and High school?
3. Has the City of Worcester been successful in integrating Puerto Rican teachers?
 - a. If yes, explain?
 - b. If not, what challenges have you met? With licensing? With affordability?
4. Of the schools (with the largest influx of PR students), have you faced any difficulty with classroom space? (Any danger to overcapacity in classrooms?)
 - a. What about backpacks?
 - b. What about books and other educational resources?
 - c. Cafeteria food?
5. Are classes taught in Spanish for the Puerto Ricans?
 - a. Has this been proven difficult for the education of these PR students?
 - i. Will they need additional English classes outside of school hours?
 1. ESOL programs?
6. Winter is coming. Has the Worcester Public Schools done anything to accommodate for the Puerto Rican students who may not have 'warm clothing'?
7. What is the deal with transportation? Are the kids riding buses or walking?
 - a. For buses, is there a fee to ride the bus? Is it per school year?
 - i. What's the situation for the PR students?
 - ii. Can they afford the bus fee? How is that split up if they are only coming for short term?
8. Please explain the process of integrating these Puerto Rican students into the school system.
 - a. How are they dispersed across the Worcester public schools
 - b. Are they going into the grades they were in at their Puerto Rican schools?
 - i. Do they have to take an entry test to know which school would be best for them?
 - c. How are these incoming migrant students being made aware of the different educational opportunities in Worcester? By Parents?
 - i. Are they directed to your office by another organization?
 1. Other organizations? Centro?
 - d. Overall transition of newcomers into the school?
 - i. Any sort of problems in welcoming them?
9. Are the majority of the students coming in proficient in English?
 - a. If not, what resources are available to them?
10. How prepared are your schools and teachers to manage these new students?
 - a. Language barrier?
 - b. Cultural adjustment?
 - c. PTSD from hurricane?
 - i. Is there any sort of guidance available to these students?
 - ii. Academic? Therapy?
 1. Guidance Counselors?
11. What is the financial impact of these new Puerto Rican students on the school systems?
 - a. Do you believe you can handle them?
 - b. What things are the most financially stressing?
 - i. Elaborate on the financial issue of translating Individual Education Plans
 - ii. Issue of future budget year? (students not being counted for when considering the upcoming year)

12. Elaborate on managing the special needs kids?
 - a. Clarify what 'special needs' means?
 - i. In what way are they special needs?
 1. Some would say a language barrier and/or an ESL is considered special needs? Can you attest to this?
 - b. Do you need more special need teachers to accommodate for the $\frac{2}{3}$ number?
 - i. Is it feasible to bring in those numbers? Financially? Space wise?
 - c. Any other cases of students with medical needs (handicap)
 - d. Have you been able to secure more funding from the state?
13. How many people do you anticipate leaving the island?
 - a. How many more incoming students are you preparing for?
 - i. How many Puerto Ricans do you think will come to Worcester?
 1. Individuals vs. household?
14. What do you believe the biggest issue Puerto Ricans will face coming to Worcester?
15. How long do you anticipate these migrant students staying?
 - a. Are they expecting to stay for short-term or long term? Explain.
 - b. What factors are influencing their decisions that you have seen? (Suggest these as examples)
 - i. Their financial means does not equate to the cost of living in Worcester?
 - ii. Their house in Puerto rice was uninhabitable?

Appendix H: Interview Template for Puerto Rican Migrants

Interview Script

Preface- refer to Appendix A, Interview Preface B

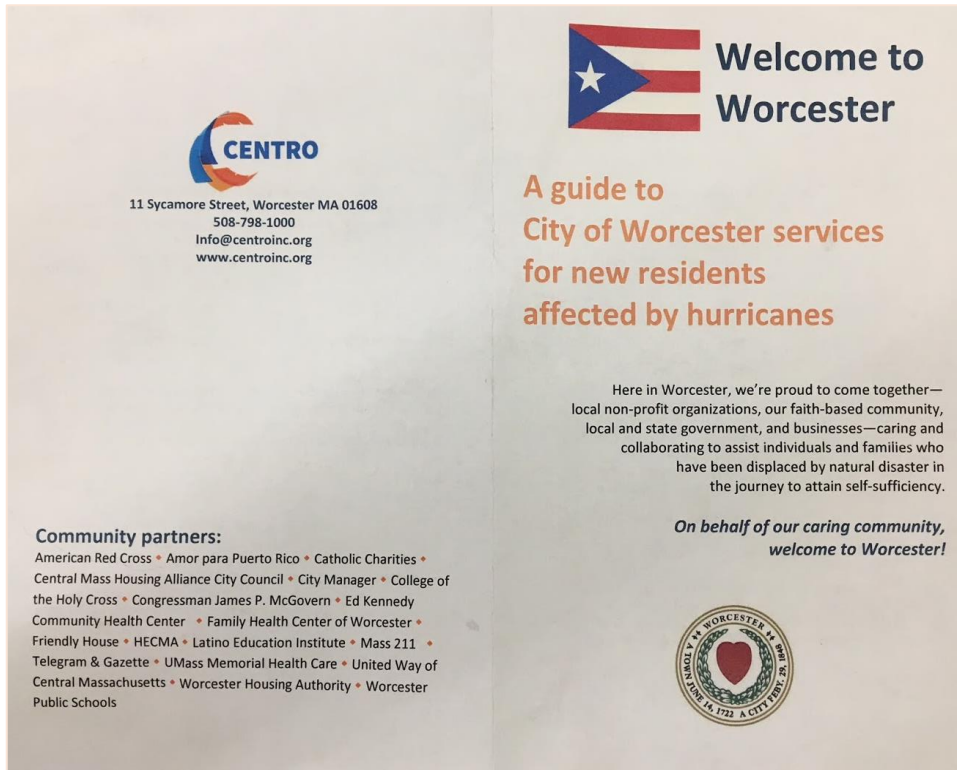
Questions-

1. What is your age? (Age range): (18-30), (31-45), (46-60), (61+).
2. Where in Puerto Rico are you from?
3. Would you consider yourself proficient in Spanish and English?
4. Describe your living situation before you came to Worcester.
5. What was the condition of your home when you left Puerto Rico?
6. Were you living with anyone in Puerto Rico?
7. Describe how you arrived in Worcester (e.g. transportation)
 - a. Why did you come here to Worcester?
8. Do you know other people that left or are planning to leave?
 - a. How many?
 - b. How many people were talking about leaving?
 - c. How many do you expect to leave?
9. How long do you plan on staying?
 - a. How long do you expect other people to stay (long vs short term)?
10. Did you know anyone in Worcester before arriving here?
 - a. If yes, family, friend, or other? Please specify.
11. When you first arrived, what did you do first?
 - a. Did you have any plans prior to coming to Worcester?
12. Who (organization) did you first go to for help?
13. What resources did you first need the most?
 - a. Elaborate.
 - b. What do you still need?
14. Of the four services, which was the most challenging to acquire coming to Worcester?
 - a. What's your experience with:
 - i. Finding housing
 - ii. Finding employment
 - iii. Continuing education
 - iv. Accessing healthcare
15. How does the cost of living in Worcester compare to Puerto Rico?
 - a. On average, how much do you spend for groceries per week?
 - b. If you're comfortable with answering, what's your monthly rent in Puerto Rico in comparison to in Worcester


Appendix I: Deliverables

Deliverable 1- Centro Informational Brochure

The following images displayed below are the pages of the old brochure and later, pages from the new brochure (offered in the English & Spanish version)



CENTRO
11 Sycamore Street, Worcester MA 01608
508-798-1000
Info@centroinc.org
www.centroinc.org




Welcome to Worcester

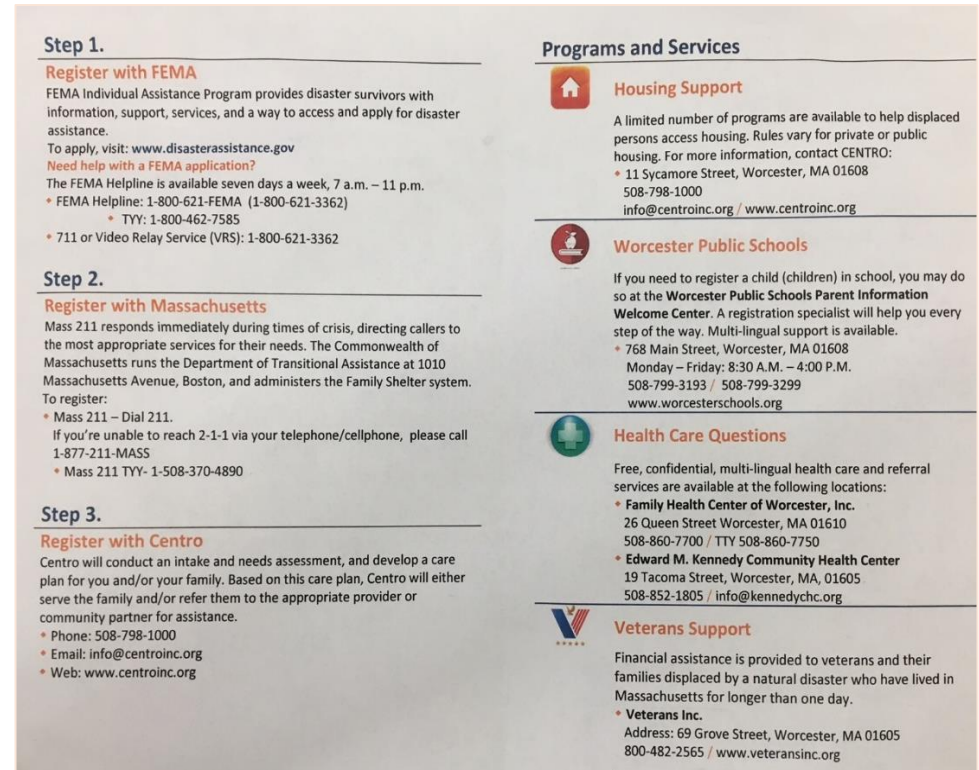
A guide to City of Worcester services for new residents affected by hurricanes

Here in Worcester, we're proud to come together—local non-profit organizations, our faith-based community, local and state government, and businesses—caring and collaborating to assist individuals and families who have been displaced by natural disaster in the journey to attain self-sufficiency.

On behalf of our caring community, welcome to Worcester!



Community partners:
American Red Cross • Amor para Puerto Rico • Catholic Charities • Central Mass Housing Alliance City Council • City Manager • College of the Holy Cross • Congressman James P. McGovern • Ed Kennedy Community Health Center • Family Health Center of Worcester • Friendly House • HECMA • Latino Education Institute • Mass 211 • Telegram & Gazette • UMass Memorial Health Care • United Way of Central Massachusetts • Worcester Housing Authority • Worcester Public Schools



Step 1.

Register with FEMA

FEMA Individual Assistance Program provides disaster survivors with information, support, services, and a way to access and apply for disaster assistance.
To apply, visit: www.disasterassistance.gov
Need help with a FEMA application?
The FEMA Helpline is available seven days a week, 7 a.m. – 11 p.m.
• FEMA Helpline: 1-800-621-FEMA (1-800-621-3362)
• TTY: 1-800-462-7585
• 711 or Video Relay Service (VRS): 1-800-621-3362

Step 2.

Register with Massachusetts

Mass 211 responds immediately during times of crisis, directing callers to the most appropriate services for their needs. The Commonwealth of Massachusetts runs the Department of Transitional Assistance at 1010 Massachusetts Avenue, Boston, and administers the Family Shelter system.
To register:
• Mass 211 – Dial 211.
If you're unable to reach 2-1-1 via your telephone/cellphone, please call 1-877-211-MASS
• Mass 211 TTY- 1-508-370-4890

Step 3.

Register with Centro

Centro will conduct an intake and needs assessment, and develop a care plan for you and/or your family. Based on this care plan, Centro will either serve the family and/or refer them to the appropriate provider or community partner for assistance.
• Phone: 508-798-1000
• Email: info@centroinc.org
• Web: www.centroinc.org

Programs and Services

Housing Support

A limited number of programs are available to help displaced persons access housing. Rules vary for private or public housing. For more information, contact CENTRO:
• 11 Sycamore Street, Worcester, MA 01608
508-798-1000
info@centroinc.org / www.centroinc.org

Worcester Public Schools

If you need to register a child (children) in school, you may do so at the **Worcester Public Schools Parent Information Welcome Center**. A registration specialist will help you every step of the way. Multi-lingual support is available.
• 768 Main Street, Worcester, MA 01608
Monday – Friday: 8:30 A.M. – 4:00 P.M.
508-799-3193 / 508-799-3299
www.worcesterschools.org

Health Care Questions

Free, confidential, multi-lingual health care and referral services are available at the following locations:
• **Family Health Center of Worcester, Inc.**
26 Queen Street Worcester, MA 01610
508-860-7700 / TTY 508-860-7750
• **Edward M. Kennedy Community Health Center**
19 Tacoma Street, Worcester, MA, 01605
508-852-1805 / info@kennedychc.org

Veterans Support

Financial assistance is provided to veterans and their families displaced by a natural disaster who have lived in Massachusetts for longer than one day.
• **Veterans Inc.**
Address: 69 Grove Street, Worcester, MA 01605
800-482-2565 / www.veteransinc.org

Old Brochure



About Us

Established in 1977, CENTRO is one of the largest minority led, community based, multiservice, multicultural, multilingual, non-profit organization in Central Massachusetts.

Our Mission

To assist individuals and families, striving to become self-sufficient, achieve their dream.

Contact Us

Phone: **508-798-1900**

Email: info@centroinc.org

Website: centroinc.org

Address: 11 Sycamore St, Worcester, MA



The City of Worcester is united to help our fellow Americans from Puerto Rico and the U.S Virgin Islands who were impacted by Hurricane Irma & Maria.

If you are a victim of the effects of Hurricane Irma or Maria, please call 211 and ask for support here in Worcester.

Even if you are unsure of how long you plan on staying here in Worcester, calling 211 is the first step when arriving in Massachusetts.

Call 211 to be directed to CENTRO. CENTRO will help you register with FEMA and additional services that you may need.



**WELCOME TO
THE CITY OF
WORCESTER**

A guide to resources provided in the City of Worcester for new residents affected by Hurricane Irma or Maria.

Are you a victim of Hurricane Irma or Maria? What's next?

A) Call Mass 2-1-1

- Mass 211 is the primary information center during times of emergency.
- Mass 211 directs callers to the most appropriate services in Massachusetts for their needs.

To contact Mass 211, dial **2-1-1**

If you're unable to reach Mass 211,

Call: **1-877-211-6277**

TTY: **1-508-370-4890**

B) Register with CENTRO

- CENTRO will conduct an intake and needs assessment, and develop a care plan for individuals and/or families.
- CENTRO will either serve the individual and/or family directly or refer them to the appropriate provider for further assistance. To contact CENTRO, refer to CENTRO page.

C) Register with FEMA

- Victims first need to register online with FEMA to determine eligibility for any available federal assistance.
- FEMA Individual Assistance Program provides disaster victims with information, support & services. To apply,
Website: <http://disasterassistance.gov>
Call: FEMA Helpline: **1-800-621-3362**
TTY: **1-800-462-7585**
FEMA Helpline is open 7am - 11pm daily

Getting you started Programs and Services



Housing Support

- There are a limited number of programs for helping displaced persons access housing.
- Rules vary for private versus public housing.

Worcester Housing Authority

Address: 40 Belmont St. Worcester

Website: www.worcester-housing.com/

Call: **1-508-635-3000**

Health Care

- In the case of an emergency, dial **9-1-1**.
- Free, confidential, multilingual health care and referral services are available at:
- Edward Kennedy Community Health Center
Address: 19 Tacoma St, Worcester, MA
Call: **1-508-852-1805**/ TTY: 508-860-7750
- Family Health Center of Worcester, Inc.
Address: 26 Queen St, Worcester, MA
Call: **1-508-860-7700**/ TTY: 508-860-7750

Education in Worcester

- For children 18 & under, register for school by visiting the Worcester Public Schools (WPS) Parent Information Welcome Center.
- A WPS Information Center staff member will help guide you through the registration process.

To contact the information center,

Address: 768 Main St, Worcester, MA

Website: www.worcesterschools.org

Call: **1-508-799-3194 / 1-508-799-**

3299

Hours: 8:30 am-4:00 pm, Monday-Friday

Education Continued

- For students 18 & older, the City of Worcester is home to 9 colleges & universities.
Website: <http://www.worcesterma.gov/living-working/sites-sounds/colleges-universities/>

Job Opportunities

- Workforce Central Career Center
- Workforce Central offers job seekers free resources and information
- To register, attend a Workforce Central Career Center Seminar.
For more information,
Website: www.workforcecentralma.org/
Call: **1-508-799-1600** (Worcester Location)

Veteran Support

- Veterans (and their families) can receive financial assistance if displaced by a natural disaster & if they have lived in Massachusetts for more than 1 day.
- Veterans Inc.
Address: 69 Grove St, Worcester, MA
Website: www.veteransinc.org
Call: **1-800-482-2565**

Community Partners:

American Red Cross • Amor Para Puerto Rico • Catholic Charities • Central Mass Housing Alliance City Council • City Manager • College of Holy Cross • Congressman James McGovern • E.M. Kennedy Community Health Center • Family Health Center of Worcester • Friendly House • HECCMA • Latino Education Institute • Mass 211 • Telegram & Gazette • UMass Memorial Health Care • United Way of Central Massachusetts • Worcester Housing Authority • Worcester Public Schools • Worcester Polytechnic Institute •



Sobre CENTRO

CENTRO es la organización sin fines de lucro más grande del Centro de Massachusetts. Es dirigido por minorías, centrada en la comunidad, multicultural, multilingüe, y de servicio múltiple.

Nuestra Misión

Asistir a individuos y familias lograr sus sueños de autosuficiencia.

Contáctese

Teléfono: **508-798-1900**

Correo Electrónico: info@centroinc.org

Sitio Web: centroinc.org

Dirección: 11 Sycamore St, Worcester, MA



La Ciudad de Worcester está unida brindando apoyo a nuestros compatriotas americanos de Puerto Rico e Islas Vírgenes de Estados Unidos quienes fueron impactados por Huracán Irma o María.

Si eres una víctima de los efectos del Huracán Irma o María, por favor llame 211 y pregúnteles por la asistencia disponible aquí en Worcester.

Incluso si usted no está seguro de cuánto tiempo va a permanecer aquí en Worcester, llamando a 211 es el primer paso a la hora de llegar a Massachusetts

Llame 211 para ser dirigido al CENTRO. Le ayudaran a registrarse con FEMA y servicios adicionales que usted pueda necesitar.



**BIENVENIDOS A
LA CIUDAD DE
WORCESTER**

Una guía de los recursos ofrecidos en la Ciudad de Worcester para nuevos residentes que han sido impactados por Huracán Irma o María.

¿Eres una víctima de Huracán Irma o María? ¿Cuál es el próximo?

A) Llama Mass 2-1-1

- Mass 211 es el principal centro de información en momentos de emergencia.
- Mass 211 dirige los llamantes a los servicios más apropiados en Massachusetts para sus necesidades.
- Para ponerse en contacto con Mass 211, marque **2-1-1**
Si no puede contactar Mass 211,
Llame: **1-877-211-6277**
TTY: **1-508-370-4890**

B) Inscríbese con CENTRO

- CENTRO llevará a cabo una evaluación de las de sus necesidades primordiales. Desarrollará un plan de cuidado para individuos y/o familias.
- CENTRO servirá al individuo y/o a la familia directamente o actuará como enlace para servicios adicionales.
- Para ponerse en contacto con CENTRO, consulte a la página de CENTRO.

C) Inscríbese con FEMA

- Primero, víctimas necesitan registrarse en línea con FEMA para determinar la elegibilidad para cualquier asistencia federal disponible.
- FEMA Individual Assistance Program provee a las víctimas del desastre con información, apoyo, y servicios. Para aplicar,
Sitio Web: <http://disasterassistance.gov>
Llame: **1-800-621-3362**
TTY: **1-800-462-7585**
Teléfono de asistencia de FEMA está disponible 7am – 11pm diariamente.

Empezar con Programas y Servicios



Apoyo del Viviendo

- Hay un número limitado programas para ayudar a las personas desplazadas encontrar alojamiento.
- Las reglas varían para vivienda privada versus pública.
Worcester Housing Authority
Dirección: 40 Belmont St. Worcester
Sitio Web: www.worcester-housing.com/
Llame: **1-508-635-3000**

La Asistencia Médica

- En caso de emergencia, marque **9-1-1**.
- Libre, confidencial, asistencia médica multilingüe y servicios de referencia están disponible al:
 - Edward M. Kennedy Community Health Center
Dirección: 19 Tacoma St, Worcester, MA
Llame: **1-508-852-1805** / TTY: 508-860-7750
 - Family Health Center of Worcester, Inc.
Dirección: 26 Queen St, Worcester, MA
Llame: **1-508-860-7700** / TTY: 508-860-7750

Educación de Worcester

- Para estudiantes menores de 18 años, se pueden registrar en la escuela por visitando la Worcester Public Schools (WPS) Parent Information Welcome Center.
- Un empleado del centro de información de WPS le ayudara a guiarle a través del proceso de registro.
Para ponerse en contacto,
Dirección: 768 Main St, Worcester, MA
Sitio Web: www.worcesterschools.org

Llame: **1-508-799-3194 / 1-508-799-3299**
Horas: 8:30 am-4:00 pm; lunes-viernes

Mas Educación

- Para estudiantes universitarios, la Ciudad de Worcester tiene 9 universidades.
Sitio Web:
<http://www.worcesterma.gov/living-working/sites-sounds/colleges-universities/>

Oportunidades de Trabajo

- Workforce Central Career Center
 - Personal recursos gratis de buscadores de trabajo de ofertas Centrales e información.
 - Para inscribirse, asista a un Workforce Central Career Center Seminar.
- Para más información,
Sitio Web: www.workforcecentralma.org/
Llame: **1-508-799-1600**

Apoyo a Veteranos

- Veteranos (y sus familias) pueden recibir asistencia financiera si desplazadas por un desastre natural y si han vivido en Massachusetts por más de 1 día.
- Veterans Inc.
Dirección: 69 Grove St, Worcester, MA
Sitio Web: www.veteransinc.org
Llame: **1-800-482-2565**

Colaboradores Comunitarios:

American Red Cross • Amor Para Puerto Rico • Catholic Charities • Central Mass Housing Alliance City Council • City Manager • College of Holy Cross • Congressman James McGovern • E.M. Kennedy Community Health Center • Family Health Center of Worcester • Friendly House • HECCMA • Latino Education Institute • Mass 211 • Telegram & Gazette • UMass Memorial Health Care • United Way of Central Massachusetts • Worcester Housing Authority • Worcester Public Schools • Worcester Polytechnic Institute •

Deliverable 2- Resource Listing

The following offers a copy of our resource listing. The actual resource listing can be found in the form of a PDF attachment that is published on WPI's website. Please see <http://www.wpi.edu/academics/ugradstudies/project-learning.html>.

Listing of Institutional Resources for Incoming Victims of a Natural Disaster



Elianna Buckley, Josh Herlands, Marc Printz
WORCESTER POLYTECHNIC INSTITUTE

Listing of Resources & Institutions

For All Incoming Victims of a Natural Disaster

Authors	Elianna Buckley Josh Herlands Marc Printz	Institution	Worcester Polytechnic Institute
Date	December 15, 2017		

Submitted to	<p>Gladys Rodriguez-Parker Representative of Congressman James McGovern</p> <p>Tim Murray President and CEO of the Worcester Chamber of Commerce</p> <p>Dan Racicot Chief of Staff for Worcester Mayor Joseph Petty</p> <p>Sarai Rivera Worcester City Councilor</p> <p>Juan Gomez Director of CENTRO</p> <p>Miguel Rivera Director of Worcester Housing Development Division</p> <p>Jeffrey Turgeon Executive Director for Central Massachusetts Workforce Investment Board</p>
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Abstract	<p>This document consists of a resource list that was put together by students from Worcester Polytechnic Institute (WPI). The following document demonstrates the efforts of the student-authors (Elianna Buckley, Joshua Herlands & Marc Printz), who developed the resource list as part of their Interactive Qualifying Project (IQP). The students conducted extensive background research as well as a number of interviews with key individuals and institutions within Worcester to produce this document. As one component of the IQP, the three WPI students offer a detailed listing of the institutional resources in place in the city of Worcester for victims of natural disaster.</p> <p>More About the Project</p> <p>At Worcester Polytechnic Institute, students in their junior year complete their Interactive Qualifying Project (IQP) as partial fulfillment of the requirement for a Bachelors Degree of Science. This nine-credit-hour project involves students, whose majors do not necessarily pertain to the project, to address an issue that relates science, engineering, or technology to society. Ms. Buckley, Mr. Herlands and Mr. Printz developed a project that addressed the resettlement of Puerto Ricans arriving in the city of Worcester post Hurricane Maria. More specifically, the students investigated what kinds of institutional resources are critical for resettlement in a U.S. community, such as Worcester, to prepare for an influx of internally displaced migrants from climate-induced disasters.</p>
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The Authors



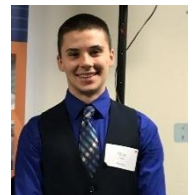
Elianna Buckley

Ms. Buckley is from Scituate, Massachusetts and is currently pursuing a Mechanical Engineering Major. She is looking to pursue a career in manufacturing and machining. Ms. Buckley's extracurricular activities include being a former varsity athlete on the WPI women's soccer team, life guarding and being a member of the Alpha Xi Delta Sorority, Iota Xi chapter.



Joshua Herlands

Mr. Herlands is from Glastonbury, Connecticut and is currently pursuing a Mechanical Engineering Major. He is passionate about sports. In his leisure time, Mr. Herlands is a varsity athlete on the WPI men's baseball team and is a member of the Sigma Phi Epsilon Fraternity, Mass Beta chapter.



Marc Printz

Mr. Printz is from Billerica, Massachusetts and is currently pursuing a Business Major with a concentration in social entrepreneurship. He is passionate about starting new ventures and is looking to continue working on his current on-campus startup after graduation. Outside of academia, Mr. Printz rock climbs, is a cook at The Fix restaurant, and works on his startup. He is a member of the Lambda Chi Alpha Fraternity, Pi Zeta chapter.

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	Tables	
	The Commonwealth of Massachusetts	128
	The City of Worcester	131
	Address and Contact Information	133

Terms	DHCD	Department of Housing and Community Development
	DTA	Department of Transitional Assistance
	EFSP	Emergency Food and Shelter Program
	EOLWD	Executive Office of Labor and Workforce Development
	ESG	Emergency Solution Grants
	FEMA	Federal Emergency Management Agency
	FRC	Family Resource Centers
	IHP	Individuals and Households Program
	LER	Lodging Expense Reimbursement
	MEMA	Massachusetts Emergency Management Agency
	MRVP	Massachusetts Rental Voucher Program
	ONA	Other Needs Assistance
	RAFT	Residential Assistance for Families in Transition
	RMV	Registry of Motor Vehicles
	SBA-D	Small Business Administration - Disasters
	SGA	Substantial Gainful Activity
TSA	Transitional Shelter Assistance Program	

⁶² For the purpose of this report, the page numbers displayed in Table of Contents (Listing) is adjusted to the report

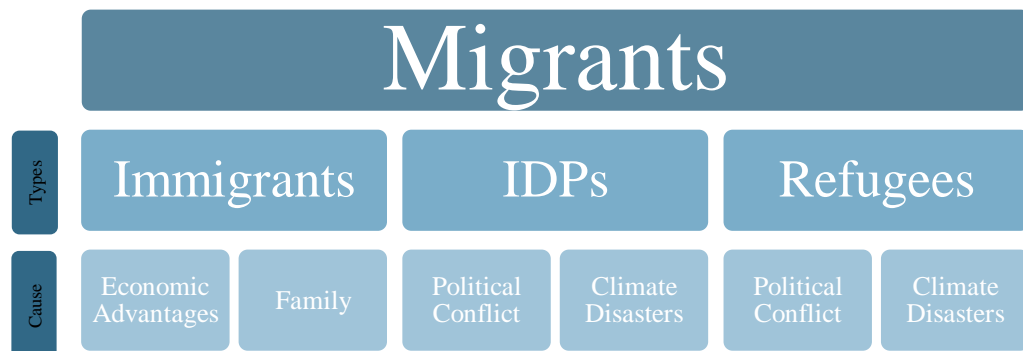
A Brief Note: Hurricane Irma & Maria

How to Appropriately Address the Incoming Puerto Rican Migrants

Preface

The 2017 Atlantic hurricane season had a total of ten hurricanes, six of which were Category 3 or higher. Three of these hurricanes- Harvey, Irma and Maria- caused much destruction in the United States. As a result of these storms and their lasting impacts, many Americans have been displaced from their homes. While those in Puerto Rico are indeed U.S. citizens, a new poll by Morning Consult, as highlighted in an article by the New York Times, found that more than half of Americans are not aware that they are citizens. Congress has recognized Puerto Ricans as U.S. Citizens since 1917 by the Jones-Shafroth Act.

In speaking with a multitude of persons in the government and key non-governmental organizations, and various individuals, it became clear that there is not a commonly accepted term for what to call the people displaced by the recent hurricanes. With respect to the island of Puerto Rico, sources have referred to people leaving the island post-hurricane as 'residents', 'evacuees', 'self-evacuees', 'victims', 'migrants', or 'internally displaced persons'. Since Puerto Rico is a U.S. territory, other sources refer to them as 'U.S. citizens'. On a broader scale, the movement of humans from one place to another can be defined as human migration; therefore, it is correct to simply refer to them as 'migrants'. On a more specific level, however, it is not so simple. As seen below, 'migrants' includes immigrants, internally displaced persons (IDPs) and Refugees⁶³.



Migrants who have "been forced to flee his or her country because of persecution, war, or violence" are refugees according to the UN Refugee Agency⁶⁴. The key words to consider in this definition are 'flee' and 'country'. Refugees are migrants who cross their country's border as a result of conflict. Although climate disasters are another cause for refugee migration, it is not recognized in international or U.S. policy. Although the root cause for migration is commonly different for immigrants compared to refugees (advantage versus necessity), they are also persons who cross national borders.

Per the United Nations High Commissioner for Refugees (UNHCR)⁶⁵, migrants who are forced or obliged to leave their homes and move within the borders of their own

⁶³ Although asylees, among others, fall under the term 'migrants', we omitted it for simplicity.

⁶⁴ UNHCR. (2008). Protecting internally displaced persons: A manual for law and policymakers.

⁶⁵ Romm, J. (2017). Deniers dismiss link between climate changes, super-hurricanes as 'idle chatter.' It's anything but.

country in order to avoid political conflict, persecution, widespread violence, or, natural or human-made disasters are referred to as internally displaced persons. Because Puerto Ricans are citizens, this proves the most accurate term to use when referring to persons displaced within the United States by the recent hurricanes.

To be even more precise, because the recent hurricane season was exasperated by climate change, we can consider Hurricanes Harvey, Irma and Maria as climate-induced disasters. Thus, we can preface the previous term (IDP) by saying that persons recently displaced within the U.S. due to the 2017 Atlantic hurricane season are internally displaced persons by climate-induced disaster.

Table Description

The following table is a listing of institutional resources that are currently assisting the evacuees of Hurricane Irma and Maria. The three WPI students deemed included resources they deemed appropriate (and were aware of) for the audience that this document is intended for. The listing does not report all existing institutions or resources in the City of Worcester. The intended audience consists of persons or institutions involved in addressing the resettlement (in the City of Worcester) of persons displaced by natural disasters. The purpose of this document is to expand awareness of the institutions and individuals who are actively working to address and assist the incoming Puerto Ricans and other American victims of the recent 2017 Atlantic hurricanes. The intention for this document is that it will also be utilized for future cases of incoming evacuees or displaced persons searching for resettlement assistance in Worcester.

Structure of Table

The table is organized by institutions and resources that are available statewide [the Commonwealth of Massachusetts] and then citywide [the City of Worcester]. The first table, which covers the resources available statewide, includes:

1. FEMA
2. MEMA
3. Other Resources

The second table, which describes the resources available citywide, is organized by the four categories of resources that these students identified through interviews and literature review as essential for resettlement:

1. Housing
2. Employment
3. Healthcare
4. Education

Furthermore, there is a fifth sub-section that is labeled miscellaneous for resources that did not fit within any of the four key categories of resettlement. All resources that are reported in the table below are followed by a brief description of what they are and/or what further programs the institution offers⁶⁶.

Institutional Resources: Address and Contact Information

A table of the addresses and contact information of the Institutions named can be found on Page 12⁶⁷.

⁶⁶ Some resources are listed twice under statewide and citywide as those resources are applicable to both (e.g. have a Worcester location).

⁶⁷ Addresses and contact information are not available for all of the institutional resources.

The Commonwealth of Massachusetts

Federal Emergency Management Agency (FEMA)

Transitional Shelter Assistance (TSA) Program	A short-term housing option, the program provides vouchers for hotel rooms for 5-14 days; extensions may be offered under certain situations upon approval. TSA is available to all eligible applicants. Program applications close on January 13, 2018.
Individuals and Households Program (IHP)	Provides financial aid for Housing and Other Needs Assistance (ONA). Per Puerto Rico's presidential disaster declaration, individuals or households may receive up to \$33,300.
Housing Assistance	Funding for housing-related expenses when other resources cannot fulfill the need. May help with temporary housing, housing repair or semi-permanent housing construction. Assistance is generally not provided until FEMA verifies damages to the primary home via an inspection.
Lodging Expense Reimbursement (LER)	Reimbursements for out-of-pocket expenses for temporary housing when the primary home is deemed uninhabitable or inaccessible. Inhabitability and inaccessibility are determined by inspection.
Voluntary Organizations Active in Disaster (VOAD)	VOAD is a forum where organizations (government, corporate and non-profit) share resources and knowledge to aid disaster survivors and impacted communities.
Rental Assistance	Provides funding for those displaced by a presidentially-declared disaster to rent a temporary home if the primary home is uninhabitable, inaccessible, or has utility outages. A Permanent Housing Plan will be created by FEMA for the applicant while they are receiving aid.
Other Needs Assistance (ONA)	Funding for expenses not pertaining to housing but are disaster-related, necessary expenses.
Childcare Assistance	One-time payment to help with the expense of having a child under the age of 13 or a child between the ages of 14 and 18 with a recognized disability. It can cover up to eight weeks of expenses.
Funeral Assistance	If someone passes away as direct result of the disaster, funding may be available for burial or reburial.
Medical & Dental Assistance	Provides financial assistance for medical and dental services; lost medication and medical equipment; and injuries and illness.
Moving and Storage Assistance	Offers aid in relocating and storing belongings away from a damaged primary home so they do not come to further harm.
Personal Property Assistance	This category includes funding for the repair or replacement of furnishings and appliances; accessibility items as defined by the Americans with Disabilities Act; and employer-required specialized tools/protective clothing.
Transportation Assistance	Funds for repairing or replacing a vehicle, or other transportation-related costs.

Massachusetts Emergency Management Agency (MEMA)

Mass 2-1-1

A Massachusetts hotline that directs callers to the most appropriate resources during a time of crisis. They have a 'disaster' request category that helps evacuee-callers find food, transportation, safety, shelter and healthcare resources.

Department of Housing and Community Development (DHCD)

Provides affordable housing options, financial assistance and other support in Massachusetts. In 2017, they extended the guest-stay regulation from 21 days to 45 days. They also recommended cities relax the requirements to add an additional member to an apartment so long as the State Sanitary Code is not violated.

Executive Office of Education

The office has provided information on enrolling students who have been recently displaced. They have issued guidance to superintendents on the process for enrolling incoming students. The office monitors the number of incoming students to ensure schools have adequate funding and English language learning programs.

Department of Transitional Assistance (DTA)

The DTA works to help provide verification of documentation and case monitoring through collateral contacts they may have and with Puerto Rican administrators. They offer various materials in both Spanish and English.

Family Resource Centers (FRC)

The 22 FRCs in the Commonwealth are working to register evacuees with FEMA for disaster benefits and provide further support. These FRCs help direct individuals and families to career centers, apply for DTA and MassHealth, connect to non-profits providing donated goods or other resources, help find temporary shelter, and register children for school.

MassHealth

MassHealth is healthcare insurance program that helps provide coverage to many of the most vulnerable and intensive users of health care services in the state. Incoming hurricane evacuees who do not have documentation of income or housing, may apply for MassHealth through the Self-Attestation Form. The process may take approximately one week. MassHealth may offer additional aid to organizations experiencing high need for application or enrollment support.

Executive Office of Labor and Workforce Development (EOLWD)

The EOLWD helps coordinate all employment agencies and unemployment insurance claims. There are Spanish-speaking agents that can help with unemployment insurance claims. They are partnered with the Department of Career Services (DCS) and the Department of Unemployment Assistance (DUA) to support hurricane victims in accessing unemployment benefits and locate employment services as quickly as possible.

One-Stop Career Centers

This organization helps individuals access unemployment benefits and locate employment through career counselors, workshops, and aiding them develop a resume and cover letter. These centers are working with the Department of Professional Licensure (DPL) to help individuals apply for relicensing to practice in the Commonwealth of Massachusetts.

Massachusetts Registry of Motor Vehicles (RMV)

For evacuees who are staying temporarily in Massachusetts, they may continue to use their identification from Puerto Rico (or their home state). If they plan to reside here permanently, they may convert their license or ID to the Commonwealth. They must have a driving record less than 30 days old from Puerto Rico (or their home state) to be able to convert. If the individual does not have a license or ID, they can apply for one. A permit test and road test; and proof of date of birth, residency and signature are necessary to obtain a license.

Small Business Administration – Disasters (SBA-D)

SBA-D provides loans to small businesses impacted by a declared disaster for the repair and recovery of assets or cover operating expenses. They also provide loans for homeowners for repairing damages to their property.

Supplemental Nutrition Assistance Program (SNAP)

SNAP, also known as food stamps, helps low income individuals buy nutritious food.

South Middlesex Opportunity Council (SMOC)

SMOC is a support group that helps people become more self-sustaining and provides services, support and education in regards to behavioral health; housing; economic development; employment and workforce development; education; economic development; energy; finance; family; and nutrition.

Emergency Solution Grants (ESG)

ESG helps provide assistance to those who recently lost their home due to a crisis or are homeless, re-establish them in permanent housing. Based on the applicant's location, ESG will determine how much money the applicant would need.

Substantial Gainful Activity (SGA)

SGA helps those with disabilities apply for disability benefits. To be eligible, applicants must prove they are unable to partake in substantial gainful activity by showing they make under a certain salary (specified below).

Blind - \$1,970 Non-Blind - \$1,180

Emergency Food and Shelter Program (EFSP)

The EFSP is a national program created and funded by the U.S. Government to aid hungry and homeless persons. Funds are available for food, housing, and utility aid, along with equipment for feeding or sheltering those in need.

The City of Worcester	
Housing	
Central Massachusetts Housing Alliance, Inc. (CMHA)	CMHA works to prevent homelessness by providing long term, affordable housing to families and individuals at risk through quality service, education and advocacy. They also offer training for homeless families to increase job opportunities and income so they may become economically stabilized.
Family Low-Income Housing	A state funded program that works to provide housing for low-income persons and create affordable housing. The Local Housing Authorities (LHAs) will acquire existing or construct new homes or condominium units as low-income housing options. To be eligible to live in low-income housing, there is a percentage of income cap that the tenant can be paying: Rent with utilities- 30% of income Rent without utilities- 25% of income
Massachusetts Rental Voucher Program (MRVP)	The MRVP provides rental subsidies in the form of vouchers to help families and individuals find housing throughout the state of Massachusetts. To be eligible, applicants' income must not exceed 80% of the area's median income.
Worcester Housing Authority: Section 8	The Worcester Housing Authority: Section 8 is a rental subsidy from the city for the private housing market, specific to Worcester. There are more than 3,000 vouchers administered.
Residential Assistance for Families in Transition (RAFT)	RAFT offers financial aid for families who are homeless or are in danger of becoming homeless. The funds can be used for rental stipends, utility, along with help on security deposits, first and last month's rent and furnishings.
Employment	
Dress For Success	The organization lends women professional outfits for interviews and their first few weeks work so that they may gain confidence. They also provide support to help them perform well at interviews and their job.
E-Verify	This is an online verification used by employers to make sure that a recent hire is eligible to work in the US and their documentation is correct. E-Verify uses Form I-9 and other identifiers.
Stepping Up 4 Men	This is program that mirrors Dress for Success, but for men.
Workforce Central Career Center	The One-Stop Career Center in Worcester refers people to training opportunities; helps you make career plan; assists in job searches, counseling, and veteran's services; and more. The workers are also fluent in Spanish.
Healthcare	
Edward M. Kennedy Community Health Center	This center provides free and confidential medical services for those in need. The workers are bilingual.
Family Health Center of Worcester, Inc.	This organization provides free and confidential medical services for all ages. All patients are admitted to the office. The workers are bilingual.
Education	
Big Brothers Big Sisters (BBBS)	BBBS is a support system for children who may need an additional mentor. The program helps to develop skills and "critical competencies" through one-on-one relationships. Mentors spend time with an assigned child to aid them with homework, go to sporting events and partake in other fun activities. Mentors are meant to be positive role models.

ESOL	ESOL is a course program designed to help one learn how to speak or improve upon speaking English and overall language comprehension. The program can accommodate any level of English language ability.
The Intensive English Language Institute	A program offered at Worcester State University, courses are offered to help those who need to improve their English language ability. The aim is to help participants succeed in their studies and professionally, and reach personal goals. Students course range from 16 to 70 years old.
Worcester Public Schools	Students may be registered with the Worcester Public School. Multi-lingual support is offered. Based upon need, the schools offer resources to help incoming students transition into the new environment and getting school supplies.
Miscellaneous	
Amor Para Puerto Rico	The Amor Para Puerto Rico community action group in Worcester was organized after Hurricane Maria to provide relief efforts to Puerto Rico. Specifically, they help those affected by the hurricane who have moved to Worcester and help raise money to help repair the island.
Cradles to Crayons	Cradles to Crayons' mission is to ensure that children that have moved to Massachusetts have the necessary winter supplies. They are currently providing WinterPacks to incoming children who were impacted by Hurricane Maria. Each pack includes a coat, hat and mittens.
Friendly House	Friendly House, in one aspect, provides emergency aid to families in need in Worcester. This includes services such as transitional housing programs, shelters, food, immigrant assistance and referrals, as well as programs specifically for children and teens.
Mustard Seed	Mustard Seed is a Catholic soup kitchen which provides meals and prayers. They help those who are hungry, lonely and homeless.
The Good Samaritan Food Pantry	The Good Samaritan is a food pantry available in Worcester for those who are hungry and homeless.
The Salvation Army	The Salvation Army is an organization that helps those in need with different types of services. This includes, but is not limited to, helping with food, clothing, and shelter.
Veterans Inc.	Veterans Inc. helps incoming veterans and their families. The only requirement is that the veteran must have been a Massachusetts resident for at least a day. They provide clothing and other resources.
Worcester Connections Family Resource Center of YOU, Inc.	This Family Resource Center helps families in need access various resources. They also provide resources for children that may need additional aid. This includes counseling, family activities and more.

Contacts	Address	Information	
FEMA	n/a	Website (Primary):	https://www.disasterassistance.gov
		Website 1: (Replacing documents)	https://www.fema.gov/news-release/2017/10/24/4339/fact-sheet-after-maria-replacing-important-lost-or-damaged-documents
		Website 2: (More general info)	https://www.fema.gov/disaster/4294-4297/updates/fact-sheet-what-femas-individual-assistance-program
		Website 3: (Website 2 – ES version)	https://www.fema.gov/es/news-release/2017/10/24/4339/hoja-informativa-luego-de-maria-como-reemplazar-documentos-importantes-que
		Phone:	(800) 621-3362
		TTY:	(800) 462-7585
MA 211	n/a	Dial 2-1-1 in Massachusetts	
FRC	484 Main Street, Suite 460 4 th Floor, Worcester, MA 01608	Website:	https://www.frcma.org/locations http://www.worcestercommunityconnections.org
One-Stop Career Centers	n/a	Website 1: (find a location near you)	https://www.mass.gov/service-details/find-a-career-center-near-you
		Website 2: (More info)	https://www.mass.gov/news/notice-to-puerto-rico-claimants
		Phone:	(877) 355-1135
MassHealth	n/a	Self-Attestation Form:	https://www.mass.gov/files/documents/2017/10/13/SAF%20%2810-17%29-fillable.pdf
		Other information about enrolling:	https://www.mass.gov/files/documents/2017/10/13/Communication%20for%20Hurricane%20Evacuee%20Applications-2017.10.13.pdf
		Phone:	1 (844) 748-3928
		TTY:	1 (800) 497-4648
Veterans Inc.	69 Grove Street, Worcester, MA 01605	Website:	http://www.veteransinc.org
		Phone:	800) 482-2565

Family Health Center of Worcester Inc.	26 Queen Street, Worcester, MA 01610	Phone:	(508) 860-7700
Edward M. Kennedy Community Health Center	19 Tacoma Street, Worcester, MA 01605	Phone:	(508) 852-1805
DHCD	100 Cambridge Street, Suite 300, Boston, MA 02114	Website:	https://www.mass.gov/files/documents/2017/10/10/2017-23.pdf
		Phone:	(617) 573-1100
CMHA	6 Institute Road, Worcester, MA 01609	Website:	http://www.cmhaonline.org
		Phone:	(508) 752-5009
SMOC	7 Bishop Street, Framingham, MA 01702	Website:	http://www.smoc.org/mission-statement.php
		Phone:	(508) 872-4853
ESG	455 Main Street, 4th Floor, Worcester, MA 01608	Website:	https://www.benefits.gov/benefits/benefit-details/5890
		<i>Main Contact- Miguel Rivera</i>	
		<ul style="list-style-type: none"> ▪ <i>Housing Development Division</i> ▪ <i>Executive Office of Economic Development</i> 	
Worcester Housing Authority	40 Belmont Street, Worcester, MA	Website:	http://www.worcester-housing.com/apply-section8.html
		Phone:	(508) 635-3300
SNAP	n/a	Website:	https://www.mass.gov/snap-benefits-food-stamps
		Phone:	(877) 382-2363

		<i>Contact DTA</i>	
SBA-D	One Federal Street Building 101-R Springfield, MA	<i>Website:</i>	https://www.sba.gov/funding-programs/disaster-assistance
		<i>Phone:</i>	(413)785-0484
RMV	n/a	<i>Converting a license or ID:</i>	a) https://www.mass.gov/how-to/transfer-your-out-of-state-drivers-license-to-massachusetts b) https://www.mass.gov/files/2017-08/Documents%20Requirement%20Chart.pdf
		<i>Obtaining a license or ID:</i>	a) https://www.mass.gov/how-to/apply-for-a-passenger-class-d-learners-permit b) https://www.mass.gov/files/documents/2017/09/22/Acceptable%20ID%20Documents_2.pdf
		<i>Phone:</i>	(800) 858-3926
The Salvation Army	640 Main Street, Worcester, MA 01608	<i>Website:</i>	http://massachusetts.salvationarmy.org/MA/WORCitadel
		<i>Phone:</i>	(508) 756-7191
Worcester Public Schools	768 Main Street, Worcester, MA 01608	<i>Phone 1:</i>	(508) 799-3193
		<i>Phone 2:</i>	(508) 799-3299
Intensive English Language Institute	Worcester State University Shaughnessy Administration Building, Suite A-418	<i>Website:</i>	https://www.worcester.edu/Intensive-English-Language-Institute/
		<i>Mailing Address:</i>	486 Chandler Street, Worcester, MA 01602
		<i>Phone:</i>	(508) 929-8031
EOLWD	n/a	<i>One-Stop Career Centers closest to your location:</i>	https://www.mass.gov/service-details/find-a-career-center-near-you
		<i>Regular or disaster unemployment insurance benefits:</i>	https://www.mass.gov/news/notice-to-individuals-who-left-puerto-rico-due-to-the-recent-hurricanes-and-may-be-temporarily
		<i>Professional Licensing:</i>	https://www.mass.gov/orgs/division-of-professional-licensure

		Phone:	(877) 355-1135
RAFT	n/a	Website:	https://www.mass.gov/service-details/residential-assistance-for-families-in-transition-raft
		Phone:	1(800) 224-5124
		Contact CMHA	
TSA	n/a	Website: <i>(More info)</i>	https://www.fema.gov/transitional-shelter-assistance
		Website: <i>(Participating locations)</i>	http://www.femaevachotels.com/
		Contact FEMA	
Family Low-Income Housing	n/a	Website:	https://www.mass.gov/service-details/family-low-income-housing
		Contact DHCD	
MRVP	n/a	Website:	https://www.mass.gov/service-details/massachusetts-rental-voucher-program-mrvp
		Phone:	(627) 573-1150
EFSP	n/a	Website:	https://www.efsp.unitedway.org/efsp/website/websiteContents/index.cfm?template=about.cfm
DHCD	100 Cambridge St, Suite 300, Boston, MA 02114	Website:	https://www.mass.gov/orgs/housing-and-community-development
		Phone:	(617) 573-1100
Cradles to Crayons	155 North Beacon Street, Brighton, MA 02135	Website:	https://www.cradlestocrayons.org/
		Phone:	(617) 779-4700
Big Brothers Big Sisters	484 Main Street, Suite 360, Worcester, MA 01608	Website:	https://bbbscm.org/
		Phone:	(508) 752-7868

E-Verify	n/a	<i>For employees</i>	
		Phone:	(888) 897-7781
		Email:	E-Verify@dhs.gov
		<i>For employers</i>	
		Phone:	(888) 464-4218
		Email:	E-Verify@dhs.gov
Dress for Success	Denholm Building, 484 Main Street, Suite 110, Worcester, MA 01608	Website:	https://worcester.dressforsuccess.org
		Phone:	(508) 796-5660
Stepping Up 4 Men	340 Main Street, Suite 865, Worcester, MA 01608	Email:	beautifulsoulinc@gmail.com
		Phone:	(774) 633-7366
ESOL	n/a	Website:	https://worcesterwelcomes.wordpress.com/esol/
Good Samaritan Food Pantry	85 Pleasant Street, Worcester, MA 01609	Phone:	(774) 253-1619
IHP	n/a	Website:	https://www.disasterassistance.gov/disaster-assistance/forms-of-assistance/4471/1/805
		Phone:	1(800) 621-3362
		TTY:	1(800)462-7585
DTA	13 Sudbury Street, Worcester, MA 01609	Phone:	(508) 767-3100
Friendly House	36 Wall Street, Worcester, MA 01604	Phone:	(508) 755-4362

The Mustard Seed	93 Piedmont Street, Worcester, MA 01609	<i>Phone:</i>	(508) 754-7098
The Salvation Army	640 Main Street, Worcester, MA 01609	<i>Phone:</i>	(508) 756- 7191

Final Note

Moving Forward

Our aim for this resource listing was to aggregate a number of institutional resources, which are accompanied by brief descriptions, on a single document for key stakeholders within the City of Worcester. While developing the resource listing it came to our attention that there was a discrepancy between what is being done to aid the incoming internally-displaced persons, and what actions people knew about. It's simply an issue of communication. Ultimately, we hope our intended audience, and others who are interested, will have an enhanced awareness about the institutions working to assist the victims of the recent September hurricanes. Furthermore, we hope this listing will prove instrumental in increasing transparency and cross communication between the various institutions. Moving forward, this listing could be useful for assisting any migrant arriving to the City of Worcester. The City can reference this document as needed.

Endnote

This document is merely a fragment of a project report that was submitted to the faculty of WPI as evidence of completion of a degree requirement. Therefore, the content expressed herein does not necessarily represent the views or opinions of Worcester Polytechnic Institute⁶⁸. The final report is titled "Analyzing of the Resettlement of Puerto Ricans Post-Hurricane Maria in the City of Worcester, Massachusetts."

⁶⁸ WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects, please see <http://www.wpi.edu/Academics/Projects>

Deliverable 3- Website Timeline

This deliverable is still in progress. We are projecting that the website⁶⁹ for Amor Para Puerto Rico will be live on January 13, 2018. The following is a brief timeline for the website's development.



⁶⁹ The website represents the combined efforts of Marc Printz and WPI student Nathan Rosenberg.