



# Government of Flint, Michigan 2015

## *Background Guide*



### **Chairs:**

#### **EagleMUNC**

Model United Nations  
Conference

Shamus Miller

Shamus.miller@bc.edu

#### **Website:**

[www.EagleMUNC.org](http://www.EagleMUNC.org)

March 22-24 2019

**Introduction**

**Letter from the Chair:**

Welcome to the Government of the City of Flint, Michigan. My name is Shamus Miller. I am a sophomore at Boston College studying sociology. I am originally from Wellesley, Massachusetts. This is my second year with EagleMUNC; last year I was co-chair of UNICEF. I participated in model UN for four years in high school and staffed Boston University Academy's conference for three years. I am very excited to be chairing such an important committee and I cannot wait to meet all of you and to start our work.

This committee will be a crisis committee and will be passing directives rather than resolutions. Those with questions about the style of debate or parliamentary procedure are encouraged to reach out. It will also be a historical committee with the first day of committee occurring on September 26, 2015. The committee will be entertaining a community forum today with residents permitted to come in and present concerns they have about the city. Each of you will be a member of the government of either the City of Flint or Genesee County. None of the events that occurred after September 26, 2015 will be considered in our committee. We will have our own timeline and will respond to the crisis in the way we see fit.

Yours in diplomacy,

Shamus Miller

## **Historical Background:**

Flint, Michigan is a city in trouble. The financial successes of the 1980s have passed and, instead the city now faces an exodus of jobs, residents, and a precipitous rise in poverty and crime. In 2014, the most dangerous mid-size city in the United States was Flint, Michigan. It topped such notorious cities as St. Louis, Cleveland, and Newark.<sup>1</sup> The City of Flint was running such a high budget deficit that, in 2011, the State of Michigan took control of the city's finances. At that time, Flint was joining Pontiac, Ecorse, Benton Harbor, and the Detroit Public Schools in the list of municipalities and school districts being run by emergency financial managers.<sup>2</sup> Since then, all of the other cities have had their emergency financial managers removed, while only Detroit Public Schools retains theirs. Flint's population has declined significantly since the



1970s. The 2017 population estimate was below 100,000 for the first time since the 1920s.<sup>3</sup> Notably, the percentage of non-Hispanic whites in the city is around 35% today compared with more than 70% in the 1970s.<sup>4</sup>

The city had been purchasing its water from the Detroit Water and Sewage Department (DWSD), but deemed this financially

<sup>1</sup>"Safest and Most Dangerous U.S. Cities, 2014," Infoplease. <https://www.infoplease.com/us/us-cities/safest-and-most-dangerous-us-cities-2014>.

<sup>2</sup>Karen Pierog, "Michigan Governor Approves State Takeover of Flint," Reuters, November 30, 2011. <https://www.reuters.com/article/us-flint-michigan-emergency-idUSTRE7AS2YN20111130>.

<sup>3</sup>WebCite, <https://www.webcitation.org/6YSasqtfX?url=http://www.census.gov/prod/www/decennial.html>.

<sup>4</sup>Campbell Gibson and Kay Jung, "Historical Census Statistics On Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For Large Cities And Other Urban Places In The United States," WebCite, February 2005.

<https://www.webcitation.org/69hd5KAIE?url=http://www.census.gov/population/www/documentation/twps0076/twps0076.html>.

unsustainable in light of the existing deficit. The city terminated this contract in favor of a less expensive option: building a pipeline from Flint to Lake Huron, which would be provided by the Karegnondi Water Authority (KWA). While this pipeline was being built, the City of Flint planned to temporarily switch its water supply from the DWSD to the Flint River. The rest of Genesee County would continue to get its water from Detroit.<sup>5</sup> On April 25, 2014, the City of Flint officially switched its source of water to the Flint River.

Soon thereafter, residents began noticing discoloration and foreign taste in the water.<sup>6</sup> By the end of the year, the city administered two boil-water advisories as a result of the presence of *E. coli*. The General Motors factory in the city discontinued use of Flint's water supply. Instead, the company opted to get their supply from Flint Township -- an autonomous charter township west of Flint -- which still used county water from Lake Huron.<sup>7</sup>

Water sent from Detroit was being treated before it arrived in Flint. When the city switched to using water from the river, they did not treat the water, citing a need to examine the chemistry of the water before choosing the proper level of chemicals to introduce. One of the forgone treatments was a corrosion control. The lack of this control allowed the water to strip rust from the interior of the pipes both discoloring the water and allowing lead to leech in. (The supply line is what takes the city's water from the main artery to a home.) Making these lines out of lead was common-place before the 1960s, and they had not been updated when the City of

---

<sup>5</sup> Ron Fonger, "Emergency Manager Accepts \$3.9 Million Genesee County Offer to Buy Flint-owned Pipeline," MLive.com, June 12, 2014.

[http://www.mlive.com/news/flint/index.ssf/2014/06/emergency\\_manager\\_accepts\\_39\\_m.html](http://www.mlive.com/news/flint/index.ssf/2014/06/emergency_manager_accepts_39_m.html).

<sup>6</sup> "Flint Water Crisis Fast Facts," CNN, April 09, 2018. <https://www.cnn.com/2016/03/04/us/flint-water-crisis-fast-facts/index.html>.

<sup>7</sup> Mike Colias, "How GM Saved Itself from Flint Water Crisis," Automotive News, January 31, 2016, , <http://www.autonews.com/article/20160131/OEM01/302019964/how-gm-saved-itself-from-flint-water-crisis>.

Flint began using them to distribute water from the Flint river to citizen homes.<sup>8</sup> Two days ago, on September 24, 2015, a study at Hurley Medical Center in Flint revealed that children in the city had elevated lead levels in their bodies. The very next day, yesterday in this committee's timeline, the city issued a lead advisory.<sup>9</sup>

The situation is not resolved, and there are no significant plans to address the water crisis within the close of the 2015 calendar year. There are many possibilities which Flint's city government must be prepared to respond due to the number of challenges could arise as a result of the water crisis. Protests against a yet-unresponsive government, the failure to provide supplemental water, and numerous consequential issues could arise in the coming year. The following sections of this guide will be dedicated to explicating these possibilities and suggesting vital questions that city officials should consider in preparing for, and responding to, possible crises. As public officials and actors within the realm of Flint and Genesee County's governments, you should consider the possibility of the following circumstances as you outline plans to address the crisis playing out in your city.

To fully understand the nature of the Flint water crisis and address it most effectively, it is vital that city government officials understand the chemical breakdown of the water itself. This month, a team of Virginia Tech researchers released findings that Flint's water is "highly corrosive" to both lead and iron piping systems. The team's experiment was a simulation of the process that Flint's water goes through before being accessed in a home; they placed three copper and lead pipes in three containers of water. Container 1 was filled with Detroit water,

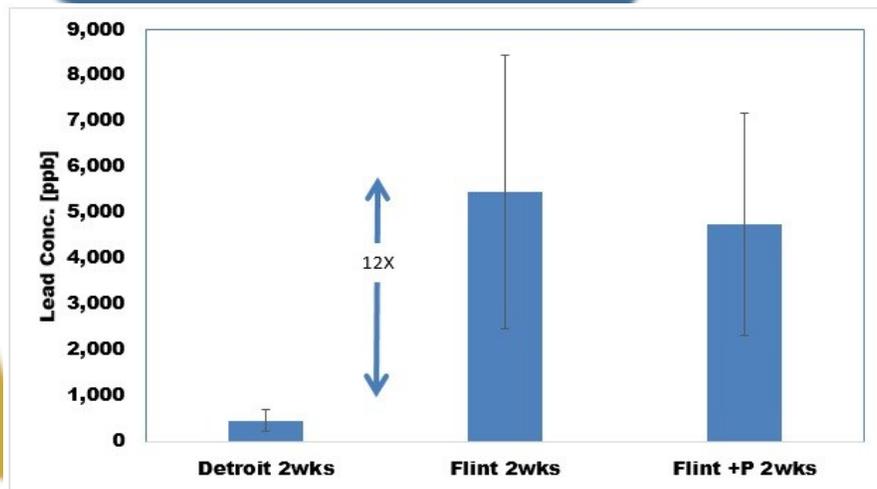
---

<sup>8</sup> Merrit Kennedy, "Lead-Laced Water In Flint: A Step-By-Step Look At The Makings Of A Crisis," NPR, April 20, 2016. <https://www.npr.org/sections/thetwo-way/2016/04/20/465545378/lead-laced-water-in-flint-a-step-by-step-look-at-the-makings-of-a-crisis>.

<sup>9</sup> Lindsey Smith, "After Ignoring and Trying to Discredit People in Flint, the State Was Forced to Face the Problem," Michigan Radio, December 16, 2015, <http://www.michiganradio.org/post/after-ignoring-and-trying-to-discredit-people-flint-state-was-forced-face-problem#stream/0>.

Container 2 was filled with raw water from the Flint river, and Container 3 was filled with Flint water that had been treated with an anti-corrosive. The tests concluded that Detroit's water was twelve times less corrosive than Flint's, even when Flint's water was treated with an anti-corrosive. This makes the seemingly simple solution of treating the water unfeasible; it will still corrode lead from pipes lined with it. The researchers suggested the following:

On a scientific basis, Flint River water leaches more lead from plumbing than does Detroit water as predicted before. This is creating a public health threat in some Flint homes that have lead pipe or lead solder. Unfortunately, adding orthophosphate corrosion inhibitor to the Flint River water, does not solve the lead problem (at least based on the first two weeks of testing).<sup>10</sup>



The graph above shows that lead corrosivity in each container in the experiment; this visually signals the high vulnerability of Flint's water. The old plumbing systems coated with lead,

<sup>10</sup> Siddhartha Roy, "Flint River water is very corrosive to lead, causing lead contamination in homes," Virginia Tech University, September 5, 2015. <http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/>

mentioned previously, that connect water to people's homes in Flint, combined with the corrosivity of water from the Flint River, have consequently led to high lead levels in the water provided by the city government to its citizens. Knowing this, government officials must be prepared to address the crisis scientifically, socially, and educationally; each will be elaborated below to serve as guidance for those involved in the government's response to the Flint water crisis.

Perhaps most importantly, government officials need to be understanding of the science behind the water crisis. As elaborated previously, studies have shown that the option of treating water with an anti-corrosive, though simple, will be ineffective. Therefore, government officials should consider investing in or cooperating with further studies. Basing an action plan in more extensive science will allow for a more holistic approach; it may bring to light important information regarding the treatment of the water, the structure of Flint's pipes, and the impact that the water has already had on citizens who have been consuming it.

Flint's government officials are familiar with the social issues prevalent in the city. This necessitates the consideration of social factors in addressing the water crisis; racial and economic factors have, and are likely going to continue, to play a role in citizens' access to water. This discrepancy should be considered unacceptable by government officials. Therefore, officials should take significant steps to ensure that any plans and solutions to crisis are consistent for citizens of all racial and economic statuses, cognizant of existing social disparities, and truly equal in the provision of access to clean water.

Similarly, government officials must be aware of the impact that this crisis can potentially have on the education of Flint's youngest citizens. Lead poses a threat to the brain development of young children (as will be elaborated upon further), and this kind of damage due

to Flint's water could already be witnessed. Those involved in the education system in Flint should be prepared to support students, should any be affected by lead ingestion, with additional resources and assistance in school. Furthermore, officials should seek to ensure that changes in water distribution do not impact Flint's public schools, but that Flint's schools have ample access to clean water to provide to students throughout the day. The aforementioned should all be considered in forming a plan of action to the crisis.

### **Topic 1: Possibility of Protests**

Considering the direct effect that the water contamination in Flint will have on its citizens, it is likely that those affected will engage in protests to generate attention towards the issue. It is possible that the frustration felt by the residents of the City of Flint could boil over to peaceful demonstration, violent protest, or even rioting. There is historical precedent for this sort of activity in the area, which can be traced back decades. It is important to outline this history to understand how the municipal government has responded to protest in the past in order to plan effectively for protests in the future.

One of the most notable protests in Flint was the 1936 workers' sit-down strike, which began on December 30th and was one of the first sit-down strikes in the United States. Workers for General Motors staged the sit-in to advocate for workers' rights and occupied the company's operating plant in Flint for 44 days; General Motors was nearly shut down as a result. The company asserted that this was an instance of trespassing and served the workers with a court order for evacuation, but they did not leave the plant. Flint police, bolstering General Motors' effort to stop the sit-in, cut off the food supply for the workers, leading to a riot which injured sixteen workers and eleven policemen. Though General Motors sought assistance from the



National Guard to break the strike, Governor Frank Murphy insisted that public peace must come before GM's requests and denied forceful assistance. The sit-in ended when General Motors recognized the workers' union in mid-February. This turbulent, and highly publicized, event begins to illustrate the necessity for Flint's current government to have plans in place to effectively and safely deal with protests within city limits.<sup>11</sup>

Similar activity was witnessed in 1968 (a year particularly marked by tumult and civil unrest in the world, the United States, and Detroit). After it was announced that a vote to open housing markets to non-whites failed, there were protests throughout the city. Eventually, it was determined that there had been a miscount of votes and the measure actually passed.<sup>12</sup> More recently, following the shooting of Michael Brown by a police officer in Ferguson, Missouri and the death of Eric Gardner while being restrained by police in New York City there were massive

<sup>11</sup> Catherine A. Paul, "Flint Sit-Down Strike," Social Welfare History Project of Virginia Commonwealth University, March 27, 2018.

<https://socialwelfare.library.vcu.edu/eras/great-depression/flint-sit-strike-1936-1937>.

<sup>12</sup> Joe Lawlor, "Flint Made Civil Rights History 40 Years Ago," MLive.com, February 10, 2008.

[http://blog.mlive.com/flintjournal/newsnow/2008/02/flint\\_made\\_civil\\_rights\\_histor.html](http://blog.mlive.com/flintjournal/newsnow/2008/02/flint_made_civil_rights_histor.html).

protests across the country, including Flint.<sup>13</sup> Based on the racial, economic, and social tensions that have been witnessed in the region, government inaction, and failure to address the water crisis may be met with similar rioting and protesting. This history of events related to government mismanagement or corruption leading to protests and riots must be taken seriously.

The people of Flint are demanding change, change they have been promised from such bodies as the City of Flint, the Flint Police Department, the State of Michigan and more that have rung hollow. If the water crisis erupts without being addressed by the city government, citizens of Flint will be impacted significantly. Seeking alternate sources of water, treating water for children's bathing practices, and dealing with potential health impacts after ingesting tainted water already are a few of the issues that Flint residents will confront in the coming months. Therefore, they are unlikely to solely pursue passive engagement with the government if it fails to provide them with resources, information, and change in the face of this crisis. It is hard to say how much more the citizens can or will tolerate before the situation overflows into chaos. In summary, law enforcement should be prepared for instances of civil unrest, as outrage over the water crisis continues to grow. It is vital that you prepare multiple plans and contingencies to deal with potential unrest within the realm of the law.

## **Topic 2: Vulnerability of Backup Water Supply**

In addressing the crisis, a solution that may seem ideal to government actors is the provision of a backup water supply, possibly through water bottles or jugs to be distributed to the citizens of Flint. Though this is a swift option capable of addressing citizens' immediate concerns, there are several negative consequences that may arise and make a backup water supply vulnerable. These could include an emergency preventing citizens from accessing

---

<sup>13</sup> Alan Taylor, "Violent Protests in Ferguson, Missouri," The Atlantic, November 25, 2014. <https://www.theatlantic.com/photo/2014/11/violent-protests-in-ferguson-missouri/100860/>.

distribution points, the financial burden becoming unsustainable, and insufficient supply to match citizen needs.

There are multiple reasons why other sources of water may become unviable. In the event of an emergency prohibiting citizens from accessing the water supply distribution site, homes would be left entirely without water. This would, therefore, expose them again to the tainted water and continue the cycle of citizen uproar and need for government intervention. In this regard, an alternate water supply can be classified as a “band-aid” solution, in that it temporarily addresses the crisis but has no permanent benefits.

Furthermore, switching to bottled water presents a considerable cost burden. The average American uses 80-100 gallons per day.<sup>14</sup> This is the equivalent to more than 750 bottles of water and in a city of 100,000 people, providing that volume of bottled water may not be reasonable. Cost also poses an issue. Bottled water sells for \$1.11 by the gallon on average.<sup>15</sup> Switching Flint’s water back to its previous source is a possibility. It is challenging, however, to say where the contamination is coming from. Until that is determined, reverting to Detroit’s water should not be relied upon as a solution.

Additionally, the amount of water supplied by the local government may not meet citizen needs. Though the aforementioned statistics estimate average household water use, individual needs vary. It is possible, and perhaps even likely, that the amount of water supplied by the government would not be sufficient to supply all affected households with enough water to meet all needs. This could lead to further protest, further exposure to tainted water, and the mere continuation of the crisis. Though it is possible that the local government accomplishes the

---

<sup>14</sup> Howard Perlman, "Water Questions & Answers How Much Water Does the Average Person Use at Home per Day?" Livestock Water Use, the USGS Water Science School. <https://water.usgs.gov/edu/qa-home-percapita.html>.

<sup>15</sup> "Bottled Water," International Bottled Water Association. <https://www.bottledwater.org/economics/real-cost-of-bottled-water>.

distribution of an alternate water supply, all actors should be prepared for such a water supply, specifically through providing water bottles or jugs, to eventually become too vulnerable to sustain.

### **Topic 3: Impact on Education, Child Health, and Development**

Furthermore, not having access to clean water can have a wide range of effects on children in their ability to obtain a quality education. Initially, studies have shown that, when a family must allocate specific time for the retrieval of water, they are less likely to spend time on educating their children.<sup>16</sup> This study is significant in Flint; if the government proposes a backup water supply, families who have to physically pick it up could be forced to decrease the time and effort placed in their children's' education. Should the water supply of the City of Flint be contaminated by lead or a number of other chemical combinations, the health effects should not be understated:

- Arsenic causes cancer.
- Cadmium can cause nausea and vomiting and can lead to kidney disease in the long term.<sup>17</sup>
- Lead is poisonous and can cause developmental delays, learning difficulties, and hearing loss among others.<sup>18</sup>
- Thallium can cause gastrointestinal irritation and can damage organs.<sup>19</sup>

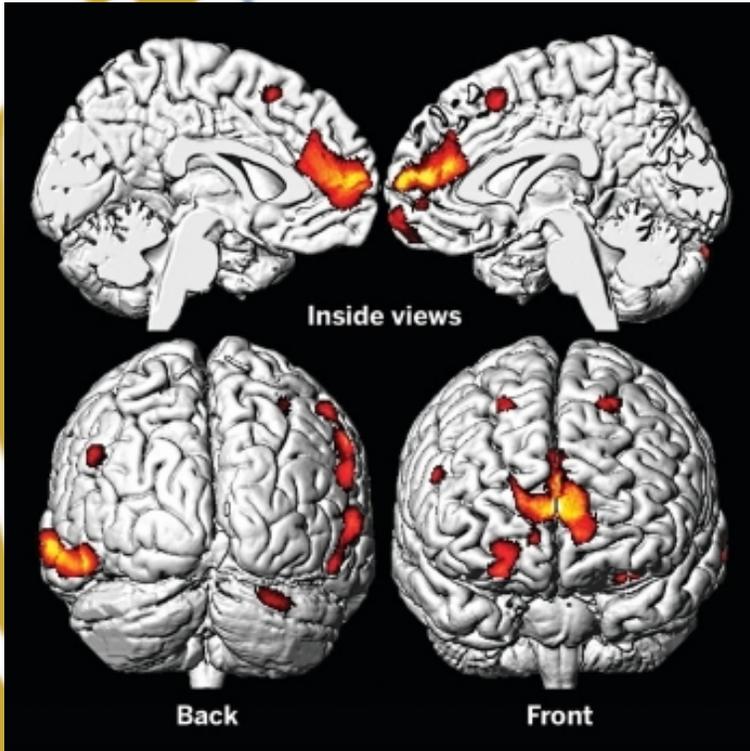
---

<sup>16</sup>Javier Santiago Ortiz-Correa, Moises Resende Filho, and Ariel Dinar, "Impact of Access to Water and Sanitation Services on Educational Attainment," *Water Resources and Economics* 14 (October 2016); doi:10.1016/j.wre.2015.11.002.

<sup>17</sup>"Common Drinking Water Contaminants," Neilson Research Corp. <http://nrclabs.com/common-drinking-water-contaminants/>.

<sup>18</sup>"Lead Poisoning," Mayo Clinic, December 06, 2016. <https://www.mayoclinic.org/diseases-conditions/lead-poisoning/symptoms-causes/syc-20354717>.

The World Health Organization (WHO) notes that lead is “particularly harmful to young children.” More specifically, WHO states the following concerning lead ingestions by young children:



Lead can have serious consequences for the health of children. At high levels of exposure, lead attacks the brain and central nervous system to cause coma, convulsions and even death. Children who survive severe lead poisoning may be left with mental retardation and behavioural disorders. At lower levels of exposure that cause no obvious symptoms, and that previously were considered safe, lead is now known to produce a spectrum of injury across

multiple body systems. In particular lead can affect children’s brain development resulting in reduced intelligence quotient (IQ), behavioural changes such as reduced attention span and increased antisocial behaviour, and reduced educational attainment. Lead exposure also causes anaemia, hypertension, renal impairment, immunotoxicity and toxicity to the reproductive organs. The neurological and behavioural effects of lead are believed to be irreversible.

<sup>19</sup>Ibid, Nielson.

In a school system that is already struggling to provide adequate resources for its students, Flint must now address the possibility that the presence of lead in its water has led to learning disabilities in exposed students.<sup>20</sup>

Additionally, a 2014 study conducted by the Cincinnati Lead Project found that lead exposure in childhood leads to grey matter loss. The loss is particularly concentrated in the frontal lobe of the brain, leading to lower IQ test scores, difficulty socializing, and increased aggression.<sup>21</sup>

If Flint's children are exposed to lead in their water for an extended period of time, it can be deduced that these symptoms will begin to manifest in schoolchildren. As local government officials, you should prepare strategies to determine the extent that the local government must address this problem, the possibility of legal action taken by parents of students should they be affected, and the lasting impact that lead poisoning in your city's children could leave upon your education system for generations to come.

In summary, Flint is on the verge of a massive water crisis; all city officials should be prepared, not only to address the crisis itself, but to address the aforementioned issues that could arise as a result of a tainted water supply. Political actors, therefore, should understand that (regardless of public domain and jurisdiction) all officials in Flint have a responsibility to respond to this crisis. That being said, they must also consider the political connections that have led and kept them in office to remain grounded in the realities of municipal governments. Every action that a politician takes to address the subject of these meetings will necessarily be scrutinized by the public, the elite, and the future generations.

---

<sup>20</sup> "Lead Poisoning and Health." World Health Organization. Accessed August 18, 2018. <http://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

<sup>21</sup> Wood, Lauren K. "The Crimes Of Lead." *Chemical & Engineering News Archive*, vol. 92, no. 5, 3 Feb. 2014, pp. 27–29., doi:10.1021/cen-09205-scitech1.

## **Questions to Consider**

### **Topic 1:**

1. What does it take for citizens to make their voices heard in a struggling city like Flint? Is protest enough?
2. Media coverage of the issue has, at this point, begun to reach an all-time high. How should the local government react to ensure that media coverage supports their efforts to address the issue instead of complicate courses of action?
3. Similarly, how can a local government adjust from being covered by small, regional press to being covered by national news outlets? Will the way that individual actors handle or manipulate the media affect how the crisis is dealt with?
4. What power do individual actors within a local government have on including more voices in internal conversations?

### **Topic 2:**

5. Though a backup water supply is an immediate solution, what can Flint's government do to ensure that it is not used as a primary solution of ease?
6. How can the current government of Flint prepare for the next crisis like this, should it occur? Is there a need for frameworks in place to address such widespread crises? Is it the responsibility of the current government to establish such a framework?

**Topic 3:**

7. The water crisis has a ripple effect on other aspects of life in the City of Flint. How are areas of life that each member of the committee are tasked with maintaining affected?
8. What is the best means to support students that have been impacted by lead ingestion? What additional resources should the city commit to providing them?
9. Issues within local governments are often easily divisible by sector, such as education or emergency planning. In the case of the Flint water crisis, sectors of government are all affected and must rely on each other to address the issue. Is it important, or viable, for the local government to establish a temporary practice of cross-functionality to allow sectors to more easily work together?



## Works Cited

- "Bottled Water." International Bottled Water Association.  
<https://www.bottledwater.org/economics/real-cost-of-bottled-water>.
- Colias, Mike. "How GM Saved Itself from Flint Water Crisis." Automotive News. January 31, 2016. <http://www.autonews.com/article/20160131/OEM01/302019964/how-gm-saved-itself-from-flint-water-crisis>.
- "Common Drinking Water Contaminants." Neilson Research Corp.  
<http://nrelabs.com/common-drinking-water-contaminants/>.
- "Flint Water Crisis Fast Facts." CNN. April 09, 2018.  
<https://www.cnn.com/2016/03/04/us/flint-water-crisis-fast-facts/index.html>.
- Fonger, Ron. "Emergency Manager Accepts \$3.9 Million Genesee County Offer to Buy Flint-owned Pipeline." MLive.com. June 12, 2014.  
[http://www.mlive.com/news/flint/index.ssf/2014/06/emergency\\_manager\\_accepts\\_39\\_m.html](http://www.mlive.com/news/flint/index.ssf/2014/06/emergency_manager_accepts_39_m.html).
- Fuller, Nicole, Ted Phillips, Maria Alvarez, and Anthony M. Destefano. "'Millions March NYC' Ends in Manhattan." Newsday. December 15, 2014.  
<https://www.newsday.com/news/new-york/millions-march-nyc-protesting-grand-jury-decision-in-eric-garner-death-begins-in-manhattan-1.9711149>.
- Gibson, Campbell, and Kay Jung. "Historical Census Statistics On Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For Large Cities And Other Urban Places In The United States." WebCite. February 2005.  
<https://www.webcitation.org/69hd5KAIE?url=http://www.census.gov/population/www/documentation/twps0076/twps0076.html>.
- Kennedy, Merrit. "Lead-Laced Water In Flint: A Step-By-Step Look At The Makings Of A Crisis." NPR. April 20, 2016. <https://www.npr.org/sections/thetwo-way/2016/04/20/465545378/lead-laced-water-in-flint-a-step-by-step-look-at-the-makings-of-a-crisis>.
- Lawlor, Joe. "Flint Made Civil Rights History 40 Years Ago." MLive.com. February 10, 2008.  
[http://blog.mlive.com/flintjournal/newsnow/2008/02/flint\\_made\\_civil\\_rights\\_histor.html](http://blog.mlive.com/flintjournal/newsnow/2008/02/flint_made_civil_rights_histor.html).
- "Lead Poisoning." Mayo Clinic. December 06, 2016. <https://www.mayoclinic.org/diseases-conditions/lead-poisoning/symptoms-causes/syc-20354717>.

Ortiz-Correa, Javier Santiago, Moises Resende Filho, and Ariel Dinar. "Impact of Access to Water and Sanitation Services on Educational Attainment." *Water Resources and Economics* 14 (October 2016): 31-43. doi:10.1016/j.wre.2015.11.002.

Catherine A. Paul. "Flint Sit-Down Strike." Social Welfare History Project of Virginia Commonwealth University. March 27, 2018.  
<https://socialwelfare.library.vcu.edu/eras/great-depression/flint-sit-strike-1936-1937/>

Perlman, Howard. "Water Questions & Answers How Much Water Does the Average Person Use at Home per Day?" Livestock Water Use, the USGS Water Science School.  
<https://water.usgs.gov/edu/qa-home-percapita.html>.

Pierog, Karen. "Michigan Governor Approves State Takeover of Flint." Reuters. November 30, 2011. <https://www.reuters.com/article/us-flint-michigan-emergency-idUSTRE7AS2YN20111130>.

Roy, Siddhartha. "Flint River water is very corrosive to lead, causing lead contamination in homes." Virginia Tech University. September 5, 2015.  
<http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/>

"Safest and Most Dangerous U.S. Cities, 2014." Infoplease.  
<https://www.infoplease.com/us/us-cities/safest-and-most-dangerous-us-cities-2014>.

Smith, Lindsey. "After Ignoring and Trying to Discredit People in Flint, the State Was Forced to Face the Problem." Michigan Radio. December 16, 2015.  
<http://www.michiganradio.org/post/after-ignoring-and-trying-discredit-people-flint-state-was-forced-face-problem#stream:0>.

Taylor, Alan. "Violent Protests in Ferguson, Missouri." The Atlantic. November 25, 2014.  
<https://www.theatlantic.com/photo/2014/11/violent-protests-in-ferguson-missouri/100860/>.

Wood, Lauren K. "The Crimes Of Lead." *Chemical & Engineering News Archive*, vol. 92, no. 5, 3 Feb. 2014, pp. 27-29., doi:10.1021/cen-09205-scitech1.