

WORCESTER POLYTECHNIC INSTITUTE

# Fallen Heroes

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## The Story of the Worcester Six

**An IQP by Jesse Cobb**

**10/13/2011**

This IQP is a radio documentary telling the story of the Cold Storage Warehouse Fire of 1999. The goal of this project is to provide historical context to a significant event in Worcester, Massachusetts' history and the impact it still holds eleven years later. The show covers the night of the fire, the memorial service, and the ongoing collaboration between Worcester Polytechnic Institute (WPI) and the Worcester Fire Department. This project involved research, interviewing, writing, and production in order to create a historically accurate and emotional show.

**Acknowledgements:**

I would like to thank my project advisor, James Dempsey, whose guidance and experience in the field of journalism was invaluable. Thank you to the Academic Technology Center (ATC) for providing the recording equipment. Thank you to the Worcester Fire Department for being so open on such a painful event. Most importantly, thank you to the family members of the victims that shared their story and who lost the most.

**Purpose:**

The purpose of this project is to create a radio documentary that tells the harrowing story of six firefighters that perished in a fire in 1999 and the lasting effects of that event. The cold storage fire is a significant event in Worcester's history. The tragedy drew national attention bring the likes of President Bill Clinton, and some 30,000 firefighters to the memorial service. The loss of the six men inspired professors at WPI to develop a new device that can track firefighters within buildings. It is important to understand the origins of these consequences and the motivation behind the work being done today.

The radio documentary provides a deeper understanding to the Worcester Six and provides historical context to the ongoing work at WPI. Drawing attention to the Cold Storage Fire creates discussion and insight that the Worcester community can benefit from.

**Methodology:****Research**

The show produced is the culmination of several steps. The first part of the project was researching the fire itself. News articles written during the fire provided an understanding of the social significance the fire held. The official fire report published by Homeland Security provided a technical background on the fire as well as a radio transcript that would later be included in the show. Old interviews from fireman that were there at the scene and news footage of the fire were watched and aided in the questions for the interviews later.

The goal of the research was to learn as much about the warehouse fire. At first the research was broad and was for compiling as many resources as possible. After reading many accounts and other articles, a focus on the night of the fire and the memorial service was chosen. Scientific publication on WPI's Precision Personal-Locator (PPL) device and articles published in magazines were also used. The research was important to the progress of the project and proved invaluable when it came time to interview people and write the narration for the show. The research provided questions to ask to those involved in the Cold Storage Fire whose testimonies would be incorporated into the show. The research also gave a better understanding of the tragedy so during the interviews it was more of a discussion, allowing the interviewee talk more comfortably.

## **Interviewing**

Interviews were done to get firsthand accounts of the fire and capture the drama of those closest to the tragedy. The interviews were done using borrowed equipment from WPI's ATC department and conducted at various locations. Each person was researched before interviewing them so an idea of their story would be known and helped to get quicker to the important questions. Being educated on the fire showed the interviewee that there was genuine interest in their story. Persistence was very important in arranging these interviews.

The first person interviewed was Rev. Peter Scanlon on December 20<sup>th</sup>, 2010 at his home. During the interviewing Rev. Scanlon told of his experience on December 9<sup>th</sup>, 1999 when he first got to the scene. Rev. Scanlon was involved in setting up an emergency headquarters that received all the families of the firemen on duty that night. Rev. Scanlon was interviewed a second time on March 25<sup>th</sup>, 2011 to clarify some of his comments.

Professor John Orr was interviewed on January 31<sup>st</sup> and Professor James Duckworth on February 8<sup>th</sup>, 2011. Both are professors who are currently working on the PPL project.

Ray Mariano was interviewed on February 15<sup>th</sup>, 2011 at his office in the Worcester Housing Authority building. Mr. Mariano was the Mayor of Worcester at the time of Cold Storage Fire and spoke at the Memorial.

Chief Gerard Dio was interviewed on February 17<sup>th</sup>, 2011 at the Grove St. Fire station. Chief Dio was incident commander after the fire and in charge of the investigation.

Daniel Spencer was interviewed on February 28<sup>th</sup>, 2011 at an apartment in Worcester. Daniel is the son of Thomas Spencer and recently became a fire fighter himself.

Retired Chief Mike McNamee was interviewed on March 22<sup>nd</sup>, 2011 at an apartment in Worcester. McNamee was in the building during the fire and made the decision to evacuate.

Denise Brotherton was interviewed on March 31<sup>st</sup>, 2011 at her home. Denis was the wife of the Paul Brotherton.

## **Recording**

A narration for the show was used to describe the scene, provide background, and transitions between segments of the show. The narration was recorded several times on borrowed equipment from ATC. The different recordings were pieced together for the best audio quality.

As requested by the fire department and the victims' families, the radio calls from the night of the fire were not used. A reenactment of radio calls were done using the transcript of the calls from the transcript provided in the Home Land Security report.

## **Production**

The editing and production of the show was done using the audio editing program, *Audacity*. The narration was filtered and the audio adjusted to improve the quality. Audio clips from the people interviewed were integrated into the show providing first hand perspectives on the events and to add variation to the show. The audio from the radio call reenactment were filtered in order to sound like short wave radios.

## **Results:**

To listen to the audio of show contact Professor James Dempsey: [jdempsey@wpi.edu](mailto:jdempsey@wpi.edu)

Attached at the end of this document is the transcript from the show.

## **Recommendations:**

Many things were learned while working on the radio documentary. The research done on the Cold Storage Fire was useful when it came to writing and interviewing. It is recommended you become as knowledgeable on the subject as possible so you can ask the right questions in interviews and to quickly get to the information not covered in the news. It is important to show respect towards your interviewee because they are the ones sharing their story with you and you want to be able to talk to them later on if needed. You do not want them to feel exploited so do not probe them with questions. It is best to get a dialogue going, but keep it on topic. When the interviewee is most comfortable is when you get the reality of their experience.

The Worcester fire department and the families of the victims are very close and protective of each other. They wished that the radio transmissions would not be used and it was decided that this be honored in order to maintain the cooperative relationship for future work.

The recordings were done on borrowed equipment from the ATC and were carried out in a shower insulated with foam. Future recordings should be carried out with the assistance from the recording club at WPI. They have high quality equipment for recording and are knowledgeable in audio editing and enhancing. The recording club would be a valuable resource for future projects.

This project could have benefited from more research done on radio documentaries. When it came to producing the actual show it was difficult creating consistent quality. Researching and listening to professional radio documentaries would have provide examples of organization and production. Narrative techniques and other practices would have been useful and should be listened to.

If a similar project is to be carried out over three terms it is proposed that the first term would be the research of the story and the theory of radio documentary. The second term should be interviews and writing of the show. The third term would then be the recording, production and editing of the show. Goals and deadlines should be set every week or so to ensure work on the project and motivate the students more consistently throughout the terms.

This was an excellent project to work on and should be continued in the future. It is rare to find an IQP that allows the creative freedom like this one. Studying history is important for the search of understanding the world around us. While we strive to improve our communities it is events like the Worcester Cold Storage Fire that cause the inspiration to change. It is what motivated professors at WPI to invest over ten years of their careers to prevent such a tragedy from happening again. Whether the next project is more about the Worcester 6 or some other subject, this work should be continued and built upon in the following years.

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"Bonjour Mon Amie" by Josh Woodward, *Sunny Side of the Street*  
<http://www.jamendo.com/en/album/84877>

Song: "Last Breath" & "Innocent Sleep" by Greendjohn, *Digital Leagal*  
<http://www.jamendo.com/en/album/49758>

"Amazing Grace"  
Source: <http://www.archive.org/details/AmazingGraceBagpipes>

## Intro

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It started out as a small flame flickering on the wick of a candle and it grew into one of Worcester's deadliest fires. It was also fast. In less than two hours after the first call was made, flames had engulfed the old refrigeration building and claimed six of Worcester's firefighters.

## Father Scanlon comment the night

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"It was the most blessed night of my priesthood and the worst. That was a tough night, one after another. And emotionally I still feel it as the guys do. On the other hand I said it was the most blessed night of my priesthood because I saw a lot of faith that night, that I hadn't seen, you know. Guys coming up to you, *Father I'm going into the rescue will you hear my confession, face-to-face. I haven't been in years father but I got to go to confession before I go in.* Grown men crying, saying, *Father you got to pray for us you got to.*"

## Ray Mariano

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"I was at a Christmas Party for disadvantaged children over on Mill Street with my wife and children. Someone came in and said that there was a huge fire and we had lost a firefighter or two and I ignored the comment because we never lose firefighters. Our guys get in and get out and do their jobs."

## Chief Dio

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"As the incident grew and as we pulled the guys out of the building and stuff and we did our count, we realized more guys were missing than the original two."

## Music "Bonjour, Mon Amie"

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The Cold Storage building had been empty for ten years. The six-story warehouse loomed over Interstate-290, casting thick shadows on the streets below. Before refrigerators were found in every household, cold storage was the only way to preserve food. The Worcester Cold Storage Warehouse was actually two buildings. The, original dated to 1905, and six years later an additional building was attached. Each floor was around 14,000 square feet, and each was a maze of dark rooms

and heavy doors. Even when it was a working building, employees would find themselves lost within.

The only windows were at the staircases. For the most part, the building was a blank, monolithic fortress of brick.

Franklin Street was the ideal spot for the warehouse, with Union Station and a large shunting yard nearby. In the 1960s, Interstate-290 was constructed in the warehouse's shadow. Soon compact refrigerators became common household items and food could be stored at the convenience of your own home. In 1989 the refrigeration system was shut down, although sections of the building were still used for storage. In 1991 it was finally closed.

Over the years, more insulation was added to the interior of the building. The original material was asphalt-impregnated cork, up to 18 inches thick. To this was added polyurethane foam and polystyrene boards. These polymers are made of long carbon chains and when broken down are equivalent to gasoline. The petroleum based materials added another 4 inches to the walls. Between the exterior of the building and the inside was almost 3 feet of brick, mortar, cork and foam.

Chief McNamee had commented on the building just weeks before:

McNamee

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"I had driven by with my wife a couple weeks before and I looked at it and I said, Joanne you see that building over there? That building scares the hell out of me. Two weeks later we had the fire."

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The building was boarded up, but two homeless people, Thomas Levesque and Julie Ann Barnes, found a way in and set up a small



living area on the floor. On the night of the fire the two had squabbled and knocked over a candle, their only illumination. The two were unable stop the spread of the fire and left the building, heading towards the mall the down the street. They did not report the fire.

The first alarm was struck at 6:13PM from a caller who reported a column of dark smoke rising from the roof the warehouse. Thirty firefighters raced to the scene after the first call, including Paul Brotherton and Jeremiah Lucey of Rescue 1. Apart from the smoke at the roof, the windowless building betrayed no sign of the fire raging inside. Firefighters from Ladders 1 and 5 climbed to the roof and began to vent from above.

**"...strike the second alarm."**

Before the fire had even been located a second alarm was raised and more crews began to head to Franklin Street. The crews on scene forced their way into the first floor and began to search for the source of the smoke. They were not ready for what they found.

**"This is Ladder 100. I'm on the second floor and I'm in a freezer room, and I've got a room full of fire here. I need a line on the second floor."**

Firefighters from Engine 13, looking up the elevator shaft, saw fire on the second and third floor. Ladder 1 requested water lines for the second-floor blaze. On the roof of the building, Brotherton and Lucey cleared the glass canopy over the elevator. Thick, oily smoke rose from the shaft and orange embers ascended into the night sky.

**"Command, be advised a citizen just reported to a police officer that there may be two people that live in that building."**

At 6:24 a local resident reported that two homeless people often used the building for shelter. Brotherton and Lucey began searching the floors from the top down. Hoses were brought into the building to push the flames back, but they grew at an uncontrollable rate. The many layers of insulation on the walls served as a propellant for the fire as they were reduced to their basic elements. The thick coatings of cork and polyurethane that had been used for years to keep the heat out of the cold storage warehouse now were keeping the intense heat in, turning the building into a massive kiln.

**"Rescue, did you check on that rumor that we have a couple of homeless people living at the rear of this building?"**

**"Checked the second and third floor we found nothing, Chief. We are moving our way up."**

1000 gallons of water were being poured on the fire every minute. A third alarm at 6:40 brought twelve more firemen. Search crews starting at the bottom had cleared the first three floors and were trying to work their way to the fourth. The smoke was too thick, however, and the crews were forced back to the stairwell. The fire was winning.

Rescue 1 had worked its way down two floors from the roof when it sent its first distress call. The cry for help went unanswered. There was so much radio chatter it was difficult to tell who made the call. Brotherton and Lucey made a second call a minute later. They did not know how many floors were below them so they could not give their exact location.

**"Rescue 600 to Command. We need help, on the floor, below the top floor of the building, we're lost."**

**"Rescue to Command. Rescue to Command, we need help on the fourth floor, one floor down, we're running out of air."**

"Last message, can you repeat? Last message?"

The exterior of the building gave no help to men outside hearing the calls, since the lack of windows made it difficult to count the floors. The flames now spread across the ceiling. A river of fire above the men's heads. Brotherton and Lucey ordered an emergency call and the tones were sent out from command to cease radio activity and focus the lost men.

"Fire Alarm, Fire Alarm! Emergency, emergency! Clear the air, clear the air! Emergency!"

Too much commotion was going on and precious time was lost in finally identifying the two men trapped in the building.

Rescue 1/Portable 5: "Command, we are two floors down from the roof, this is the Rescue Company, come now, come now."

Car 3: "Where are you? Where are you?"

Rescue 1/Portable 5: "Two floors down from the roof."

Car 3: "Who is this?"

Car 3: "All companies we have an emergency. Somebody is two floors down from the roof."

Rescue 1/Portable 3: "Guys, we're not the top floor, one floor down."

Car 3: "What is your emergency?"

Fire Alarm: "Running out of air."

Engine 1/Portable 1: "Engine 1 to Command, get everybody out of the second floor, too."

Rescue 1/Portable 1: "600 what's your location?"

Rescue 1/Portable 5: "Two floors down from the roof. Two floors down from the roof. Please hurry!"

Rescue 1/Portable 3: "We need air, we need air. We're sharing a tank right now, off of me."

Rescue 1/Portable 1: "P., if you need air, come on down. Come down."

Rescue 1/Portable 5: "We are lost, D. You got to send a rescue team up here for us."

Rescue 1/portable 1: "What floor, what floor?"

Rescue 1/Portable 5: "Second floor down from the roof, two floors down, I think."

Rescue 1/Portable 3: "We were on the roof, and then we checked the next floor down, now we are on the next one. Hurry."

Car 2: "What is your location? What floor are you on?"

Rescue 1/Portable 3: "Get up here! Please."

As calls to evacuate the second floor were being issued, James Lyons and Joseph McGuirk of Engine 3, Thomas Spencer and Timothy Jackson Ladder 2, and a crew from ladder 1 entered the blaze to search for their missing comrades.

Spencer and Jackson searched alongside Lyons and McGuirk and began on the 5<sup>th</sup> floor. A desperate call was made from Brotherton and Lucey. A fourth alarm was struck and Rescue 1 was ordered to activate their PASS devices. PASS devices are worn by all fire fighters and emit a ring for other fire fighters to listen to and hone in on the missing. Rescue 1 responded.

**"They are activated."**

This was the last word heard from Brotherton and Lucey.

Another tragedy was in the making. The four men who had gone into the building to find Brotherton and Lucey could not report their position. It soon became clear they were also lost.

Ladder 2/Portable 2 to Portable 1: "What is your location on the fifth floor?"

Ladder 2/Portable 1: "Good question."

Ladder 2/Portable 1: "I believe that we are in the front part of the building."

Spencer, Jackson, Lyons and McGuirk could not find their way back to the stairwell. At 7:15 an order to reduce noise was issued to assist the men to find the exit.

"Command to all companies, close down all operations, we want to give a yell in there, you see if we can hear from them. Close down operations."

"Ladder 2 to command we're done..."

The fire call drowned out Spencer's final transmission. A Lieutenant from Engine 3 fought his way to the 5<sup>th</sup> floor and called out for the men, but he got no response. Another firefighter came from the roof to assist, banging his axe against the stairwell railing to draw his friends out. No one emerged, and the two men exited to the roof. The tar was boiling underneath their boots as they evacuated.

"Give me a fifth alarm on this right now, a fifth alarm."

The 5<sup>th</sup> alarm brought firefighters from the town of Millbury to scene. They brought a thermal imaging camera, then the state-of-the art device for finding lost firefighters. The camera was taken to the fourth floor and turned on, but it was immediately overloaded and the screen went blank

Flames now leaped from the roof high above the building and a large crack was forming in one of the corners. At 7:58 the horns were sounded, the sign to evacuate the building.

Car 3: "We're backing out the back. We got a report that the walls were weakening in the front. We are trying to back the lines out, so we can use them. It is through the roof in the back, and its going like hell right up the side. I think we are almost ready to go to an exterior attack."

Car 3: "Command to all Companies evacuate the building...sound the evacuation signal...evacuate the building."

McName\_\_\_\_\_

"The stairway in that building was a steel stairway, it wasn't the slotted steel like a fire escape it was steel tread. And narrow. Two fire fighters passing on the stairway had to turn and the tank would rub against the wall. And the other guy's tank would be hanging over the banister so they could get by themselves. It was a tight stairway. Jimmy was sitting on the second step to talk to me he took off his face piece, took off his helmet pulled his hood, took out his face piece and that's when he said that to me sitting there because he was exhausted. And so that's when I thought. I stood there and thought respected, and really took in what he had to say and I looked out into the hallway where there was about a dozen guys staged ready to go up and all of them I knew naturally. Some of their families I knew. And I looked at them and I just said it's too late, if they didn't get out by now they're not getting out because they would have run out of air."

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Chief McName made the difficult decision to cease search efforts and focus on containing the fire.

### **Music "Amazing Grace"**

It took more than seven days to recover all six bodies from the rubble. Paul Brotherton husband of Denise and father of six, Jerry Lucey husband to Michelle and father of two, Tommy Spencer husband to Kathy and father of three, Tim Jackson husband of Mary and father of three and a stepdaughter, Joe McGuirk husband to Linda and father of two and Jay Lyons. All perished.

Worcester had not lost a firefighter in 35 years, and the city went into deep mourning. The tragedy was felt across the country and from

the ashes sprung a new era for the city of Worcester and aspiration to prevent such a catastrophe from happening again.

### **Music "Last Breath"**

A memorial service was held on December 9<sup>th</sup>. A parade of over 30,000 fire fighters marched from the Grove street fire station to Worcester's DCU center where the ceremony was held. In attendance were President Bill Clinton and Vice President Al Gore. Over 10,000 mourners came in support of the fire fighters and victims' families. They lined the streets with their black ribbons watching in silence as the three mile long precession headed towards downtown Worcester. Denis Brotherton, wife of Paul Brotherton recalls that day:

#### DENIS BROTHERTON

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"I will never forget being picked up that day with the kids and getting off exit 16 off 290, and seeing the crowd...and sing the crowd. It was absolutely surreal. I saw these little tykies holding these signs with fire hats. People just openly weeping. I think they knew families were coming through, we were picked up in limousines and I think they knew. The speakers that day had nothing but absolute respect. It truly, it truly, truly was an honor."

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At the packed DCU center the families heard speeches from President Clinton, Senator Kennedy, and Mayor Ray Mariano. Ray Mariano gave a heartfelt speech where he comforted the children, reminding them that their father will always be there with them even if they could see him. All this was going on while firefighters still dug through the smoldering rubble in search for their missing friends. The final body was recovered late Saturday, eight days after the fire had started.

Ray Marion saw his city brought to its knees but watched it as it rose to its feet again.

### Ray Mariano

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"Worcester's always been the kid with its head down, you know. We were always a little bit shorter a little bit thinner, not quite as fast as the other kids playing ball, and we didn't have an awful lot of confidence in ourselves. As strange as it seems, given the tragedy we faced, I think as a result of that, our confidence was quadrupled. People felt good about the city. They felt we did what other communities wish they would have done in a similar situation."

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Many members of the Worcester Fire department struggled to cope with the loss. Some found an outlet for their grief by conducting seminars on their tragedy. By sharing their experience and knowledge with others, they were able to create a little good out of the tragedy.

Chief McName helped get the seminars started:

### McName

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"For several months after we were reeling. We didn't know which end was up. We had a four-alarm fire, I think it was the following April, at First Unitarian Church, very historic church right beside the old court house on main street. Our fire, the same group. We caught it and that day we proved we could still do it. We had a lot of small stuff in between, one room, two room-fires, things like that, but we proved we could do it. We were reeling. We didn't know which end was up, our confidence was shaken. And then two guys, two lieutenants, John Daily and Andy White, they had the idea that we got to take some good out of this bad thing that happened to us. So they all the sudden started conducting firefighter safety and survival seminar which was a huge success."

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A new fire station stands where the warehouse burnt down. In the front lawn is a memorial to the six men. Sponsored by the firefighters themselves the memorial is a bronze firefighter in full gear kneeling



before a relief of the six men lost on December 3<sup>rd</sup>. The money collected at the seminars helped fund the monument.

Perhaps the greatest legacy of the men is the children they raised. Michelle and Brian Brotherton both serve in the Worcester Fire Department. Steven Brotherton will go onto the Boston fire after his fire science studies are over. Timothy and Jonathon Brotherton are serving in the Marines. Jeremiah Lucey and Dan Spencer have recently joined the Worcester Fire Department. Though six brave men were lost, they gave us a new generation of heroes to take their place.

The Cold Storage fire exposed a shortcoming in technology for firefighters. If only Paul Brotherton and Jerry Lucey had been able find a way out. Or the four men that went in after them had been able to locate their missing brothers easily. You can imagine that such a disaster would not have happened. These seem like problems that should not exist, but on December 3<sup>rd</sup> there is no denying that technology had failed Worcester.

Someone who is working to fix that is Prof. Orr:

Orr

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"No to be melodramatic but I walked over to the route that the procession took from the memorial to the station where several of the firefighters left to go to the fire station where several of the fire fighters left to go to the fire from there to downtown Worcester to the Centrum where President Clinton came. I can remember standing there as the procession passed thinking technology has got to be able to solve this problem. It just makes no sense someone could get lost inside a building literally a hundred feet from safety and be unable to be found and die in that situation."

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## Music "Innocent Sleep"

The warehouse fire moved engineers at WPI to develop new technology to locate firefighters within a burning building. The hope is to someday be able track firefighters in three dimensional space on a computer. Called the Precision Personal Locator or PPL for short, the idea is to have a radio frequency based device that can be used in any building without the need to change or calibrate it. The device should be deployable quickly and accurately track people within the building. This however has been troublesome for the professors working on the project and they have found it more difficult than expected. Prof. Duckworth is one of the professors working on the project:

### Duckworth

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"It's a lot more challenging, a lot more difficult than anyone ever thought. When we started this we probably thought a couple of years to build something and we'd be done. The firefighters would be using it, but doing indoor location tracking is extremely difficult."

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At the current stage of development the PPL requires the placement of antennas around the building. Locators worn by each firefighter sends a transmission to the antennas which in turn communicates with the base system. The system will track firefighters indoors at an accuracy of one meter. But the professors at WPI have found that tracking inside a building is a complicated problem.

Some of the issues that have slowed down the project are signal strength, and multi-path degradation. As the signal passes through walls it weakens and slows down the transmission of data. The metal in building supports and even wiring is enough to disrupt the path of the signal, making it difficult to pinpoint exact locations.

WPI also hopes to include physiological information in the transmission. This way, heart rates and other signs of distress can be observed by the base system. Including this information would help commanders better manage their first responders as heart attack is one biggest cause of death for firefighters in action. If a fire fighter seems lost and their heart rate elevates the commander can communicate with his men, calm them down and help direct them to safety. Adding this extra information does boggle it down as tracking the heart rate all active firefighters, overloads the system.

The ongoing project at WPI has received national attention. Several articles have covered the project including an article published in Popular Science. The government has also caught wind of the project, and FEMA has given numerous grants in support of the project for its obvious potential in saving lives.

It is not clear when a commercial product will be ready for the markets. Those working on project say two more years, but that's the same answer that has been given over ten years ago. One thing that is clear is that when the PPL is ready, it will have a tremendous impact in the way fires are fought. And hopefully prevent another tragedy like the Worcester 6.

Paul Brotherton and Jerry Lucey gave their lives searching for two homeless people they believed were in the blazing building. Thomas Spencer, Timothy Jackson, James Lyons and Joseph McGuirk went into the flames to rescue their lost brothers. These harrowing acts will never be forgotten in the city of Worcester. The six live on with the breakthroughs in technology inspired their loss and will forever be watching, protecting their fellow firemen.