

CITY OF CHICOPEE

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Photo Credit: Wikimedia Commons – John Phelan in Chicopee, Massachusetts

EXECUTIVE SUMMARY

The City of Chicopee adopted the Business Continuity best practice in July of 2015, as part of a Community Compact agreement signed with the Baker-Polito Administration. Chicopee partnered with the Office of Municipal and School Technology at MassIT to develop a Business Continuity Plan and procured the services of Rutter Networking Technologies to perform a comprehensive IT assessment. The City chose the Business Continuity best practice to gain insight into the current state of their IT environment and identify vulnerabilities that could be documented, prioritized and remediated. Applying business continuity best practices will allow Chicopee to quickly and confidently respond to any disruption of their IT environment, minimizing disruption to City services.

Community Profile

The City of Chicopee is located in the western part of Massachusetts in Hampden County. Chicopee is nicknamed “The Crossroads of New England” for its location near many major routes. Historically, Chicopee has been home to immigrants from many different backgrounds and is now a melting pot of cultures.

Population is 55,298 residents*
Annual Budget is \$183M (FY 2017)
Median Household Income is \$35,672*

**As of 2010 census*
In partnership between:

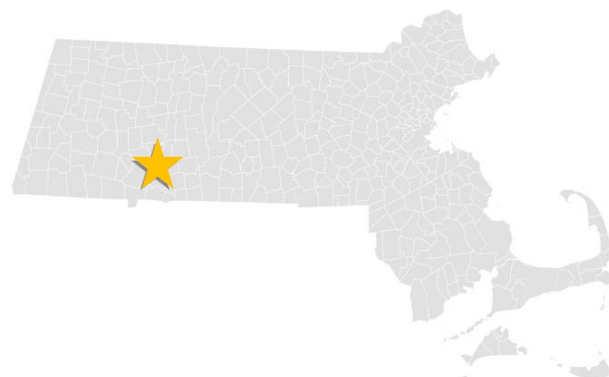




Photo Credit: Flickr – Chris Devers in Chicopee, Massachusetts

PROJECT PROCESS

Developing a Business Continuity Plan (BCP) can be an overwhelming task, but by taking a multi-faceted approach, the City has made great strides. Chicopee’s IT team - led by Vanessa Oquendo, Information Technology Director – partnered with MassIT’s Office of Municipal and School Technology (OMST) to perform an initial Business Impact Analysis (BIA) of Chicopee’s IT environment. The team started this process by first documenting the various Essential Functions and Systems within the organization that Chicopee’s constituents depend on. Concurrently, Rutter Networking Technologies performed a comprehensive IT assessment to supplement the BIA work that Chicopee performed internally with MassIT. The City successfully leveraged MassIT’s Business Continuity Playbook, workshops, and the IT assessment results from Rutter to develop and implement an official Business Continuity Plan.

Chicopee’s Business Impact Analysis (BIA) Overview

Chicopee’s IT team developed their BIA by following MassIT’s Business Continuity Playbook, a four-step strategy containing the following milestones: (1) Identify Essential Functions, (2) Develop findings for each essential function, (3) Create an Action Plan for functional gaps – findings & recommendations, and lastly (4) Develop detailed remediation plans. These four steps were repeated, cyclically, until the findings were complete.

Step 1: Identify Essential Functions

At the beginning of their BIA process, Chicopee’s IT team was able to identify a list of the organization’s essential functions (EF). These functions were prioritized and analysis was conducted to document appropriate recovery time objectives (RTO), the maximum outage timeframe an organization can tolerate, and recovery point objectives (RPO), the maximum amount of data that can be lost before it becomes unmanageable to reconstruct. A portion of Chicopee’s analysis can be seen in the table below.

EF#	ESSENTIAL FUNCTION	DEPARTMENT	PRIORITY
1	Communications/Public Safety	Multiple (Mayor's, IT, DPW, Police)	1
2	Communications/Telephones	Multiple	2
3	Communications/Email	Multiple	5
4	GIS	Planning	3
5	Financial Systems	Multiple (Treasurer's, Auditing)	4
6	EMS	Fire Department	1a
7	Dispatch	Fire and Police	1a

Step 2: Develop Findings for each Essential Function

In this step the team developed findings for each of the essential functions identified in the first BIA step. One finding suggested that Chicopee needed to designate a Disaster Recovery site and create a Disaster Recovery Plan. The City had ideas for a new disaster recovery site, but had yet to architect a strategy to drive that decision forward.

Step 3: Create Action Plan for Functional Gaps (Findings/Recommendations)

This next step called for the development and deployment of a Disaster Recovery Plan and Environment. The team put together an action plan to address the functional gaps and findings identified in the previous step. MassIT recommended that the City move forward with their planned Disaster Recovery site. It was also suggested that the team create a documented Disaster Recovery Strategy for secondary backups at the new Disaster Recovery site, and that other essential functions be moved to the disaster recovery site.

Step 4: Develop Detailed Remediation Plans

The previous step paved the way for the preparation and implementation of Chicopee's Disaster Recovery site and plan. Today, the City is actively deploying new infrastructure to their disaster recovery site, allowing for business operations to continue hardware and software failover to the recovery site. This new setup will prevent server downtime by replicating data between the two sites, should a disaster occur. The systems will switch over to the City's IT department and vice versa, keeping them in operation with little to no disruption in services.

With the BIA complete, Chicopee is now working on their Disaster Recovery Strategy and Emergency Response Plan, which are also nearly complete. Once these plans are finalized, Chicopee's IT department will utilize them to support emergency responses and to recover systems in the event of a disaster. MassIT's objectives were to educate, train, and provide workshops and working sessions to Vanessa and her team. City departments were involved and participated in identifying their essential business functions. The process of mapping business functions to IT infrastructure helped the departments understand the complexities and interdependencies of their business functions on the technology they depend on. With a succession plan complete and a communications plan underway, the City of Chicopee is prepared for disaster response.

IT Assessment Overview

In 2016, the City of Chicopee hired Rutter Networking Technologies, leveraging Community Compact Grant funding, to complete a comprehensive IT analysis of the organization's hardware, software, and human resources. The focus of the Rutter engagement was to examine the Business Continuity and Disaster Recovery practices currently employed at the City, and to provide recommendations based on their findings.

Rutter completed onsite discovery and analysis of the City's critical IT systems that support essential functions. Below are some examples of IT systems that were examined.

- Network
- Security Infrastructure
- Wireless
- Back Up
- Email
- Anti-virus
- Other Devices
- Users workstations
- Server Hardware
- Server Operating Systems
- Telecom/Mobile devices

Disaster scenarios and contingencies would be discovered and documented, including but not limited to the following common issues:

- Power outages
- IT system crashes
- File corruption
- Hardware failures

Quantifiable goals for each business process were developed, and the BIA work completed by Chicopee's IT Department and MassIT was validated by Rutter. Some of the high-level recommendations in Rutter's final IT assessment report included:

1. *Staff Augmentation:* add another IT human resource to manage the disaster recovery site.
2. *Infrastructure expansion:* to support replication and failover between the two sites.
3. *Network Hardware expansion:* to support back-ups to the disaster recovery site and redundancy.
4. At the time of the report, it was recommended that the City of Chicopee leverage their existing vendors to ensure the Essential Functions are recoverable and not limited by contract terms. *For example: After hours support - if your Essential Function has a threshold of 2 hours, to recover, and is impacted at 10 pm, your support contract must outline after hours support, and ensure the vendor responds accordingly.*
5. The City's IT Department should define a Rally Point, where the disaster recovery team could meet.

6. Develop a succession plan, a communication plan, and disaster recovery plan. Once the plans are established they can be stored in a secure location outside of the City's infrastructure, where it can be virtually accessed by all key stake holders.

RECENT IMPROVEMENTS

With a population of 55,795 people, and an annual budget of approximately \$178 million, the City of Chicopee balances providing service availability and fiscal responsibility. The Mayor's commitment to ensuring municipal services are available, maintained and enhanced, is evidenced in the FY16 budget proposal submitted in June of 2016. The budget included an increase from 77K to 200K to replace aging IT equipment. Mayor Richard Kos is committed to ensuring municipal services are protected. The City's IT Director, Vanessa Oquendo, and her team, share the same passion of ensuring municipal services availability. In recent months, they have successfully completed a number of complex technology initiatives and have applied Business Continuity best practices throughout each project.

Following Rutter's IT assessment, the IT Department began immediately working to remediate the gaps outlined in the findings report, and plans that were in-flight prior to the IT Assessment, were confirmed and have evolved over the past year. Chicopee's IT department has since completed the following initiatives:

- Deployed an [online permitting system](#) and have begun to roll the program out to departments, including the Building and Fire Departments. Plans are underway for additional departments to participate, including Planning, Zoning and Conservation at the end of this month.
- Implemented cybersecurity awareness training for new hires.
- Implemented a Disaster Recovery environment at a separate location. With newly designed and deployed infrastructure, the City is now able to replicate data between their two data centers.
- Implemented a Document Management System and is now digitizing the paper records of several departments. The City was recently awarded a Community Compact IT Grant to continue these efforts.

MASSIT RECOMMENDATION

MassIT recommends the City consider implementing Configuration Management, or Change Management, to ensure the important BIA information identified in this project gets updated regularly, preferably on an annual basis, or as IT systems are added, updated, or taken offline so any changes can be captured and analyzed in the context of the larger environment. The ongoing process of reviewing and updating the existing plans will help Chicopee identify and record new information necessary to manage IT services, by re-documenting the relationships between IT components and essential functions. Having this system in place will help the IT Director control and maintain the various hardware and software installations going forward.

CONCLUSION

Like many municipalities, Chicopee's IT Department has been challenged to meet the increasing demands for technology with limited financial and staffing resources. The number of complex deployments and successful implementations reflect the maturity and excellence of the Chicopee IT Department. By developing, designing, and implementing a second data center, as a Disaster Recovery site, the IT team has ensured minimal risk to essential functions and services of the City. What Chicopee has accomplished, is Business Continuity Planning.