

**Town of North Andover**

Strategy, Planning, and Assessment

Prepared By: The Office of Municipal & School Technology

EOTSS | Executive Office of Technology Services & Security



The North Parish of North Andover[[1]](#footnote-2)

**Executive Summary**

In the winter of 2018, the Town of North Andover signed a Community Compact Cabinet agreement with the Baker-Polito administration. The Town selected Strategy, Planning, and Assessment best practice to develop IT resiliency, recovery and contingency plans in order to better position the community in preparing for any unforeseen security incidents.

The Town has recognized the importance of its IT department in maintaining continuity of operations, and this led to auditing and updating existing IT disaster and government continuity plans. In order to carry that out, the Town also applied for Community Compact Best Practice Grant. Leveraging the grant funding, the Town hired ePlus Technology, Inc. to assess the current standing of the Town’s IT security posture.

*Community Profile*

The Town of North Andover is located in Essex County, Massachusetts, on the banks of the Merrimack River. Originally, the Town lands were used as plantation, which was purchased by Reverend John Woodbridge from Pennacook tribe in 1646. Shortly after, the Town was incorporated as Andover in honor of early English settlers. Eventually, the birth of North Andover came due to the dispute over location of church sites in 1709, which led to the separation of North Parish and South Parish in 1855.[[2]](#footnote-3) Centering the North Parish Church, the Town is now known for its rich colonial history, preserving various historical sites. Today, the Town has a population of 28,352, and the median household income is $105,661.[[3]](#footnote-4)

**Assessment**

The objective was to assess the current IT security posture and identify vulnerabilities that could impact the Town if exploited. For security assessment, ePlus Technology employed external penetration testing and a comprehensive internal security audit. This was to identify vulnerabilities in the Town’s network infrastructure, including active devices and ports/services in a given range of IPs. The framework consisted of the following activities included in testing:

* Discovery
* Enumeration
* Vulnerability Assessment
* Penetration Testing

In the end, the overall security rating was ranked based on the found vulnerabilities. The vulnerability rating in Appendix I explains the conditions of each ranking.

**Conclusion**

At the end of the assessment, the Town received the final assessment reports from ePlus Technology. In them, the vendor recommended mitigation of vulnerabilities based on industry best practice, which the Town immediately began to implement, putting the Town in a better position to leverage stronger IT infrastructure.

The internal security audit identified user behavior and training as the biggest vulnerability. As a result of this, North Andover updated its Anti-Virus software to a next generation product more capable of detecting anomalous activity with a focus on ransomware activity. North Andover also launched a formal and ongoing cybersecurity training product with a focus on detecting and reporting phishing tactics and attempts.

These audits also highlighted some of the challenges faced by all Massachusetts local governments. Dedicated security staff, more frequent security audits, more frequent tabletop drills, and the development and review of formalized continuity plans are challenges that require additional resources.

**Appendix I: Security Posture Rating**

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| --- | --- |
| **Level** | **Description** |
| **Very Low** | **Vulnerabilities Identified**: Zero to a few Low-rated vulnerabilities were identified. These vulnerabilities have no impact on the confidentiality, integrity, and availability of data or the network, but could provide information for future attacks.  **Evaluation**: The network is found to be very secure.  **Actions**: Actions may be taken to remediate identified issues. |
| **Low** | **Vulnerabilities Identified**: A few Low-rated vulnerabilities were identified. These vulnerabilities may possibly impact the confidentiality, integrity, and availability of data or the network and/or could provide information for future attacks.  **Evaluation**: The network is found to be secure.  **Actions**: Actions may be taken to remediate identified issues. |
| **Medium** | **Vulnerabilities Identified**: Several Low, Medium and/or High vulnerabilities were identified. These vulnerabilities could have an impact on the confidentiality, integrity, and availability of data or the network and may provide information for future attacks.  **Evaluation**: The network is found to be moderately secure.  **Actions**: Actions should be taken to remediate identified issues. |
| **High** | **Vulnerabilities Identified**: Several Medium, High, and/or Critical vulnerabilities were identified. These vulnerabilities could have a noticeable impact on the confidentiality, integrity, and availability of data and provide information for future attacks. Evaluation:  **Evaluation**: The network is found to be weak.  **Actions**: Actions should be taken to remediate identified issues. |
| **Critical** | **Vulnerabilities Identified: Many Medium**, High and/or Critical vulnerabilities were identified. These vulnerabilities could have a considerable impact on the confidentiality, integrity, and availability of data and provide information for future attacks. Additionally, authorized data has been accessed and altered.  **Evaluation**: The network is very weak and at serious risk.  **Actions**: Actions should be taken immediately to remediate identified issues. |

1. Phelan, John. The North Parish of North Andover. Wikimedia Commons. Accessed August 29, 2019. <https://commons.wikimedia.org/wiki/File:The_North_Parish_of_North_Andover_MA.jpg> [↑](#footnote-ref-2)
2. About Our Community. The Town of North Andover. <https://www.northandoverma.gov/about-our-community> [↑](#footnote-ref-3)
3. North Andover town, Essex County, Massachusetts. American Fact Finder. U.S. Census Bureau. <https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml> [↑](#footnote-ref-4)