A Coordinated Effort to Promote Prosperity in Northampton Borough

329

Atlas Cement Company Muser

E 10th St

E 4th St

Northampton

Coplay

Canal Street Park

WELLINGTON

Stiles

Mid-Project Report Lafayette College Technology Clinic 2020-2021

MUNICIPAL OFFICES

ROR

M BI

Willow Brook Golf Course Submitted to the Borough of Northampton

Executive Summary

The Technology Clinic (20-21) is focused on the overall social and economic development within the Borough of Northampton, PA. The team is employing its collective expertise in assisting Victor Rodite, Community Planner, and other Borough officials and local business leaders to support initiatives and programs that stimulate the local economy. Since August 2020 we have conducted research for local project ideas as well as conducted interviews of local business owners to identify the most pressing issues related to the local business environment which will be leveraged accordingly in 2021 based on the project(s) the Borough council decides to pursue.

This midyear report is a compilation of the several project ideas our team is suggesting to the council based on the work we have completed:

- 1. Leveraging Assets: During research throughout the first semester, our team recognized the potential to support the Borough by identify local assets (people, businesses, and physical spaces) that can be used to yield a greater economic return without additional input or effort.
- 2. **Cement Hall Road:** The Tech Clinic has been working with the Borough Council, Lehigh Engineering and other involved parties to identify the need to *conducting research* in support of the Cement Hall Road initiative.
- 3. Hydrogen Fueling Station (BTI Coopermatics): The Tech Clinic conducted an interview with Tom Joseph, President of BTI Coopermatics and identified an opportunity to develop a hydrogen fueling station which could become a source of sustainable energy for businesses throughout the Borough.
- 4. **Supporting Online Presence**: Through research and analysis on the Chamber of Commerce website, the Tech Clinic identified the opportunity to apply our knowledge and analytical capabilities to create a more tech adaptive business environment.
- 5. Celebrating the Northampton Borough Identity: The Tech Clinic has developed methodology to identify aspects of the Northampton Borough identity that are valued by young people in the community to strengthen the involvement of high school students and promote an exciting future that originates from the Borough's rich history

Next semester, we will pursue one or several of the projects that the Borough Council and Planning Commision deem most necessary and effective. We will continue to work with businesses, community organizations, and local citizens to support and enhance the economic and social well-being of the Borough.

Table of Contents

Meet the Team	4
Preamble	5
Project Opportunity 1: Leveraging Local Assets	6
Project Opportunity 2: The Cement Haul Road Project, A Future Opportunity	
Project Opportunity 3: Support BTI Coopermatics Hydrogen-fueling Project	
Project Opportunity 4: Supporting Online Presence	
Project Opportunity 5: Celebrating the Northampton Borough Identity	
Project Summaries	
Conclusion and Next Steps	
Acknowledgements	

Meet the Team



TENI BAKARE '23 Policy Studies International Affairs



CELESTE FIEBERG '22 Mechanical Engineering German



JELISSA KAMGUEM '23 Chemical Engineering Minor in Data Science



RILEY LARSON '21 Economics Minor in Spanish



KEON MODESTE '21 Organizational **Studies**



NICK SAMA '23 International Affairs **Environmental Science**



DAN BAUER Prof Emeritus of Anthropology and Tech Clinic Founder



CHRISTOPHER RUEBECK

Associate Professor of Economics

CUONG (EVAN) VU '23

Neuroscience **Computer Science**

Preamble

The Lafayette College Technology Clinic is a two-semester program in which teams of students from each academic division work together on imaginative solutions to real-world problems for clients. The students are nominated by professors and former Tech Clinic students and mentored by two faculty facilitators. Project teams are purposely multidisciplinary and include students and faculty mentors from the Humanities, Social Sciences, Sciences and Engineering. Their variety of talent gives them the ability to assess any challenge or project from different perspectives to achieve effective results.

This year, Technology Clinic has been recruited on behalf of Borough of Northampton, PA to develop proposals for projects with a scope of economic development relating to Northampton. Technology Clinic's goal is to provide strategic insights and in-depth research to the Northampton Borough Council and their local business owners so that they can utilize/leverage our expertise for current and future Borough-based projects. As an external group, we hope that our contributions will have a lasting impact on the Northampton Borough community for years to come.

Project Opportunity 1

Leveraging Local Assets

Project 1: Leveraging Assets

Most economic development strategies involve some effort to recruit major employers, such as manufacturers or large retailers, many successful small towns and cities complement recruitment by emphasizing their existing assets and distinctive resources. The following slides gives insights into how the Northampton Borough can leverage their local assets:

- 1. People
- 2. Physical Resources
- 3. Local Businesses



<image>

Source: Northampton Neighbors & News Facebook Page

Project 1: Leveraging the Residents

Step 1: Getting Started

- The borough could tap into the expertise of architects and landscape architects from nearby areas to guide citizens, officials, and business owners through a visioning exercise.
- The council, mayor and borough manager could then host a three-day charette ensuring that residents and officials have a clear and consistent vision for the future of the borough.
- If there is a sense of excitement amongst the borough citizens, then it is a green light, if there are mixed feelings, continue to showcase the value of the revitalization project.

Step 2: Channeling the borough's excitement

- With the potential excitement of the borough residents, the council could then propose a monthly meeting plan to get started on the revitalization process.
- In channeling this excitement the council should then organize Business owners, residents and officials into three groups: <u>design</u>, <u>economic restructuring</u>, and <u>promotions/marketing</u>.



Project 1: Leveraging the Residents

Groups	Responsibilities
Design	Revamping or starting new or existing façade improvement projects of grant programs. Enlist local companies to offer consultation.
Economics Restructuring	 Commission a market study to explore and highlight specific economic sectors and business types that are likely to thrive in the borough. Ex: Check to see if there are any voids in residents being forced to go shop in surrounding towns. Research should be utilized to show successful businesses in the surrounding areas that there is a market for their business in the borough. This is not meant to attract businesses away from their current locations but rather to inform them that if they are looking to expand, Northampton Borough is a good place to locate.
Promotions	Should create marketing campaigns for the borough. Redesigning and rebranding the borough. They should be responsible for putting up streetlight banners with the new logo and brand throughout the borough.

Project 1: Physical Resources

Historical areas like the Northampton Borough have assets that differentiates them from surrounding areas so it is best to capitalize and leverage those assets to their advantage. Systematically assessing the use of existing resources and identifying the need for renovation or complete transformation:

- Water and land related amenities
- Vacant and underutilized buildings
- Historical and cultural sites; museums
- Recreational facilities; parks
- Educational Centers; health-related structures
- Road & Transportation systems



Potential Project: With the many entrance/exit points within the borough, this is the first impression that most travelers get, so it should be given a facelift to represent the rich history of the borough or even decorated with flowers and art displays.



Potential Project: The borough should organize a committee that surveys the area to find vacant/underutilized buildings in which they should work to gain access to clean and restore. This is crucial to maintaining the Borough's image.

Project 1: Local Businesses

With the assessment of case studies conducted on small towns and communities, it was concluded that those areas were successful because businesses with different missions worked together to make their small towns and communities a better place to live and work. The Northampton Borough can work with its local businesses to jointly establish priorities and agendas that will leverage the assets that each can bring to the table to make the most of the Borough's resources.

Note: Counterproductive competition for limited resources (land, consumers, and etc) can undermine the Borough's future attempts to generate durable economic growth.

As the team mentioned throughout the presentation, the Borough can conduct research on possible ways local businesses can create synergies that can be leveraged to the benefit of the entire community. The businesses we have considered thus far include: Nazareth Pellet & BTI Coopermatics, anf Lafarge & Atlas Museum. These are merely suggestions based on a high-level research.













Project 1: Communications for Local Businesses

Identifying synergistic opportunities between businesses in the Borough is crucial to its economic future. This information would be easily attainable if there were an entity that would be able to regulate/facilitate the communication and potential project opportunities.

Through research and interviews with local business owners and representatives of the Borough, we recognized there to be a lack of communication between local business owners and with Borough officials.

The Tech Clinic concludes that an increase in communication can help businesses for example, in their discussion around strategies to mitigate the COVID shock, cross-market opportunities, and other means of relevant support.

Proposed Project:

The establishment of Rotary Club or Business Association, which will be responsible for facilitating communication between business owners and Borough officials.



Triborough Sportsmen Club

Borough Business Association



Main Street Restaurant

Project 1: Educational Resources

The history and geography of the borough offers some unique assets that could be utilized to create meaningful learning experiences in civil engineering, materials and numerous other fields:

- Creating shadowing opportunities with Lafarge Cement Factory professionals
- Excursions to active/once-active quarries located nearby the borough
- History Lessons from the Atlas Museum and the people who were part of it Potentials:
 - Attract an influx of young professionals to the borough
 - Pointing academic attention at the borough
 - Foster the connections between Lafarge and the Borough Community

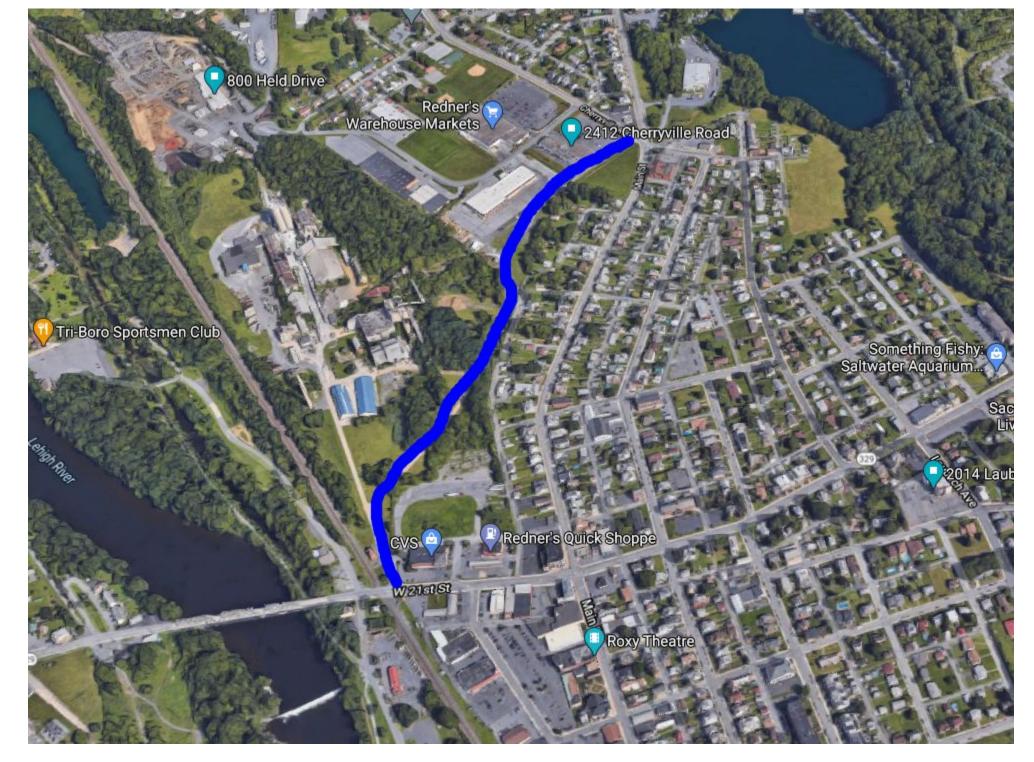


Potential Project: Professional Shadowing *Source: lafargeholcim.us*



Potential Project: Atlas Museum Lessons Source: northamptonborough.com

Project Opportunity 2 -The Cement Haul Road Project, A Future Opportunity



Path of the proposed Cement Haul Road

Project 2: Background and Involvement

- The Cement Haul Road Project is a project that has been proposed as a way to alleviate the stress of traffic and large vehicles moving through the Borough.
- The Borough, in association with Lehigh Engineering, would construct this road over one that was built by the LaFarge Corporation due to its prime location and ease of access to the highway.
- The primary goal of the Tech Clinic in this project is to make sure this project is ready to be carried out whenever money can be allocated to it.
 - We believe we can help the Borough in getting this project shovel ready so that the Borough doesn't have to finish the project proposal when new funds are offered but instead is able to start breaking ground as soon as those funds are available.
 - Additionally, we can help find information surrounding this project in order to help the Borough apply for different kinds of grants that come up
- This project has been worked on for some time by the Borough, so despite it being tabled at the moment, the Tech Clinic feels as though we can help this project cross the finish line.



Lafarge company logo https://www.lafargeholcim.us/



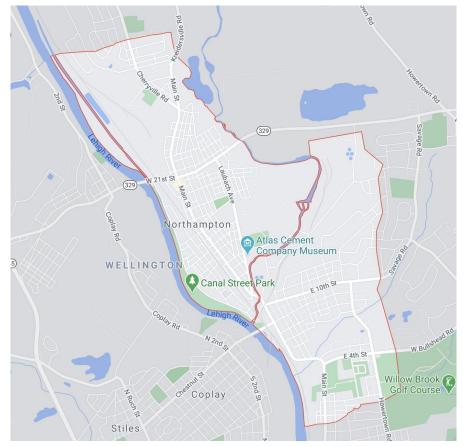
Lehigh Engineering logo https://lehighengineering.com/



From Entex Technologies

Project 2: Future Projects

- Preparing the project is especially important because there may be more funding for infrastructure projects designed to recover from the economic downturn due to the Covid-19 pandemic.
- The Tech Clinic is also interested in facilitating projects between the businesses of Northampton and the Borough itself. (see more under Project 4: Local Businesses)
 - To help bridge the gap between the two and to understand how businesses could benefit from projects in the future, we plan to interview business owners to find out the kind of initiatives they want to see in the future.
- We would also like to look into forming a map of traffic patterns in the Borough to see when and where traffic is heavy throughout the day to understand which businesses will benefit most from the construction of this road.



Screenshot of Google Maps view of the Borough

Project Opportunity 3

Support BTI Coopermatics Hydrogen-fueling project

Project 3: Background on BTI Coopermatics

Bethlehem Technik Coopermatics (BTIC) is an industrial company serving the Pharmaceutical, Biotech and Industrial markets. It started as Coopermatics before the 1960s but was later acquired by Bethlehem Technik to form BTIC. The Coopermatics department is mainly involved in the supply of filtration equipment to the chemical and manufacturing industries. Whereas, BTI is mostly involved in the construction of hydrogen dispensing units and some electrical equipments like heaters.

BTIC Products

Coopermatics precoat filters: Used for floor tanks and dirty flush systems.

Coopermatics Sludge Drying Unit(SDU): Used for improved sludge handling. Capable of drying sludge for oil recovery.

Coolant Sump Cleaner: cleans water-based coolant tanks as well as neat oil coolant tank machines.



600 Held Dr. Northampton,PA 18067 http://www.bticinc.com/

Project 3: Background

Project Explanation

The use of hydrogen power in the Borough would not only be beneficial in terms of sustainability, but also in terms of saving money. By finding other businesses and locations in the Held Drive area that would be interested in using solar power, it could promote the production of hydrogen power in the Borough. The production of electricity from these panels, in addition to powering the buildings they sit on, can also be used to extract hydrogen out of water molecules. By doing this not only would the businesses with solar panels save money, but they would also help BTI Coopermatics produce more hydrogen fuel to be used in the Borough and surrounding area.

Technology Clinic Involvement

- We have facilitated correspondence between BTI Coopermatics and Victor Rodite, Community Planner. This project was introduced during an interview with Mr. Joseph, President of BTI Coopermatics.
- We conducted an interview of George Frack, President of Nazareth Pallet Company to gauge interest in the project and explore uses and potential locations for solar panels to be installed.

Logistics

- During the Tech Clinic's interview with George Frack, we discussed the possibility of renting available roof space in the Borough to install solar panels, which can serve as a source of income for owners of buildings.
- Several solar energy companies exist within the Lehigh Valley such as Pinnacle Exteriors (Allentown, PA), and Evoke Solar (Hellertown, PA).
- We expect future grant money to become available for sustainable energy initiatives that could fund projects like this.
- The Investment Tax Credit (ITC) allows a **26% deduction** to the cost of installing solar energy systems from federal taxes.



Hydrogen-powered bus, photo by Victor Rodite

Project 3: Goals and Inspiration

Short-Term Goals	Long-Term Goals
• Restore a hydrogen powered bus owned by BTI Coopermatics in order to promote the use of hydrogen fuel to local secondary education and community college students, as well as encouraging investment from future business partners.	 Connect with other local businesses and identify opportunities where sustainable hydrogen-fueling can be implemented. Support BTI Coopermatics and the Borough gain understanding of project benefits through a <i>feasibility study</i>. Have a shovel-ready proposal, complete with feasibility study and implementation plan ready for when federal grant funding becomes available.

Inspiration

Tech Clinic is interested in this project because of the potential for sustainable energy to benefit the local business community and business as a whole. Through the use of solar panels, BTI Coopermatics can extract hydrogen to create fuel cells which could be purchased by local businesses to reduce electric bills and engage in sustainable energy practices. We expect there to be increased funding from the federal level to finance sustainable energy projects such as this.



Pinnacle Exteriors Solar Installation; Levittown, PA



Shell Hydrogen Fueling Station; San ₂₁ Francisco, CA (2020)

Project 3: Methodology

Goal	Methodology
• Support BTI Coopermatics and the Borough gain understanding of project benefits through a <i>feasibility study</i> to assist proposals for future federal grant funding.	 Connect with Tom Joseph and other representatives of BTI Coopermatics to determine necessary research. Research cost-effectiveness and possible uses for hydrogen energy at businesses operating in the Borough.
• Restore a hydrogen powered bus owned by BTI Coopermatics in order to promote the use of hydrogen fuel to local secondary education and community college students, as well as encouraging investment from future business partners.	 Support BTI Coopermatics in the restoration process. Identify schools and educational programs interested in hydrogen-fueling. Connect identified entities with BTI Coopermatics.
• Connect with other local businesses and identify opportunities where sustainable hydrogen-fueling can be implemented.	 Research ways to convert traditional fueling systems to hydrogen fueling. Interview local businesses to gauge interest in hydrogen fueling conversion.
• Research cost-effectiveness and implementation of solar panels and the use of hydrogen-fuel cells as energy storage for BTI Coopermatics, Nazareth Pallet, and/or their neighbors.	 Identify solar energy companies within the Lehigh Valley to estimate the size and cost-effectiveness and discuss the possibility of renting roofs. Research means of energy storage including the use of hydrogen fuel cells.

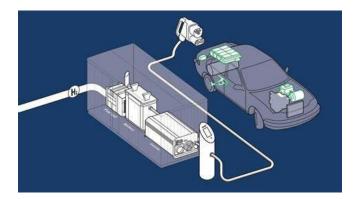
Project 3: Summary

"The Technology Clinic has helped to support economic and community development through previous work alongside entities such as the Slate Belt Council of Governments, The Northampton County Economic Development Committee, the Borough of Weatherly, Pennsylvania, and others in the area. Private companies that we have worked with in the past include Air Products & Chemicals, Filtration Engineering, and many more."

Project Summary

Interviews and correspondence between BTI Coopermatics and Victor Rodite is what led the Tech Clinic to this project in late October. We believe that through our research and analysis, we have the ability to support BTI Coopermatics and the local business community at large to find safe, practical opportunities to reduce costs and engage in sustainable energy practices.





Hydrogen Fueling Station Diagram Via INISDEEVs

Project Opportunity 4 -Supporting Online Presence

Project 4: Significance

For the Borough:

• The Northampton Borough website can be accessed at "northamptonborough.com". The Tech Clinic believes that given the drastic changes in communications the pandemic has brought about, this channel is valuable for supporting residents and local businesses in the future.

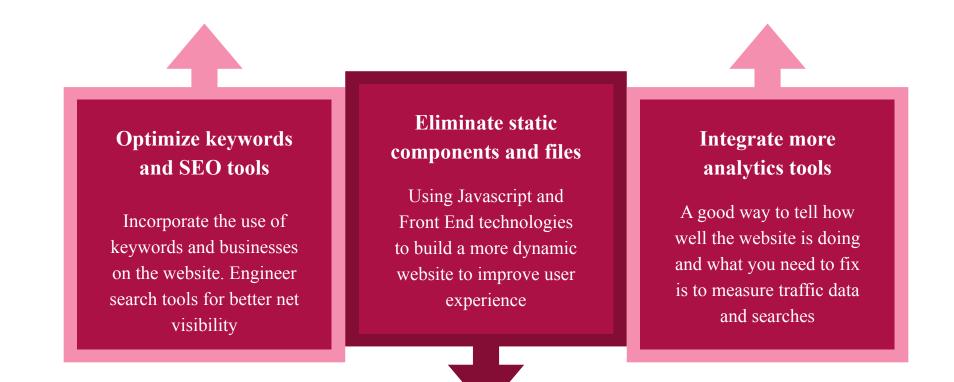
For the Businesses:

- KPMG estimated that 55% of people will search online for reviews and recommendations before making a purchase, with 47% visiting the company website, 26% checking out the physical store, and 23% of people talking with friends and family.(*KPMG*, "*The truth about online consumers*", *January 2017*)
- 19% of small business owners without a website believe that their business would grow 25% in three years or less with the benefit of a website.
- Maintaining an online presence has proven to be crucial during the COVID-19 pandemic. Though traditionally believed to only be beneficial for mid to large size businesses, with low costs, ease of use and current situations, the Tech Clinic team it's an important time for small, local businesses to have an online presence

Project 4: Background

Initial analyses showed that even though regarded as a high-potential resource, there is space for optimization of the Northampton Borough website.

These improvements can be made in the visual presentation of the website, the load time, accessibility and functions of the website and optimization of SEO and net visibility. Analytics tools like Google Analytics can do a good job in reporting and suggesting metrics that are crucial, or assets that need improvements.

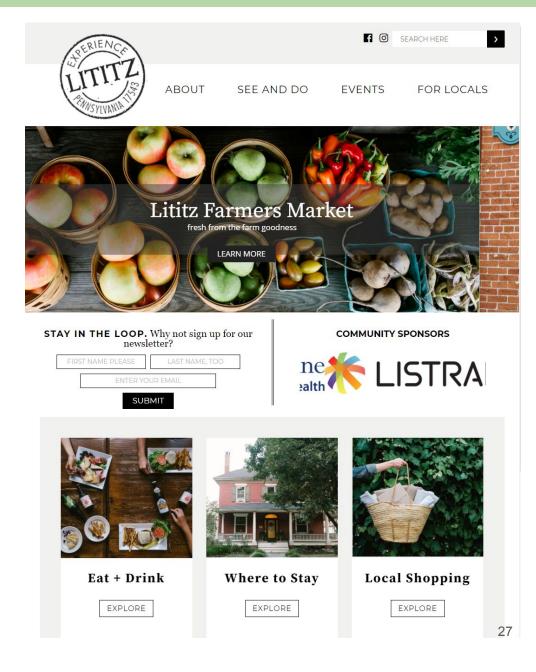


Project 4: Example

Lititz, Pennsylvania was a similar-sized town with a strong local business scene. In 2016, the city works with Char Co. and Sky Media to re-invent the branding of the Borough and create an online presence that reflects that branding.

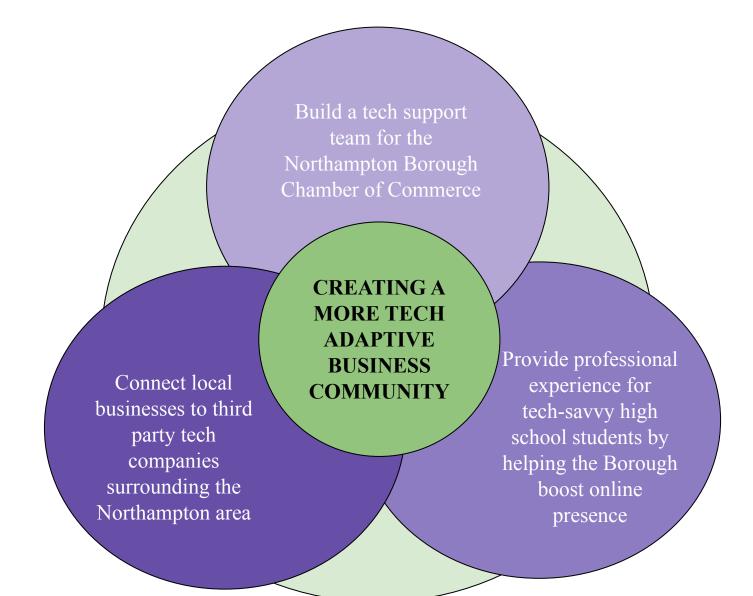
The website shows numerous end points that connects the city to these businesses and act as a tourism guide for visitors. It also serves to encourage a synergism among local businesses in Lititz.

The Tech Clinic thinks that this idea can be used as a good reference for a municipality's online presence. We believe that examples like this one can serve as inspiration for thinking about what the Borough would like their web presence to be.



Project 4: Goals

The following schematic outlines a few possible project opportunities that build the technology skills of the business community with in the Northampton Borough. The methodology for the development of these projects is outlined on the following pages.



Project 4: Methodology

BENEFITS: Leveraging a beneficial synergy between the Chamber of Commerce and local businesses

The methodology for the project of building a tech support team for the Northampton Borough Chamber of commerce is outlined below:

- 1. Connect with the Chamber of Commerce and propose the establishment of a business tech support team
- 2. The tech support in the Chamber of Commerce team will work with local businesses to assist with their online presence
- 3. The tech clinic will take part in the initial establishment and training of the team
- 4. This opportunity is going to be a leverage for local businesses' presence online and how the borough can advertise as well as gather information on these businesses

GOAL: Build a tech support team for the Northampton Borough Chamber of Commerce

Project 4: Methodology

BENEFITS: Provide Northampton High School students with real-world tech experience while simultaneously building on the strengths of the Borough's online presence

The methodology for the project of providing professional experience for tech-savvy high school students by helping the Borough boost their online presence is outlined below:

- 1. Connect with administrators at Northampton Senior High School to propose the project and identify interested students
- 2. Talk with valued clubs at the high school such as DECA to introduce students to the project and find students who are interested
- 3. Identify a teacher or mentor who would be interested in leading the student group that would be formed to work on the project
- 4. Connect the student group with the Northampton Borough web designer
- 5. Help the student group research ways in which they can strengthen the website for the Borough

GOAL: Provide professional experience for tech-savvy high school students by helping the Borough boost online presence

Project 4: Methodology

BENEFITS: Creating a support network and working interest surrounding the Northampton Borough

The methodology for the project of connecting local businesses to third party tech companies in the Northampton area is outlined below:

- 1. Conduct a market research about the pricing and capability of IT and tech providing services in the area
- 2. Identifying service providers with an interest of working with the Northampton Borough and capability of providing these services to the borough, and/or the local businesses in the borough
- 3. These working relationships are going to be beneficial in leveraging businesses' interests in working with the borough, and investment of these tech companies in the borough, creating a great synergy and support network from within to outside of the borough
- 4. Adaptik, LTI, Softnice, Andesa and Enter.net are examples of tech service providers based in Allentown or Bethlehem.



GOAL: Connect local businesses to third party tech companies in the Northampton area

Project Opportunity 5

Celebrating the Northampton Borough Identity

Project 5: Background

Upon visiting Northampton Borough Atlas Cement Company Museum, our team gained important information on the identity of the town. Thanks to Ed Pany's wonderful efforts with the museum, we learned how several people in the Borough today are descendants of Europeans who came to work at Atlas in exchange for freedoms they couldn't gain back home. Every fifth and eighth grader in the Borough visits the Atlas Museum to gain an understanding of their past that hopely aids in paving their future.



Visit to the Atlas Cement Company Museum with Ed Pany on October 11, 2020.

Project 5: Background

Since 1982, the Atlas Cement Company has shut its doors and has taken with it a part of the town that was once known. We know the history of cement is important to the Borough as a whole, yet we are curious as to what connects the future generation to the Borough as well. Within our Technology Clinic, we have people who live in small towns and can attest to the importance of identity in a small community. Identity links people together and gives them a sense of affinity. Affinity and strengthening the common identity amongst the people of Northampton Borough would help expand civil society in the town which could consequently improve the local economy.



April Gamiz, The Morning Call

GOAL Expand community cohesion by encouraging the growth and promotion of the valued identity of the Northampton Borough

The methodology we will use to undertake this project is outlined below:

Survey	Survey students at Northampton Senior High School about their views and values for the Borough.
Interview	Interview select students and student mentors to gain more personal insight on the Borough's identity.
Research	Research current events and activities organized for young people in the area.
Identify	Identify the strengths of the Northampton Borough valued by the next generation.
Act	Find ways to strengthen and promote the identity of the Northampton Borough by creating more opportunities for young people in the community.

Conclusion

Project Summaries

To conclude the many project opportunities listed in the Midway Report we consolidated them into a list below:

Project Opportunity #1: Leveraging Assets

- Identify the many assets that the Northampton Borough already has (the people, local businesses and physical spaces) to yield a greater economic return without additional input or effort.

Project Opportunity #2: <u>The Cement Haul Road Project (A Future Opportunity)</u>

- Prepare a shovel-ready project and gauge business interest to determine how this project, and future projects, will benefit them as future government funds become available.

Project Opportunity #3: <u>Support BTI Coopermatics Hydrogen-fueling project</u>

- Find other businesses and locations in the Held Drive area that would be interested in using solar power as well as hydrogen fuel cells for energy storage.

Project Opportunity #4: <u>Supporting Online Presence</u>

- Build an internal team to connect tech-savvy youth or regional parties to aid in the accessibility of online resources during the COVID-19 pandemic.

Project Opportunity #5: Celebrating the Northampton Borough Identity

- Identify the aspects of the Northampton Borough identity that are valued by young people in the community to strengthen the involvement of high school students

Conclusion and Next Steps

This report is the summary of the progress we have made in research and outreach as of December 2020. Since the Tech Clinic project spans for two semesters, our implementation will be largely carried out in Spring 2021.

Our understanding of what needs to be done will continuously change as we move forward with the project. We believe that as our work is being done, there are going to be a lot of external factors that can affect our gameplan, namely the current pandemic and presidential transition.

We hope that our future efforts will be met with support and cooperation. We are open to all partnerships and parties that are interested in working with us to build upon the remarkable foundation of the Northampton Borough.

CONTACT:

Lafayette College Technology Clinic - *laftechclinic@gmail.com* Prof. Dan Bauer - *bauerdan@lafayette.edu* Prof. Christopher Ruebeck - *ruebeckc@lafayette.edu* Teniola Bakare - *bakaret@lafayette.edu* Celeste Fieberg - *fiebergc@lafayette.edu* Jelissa Kamguem - *kayokamc@lafayette.edu* Riley Larson - *larsonkr@lafayette.edu* Keon Modeste - *modestek@lafayette.edu* Nick Sama - *saman@lafayette.edu* Cuong (Evan) Vu - *vuc@lafayette.edu*

Acknowledgements

The Technology Clinic would like to thank Victor Rodite for his continuous support and guidance throughout our research and the creation of this presentation. We would like to thank Mr. Ed Pany at the Northampton Borough Atlas Cement Museum for his enthusiastic guided tour of the museum and for sharing his vast knowledge on the history of the Borough. We also want to thank Mr. Tom Joseph, President of BTI Coopermatics; Mr. George Frack, President of Nazareth Pallet Company; and other business leaders who took part in the research and interviews for this project. With their support and insight into the private sector of the Borough, we were able brainstorm and compile each of the listed project opportunities in the presentation. We would also like to thank Mr. Leroy Brobst and the Northampton Borough Council Members for their support of the Technology Clinic and our work in the coming semester.