

Winter 2020

Hourglass Quarterly



OPPORTUNITY ZONES

HOURGLASS FALL FORUM

WILL AI TAKE YOUR JOB?

THE LANCASTER PUZZLE

FIRST FRIDAY FORUMS

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Letter from the Executive Director

Hello,

I am pleased to welcome you to our new Hourglass Quarterly! This publication has historically been one of our key methods of presenting Lancaster County's leaders with relevant, exciting and important articles from a variety of sources. This new Quarterly reaffirms our commitment to keeping you informed by providing more in depth summaries of our First Friday Forums, increasing the number of articles we showcase, and relating these featured articles to Lancaster County when possible.



In this edition, we first highlight the reporting done by PA Post's Ed Mahon on the City of Erie's use of Opportunity Zones to spur economic growth. We also include a summary of our highly successful forum "The Future Ain't What It Used To Be". This forum featured eight presentations from leaders from Lancaster and York Counties on innovative ideas and practices that will influence our future. Following this summary, we have included two articles which relate to two topics covered in the forum: Artificial Intelligence and Immigration and Refugees.

If you enjoy reading the Hourglass Quarterly, please sign up to receive our bi-weekly email publication "Keeping Lancaster Current" which includes recommendations of articles to read from across the web. You can do so by visiting our website (www.hourglassfoundation.org) and entering your email address on our homepage.

This Quarterly is part of our commitment to educate Lancaster's leaders and to champion and facilitate sound decision-making in order to assure prosperity while maintaining the county's unique character and enviable quality of life.

Happy reading!

Jonathan Russell
Executive Director

HOURGLASS FALL 2019 FORUM

“The Future Ain’t What It Used To Be”

On October 30, 2019 the Hourglass hosted a forum entitled, “The Future Ain’t What It Used To Be” which featured a variety of future-making presenters. These presenters shared with the audience new and exciting initiatives in the fields of agriculture, medicine, education, immigration, robotics, the environment, local governance, and artificial intelligence. Not only did these presentations enlighten us about what we can expect in the future, they highlighted the exciting work currently underway to prepare us for what is to come.

Dr. Michael Leichter, Superintendent of Penn Manor School District, and Charlie Reisinger, Technology Director of Penn Manor School District, shared that artificial intelligence (AI) and machine learning will have a profound impact on how students learn in the future. For example, a 2015 study by Oxford University and Yale University predicted that by 2024 AI will be able to translate languages better than humans; by 2026 it will be able to write high school-level essays; by 2049 it will be able to write books; and by 2053 it will be able to perform surgery. With IBM CEO Ginni Rometty predicting that AI will “...change 100% of jobs within the next 5 to 10 years”, how should the education system prepare students for this future? Students must not only learn hard skills in technology, they should have emotional intelligence, know how to problem solve, possess learning agility, know how to think critically, and be adept at collaboration.

Allyson Ladley Gibson, Coordinator of the Lancaster Clean Water Partners, warned of the disastrous consequences of inaction in cleaning up our rivers and streams. More than half of Lancaster County’s 1,400 miles of streams are not healthy. This is due to a variety of issues including agriculture, stream bank erosion, and the ineffectiveness of municipal wastewater and rainwater collection and treatment systems. The Lancaster Clean Water Partners is spearheading

the effort toward clean water by coordinating environmental efforts and leveraging the work of each of the partners to ensure Lancaster County’s streams are clean and clear within a generation.

Cheryl Hiester, Executive Director of the Literacy Council of Lancaster-Lebanon, underscored the importance of immigrants and refugees to the Lancaster County economy and community. In 2014 alone, foreign-born residents contributed an astonishing \$1.3 Billion to the GDP of Lancaster County. Immigrants make up 4.4% of the population of Lancaster County but they make up 5.4% of the area’s working-age population. The growth of Lancaster County’s economy is dependent upon the labor of immigrants and refugees. We must continue to welcome newcomers to our County in order to grow our economy and strengthen the fabric of our community.



John McElligott, CEO of York Exponential, a robotics company, discussed the dire skills gap our country is facing in the technology sector. America is facing a mass retirement of an aging workforce, lack of interest in tech and trades jobs from millennials, and unparalleled technological advancements. As a nation, we are falling behind other countries such as China as the “Second Machine Age” and the 4th Industrial Revolution begin. Mr. McElligott discussed the “York Plan” of World War II, a time when companies and communities set aside their differences to equip the United States military in the war effort. A new version of this plan should be implemented today to focus all of the community’s resources on a single goal, dominating the 4th Industrial Revolution. Not doing so could have disastrous



consequences for our national security and economy.



Susannah Bartlett, Community Development Administrator for the City of Lancaster showed the audience the power of big data to better serve constituents of local governments. Ms. Bartlett demonstrated how the Building Blocks software tool can be utilized to spot properties at high risk of condemnation in the near future. This software catalogues each interaction a property has had with the City of Lancaster, whether it is receiving a permit to complete work, receiving a visit from the fire or police, tax delinquency, or utility shutoff. Using this data, the City can identify trends that lead to condemnation and work with the property owner to prevent condemnation from happening. This is just one of the ways big data is helping local governments more effectively deliver services while making the best use of their resources.

Dr. Michael Ripchinski, Chief Clinical Officer at Penn Medicine Lancaster General Health provided insight into the future of medicine. He shared that the amount of data we can collect from individuals through diagnostics and wearable tech has greatly increased our ability to treat patients. The use of AI will enable medical practitioners to further expand our diagnostic capabilities. For example, using a patient's genome, we will be able to not only identify how the patient is being affected by cancer cells, we will be able to create a treatment plan to eliminate cancer cells in that patient specifically. Technology and AI will enable doctors to provide individualized treatment for each patient.

Dr. Keith Verner of Cognitive Learning Systems and Dr. Paul Eslinger of the Penn State College of Medicine discussed the exciting field of cognitive learning. Specifically, they focused on crystallized and fluid intelligence. Crystallized intelligence is associated with knowledge and fluid intelligence is associated with reasoning. Fluid intelligence is becoming even more important because machine intelligence can supplement crystallized intelligence. Subjects like math (and other STEM domains) utilize identical brain structures as fluid intelligence operations and improve general cognitive function. A curriculum that increases problem-solving strategies and conceptualizations will also increase fluid intelligence. In the future, neurocognitive research can and will stimulate educational innovation.

Our final speaker of the night, William B. Spire, President of Heathside Ventures, LP, shared with us the tremendous possibilities for indoor agriculture. Indoor farms, those existing in a built, controlled environment, are able to produce an extremely high crop yield per acre using a fraction of the water all while taking up less space than a traditional farm. These farms grow crops hydroponically and use millions of data points to provide the exact amount of light, water, and nutrients each crop needs. These indoor farms can be located in urban centers and can provide cities with fresh, nutritious produce on demand.



These eight presentations provided the audience with a unique look into exciting initiatives and programs already in place to guide us into the future. These presenters are not only aware of what the future might hold, but also they are actively working to influence the direction it takes. And they are doing it in Lancaster County and our region! These presenters showed us that truly, "The Future Ain't What It Used To Be." 