THE CITY OF
NORFOLK

Presents…

A Regional Business Accelerator

v. 9-1-16

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A Regional Business Accelerator

Norfolk will introduce a series of innovation initiatives intended to directly and favorably impact the city's economic development potential.

Though Norfolk will focus on activities for its own city development, it also offers its programs for adaptation for other cities and the region in general.

The programs identified are all components of an *"Innovation Framework"* intended to capitalize on current industry activities that fit well for Hampton Roads.

Assisting Norfolk with its efforts is the Hampton Roads Innovation Collaborative (www.hrinnovationcollaborative.com) as an independent regional non-profit focused on regional innovation activities.

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The Innovation Framework – 8 Initial Pieces

Norfolk First Funds (Capital)
The city will actively pursue innovation investor opportunities both in and out of the region.

Cyber Dike (Accelerator)
The city will support a Cyber Security Accelerator, Cyber Protection Resources, Universities toolbox – attacking cyber vulnerability of regional economic pillars, preparing a cyber workforce.

Data Science Bootcamp (Open Data Initiative)
- Accelerating "big data" management
- Enhancing data analytics skills of to fill IT hiring pipelines in regional industries.

Global Commerce Initiative and ExporTech The city will focus on the development of companies and products which can be sold both internally and externally to the city and region.

Coastal Resilience (Sea Level Rise and Rain)
The city will support various initiatives intended to help the city while creating jobs. Examples are Porous City/Sea Level Rise App/Water-level sensors, ODU initiative) – confronting current climate change problems with technological innovation.

Wallops Island Regional Alliance
Accelerating growth of advanced materials/manufacturing and sensors clusters, refocusing Mod-Sim.

Startup Continuum of Care (Ecosystem)
The city will promote the various components of an Innovation Ecosystem within the region. Example are: Colleges and Universities, 757 Angels, HRIC Virtual Incubator, ODU's Gov2Con Regional Export Acceleration Program (REAP), Selden Arcade) – accelerating robust entrepreneurship, mitigating company and technology risk, securing investment.0

Emergent Technologies Sector Map
- University and Federal Agency-base intellectual property road mapping) – assessing regional inventory of public and private technology inventions to identify available growth sectors.
- Technology forecasting.
- Technology commercialization.

Notes:
1. The Navy's SBIR Program is a highly successful model for us to use.
2. We'll start with Cyber, Data and Resilience and evolve the framework deployment.

Norfolk Cyber Accelerator

The Cyber Accelerator leverages disparate – and very nascent -- cyber efforts and initiatives throughout Hampton Roads to create a regional economic asset in data science for the City of Norfolk, and the Hampton Roads region.

The Cyber Accelerator -- a collaboration of public, private, educational and nonprofit stakeholders, coordinated by a small staff -- will help establish Hampton Roads as a data science hub of entrepreneurs, service providers and universities focused on meeting local cyber compliance and protection needs of Hampton Roads' economic pillars: the maritime, legal, banking and health services industries. Serial pilot projects will characterize the Cyber Accelerator.

Goals: 1) To organize for progress, 2) To develop solutions and jobs, 3) To demonstrate a model which can be applied in other cities as well as other sectors.

Partnering with Local Institutions

1. Program Management Office

   The City of Norfolk seeks to work with regional organizations to help coordinate program deployment and ensure that the program has regional exposure. Toward that goal, Norfolk proposes to create the Cyber Accelerator Program Management Office (PMO);

   - With the City (Note the City may solicit assistance from 1-2 TBD individuals from our community to assist, and one additional organization).
   - The Hampton Roads Innovation Collaborative (HRIC), a 501c6 nonprofit who has many of same areas of innovation focus as the City and regional reach.

This configuration of entities/people provide a nimble and efficient approach to decision making and project deployment.

2. Advisory Committees

   This committees will be comprised of members from Education (colleges and universities), Business, Capital Funding representation, HREDA and at least one if not two other Cities (to qualify for potential Go Virginia funding), ReInvent Hampton Roads and the Navy.

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The Innovation Framework – Where We're Starting (Cyber)

Process Flow Visual

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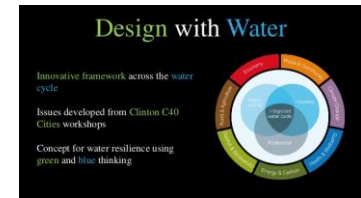*Mitigating the Effects of cyber attacks on Norfolk and regional business, while creating industry.*

Program Management Office
1. Norfolk Economic Development
   – Allen Baker
2. Hampton Roads Innovation Collaborative
   - Dan Bell

PMO Duties
Facilitation of Cyber Project
- Inventory Regional Assets
- Organize Advisory Committees
  - Business
  - Academia
  - Regional
- Mobilize Interested Entrepreneurs
- Regional Communications
  - Project Activity
  - Project Outcomes

Norfolk Cyber Accelerator A Regional Approach

- Seek Multiple Participants (cities, collages, businesses)
- Cyber Requirements Defined by Regional CIOs
- Create Jobs and Economic Development
- City Sponsored Cyber Contests
- Accelerate Regional Cyber Businesses
- Cyber Curricula Check Colleges and Universities
- Measure Success from Participating Solution Recipients
- Regional Cyber Internship A Regional Model
- Offer Actual Cyber Solutions
- Data Science Arts Component
- Replicate Model for Other Clusters

INNOVATION COLLABORATIVE HAMPTON ROADS

The Innovation Framework – Where We're Starting (Resilience)

What Is Porous City?

The AIA Virginia's 2015 ELA class has created Porous City (www.PorousCity.com). Porous City is an online public collaboration of architects, engineers, developers, inventors, and investors to share their ideas about the built environment and how it can be resilient in the face of sea-level rise. From this collaboration platform, knowledge can be shared about implementations, best practices, as well as financial feasibility. The platform will draw expert opinion from around the globe. It will function as a resource to policy makers and private businesses seeking council on building and infrastructure issues related to sea-level rise and resiliency, along with assisting homeowners in learning how they can do their part to help in the effort of mitigating the effects.

Hampton Roads Innovation Collaborative has agreed to act as the Project Host and Program Management Office for the Porous City activity.
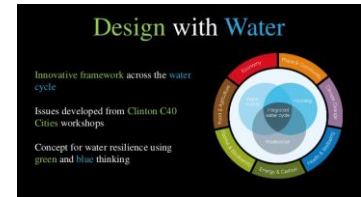
Initial Project Scope

Porous City has selected "Mitigating the Effects of Parcel Level Heavy Rainfall That Causes Street Flooding in Norfolk" as a pilot project. There are several factors involved in street flooding—sea level rise, subsidence, rainfall, drainage infrastructure, and the tides. The effects of rainfall are dramatically affected by the amount of rainfall over a given time period, along with the outdated and under capacity infrastructure currently in Norfolk. Heavy rain events overwhelm many Norfolk neighborhoods due to the high volume of rain in a condensed time period. Draining from properties blends—overwhelming the street drainage and causing flooding conditions.

The Porous City pilot project is scoped to assist neighborhoods in living with water conditions. It is not intended to address the matters of infrastructure, elevations and large-scale resiliency efforts. The purpose of the project is to empower the citizen homeowner so they can contribute to city-wide rain water flood mitigation.

Project Goals

1. Use design support to mitigate rain water runoff from houses in tributaries to flood prone area. Captured rainfall can contained and then either:
    a) Released at a later time under controlled conditions (post rain and drainage caught up); or
    b) Re-used for other purposes (i.e. gardening).
2. Create business within Hampton Roads to apply these solutions in several cities and neighborhoods around the region and across the country.

Design with Water

Innovative framework across the water cycle

Issues developed from Clinton C40 Cities workshops

Concept for water resilience using green and blue thinking

The Innovation Framework – Where We're Starting (Resilience)

Process Flow Visual

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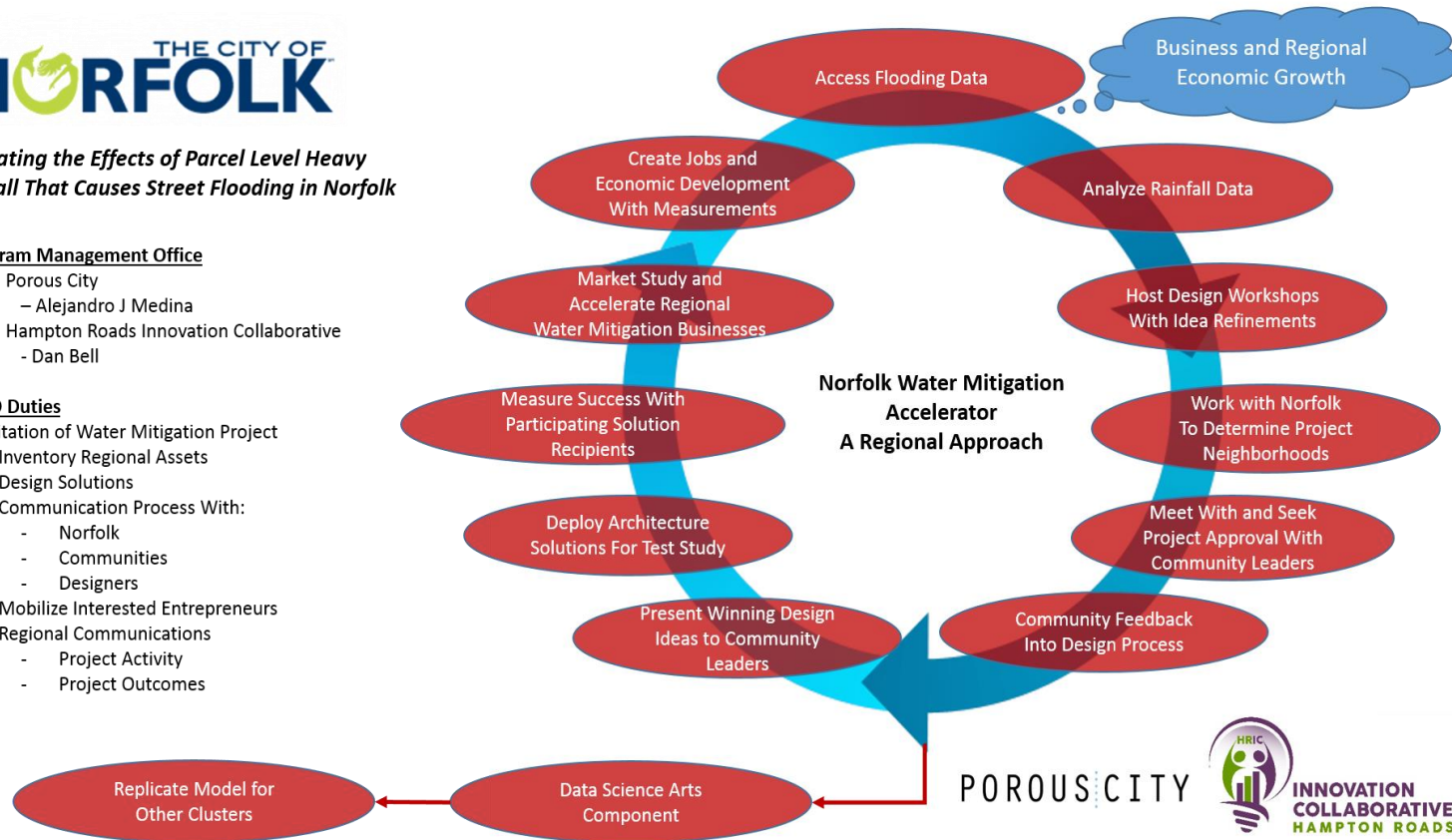*Mitigating the Effects of Parcel Level Heavy Rainfall That Causes Street Flooding in Norfolk*

Program Management Office
1. Porous City
   – Alejandro J Medina
2. Hampton Roads Innovation Collaborative
   - Dan Bell

PMO Duties
Facilitation of Water Mitigation Project
- Inventory Regional Assets
- Design Solutions
- Communication Process With:
  - Norfolk
  - Communities
  - Designers
- Mobilize Interested Entrepreneurs
- Regional Communications
  - Project Activity
  - Project Outcomes

Norfolk Water Mitigation Accelerator
A Regional Approach

- Access Flooding Data
- Business and Regional Economic Growth
- Create Jobs and Economic Development With Measurements
- Analyze Rainfall Data
- Market Study and Accelerate Regional Water Mitigation Businesses
- Host Design Workshops With Idea Refinements
- Measure Success With Participating Solution Recipients
- Work with Norfolk To Determine Project Neighborhoods
- Deploy Architecture Solutions For Test Study
- Meet With and Seek Project Approval With Community Leaders
- Present Winning Design Ideas to Community Leaders
- Community Feedback Into Design Process

- Replicate Model for Other Clusters
- Data Science Arts Component

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The Innovation Framework – Beginning Tactics

CIO Roundtable Meeting
Norfolk and HRIC will convene a strategy meeting in late August timeframe to review program concept capture new ideas with IT leaders in the region.
     - We would seek letters of endorsement from participants.

CEO Roundtable Meeting
Norfolk and HRIC will convene a strategy meeting in late August timeframe to review program concept capture new ideas with business leaders in the region.
     - We would seek letters of endorsement from participants.

Parsing Intellectual Property: The Ultimate Accelerator
Regional entrepreneurship can be driven in part by an inventory and assessment of extant engineering and science innovations, which can lead to growing and strengthening local business, and identifying new customers for their advanced technology products.

Norfolk and HRIC will collaborate to hold a series of meetings and events on these topics with target audiences of graduate students and entrepreneurs in the region.

Launch Sequence Begins
Action items associated to program concepts will begin in Q4, 2016.

City and Regional Results Tracking
Metrics will be established and results tracked/reported.

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The Innovation Framework – What We Ask

Part of the secret for Silicon Valley's success was the participation of large business, utilities, colleges and the entrepreneurial environment for success.

We don't pretend that we can recreate the environment that existed then.

However, we do believe we can create a new regional environment of innovation, creativity, export and job growth.

We respectfully request our regional business leaders to help us, support us and embrace a new series of movements with the region.

All cities are welcome to participate. Norfolk has a series of initiatives, but the common fabric of success is available for all.

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The Journey Begins