



Regional Fiber Ring A REALITY!

The 757's Regional Broadband Ring

Susan Vitale

Chesapeake City Council and Chair, Southside Network Authority

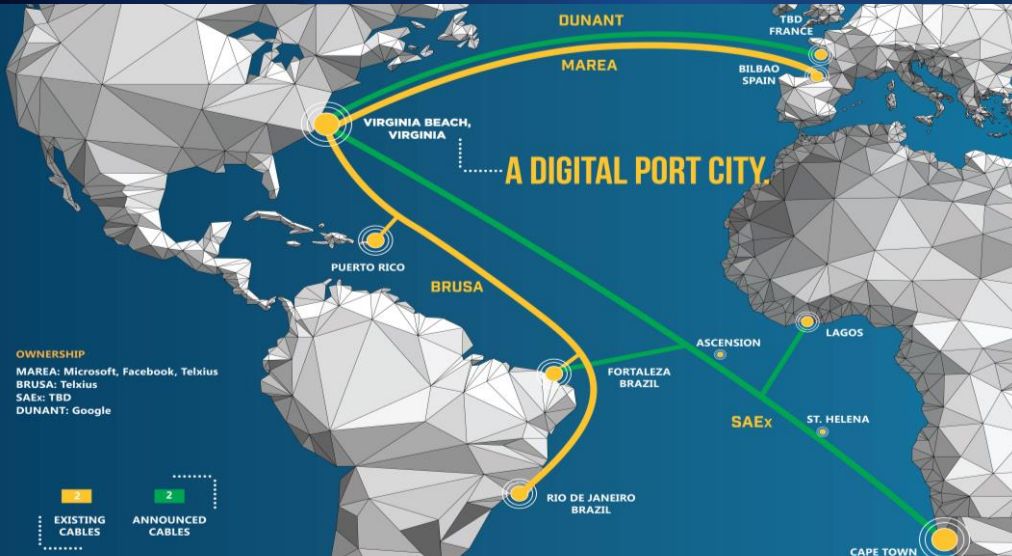
The Issues...

- Limited number of data services providers
- Unserved and underserved areas (Digital Deserts)
- High cost of Internet services
- Missed opportunities...
 - Community and Economic Development
 - Education
 - Healthcare
 - Quality of Life



The Opportunity...

A Digital Port



Southside Network Authority (SNA)

Created November 2019



Chesapeake, Norfolk, Portsmouth, Suffolk and Virginia Beach

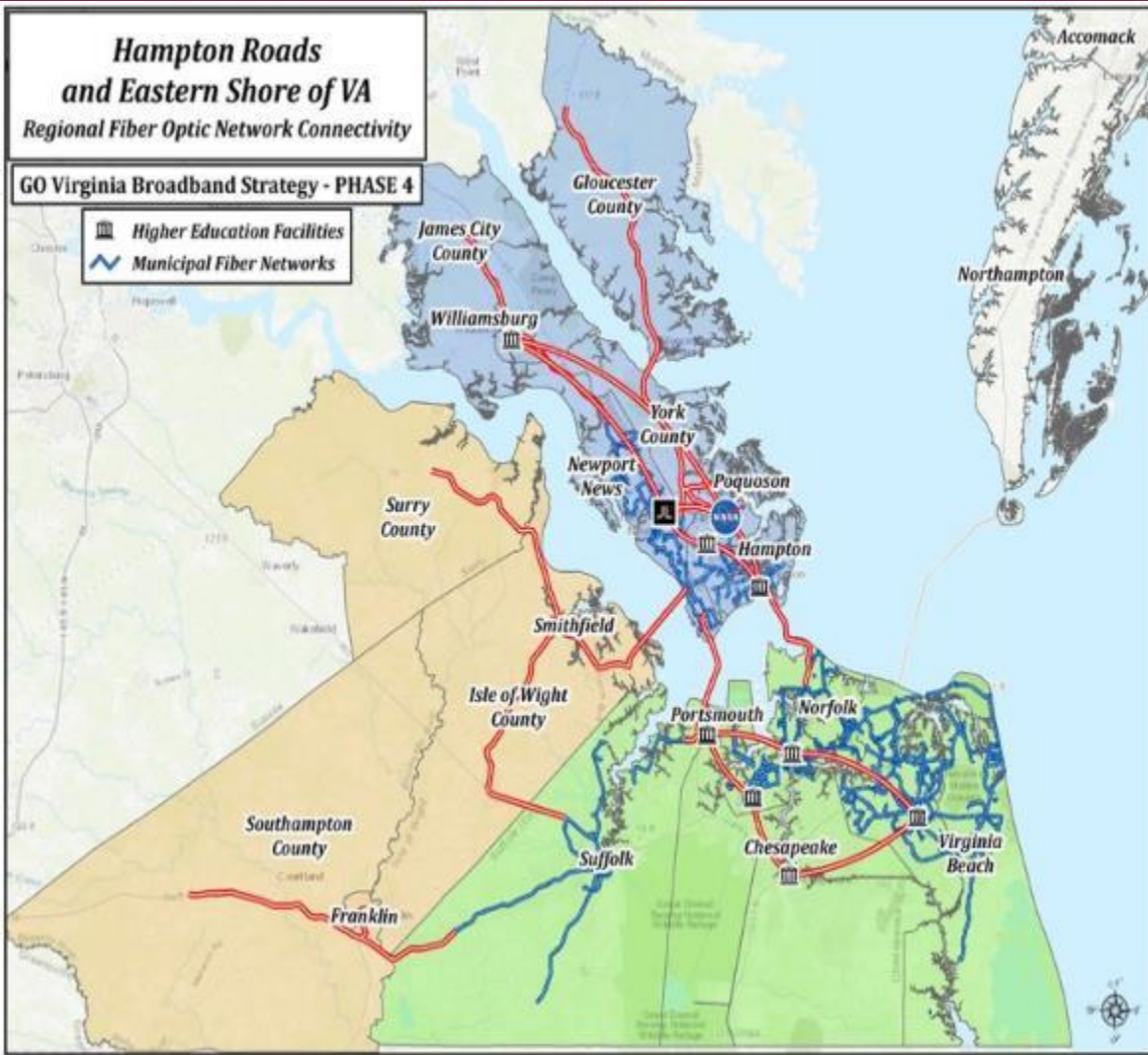
SNA goal is to enable lower cost, faster service and enhanced broadband coverage via our Regional Connectivity Ring

Designed to allow for expansion to other localities

**Hampton Roads
and Eastern Shore of VA**
Regional Fiber Optic Network Connectivity

GO Virginia Broadband Strategy - PHASE 4

-  Higher Education Facilities
-  Municipal Fiber Networks



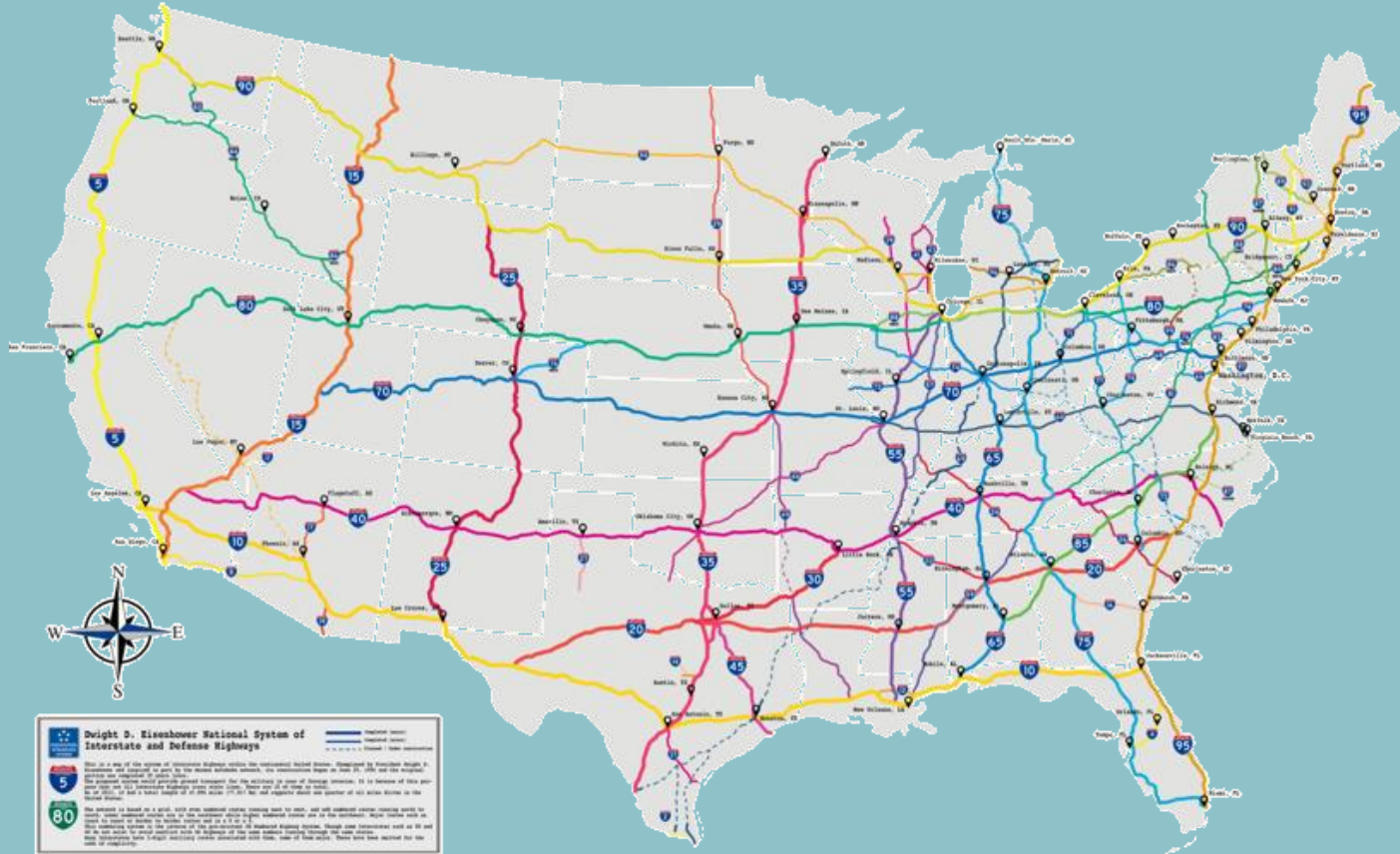
An Open Access Dark Fiber Network

Our Vision

Ultimately, this will be a **Fiber Optic Network Ring** that will connect our entire 757 Region.

Think National Highway System Without Any Secondary Roads

Our Interstates are the Backbone of the Entire U.S. Roadway System




Southside Network Authority Regional Connectivity Ring



Our Digital Highway Consists of 288 Digital Strands

Fiber optics (optical fibers) are long, thin strands of very pure glass about the diameter of a human hair.



6 Strands Reserved for Cities in the Network

Some Strands Reserved for Education

Other Strands Reserved for Public Safety

Remaining Strands for Business/Economic Growth

BUILDING IN EXCESS CAPACITY FOR DARK FIBER LEASE

The Regional Network Ring Will **Support Growing Industries in the 757**

- Ecosystem for Business Investment and Entrepreneurs: Backbone connectivity for **Big Data and Low Latency Demand**
- Financial Services: High Frequency Trading
- Data Transfer & Storage: Microsoft / Facebook / Amazon
- Advanced Technology Manufacturing: streamlined production processes
- Medical/Bioscience & Health Industries: Data analytics are key to driving down cost while improving care
International Markets



The Regional Network Ring Will

Improve the Interoperability of Our Region's Emergency Response System

EOC and 911 Center





The Regional Network Ring Will

**Help The Region Navigate
Flooding and Sea Level Rise**

The Regional Network Ring Will

Help Support the Future of Autonomous Vehicles and Smart Cities





The Regional Network Ring Will

Help Make a Case For BRAC.

BRAC will return in three to four years. The Navy wants 30% of their local workforce to telework. Regions that can support this goal will have a stronger case to make when BRAC reappears.



The Regional Network Ring Will

Support a Hybrid Workforce

The Distributed Workforce
Is Projected to Reach 50% By **2025**

COVID-19 Impact: The Distributed Workforce Is Projected to Reach 50% By 2025

**In the middle of COVID-19, Hampton Roads Business Leaders report that over 50% of their workforce currently works remotely.
Source: Alliance Wave 3 Survey*



1990s



TODAY



2025

50%*

**Our Region's
Quality of Life Will
Attract Remote
Workers...**



Regional Ring Cost

Capital Construction and Equipment

Cost Component	Estimated Cost
Fiber Optic Outside Plant (OSP) Construction	\$22,962,000
Network Hardware	\$658,000
Network Integration and Testing	\$165,000
Total	\$23,785,000

FULLY FUNDED

Five Southside Cities funded \$5M each



Total Annual Maintenance and Operating Costs
\$760,760

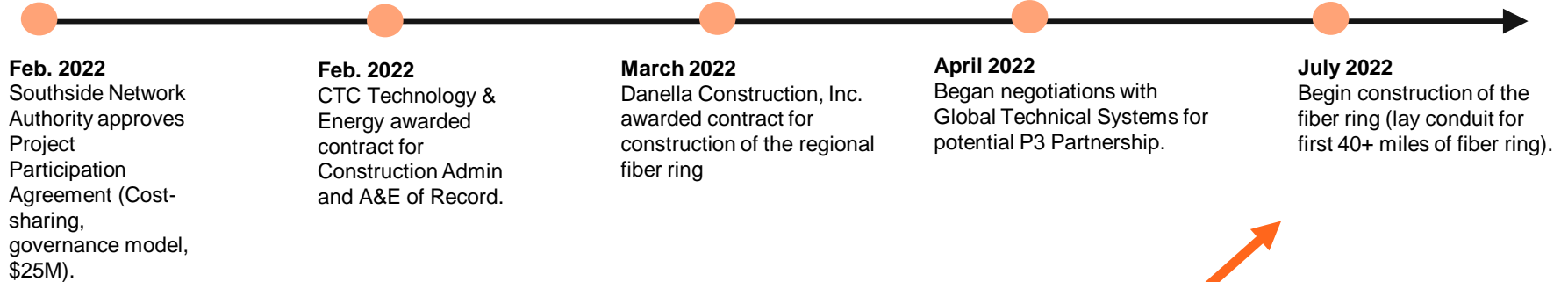
An aerial photograph of a city, likely Boston, showing a dense urban area with various buildings, streets, and green spaces. A large body of water is visible on the right side. Two orange arrow-shaped overlays are present: a large one at the top pointing right, and a smaller one at the bottom pointing right. The text is white on these overlays.

The Regional Network Ring Will

Help Each Jurisdiction Achieve Its Vision

Every jurisdiction can use the Network Ring in a way that helps them advance their own priorities, initiatives and vision.

Major Milestones



**Phase 1 Will Be Delivered
to 757 Southside by the End 2023**

Our Team



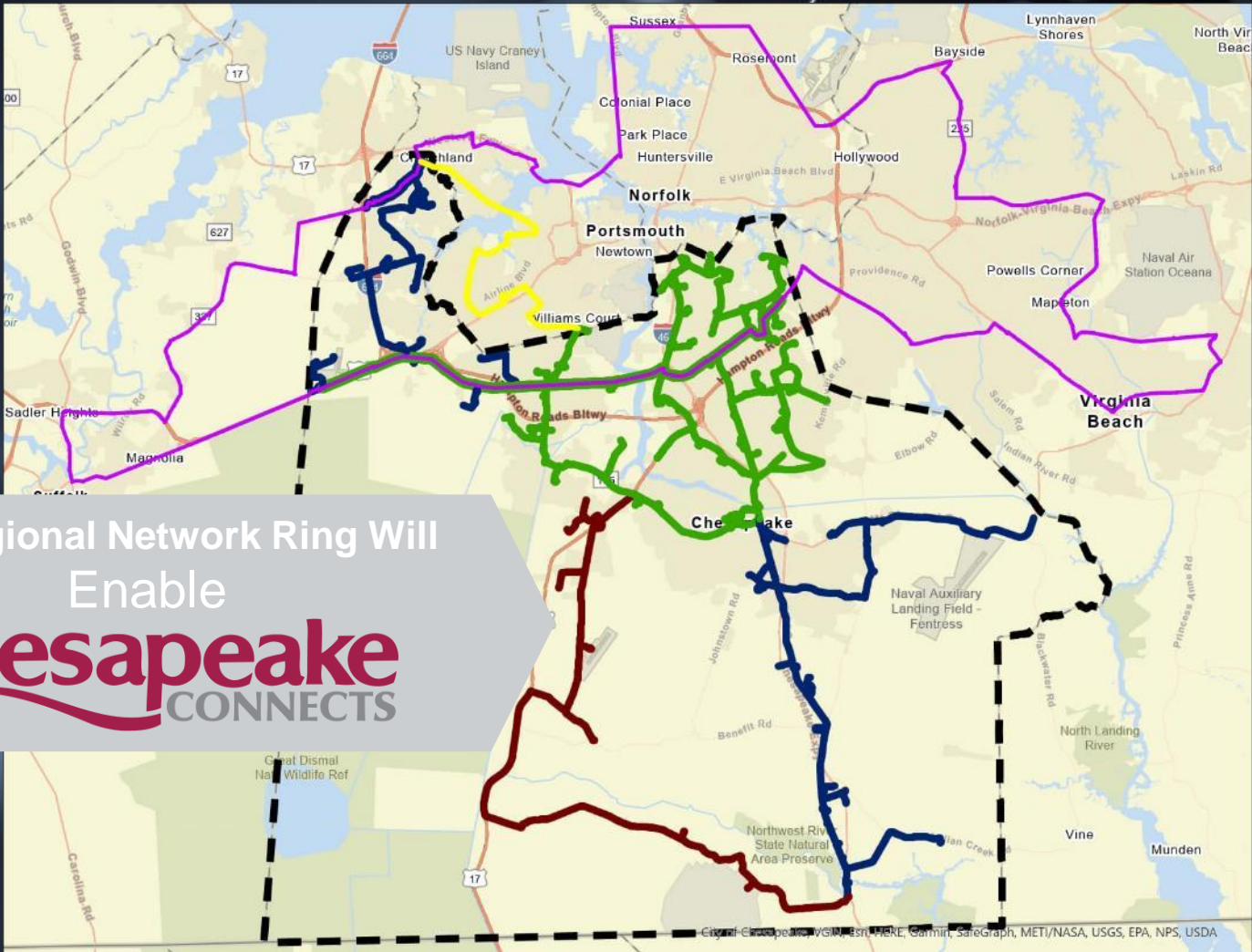
Steven DeBerry
SNA Executive Director

**Columbia Telecommunications
Corporation**
Construction Oversight and
Technical Support

Danella Construction
Southside fiber ring Construction



Supplemental Slides



The Regional Network Ring Will
Enable
Chesapeake
CONNECTS

Chesapeake CONNECTS

will

- Make Chesapeake an exceptional place to live, learn, work, farm and play by
 - Better serving citizens, businesses and visitors
 - Creating **a catalyst for private investment** in broadband services to all citizens and businesses (more competition)
 - Creating **a catalyst for community and economic development**
- Leverage the subsea cables and Southside Network Authority Ring
- Provide affordable, broadband services to all City, School and Library facilities
- Ensure network financial and operational sustainability and resiliency

Chesapeake
CONNECTS

will

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Chesapeake
CONNECTS

and

Southside Network
Authority
Co-build

Operational
End of 2023



SNA Ring

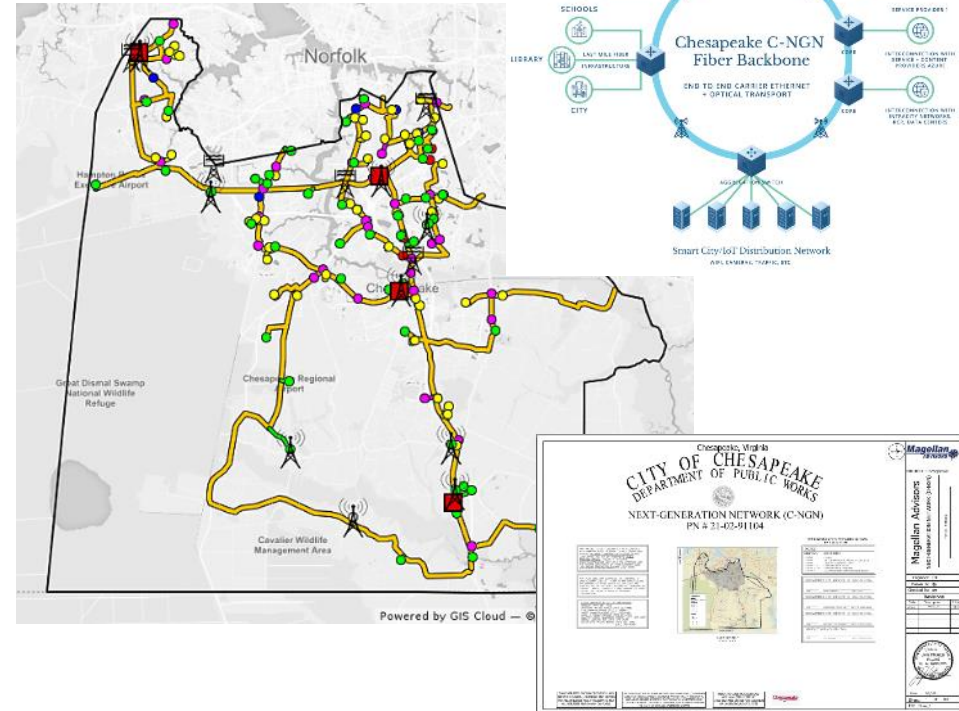
Phase 1

Phase 2

Phase 3

Chesapeake Connects Network Design

- ▶ 167 miles of underground construction
- ▶ 210 Sites
- ▶ Self-healing ring with sub-second service failover on fiber cuts
- ▶ New redundancy and resiliency to key sites and facilities
- ▶ Interconnections to the SNA-RCR, adjacent city networks and private data center assets
- ▶ Deployed in three phases



Chesapeake Connects Cost Estimates

Capital Expenses

- ▶ \$42.3 million to construct and deploy the network and migrate sites to it
 - \$32 million to construct fiber backbone and lateral routes and wireless overlays
 - Cost may be reduced by co-building, route optimization, value engineering, and other means
 - \$2.8 million in construction and project management
 - \$3.6 million for facility improvements, network equipment and software
 - Includes 10% construction contingency budget

Operating Expenses

- ▶ Decrease the Chesapeake's contracted network service costs from \$1.38 million to \$243,454 by Year 5
- ▶ New operating costs totaling \$1.9 million in Year 5
 - Staffing
 - Hardware and Software Maintenance
 - Data Center Collocation & Edge Services
- ▶ Opportunities for revenue generation to offset operating costs