757Connects

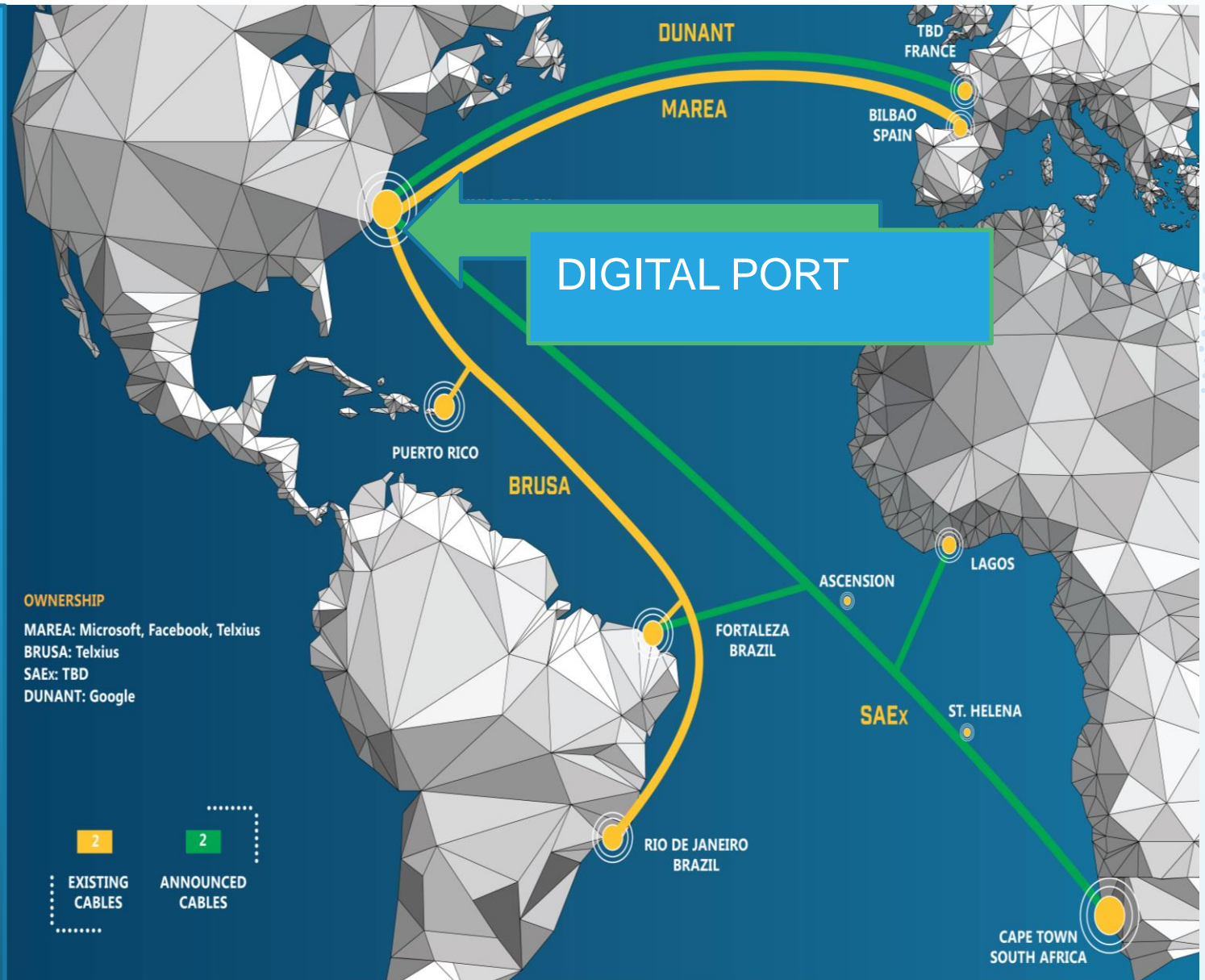## Southside Network Authority Fiber Network Ring

Faster Service - Expanded Coverage - Lower Cost

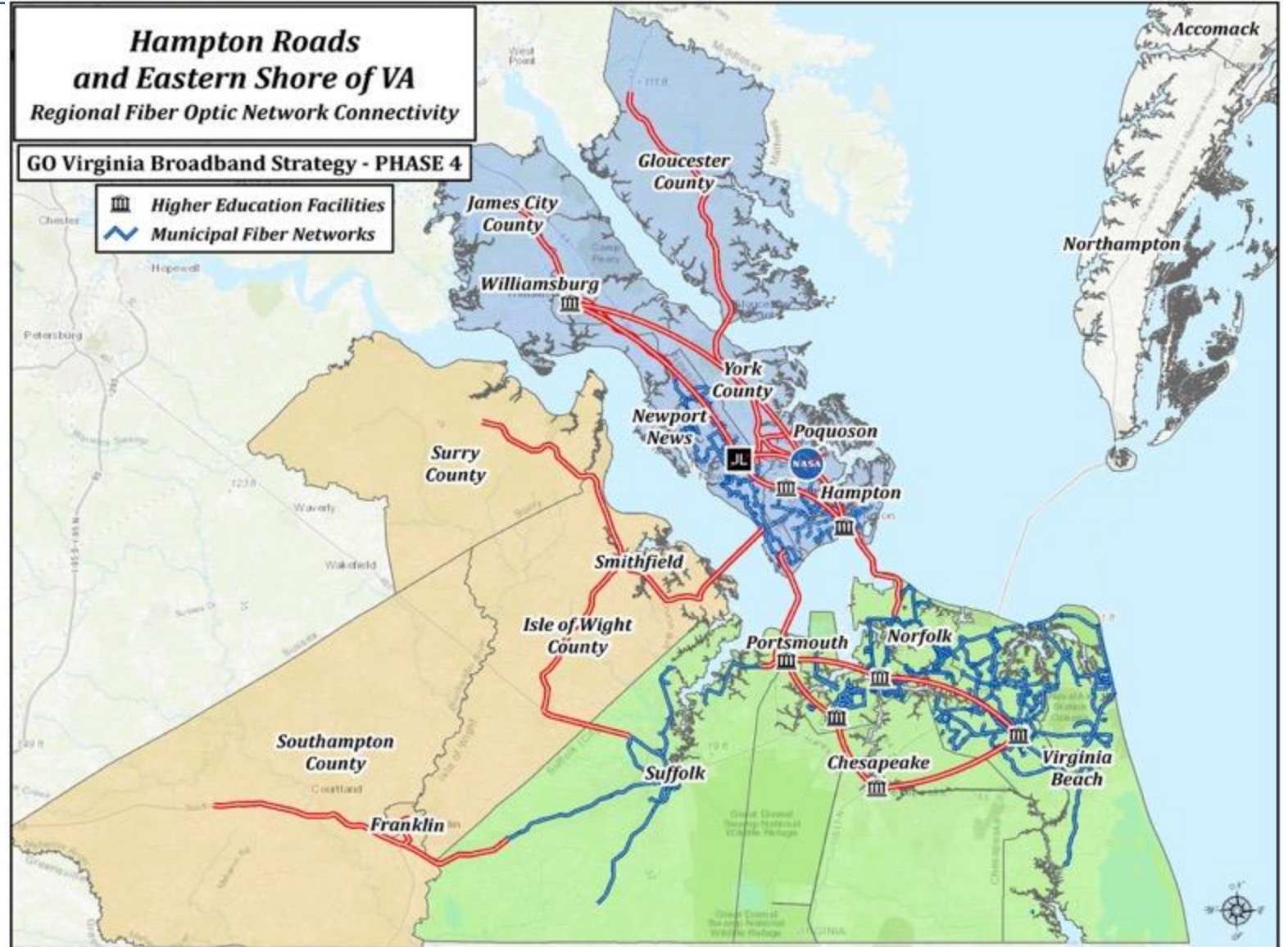# Agenda

1 **What:** The regional network ring

2 **Where:** The location of the network ring

3 **When:** Timeline and Expected delivery date

4 **Why:** The benefits the network ring will provide

5 **How:** Our success is all but guaranteed

The **Network Ring** will connect to the Trans-Atlantic Subsea Cables

DUNANT

MAREA

TBD FRANCE

BILBAO SPAIN

DIGITAL PORT

PUERTO RICO

BRUSA

LAGOS

ASCENSION

OWNERSHIP

MAREA: Microsoft, Facebook, Telxius
BRUSA: Telxius
SAEx: TBD
DUNANT: Google

FORTALEZA BRAZIL

ST. HELENA

SAEx

EXISTING CABLES   ANNOUNCED CABLES

RIO DE JANEIRO BRAZIL

CAPE TOWN SOUTH AFRICA

13

Our Vision

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

Hampton Roads and Eastern Shore of VA — Regional Fiber Optic Network Connectivity. GO Virginia Broadband Strategy - PHASE 4. Higher Education Facilities; Municipal Fiber Networks.

Updated Regional Fiber Ring Southside Phase I

The Network Ring **WILL ENABLE, NOT COMPETE** with, internet service providers.

It will serve as the backbone of the 757's digital ecosystem.
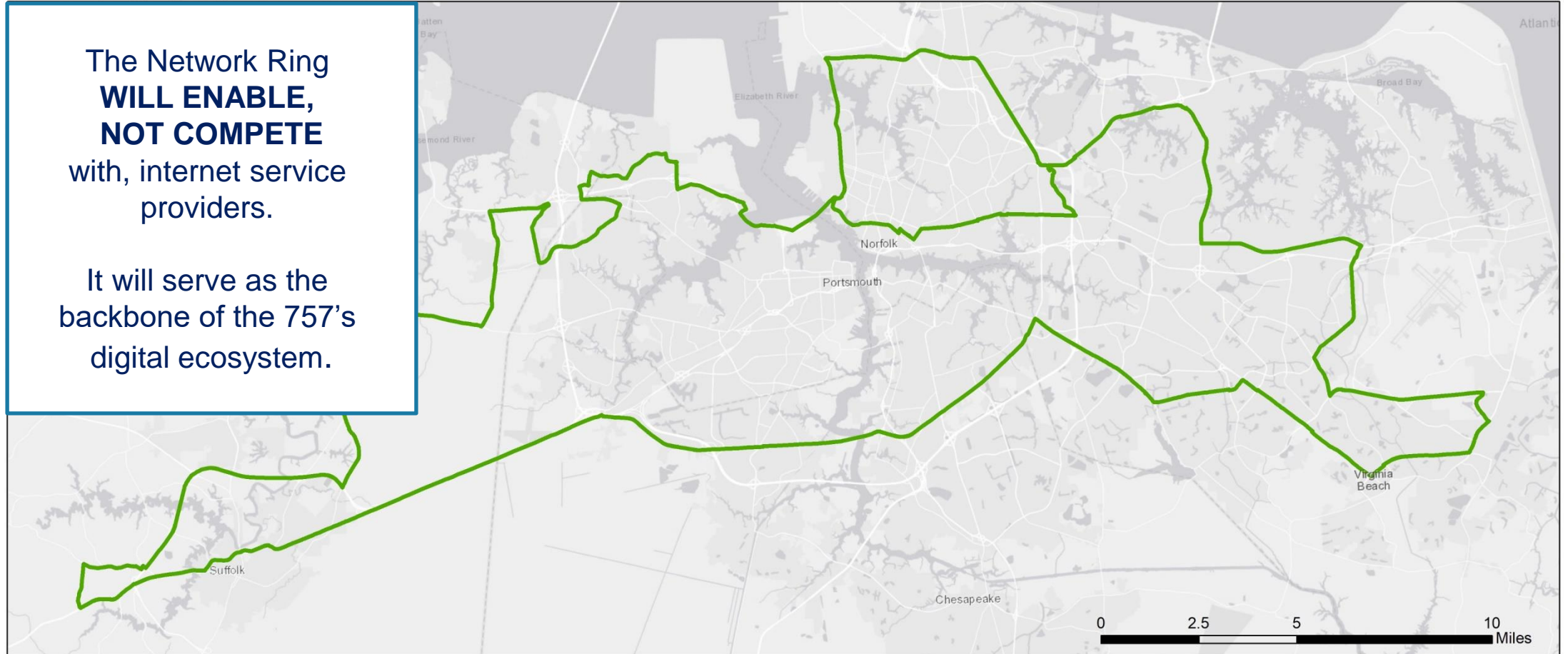
Think National Highway System Without Any Secondary Roads
Our Interstates are the Backbone of the Entire U.S. Roadway System

Our Digital Highway Consists of
288
Digital Strands

8 Strands Reserved for Cities in the Network*

Some Strands Reserved for Education

Other Strands Reserved for Public Safety

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

Every city has come with their requirements.

RCR cost estimates

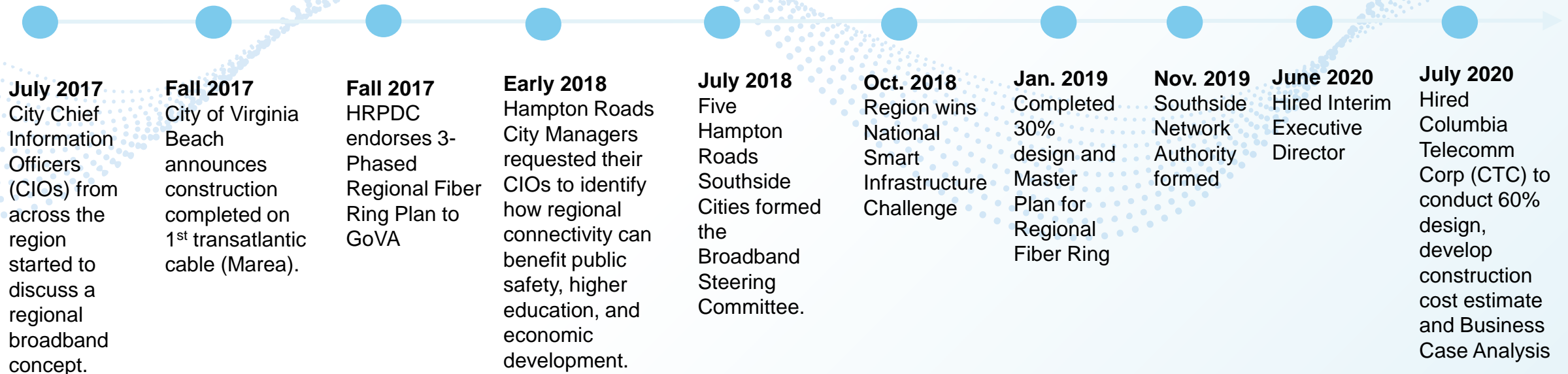| Cost Component	Estimated Cost
Fiber Optic Outside Plant (OSP) Construction	$22,962,000
Network Hardware	$658,000
Network Integration and Testing	$165,000
Total	**$23,785,000**

Capital Construction and Equipment

Fixed Operations and Maintenance

Maintenance and Operating Costs	Qty	Unit	Unit Cost	Extended Cost
Fiber Plant Maintenance	119.1	Mile	$3,600	$428,760
Equipment Maintenance Contracts (Year 2+)	1	Year	$60,000	$60,000
NOC Fee ($150 per element per month)	10	EA	$1,800	$18,000
Network Engineer	0.25	FTE	$200,000	$50,000
Network / GIS Manager	0.50	FTE	$150,000	$75,000
Network Technician	0.25	FTE	$100,000	$25,000
Incidentals	1	EA	$10,000	$10,000
Equipment Replacement Fund (7-year lifecycle)	1	EA	$94,000	$94,000
Total Annual Maintenance and Operating Costs				**$760,760**

Our Five-Year Pathway to Lower Cost, Faster Service and Expanded Broadband Coverage

Our Work To Date – Major Milestones Over the Past Three Years

July 2017
City Chief Information Officers (CIOs) from across the region started to discuss a regional broadband concept.

Fall 2017
City of Virginia Beach announces construction completed on 1st transatlantic cable (Marea).

Fall 2017
HRPDC endorses 3-Phased Regional Fiber Ring Plan to GoVA

Early 2018
Hampton Roads City Managers requested their CIOs to identify how regional connectivity can benefit public safety, higher education, and economic development.

July 2018
Five Hampton Roads Southside Cities formed the Broadband Steering Committee.

Oct. 2018
Region wins National Smart Infrastructure Challenge

Jan. 2019
Completed 30% design and Master Plan for Regional Fiber Ring

Nov. 2019
Southside Network Authority formed

June 2020
Hired Interim Executive Director

July 2020
Hired Columbia Telecomm Corp (CTC) to conduct 60% design, develop construction cost estimate and Business Case Analysis

Our Work Ahead:
Major Milestones for the Next Two Years

Mid-Nov. 2020
CTC delivered 60% design, estimated construction cost and BCAs on options and timelines.

Dec. 2020
Held strategic retreat to examine business case, estimated construction cost and 60% design.

March 2021
Make the decision on optimal approach for fiber infrastructure financing, construction and ownership, including potential private partnerships.

2021-2022
Construction of Southside Regional Fiber Ring.

2023
Lower cost, faster service and broader coverage delivered to 757 Southside residents, businesses and educational institutions.

**Phase 1 Will Be Delivered
to 757 Southside by early 2023**

Balancing Goals for the Regional Connectivity Ring

Scalable infrastructure for internal needs

Promote private investment that addresses the digital divide – service availability and affordability

Provide a mechanism for the Five Cities to meet internal communications needs while containing the financial risk associated with price increases for commercial services

Reduce barriers to entry in new markets by making middle mile infrastructure available on a competitive and non-discriminatory basis

Economic development initiatives

Revenue generation

Facilitate economic development initiatives with low- or no-cost access to middle mile infrastructure

Enable revenue generation through dark fiber leases and/or lit service offerings
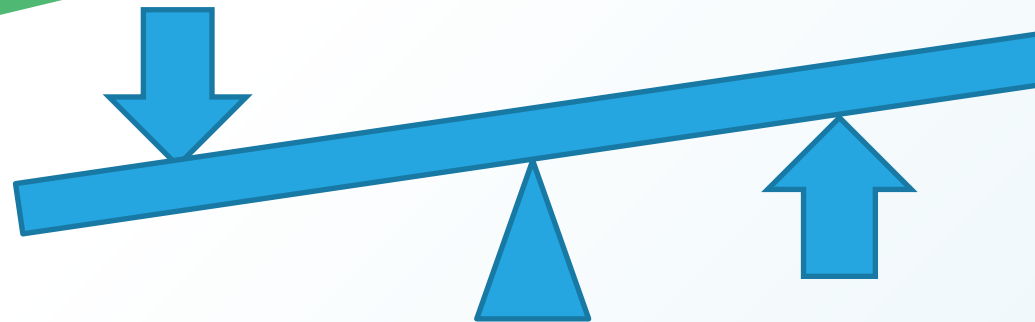
Our Goal - Smart Region
Use Technology to Address our Challenges and Opportunities

- Sea Level Rise/Recurrent Flooding
- Emergency Communications
- Transportation – Managed Lanes
- Autonomous Vehicles
- Remote Learning

- Teleworking
- Job Creation
- Public Safety
- College/University Research
- Center for Innovation
- High Tech Companies
- Technology Ecosystem

The Regional Network Ring Will

Improve the Interoperability of Our Region's Emergency Response System

EOC and 911 Center
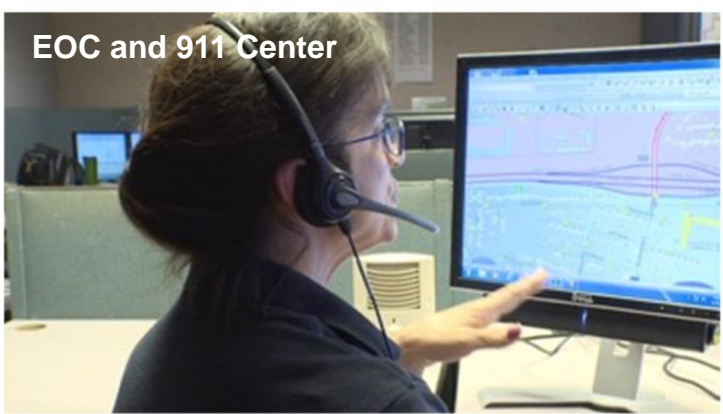
The Regional Network Ring Will

Help The Region Navigate Flooding and Sea Level Rise

TITAN:
Tidal inundation tracking application – storm surge tracking

Improving Real Time Response

sensors every where

STORM SENSE
Weather Event Analysis, Maps

Water Level Monitoring System(WLMS)

The Regional Network Ring Will

Help Support the Future of Autonomous Vehicles

Support Growing Industries in the 757

- Financial Services: High Frequency Trading

- Data Transfer & Storage: Microsoft / Facebook / Amazon

- Cybersecurity Industry: An immediate need for 17,000 more cyber security professionals in Virginia alone

- Medical/Bioscience & Health Industries: Data analytics are key to driving down cost while improving care

- Ecosystem for Business Investment and Entrepreneurs: Backbone connectivity at speeds of 10Gbps and beyond

Our Region's Quality of Life Will Attract Remote Workers…

Our Regional Network Ring Will Support Them.

Pre-COVID-19, the Distributed Workforce Was Growing and Projected to Be 50% By 2030

10%

1990s

30%

TODAY

50%

2030

Source: SIR

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.
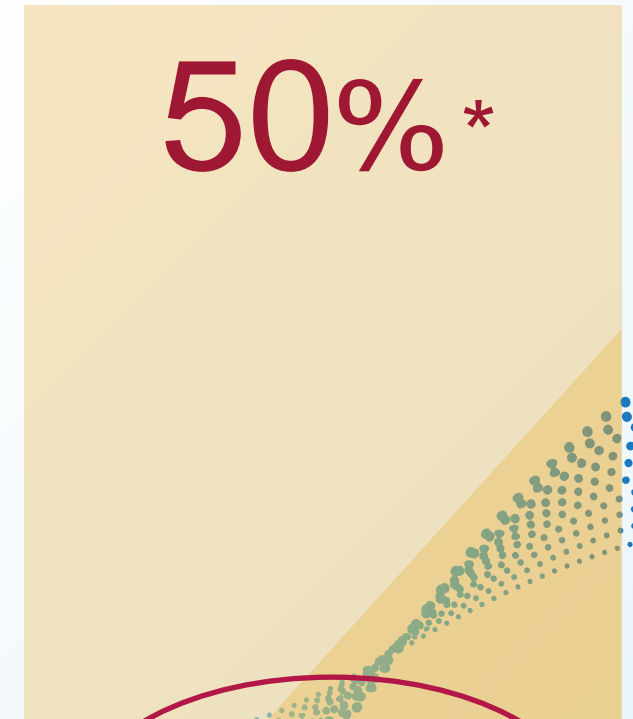*Source: Alliance Wave 3 Survey*

10%
1990s

30%
TODAY

50% *
2025

Source: SIR

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.
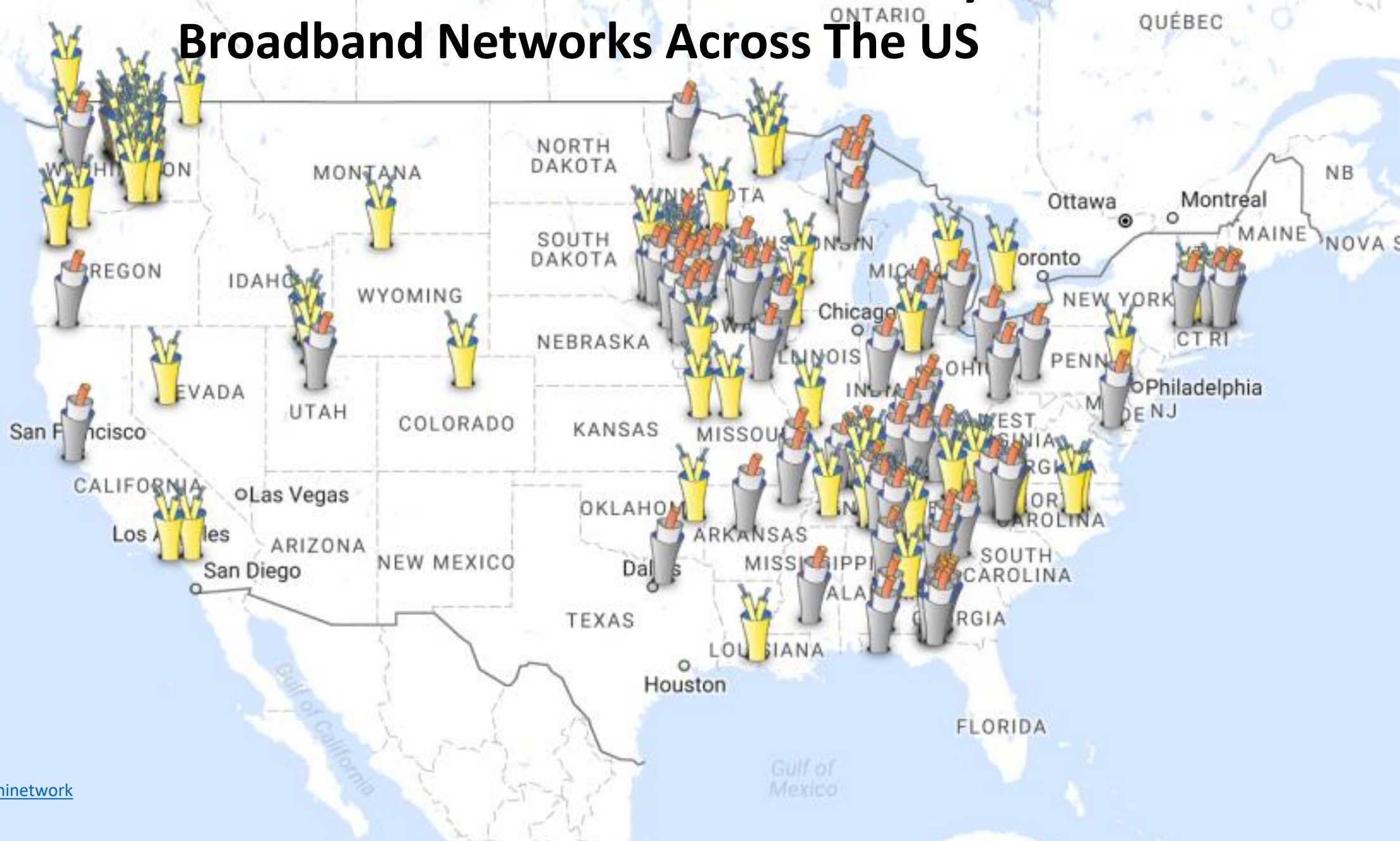
Summary, our regional broadband ring is arriving just in time to

Future-Proof the 757

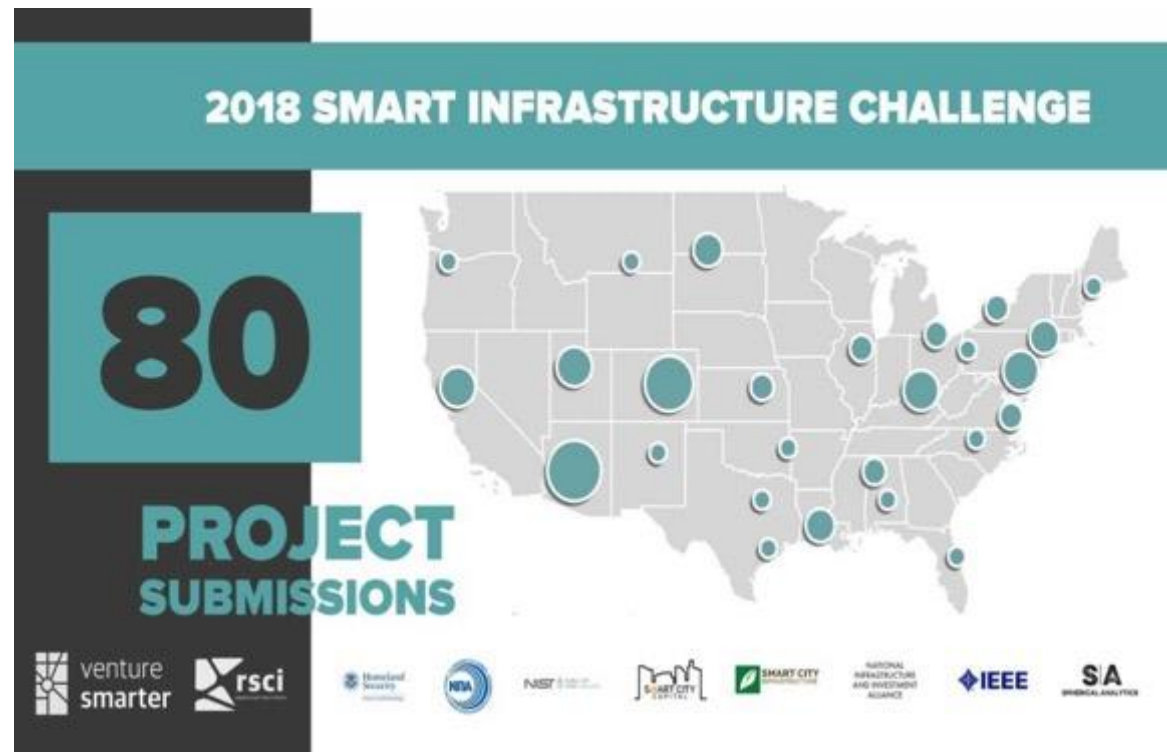# Our Network Ring has the Unanimous Support of 17 Local Jurisdictions that make up the 757 Region

There Are Now Over 500 Community Broadband Networks Across The US

Our Network Ring Concept has been Recognized Nationally.

Grand Prize Winner:
Hampton Roads Regional Connectivity Ring

- 69 Regional Response Teams

- 80+ Project Plans

- 250+ Collaborating Governments and Universities

- 500+ participating organizations

- $3+ billion in project financing available for projects to scale

Thank You