Cox Business Response to  SNA-RFP-2021-02

Cox Business (Cox Communications Hampton Roads, L.L.C.) is responding to Southside Network Authority Request for Proposal SNA-RFP-2021-02
8/24/2021

Southside Network Authority  
Hampton Roads Planning District Commission  
Procurement Office  
723 Woodlake Drive  
Chesapeake, Virginia 23320

Dear Mr. DeBerry, Chairwoman Vitale, and Members of the Board:

Cox is pleased to submit the enclosed response to SNA-RFP-2021-02 to partner with the Southside Network Authority (the “Authority”) on the Regional Fiber Connectivity Ring project.

Cox has been serving Hampton Roads for more than 40 years. With more than 1,500 employees living and working in the region, we know the market well and want to see the 757 prosper. We are committed to making our region a place where families and businesses choose to stay, live, work and thrive. Over the past four decades, we have invested billions of dollars in our network and have been a strong partner to our local governments for all their connectivity needs. From cable television, to telephony, to fiber-based broadband, Cox has been delivering reliable, secure services to localities and schools throughout the region.

Together with Cox, your vision of building safe, sustainable, and connected communities will come to life. Our team has been following the activity of the Southside Network Authority and believe that together we can execute a plan that will support good stewardship of taxpayer dollars as well as leverage long-term private investments in the region.

Cox is able to offer creative solutions that will allow us to continue our strong public-private partnership as we help the region meet its goals for interconnectivity and economic growth. Our enclosed response provides an extremely cost-effective solution, maximizing existing private infrastructure and minimizing local government liability and expense.

In addition to meeting the Authority’s connectivity goals for the region, Cox can provide infrastructure that is future-ready and integrates our Smart Cities solutions. These solutions will help solve community challenges of limited financial and human resources, collecting and analyzing data effectively, and maintaining existing infrastructure.

We are uniquely positioned to deliver and support the advanced services, local commitment, and flexibility necessary to fulfill the vision of the Southside Network Authority. We appreciate your consideration of our response to this RFP. Should you have any questions, please don’t hesitate to contact me.

Respectfully,

J.O. Myers, II  
Senior Vice President & Virginia Region Manager  
Cox Communications
Table of Contents

Part A Background on Firm & Team Qualifications __________________________________________ 5
Part B Project Characteristics and Approach ____________________________________________ 11
Cox Maintenance (on-net / Cox Managed services) ______________________________________ 14
Part C Proposed Long-Term Operations & Maintenance Strategy ________________________ 17
Part D Proposed Legal Structure & Financing Strategy ___________________________________ 19
Part E Project Experience & References ____________________________________________ 22
A. Unique or Unusual Capabilities of the Firm. ___________________________________________ 25
G. Other Matters Deemed Relevant by the Firm/Consortium. ____________________________ 29
H. Instructions on Part H—Procurement Forms. __________________________________________ 29
Attachment A – Experience __________________________________________________________ 30
Attachment B - Financial Responsibility ______________________________________________ 33
Attachment C - Non-Collision Statement _______________________________________________ 37
Attachment D ____________________________________________________________________ 38
Attachment E - State Corporation Commission Certification _____________________________ 40
Attachment F - SWaM/DBE Certification Form __________________________________________ 41
Attachment G - Partner Responsibility Matrix __________________________________________ 42
Attachment H - Cox Team ____________________________________________________________ 55
Attachment I - Cox Diversity & Inclusion ______________________________________________ 74
Attachment J - Cox Surety Statement ________________________________________________ 77
Attachment K – Experience with Similar Projects ______________________________________ 78
Attachment M: Cox Information Security ______________________________________________ 87
Attachment N: Cox Smart Communities – See next page ________________________________ 88
Cox Business Smart Communities ____________________________________________________ 90
Smart Poles and Sensors ____________________________________________________________ 92
Smart Lighting & Energy Management ________________________________________________ 93
Smart Lighting Journey ______________________________________________________________ 94
Cox Smart Lighting __________________________________________________________________ 95
Smart Business Case __________________________________________________________________ 95
Smart Cameras and Safety Analytics ___________________________________________________ 96
Vehicle Analytics ____________________________________________________________________ 96
People Analytics ____________________________________________________________________ 97
Smart Kiosks and Transportation Hubs _______________________________________________ 98
Smart Transportation Hubs/Shelters __________________________________________________ 100
Traffic Flow Management ____________________________________________________________ 101
Smart Parking ______________________________________________________________________ 102
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Signage changes</td>
<td>104</td>
</tr>
<tr>
<td>The Cox Platform</td>
<td>104</td>
</tr>
<tr>
<td>Lot Vision</td>
<td>111</td>
</tr>
<tr>
<td>Asset Tracking</td>
<td>112</td>
</tr>
<tr>
<td>Energy Management</td>
<td>117</td>
</tr>
<tr>
<td>Smart Buildings</td>
<td>118</td>
</tr>
<tr>
<td>Data Hosting and Edge</td>
<td>121</td>
</tr>
<tr>
<td>Cox Edge Services</td>
<td>122</td>
</tr>
<tr>
<td>Digital Twin Technology</td>
<td>124</td>
</tr>
<tr>
<td>Smart Grid – Outage Detection</td>
<td>127</td>
</tr>
<tr>
<td>Data Strategy Workshop</td>
<td>128</td>
</tr>
<tr>
<td>Financial Models Examples – P3 Partnerships</td>
<td>129</td>
</tr>
</tbody>
</table>

LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
Cox Response to the Southside Network Authority

Addendums

Cox confirms receipt of the following addendums:

- Addendum #1.
- Addendum #2.
- Addendum #3.
- Addendum #4.
Part A Background on Firm & Team Qualifications

Cox, as the local provider to the Authority cities, understands the challenges facing municipalities. We serve every major municipality across our Virginia footprint which gives us unique insight on how to partner with local governments. Furthermore, Cox has the qualifications and long-term service capabilities to deliver on the goals outlined by the Authority.

Cox understands the core focus to build a regional fiber ring to provide:

• Scalable connectivity between 5 regional cities (17 in total).
• Low-cost, effective, secure, and resilient information and communication Technologies.
• Support existing local businesses and encourage new competition.
• Connect to Virginia Beach’s transatlantic fiber optic cables to provide connectivity throughout the whole region.
• Support deployment of future smart technologies throughout the region; and to provide a 21st century interconnected fiber network establishing Hampton Roads as a smart region attracting high tech companies and spurring economic growth.
• A robust, region-wide communication network to interconnect local governments and support regional economic growth. Cox joins in this similar mission to improve services for our communities to ensure long-term success for the region.

About Cox Business

Cox Business is the commercial component of Cox Communications and offers a variety of advanced high-speed Internet, voice, and digital video services over its own IP network. Since 1998, more than 400,000 business customers of all sizes, including healthcare providers, K-12 and higher education, financial institutions, and federal, state, and local government organizations, have chosen Cox Business.

The organization also serves most of the top-tier wireless and wireline telecommunications carriers in the U.S. through its wholesale division. According to Vertical Systems Group, Cox Business is one of the largest providers of business Ethernet services in the U.S., based on customer ports, and consistently has been recognized for its leadership among small/midsize business data service providers. Cox is the seventh-largest voice service provider in the U.S. and supports over 1 million business phone lines.

Cox Communications Hampton Roads, L.L.C. is a Limited Liability Corporation.

Cox Virginia

Cox has a long history of providing telecommunications services and is an established and trusted provider in Virginia, serving Hampton Roads, Fairfax, Fredericksburg, and Roanoke regions of the Commonwealth. Cox Business has provided local business, industry, and government with commercial telephony since 1993. Over the last decade, Cox has made over $15 billion in
Cox Response to the Southside Network Authority

continuous infrastructure updates and will invest $10 billion more in the next five years to ensure that we’re providing the best products and services to our customers. In Virginia, Cox maintains over 660,000 customer relationships including more than 54,000 Business customers and employs over 1,500 residents throughout Virginia. Cox supports the local community through cash, grants, volunteerism, and in-kind contributions.

Why Choose Cox

With a long history of providing telecommunications services, Cox Business is an established and trusted provider for many organizations today, providing a wide range of carrier-class services.

Fiber Infrastructure

Cox has extensive experience building fiber infrastructure in Virginia with 125,000 miles of plant maintained nationwide. We are perfectly positioned to build the institutional fiber network defined by the 60% design plan for the Authority. In addition to building infrastructures, Cox can provide ongoing maintenance for repair of cut fiber, relocations that come with a growing region and upgrading equipment that becomes end-of-life. Cox is proposing multiple solutions showing our flexibility, knowledge, and resourcefulness in helping the Authority to provide solutions.

Smart Communities Infrastructure

Cox is uniquely positioned due to its long history of investing in the wired infrastructure of Hampton Roads, and its recent acquisition of Citizens Broadband Radio Service (“CBRS”) licenses to enable a multitude of Smart services for the benefit of the community. Cox’s existing infrastructure will allow us to enable Smart sensors quickly for a variety of use cases. Cox’s infrastructure positions the Authority with multiple options for backhaul connectivity suited to the application including almost ubiquitous broadband access using our coax network to high-capacity fiber optic network capable of 100 Gb/s services to any location within the Authority cities. As we move forward into the Smart Community of the future, we have negotiated IoT partnerships and a broad ecosystem ready to deploy the following community services:

- Smart streetlights with power savings for the city for years to come
- Intelligent traffic control for seamless traffic flow throughout the city
- Water meter reading for more accurate billing and leak detection
- Flood monitoring and mitigation control
- Intelligent kiosks to enable community information and wayfinding
- Pedestrian traffic monitoring and patterning to aid in people movement in highly trafficked areas
- Video safety and security zones to help reduce crime
- Building control systems for environmentally friendly energy management
- Fleet management for locating and routing city vehicles
Cox Response to the Southside Network Authority

- Asset tracking for efficiently locating and managing city owned equipment

Cox’s relationship with the Authority as a trusted telecommunications provider means that we have the long-term view to implement the Smart applications you want and need, in a sustainable model, that serves the residents and improves their lives for years to come.

**Network Excellence for the Highest Reliability**

With Cox, the Authority can conduct business with confidence no matter how demanding your network requirements are. We use the right technology, hardware, and materials to build a sophisticated, homogenous network from the ground up. Just as important, we rigorously support and update our equipment. Our focus on these basic principles ensures your business continuity, revenue protection and delivers scalability for the future.

**Vertical Industry Focus**

With Cox, you won’t waste time educating us about your industry-related challenges, issues, and needs. We dedicate development, support, engineering, and sales resources to industry-specific solutions. The Authority will rest assured that we come to the table with multiple solution options prepared to meet your exact needs.

**Local Resources**

Cox invests broad resources in our markets, so we have a truly locally identity. Multi-disciplinary teams know the customers and the communities in which we work. The Authority will have face-to-face contact with teams that engineer, sell, provision, and support our solutions. Our local presence, including VP-level and above, creates uncommon transparency and comfort knowing that we are there when you need us.

**Customer-Driven Culture**

Cox Business is privately-owned; that’s unique in our industry. Our culture values customer satisfaction, diversity, environmental responsibility, and employee well-being. We will serve the Authority with employees who are positive ambassadors for Cox and who share our natural commitment to the customer experience.

While Cox is not a Small, Women-owned, or Minority-owned business, Cox takes great pride in utilizing SWAM subcontractors where possible. Cox maintains its own Supplier Diversity Program to make a good faith effort to utilize small, women-owned and/or minority-owned business subcontractors. Cox’s Supplier Diversity Program is designed to reach out and find SWAM suppliers. See Attachment I – Cox Diversity & Inclusion.

Cox is a great company for the Authority to partner with demonstrated by its long-term commitment to the communities represented. Our company is uniquely positioned to be your full-service provider with wireline, wireless, and Smart City solutions. We look forward to working with your team in implementing your vision.

See Attachment O Cox Solutions.
Cox Communications Inc. ("Cox") is a broadband communications and entertainment company, providing advanced digital video, high-speed Internet, telephone and home security and automation services over its own nationwide Internet Protocol network. Cox is the largest private cable provider in the United States based on revenues of approximately $12.6 billion in 2020 and serves over 6 million residences and businesses. Cox Business is a facilities-based provider of voice, video, data and security solutions for commercial customers, and Cox Media is a full-service provider of national and local cable spot and new media advertising. In addition to dedicated account and project teams, Cox distributes resources between our main headquarters in Atlanta, GA, and the local markets we serve. This allows Cox to provide the Authority with timely information to make key decisions.

It also offers highly specialized resources, capabilities, and standardized processes from our centralized management. Cox also uses qualified national and local contractors to place new facilities, either aerial or buried in utility public right-of-way. Our extensive list of subcontractors, already familiar with Cox specifications and requirements, allows us to manage spikes in demand for fiber optic construction. This is a significant advantage over many other providers that may try to install all facilities with limited in-house staffing or limited vendor agreements.

With the localities represented by the Southside Network Authority currently utilizing Cox fiber services, we are familiar with your teams and your unique needs, and your connectivity goals. Our fiber network is already serving your facilities, putting us in a position to provide you – and your taxpayers – with the most cost-effective solution to meet your goals.

Finally, we’re always thinking ahead. Our teams plan 12-18 months in advance, anticipating technology trends that will affect how we operate. The Cox family has earmarked billions of dollars over the next five years to support network enhancements in Virginia; this allows us to prepare the network now for the demand that we anticipate will be tenfold in the near future.
For further information the Authority’s primary Cox point of contact:

Name: Sean Shovelin  
Title: Account Manager - Government/Education  
1341 Crossways Blvd., Chesapeake VA 23320  
Phone Number: 757-222-8362  
Email: Sean.Shovelin@cox.com

See Attachments:
H – Cox Team for resumes and key projects  
K – Experience with Similar Projects  
L – Cox Business Smart Communities
Cox Response to the Southside Network Authority

Part B  Project Characteristics and Approach

1. Design.

The current design of the RCR entails the construction of underground communications conduit and fiber optic cables to meet the internal needs of the Cities and near-term requirements for partners and customers. The physical routes were selected to coincide with particular requirements for internal connectivity and candidate targets for potential economic development and digital equity initiatives. The design includes placement of underground vaults to enable access to the RCR conduit and fiber infrastructure on a frequent basis and includes spare conduit to enable expansion of fiber capacity to meet longer term needs of the region.

Identify how your design approach will leverage the existing RCR design or provide similar infrastructure to meet the specified priorities of the Authority?

Cox Response: The Cox design team looks at both the Authority requirements and the existing Cox network infrastructure to provide a variety of optimal fiber architecture solutions. We work to optimize the network by providing the most cost effective and robust design solution to service the customer’s current and future needs, including customer’s unique requests for routing and network diversity. Every design undergoes a thorough and intensive quality check prior to completion of the project(s) to maintain data integrity and accuracy of network field designs.

a. Who will be responsible for contracting or completing the final designs and permitting?

Cox Response: With respect to the lit service and leased dark fiber options, Cox will complete the network final designs and be responsible for permitting. For the option where Cox constructs the network and transfers ownership to the Authority, the Authority will be responsible for contracting and completing the final designs, and Cox will acquire the necessary permits at the Authority’s cost.

See Attachment L: Cox Technical / Proposed Management Plan.

b. To what degree the Authority will be able to specify design attributes, including but not limited to physical routes, conduit capacity, and fiber capacity?

Cox Response: The Cox Team will work with the Authority to help identify the needs the design needs to meet both now, and in the future, and will engage in collaborative process to ensure that the final design takes into consideration all requirements and provides maximum flexibility and a mutually agreed fiber count requirement, fiber route, and conduit capacity. The fiber design will terminate fibers at mutually agreed locations. Alternate routes or changes to the plan may include additional costs, however Cox would be happy to work the Authority to ensure that the final outcome is satisfactory.
c. How fiber and conduit capacity will be allocated to the Authority for its internal purposes.

Cox Response:

<table>
<thead>
<tr>
<th>Solution</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Fiber (SNA owns)</td>
<td>The Authority will have the ability to allocate internal fiber and conduit capacity as needed, subject to the final agreements signed by the parties.</td>
</tr>
<tr>
<td>Dark Fiber (Lease)</td>
<td>The Authority will have the ability to allocate use of the fibers for its internal use as desired, and in accordance with the final dark fiber lease agreement executed by the parties.</td>
</tr>
<tr>
<td>Lit Option (Cox owned and maintained)</td>
<td>Cox will provide bandwidth as mutually agreed to by the parties, and the Authority will have the right to use the lit services for their internal use in accordance with the service agreement executed by the parties.</td>
</tr>
</tbody>
</table>

2. Construction.

Describe your proposed approach to construction of the network in terms of who will be responsible for contracting or providing the necessary material and labor resources for construction, management, and oversight.


<table>
<thead>
<tr>
<th>Solution</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Fiber (SNA owns)</td>
<td>Cox will oversee and complete all mutually agreed upon construction. This includes providing necessary material, construction labor resources, supervision, and project oversite (review and confirmation of project deliverables, scheduling, reporting). Upon completion of construction, ownership of the network is transferred to the Authority.</td>
</tr>
<tr>
<td>Dark Fiber (Lease)</td>
<td>Cox will oversee and complete all necessary construction. This includes providing necessary material, construction labor resources, supervision, and project oversite (review and confirmation of project deliverables, scheduling, reporting). Dark</td>
</tr>
</tbody>
</table>
**Cox Response to the Southside Network Authority**

| Fiber will be leased to the Authority for the chosen term length under the dark fiber lease agreement executed by the parties. |
|---|---|
| Lit Option (Cox owned and maintained) | Cox will oversee and complete all necessary construction. This includes providing necessary material, construction labor resources, supervision, and project oversight (review and confirmation of project deliverables, scheduling, reporting). Lit Services will be delivered to the Authority, via Cox’s network, as a turn-key service solution in accordance with the service agreement executed by the parties. |

To the extent your proposal entails the provision of construction services, describe, and provide any relevant internal documents demonstrating that your organization has the capabilities, capacity, and established processes necessary to perform the required work in a manner that ensures worker safety and quality control, including:

- Technical approach to construction of fiber optic infrastructure detailing, at a minimum, the partner’s (1) approach to utility locates and test pitting; (2) methods for protection of fiber optic cable and related materials from damage during installation; (3) equipment to be used; (4) approach to work area protection; (5) approach to material sourcing and warehousing to facilitate timely delivery to meet project timelines; and (6) approach to project status reporting and communications with the Authority.

**Cox Response:**

Cox Business understands the requirements of building and completing fiber projects. Cox’s construction protocols adhere to all Virginia Underground Utility Damage Prevention laws along with any applicable local, State or Federal regulatory requirements. All work is performed in accordance with established methods and procedures for maintaining quality control from installation through service life cycle. Work performed is based on telecommunication industry standards and best practices developed over 50 years of practical experience obtained by operating in the cable TV and communications business.

See Cox Response to Quality control and safety policies, processes, and procedures.

**Utility locates and test pitting:** Cox will initiate underground utility location requests through the Virginia 811 system. Including utility locating through test pitting.

**Protection of fiber:** Protection occurs typically by constructing fiber within fiber sheaths and placing underground applications in conduit with tracer wire or aerial applications on strand within agreed right of ways.
Material sourcing and warehousing: Cox’s Construction and Planning teams forecast, purchase, capitalize and deploy all equipment/materials to support construction builds. Cox maintains strong vendor support agreements and service level agreements with major equipment and material suppliers. For additional Cox material sourcing and warehousing information see Cox Equipment Attachment L: Cox Technical / Proposed Management Plan.

Project status reporting and communications with the Authority: A Cox Project Manager (PM) will be assigned and serve as a single POC to coordinate Cox and Authority efforts. The PM has overall responsibility for the successful completion of the project scope of work. As the project lead, they will coordinate with other internal Cox departments and provide timely feedback to the Authority on progress of turn-up of services.

The Cox PM will schedule team call updates and provide project updates at requested intervals.

To ensure scope, the Cox PM will require all changes in written form (email is acceptable) from an authorized representative. All changes are subject to Cox’s approval.

Communications do not stop once the project completes. Cox provides on-going Cox Maintenance notifications. Cox shall inform the Authority of any maintenance that may cause a disruption to service. Cox scheduled maintenance is sent to customers 10 days prior to the activity unless emergency maintenance is required. Maintenance is completed within a maintenance window (12am – 6am).

See Attachment L: Cox Technical / Proposed Management Plan.

- A proposed Management Plan to include a staffing plan indicating the number and qualifications of in-house personnel; a subcontracting plan indicating the proposed subcontractors to be used; a quality control plan that identifies key roles and responsibilities; and a safety plan demonstrating compliance with OSHA and other applicable requirements.

Cox Response:

Cox uses internal staff as well as qualified national and local contractors to place new facilities, either aerial or buried in utility public right-of-way. Our extensive list of subcontractors, already familiar with Cox specifications and requirements, allows us to manage spikes in demand for fiber optic construction. Note: subcontractors typically are limited to construction work for Cox and are pulled from available resource pool and prevailing contracts at the time of award. This is a significant advantage over many other providers that may try to install all facilities with limited in-house staffing or limited vendor agreements. As a current provider to the cities, Cox is familiar with the fiber entrance routes. See Cox Subcontractors noted below.

See Attachment H – Cox Team,  See Cox response to Quality control and safety policies, processes, and procedures.
• Quality control and safety policies, processes, and procedures.

Cox Response: Cox Communications is committed to the safety of its employees and customers from the top leaders down through the organization. The Safety Program is built around a 42-module platform that touches on all identified areas of risk and empowers the employee to make the first decisions regarding their own safety. The direction and growth of the program has evolved from a mixture of both leading and lagging indicators as well as a regular review of near-misses that are investigated to root-cause level causality. A strict RACI process focused on resulting resolution measures allows for accountability and project tracking to prevent identified risks from being ignored. Leadership engagement includes direct partnering with senior Operations executives who are engaged to make tactical operations decisions with safety as a top priority. Compliance with regulatory agencies such as OSHA, EPA and DOT are considered a baseline level that we build upon to provide employees with the safest workplace possible specific to identified risks.

Cox, upon request, will provide an overview of Cox safety policies.

In addition to the safety of our employees, Cox has adopted and implemented, and will maintain, a corporate information security program. Such program includes formal information security policies and procedures which Cox may update from time to time.

See Attachment M: Cox Information Security.

• An inventory of local staffing and equipment resources available to support construction and maintenance efforts, identifying any subcontractor resources anticipated to be used.

Cox Response:

Cox Account & Construction Teams

Cox will provide the Authority with a dedicated account team to support their needs and deliver the high level of service you deserve and expect.

The account team along with order management, fulfillment, and construction teams work together to deliver the high level of service expected.

Cox Maintenance

Cox shall inform the Authority personnel of any maintenance that may cause a disruption to service. Cox scheduled maintenance is sent to customers 10 days prior unless emergency maintenance is required. Cox standard maintenance window is (12am – 6am). Cox services are backed by robust SLAs.

Cox is not a Small, Women-owned, or Minority-owned business. Cox takes great pride in utilizing SWAM subcontractors where possible. Cox maintains its own Supplier Diversity Program to make a good faith effort to utilize small, women-owned and/or minority-owned business
subcontractors. Cox has existing agreements in place with its subcontractors with mutually agreed-upon payment provisions. As needed, Cox would use the following subcontractors.

Cox Subcontractors:

<table>
<thead>
<tr>
<th>Subcontractor</th>
<th>Contact Person, Telephone &amp; Email</th>
<th>Type of Goods and/or Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Circle Concepts II, LLC</td>
<td>Tim Hinson/Barbara Hudson</td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>4560 South Blvd Suite 205,</td>
<td>(757)531-5888 / (757)531-5396</td>
<td></td>
</tr>
<tr>
<td>Virginia Beach VA 23452</td>
<td><a href="mailto:timh@fullcirclecon.com">timh@fullcirclecon.com</a> /</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bhudson@cox.net">bhudson@cox.net</a></td>
<td></td>
</tr>
<tr>
<td>*Small Business - Women (W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genesis Fiber Optic Splicing, Inc.</td>
<td>Paul Coleman/Kent Coleman</td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>3932 Holland Blvd Chesapeake</td>
<td>(757) 639-3181 / (757) 449-2639</td>
<td></td>
</tr>
<tr>
<td>VA 23323</td>
<td><a href="mailto:paul@gfosinc.com">paul@gfosinc.com</a> / <a href="mailto:kent@gfosinc.com">kent@gfosinc.com</a></td>
<td></td>
</tr>
<tr>
<td>*Small Business - Veteran (V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Tech Inc.</td>
<td>Edward Britt/Shep Miller</td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>2522 Alabama Ave Norfolk VA 23513</td>
<td>(757) 419-1650 / (757) 578-5000</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:edward.britt@lighttechfiber.com">edward.britt@lighttechfiber.com</a> /</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:shep.miller@tridentuc.com">shep.miller@tridentuc.com</a></td>
<td></td>
</tr>
<tr>
<td>East Coast Communications of Virginia</td>
<td>Bill Brown/Kelly Temple</td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>3737A Holland Boulevard,</td>
<td>(757) 438-0694 / (757)673-3552</td>
<td></td>
</tr>
<tr>
<td>Chesapeake, VA 23323</td>
<td><a href="mailto:bill@eccov.hrcoxmail.com">bill@eccov.hrcoxmail.com</a> /</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Kelly@eccov.hrcoxmail.com">Kelly@eccov.hrcoxmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Fiber Network Services (FNS)</td>
<td>Greg Noles</td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>8610 Virginia Meadows Dr; Manassas VA 20109</td>
<td>(706) 829-7930</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:gnoles@fibernetworkservices.com">gnoles@fibernetworkservices.com</a></td>
<td></td>
</tr>
</tbody>
</table>

See Attachment H for the Authority’s local dedicated support and project teams.
Part C Proposed Long-Term Operations & Maintenance Strategy

Describe the proposed approach to operations and maintenance of the RCR in relation to the following:

- Capabilities and capacity of personnel and equipment to effect repairs, perform routine maintenance, and perform locates in response to utility locate requests through the Virginia 811 system;

<table>
<thead>
<tr>
<th>Solution</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Fiber (SNA owns)</td>
<td>Cox will be responsible for repair and maintenance of the fibers in accordance with the terms and conditions of the fiber maintenance agreement which the parties will negotiate, and mutually execute, after award. Cox would be happy to offer and agree upon a wide variety of maintenance and repair services depending upon the needs of the Authority.</td>
</tr>
<tr>
<td>Dark Fiber (Lease)</td>
<td>During the Term of the dark fiber lease, Cox will be responsible (at Cox’s cost) for ongoing repair, maintenance, and replacement of the leased fibers. The specific details will be finalized and agreed to by the parties in connection with the dark fiber lease agreement to be signed between the parties upon award.</td>
</tr>
<tr>
<td>Lit Option (Cox owned and maintained)</td>
<td>During the Term of the service contract, Cox will be responsible (at Cox’s cost) for ongoing repair, maintenance, and replacement of the Cox equipment. The specific details will be finalized and agreed to by the parties in connection with negotiation of the final service agreement to be signed between the parties upon award.</td>
</tr>
</tbody>
</table>
Target timeframes for damage response and repairs of the RCR fiber infrastructure:

<table>
<thead>
<tr>
<th>Solution</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Fiber (SNA owns)</td>
<td>Upon receipt of a Trouble Report and confirmed a Cox fiber trouble, Cox’s targeted response time is 4 hours and the targeted repair time is 12 hours.</td>
</tr>
<tr>
<td>Dark Fiber (Lease)</td>
<td>Upon receipt of a Trouble Report and confirmed a Cox fiber trouble, Cox’s targeted response time is 2 hours and the targeted repair time is 12 hours.</td>
</tr>
<tr>
<td>Lit Option (Cox owned and maintained)</td>
<td>Upon receipt of a Trouble Report, Cox will initiate action to clear the trouble within approximately thirty (30) minutes. If the Trouble Report is the result of an electronic component failure, the estimated restoration time is four (4) hours. If the Trouble Report is the result of a cable or fiber failure or any other issue, the estimated restoration time is eight (8) hours.</td>
</tr>
</tbody>
</table>

Types of services and rates structures for any services anticipated to be provided using the RCR infrastructure?

Cox Response: Cox does not anticipate using the RCR infrastructure to provide Cox services.

Anticipated roles and responsibilities of any contractors in relation to maintenance and provision of services over the RCR?

Cox Response: Cox uses qualified national and local contractors to place new facilities, either aerial or buried, in utility public right-of-way. Our extensive list of subcontractors, already familiar with Cox specifications and requirements, allows us to manage spikes in demand for fiber optic construction. Cox intends to use its Cox Techs to provide on-site maintenance and provisioning.

High-level profile of target market and marketing strategy for services to be provided over the RCR?

Cox Response: Cox does not anticipate using the RCR infrastructure to provide Cox services.
Part D Proposed Legal Structure & Financing Strategy

1. Legal Structure of Public-Private Partnership

Identify the legal structure of the proposed project. Potential ownership structures include, but are not necessarily limited to:

(1) Authority ownership with the private partner primarily providing financing and long-term operating and maintenance services.

(2) Authority ownership on long-term lease or concession to the private partner or a special purpose entity. If this option is chosen, identify the general structure of the lease or concession. If a special purpose entity, identify the type and potential legal structure of the entity, including the relative control interests of the Authority and the private entity within its management structure.

(3) Ownership by a special purpose entity with multiple membership or control interests of the Authority and the private entity. If this option is chosen, identify the type and potential legal structure of the entity, including the relative control interests of the Authority, the private entity, and any other partners within its management structure.

(4) Ownership by an operating arm of the private entity.

Because of the changing nature of the telecommunications industry and the long-term nature of this partnership, the proposal should pay special attention to shared long-term control mechanisms of the project and the tax consequences of different possible legal structures. For example, a discussion of tax consequences might include reference to federal and state income taxes both with regard to revenue streams and taxable or tax-exempt financing, communications sales and use tax, and local property and business license taxes.

Cox Response: The Cox proposal offers three (3) options: the provision of lit services, a leased dark fiber network, and also delivery of a constructed dark fiber network. These options do not anticipate a formal public/private partnership; however, they do provide a range of options, and plenty of flexibility in terms of alternatives to help the Authority meet its stated goals. Notwithstanding the options offered, Cox would also be open to discussion a P3 arrangement if the Authority wishes. Further, Cox highlights that Cox services may be provided by one of more Cox affiliated entities, and Cox expressly reserves the right to assign any resulting contract(s) to another Cox affiliated entity so long as such entity holds all necessary permits, licenses and other qualifications reasonably required in connection with performance of such contract(s).

See Attachment O Cox Solutions for the details of each Cox option.

2. Capital for Design/Build Phase

Submit a proposed plan for obtaining and providing the capital necessary to the construction phase of the project as laid out in subsection B, above, and provide initial working capital until the project becomes self-supporting. Identify any local, state, or federal resources that the proposer contemplates requesting for the project. This should also include a discussion of the
Cox Response to the Southside Network Authority

envisioned weighted cost of capital for the project. Interest rate and rate of return assumptions used to determine feasibility of financing alternatives and the projected weighted cost of capital should be stated and explained. The plan should include discussion of the decision to include or omit the following elements, at a minimum:

(1) Private equity investments. This should include a discussion of the nature of the equity investment, whether it is private equity, equity directly or indirectly provided by publicly traded entities, leveraged equity, or other forms of equity.

(2) Debt. Identify debt components, their nature, proposed cost, and types of security interests tied to the debt component. Identify if you envision use of bank loans, negotiated bond placements, competitively bid bonds, mezzanine debt, financing leases, or other debt instruments, their potential costs, and the potential for any debt to be convertible to equity interests (if applicable).

(3) Equity, loans, or guarantees from the Authority or any of its members, covering the total commitment, if any, expected from governmental sources and the timing of any anticipated commitment. Your discussion should include any direct or indirect guarantees or pledges of the Authority’s or its members’ credit or revenue.

(4) Any grants from public or private sources, the probability of obtaining any such grants, and the impact a grant would have on the feasibility of the project, the weighted cost of capital, and the required revenue stream.

Cox Response: Cox is amply funded and does not need to obtain any grants from public or private sources.

Include a list and discussion of assumptions underlying all major elements of the financing plan, including any projections for required revenues from service fees generated by the network required to support the financing of its construction. Address issues that might arise with financing due to federal and state tax issues. Stated assumptions should include all significant transactional fees or costs of issuance associated with financing under the recommended financing approach.

3. Project Revenues in Operation and Maintenance Phase

Identify the amounts and the terms and conditions for any revenue sources. Explain how sufficient revenue would be realized to ensure payment of operating and maintenance costs as laid out in subsection C above and provide for repayment of debt and payment of desired rates of return on equity based on the financing plan in subsection D.2. Explain a proposed plan of pricing for service or of determining pricing to the public or anchor entities for wholesale or retail service or dark fiber leasing. If a revenue conversion factor is assumed, explain the bases for the revenue conversion rate assumption. Show your anticipated requirements for working capital until the project becomes cash-flow positive. If the revenue is dependent on contingencies occurring, state the contingencies.

Cox Response: The options offered by Cox in this response do not specifically include additional revenue sources, however Cox provides additional information on its smart communities offerings which do provide the opportunity for revenue sharing. Cox would be happy to discuss
these revenue sharing possibilities (and any others) with the Authority to determine if this is an avenue the Authority would like to investigate further.

If the business plan includes revenue sharing between the Authority and the private entity, explain the terms and conditions of the revenue sharing. If an availability fee from the Authority or its members is contemplated, state the terms and conditions under which it could occur.

Cox Response: Cox proposed solutions for construction and maintenance of the RCR infrastructure do not include revenue sharing between Cox and the Authority, however Cox would be happy to alternatives, including the structure of a P3 agreement.

*Cox’s Smart Community solutions (i.e. electric vehicle charging, Kiosk /parking advertising) – can provide revenue opportunities to the Authority.

4. Windup

If the proposed financing plan includes a concession, explain how the project would be turned over to the Authority at the close of the concession. Regardless of the ownership form, explain the terms and conditions for unwinding the project in the event it fails, either due to technical or financial reasons, as required by the Act.

Cox Response: The options set out in the Cox proposal do not include any form of concessions and based upon the current structure no windup will be necessary.
**Part E Project Experience & References**

These 3 projects are representative of typical Cox dark fiber construction in the Hampton Roads market. Cox has completed many similar projects (dark fiber, leased and on-net) in each Cox Virginia service area (NoVA, Roanoke, Hampton Roads). Sufficient construction and installation resources are geographically located in each Cox market to maintain and support on-going construction projects.

Additional experiences are included in Attachments K and L.

**Representative Project 1:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Dark Fiber Maintenance Contract 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>All city offices, police cameras, traffic systems in Virginia Beach, VA.</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>City of Virginia Beach</td>
</tr>
<tr>
<td>Public Entity Address:</td>
<td>2405 Courthouse Dr., Virginia Beach, VA 23456</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(757) 385-2463</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td>(757) 427-0060</td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:mstclair@vbgov.com">mstclair@vbgov.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Marc St. Clair</td>
</tr>
<tr>
<td>Scope</td>
<td>Design, engineer, construct 117- mile fiber optic network connecting all city offices, police, cameras, traffic systems in Virginia Beach. Project involves audit of existing WAN, construct UG conduit, HH, fiber &amp; splice to support redundant fiber rings, extensions to new facilities as well as relocations due to conflicts with CIP projects. Maintain mapping &amp; splice documents for entire network, provide 24/7/365 repair and maintenance of network and Miss Utility gridding and utility locates.</td>
</tr>
<tr>
<td>Type of Project</td>
<td>Design, Preliminary Engineering, Construction, Fiber Splicing, Network Repair &amp; Maintenance, Utility Gridding &amp; Location, Mapping &amp; Splicing Documentation</td>
</tr>
</tbody>
</table>
**Representative Project 2:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Dark Fiber Maintenance Contract 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>All public schools and administration offices in Virginia Beach, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Virginia Beach City Public Schools</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>2512 George Mason Drive Virginia Beach, VA 23456</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(757) 263-6806</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td></td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:Michael.Combs@vbschools.com">Michael.Combs@vbschools.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Michael Combs</td>
</tr>
</tbody>
</table>

**Scope**
Design, engineer, construct 119-mile fiber optic network connecting all city schools and offices. Project involves audit of existing WAN, construct UG conduit, HH, fiber & splice to support redundant fiber ring, extensions to new or renovated schools as well as relocations due to conflicts with CIP projects. Maintain mapping & splice documents for entire network, provide 24/7/365 repair and maintenance of network and Miss Utility gridding and utility locates.

**Type of Project**
Design, Preliminary Engineering, Construction, Fiber Splicing, Network Repair & Maintenance, Utility Gridding & Location, Mapping & Splicing Documentation

**Representative Project 3:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mid-Atlantic Broadband Communities Corporation (MBC)–Bowers Hill Dark Fiber (South Ring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>Telxius Data Center @ 1900 Corporate Landing Parkway, Virginia Beach to 2636 Campostella Rd., Chesapeake, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Mid Atlantic Broadband</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>715 Wilborn Ave South Boston, VA 24592</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(434) 570-1300</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td></td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:info@mbc-vaco.com">info@mbc-vaco.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Tad Deriso</td>
</tr>
</tbody>
</table>

**Scope**

Design, engineer, construct 37-mile fiber optic network - aerial and UG fiber circuits. Project involved construction of aerial strand & UG conduit, HH, plus fiber installation, splicing & testing to support new redundant fiber ring.

**Type of Project**

Design, Preliminary Engineering, Construction, Fiber Splicing
A. Unique or Unusual Capabilities of the Firm.

Describe any unusual or unique capabilities, experience, tools, or perspectives the proposer has related to the project. This section may expand on items covered in previous sections or introduce new information on the firm or on team members.

Cox Add-Ons - Service Assurance

**NOC as a Service**

Cox Business is offering NOC as a Service, providing monitoring and incident management above & beyond standard service offerings to customers as part of their Internet, Video, Voice, and Networking Services. This product is a white-glove service that also goes beyond any traditional managed service in the Cox Business suite.

Customers are benefiting from outsourcing their NOC operations as they save time and money to focus on their business strategy and feature enhancements. Customers will receive dedicated NOC support reps with high-skilled extensive experience. This is a new product offering that spans across 20+ components, including monitoring, network, and technology coverage, notifications, performance, incident management, and within the Cox Network RMA handling.

**Priority Handling**

**Customer Specific SLA’s Options**

Cox can provide numerous levels of NaaS support to handle enhanced support for both lit services as well as dark fiber passive monitoring. NaaS includes going beyond the typical DEMARC (point of demarcation) working as a seamless process on proactive monitoring and notification to keep your operations running smoothly.

- End to End Monitoring
- Circuit level or dark fiber strand level options
- Network & Technology Coverage
- Incident Management
- Cox Owned Equipment Handling
- Performance & Post Action Reporting
- Cox Owned Repair
- Multi-Vendor Coordination
Cox Response to the Southside Network Authority

- NOC to NOC
- Proactive Health Checks
- Event Based
- Change Activity White Glove
- Personalized + Enhanced Telemetry Device Failure Notification

Customer Notification Process

Cox NaaS can include proactive notification DFN (Device Failure Notification) via email and SMS text messaging to your designated POC (Point of Contact). This may include contact lists for notification of more than a single device or mailbox. DFN means you’re not only notified of a critical event, but we continue to inform you of the status and resolution of any outages.

Cox uses EXFO equipment to monitor the dark fiber facilities as a passive optical device. Alarms from the EXFO equipment would be fed into Cox’s Fault Management Tool (IBM Network Operations Insight) which would trigger a ticket to Cox Support Teams with varying severities depending on specific rules/policies developed for the customer.

In addition, Cox’s owned and operated national support center can be contacted directly 24/7/365 in the event of a fiber cut or support for other interruption to facilities.

The Cox Network Operations Center (NOC) is comprised of two geographically diverse locations, one in Atlanta, GA and the other in Phoenix, AZ. These facilities act as a fully georedundant NOC and have the ability to load share of failover operations when necessary. The NOC is staffed 24 hours a day, 365 days a year, with employees working a variety of shifts and schedules. At least one leader is on site at all times and escalation to higher levels of management is possible through an on-call rotation. The NOC is constructed of 5 key foundations: Monitor, Detect, Triage, Communicate and Coordinate. The NOC Monitors the network, services, infrastructure, and applications. Attempts remote restoral and manages incidents, problems, and changes. Facilitates restoration activities and outage communications. The NOC protects and preserves the integrity of the network, services, and infrastructure and provide best in class CB customer service, network intelligence, service assurance, communication, and coordination of network events.
Cox Business Smart Communities, is the Internet of things (IoT) organization within Cox, delivering solutions that facilitate frictionless interactions among people and things resulting in efficiency gains and customer experience improvements. Unlike most companies in the IoT space, Cox can develop end-to-end solutions meeting customers’ highest-priority needs.

Cox Business Smart Communities Platform provides a software foundation enabling the rapid development of solutions and applications related to smart communities, agriculture, utilities/public services, automotive/traffic control, supply chain asset management, environmental/energy management, and other key areas of focus for local businesses, governments, and citizen’s needs. Our goal is to meet the customer’s need and satisfy the customer’s requirements at a price point that allows the solution to scale. Designing, implementing, and supporting any end-to-end Internet of Things solution.

Smart Communities foster smart, diverse citizens that help drive an innovative economy and create an environment that promotes the benefits of urban living and minimizes the complications of city life.

Transforming cities to improve quality of living and reduce expenditures. We’re one partner that can bring together internet, WiFi, lighting controls, security, wayfinding, advertising, solar power, environmental, traffic and pedestrian data together with our fiber infrastructure. Cox has the financial stability, community relationships, engineering experience and maintenance infrastructure to power and support an enduring, innovative, and evolving smart solution ecosystem.

All of Cox Business Smart Community technologies are purpose-built to be open, highly scalable, and quickly customizable so that we can easily integrate into your current systems and begin providing immediate value at the right price-point.
Cox Response to the Southside Network Authority

Smart Communities…
A Better Approach

- Establish partnerships with an ally who:
  - Shares value
  - Drives innovation
  - Possesses diverse assets
- Discover financially self-sustaining solutions
- Collect data equitably
- Addressing problems that concern all
- Ability to bridge the digital divide

Why Cox Smart Communities?

- Community membership with relationships and a proven desire to invest in the future
- $15 billion invested on infrastructure updates in the last decade
- Trusted network operator with experience securing data in transit and at rest
- Trusted network of partners to accelerate the development of end-to-end solutions
- Simplifies complex deployments that involve multiple technology vendors

See Attachment N – Cox Smart Communities
G. Other Matters Deemed Relevant by the Firm/Consortium.

A proposer may submit further information it considers necessary and appropriate for the consideration of the Authority.

Cox Response: Cox understands this requirement.

H. Instructions on Part H—Procurement Forms.

Proposers must submit the following forms attached to this solicitation:

Attachment A — Experience
Attachment B — Financial Responsibility
Attachment C — Non-Collusion Statement
Attachment D — Certification of Compliance with Immigration Laws and Regulations
Attachment E — State Corporation Commission Certification
Attachment F — SWaM/DBE Certification Form
Attachment G — Partner Responsibility Matrix

Cox Response: Cox agrees and complies with these requirements.
Attachment A – Experience

Provide information on similar projects carried out by your firm/consortium below. If the consortium has formed for the purpose of the present project, provide project and references for key members of the consortium.

If you believe additional information on projects is desirable, please attach further information.

**Representative Project 1:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Dark Fiber Maintenance Contract 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>All city offices, police cameras, traffic systems in Virginia Beach, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>City of Virginia Beach</td>
</tr>
<tr>
<td>Public Entity Address:</td>
<td>2405 Courthouse Dr. Virginia Beach, VA 23456</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(757) 385-2463</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td>(757) 427-0060</td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:mstclair@vbgov.com">mstclair@vbgov.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Marc St. Clair</td>
</tr>
<tr>
<td>Scope</td>
<td>Design, engineer, construct 117- mile fiber optic network connecting all city offices, police, cameras, traffic systems in Virginia Beach. Project involves audit of existing WAN, construct UG conduit, HH, fiber &amp; splice to support redundant fiber rings, extensions to new facilities as well as relocations due to conflicts with CIP projects. Maintain mapping &amp; splice documents for entire network, provide 24/7/365 repair and maintenance of network and Miss Utility gridding and utility locates.</td>
</tr>
<tr>
<td>Type of Project</td>
<td>Design, Preliminary Engineering, Construction, Fiber Splicing, Network Repair &amp; Maintenance, Utility Gridding &amp; Location, Mapping &amp; Splicing Documentation</td>
</tr>
<tr>
<td>Describe key lessons learned:</td>
<td>• Confirm SLA restoration and repair commitment times. Confirm they are reasonable and achievable. • Ensure head count necessary to manage the project is included in quote (100% devoted to job).</td>
</tr>
</tbody>
</table>
**Representative Project 2:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Dark Fiber Maintenance Contract 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>All public schools and administration offices in Virginia Beach, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Virginia Beach City Public Schools</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>2512 George Mason Drive Virginia Beach, VA. 23456</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(757) 263-6806</td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:Michael.Combs@vbschools.com">Michael.Combs@vbschools.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Michael Combs</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Design, engineer, construct 119-mile fiber optic network connecting all city schools and offices. Project involves audit of existing WAN, construct UG conduit, HH, fiber &amp; splice to support redundant fiber ring, extensions to new or renovated schools as well as relocations due to conflicts with CIP projects. Maintain mapping &amp; splice documents for entire network, provide 24/7/365 repair and maintenance of network and Miss Utility gridding and utility locates.</td>
</tr>
<tr>
<td><strong>Type of Project</strong></td>
<td>Design, Preliminary Engineering, Construction, Fiber Splicing, Network Repair &amp; Maintenance, Utility Gridding &amp; Location, Mapping &amp; Splicing Documentation</td>
</tr>
</tbody>
</table>
| **Describe key lessons learned:** | Review Cox financial responsibility for repairs/restorations.  
- Most 3rd party damage is not reimbursed on these contracts at 100%, if at all. |
Representative Project 3:

<table>
<thead>
<tr>
<th><strong>Project Name:</strong></th>
<th>Mid-Atlantic Broadband Communities Corporation (MBC)–Bowers Hill Dark Fiber (South Ring)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Address:</strong></td>
<td>Telxius Data Center @ 1900 Corporate Landing Parkway, Virginia Beach to 2636 Campostella Rd., Chesapeake, VA</td>
</tr>
<tr>
<td><strong>Public Entity Name:</strong></td>
<td>Mid Atlantic Broadband</td>
</tr>
<tr>
<td><strong>Public Entity Address</strong></td>
<td>715 Wilborn Ave South Boston, VA 24592</td>
</tr>
<tr>
<td><strong>Public Entity Phone:</strong></td>
<td>(434) 570-1300</td>
</tr>
<tr>
<td><strong>Public Entity Email:</strong></td>
<td><a href="mailto:info@mbc-va.com">info@mbc-va.com</a></td>
</tr>
<tr>
<td><strong>Public Entity POC Name:</strong></td>
<td>Tad Deriso</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Design, engineer, construct 37-mile fiber optic network—aerial and UG fiber circuits. Project involved construction of aerial strand &amp; UG conduit, HH, plus fiber installation, splicing &amp; testing to support new redundant fiber ring.</td>
</tr>
<tr>
<td><strong>Type of Project</strong></td>
<td>Design, Preliminary Engineering, Construction, Fiber Splicing</td>
</tr>
<tr>
<td><strong>Describe key lessons learned:</strong></td>
<td>Address cost of labor and material increases over the duration of the contract will be managed</td>
</tr>
</tbody>
</table>
Attachment B - Financial Responsibility

I. Financial Responsibility

For the partner in the consortium that will carry out construction activities, provide a letter from your surety company listing your organization’s current single Project and total Projects bonding capacity, including such information for the local or regional office that will be used in delivering the services to be provided on the Project; attach this letter to this Application. If you propose to bid out construction separately, this section may be omitted.

Name of Bonding Company: Liberty Mutual Insurance Company

Address: 175 Berkeley Street, Boston, MA 02116

Information on Attorney-in-Fact:
Telephone: (954) 838-3432
Fax:__________________________________
Email: camille.cruz@marsh.com

Is the Bonding Company on the United States Department of the Treasury list of acceptable surety corporations?
☐ Yes ☐ No

Is the Bonding Company licensed to transact surety business in the Commonwealth of Virginia?
☐ Yes ☐ No

Describe the capacity of your organization to meet the project schedule and demands. Include an analysis of your current workload.

Cox Response: Cox has a long history of providing services in Virginia that covers most areas of this RFP. Nationwide, Cox has deployed and maintains over 215,000 miles of fiber infrastructure, over 6,000 wireless small cells, and the largest IoT asset and inventory tracking deployment in the world.

We have demonstrated our expertise and capability for obtaining funding, national equipment support contracts and national and local labor subcontractors to complete a job within this scope and size to the timelines required. We are actively engaged in multiple municipal initiatives enabling Smart City functionality including Smart Lighting, Intelligent Kiosks, Smart Parking, and Traffic Flow analysis that are covered under NDA.
Cox Response to the Southside Network Authority

Current Cox Business capacity to meet the requirement:

See Attachment J - Cox Surety Statement

II. Judgements

This section should be completed by each principal entity within the consortium. In the last ten years, has your organization, or any officer, director, partner, or owner, had judgments entered against it or them for the breach of contracts for construction?

☐ Yes ☒ No

If yes, on a separate attachment, state the person or entity against whom the judgment was entered, give the location and date of the judgment, describe the project involved, and explain the circumstances relating to the judgment, including the names, addresses and phone numbers of persons who might be contacted for additional information.

III. Convictions and Debarment

This section should be completed by each principal entity within the consortium. If you answer yes to any of the following, on a separate attachment, state the person or entity against whom the conviction or debarment was entered, give the location and date of the conviction or debarment, describe the project involved, and explain the circumstances relating to the conviction or debarment, including the names, addresses and phone numbers of persons who might be contacted for additional information.
I. In the last ten years, has your organization or any officer, director, partner, owner, project manager, procurement manager or chief financial officer of your organization:

   a. ever been fined or adjudicated of having failed to abate a citation for building code violations by a court or local building code appeals board?
      □ Yes ☒ No
   b. ever been found guilty on charges relating to conflicts of interest?
      □ Yes ☒ No
   c. ever been convicted on criminal charges relating to contracting, construction, bidding, bid rigging or bribery?
      □ Yes ☒ No
   d. ever been convicted: (i) under Va. Code Section 2.2-4367 et seq. (Ethics in Public Contracting); (ii) under Va. Code Section 18.2-498.1 et seq. (Va. Governmental Frauds Act); (iii) under Va. Code Section 59.1-68.6 et seq. (Conspiracy to Rig Bids); (iv) of a criminal violation of Va. Code Section 40.1-49.4 (enforcement of occupational safety and health standards); or (v) of violating any substantially similar federal law or law of another state?
      □ Yes ☒ No
   e. ever been convicted on charges relating to employment of illegal aliens on construction projects?
      □ Yes ☒ No

2. Is your organization or any officer, director, partner, or owner currently debarred or enjoined from doing federal, state, or local government work for any reason?
   □ Yes ☒ No

3. Has your organization or any officer, director, partner, or owner ever been debarred or enjoined from doing federal, state, or local government work for any reason?
   □ Yes ☒ No

IV. Compliance

If you answer yes to any of the following, on a separate attachment give the date of the termination order, or payment, describe the project involved, and explain the circumstances relating to same, including the names, addresses and phone numbers of persons who might be contacted for additional information.

1. Has your organization:
Cox Response to the Southside Network Authority

a. Ever been terminated on a contract for cause?
   - Yes ☑ No

b. within the last five years, made payment of actual and/or liquidated damages for failure
to complete a project by the contracted date?
   - Yes ☑ No

2. Has your organization, in the last three years, received a final order for willful and/or repeated
violation(s) for failure to abate issued by the United States Occupational Safety and Health
Administration or by the Virginia Department of Labor and Industry or any other government
agency of similar jurisdiction?
   - Yes ☑ No

3. Have any Performance or Payment Bond claims ever been paid by any surety on behalf of
your organization?
   - Yes ☑ No

4. Has your organization been more than thirty (30) days late, without good cause, in
achieving the contracted substantial completion date where there was no liquidated damages
provision on more than two (2) projects in the last three (3) years?
   - Yes ☑ No, to the best of our knowledge.

5. Has your organization finally completed a project more than ninety (90) days after
achieving substantial completion on two (2) or more projects in the last three (3) years, for reasons
within the contractor’s control? Documented delay of delivery of material necessary to perform
remaining work or seasonal conditions that bear on performing the work or operating specific
equipment or building systems shall be considered in mitigation.
   - Yes ☑ No

6. Has your organization received more than two (2) cure notices on a single project in the
past two (2) years and/or more than one (1) cure notice on five (5) separate projects in the past
five (5) years?
   - Yes ☑ No, to the best of our knowledge.

7. For any partner within your consortium that anticipates carrying out construction work,
has your organization had repeated instances on a project of installation and workmanship
deviations which exceed the tolerances of the standards referenced in the contract documents?
Documentation of such instances shall be the written reports and records of the Owner’s
representatives on the project.
   - Yes ☑ No
Cox Response to the Southside Network Authority

Attachment C – Non-Collusion Statement

My signature certifies that the accompanying proposal is not the result of, or affected by, any unlawful act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud punishable under the Virginia Governmental Frauds Act, sections 18.2-498.1 et seq. of the Code of Virginia, 1950, as amended. Furthermore, I understand that fraud and unlawful collusion are crimes under the Virginia Governmental Frauds Act, laws against bid rigging (sections 59.1-68.6 et seq.), the Virginia Antitrust Act (sections 59.1-9.1 et seq.), and Federal laws regarding the same, and can result in fines, prison sentences, and civil damage awards.

I hereby certify that I am authorized to sign, personally or as a Representative for the Firm:

Name of Firm or Individual: Cox Communications Hampton Roads, L.L.C. __________

Address: 1341 Crossways Blvd. ____________________________

Chesapeake, VA. 23320 __________________________________________

Signature: ______________________________________________________

Name (type/print): J.D. Myers, II ______________________________________

Title: Senior Vice President & Virginia Region Manager

Telephone: (757) 369-4595 __________________________ Fax: __________________________

FEI/FIN No. 58-2220125 Date: 8/24/2021 __________________________
Attachment D

Certification of Compliance with Immigration Laws and Regulations

Any person or entity doing business with the Authority, must include a sworn certification of compliance with all federal immigration laws and regulations. These laws include the Federal Immigration Reform and Control Act, which makes it unlawful for a person or other entity to hire, recruit or refer for a fee for employment in the United States, an alien knowing the alien is unauthorized, and § 40.1-11.1 of the Code of Virginia, which makes it unlawful for any employer to knowingly employ an alien who cannot provide documents indicating that he or she is legally eligible for employment in the United States. The state law, in particular, places an affirmative duty on employers to ensure that aliens have proof of eligibility for employment.

Accordingly, this certification shall be completed and attached to all contracts and agreements for goods and services made by the Authority. Failure to attach a completed certification renders the contract or agreement void.

Type or print legibly when completing this form.

Legal Name of Proposer: Cox Communications Hampton Roads, L.L.C.

(Note: This is your name as reported to the IRS. This should match your Social Security card or Federal ID number.)

Type of Business Entity:

☐ Sole Proprietorship (Provide full name and address of owner):
☐ Limited Partnership (Provide full name and address of all partners):
☐ General Partnership (Provide full name and address of all partners):
☒ Limited Liability Company (Provide full name and address of all managing members):
☐ Corporation (Provide full name and address of all officers): (on separate sheet, attached)

Doing Business As (if applicable): Cox Business ("Cox")

(Note: This is the name that appears on your invoices but is not used as your reporting name.)

Name and Position of Person Completing this Certificate:

Name: J.D. Myers, II Position: Senior Vice President & Virginia Region Manager
Cox Response to the Southside Network Authority

Physical Business Address:

1341 Crossways Blvd.
Chesapeake, VA. 23320

Primary Correspondence Address (if different from physical address):

___________________________________________________________________________________

Number of Employees: 1500 +

Are all Employees Who Work in the United States Eligible for Employment in the United States?

☐ Yes ☐ No

Under penalties of perjury, I declare on behalf of the proposer listed above that to the best of my knowledge and based upon reasonable inquiry, each and every one of the proposer’s employees who work in the United States are eligible for employment in the United States as required by the Federal Immigration Reform and Control Act of 1986 and § 40.1-11.1 of the Code of Virginia. I further declare on behalf of the proposer that I and my firm will use due care and diligence to ensure that all employees hired in the future who will work in the United States will be eligible for employment in the United States. I affirm that the information provided herein is true, correct, and complete.

Sworn this 19th day of August, 2021, by QIA

on behalf of Cox Comm HND, LLC as evidenced by the following signature and seal:

Name of Contractor/Vendor: Cox Communications Hampton Roads, L.L.C
Printed Name of Signatory: J.D. Myers, II

Signature: 

Date: 8/19/2021

STATE/COMMONWEALTH OF Virginia:

CITY/COUNTY OF Virginia Beach

The foregoing instrument was acknowledged before me this 19th day of August, 2021, by J.D. Myers II

Notary Public:

Registration No. 7816337
My commission expires: July 31, 2023
Attachment E - State Corporation Commission Certification

Pursuant to Code of Virginia § 2.2-4311.2(b), a proposer organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 is required to include in its proposal the identification number issued to it by the State Corporation Commission (SCC). Any proposer that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law is required to include in its proposal a statement describing why the proposer is not required to be so authorized.

SCC Identification Number: S2612606 (REQUIRED)
Attachment F - SWaM/DBE Certification Form

Each principal member of a proposing consortium should fill out this form separately.

Proposer Name: Cox Communications Hampton Roads, L.L.C.________________________

Proposer Address: 1341 Crossways Blvd., Chesapeake, VA 23320_____________________

Contact Person (Name/Title): Sean Shovelin, Account Manager, Government / Education

Contract’s Direct Telephone Number: (757) 222-8362 ________________________________

Contact’s Email Address: Sean.Shovelin@cox.com

While Cox is not a Small, Women-owned, or Minority-owned business (“SWAM”), Cox takes great pride in utilizing SWAM subcontractors where possible. Cox maintains its own Supplier Diversity Program to make a good faith effort to utilize small, women-owned and/or minority-owned business subcontractors. See Attachment I - Cox Diversity & Inclusion

Certifications

☐ DBE Certification  Certification No: ______________________________
NAICS Code: __________________ Certifying Agency: ____________________________
Date: ________________________ Certifying Agency: ____________________________
Exp. Date: ____________________ Years in Business: ____________________________

☐ SWaM Certification  Certification No: ______________________________
SwaM Type: ________________________________________________________________

☐ Service-Disabled Vet  Certification No: ______________________________
Date: ________________________ Certifying Agency: ____________________________
Exp. Date: ____________________ Years in Business: ____________________________

Minority Indicator

☐ African-American  ☐ Asian-Indian  ☐ Asian-Pacific
☐ Hispanic American  ☐ Native American  ☐ Non-minority woman
## Cox On-Net (Lit Services)

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Tasks/Responsibilities</th>
<th>Operational Responsibilities</th>
<th>Funding Responsibilities</th>
<th>Comments / Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SNA Responsibility</td>
<td>Cox Responsibility</td>
<td>Comments / Exceptions</td>
</tr>
<tr>
<td>Debt Service Payments</td>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
<td>There are no debt service payments in connection with lit services</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Provide Security for Financing</td>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
<td>Monthly payments; no financing or security</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ownership</td>
<td>Conduit infrastructure</td>
<td>X</td>
<td>x</td>
<td>Cox owns and maintains all infrastructure during the term</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Fiber</td>
<td>X</td>
<td>x</td>
<td>Cox owns and maintains all infrastructure during the term</td>
</tr>
</tbody>
</table>

There are no debt service payments in connection with lit services.
## Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Category</th>
<th>Service</th>
<th>Finance</th>
<th>Legal</th>
<th>Engineering</th>
<th>Technical</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partner Conduit/Fiber Laterals</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and extensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outside Plant (OSP)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>USF &amp; other federal tariffs and</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>fees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sales (state, county, municipal)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PILOT</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Surveys</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engineering / Construction plans</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Splice designs</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction management</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and QA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction labor and materials</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Network engineering</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Permitting</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ROW fees</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fiber testing</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>As-built documentation</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Locates</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trouble ticket processing</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fiber maintenance – material</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fiber maintenance – labor</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strand Management</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maintain Inventory of OSP</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Real estate for active network</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>equipment in field (if applicable)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Facility</th>
<th>SNA</th>
<th>Cox</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facilities (warehouse, crew, etc.)</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contract Management (for wholesale customers / service providers)</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>Refers to Cox sell of Services to SNA.</td>
</tr>
<tr>
<td><strong>Contract Management (direct customers)</strong></td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td><strong>Billing and invoicing</strong></td>
<td>x</td>
<td></td>
<td>Refers to Cox sell of Services to SNA.</td>
</tr>
<tr>
<td><strong>Bad debt (customer)</strong></td>
<td>x</td>
<td></td>
<td>Refers to Cox sell of Services to SNA.</td>
</tr>
<tr>
<td><strong>Collections</strong></td>
<td>x</td>
<td></td>
<td>Refers to Cox sell of Services to SNA.</td>
</tr>
<tr>
<td><strong>Tier 1 support 24x7 (basic customer issues)</strong></td>
<td>x</td>
<td></td>
<td>Cox includes comprehensive customer support for all Cox services.</td>
</tr>
<tr>
<td><strong>Tier 2 support 24x7 (basic technical support)</strong></td>
<td>x</td>
<td></td>
<td>Cox includes comprehensive customer support for all Cox services.</td>
</tr>
<tr>
<td><strong>Tier 3 support 24x7 (advanced technical support)</strong></td>
<td>x</td>
<td></td>
<td>Cost applies only if SNA desires to purchase NOC monitoring or Business Assurance Service.</td>
</tr>
<tr>
<td><strong>Prepare and manage SLAs</strong></td>
<td>x</td>
<td></td>
<td>Refers to Cox SLAs provided to SNA for lit services.</td>
</tr>
<tr>
<td><strong>Sales &amp; Marketing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Branding</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Marketing</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Sales</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Customer acquisition (sales) and retention</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Service performance objectives</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Service catalog</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Monitor pricing</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Set pricing (based on contract conditions)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Develop and manage customer contracts</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Execute customer contracts</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Reporting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide sales records</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Provide SNA invoice and payment status (payments)</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Maintenance and repair records and as-built documentation</td>
<td>x, if requested and subject to Cox approval</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Provide monthly sales and leads reports</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
## Cox Response to the Southside Network Authority

### Dark Fiber (Leased)

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Tasks/Responsibilities</th>
<th>Operational Responsibilities</th>
<th>Funding Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SNA Responsibility</td>
<td>Cox Responsibility</td>
</tr>
<tr>
<td>Debt Service Payments</td>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Provide Security for Financing</td>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ownership</td>
<td>Conduit infrastructure</td>
<td>x</td>
<td>Cox owns and maintains all infrastructure during the term</td>
</tr>
<tr>
<td></td>
<td>SNA Fiber</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>
### Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Cox</th>
<th>Partner Fiber</th>
<th>Partner Conduit/Fiber Laterals and extensions</th>
<th>Outside Plant (OSP)</th>
<th>Other?</th>
<th>USF &amp; other federal tariffs and fees</th>
<th>Sales (state, county, municipal)</th>
<th>PILOT</th>
<th>Taxes</th>
<th>Surveys</th>
<th>Engineering / Construction plans</th>
<th>Splice designs</th>
<th>Construction management and QA</th>
<th>Construction labor and materials</th>
<th>Network engineering</th>
<th>Permitting</th>
<th>ROW fees</th>
<th>Fiber testing</th>
<th>As-built documentation</th>
<th>Maintenance</th>
<th>Locates</th>
<th>Trouble ticket processing</th>
<th>Fiber maintenance – material</th>
<th>As-built documentation</th>
<th>As-built documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x, General Liability</td>
<td>x, General Liability</td>
<td>x</td>
<td></td>
<td>General Liability</td>
<td>x</td>
<td>x</td>
<td>x, General Liability</td>
<td>As per Dark Fiber Lease.</td>
<td>As per Dark Fiber Lease.</td>
<td>As per Dark Fiber Lease.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>n/a</td>
<td>n/a</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>n/a</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x, General Liability</td>
<td>x</td>
<td>x, General Liability</td>
<td>x, General Liability</td>
<td>x, General Liability</td>
<td>x, General Liability</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x, General Liability</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x, General Liability</td>
<td>As per Dark Fiber Lease.</td>
<td>As per Dark Fiber Lease.</td>
<td>As per Dark Fiber Lease.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.**
<table>
<thead>
<tr>
<th><strong>Customer Service</strong></th>
<th><strong>Fiber maintenance – labor</strong></th>
<th>x</th>
<th></th>
<th></th>
<th>As per Dark Fiber Lease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strand Management</strong></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Maintain Inventory of OSP materials</strong></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Real estate for active network equipment in field (if applicable)</strong></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Facilities (warehouse, crew, etc.)</strong></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Contract Management (for wholesale customers / service providers)</strong></td>
<td>x, for SNA customers</td>
<td>n/a</td>
<td>x, for SNA customers</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td><strong>Contract Management (direct customers)</strong></td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Billing and invoicing</strong></td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Bad debt (customer)</strong></td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Collections</strong></td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, for SNA Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Tier 1 support 24x7 (basic customer issues)</strong></td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Tier 2 support 24x7 (basic technical support)</strong></td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease</td>
<td></td>
</tr>
<tr>
<td><strong>Tier 3 support 24x7 (advanced technical support)</strong></td>
<td>x, for SNA customers</td>
<td>x, as per Dark Fiber lease, if applicable</td>
<td>x, for SNA customers</td>
<td>x, for SNA customers</td>
<td></td>
</tr>
</tbody>
</table>

Cox can provide dark fiber monitoring services at an additional cost.
<table>
<thead>
<tr>
<th>Cox Response to the Southside Network Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales &amp; Marketing</strong></td>
</tr>
<tr>
<td>Prepare and manage SLAs</td>
</tr>
<tr>
<td>Branding</td>
</tr>
<tr>
<td>Marketing</td>
</tr>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>Customer acquisition (sales) and retention</td>
</tr>
<tr>
<td>Service performance objectives</td>
</tr>
<tr>
<td>Service catalog</td>
</tr>
<tr>
<td>Monitor pricing</td>
</tr>
<tr>
<td>Set pricing (based on contract conditions)</td>
</tr>
<tr>
<td>Develop and manage customer contracts</td>
</tr>
<tr>
<td>Execute customer contracts</td>
</tr>
<tr>
<td><strong>Reporting</strong></td>
</tr>
<tr>
<td>Provide sales records</td>
</tr>
<tr>
<td>Provide SNA invoice and payment status (payments)</td>
</tr>
<tr>
<td>Maintenance and repair records and as-built documentation</td>
</tr>
<tr>
<td>Provide monthly sales and leads reports</td>
</tr>
</tbody>
</table>

LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
### Dark Fiber (SNA OWNED)

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Operational Responsibilities</th>
<th>Funding Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SNA Responsibility</td>
<td>Cox Responsibility</td>
</tr>
<tr>
<td>Debt Service Payments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Provide Security for Financing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduit infrastructure</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>SNA Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Partner Fiber</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduit infrastructure</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>SNA Fiber</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Partner Fiber</td>
<td>x, if applicable</td>
<td>x, if applicable</td>
</tr>
<tr>
<td>Partner Conduit/Fiber Laterals and extensions</td>
<td>x, if applicable</td>
<td>x, if applicable</td>
</tr>
</tbody>
</table>
## Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Insurance</th>
<th>Outside Plant (OSP)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USF &amp; other federal tariffs and fees</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Sales (state, county, municipal)</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>PILOT</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveys</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Engineering / Construction plans</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Splice designs</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Construction management and QA</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Construction labor and materials</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Network engineering</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Permitting</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>ROW fees</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Fiber testing</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>As-built documentation</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Cox can offer surveying service at additional cost.

Cox can offer engineering and plan development services at additional cost.

Cox can offer splice design services at additional cost.

Cox can offer network engineering at additional cost.
<table>
<thead>
<tr>
<th>Maintenance</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Locates</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Troubles ticket processing</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Fiber maintenance – material</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Fiber maintenance – labor</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Strand Management</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Maintain Inventory of OSP materials</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Real estate for active network equipment in field (if applicable)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Facilities (warehouse, crew, etc.)</td>
<td></td>
<td>x (during construction only)</td>
<td></td>
<td></td>
<td>x (during construction only)</td>
</tr>
<tr>
<td>Cox Response to the Southside Network Authority</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Management (for wholesale customers / service providers)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Management (direct customers)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billing and invoicing</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad debt (customer)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collections</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tier 1 support 24x7 (basic customer issues)</td>
<td>x</td>
<td></td>
<td>x</td>
<td>Per Maintenance Agreement, if applicable.</td>
<td></td>
</tr>
<tr>
<td>Tier 2 support 24x7 (basic technical support)</td>
<td>x</td>
<td></td>
<td>x</td>
<td>Per Maintenance Agreement, if applicable.</td>
<td></td>
</tr>
<tr>
<td>Tier 3 support 24x7 (advanced technical support)</td>
<td>x</td>
<td></td>
<td>x</td>
<td>Per Maintenance Agreement, if applicable.</td>
<td></td>
</tr>
<tr>
<td>Prepare and manage SLAs</td>
<td>x</td>
<td></td>
<td>x</td>
<td>Per Maintenance Agreement, if applicable.</td>
<td></td>
</tr>
<tr>
<td><strong>Sales &amp; Marketing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branding</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer acquisition (sales) and retention</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service performance objectives</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service catalog</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor pricing</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set pricing (based on contract conditions)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop and manage customer contracts</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Execute customer contracts</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide sales records</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide SNA invoice and payment status (payments)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance and repair records and as-built documentation</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>Per Maintenance Agreement, if applicable.</td>
</tr>
<tr>
<td>Provide monthly sales and leads reports</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
Cox Response to the Southside Network Authority

Attachment H - Cox Team

Cox Business account management structure is based on a knowledgeable sales and sales engineering team assigned to the Southside Network Authority for the duration of the project and/or contractual arrangement. Cox has a large, local support organization including project management, installation techs, operations, engineering, and monitoring teams to design and implement the services as ordered and maintain the services after the installation is complete. In addition, our National Support Center (NSC) provides support 24/7/365. Cox Business will enable a veteran account team to service the account.

Cox distributes resources between our main headquarters in Atlanta, GA, and the local markets we serve. This allows Cox to provide Southside Network Authority with timely information to make key decisions. It also offers Southside Network Authority highly specialized resources, capabilities, and standardized processes from our centralized management. Our central offices include strong vendor support agreements and service level agreements with major equipment suppliers currently deployed to the Authority’s individual members. See Local Virginia Team Organizational Chart.

The Authority’s dedicated account team supports all service needs. This includes account management, technical, and billing resources. The individuals listed below have many years of experience supporting federal, county, and municipal governments:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone / Email</th>
<th>Duties &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean Shovelin</td>
<td>Account Manager, Government/Education</td>
<td>757-222-8362/Sean.Shovelin@cox.com</td>
<td>As a Government Account Manager with Cox, Sean’s primary function in this role is to build customer relationships; act as a liaison and consultant to provide effective and efficient solutions; to communicate needs to Cox management and internal departments; and to utilize multiple Cox resources to implement solutions and handle needs/risks.</td>
</tr>
<tr>
<td>Marc Snead</td>
<td>Sales Engineer</td>
<td>757-369-4519/marc.snead@cox.com</td>
<td>As a Sales Engineer supporting the Government and Education space, Marc’s primary role is gathering customer requirements, development and present a solution that best fits the customer’s needs. The Sales Engineer is your technology solutions consultant who will assist with solution designs to fulfill your technology needs.</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Contact Information</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Linda Hofacker</td>
<td>Strategic Account Sales Specialist</td>
<td>757-369-4585 / <a href="mailto:linda.hofacker@cox.com">linda.hofacker@cox.com</a></td>
<td>As a Strategic Account Specialist, Linda provides project management, and implementation of voice and data services. Her current role is to help develop and implement voice and data solutions for our customers and specializes in the conversion of voice services from one carrier to another. In addition, Linda is the point of contact for all service upgrades, adds, moves, changes, disconnects, and renewals post award. She is also responsible for maintaining our business partnerships.</td>
</tr>
<tr>
<td>John James</td>
<td>Technical Service Manager</td>
<td>757-222-7667 Office / <a href="mailto:John.James@Cox.com">John.James@Cox.com</a></td>
<td>As a Service Manager John’s primary responsibility is primary point of escalation of troubles. John also provides Reason For Outage (RFO) or a Post Incident Report (PIR) on major troubles. Provides maintenance notifications for planned and emergencies. John works with Cox technicians and engineers post trouble to alleviate future issues.</td>
</tr>
<tr>
<td>Clarence Cuffee</td>
<td>Sales Manager</td>
<td>757-222-8439 / <a href="mailto:Clarence.Cuffee@cox.com">Clarence.Cuffee@cox.com</a></td>
<td>As a Sales Manager Clarence’s primary responsibility is providing the vision and strategy of the Enterprise Sales Team, allowing them to accurately forecast and achieve targeted sales and financial metrics. He is responsible for analyzing data, growing monthly revenue, and impacting Cox Business’s bottom line financial results. He is also responsible for collaborating with our external customers and Cox’s internal boundary partners to ensure they both achieve their targeted business objectives.</td>
</tr>
<tr>
<td>Richard Love</td>
<td>Technology Senior Director</td>
<td>(757) 222-8246 / <a href="mailto:Richard.Love@cox.com">Richard.Love@cox.com</a></td>
<td>Leads the execution of multiple verticals within the Outside Plant Engineering and Construction portfolio such as Cox Business, Residential, and Carrier. Drives national projects and initiatives across regional boundaries through the collaboration of boundary partners, field peers, executive sponsors, analytical organizations, and the corporate team. Owns the analysis and management of key performance indicators and service level agreements for Enterprise activities and proactively</td>
</tr>
</tbody>
</table>
Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Key Personnel</th>
<th>Title</th>
<th>Identification of at least three (3) similar or comparable projects on which each proposed key personnel have served in that capacity or positions of similar or comparable responsibility within the last ten years, including at least one of those within the last five years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Phillips</td>
<td>Construction and Planning Manager</td>
<td>Manage Project Planners, Fiber Technicians, and Construction Crewmembers. Collaborate with multiple governments to build plant utilizing grants, manage multiple leaders covering Virginia and North Carolina. Lead initiatives to build new processes that improve efficiencies.</td>
</tr>
<tr>
<td></td>
<td>(757) 240-2951 /Chris.Phillips2@cox.com</td>
<td>takes actions to improve performance as appropriate.</td>
</tr>
</tbody>
</table>

Key Team Projects

Cox Response: Key Team projects below represent fiber optic solutions. Cox works directly with customers and agencies to deliver

<table>
<thead>
<tr>
<th>Key Personnel</th>
<th>Title</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean Shovelin</td>
<td>Account Manager, Government/Education</td>
<td>• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MAREA Transatlantic FO Project (Terrestrial Segment)</td>
</tr>
<tr>
<td>Marc Snead</td>
<td>Sales Engineer</td>
<td>• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MAREA Transatlantic FO Project (Terrestrial Segment)</td>
</tr>
<tr>
<td>Linda Hofacker</td>
<td>Strategic Account Specialist</td>
<td>• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MAREA Transatlantic FO Project (Terrestrial Segment)</td>
</tr>
<tr>
<td>Clarence Cuffee</td>
<td>Enterprise Sales Manager</td>
<td>• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MAREA Transatlantic FO Project (Terrestrial Segment)</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Projects</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Richard Love      | Senior Director, Technology       | • Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
• MAREA Transatlantic FO Project (Terrestrial Segment)  
• Mid Atlantic Broadband – Dark Fiber (North Ring)  
• Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
• Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
| Chris Phillips    | Manager, Construction and Planning | • Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
• MAREA Transatlantic FO Project (Terrestrial Segment)  
• Mid Atlantic Broadband – Dark Fiber (North Ring)  
• Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
• Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
| Robin Parker      | Supervisor, Construction          | • Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
• MAREA Transatlantic FO Project (Terrestrial Segment)  
• Mid Atlantic Broadband – Dark Fiber (North Ring)  
• Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
• Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
| Anthony Crish     | Supervisor, Construction          | • Suffolk Virginia Expansion – In progress  
• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
• MAREA Transatlantic FO Project (Terrestrial Segment)  
• Mid Atlantic Broadband – Dark Fiber (North Ring)  
• Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
• Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
| Shawn Mounce      | Director – Network Operations      | • Suffolk Virginia Fiber Expansion – In progress  
• QTS Data Center Fiber Build – In progress  
• Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
• City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
• MAREA Transatlantic FO Project (Terrestrial Segment)  
• Mid Atlantic Broadband – Dark Fiber (North Ring)  
• Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
• Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Projects/Actions</th>
</tr>
</thead>
</table>
| Mike Jaskowiak      | Access Engineering Manager| - Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
- Mid Atlantic Broadband – FB Dark Fiber (Point to Point)  
- Suffolk Fiber Build / Cox Infrastructure Expansion – In progress  
- QTS Data Center Fiber Build / Cox Infrastructure Expansion – In progress  
- Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
- City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
- MAREA Transatlantic FO Project (Terrestrial Segment)  
- Mid Atlantic Broadband – Dark Fiber (North Ring)  
- Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)  
- Mid Atlantic Broadband – FB Dark Fiber (Point to Point) |
| Zing Frazier        | Operations Manager        | - Voice Transformation – Supporting the transition of 4,000+ accounts from Legacy services to BroadSoft - In progress.  
- On-site Cox Business Field Techs supporting Virginia installations and trouble calls.  
- Switch Techs supporting Cox Business customers across all Cox markets.  
- Cell Site – upgrade to 400+ cell sites in the Virginia Market. |
| Edward Ferguson     | Operations Engineering Manager | - Virginia Beach City Public Schools Dark Fiber Maintenance Contract 2013 - on going  
- City of Virginia Beach Dark Fiber Maintenance Contract 2018- on going  
- INOVA Hospital Systems Dark Fiber build (Point to Point) 2021  
- Northern Virginia, WMATA (Washington Metro Transit Authority), multi-site fiber build - on going  
- CB Operation Engineers supporting Cox Business customers across all markets and the Metro Core Network as well as Tier III trouble escalation/resolution. |
Cox Response to the Southside Network Authority

Sean P. Shovelin

Summary

Professional Experience

Cox Business           March 2010 – Current
Account Manager-Government & Education /  September 2019 - present
Responsible for managing all local government and K-12 school systems in the Hampton Roads market. Work with multiple contacts within large public entities to identify and develop strategies and sophisticated telecom solutions centered around complex data, voice, and video. Focused on developing and maintaining long range account management plans for successful penetration of existing and prospective government/school accounts. Maintain an effective consultative relationship with customers during the sales process and provide responses for government RFI’s and RFP’s for government contracts. Collaborate with Sales Engineers and Sales Support Team to determine appropriate solutions for very large/complex entities; assess ROI of solutions. Collaborate with Community Relations to create and participate in opportunities to serve as a public representative of Cox in the local community in order to network and develop and maintain Cox’s presence.

Retention Representative / March 2010 – September 2019
As an Outside Retention Representative, I contacted existing small to medium customers requiring contract renewals, renewed contracts, and generate new sales opportunities. I developed and maintained a consulting relationship to retain assigned base of existing customers through regular contact to maintain expert-level knowledge of their business, industry and communication needs and challenges. I listened to and questioned customers in order to understand their business and communication needs, provide solutions to meet those needs, and troubleshoot and resolve sources of service, pricing, and technical problems. Consistently worked with Sales Engineer and/or Sales Support Team to determine appropriate solutions and address any issues regarding installation or service. I negotiated pricing, products, promotions, and terms/conditions with clients while ensuring the product pricing reflects pricing structures set at the corporate level. I performed any necessary calculations pertaining to IRR, time periods, pro-rations, or competitive pricing comparisons. I educated customers in the use of installed products, service offerings, billing, charges, and product features. I coordinated with other departments to resolve maintenance and billing. Responsible for managing my own account portfolio, accurately forecasting business, tracking own performance, and developing plans to achieve and exceed sales goals.

Yellowbook                     April 2006 – March 2010
As an Account Representative, I sold Yellowbook print and online products and services to small and medium sized businesses as well as managing an existing client base. I was promoted to Associate Sales Manager after only 8 months. In this role, I was assigned 3 direct reports in
addition to my own individual sales objective. I then was promoted to Sales Manager where I had no selling responsibility but led a team of 10 sales professionals.

**AT&T Wireless**
**November 2003 – April 2006**

**EDUCATION**
Bachelor of Business Administration, Marketing Major, Old Dominion University, 1999
Cox Response to the Southside Network Authority

Linda S. Hofacker

Summary

Summary Over 20 years of experience in the telecommunications industry. My current role as a Strategic Account Specialist is to help develop and implement voice, video, data and E911 solutions for our customers and specialize in the conversion of voice services from one carrier to another.

Professional Experience:

Strategic Account Sales Support Cox Communications, Chesapeake VA 2007 to present

- Account base is focused on Federal, State, Local entities. In addition, I support several local Military accounts and high-profile agencies.
- City of Chesapeake, City of Hampton, City of Norfolk, City of Poquoson, City of Portsmouth, City of Virginia Beach, City of Newport News, County of Gloucester, Chesapeake Public Schools, CR Shared Services, FBI, Fort Eustis, Fort Monroe, Gloucester Public Schools, Hampton Public Schools, Hampton University, Langley AFB, Newport News Public Schools, Norfolk Public Schools, ODU, Portsmouth Public Schools, Virginia Beach Public Schools, VCCS, and York County Schools.
- Previously supported the following accounts in my current role: Camp Peary, GSA, United States Navy, United States Coast Guard, NEXCOM, James City County, and William & Mary.
- Developed strategies for large government sales and established long term relationships with customers at all levels. Effectively interfaces regularly with internal and external customers.
- Responsible for any adds, moves, changes, disconnects, renewal of services, new service/construction, directory listings.

Sales Engineer Cox Communications, Chesapeake VA 2000 to 2007

One of my key assigned roles as a Sales Engineer was to manage our largest retail and revenue generating customer, Sentara Healthcare for 7 years. Responsible for the project management of the entire conversion for all Sentara services from their previous providers. Some of my daily responsibilities included, but were not limited to the following:

- Daily point-of-contact internally to Cox, as well as to Sentara’s team (approximately 20 people).
- Provided reports as needed to Cox Managers, Supervisors, Directors, and other work groups within the organization, as required.
- Provided customer with Network Serviceability and capacity checks, as needed.
- Received, entered, tracked all work orders for Voice services (PRI’s, T1’s, BRI, Business Lines, Trunks, OPX Circuits, Point-to-Point Circuits), as well as Data (DS-1’s, 10 Meg, 100 Meg, OC-3’s), in conjunction with all their Cox Business Internet Service needs. Responsible for all adds, moves, changes, disconnects, service grooms, (Sonet, ATM), for all locations.
- Provided customer with their work orders to include due dates, all features, phone numbers, circuit ID’s, bandwidth, pricing, as well as corresponding Cox work order numbers.
- Responsible for the construction timelines, splicing, equipment installation and providing updates to the customer. Extension of customer DMARC’s.
- Responsible for the complete project management and implementation (internal & external) for all T1 installation (Voice & Data), coordinating all testing with Vendor, Customer, and switch group.

COX BUSINESS LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
Cox Response to the Southside Network Authority

- Responsible for the management and coordination for all orders that involve porting.
- Ordered, reserved, tracked, maintained customer’s phone numbers for their 5-Digit dialing plan – to include all of the customer’s entire NPA/NXX’s.
- Verified any changes to the customer’s account weekly with the Sentara and Cox billing coordinators (i.e., billing issues, outages, credits).
Marc Snead

Summary
Over thirty years of Telcom Engineering experience. Marc has been engaged in the technical and management of various communication platforms in support of enterprise networks servicing commercial organizations, local governments, the US Military and NATO operations. He is well verse with Cox Business technology and processes of implementation of complex communication services.

Professional Experience
Cox Business 1997 - Present  Sales Engineer II
- Provide coaching for new Sales Engineers. Initiated Sales Engineering meetings.
- Attend monthly webinars.
- Assist Sales Reps in managing Enterprise accounts.
- Onsite customer sales visits dealing with services, as needed.
- Determine customer requirements and develop proposals for solutions that deal with Wide Area Networks (WAN) and Cox data service, and telephony network solutions.
- Conducts site surveys to determine customer requirements and network compatibility
- Identifies possible hurdles that may impeded deployment of Cox Business services.
- Develops and executes technical presentations for internal/external groups as needed.
- Reviews proposals created by Business Service Account Executives to provide necessary technical input and ensures application is appropriate to customer needs/demands.
- Interfaces with customers and vendors to ensure the integrity of Cox proposals.
- Works with the test lab to ensure the feasibility of all new/custom products and solutions.

Notable Projects includes the following:
- Carrier Integration to 11 Verizon CO’s
- WAN services for Portsmouth Public Schools, City of Norfolk and City of Chesapeake First Responders  / DWDM WAN services for US Military
- 20,000 number port for Langley AFB

Communications Management Associates Portsmouth, VA 1993 - 1997, Senior Communications Engineer
Responsible for the technical implementation of complex communications systems and solutions for clients of CMA. Efforts includes designing and implementing services supporting AT&T, Lucent, Avaya, and Nortel communication platforms. Major projects include:
- Relocation and upgrading AT&T Definity Systems 85 to G2.2 for the Bremerton Naval Hospital. Systems supports over 2000 subscribers.
- Installation of Campus Fiber for Hampton University, Hampton, Va.
- Support of JFCOM Definity G3 systems. Systems supports commercial PRI’s and special connectivity used for base communications.

SPAWAR (Space and Naval Warfare Systems Command) 1985 – 1997 - Senior Engineer

Education
Cox Response to the Southside Network Authority

- Bachelor of Science in Electrical Engineering Technology from Old Dominion University - 1985
- Various Graduate Classes in Engineer Management from ODU
- Various Seminars in Communications Technology from George Washington University
- Various Cisco classes on network engineering
- Various BICSI classes on cabling fiber and CAT5/6/7 infrastructure Inside and Outside Plant and WiFi
Summary

16 years of technical project and customer management experience in the electrical and telecommunications field.

Qualifications

- TCP/IP and LAN/WAN topologies and configurations knowledge.
- Understanding the importance of successful customer communication at all levels.
- Experienced in the managing of Hi-Cap projects and customers on the Fiber and HFC platform.
- Experienced with the TOMs and Optix order management systems, Tableau, Granite, UET Remedy and OBIEE.
- Experienced with managing projects and customers with Cox Boundary Partners (Nationwide and Statewide).
- Implemented Statewide Staging Processes for Virginia.
- Involved with the TOMS/Optix Workflow and IWO Process team.
- Proficient in Microsoft Project as well as Access, Excel, Word, Power Point and One Note.

Professional Experience

Cox Communications Inc. 2010 to Present  Technical Engineering Project Manager

- Create, plan, oversee and document all aspects of Cox Communications Center lead projects.
- Work closely with upper management to ensure that the scope and direction of each project is on schedule as well as other departments for support.
- Schedule and run all meetings regarding projects managed.
- Work with boundary partners nationwide on processes and procedures.
- Manage all technical projects on a daily basis.
- Work closely with Cox Communication customers to ensure the successful completion of all projects.

Cox Communications Inc.  Cox Business Fulfillment Supervisor

- Manage the completion of all complex fiber jobs that are assigned
- Work with all boundary partners
- Implemented State-wide Staging Process in VA.
- Work with boundary partners nationwide on processes and procedures
- Manage all technical projects on a daily basis.
- Work closely with Cox Communication customers to ensure the successful turn up of all services

Cox Communications Inc.  Cox Central Systems Tech II/Provisioning

- Turn up and testing of all CB customers.
- Trouble shooting new installations with the field technicians to resolve customer issues.
- Provision circuits for complex fiber jobs.
Cox Response to the Southside Network Authority

- Work with Technicians to manage the successful turn up of Cox equipment.
- Work with Cox customers to ensure the best Customer experience possible.

Cox Communications Inc.  Cox Service Assurance Technician I
- Created MOP’s for several power distribution models.
- Worked with Sentara on NOVA power upgrade.
- Worked with complex customers on the restoration of services.

Kellam Mechanical Inc.  Electrical Project Manager  1999-2010
- Manage all technical electrical projects.
- Work closely with all customers in regard to work completed.
- Manage daily business operations for the electrical department
- Work closely with contractors and city officials to ensure timely project completion

Awards Received/Volunteer Experience
Cox Communications
- 2013 Outstanding Cox Business Support
- 2012 Sentara Fort Norfolk Fire Response Team
- Virginia Beach Youth Service Club
  - 17 years (President, Treasurer, and Board Member)
  - Donate over $125,000 per year to youth charities in Hampton Roads Food Bank

Education
Bachelor of Science in Electrical Engineering Technology from 2016
Global Knowledge PMP Bootcamp
2014 to Present Liberty University Associates Degree Business Management
2010 Tidewater Community College Cisco Switching /Cisco Networking

License
Virginia Master Electrician
Clarence A. Cuffee, Jr.

Summary

Highly experienced professional with more than 27 years in management recognized for the ability to build, guide, and sustain successful sales teams. Consistently recognized for performance that exceeds expectations. Comfortable with interfacing with, establishing and maintaining relationships with business to business and residential customers alike.

Professional Experience

COX COMMUNICATIONS, Chesapeake, VA

Cox Business Enterprise Manager, December 2017 – Present

Leads team of Enterprise Accounts Managers and Strategic Account Specials responsible for over $3 million dollars of monthly recurring revenue. Focused on managing and leveraging relationships, growing new revenue, and retaining existing revenue. Recruited and trained 4 new reps and held them accountable for the monthly and yearly targets.

Cox Business Manager, Sales & Retention, February 2010 – December 2017

Launched team of outside retention that are responsible for maintaining relationship with existing customer base by renewing sales contract. Focused on retaining existing revenue, growing new revenue, and minimizing revenue and customer loss. Coached and developed a team of 7 – 8 reps and held them accountable for the monthly and yearly targets. Instituted a system of rewards and recognition that increased overall morale and engagement.

Manager, Direct Sales, August 2006 – February 2010

Reorganized a team of 40 direct sales representatives that was performing well below budget by redefining responsibilities and accountability. Supervised, coached, and mentored a team of three supervisors and held them accountable for the growth and development of their direct reports. Instituted a system of rewards and recognition that increase overall morale and engagement.

Manager, Retention and Customer Loyalty, May 2005 – February 2007

Developed the strategy and tactics used to launch the first saves, retention, and loyalty department at the local system level by researching and analyzing the market and forecasting to establish realistic and measurable retention goals and metrics. Responsible for selecting, training, and developing a staff of three supervisors and twenty representatives that focused on reducing customer churn and instilling loyalty to our existing customer base.

Education

M.B.A. DEGREE, May 2008
Concentration in Organizational Change and Development
Regent University, Virginia Beach, VA

B.S. DEGREE, MARKETING MANAGEMENT, May 1989
Virginia Polytechnic Institute & State University, Blacksburg, VA
L. Richard Love

Summary

- Served in increasingly critical leadership roles to oversee the execution of numerous business verticals.
- Engaged with business leaders to anticipate business issues, to drive strong decision making, and to ensure the successful execution through sound management and business expertise.
- Responsible for portfolio management encompassing enhancement of the existing network infrastructure to support build and design strategies for consistently delivering an optimal customer experience.
- Focused on continuous improvement including the enhancement of network design, construction processes, policies, and procedures essential to providing a consistent operating model. This has included partnering across the broader organization and with key business stakeholders to optimize upstream and downstream processes and integrate improvements into operating plans and goals.

Professional Experience

Senior Director, Technology March 2021 – Present Cox Communications - CVA Virginia Region

- Owns the execution of multiple verticals within the Outside Plant Engineering and Construction portfolio such as Cox Business, Residential, and Carrier.
- Drives national projects and initiatives across regional boundaries through the collaboration of boundary partners, field peers, executive sponsors, analytical organizations, and the corporate team.
- Demonstrates the ability to lead teams and support positive relationships with market level and regional executives across multiple markets and states within a matrix organization to drive local and national initiatives.
- Owns the analysis and management of key performance indicators and service level agreements for Enterprise activities and proactively takes actions to improve performance as appropriate.
- Demonstrates a commitment to outstanding customer service to Cox Communications business operations. Understands customer needs while developing and executing plans to address them and improve the overall customer experience.
- Oversees relationships between the Local and State regulatory and Public affairs communication teams to insure effective notification of project related Construction activities.
- Builds and enhances a strong team that provides proactive support and results-driven execution of responsibilities to meet the current and future needs of the business.
- Monitors and assesses current trends and emerging developments within the Broadband Industry to ensure the Company’s compliance and preparedness.
- Remains abreast of best practices and trends relevant to Network Construction and Design technologies.
- Manages and coaches’ employees to increase engagement and strengthen professional development. Continually strives to develop talent within the Construction organization to promote individual development and career growth.
Statewide Director, Construction & Planning 2009 – 2021 Cox Communications – CVA Virginia Region

- Responsible for leading teams of field engineers, construction crews, CADD Access designers, fiber technicians, and construction support staff for the Virginia region. The teams work in concert to plan, design, and construct the outside plant network to facilitate order fulfillment for both Cox Business and residential customers.
- The development and execution of people, process, change management, and platform strategies for the faster realization of revenue and improvement of network reliability.
- Plan, direct, coordinate, and execute system upgrades, network expansion, and reliability initiatives for the region. Manage, and execute against an annual budget (CapEx and OpEx).
- Identify, negotiate, and execute RFIs, RFPs, and Master Contract Agreements for construction contractors and business partners.
- Accountable for business continuity planning and disaster response and recovery.

Manager, Field Services 2003 - 2009 Cox Communications - HRD Chesapeake, VA

- Responsible for the leadership of a team of Field Service Supervisors and Field Service Representatives.
- Managed the installation, and servicing of video, High Speed Data Internet and Digital Phone products meet customer expectations.
- Directed departmental activities in the following areas: quality of work, hiring and staffing, maintenance integration, video platform changes, employee retention, training, and customer service.
- Maximized customer satisfaction by maintaining, developing, and leveraging professional relationships with internal and external customers.

Management Development Program 2001 – 2003 Cox Communications – HRD Chesapeake, VA

- Participated in a two-year program designed to develop and refine leadership abilities and competencies. The program afforded a holistic view of organizational operations through the managing of projects and teams in four (4) distinct departments, Customer Care, Field Operations, Customer Service, and the System Operations Center.
- Contributions to the system included the development and empowerment of direct reports, the creation and implementation of Methods and Procedures, process improvement strategies, policies and minimum standards, facilitation of training, and participation on various cross-functional teams.
- Developed and implemented employee engagement programs.

Education

<table>
<thead>
<tr>
<th>Year</th>
<th>Institution</th>
<th>Location</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Michigan State University</td>
<td>East Lansing, MI</td>
<td>Bachelor of Fine Arts</td>
</tr>
<tr>
<td>2003</td>
<td>Averett University</td>
<td>Danville, VA</td>
<td>Master of Business Administration</td>
</tr>
<tr>
<td>2020</td>
<td>Regent University</td>
<td>Virginia Beach, VA</td>
<td>Doctor of Philosophy in Organizational Leadership</td>
</tr>
</tbody>
</table>
Christopher Scott Phillips

Summary
- Construction and Planning Manager
- Project manager for FTTH for Outside Plant Maintenance in Hampton Roads
- Developed processes for multiple departments for the enterprise
- Over 20 years of field and network experience

Professional Experience

Construction and Planning Manager, Cox Communications, June 2019-Present
- Manage Project Planners, Fiber Technicians, and Construction Crewmembers
- Collaborate with multiple governments to build plant utilizing grants
- Manage multiple leaders covering Virginia and North Carolina
- Lead initiatives to build new processes that improve efficiencies
- Created Virginia Statewide Agenda to improve communications with employees

Field Systems Supervisor, Cox Communications, May 2013-June 2019
- Created and managed Plant Correction project that resulted $1 Million in savings
- Trained and deployed FNT Connection across the Enterprise
- Managed the Fiber To The Home project in Hampton Roads for OSPM
- Mentored multiple new supervisors
- Gold Standard Award winner for multiple years

Field Systems Technician, Cox Communications, June 2001-May 2013
- Held team Lead position
- Mentor and trainer for network and field technicians
- Worked effectively with outside vendors for solutions
- Supervised contractors during system upgrade
- Managed Cheetah XD upgrade for power supplies

Field Service Technician, Cox Communications, July 2000-June 2001
- Maintained video, data, and telephony service
- Proficient with various test equipment
- Maintained accurate documentation and reports

United States Coast Guard, October 1995-April 2000
- Supervised eight technicians daily
- Federal Law enforcement officer and team leader
- Trained and mentored eastern European police forces

Education
- Associates of Arts in Business, November 2007, University of Phoenix GPA 3.96/4.0

Community Leadership
- Vice President of Powhatan Chimney Civic Association 2014-2019
Attachment I - Cox Diversity & Inclusion

While Cox is not a Small, Women-owned, or Minority-owned business ("SWAM"), Cox takes great pride in utilizing SWAM subcontractors where possible. Cox maintains its own Supplier Diversity Program to make a good faith effort to utilize small, women-owned and/or minority-owned business subcontractors. Cox’s Supplier Diversity Program is designed to reach out and find SWAM suppliers, including taking the following actions:

A. Outreach efforts to obtain sources
   - Cox is a member and active participant in the National Minority Supplier Development Council.
   - Cox attends numerous local and national conferences as a member of NMSDC to meet new sources of small and minority owned businesses.
   - Cox advertises their interest in helping small and minority owned businesses and provides a link on the main web site www.cox.com for these types of firms to notify us of their existence and interest in doing business with Cox.
   - Cox continues its membership in the National Minority Supplier Development Council (NMSDC) and Women’s Business Enterprise National Council (WBENC). Our operations are automatically eligible to participate in the activities of their local NMSDC-affiliated Councils and have access to certified Minority businesses in their areas.
   - Cox Communications participates in Minority and Small Business trade fairs including exhibiting at the NMSDC National Trade Fair.
   - Cox continues to increase Minority Supplier involvement in its contract bid process including Reverse Auction participation for major supply contracts.
   - Cox hosts its own supplier diversity expos including the Cox Supplier Diversity Expo and Cox Supplier Technology Expo on an on-going basis to locate small business and diverse subcontractors.

B. Internal efforts to guide and encourage purchasing personnel
   - Cox provides training in all of our markets regarding our Supplier Diversity program.
   - Cox encourages each individual market to increase their use of small and minority owned firms and sends out a report each quarter to show how well each market is doing in that regard.
   - Cox reports on its Diversity Supplier program success companywide as well as by individual market. Cox has appointed Supplier Diversity Coordinators in our field offices to assist our Corporate Supplier Diversity Manager in developing local programs.

Cox Subcontractors:
## Cox Response to the Southside Network Authority

<table>
<thead>
<tr>
<th>Subcontractor</th>
<th>Contact Person, Telephone &amp; Email</th>
<th>Type of Goods and/or Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Circle Concepts II, LLC</td>
<td>Tim Hinson/Barbara Hudson (757)531-5888 / (757)531-5396 <a href="mailto:timh@fullcirclecon.com">timh@fullcirclecon.com</a> / <a href="mailto:bhudson@cox.net">bhudson@cox.net</a></td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>4560 South Blvd Suite 205, Virginia Beach VA 23452</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Small Business - Women (W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genesis Fiber Optic Splicing, Inc.</td>
<td>Paul Coleman/Kent Coleman (757) 639-3181 / (757) 449-2639 <a href="mailto:paul@gfosinc.com">paul@gfosinc.com</a> / <a href="mailto:kent@gfosinc.com">kent@gfosinc.com</a></td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>3932 Holland Blvd Chesapeake VA 23323</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Small Business - Veteran (V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Tech Inc.</td>
<td>Edward Britt/Shep Miller (757) 419-1650 / (757) 578-5000 <a href="mailto:edward.britt@lighttechfiber.com">edward.britt@lighttechfiber.com</a> / <a href="mailto:shep.miller@tridentuc.com">shep.miller@tridentuc.com</a></td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>2522 Alabama Ave Norfolk VA 23513</td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Coast Communications of Virginia</td>
<td>Bill Brown/Kelly Temple (757) 438-0694 / (757)673-3552 <a href="mailto:bill@eccov.hrcoxmail.com">bill@eccov.hrcoxmail.com</a> / <a href="mailto:Kelly@eccov.hrcoxmail.com">Kelly@eccov.hrcoxmail.com</a></td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>3737A Holland Boulevard, Chesapeake, VA 23323</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Network Services (FNS)</td>
<td>Greg Noles (706) 829-7930 <a href="mailto:gnoles@fibernetworkservices.com">gnoles@fibernetworkservices.com</a></td>
<td>Fiber Installations / Repair / Builds</td>
</tr>
<tr>
<td>8610 Virginia Meadows Dr; Manassas VA 20109</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ABOUT US
Cox Communications, Inc. (a subsidiary of Cox Enterprises)
Cox Communications, Inc. is a leading provider of telecommunications services including broadband communications and entertainment. We provide advanced digital video, Internet, and telephone services over our nationwide IP network. As the third-largest U.S. cable TV company, Cox serves approximately six million residences and businesses. Cox Business is a facilities-based provider of voice, video and data solutions for commercial customers.

SUPPLIER DIVERSITY PROGRAM
Program Overview
At Cox, we value and encourage the use of qualified minority-owned (MBE), women-owned (WBE), veteran-owned (VBE), service-disabled veteran-owned (SDVob), lesbian, gay, bisexual and transgender-owned (LGBTBE), and disabled-owned (DOBE) business enterprises in our company-wide purchasing processes. We seek to form mutually beneficial alliances with suppliers who offer products or services that are of high quality, competitively priced and come with excellent customer service.

Qualifications
For the purposes of our program, a qualified diverse-owned business is defined as a business that is at least 51% owned, operated and controlled by one or more of the above groups who are either US citizens or lawful permanent residents and are headquartered in the United States. Qualified diverse-owned businesses must be certified by a third party agency, government entity or business development / advocacy council.

TIER 2
Reporting Program
Cox prime suppliers are an extension of our value chain, and we ask our non-diverse prime suppliers to align with us in our commitment to supplier diversity by providing opportunities to diverse suppliers in their own supply chains. We call this initiative the Cox “Tier 2” Supplier Diversity Program. Suppliers enrolled in the program submit quarterly reports on diversity supplier usage and may have diverse subcontracting commitments.

2020 Diversity Spend- $732M

Diversity Awards and Recognition
Cox Communications is consistently recognized by third-party organizations for our commitment to and support of diversity and inclusion in the communities we serve. Cox Communications was ranked 5th on Diversity Inc’s “Top Companies for Supplier Diversity”.

SUPPLIER DIVERSITY PARTNERS

For more information and updates: [https://www.cox.com/aboutus/suppliers/supplier-diversity.html](https://www.cox.com/aboutus/suppliers/supplier-diversity.html)
Supplier Registration: [https://www.cox.com/aboutus/suppliers.html](https://www.cox.com/aboutus/suppliers.html)
Program Questions: chelsea.slaughter@cox.com

04/2021
April 20, 2021

Attn: Daneta Janosky
Southside Network Authority
723 Woodlake Drive
Chesapeake, Virginia 23320

Subject: RFP#: SNA-RFQ-2021-01

Liberty Mutual Insurance Company, a corporation under the laws of the State of Massachusetts, with an office and place of business at 175 Berkeley Street, Boston, MA 02110, represents Cox Communications (Cox Virginia Telcom, L.L.C.) for surety bonding needs.

At the present time, Cox Communications (Cox Virginia Telcom, L.L.C.) is in a position to consider single projects up to $20,000,000.00 single limit within an aggregate limit of $75,000,000.00. The statement of these values is neither a commitment nor a limitation of the bonding capacity of Cox Communications (Cox Virginia Telcom, L.L.C.). At the request of Cox Communications (Cox Virginia Telcom, L.L.C.), Liberty Mutual Insurance Company will give favorable consideration to providing the required performance and payment bonds.

Please note that the decision to issue performance and payment bonds is a matter between Cox Communications (Cox Virginia Telcom, L.L.C.) and Liberty Mutual Insurance Company and will be subject to Liberty Mutual Insurance Company standard underwriting at the time of the final bond request, which will include but not limited to the acceptability of the contract documents, bond forms and financing. Liberty Mutual Insurance Company assumes no liability to Cox Communications (Cox Virginia Telcom, L.L.C.), third parties or to you if for any Liberty Mutual Insurance Company does not execute said bonds.

Liberty Mutual Insurance Company is rated by A.M. Best as A (Excellent), with a Financial Size Category: XV ($2 Billion or greater).

If you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

[Signature]
Camille M. Cruz – Attorney In Fact
Liberty Mutual Insurance Company
Attachment K – Additional Experience with Similar Projects

**Representative Project 1:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mid Atlantic Broadband – Dark Fiber (North Ring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>Telxius Data Center @ 1900 Corporate Landing Parkway, Va. Beach, VA to VMAS @ 1070 University Blvd, Portsmouth, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Mid Atlantic Broadband</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>715 Wilborn Ave South Boston, VA 24592</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(434) 570-1300</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td></td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td>info@mbc-vacom</td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Tad Deriso</td>
</tr>
</tbody>
</table>

**Representative Project 2:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mid Atlantic Broadband – Bowers Hill Dark Fiber (South Ring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>Telxius Data Center @ 1900 Corporate Landing Parkway, Virginia Beach to 2636 Campostella Rd., Chesapeake, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Mid Atlantic Broadband</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>715 Wilborn Ave South Boston, VA 24592</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(434) 570-1300</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td></td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td>info@mbc-vacom</td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Tad Deriso</td>
</tr>
</tbody>
</table>
Cox Response to the Southside Network Authority

**Representative Project 3:**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mid Atlantic Broadband – FB Dark Fiber (Point to Point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>Telxius Data Center @ 1900 Corporate Landing Parkway, Virginia Beach to 2636 Campostella Rd., Chesapeake, VA</td>
</tr>
<tr>
<td>Public Entity Name:</td>
<td>Mid Atlantic Broadband</td>
</tr>
<tr>
<td>Public Entity Address</td>
<td>715 Wilborn Ave</td>
</tr>
<tr>
<td></td>
<td>South Boston, VA 24592</td>
</tr>
<tr>
<td>Public Entity Phone:</td>
<td>(434) 570-1300</td>
</tr>
<tr>
<td>Public Entity Fax:</td>
<td></td>
</tr>
<tr>
<td>Public Entity Email:</td>
<td><a href="mailto:info@mbc-va.com">info@mbc-va.com</a></td>
</tr>
<tr>
<td>Public Entity POC Name:</td>
<td>Tad Deriso</td>
</tr>
</tbody>
</table>
Attachment L: Cox Technical / Proposed Management Plan

Project Description and Approach

The Cox optical fiber network—a highly secure, fiber-optic ring-based architecture—is a combination of standards-based design, flexible access, security, and scalability.

Cox will design and construct a fiber network for an agreed fiber count requirement. Cox will deploy or upgrade this network with little to no interruption to your existing ethernet networks. The infrastructure will consist of aerial and underground fiber.

Fiber strands are typically housed within fiber sheaths and placed in conduit or aerial agreed right of ways. As such, leased fiber strands receive the same attention to maintenance and support as other critical Cox network facilities. For an additional cost, diverse routes with dual points of entry may be included for business continuity and separation from other network facilities with dedicated fiber pairs.

Cox fiber solutions eliminates the customer’s requirement to apply for government permits, utility easement access, subcontracting, and/or the coordinating of buried and/or aerial fiber. Timeframe to receive permits varies by location / City. Permits are applied for once the Building Access Agreement (BAA) and the Engineering drawings are approved to each location.

Cox’s fiber design will terminate fibers at mutually agreed location. The patch panels will terminate this outside fiber typically in a Main Telephone closet, usually within 30 ft. of building penetration. Cox can assist with demark extensions as necessary.

The simplicity of Cox fiber means less complexity when connecting locations together for high capacity exchange of information.

Cox leverages multiple existing vendor construction agreements to meet installation time. This is a significant advantage over many other providers that may try to install all facilities with limited in-house staffing or limited vendor agreements. As a current provider to the cities, Cox is familiar with the fiber entrance routes. Cox will work with the SNA as needed to provide diverse or additional fiber routes/ laterals.

As part of our Scope of Work, Cox will work with the SNA to develop a timeline for implementation at each location. As part of our meetings with we will review the schedules, dates and review any known risk. The Cox Project Manager will coordinate site access timing with the SNA including performing work after hours, weekends, and holidays inside of the buildings to avoid any disruption. A high-level timeline is provided as example. See High Level timeline below.

This approach applies proven techniques to all functional areas impacted by the transition to ensure a smooth and on schedule transition.
Cox Project Manager (PM) will schedule COX/SNA Team meetings from Kick-off to project completion. This will provide an opportunity for the SNA to offer input regarding the TMP. Cox PM will provide status updates/recaps and schedule all future meetings as requested.

**Planning Phase**
The Planning Phase consists of the tasks and activities necessary to confirm the project plan, assign team members with roles and responsibilities, establish communications and escalation procedures, and prepare for the project tracking and management of the overall transition. This phase includes the steps necessary to initiate and forge the ongoing relationship between Cox and the designated customer’s POCs for each task order.

**Preparation Phase**
The Preparation Phase consists of the tasks and activities necessary to ready toolsets, processes, and personnel for the implementation of the transition. During this phase, a detailed review of all processes and toolsets is conducted, and modifications required meeting the end-user’s requirements are fully documented, verified and planned.

**Implementation/Cutover Phase**
The Implementation/Cutover Phase consists of the tasks and activities necessary to install, test and activate the required services. During the Implementation Phase, emphasis is placed on installation and testing. Emphasis on installation ensures all requested services are installed in the least disruptive manner, thereby successfully transitioning services from Cox to the customer. Testing is conducted at key points to verify all service levels are satisfied and can be maintained.

Cox’s standard test and acceptance process for any fiber span is to conduct a Fiber OTDR test end to end for each span and provide the results to our operations team for internal records keeping and to our dark fiber customers.
Cox provides As-Built-Documentation as required once construction and implementation are complete. Documentation will show Cox fiber routes as built to each location.

See Test Sample next page.
Cox Response to the Southside Network Authority

Test Sample:

GRESTC.A01~TC0537.bdr 1550 OTDR report

Fiber Number : 1501
Wavelength(nm) : 1550

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Location (km)</th>
<th>Span (km)</th>
<th>Span Loss (dB/Km)</th>
<th>Splice Loss (dB)</th>
<th>Reflectance (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/B</td>
<td>A/A</td>
<td>A/A</td>
<td>A/A</td>
<td>A/A</td>
<td>A/A</td>
</tr>
<tr>
<td>1</td>
<td>0.0000</td>
<td>12.5868</td>
<td>0.0000</td>
<td>0.0000</td>
<td>&gt;40.568</td>
</tr>
<tr>
<td>2</td>
<td>2.5828</td>
<td>10.0486</td>
<td>0.0571</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>3</td>
<td>3.6019</td>
<td>8.0509</td>
<td>0.1241</td>
<td>0.0199</td>
<td>-69.41</td>
</tr>
<tr>
<td>4</td>
<td>4.0796</td>
<td>7.5998</td>
<td>0.1216</td>
<td>0.0199</td>
<td>-69.41</td>
</tr>
<tr>
<td>5</td>
<td>7.2874</td>
<td>6.8369</td>
<td>0.2876</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>6</td>
<td>10.2486</td>
<td>5.8369</td>
<td>0.5656</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>7</td>
<td>11.2465</td>
<td>4.8369</td>
<td>0.8434</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>8</td>
<td>12.0264</td>
<td>3.8369</td>
<td>0.8434</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>9</td>
<td>12.0563</td>
<td>2.8369</td>
<td>0.8434</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>10</td>
<td>12.0683</td>
<td>1.8369</td>
<td>0.8434</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
<tr>
<td>11</td>
<td>12.5000</td>
<td>0.0000</td>
<td>0.8434</td>
<td>0.0219</td>
<td>-69.41</td>
</tr>
</tbody>
</table>

Primary Trace: GRESTC15.01
Trace Parameters:
- Date: 09/19/18
- Time: 07:06 AM
- Range: 16 km
- Product Type: CH44500
- Opt. Module: CH4425
- Fiber Type: Singlemode
- Wavelength: 1550 nm
- Threshold: Loss: 0.06 dB, Reflectance: -40.00 dB, Backscatter: -0.0 dB
- Trace Flags: FA8

Overlay Trace: STOGER21.01
Trace Parameters:
- Date: 09/19/18
- Time: 06:36 PM
- Range: 16 km
- Product Type: CH44500
- Opt. Module: CH44410 M
- Fiber Type: Singlemode
- Wavelength: 1550 nm
- Threshold: Loss: 0.06 dB, Reflectance: -40.00 dB, Backscatter: -0.0 dB
- Trace Flags: FA8

LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
### GRESTC.A01~TC0537.bdr 1550 OTDR report

<table>
<thead>
<tr>
<th>Date</th>
<th>Test Site</th>
<th>Test Site</th>
<th>Date</th>
<th>Test Site</th>
<th>Test Site</th>
<th>Date</th>
<th>Test Site</th>
<th>Test Site</th>
<th>Date</th>
<th>Test Site</th>
<th>Test Site</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-18-15</td>
<td>1600 GREAT FALLS ST</td>
<td>TYSJANS CORNER STC</td>
<td>09-18-15</td>
<td>1600 GREAT FALLS ST</td>
<td>TYSJANS CORNER STC</td>
<td>09-18-15</td>
<td>1600 GREAT FALLS ST</td>
<td>TYSJANS CORNER STC</td>
<td>06.06.06 BORST 27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** ODN CMD M
## Optical Power Loss Test Results

<table>
<thead>
<tr>
<th>Circuit ID #</th>
<th>Location # 1</th>
<th>Location # 2</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Terminations</td>
<td>Terminations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Port #</td>
<td>Port #</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1310 nm Rec. Loss</td>
<td>1550 nm Rec. Loss</td>
<td>1510 nm Avg. Loss</td>
</tr>
<tr>
<td>NY003866104</td>
<td>37</td>
<td>COM</td>
<td>4.75 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
<tr>
<td></td>
<td>0.00 dB</td>
<td>0.00 dB</td>
<td>0.00 dB</td>
</tr>
</tbody>
</table>

**Location # 1 Reference Loss**
- 1310 nm: 0.00 dB
- 1550 nm: 0.00 dB

**Location # 2 Reference Loss**
- 1310 nm: 0.00 dB
- 1550 nm: 0.00 dB

**Test Set**: CMA-4000  
**Operator**: ___________________________
**Change Management Preparation**
Changes must be received by the Project Manager in written form (email is acceptable) from an authorized point of contact. If there are any changes to the migration, transition or scope of work, Cox will work with the SNA to determine needed changes and project impact. Changes or updates during the build process will be provided to the SNA by Cox’s Project Manager.

**Cox Equipment**
Cox Premise Equipment (CPE) Team is responsible for the forecasting, purchase, capitalization, and deployment plan of all premise devices. This includes both retail and Cox Business customers.

CPE Team leads sales and operations planning initiatives to ensure alignment between Product, Marketing, Sales, Finance, and Operations stakeholders on portfolio offerings and forecasted volumes. Order backlogs are built with suppliers to fill the pipeline with inventory. Weekly ship plans are built, and capital orders are placed (when necessary) for inventory to be shipped from the Primary Distribution Centers (PDC) to Area Fulfillment Centers (AFC).

PDCs are third party warehouses in four markets (Wichita, Phoenix, Baton Rouge, and Hampton Roads). AFCs are Cox’s supply chain warehouses located in each market.
**High-Level Timeline** – (example)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Year</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Design        | **Site Survey** – Field Engineer will visit the site, assess the location, and devise a plan to deliver Cox service to the Main Point of Presence (MPOP).  
**Permits** – Approval from the city or other entity must be given to Cox Business when construction is needed. SLA's vary based on entity involved.  
**Obtain BAA** – A Building Access Agreement will be sent to the building owner in order to receive approval to bring services to the building. Construction can't start until this is done.  
**Fiber Design** – A Cox Business Designer will create the overall plan on how the location will fit into the Cox network. | 2021 | Customer Responsibility: Provide Cox Business Field Engineer with building owner contact.  
Customer Responsibility: Work with building owner to secure building access agreement. |
| Build         | **Pre-Construction Meeting** – A Construction Coordinator will meet with necessary personnel to discuss the Field Notes as well as utilities that are marked or unmarked.  
**Blue Stake** – A contractor will visit the property to survey and mark utilities to ensure no issues arise during the construction phase.  
**ISP Build** – Cox’s inside plant (ISP) is built to the Main Point of Presence (MPOP), within the building, to include room readiness (power, ground and board).  
**Site Prep** – Cox Business personnel or contractor will visit the Main Point of Presence MPPO to ensure that all is in order for the final turn up and cut-in to the Cox network.  
**Fiber Construction** – This is the actual construction phase for the project. Cox Business personnel and contractors will be at the site performing this task. | 2021 | Customer Responsibility: Provide access to telecom room.  
Customer Responsibility: Provide vendor information to Cox Business project manager and ensure that your vendor is present at appointment. |
| Activate      | **Fiber Splice** – Cox Business will bring together the outside plant to the inside plant.  
**Cut-in and Activation** – Services are tested, tagged and ready for use. This is done during the maintenance window of 12am - 5am.  
**Turn-Up** – Services are tested with your vendor and accepted by the customer. | 2021 | Denotes customer involvement is Required |

**COX BUSINESS**  
LIFE GETS BETTER WHEN WE HAVE MORE MOMENTS OF REAL, HUMAN CONNECTION.
April 28, 2021

Danetta Jankosky  
Southside Network Authority  
Procurement Officer  
723 Woodlake Drive  
Procurement Office  
Chesapeake VA 23320

Dear Danetta Jankosky,

This letter is written in response to the Hampton Roads Planning District Commission RFP and describes Cox Communications’ (“Cox”) information security internal controls.

Information security within Cox is under the direction and leadership of the Chief Information Security Officer who is responsible for establishing and maintaining the enterprise vision, strategy and program to ensure information assets and technologies are adequately protected. As part of the program, Cox IT security controls are based on recognized industry standards. These standards include NIST 800-53 Moderate controls within the Metro-Ethernet (Metro-E) product, Cox Optical Internet (COI) fiber product and entity level common controls.

Beyond complying with recognized industry standards, Cox employs internal and external security control audits that are monitored across Cox to ensure conformance with internally published information security policies and standards, Payment Card Industry Data Security Standards (PCI DSS), and Customer Proprietary Network Information (CPNI) privacy objectives. Vulnerability and application level penetration testing is performed on critical infrastructure and applications; and the security controls of key third-party service providers are assessed to ensure security controls meet or exceed Cox requirements. Included in the Information Security program is an internal investigations group which controls the Breach Incident Response Plan in the event of a security incident.

In addition to the above, Cox maintains compliance and ethics programs led by our Chief Compliance Officer that include policies, a code of conduct and a robust training program to guide expected behaviors of its workforce, including those of third-party service providers. The overall information security program is reviewed each year to identify and anticipate needs due to changes in the business.

Cox recognizes the need to maintain an appropriate internal control environment and report upon the effectiveness of, as well as the material changes to, its internal controls. To that end, Cox Business can provide a SOC2 Type II report for customer review. Upon request and after a signed NDA has been executed, Cox Business will provide a SOC2 Type II report for the following products/infrastructure: Cox Metro Ethernet (fiber), Cox Optical Internet, IP-VPN and the Cox Core Networking Services.

Sincerely,

Robin Sangston  
Vice President and Chief Privacy Officer  
Cox Communications, Inc.

Kim Keever  
Senior Vice President and Chief Information Security Officer  
Cox Communications, Inc.
Attachment N: Cox Smart Communities – See next page
Cox Business Smart Communities

COX SMART COMMUNITY SOLUTIONS

Cox Business Smart Communities embraces a customized approach to solving the multifaceted challenges facing many different communities, whether it is a city, campus environment or mixed-use development. We help you solve real-world problems by creating a “smart environment” to offer a complete suite of technology solutions, and an open Internet of Things (IoT) platform. Cox solves for your highest priority needs and delivers tangible innovations that make your community a better, safer, and more secure place to live, work, and play.

Our Smart Communities team will work closely with you to understand your needs and tailor an end-to-end solution that drives economic development while simultaneously improving residents’ quality of life. Many exciting projects across the country are demonstrating that data streaming from sensors into the cloud is the “new energy” that makes communities run. With improved use of data, your development can make better decisions about critical changes in real time. Our platform serves as a single, integrated point of control which enables your management team to act as a responsible data steward and improve data-informed decision making.

The diverse and complex challenges facing communities today cannot be solved by a single technology vendor. Backed by the power of our resilient and reliable core infrastructure, Cox works hand in hand with multiple vendors to deliver the overall solution, so you can focus on the day-to-day business of a thriving community.

CAPABILITIES

The Cox Business Smart Communities division was launched in 2019 as a collaboration between Cox2M (the commercial IoT innovation engine inside Cox Enterprises) and Cox Business to provide a new way for communities to drive down costs, achieve operating efficiencies, and enjoy tangible improvements in quality of life. We offer a complete package of connected outdoor lighting controls, smart street parking monitoring, and more—all powered by advanced analytics. The applications, the platform, and the effective governance, agility, and flexibility of our systems work together to advance any community along its digital transformation journey.

With significant experience solving core infrastructure and connectivity problems Cox has a deep understanding of the needs and challenges facing a community. Cox brings holistic technology expertise into each partnership and reduces the complexity of deploying and maintaining IoT solutions. Our mission is to facilitate “frictionless” interactions among people and things so that our communities can thrive.

We take the lead on vetting and de-risking technology vendors across hardware, software, support, and platform so that you can focus on your community’s customer experience. And
because we have the full backing of Cox, your community will benefit from the innovative capabilities and a financially stable company without the associated risk of adopting and scaling new technologies.

Our internal resources, external partnerships, physical infrastructure, and people are key to our success. Our ability to help you identify current and future needs, and then plot the path forward, makes Cox the best partner for your project, and we are excited to build your future with you.

Our internal resources, external partnerships, physical infrastructure, and people are key to our success. Our ability to help you identify current and future needs, and then plot the path forward, makes Cox the best partner for your project, and we are excited to build your future with you.

COX BUSINESS SMART ECOSYSTEM

Smart Communities Service Ecosystem

- **Smart Lighting**
  - Controls the hardware of the future to adjust timing, brightness, etc.
- **Carpool Management**
  - Enforcement includes sensors installed below the road surface and parking barriers that recognize cameras.
- **Community Kiosks**
  - Saving as a community hub, our kiosks are used to facilitate engagement between consumers and business.
- **Smart Parking**
  - Monitoring parking availability, rule compliance.
- **Traffic Analytics**
  - Camera to monitor traffic, gather data and communicate with the public.
- **Video Analytics**
  - Camera installed to monitor traffic, gather data and capture the travel patterns of vehicles, Identify strategic locations for congestion relief and traffic optimization.

**Digital infrastructure**

- **Platform**
  - Security data for access control and other prevention.
  - Retail data for crafting and advertising.
  - Line control for building access.
Smart Poles and Sensors

Cox Business Smart Communities offers a smart light fixture that support attachments for traffic, weather, air quality and more. These Smart Poles can be configured with a multitude of options and can be deployed to optimize the consumption of energy by dimming when nobody is present while adding that extra layer of safety, security and convenience to visitors and residents.

SMART POLE INTEGRATION OPTIONS

**Light Fixture** - IAMS (integrated autonomous motion sensor) with dimming control and proximity sensors-Exceptional performance in a highly scalable, low-profile design-Patented, high-efficiency AccuLED Optics system

**Camera** - Multiple, individually configurable streams in H.264 and Motion JPEG- UP to 1920 x 1080-IP66-and NEMA 4X-rated, IK10 impact resistant casing

**Pole** - Adjustable height rail system-Unique versatile system has been designed to install accessories quickly and securely. 23’ and 30’options

**Panic Button** - Weather and vandal-resistant-High-quality audio and video-Easy to install. PoE+-Open interface-IP phone integration and SIP support-Remote entry control

**Wi-Fi + Cellular** - Industrial Wi-Fi-3rd 5GHz channel designed to mesh between streetlights-AI Edge Processing (optional)-Fiber, ethernet and PoE backhaul- Revenue generation through fee-based public Wi-Fi

**Weather + Environment Sensor** - Monitor precise, hyperlocal weather conditions happening in real-time. Through various customized sensors deployed across the area, we can monitor multiple environmental conditions including temperature variations, nuclear hazards, chemical spills, gas leaks, air quality, earthquake vibrations, ground irrigation effectiveness, and noise levels (including gunshots).

**Fast charge EV Station** - 24kW DC fast charger-UL certified-Low-power and high-voltage-ADA compliant height-One or two outlets supporting CCS and CHAdeMO protocols.
Smart Lighting & Energy Management

Cox will always have a focus on finding the best solutions for the needs identified by the client. Cox puts customer needs first and is committed to working collaboratively to bring the desired outcomes to life. In our experience, one of the biggest goals of outdoor lighting is to provide a safe environment for both visitors and staff on a property, but when a light goes out unexpectedly, these dim areas can have the unwanted influence of inviting crime. At the same time, keeping the lights on maximum brightness every hour is also an expensive option; so, where is the balance?

As a stand-alone solution Cox can also provide plug-and-play outdoor lighting controllers that enable the remote control and monitoring of all outdoor lighting assets, ensuring that if the light is broken or goes out, an automated alert is sent to the right team to ensure a quick resolution. Additionally, smart lighting controls can enable remote on/off for each individual light -- or a grouping of specific lights designated by the user -- and provide the ability to set dimming schedules. These capabilities provide the flexibility to ensure the property is always safely lit at the most effective cost. Additional control also brings reduced energy consumption and savings to your budget, delivering real ROI benefits in year one.

ADDITIONAL MONITORING AND MAINTENANCE CAPABILITIES:

- Embedded MAC sniffing device and Bluetooth beaconing enable pedestrian count and dwell time tracking, as well as geo-fenced targeted messaging
- Embedded tilt and vibration sensors drive real time notifications of downed poles that need repair, or poles that are facing excessive vibrations that can impact pole fatigue and failure
- Line and load power metering captures precise power usage and identifies stray voltage, which points to potential electrical hazards from improperly grounded or bonded electrical equipment

And while the above items address core needs, Cox can take it a step further. Cox has years of experience in deploying devices on vertical assets. From physical mounting and installation to the wiring to deliver power and connectivity, we also understand the value of vertical assets in providing Wi-Fi enablement to areas like parks, plazas, farmer’s markets, and other areas where residents and visitors gather. There is unique value that can be generated from smart lighting control nodes, with a form factor that assists in deploying additional devices and solutions and standing up a wireless network. The integrated device includes all above mentioned capabilities, plus:

- High-speed Wi-Fi 6 Access Point that can also act as a wireless mesh repeater
- Video/audio AI edge processing
- PoE (power over ethernet) expansion port
- C-V2X (cellular vehicle to everything)
- Aesthetic design that won’t compromise the light

**Smart Lighting Journey**

An infrastructure assessment kicks off the journey to determine the most beneficial path forward.

1. **Phase 1** — Bulb replacement
   - Up to 60% savings when going from low sodium to LED, up to 30% savings on old LED to new LED conversion.

2. **Phase 2** — Fixture replacement
   - Workflow optimization, dimming capabilities

3. **Phase 3** — Hub Attachment

4. **Phase 4** — Advanced Hub Attachment

COX Business | Smart Communities
Cox Smart Lighting

- **Lighting controller**
  - Controller attaches to fixture to adjust timing, brightness, etc.
  - Tilt sensor can determine when the fixture requires maintenance or emergency response
    - Stray voltage detection can identify improperly grounded electrical equipment or electrical hazard alerts
    - MAC sniffer and Bluetooth beaconing enable targeted location-based analysis and applications support

- **Advanced lighting controller with integrated Hub**
  - All lighting controller capabilities and can act as a hub for edge processing and include cameras, microphones, etc.
  - Can act as a Wi-Fi access point and extend wireless infrastructure

---

Smart Business Case

- **45%** Energy reduction in decorative lighting
- **$600.00 per light pole / per year**
- Reduce truck rolls with platform real time analytics
- Additional benefits:
  - Proactive maintenance
  - Longer LED lifetime reduces need for replacements
  - Time spent identifying where trouble is

**Decorative lights energy consumption reduced by 45%**

<table>
<thead>
<tr>
<th>Month</th>
<th>Baseline</th>
<th>Pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep</td>
<td>1,200</td>
<td>800</td>
</tr>
<tr>
<td>Oct</td>
<td>1,000</td>
<td>600</td>
</tr>
<tr>
<td>Nov</td>
<td>900</td>
<td>600</td>
</tr>
<tr>
<td>Dec</td>
<td>800</td>
<td>600</td>
</tr>
<tr>
<td>Jan</td>
<td>700</td>
<td>600</td>
</tr>
<tr>
<td>Feb</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Mar</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>Apr</td>
<td>400</td>
<td>600</td>
</tr>
</tbody>
</table>

---

Cox Smart Communities
Smart Cameras and Safety Analytics

Video cameras are one of the most versatile “multi-sensors” that can be leveraged to provide a safer environment, identify areas of vehicle/pedestrian congestion, provide tracking data for events, and provide engagement data to businesses.

Our innovative partner ecosystem enables Cox to provide multiple computer vision feature-sets focused on vehicles and people. Technology enables computer vision capabilities for diverse use cases including Smart Cities Traffic Monitoring Analytics, Smart Cities LPR Surveillance, Retail Analytics (Out of Home Digital Advertising), and more. Our platform can be tuned to solve a broad range of industry challenges requiring vehicle or person analysis.

FEATURES INCLUDE:

• Vehicle Detection, Tracking, and Counting
• Vehicle Make Model and color recognition
• License Plate Recognition
• Person Detection, Tracking, and Counting
• Age, Gender, Emotion Recognition
• Customizable Dashboard Reporting
• Intelligent Video Search for Recorded Video and Live Streams

Vehicle Analytics

The Platform provides vehicle detection, tracking, and counting. It also delivers analytic insights with the identification of vehicle make, model, and color, as well as license plate recognition (LPR).

• Identifying vehicles in your community to solve potential crime. For example, if there was a disgruntled citizen making threats, this technology would allow you to identify the subject vehicle by both LPR and vehicle make, model, and color.
• Law Enforcement can quickly locate and identify vehicles of interest by creating LPR triggers. As those vehicles pass by cameras, they can receive alerts to track and monitor criminals or missing person alerts.

**People Analytics**

Our platform also contains powerful human visual analytics. Capabilities include person detection, tracking, counting, and additional visual estimation of age and gender.

• For smart cities, we can count people in designated areas and provide demographic information that is actionable; this assists in monitoring the flow of people in and out of those areas, to better deploy crowd management resources and infrastructure.

• For surveillance, having the capability to search for and identify persons of interest by age and gender can be very helpful in criminal or emergency situations.
Our Smart Kiosk will host a variety of interactive applications that encourage engagement between visitors and businesses. It can serve as command central for an outdoor communications strategy, generate valuable insights that enable your data-driven decision making and provide information to engage visitors and citizens alike.

The first engagement in an entertainment area should be exciting and empower them to take advantage of everything a community has to offer, such as restaurants, bars, games, cultural activities, museums, concerts and tours. A versatile tool that can help achieve these goals is our Smart Kiosk.

**SMART KIOSKS**

- Enduring luminance with a high-efficiency LED backlight
- Thermal management to regulate system temperature
- Outdoor proofing with laminated vandal glass and an IP66 design
- Image optimization via environment analyses
- Auto-dimming to boost image contrast and reduce power consumption
- Video verification to ensure correct image resolution
- Energy monitoring to report power consumption and prevent circuit overcurrent
Our kiosk technology delivers a level of digital efficiency that’s only achievable by processing data through edge computing. This includes:

- Audience Analytics
- Security and Surveillance
- Environmental Monitoring
- Caching and Content Delivery
- Secure Data Processing, Encryption and Transport
- Displays sizes and resolution that vary depending on specific needs

<table>
<thead>
<tr>
<th>Software Integrations and Support</th>
<th>Custom Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Wayfinder Configuration and setup</td>
<td>- Design and creation of map supplied by client</td>
</tr>
<tr>
<td>- Generic User-interface set-up</td>
<td>- Custom 3D mapping of the surrounding GoMed area</td>
</tr>
<tr>
<td>- Support included for deployment to units</td>
<td>- Set-up and design of mapping with highlighted route wayfinding</td>
</tr>
<tr>
<td>- Cloud-based CMS platform</td>
<td>- Icons and landmarks tailored to end-user</td>
</tr>
<tr>
<td>- Setup of standard Cloud-based CMS with Data (this data is to be supplied by client)</td>
<td></td>
</tr>
<tr>
<td>- Project management of project from ‘Start-to-Delivery’</td>
<td></td>
</tr>
<tr>
<td>- Online training session for staff using CMS Platform (Client to identify these staff members)</td>
<td></td>
</tr>
<tr>
<td>- Configuration and setup of routing to all end point destinations and amenities.</td>
<td></td>
</tr>
<tr>
<td>- Integration into current or new POS systems</td>
<td></td>
</tr>
<tr>
<td>- Touchless kiosk interaction and associated application with QR Coding</td>
<td></td>
</tr>
</tbody>
</table>
MAPPING PER DESTINATION

• End destinations to be programmed into custom mapping and Wayfinder CMS platform set-up of each end location

PROPLAYER SOFTWARE LICENSE

• Upfront licensing cost for Acquire CMS platform
• Includes all software updates and patches

API LICENSING - OPTIONAL FEATURES

• Optional API access for 3rd party website or mobile application integration. This feature would allow customers to display the custom map on their current website

AUDIENCE ANALYTICS

• Advanced anonymous audience detection, using AI to identify faces, counting and correlation against playout (including Vision Dashboard). Edge computing.
• Integration of transit schedules.
• Live weather up-dates shown on display.
• IoT Sensor pack to register temperature, sound, and air quality. Smart Transportation Hubs/Shelters

Cox has experience working with large venues, campuses, and properties where multiple modes of transportation are used. Whether it is train/rail, rideshares, or single occupancy vehicles, one of the most important touchpoints is when the passenger first steps out into the property. Cox can help create a safe and seamless drop off for visitors, as well as an engaging first touchpoint for the property.

As an example of our unique approach, Cox can incorporate technologies into a Smart Transit Shelter utilizing kiosks that integrate scrolling news, points of sale, environmental and advertising content, sound level monitors, bus GPS locator and arrival schedules, emergency call phone, and nearby points of interest. Wayfinding systems can also be integrated to help guide travellers to their destination.
Traffic Flow Management

Traffic management is something that not only impacts visitor experience while they are on the property, it also plays a large part in how and when visitors decide to visit the property; negative traffic factors can play a role in dissuading potential residents from living in a particular area.

TRAFFIC SAFETY

Cox and its ecosystem of partners can deliver an AI-powered traffic signal platform that connects road users to the surrounding a street grid. The solution can be deployed on just a few traffic intersections around a property and can have a huge impact in reducing congestion and unsafe conditions for both drivers and pedestrians.

The platform is managed via a cloud-native portal and includes a full data analytics suite with detailed vehicle counts and real-time status information. The solution includes a camera which houses V2X communication equipment installed on an intersection traffic light pole and an AI optimization engine installed at the traffic controller cabinet.

MICRO-MOBILITY

Cox understands that congestion does not just occur on streets and roads. With the advent of scooters and rentable bicycle platforms, there are more secondary modes of transportation today than ever before. Cox has the capabilities to leverage video analytics to gather data to determine the best areas to create walk-only zones, or to help track secondary modes of transportation on the property to properly allocate bicycle parking and even skateboard parking.
Smart Parking

A complete picture of transportation management is not complete without parking. In any community parking considerations will need to be made for both residents as well as visitors. Finding the right balance between parking garages and surface lots is critical in creating positive experiences.

Cox can leverage video analytics to track parking utilization down to a per-spot level across different physical environments; we can also install the cameras. If the environment requires it, Cox also has a solution ecosystem that can offer in-ground sensors to track parking spot utilization. From an investment standpoint, we have found that video analytics is a highly cost-effective solution when the infrastructure can be planned from the beginning.

- **Surface Lots**: Utilizing light poles in surface lots, video cameras can get a wide range of view and are able to track upwards of 20-30 parking spots per camera. Cox can offer cameras ranging from HD cameras with 4 built-in lenses to maximize coverage to 4K cameras that can capture high levels of detail to enable additional analytics.

- **Parking Garages**: For parking garages, Cox evaluates the physical layout, inclusive of any conduit runs, to determine the best installation points for each camera. For internal floors of a parking garage, Cox recommends installing 360-degree cameras along each floor to maximize coverage. On rooftops, we recommend installing cameras on light poles or vertical assets.

Being able to track parking utilization down to a spot-level to measure the impact of different events. Additionally, if high-res cameras are used, you could leverage license plate recognition to track if the vehicles are from residents or visitors, which is useful information for things like visitor analytics, automatically issuing permits, or flagging vehicles that are illegally parked in resident reserved spots.
CURBSIDE MANAGEMENT: PROVIDE A SEAMLESS DROP OFF EXPERIENCE AT THE PROPERTY

First impressions truly last a lifetime, which is why curb access need to be managed. Otherwise there can be problems with ride share congestion, or bottlenecks from commercial use such as Amazon, UPS, DoorDash, and others.

This creates an unsafe environment as well as an undesirable customer experience. Cox will work with you to designate locations to monitor and encourage movement of traffic. Through our partner ecosystem, we can track commercial usage of the curb and can also enable the enforcement of the curb by capturing rider/driver information. If there are vertical assets that can be utilized to deploy video cameras, Cox will evaluate the layout to determine if there is a strong enough field of view for the cameras to enable the tracking, analytics, and enforcement.

Cities have a need to control the curb in different ways because every community is different. Cox has developed multiple solutions when it comes to Curb Management from the integration of large digital displays in the case of Las Vegas or Dynamic signage solutions for smaller projects. Dynamic signage gives a community the ability to change a zone from hourly parking, to rideshare, to curb side pickup and loading zones. As the volume increases and you learn more about the vehicle usage you can tailor the curb in ways that suit your community.
The Cox Platform

The Smart Cities platform supports data sharing with other web applications and webpages via its data APIs. Websites can use a wide variety of tools to display data in JSON format provided from the platform. Our Smart Cities Platform currently outputs data in Apex Charts and generic JSON formats via its open API. Swagger documentation is available for all API calls.

Cox Use Cases-- two mobility-focused solutions that will improve the resident and visitor experience when it comes to their journey to and around a community: Smart Parking and Curbside Management. Both solutions will generate actionable data that will be integrated into our Smart Communities Platform and will empower a community’s website with real-time information for residents and visitors to find open parking.

CURBSIDE MANAGEMENT

Cox’s curbside management solution uses a combination of overhead video analytics to monitor activity in curbside zones and kiosk displays to provide information back to drivers. Video analytics are supported by on-site edge compute resources allowing for low-latency processing and responsive feedback to drivers. Connectivity to each site can be provided by Cox, city or Type II connectivity, and devices within each site may communicate via wireless or fiber connections depending on availability.
Our video analytics platform supports a wide range of recognition models, including taxi, Uber, Lyft, car, truck, van, and bus designations. We also detect double-parking, lane blocking, and pedestrians in the roadway. License plate data can be captured for all vehicles entering a zone, limited to only those who violate the rules of an area.

**COX’S CURBSIDE MANAGEMENT IN ACTION**

Vehicles entering loading/unloading zones are imaged by our video sensors. Those images are then processed by our AI nodes which send occupancy alerts to both our kiosk displays and to our cloud systems. The kiosks start countdown timers for authorized vehicle types, letting them know how much time they have to complete their curbside activities. For unauthorized vehicles we can display either a message notifying them that their vehicle is not allowed to be in this area, or a message alongside imagery of their vehicle. Once the vehicle has left the zone, a second message is sent out, clearing the display, and ending the parking session.

Parking sessions pushed into our cloud instance are then used for two purposes: to guide drivers to available parking near their destination, and aggregation into dashboards. Those dashboards show utilization of spaces around a community as well as highlighting exact times of the week where drivers most violate parking rules, allowing you to optimally position enforcement resources.
CURBSIDE MANAGEMENT: DATA AND INSIGHTS

The platform provides extensive curbside management analytics via interactive dashboards. These dashboards include:

- Zone usage by day and time of day
- Street parking space usage by day and time of day
- Neighborhood parking space usage by day and time of day
- Violation and violation severity by day and time of day by zone and neighborhood

Based on these dashboards, you can optimally schedule parking enforcement officers to areas that they are most needed and at the optimal times of day. Aggregated data at the neighborhood level can support decisions about the need for creation of additional parking spaces or structures in each area. The platform also provides data to power digital signs, kiosks, web pages, third-party parking services, and mapping tools used by citizens to direct drivers to available parking spaces most ideally suited for their destinations.

SMART PARKING

A complete picture of transportation management needs parking data. Parking considerations will have to be made for both residents as well as visitors. Cox can leverage video analytics to track parking utilization down to a per-spot level across the differing physical environments and has the experience to install the cameras. If the environment requires it, Cox also has a solution ecosystem that can offer in-ground sensors to track parking spot utilization. From a cost standpoint, we have found that video analytics is a more versatile solution for on-street parking that generates more data.

SMART PARKING: DATA AND INSIGHTS

Cox’s Smart Parking solution has intelligent parking analytics that can provide users with real-time parking status. This data can be incorporated into digital signage for day-of-event traffic flow. Being able to track parking utilization down to a spot-level will empower a community to track the impact of different events.

Parking Space Management, Guidance, Analytics, & Reporting are all packed into the Smart Parking platform. It serves as the central hub or Single Pane of Glass for parking occupancy data and reporting. As parking occupancy data is gathered from the sensors and 3rd party partners, the platform disseminates the information to drivers (via physical signage and mobile apps) and to officials (via dashboards and reporting). The Smart Parking management platform allows to efficiently manage all parking assets, reduce traffic congestion, increase parking revenues, and improve the overall driver experience.
The management dashboard offers a comprehensive presentation, analytics, and reporting options. Live occupancy status of individual parking spaces and parking times are displayed in maps and time-based views. Based on historical data, analysis for certain periods and groups of parking spaces can be performed and compared to show peak times, peak areas, average parking times, etc. You can also enable blocking (or other temporary statutes) of individual parking spaces in the system to accommodate construction or other activities such as weekly markets.

The platform provides a complete overview of parking activity, delivering on-demand data through an intuitive, web-based platform and can be used to monitor both live and historical occupancy data of individual parking spaces or complete parking areas, as well as the average length of stay or exceeded length of stay.

When interfaced with pay-by-space machines and/or mobile payments, the occupancy data can be correlated with payment data. Cox can provide optional exact length of stay data, also correlated with payment data and/or alerts on numerous violations including oversstay, no-pay, and parked in no-parking or prohibited zones. Integration of these alerts results in a highly efficient, interactive, automated enforcement platform. All of this adds up to a solution that provides the necessary data and integration paths to implement dynamic pricing strategies.

Cox’s Smart Streetlight Management solution will deliver actionable insights through its Smart Communities Platform that improves operational and policy decision-making. Additionally, all data generated within the platform will be held to security and privacy standards with any data you wish to share available in a public portal. You will be able to view, and be proactively alerted, of any lights/luminaires that are incorrectly off or on.
Each Smart Controller is capable of monitoring the operational status of the streetlight fixture it is controlling and can alert for various operation status issues such as daylight burning (incorrectly on), inoperative lights (incorrectly off), and lights which are not at the correct output (incorrectly dimmed). This is accomplished by the controller’s internal meter which can measure current, voltage, frequency, etc. By knowing the expected power and the actual power, discrepancies can be easily identified, and alarms/alerts generated.

**ACTIONABLE DATA INSIGHTS FROM OUR SMART LIGHTING SOLUTIONS INCLUDE:**

**Lighting platform that digitizes streetlights and fixtures and is capable of aggregating data from multiple vendors**
- Quick-view of lights or controllers in need of maintenance
- Energy consumption per lights over time
- Identify anomalies in energy usage to drive pro-active maintenance
- Easily export energy usage data
- Remote control of the streetlights with ability to turn lights on/off, dynamically change lighting schedules, and change dimming settings
- Easy GIS location and map view of all streetlights

**Unique approach to creating value**
- Cox’s unique approach to smart streetlight management is to explore the creation of an energy incentive program with the power utility
- Historical energy usage data may be used to prove programmatic decreases in energy usage to receive credits from the utility
- The utility may see benefits from added energy management to balance peak loads. Cox would work with the city to promote a program where the utility assist in funding a scaled deployment
Our cloud-based application is designed to facilitate the efficient management of the Smart Lighting nodes and their customizable features. Specifically, the platform optimizes metadata access to information such as:

- Individual cell status
- Cell geographic location
- Current operating conditions
- Active scheduling environment settings
- Light fixture failures or other critical threshold alerts

The Smart City Platform application is cloud-based, so your lighting network is accessible from anywhere and at any time with the following functionality:

- Lighting fixture locations pinpointed on map views.
- Control and schedule lighting levels by pole, group, or zone.
- Light groups are assigned by fixture type, geographic location or dimming schedule requirements.
- Secure, role-based assignments allow authorized users access to appropriate functions.
- Admin provides 100% management control and users have functional views/control access.
- Configurable Alerts and Alarms
Sensor Data Reporting: Fully integrated sensor data reporting for all smart controllers from any partner

Asset Management and GIS integration

20 Customizable Asset Fields

Robust Dashboards and Reporting

Open Architecture/APIs

The Smart Communities Platform provides extensive analytics and reports via interactive dashboards. These dashboards include:

- Integrates PowerBI for visualizing data analytics
- Shows historical data and analytics up to a tenant-defined range of time
- Supports historical and predictive analytics for any data integrated into the platform
- Supports export of data from the platform in CSV and JSON format
- Utilizes a modern drag-and-drop interface for powerful interactive report production capabilities
- Integration and access to 3rd party applications

A classroom training session can be either be held in person or on-line to provide basic walk through of platform. The Smart Communities Platform is the centerpiece of the Cox2M Smart Communities offering. It brings together smart devices in a single location and generates relevant, actionable intelligence for officials.

These dashboards are customizable by user or department. This dashboard can show problems with devices, data of concern around the community, and supports live data layers such as lighting, traffic, and transit vehicle locations. As each solution is deployed and activated, they will be made immediately available to employees via the Smart Communities web application. No additional install or deployment is necessary.
Lot Vision

In addition to the suite of smart services Cox brings through its platform and ecosystem of partners, we also have extensive experience in asset tracking with our Lot Vision solution. It was originally developed for Cox Automotive and our sister company, Manheim, to locate and track vehicles on multi-acre lots; they constantly faced enormous overhead and timing problems related to finding and moving vehicles to the auction stage. Using this solution, we successfully deployed the largest LPWA network in North America for Manheim Auto Auctions with more than 200,000 sensors. The process also led Cox to integrate the solution into multiple business systems such as AS/400 and Pega Workflow, which ensures fast adoption for end-users and less friction to launch. This allowed Manheim to realize positive impacts in their day-to-day operations immediately.

Not only does this showcase Cox’s experience in integrating data into software-based operational systems, but it also demonstrates our ability to deliver insights and visualize resulting data in an easily digestible, action-oriented dashboard.

Our solution includes a partnered approach to every step in the process: discovery, development, implementation, and improvement. Smart campus, Smart Real Estate Developments, region, and city IoT solutions are still uncharted territories for most global organizations. Working, testing, and adapting solutions together is the only way to create new services and applications that make an impact and push innovation forward.
Asset Tracking

Cox has extensive fleet management expertise via our own fleet of 15,000-plus Cox-owned vehicles, as well as through Cox Automotive entities like Manheim. Our proprietary fleet management hardware and software provide best-in-class value by matching technology capabilities to our clients’ specific needs. Our capabilities fall into three key categories:

- **Vehicle location tracking**: via the Lot Vision OBD solution: accurate, low-cost vehicle location tracking via OBD and WLAN. Our solution updates only when the car moves, allowing us to minimize power consumption and improve the cost profile of our hardware. Users can look up real-time car locations via web or mobile.

- **Maintenance diagnostics via the next generation Lot Vision OBD solution**: easy extraction via pass-through OBD allows accurate, fast diagnostics of issues as well as repair lifecycle management.

- **Data warehousing & platforms**: Cox Business Smart Communities IoT platform makes integration between multiple inputs simple and allows a robust ecosystem of end applications to seamlessly access location, maintenance, and other key data feeds. This allows more creative uses and applications of data generated by telematics and other fleet management solutions, saving money, and improving user experience.

In addition to fleet management technology, we offer end-to-end lifecycle fleet maintenance and management via Cox Automotive. We are happy to discuss these offerings and how they can complement our other technology capabilities.

Key features of the Lot Vision location tracking offering include:

- Real time tracking of vehicles down to 2-5 meters accuracy via optimized responsive user interface.

- Filtering and searching by any vehicle attributes (i.e. location, vehicle type, sensor).

- Dynamic Geo fencing “draw & drop” capabilities at the user or account level. Can geo fence by location and any vehicle attributes.

- Robust analytics panels: pre-set pre-populated panels alongside user created panels. Users can add new panels to user or account level in minutes via drag & drop.

- “Alert me” feature allows drivers, administrators, or developers to set rich alerts based on any vehicle attributes and be notified by text or email.

- Small, sleek, and outdoor weather resistant (IP67) form factor with multiple attachment options: smart sensor and firmware design allows for steering wheel attachment, mirror, or visor attachment.

- Best in class battery life at minimum 1.5 years (market measured average is 2.3 years) with lower cost replacement fee (replaced on average every two years, <$1.5 to replace).
MAINTENANCE

Key features of the LotVision maintenance OBD offering include:

- Automatic VIN and basic build data verification reduces car processing time and data entry errors.
- OBD diagnostics extracted automatically before CR process and then periodically, become aware of issues before they impact operations.
- Eliminate vehicle readiness delays and costly storage issues such as battery replacements via dashboard and text/email alerts.
- Patented Cox design: locks in with a simple click to prevent leakage and theft; Pass-through allows for mechanic access without removing the sensor; Software defined pass-through can be disabled to prevent dealer OBD reader access (prevents dealing with codes deletion).
- 3-6 months rechargeable battery used when car battery is weak or to track sensor when not connected.
- Optional: crew management - sensor detects passive tags on the employee's badge. Know which employee moved which car where.
- Optional: Key theft mitigation - sensor detects temper proof keychain. Get alerts when keys are removed from car or pass key choke points.
DATA PLATFORM

Our data platform runs on scalable, enterprise-grade infrastructure. This ensures we can work with any vendor of hardware or software. Our goal is to enable interoperability and to develop custom software applications on top of the platform that integrate many data feeds.

As Cox Fleet Management and your other vendors add capabilities, our platform approach ensures that integration will be painless. Applications in the Cox pipeline include:

- Predictive maintenance analytics
- Driver behavior analysis
- Aftermarket ADAS solutions
- Road quality monitoring
The location of every car is now at your fingertips

LOT VISION

See your entire inventory without having to step foot on the lot

Say goodbye to the days of having to walk or drive the lot with a clipboard to hunt for cars to audit your inventory. Lot Vision’s seamless system puts a complete view of every car you have right at your fingertips on your mobile device.

With a few clicks, you’ll have instant answers to what’s in stock, where it’s located, which cars need maintenance, and what’s ready for sale.

This can help save you time and work so you can do what you do best: sell cars.

Through integrations with Dealertrack and HomeNet, Lot Vision can provide a full view of your inventory and additional insight on the status of your vehicles in one place, whether your business has 200 vehicles or 20,000.
Locate vehicles instantly without getting out of your seat
- Find the current location of any car in your inventory from any connected mobile device.

Track productivity easily with a few clicks on your keypad
- Know how much time cars spend in each phase of the lot.

Gather insights to help slash holding costs and improve efficiency
- Improve operations with analytics that highlight trends.

Reconcile inventory faster, more accurately and with fewer people
- Get alerts to immediately know when cars are out of place.
- Access detailed information on every car so you know what to do to get them sales ready.

Deliver excellent customer service every time
- Find cars customers want.
- Know the status of inventory 24-7.

Get the big picture no matter how many miles it spans
- Track the inventory on multiple lots so you always have the big picture of your operation.

Rave reviews from those who use it

“Lot Vision has made life easier and my workdays shorter... customers don’t have to walk to find the vehicle they want to see...”
-Robert, Texas (Dallas)

“Lot Vision is great... we can track activities, create workflow alerts and shift resources quickly....the improvements have been business-changing.”
-Geoff, Georgia (Lawrenceville)

“We had been in the market for a solution like this a long time and Lot Vision really delivered — a reliable system that was simple to deploy and also scalable.”
-Jared, Michigan (Fint)

“I really think the program is a great one...it’s truly one of the best rollouts I’ve experienced during my career with Manheim.”
-Dan, Georgia (College Park)

Cox
Stop wasting time and effort trying to locate cars

Cox Business Communities
Energy Management

Cox has meaningful knowledge and experience in building energy management systems, which leverages IoT technology to improve energy efficiency and reduce operating costs. Our IoT solutions and partners enable management of:

- HVAC (heating, cooling)
- Lighting
- Other commercial assets

We have not only expertise in this area, but also created a Cleantech investment arm to fund key partners and enablers. For example, one of our portfolio companies facilitates meaningful, guaranteed savings without large upfront costs for commercial buildings via the power of IoT and data. Details include:

<table>
<thead>
<tr>
<th>Carbon Lighthouse</th>
<th>Long-term, guaranteed energy savings of 10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Little or no upfront capital required of customer</td>
</tr>
<tr>
<td></td>
<td>Proprietary data collection &amp; analytics</td>
</tr>
<tr>
<td></td>
<td>Savings are capitalized into building value</td>
</tr>
<tr>
<td></td>
<td>Shared savings between tenant, landlord, and CL</td>
</tr>
<tr>
<td></td>
<td>First mover advantage in a growing market</td>
</tr>
</tbody>
</table>

Smart Buildings are well-managed, integrated physical, and digital infrastructures that provide optimal occupancy services in a reliable, cost-effective, and sustainable manner.

Cox’s cognitive building solutions are developed to provide digitally connected structures that combine optimized building and operational automation. This enhances the user experience, boosts productivity, reduces costs, mitigate physical and cybersecurity risks, and provides improved security mechanisms.

Cox’s cognitive building solutions give facility management and real estate professionals the tools necessary to better manage to optimize space, energy use, reduce operating costs, and abridge real estate planning and management.
Smart Buildings

Smart Buildings have well-managed, integrated physical and digital infrastructures that provide optimal occupancy services in a reliable, cost-effective, and sustainable manner.

Through our partnerships Cox can bring several cognitive building solutions to provide digitally connected structures that combine optimized building and operational automation. This enhances the user experience, boosts productivity, reduces costs, mitigates physical and cybersecurity risks, and provides improved security mechanisms.

A few use examples related to Cox’s planned cognitive building solutions include:

ACCESS CONTROL

Cox’s cognitive building solutions will integrate fire, security, intrusion, and access control system. It enhances the experience of occupants, staff, and management with asset optimization, better facilities management, and ensures the safety of occupants. Real estate and facility management professionals will find these tools necessary for providing a safe, secure environment with maximum efficiency and uptime. Building owners, property managers, tenants, and employees of businesses are benefited by utilizing the integrated, comprehensive access control system. By significantly increasing occupant satisfaction and decreasing the total cost of ownership (TCO), Cox’s cognitive building solutions will aim to help to improve net operating income.

PREDICTIVE OPERATION AND MAINTENANCE

Currently, operations and maintenance of community buildings rely on a mix of control and management systems. Expert staffs handle business operations by troubleshooting, inspecting, repairing, and replacing the assets whenever it is required. But even experts from these building operations and maintenance staff often forced to make a guess about the source of system problems and timing of service cycles and replacements; actual and real-time performance data have played a limited role in most of the cases, even in mission-critical instances.

Cox’s cognitive building solutions will provide an integrated platform for all the elements of building management; by using IOT sensors to detect temperature, vibrations, sounds, and counting, facilities managers can digitize the traditional approach to operations and maintenance. Our CMSS integrated AI-driven platform automates manual maintenance processes, and Property management professionals, business owners, building owners are appropriately updated about their asset’s health. Through advanced sensors, operational data analytics, machine learning, and predictive asset health monitoring, the responsible team can optimize maintenance and reduce reliability risks to plant or business operations. Cox’s predictive maintenance platform will help produce stable operations, ensure compliance with warranties,
and resolve issues impacting production before they happen. A few benefits of predictive maintenance include:

1. **Reduced maintenance costs.** By efficiently managing planned and unplanned maintenance, inventory, and spare parts costs, engineers can make informed decisions that result in cost reduction.

2. **Reduced unplanned downtime.** By identifying repairs earlier in the asset lifecycle, engineers can significantly minimize downtime and optimize production.

3. **Increased business operations.** Cox's predictive maintenance platform connects disparate systems and helps various teams to know about the required maintenance and eliminates human error. This effort helps to ensure the uninterrupted operation of the business.

4. **Increased business productivity.** With the help of Cox's predictive maintenance platform, the responsible teams are notified about the expected maintenance, and it boosts the productivity of the involved human resources, and it results in increased business productivity.

5. **Increased asset health.** Systematically scheduled maintenance and inspections ensure assets achieve their full lifecycle and warranties are kept up to date.

**BUILDING AUTOMATION AND VISIBILITY**

Our smart building solutions can help improve buildings with automatic building controls. Heat, ventilation, light, air-conditioning, cooling technology, technology for share, window, and door are networked and communicate with each other. The above-mentioned components can be easily and centrally controlled via Cox’s intelligent building management systems.

- Buildings can automatically regulate heating, ventilation, and air conditioning themselves. Based on the presence of people in the room, they can switch the optimal lighting levels. They lower or raise blinds and open and close doors and windows. All these smart functions can happen according to the precise needs of users or residents’ as they pass through the building.

- When they leave the building, energy consumption is automatically reduced to a minimum, accesses are locked, and the alarm system is activated.

- This means that all the actuators, sensors, operating elements, consumers, and every other technical unit in the building are interconnected and networked.

- Building automation then automatically performs specific functional processes as part of the building technology, in accordance with the prescribed settings.

- Real estate developers, property management professionals find this tool useful to efficiently manage the properties to save energy and to provide a safe environment to the occupants.
ENHANCED CUSTOMER EXPERIENCE

Commercial real estate professionals and building owners benefit from Cox’s smart building offerings because properties are transitioned from cost centers to strategic assets. Cultural trends in the working environment -- such as flexible work hours, a dependence on smartphones, and the adoption of smart technology in homes -- have led companies to seek commercial spaces that are enhanced with technology for the modern age. Cox’s smart building solutions can be used across a wide range of array of applications to provide an enhanced experience.
Data Hosting and Edge

A key component of any IoT system is the data hosting associated with the information from thousands of devices across the Smart environment. Cox is proposing to use its Edge Computing platform to provide the high capacity, flexible design that will grow as additional applications and uses emerge over time.

EDGE COMPUTING SOLUTIONS

Cox has the ability and capabilities to support edge computing - a capability that allows pushing computer (processing) capabilities closer to devices or things processing data. Edge Compute is a critical capability for IoT solutions because it shortens response time by reducing latency (from device to cloud); this improves the application user’s experience and also mitigates the need to send all data to the cloud for processing.

OUR EDGE COMPUTING CAPABILITIES INCLUDE:

- Over 100 physical Edge computer data centers to minimize latency
- Ability to deploy virtual machines, containers, serverless computing (Function as a service) in our Edge locations in the first mile of the network (<10 msec.)
- Ability to store media content and objects at the Edge
- Machine learning at the Edge to enable the continued evolution of solutions
- Edge network logic and virtual infrastructure to enable low-latency communication for connected environments
- Enterprise-class Edge security and network monitoring
Cox Edge Services

Cox Edge Services is an edge computer and data management service from Cox Communications. Cox Edge Services’ mission is to help accelerate business and digital transformation by leveraging the benefits of edge computing.

Edge computing refers to computing that is done at, or near, the source of the data. Edge enables companies to process data in real-time, distribute workloads and applications in a scalable way. This results in significant latency, cost, resiliency, and security benefits for organizations to realize. By leveraging our existing infrastructure and RDCs, as well as those of key partners, Cox can offer competitive edge computing services on the last mile (60+ sites nationally). We allow organizations to modernize their infrastructure, optimize cloud and bandwidth costs, and be more flexible with our cloud-agnostic approach. Beyond expanding its footprint, Cox partnered with different vendors to enhance its offering.

What makes it useful is converting the data to useful information for improving a guest experience, real-time traffic flow, energy management and thousands of other business needs. Cox’s experience in this area includes analysis of traffic flow for the largest consumer electronics show in America, where hundreds of thousands of individuals come together at the Las Vegas Convention Center (LVCC) annually.

We partner with LVCC to provide the analysis they need to improve people movement, optimize food and beverage services, improve energy management and HVAC optimization.

LOW-LATENCY CLOUD COMPUTE SERVICES:
LOW-LATENCY CLOUD COMPUTE SERVICES:

FULL STACK OF MULTI AND HYBRID CLOUD MANAGED SERVICES

COX EDGE WEB & PORTAL:

COX Edge Services
Digital Twin Technology

We utilize our LiDAR partner to apply technology innovation and extensive utility experience to create a solution that helps service providers tackle large-scale, network-wide asset inventory projects at greatly reduced timelines and at a lower cost while improving asset data quality. The capabilities and insights derived from an accurate and complete asset inventory are proven to help organizations make data-driven decisions that enable proactive maintenance and allow faster response times across a vast array of tasks and workflows.

Where some data collection companies take months or even years to turn around data, it takes just weeks due to of the optimized capture and publish life cycle. Our top of the line LiDAR system and patented camera technologies offer an absolute accuracy of <1” and a relative accuracy of approximately 4”. The resulting images and LiDAR-based asset extraction boast the same accuracies populating your database with up-to-date and accurate location information.

Cox’s solution offers a more efficient method of asset management with the complete life cycle of imagery & LiDAR data capture and publishing to detailed and comprehensive asset data extraction and delivery. We have extensive experience completing projects for several high value use cases including:

- Fiber and 5G Planning & Engineering
- Proactive Maintenance
- Pole Loading Analysis
- Make Ready Assessment
- Vegetation Management
Smart Community Solutions that Support Digital Twins

Digital Twin Plus

- **Work Order Management**: Device lifetimes, conditions, performance metrics, previous maintenance and repairs, and other metrics can be used to create alerts and reminders with data integrations into a work order management system.
- **Predictive & Proactive Maintenance**: Data generated by solutions can indicate when maintenance is needed prior to a major break. Includes network monitoring of devices, monitoring of data flow, historical trend analysis, and physical monitoring of devices if needed.
- **Traffic Management, Access Control, Incident Management**: Generation of rich Mobility data from solutions, in combination with data analytics and insights, creates situational and operational awareness for ocVIEE on pedestrian flow, traffic flow, utilization of assets throughout the property, and incident/event response.

Core Digital Twin

- **Fixed Asset Register**: Digital inventory of parking cameras, guidance lights, kiosks, digital signage, cameras, and other sensors including physical specifications, dimensions, and power/connectivity network architecture.
- **3D Foundation & District Model**: Mapping of devices and conduit paths onto base layer of engineering drawings of the parking garage, construction plans of outdoor spaces, and engineering drawings of vertical assets like light or traffic poles.

Digital Twins

Digital Twins create a digital replica of the physical environment, giving smart communities a better way to visualize their infrastructure, track the location and configuration of assets and proactively manage critical systems.

**Initial Data Capture (LIDAR and Other)**
- Vehicle fleet/street
- Backpack/in-building
- Drone/aerial

**Cox Smart Communities Platform**
- Data is stored and imposed on Geographic Information System (GIS) mapping layers
- Infrastructure and assets that support solutions and services can be visualized and extracted to determine physical and spatial characteristics

**New Projects Update Data**
- Each new project can be armed with tools to update LIDAR capture, keeping data relevant and "healing" the digital twin.
Accurate 3D CAD model of the environment

LiDAR point cloud creates accurate CAD model of the real world, including identification of assets and conditions of assets.
Smart Grid – Outage Detection

Situational awareness is important to many organizations. This means understanding the status of your location, assets, and people.

Cox has developed a data-driven solution to understand and visualize what is happening in a geographical area in real time, focused on power outages. This data is uniquely sourced from cable infrastructure rather than an energy utility which unlocks an independent, secure view of a location, neighborhood, city, and county.

Additionally, by tapping into cable infrastructure this means that the data sources have both back-up power and real-time communications which allow for a persistent, hardened view of our power system, not affected by downed lines or other standard issues with the electrical grid.

This data can be visualized on a map and distributed via email alerts, GIS platforms like ESRI, and situational awareness providers of mass communication technology. We also provide additional value add data such as population impact.

Example:

Power Event Notification System (PENS)
Real time power outage alerts with estimated population impacts

Event: Power Outage
County: Lafayette Parish, Louisiana (FIPS: 22055)
Potential Population Impacted: 3,966
Start Time: 04-24-2021 02:11 EDT
Duration: 0 days, 1 hours, 40 minutes
Notification Settings (Population): Minimum = 1,000, Increment = 1,000

Event History:
04/24/2021 03:51:16 EST: Potential Population Impacted = 2,934
04/24/2021 03:31:18 EST: Potential Population Impacted = 3,966
04/24/2021 02:11:14 EST: Potential Population Impacted = 2,396

NOTE: Colored squares indicate 1km x 1km USAG cells experiencing an outage. Color indicates potential impacted population, with red being higher, and pink lower.

(C) OpenStreetMap contributors
Understanding where you are in your “smart journey” is a key part of becoming smarter. What projects are most important? How do you engage citizens? Where do you start? What is your biggest challenge? Our proprietary Data Strategy Workshop helps you understand where you are today, identifies needs and gaps, and builds a strategic plan to address your goals.

**Data Strategy Workshop**

Our smart community journey **begins** with a collaborative approach by aligning key stakeholders to data discovery and **ends** with a roadmap for data-driven decision making.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Our approach</th>
<th>Outcomes and deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Transform your desire to collect and use data and turn it into actionable roadmap.</td>
<td>• Begin by understanding where you are in the journey.</td>
<td>• Assessment of the current state: questionnaire designed to understand the existing data capabilities and vision</td>
</tr>
<tr>
<td>• Assist in uncovering a data strategy and help you understand how to enable it.</td>
<td>• Aligns on the organization’s vision and strategic objectives.</td>
<td>• Technical maturity assessment and gap analysis: define existing capabilities vs. the ones needed</td>
</tr>
<tr>
<td>• Work together to determine what is needed to achieve that vision.</td>
<td>• Define and create the roadmap that enables data capture, use and sharing.</td>
<td>• High-level roadmap with recommendations on priorities and key next steps</td>
</tr>
</tbody>
</table>
SMART KIOSKS

Our Smart Kiosk solutions can be supported by an advertising-driven business model that can generate substantial and sustainable revenue streams. Advertising media sales can offset the initial upfront investment and fund the ongoing operation of the program. This revenue model is dependent on the resulting deployment locations as well as the foot traffic and audience which Cox and its sister company Cox Media are very familiar managing.

Cox will work with digital out-of-home (“OOH”) advertising networks to generate revenue from advertisement sales. We have the benefit of in-house expertise through our sister company, Cox Media, in working with large, national ad buyers. At the same time, we bring a partner ecosystem that can help facilitate programmatic advertising in addition to selling direct to maximize revenue generation. These sales are based on impressions and because of this, Cox will analyze locations that will provide the best returns for both parties. To optimize engagement within the right-of-way, Cox will identify kiosk locations that are easily and safely accessible to pedestrians and benefit from high pedestrian activity.
We also look for locations that act as transit corridors, looking for high pedestrian traffic areas near transit-oriented developments that include heavily used mass transit stops. Cox is invested in the quality of life for both residents and visitors in our markets. With our kiosk solutions, we will not only be able to improve quality of life and create a greater sense of connectedness between people and government, but we will also be able to provide a sustainable revenue stream to invest in the communities they serve.

CURBSIDE MANAGEMENT

Cox’s approach to curbside management is centered around the use of data in real time to understand and empower public administrators to make better informed policy decisions. Through our solution we can reduce enforcement costs by automating gathering of violation data, gather traffic flow data to understand utilization of curb, dynamically control usage of the curbside (food delivery, pick up/drop off, commercial loading/unloading, parking) and enable dynamic permitting.

PARKING

Parking targets zero upfront costs with Cox receiving its revenue recuperation through a revenue share of parking fees generated in the spots that we monitor which will be offset by the operational cost savings supported by automating enforcement activities and data collection. The revenue generation of parking spots modeled with a modest utilization rate is expected to generate enough revenue recuperation to fully fund the solution and potentially enough for Cox to re-invest to support other solutions.

While smart parking can significantly improve parking revenues and improve enforcement efficiency (thereby reducing enforcement expenses), it is important to track this in the right way. One approach to this model can be establishing 2019’s (pre-COVID) parking revenue and enforcement expense as a baseline. A unique additional revenue source with our proposed Smart Parking solution comes from monetizing the excess digital signage space on the guidance signs. Monetization of ads on these guidance signs which support multi-media formats can also be managed by Cox Media and our ecosystem of experts.
SMART LIGHTING

Our business model for Smart Lighting would be to work with you to tie Cox and its partners’ revenue recuperation to the cost savings generated from the solution. These cost savings can be attributed to lower energy consumption (utility bill) and lower maintenance costs. In general, these returns can only be realized over a long-term award, so Cox would work with you to determine what revenue recuperation needs to be in shorter term awards and how we can collectively overcome any shortfalls by unlocking federal funds where appropriate, or by leveraging the Smart Light solution deployment to stand up other profitable solutions. Cox is taking a holistic view of its offer to discuss how to proactively leverage its returns from more profitable solutions to re-invest in lower margin ones.
Cox Business Smart Communities at work:

Las Vegas Raiders Allegiant Stadium

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Location</th>
<th>Size (Fiber)</th>
<th>$$ Value</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiders Allegiant Stadium, Las Vegas Nevada</td>
<td>3333 Al Davis Way - Las Vegas, Nevada 89118</td>
<td>227 Mi. (and cooper)</td>
<td>&gt;$1.5M</td>
<td>September 2020</td>
</tr>
</tbody>
</table>

Allegiant Stadium is the state-of-the-art facility, costing $1.9 billion with 1.75 million square feet and a 65,000-seat capacity. Cox provides a sophisticated high-speed network and has deployed:

1,800+ Cisco APs
- 300+ Cisco Switches
- 58 IDF Locations
- 2,400+ Digital Cisco Vision Endpoints
- Professional Services
- NOC as a Service
- Event Day Operator
- Two Fulltime Onsite Engineers
- One Fulltime Onsite Technician
Las Vegas Convention Center & CES

At the Las Vegas Convention Center, Cox has upgraded the wireless internet to a state-of-the-art network that will consist of over 2,800 802.11ac wireless access points. This is the largest and highest density wireless access point deployment in the United States. During the SEMA and CES Shows in 2016, Cox managed over 12 Terabytes of Wi-Fi traffic and total internet traffic of 60 Terabytes with no service impacting events. Within Cox’s Southwest region alone, Cox manages over 100 Petabytes of data traffic on a monthly basis. The expertise to design, install, and manage a massive wireless network is something few companies have the technical expertise to successfully accomplish. Cox provides this expertise and has deployed:

CES 2020
- 269,699 Devices
- 3.4 hours Average Session Time Per Device
- 7.42 TB Total WIFI Traffic
- 43.56 TB Total Internet Traffic
- 1,105,980 Total Internet Sessions
- 1.51 Gbps Peak Download Speed

Las Vegas Convention Center
- (2)10 GIG Diverse & Redundant Networks to Ensure Reliable Access
- 2,800 Access Points
- Dual Band Wireless
- Over 350k Devices Supported During One Event
- Neutral Host DAS (Distributed Antenna System)
- 5 GHz Wireless
- High Capacity Broadband - Enough to Transmit Over 1.2 Gigabytes Per Second (an entire HD movie could be transferred in approximately 3 seconds)
- WIFI 6 Technology in West Hall
- Onsite Support and Service Desk
- Online ordering portal - https://tradeshows.coxhn.net/
# Option 1: Cox Dark Fiber Construction Solution

Cox Business is pleased to offer the Authority a dark fiber construction solution (i.e. with title to the dark fiber network constructed passing to the Authority). If this option is selected, the parties will negotiate, and mutually execute, a formal construction agreement upon award. Additionally, as part of this option, Cox is also offering the Authority ongoing repair and maintenance services for long-term support to the Authority, with a wide range of options and services which the Authority can choose from. The parties will negotiate and execute the final form of maintenance agreement after award.

## Option 1 Proposed pricing structure:

<table>
<thead>
<tr>
<th>Option</th>
<th>Self-Provisioned Fiber (&quot;Cox Dark Fiber Construction Solution&quot;)</th>
<th>Monthly Recurring Charge</th>
<th>Non-Recurring Charge</th>
<th>Contract Term</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$ -</td>
<td>$17,627,000.00</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available Add-ons for Option 1:</th>
<th>Maintenance</th>
<th>NOC as a Service</th>
<th>Smart Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$64,068.00</td>
<td>$5,000.00</td>
<td>ICB</td>
</tr>
<tr>
<td></td>
<td>$ -</td>
<td>$10,000.00</td>
<td>ICB</td>
</tr>
</tbody>
</table>

*The Authority is responsible for obtaining (at its cost) all ROW, railway crossing and other access rights and 3rd party approvals necessary for the construction and ongoing maintenance of the fiber network, and shall be responsible for all permitting and related costs.*
Option 2: Cox Dark Fiber Private Network Leased Solution (Leased Dark Fiber)

Cox Dark Fiber Private Network Lease Solution provides leased, dedicated facilities between the Authority’s locations and is an alternative to Ethernet, DWDM and other data transport services offered by other service providers. This solution offers control and flexibility over your network equipment termination choices if you prefer dedicated fibers to shared or dedicated bandwidth.

The service is perfect for self-managed, dedicated interconnections where bandwidths are anticipated to exceed common carrier equipment thresholds (i.e. 1Gb to 10Gb to 100Gb) between the next 5 and 10 years, and where termination locations are planned to remain stable. Separate fiber strands are typically leased within Cox network fiber sheaths and conduit. As such, fiber strands receive the same maintenance and support as Cox network facilities. Cox Dark Fiber Private Network eliminates the customer’s need to apply for costly and time-consuming permits, utility easement access, subcontracting, and/or the complexity of coordinating buried fiber construction.

The simplicity of Cox Dark Fiber means less complexity when connecting locations together for high capacity exchange of information. You can easily upgrade equipment network configurations as your business changes without impacting your leased facilities. You can even customize the solution by choosing among bandwidths, or different network type connections by location. This provides you a customized network for all your stand-alone or integrated data, voice, and video communications.

Cox maintains local staff in each market we serve trained for rapid deployment of fiber splicing and facilities replacement in the event of a major disruption of service. Many dark fiber providers must subcontract or dispatch from other locations qualified staff to support maintenance and repair of facilities. Cox is local, with dedicated staff and maintains significant business relationships in your local areas.

Proposed pricing model – Option 2.1

This option offers no upfront payment with a higher monthly payment throughout the term.

<table>
<thead>
<tr>
<th>Option 2.1</th>
<th>Monthly Recurring Charge</th>
<th>Non-Recurring Charge</th>
<th>Contract Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox Dark Fiber Private Network Solution (Leased Fiber with end of term buyout) - MRC Option</td>
<td>$221,100.00</td>
<td>$ -</td>
<td>20-year term</td>
</tr>
</tbody>
</table>

Available Add-ons for Option 2.1:

<table>
<thead>
<tr>
<th>Add-ons</th>
<th>Included</th>
<th>Non-Recurring Charge</th>
<th>Contract Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>Included</td>
<td>Included</td>
<td></td>
</tr>
<tr>
<td>NOC as a Service</td>
<td>$5,000.00</td>
<td>$10,000.00</td>
<td>5-year term</td>
</tr>
<tr>
<td>Smart Communities</td>
<td>ICB</td>
<td>ICB</td>
<td>ICB</td>
</tr>
</tbody>
</table>
Proposed pricing model – Option 2

For additional flexibility, Cox also offers a second option with a large front-end payment and small monthly payments throughout the term.

<table>
<thead>
<tr>
<th>Option 2.2</th>
<th>Monthly Recurring Charge</th>
<th>Non-Recurring Charge</th>
<th>Contract Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox Dark Fiber Private Network Solution (Leased Fiber with end of term buyout) – NRC/MRC Option</td>
<td>$8,309.00</td>
<td>$17,947,800.00</td>
<td>20-year term</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available Add-ons for Option 2.2:</th>
<th>Maintenance</th>
<th>NOC as a Service</th>
<th>Smart Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included</td>
<td>$5,000.00</td>
<td>$10,000.00</td>
<td>ICB</td>
</tr>
<tr>
<td>Included</td>
<td>ICB</td>
<td>ICB</td>
<td>ICB</td>
</tr>
</tbody>
</table>

Option 3: Cox Metro Ethernet / DWDM – Dense Wavelength Division Multiplexing

Cox Metro Ethernet connects multiple locations by combining the simplicity of Ethernet with our reliable optical fiber network. It is a secure, cost-effective way to extend network reach. Cox Metro Ethernet effectively carries all converged services such as data, voice over IP and video over IP.

We designed Cox Metro Ethernet for medium to large businesses, government and educational entities, ISPs/ASPs, and IXCs/carriers. These customers need a high-quality, highly scalable Ethernet networking solution to support their data- and bandwidth-intensive applications, and voice and data convergence strategies.

Cox Metro Ethernet uses familiar Ethernet technology to connect locations and eliminate the need to deploy complicated LAN-WAN conversion technologies. IT professionals can capitalize on this simplicity by applying the same technical expertise to both internal and external network connectivity.

This solution delivers high-speed, metro-area-wide Ethernet connectivity that lets Authority to employ the latest technologies, protocols, and traffic control. Metro Ethernet can deliver a higher bandwidth value than legacy technologies such as frame relay. It eliminates the need to purchase and install expensive CPE at each location, resulting in lower cost of ownership. The service allows consolidation of data, voice, and video services. It also works easily with existing network equipment, thus reducing cost and complexity.

The system is flexible and scalable. Additionally, our Ethernet connectivity solutions offer a range of high speeds and design configurations, ranging from fully meshed to hub-and-spoke, to match your bandwidth and connectivity needs. Cox can easily adjust your Metro Ethernet speeds and network designs to grow with your business. Our networking services leverage our highly
resilient, self-healing MPLS core infrastructure, providing customers with scalable solutions that carry converged services such as voice, data, and video.

DWDM provides links between locations connecting mainframe computers, large networks, and extensive exchanges of information. It is a highly efficient fiber-optic, light wave-based transport service. DWDM allows Cox to expand the capacity of your network without laying more fiber. This keeps cost and complexity under control.

Cox DWDM is the basis of the Cox national backbone network. Your service will receive the same support and attention major links across our network receive—carrier class service, reliability, support, and capacity. We design our DWDM service with business continuity in mind. We offer diversity of connectivity and redundancy of componentry for the highest levels of service. Cox DWDM is the right choice for high capacity, prioritized transport, and mirroring of data in datacenters or host-to-host configurations. Cox’s owned and operated national support center actively monitors and supports DWDM 24/7/365.

Proposed pricing

<table>
<thead>
<tr>
<th>Option 3</th>
<th>Monthly Recurring Charge</th>
<th>Non-Recurring Charge</th>
<th>Contract Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cox Fully Managed Networking Services</strong>&lt;br&gt;- Cox Metro Ethernet and DWDM Wavelength</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10G Metro-Ethernet Per Location</td>
<td>$1,860.00</td>
<td>$ -</td>
<td>5-year term</td>
</tr>
<tr>
<td>10G DWDM Wavelength Per Location</td>
<td>$1,500.00</td>
<td>$ -</td>
<td>5-year term</td>
</tr>
<tr>
<td><strong>Available Add-ons for Option 3:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Included</td>
<td>Included</td>
<td></td>
</tr>
<tr>
<td>NOC as a Service</td>
<td>$5,000.00</td>
<td>$10,000.00</td>
<td>5-year term</td>
</tr>
<tr>
<td>Smart Communities</td>
<td>ICB</td>
<td>ICB</td>
<td>ICB</td>
</tr>
</tbody>
</table>

All pricing proposals are subject to change based on the final design. Any applicable taxes and fees are not included in the pricing set forth in this Proposal and are additional. Applicable taxes and fees are subject to change from time to time.

Cox highlights that its proposal is expressly subject to the parties mutual negotiation and execution of a final construction contract, maintenance agreement, dark fiber lease, and/or
service agreements as may be necessary according to the award or awards made to Cox under this solicitation. The information provided is informational only, and the submission of this proposal is, on its own, non-binding on both of the parties.