

Figure 2 Newport News Proposed ITS Device Locations

Prepared for:



Virginia Department of Transportation

Prepared by:



Under SubContract to:



Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- ▲ Future Signal
- Interstate Diversion Plan (IDP) Affected Areas
- Newport News IDP Routes

- #### Proposed Newport News ITS Devices
- Camera
 - Overheight Vehicle Detector and Warning Sign
 - Portable Dynamic Message Sign
 - Flood Monitoring
 - Bridge Icing
- #### Existing and Planned VDOT ITS Devices
- Camera
 - Arterial Dynamic Message Sign
 - System Detector

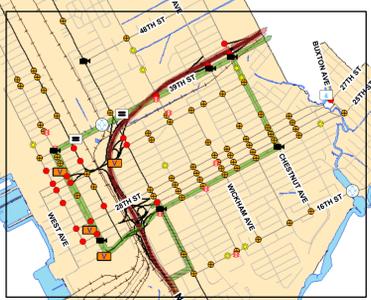
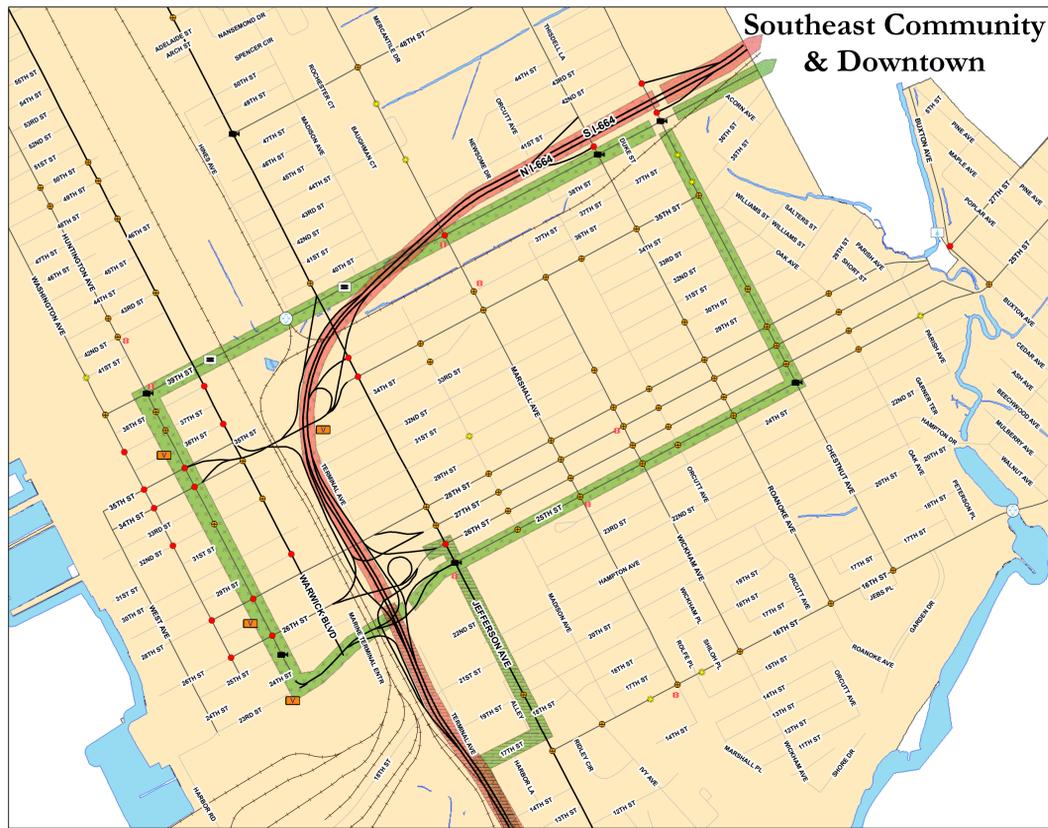
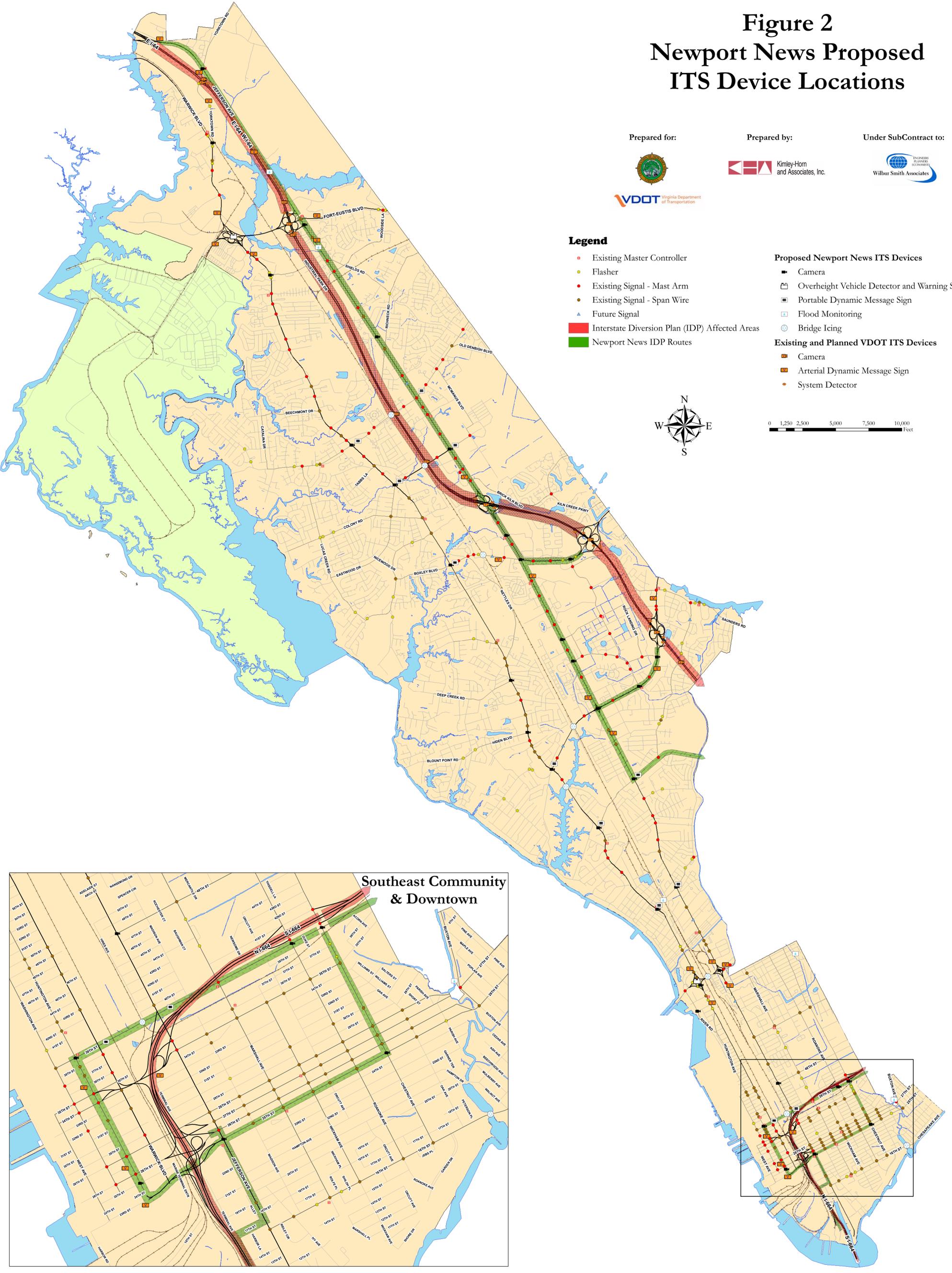
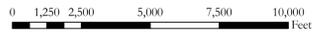


Figure 6 Newport News Signal System System Inventory

Prepared for:



Prepared by:



Under SubContract to:



Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- Future Signal
- Lane Control Signals
- Signal Systems
- System Loops
- Overhead Comm
- Underground Comm
- Intersections with Proposed Emergency Backup Power

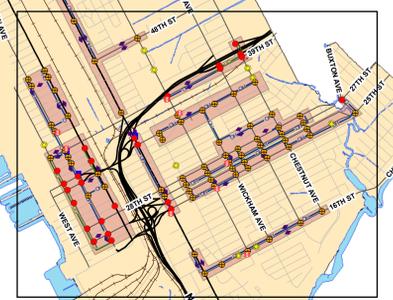
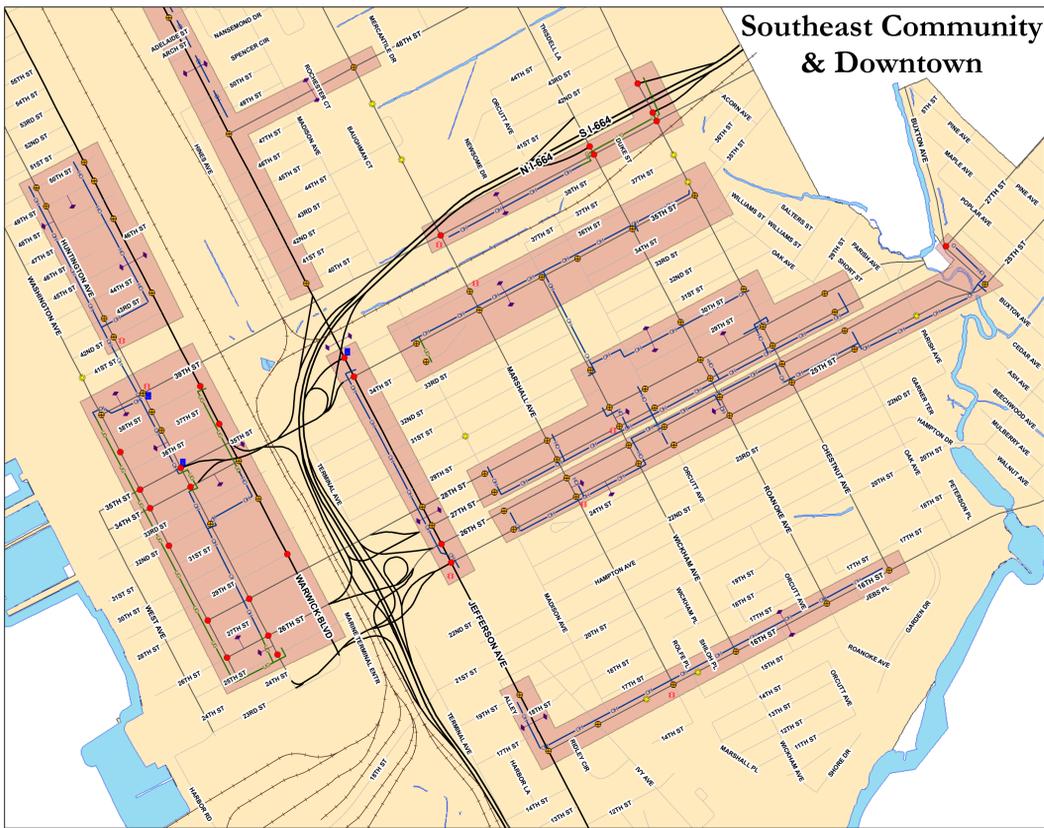
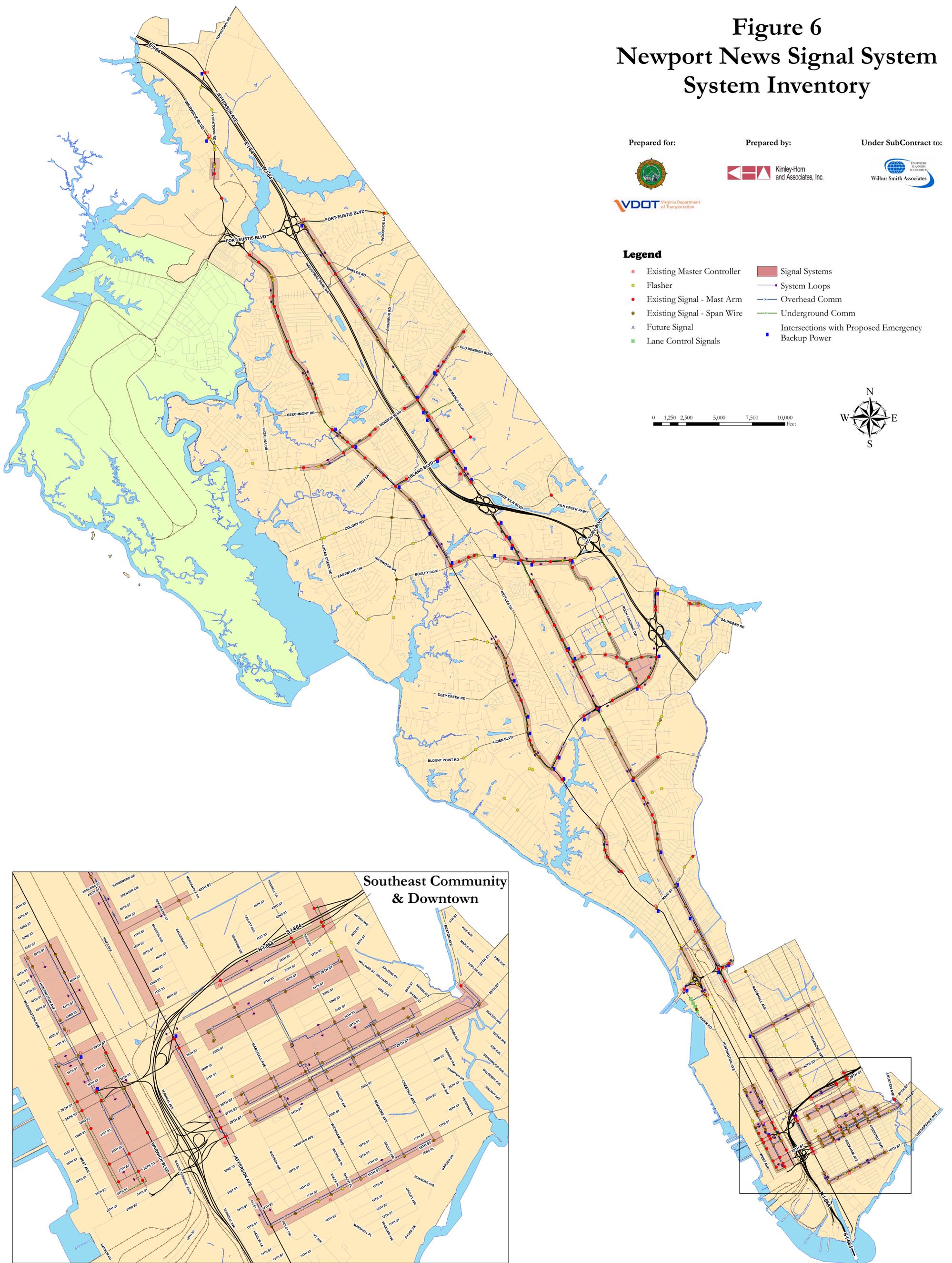


Figure 13 Newport News Signal System Communication Scenario 1 Transportation Fiber Backbone and Distribution

Prepared for:



VDOT Virginia Department of Transportation

Prepared by:



Under SubContract to:



Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- ▲ Future Signal
- Lane Control Signals
- Signal Systems
- Existing Overhead Comm/New Fiber
- Existing Underground Comm/New Fiber
- Proposed Newport News Transportation Fiber Expansion

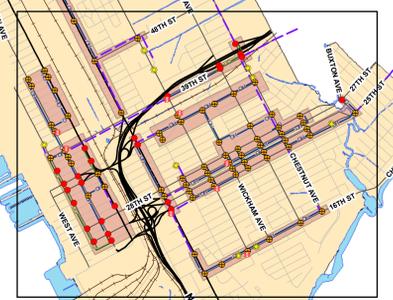
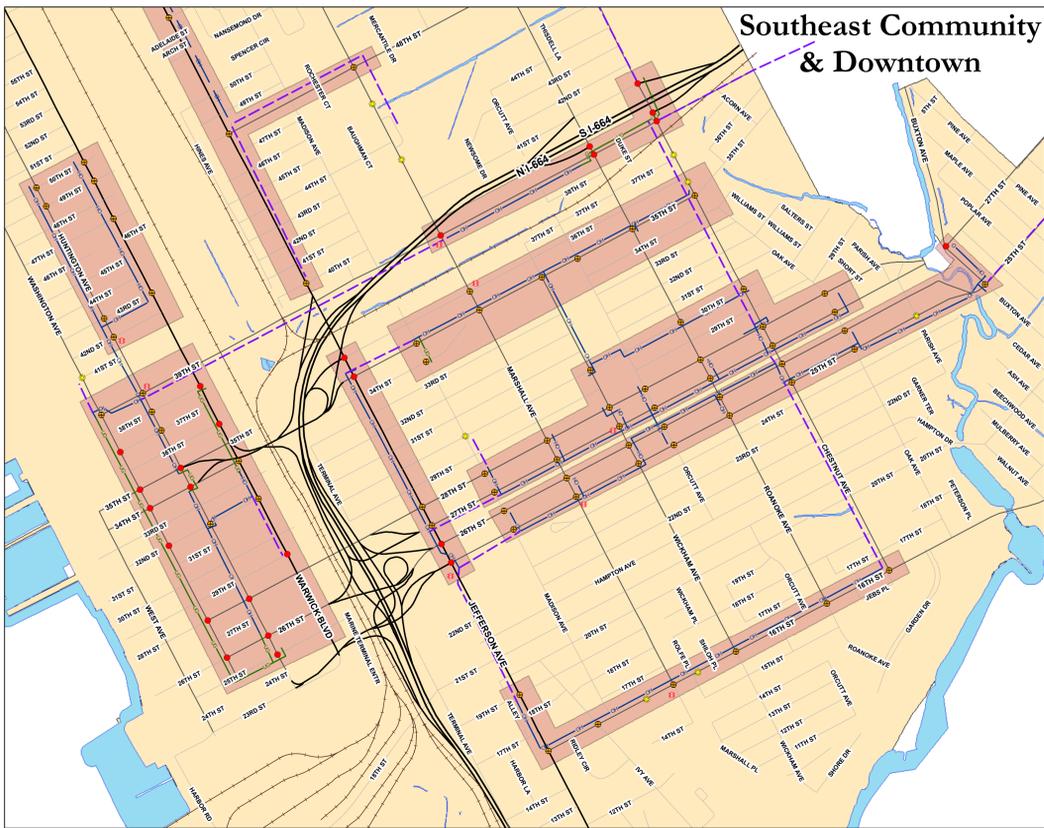
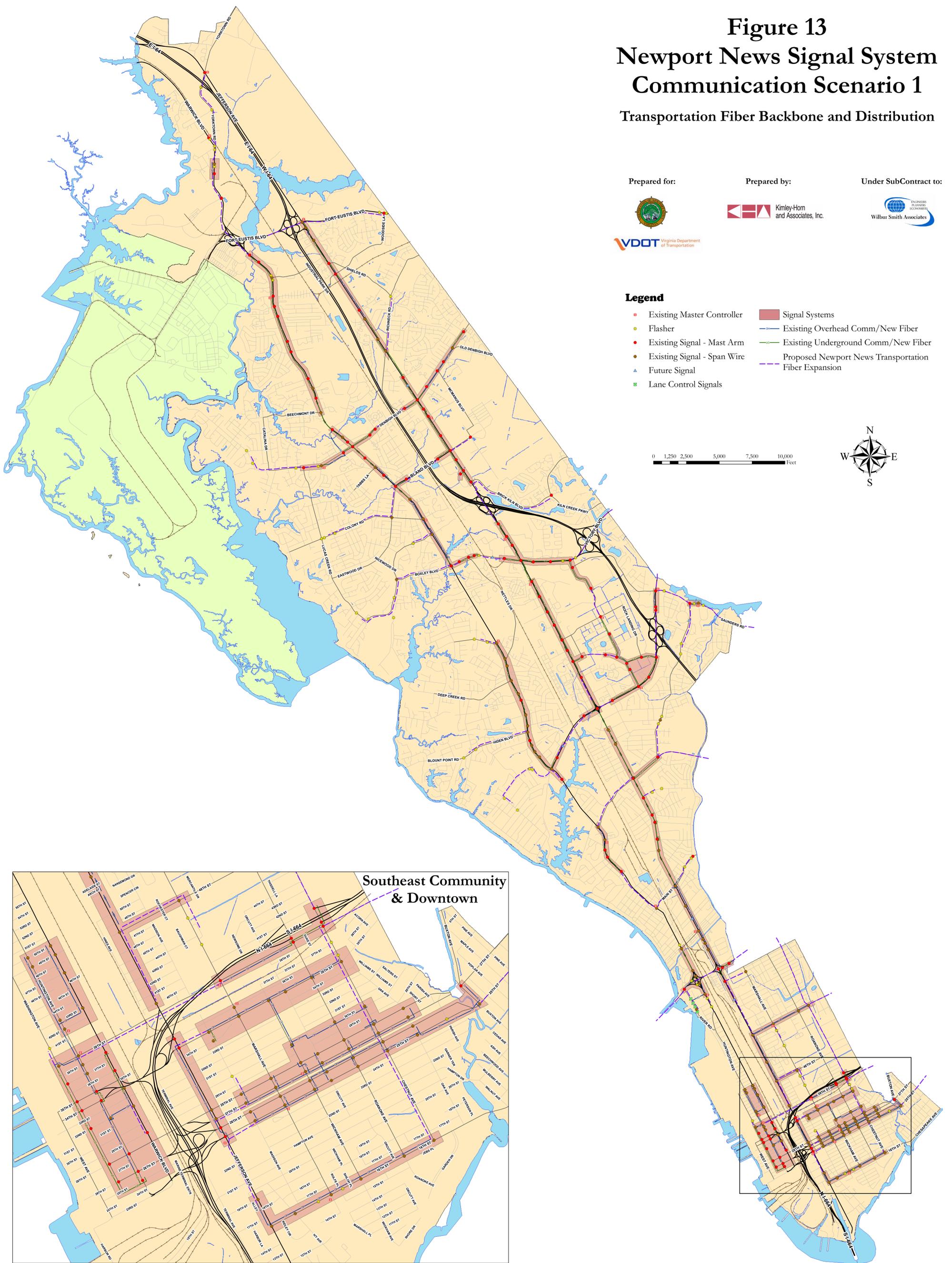


Figure 14 Newport News Signal System Communication Scenario 2

NNPS/IT Fiber Backbone and Transportation Twisted-Pair Distribution

Prepared for:

Prepared by:

Under SubContract to:



VDOT Virginia Department of Transportation

Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- ▲ Future Signal
- Lane Control Signals
- Signal Systems
- Existing Overhead Comm
- Existing Underground Comm
- ▲ Existing City IT Access Point on Newport News Public Schools Fiber System
- Proposed City IT Access Point on Newport News Public Schools Fiber System
- Newport News Public Schools Fiber Splice Vaults
- Newport News Public Schools Fiber Routes
- Proposed Newport News Transportation Fiber Expansion

0 1,250 2,500 5,000 7,500 10,000 Feet

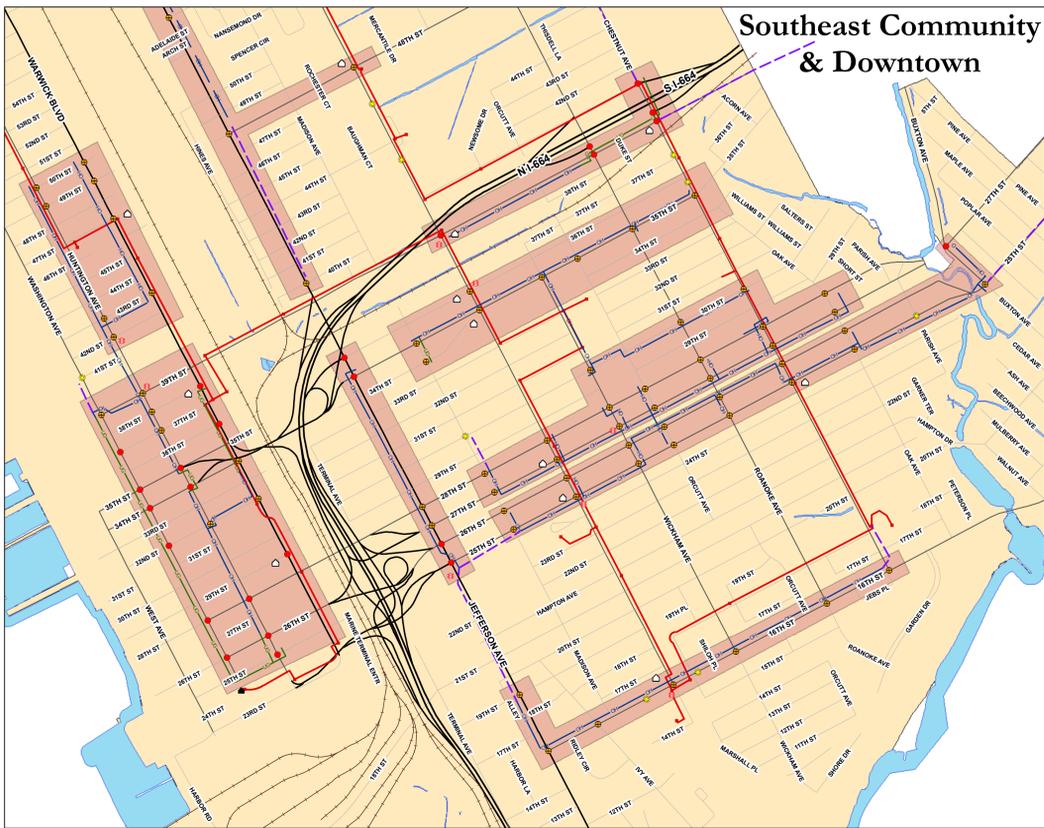
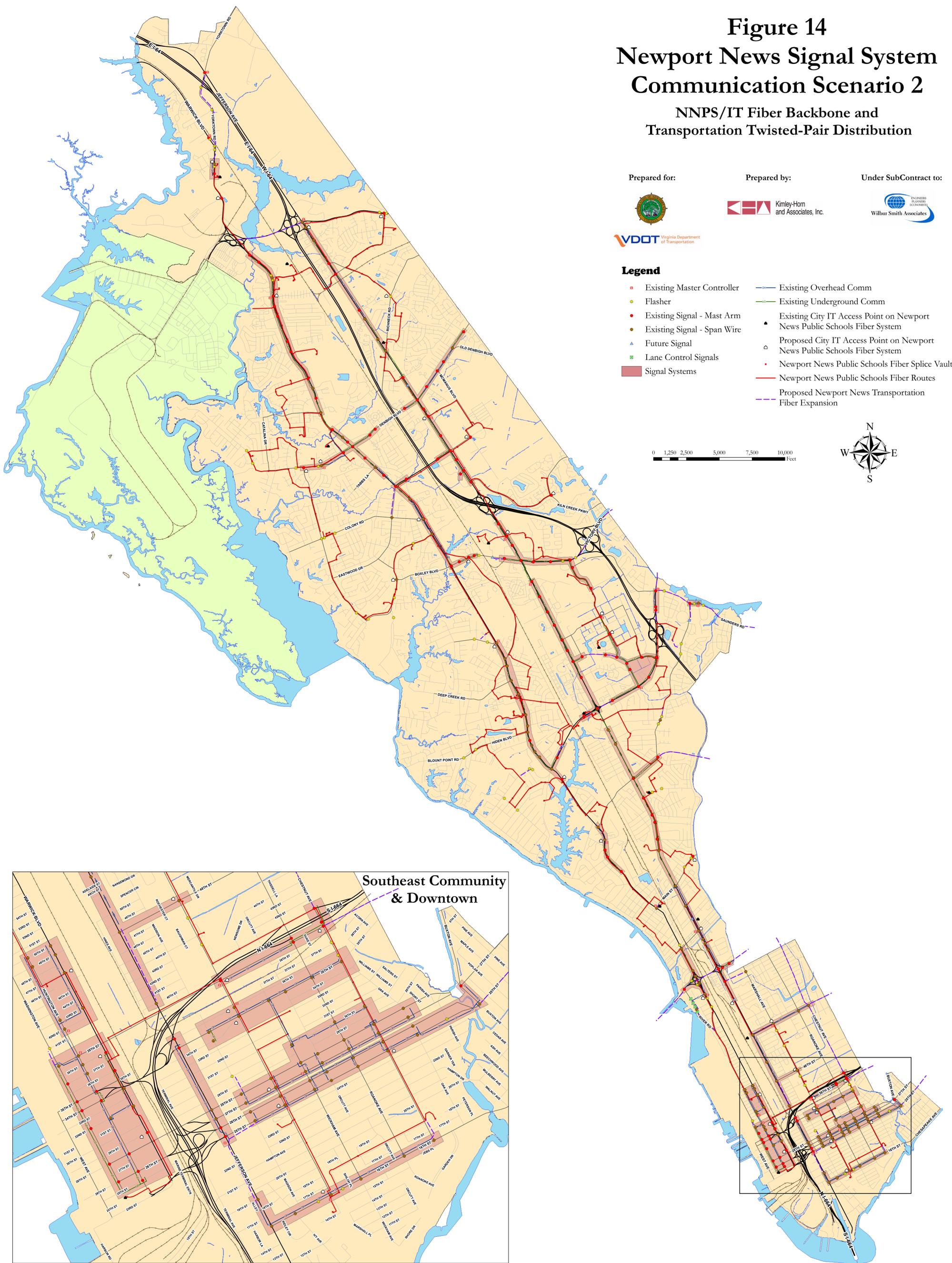


Figure 15 Newport News Signal System Communication Scenario 3 NNPS/IT Fiber Backbone and Transportation Fiber Distribution

Prepared for:



VDOT Virginia Department of Transportation

Prepared by:



Kimley-Horn
and Associates, Inc.

Under SubContract to:



WILBUR SMITH ASSOCIATES
ENGINEERS PLANNERS ARCHITECTS

Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- ▲ Future Signal
- Lane Control Signals
- Signal Systems
- Existing Overhead Comm/New Fiber
- Existing Underground Comm/New Fiber
- ▲ Existing City IT Access Point on Newport News Public Schools Fiber System
- Proposed City IT Access Point on Newport News Public Schools Fiber System
- Newport News Public Schools Fiber Splice Vaults
- Newport News Public Schools Fiber Routes
- Proposed Newport News Transportation Fiber Expansion

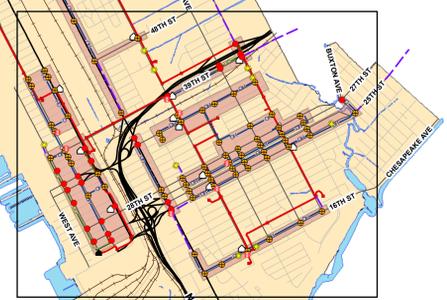
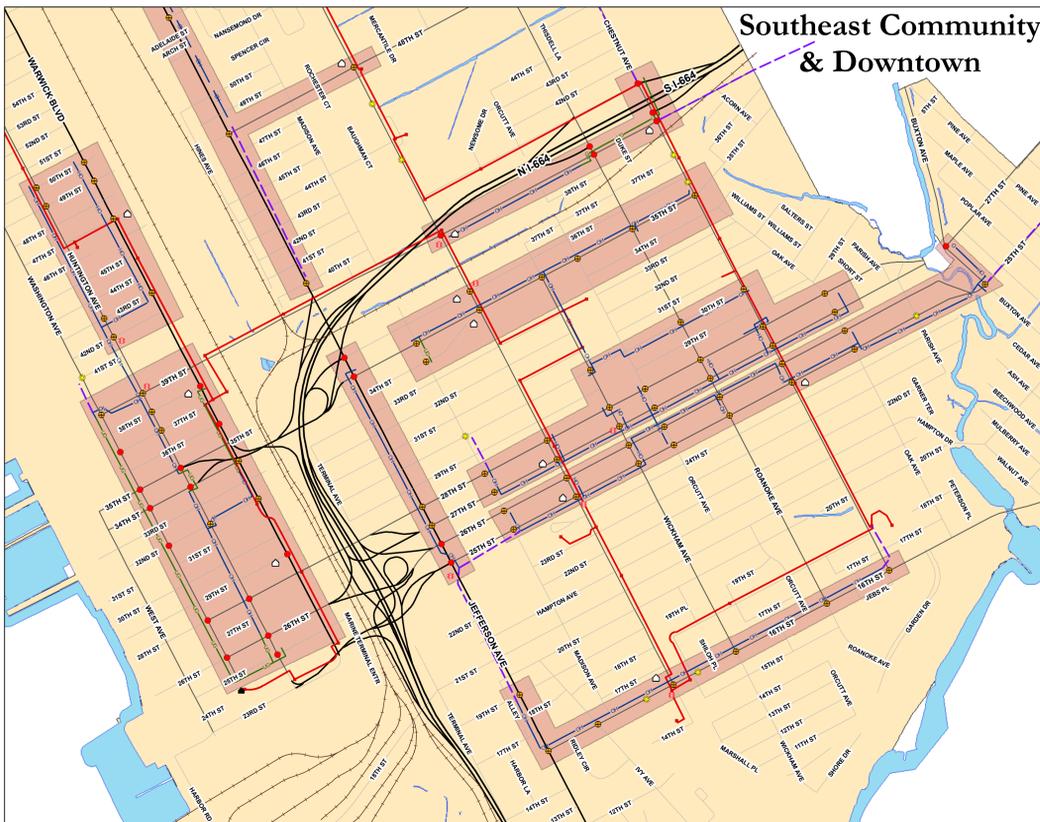
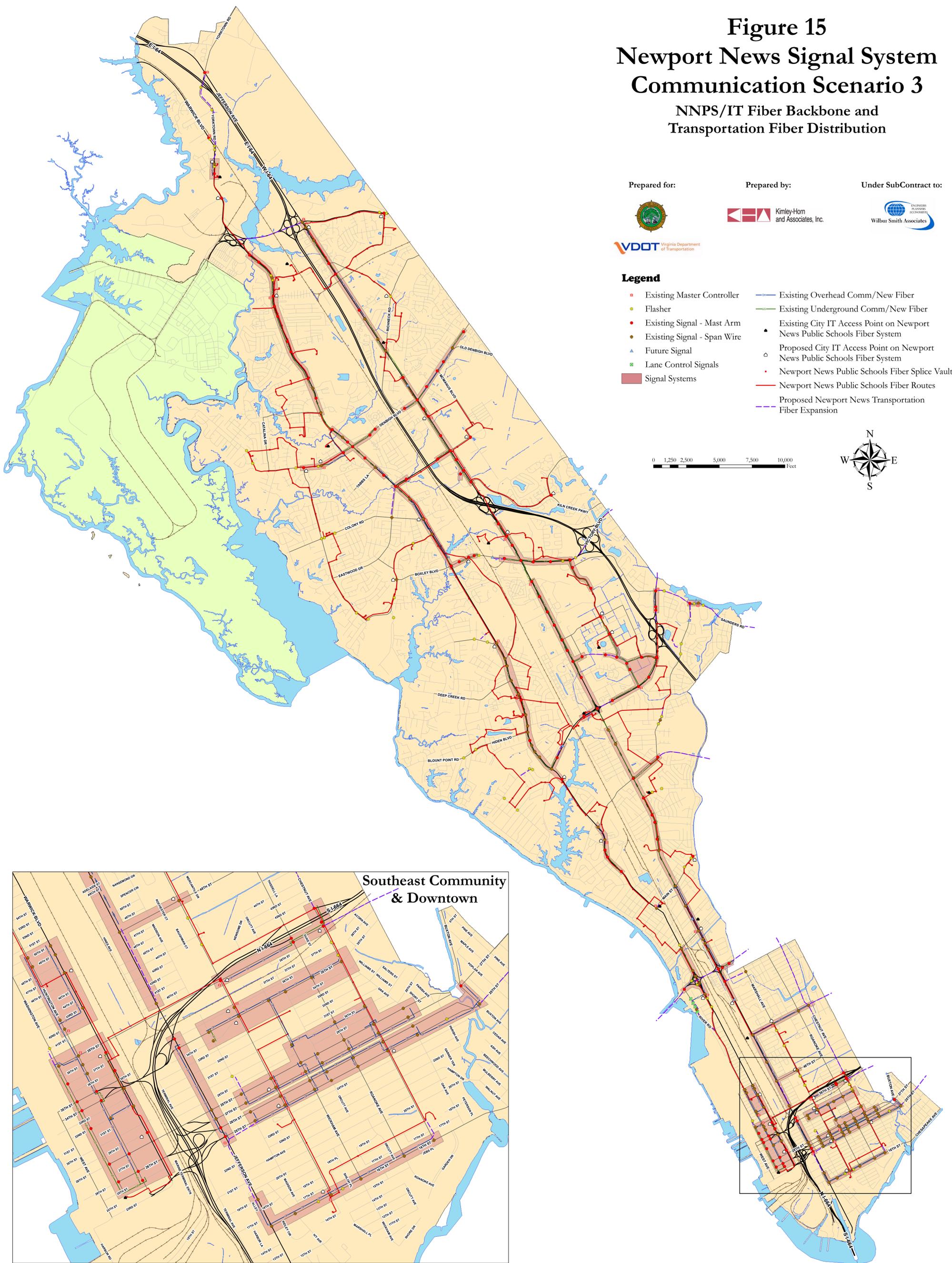


Figure 16 Newport News Signal System Communication Scenario 4

NNPS/IT Fiber Backbone and
Minimized Transportation Fiber Distribution

Prepared for:

Prepared by:

Under SubContract to:



VDOT Virginia Department of Transportation

Legend

- Existing Master Controller
- Flasher
- Existing Signal - Mast Arm
- Existing Signal - Span Wire
- Future Signal
- Lane Control Signals
- Signal Systems
- Existing Overhead Comm/New Fiber
- Existing Underground Comm/New Fiber
- Existing City IT Access Point on Newport News Public Schools Fiber System
- Proposed City IT Access Point on Newport News Public Schools Fiber System
- Newport News Public Schools Fiber Splice Vaults
- Newport News Public Schools Fiber Routes
- Proposed Newport News Transportation Fiber Expansion

0 1,250 2,500 5,000 7,500 10,000 Feet

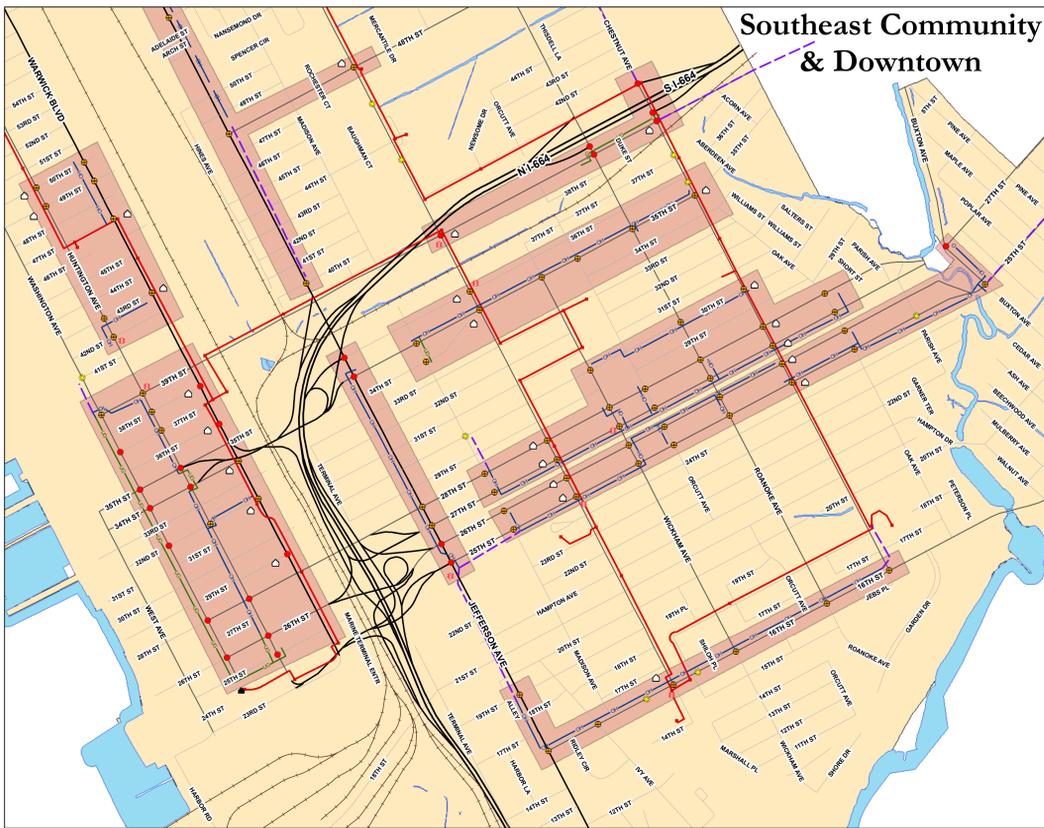
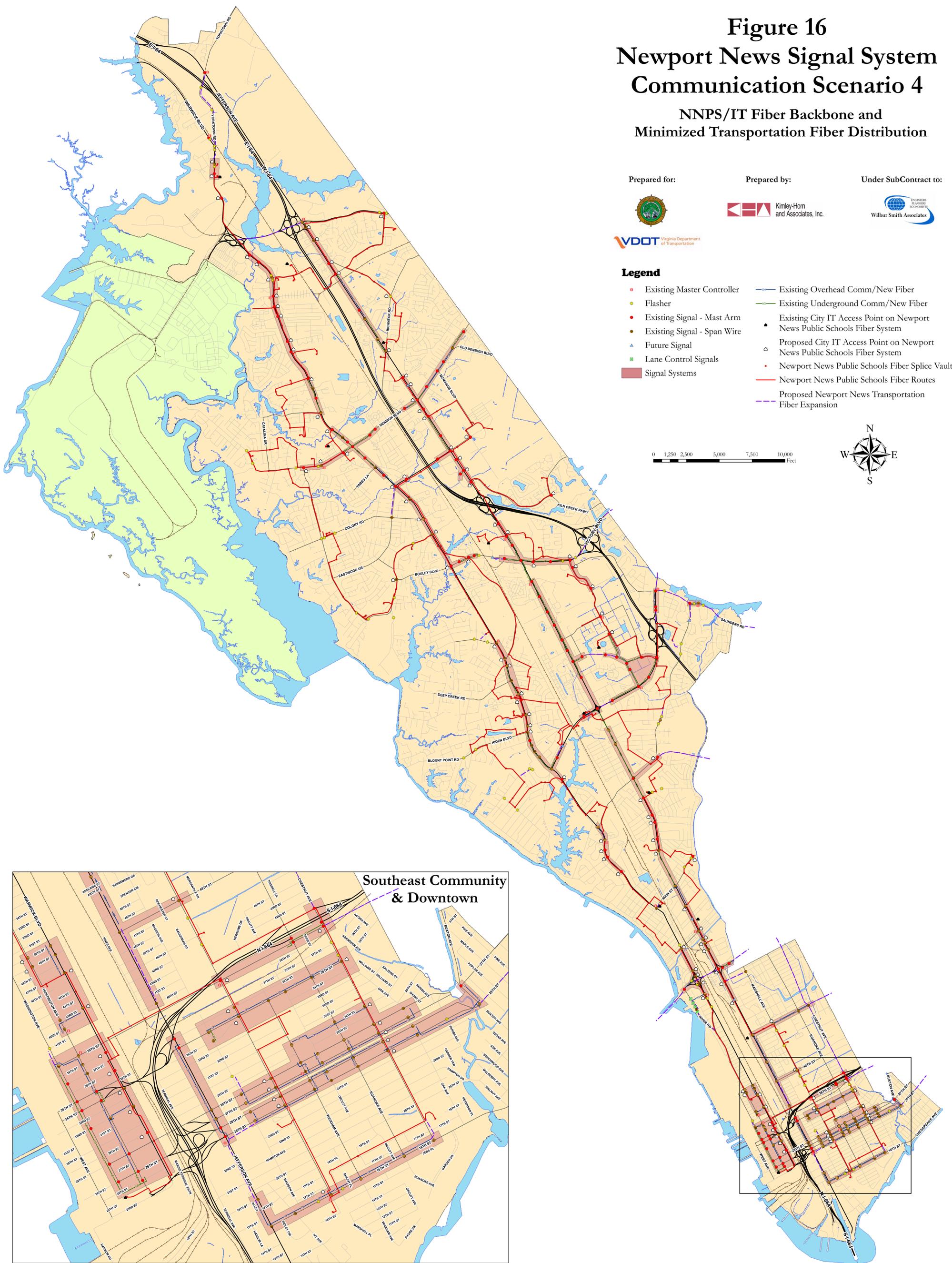
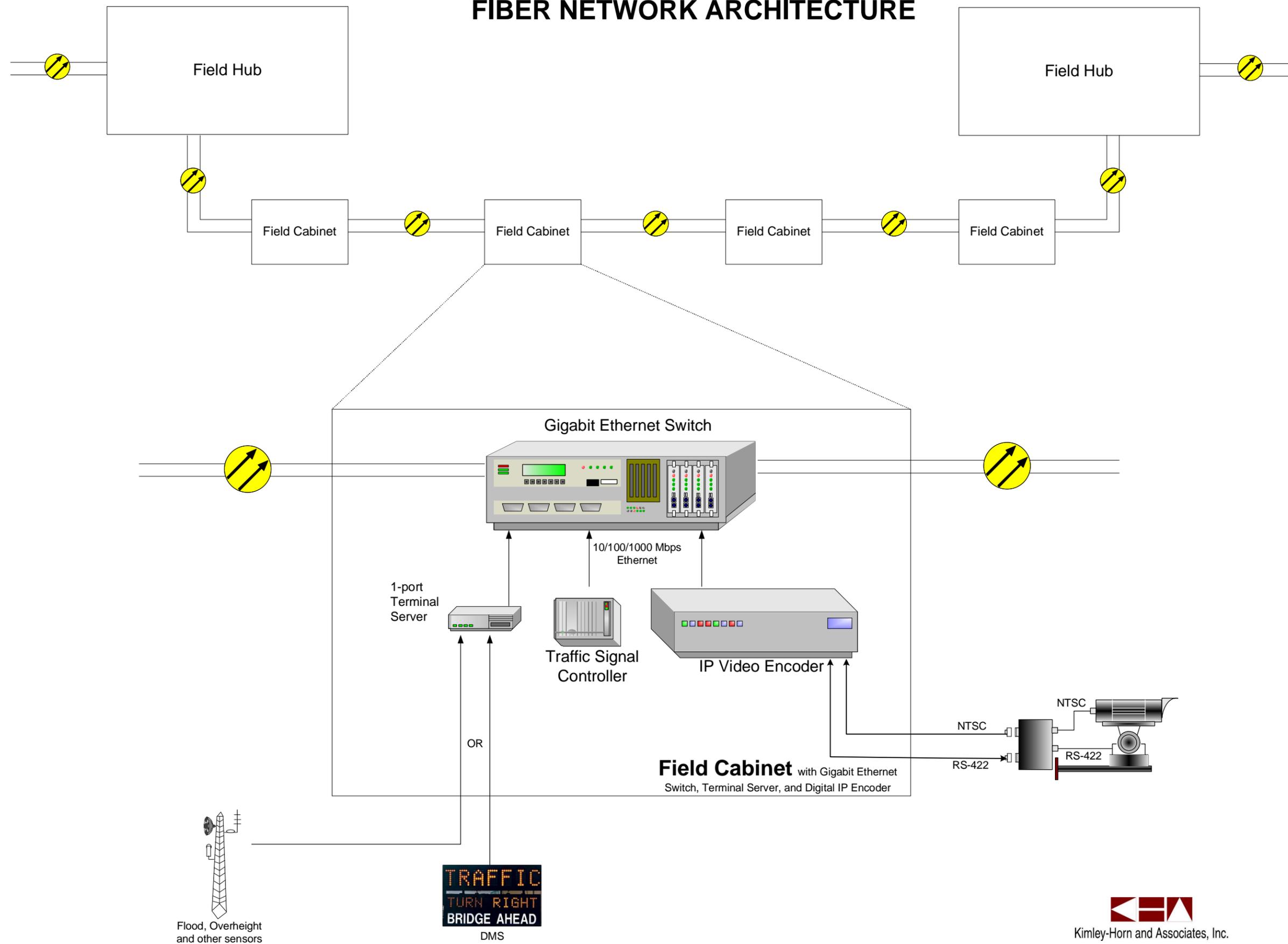


FIGURE 7: ETHERNET TO THE FIELD CABINET – FIBER NETWORK ARCHITECTURE



**FIGURE 8: FIBER BACKBONE/TWISTED-PAIR DISTRIBUTION
ETHERNET ARCHITECTURE**

