

# ITS Strategic Roadmap – FY16

## **Structured Cable Management**

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### **Background**

Structured cabling is a component of the construction of facilities that are responsible for the delivery of analog and digital signals that drive the modern business workplace. The technology tools that rely on effective structured cabling include:

- Cable infrastructure both inside Metro’s network and external to Metro’s network that connect Metro facilities to each other and to the world..
- Analog and Voice over IP (VoIP) telephone,
- Data networking,
- Building Automation Systems,
- Cabling needs for various vendors providing services to Metro facilities, including cable television, and
- Camera systems.

Cabling technologies used include CAT-5, CAT-6, and fiber optics including multi mode and singlemode 50 micron OM3.

Services provided by ITS and contracted vendors includes running wiring, managing the wiring infrastructure including IT closets, management of select cabling duct banks in Metro right of way, testing, and maintenance of the infrastructure.

These services are provided to Metro departments regardless of whether ITS delivers the connectivity, as in the case of cable TV services which are contracted between department and the cable vendor.

Metropolitan Nashville Public Schools are responsible for their own cabling.

Primary stakeholders are the department of General Services, builder and manager of many Metro facilities; contracted construction companies who perform construction and building maintenance; Metro’s contracted cabling and wiring vendors; and the departments and agencies of the Metro general government that rely on these services.

### **Current Strategic Drivers**

1. **Continuing Demand for Metro Construction Projects (Gamechanging)** – Presently the ITS department supports IT services within the general government in 246 separate locations, 342 IT Closets supporting 295 customers. The drive for new facilities and upgrades to existing facilities continues, though there is uncertainty associated with the priorities of a new administration.



2. **Demand for Secure Government Systems (High)** - With massive data breaches in the news on seemingly a daily basis, we must strive at all times to protect the security, availability and integrity of all facilities and systems entrusted to our management.
3. **Industry Standard Compliance (High)** – There is a well-defined set of construction and technology industry standards that are critical for use in construction projects to provide reliability, availability, maintainability, safety and security.
4. **Expectation for Ubiquitous Wireless Coverage (Medium)** – In a world where every fast food restaurant offers free wifi at some level, there is an expectation among workers and citizens for complete coverage for Metro internal wifi as well as free public wifi. These expectations must be applied against available budget and resources. This driver is related to the physical cable connection for wireless coverage.
5. **Commercial availability of dark fiber (High)** – Fiberoptic cabling distribution needs increase as ITS and its customers needs for network connectivity, camera placement and wireless access points are installed throughout Davidson County. The need for additional backbone fiber optic cable increases as the footprint for services expands. The difficulty in getting required dark fiber pricing, availability and control from providers are driving Metro ITS toward a private fiber model.
6. **Increased Shared Duct Banks Installed (High)** -Duct bank use will need to be expanded as the demand for services increases. The expansion of duct banks will be considered as roadways and projects are planned and being implemented. The duct banks are being installed in the right-of-way and the need for properly managing them and protecting the asset will be critical.
7. **Increased need for maintenance of cabling (Medium)** - The proper installation and maintenance of installed cable will become more important as more outside plant cable is installed. This will include cable installed in aerial and underground methods.

### On the Horizon Strategic Drivers

1. **Challenges with Network Management in a Growing Environment (High)** – As the amount of network infrastructure increases, the complexity of the network and its management challenges increases as well. This will include working with Metro General Services and using the Archibus application for documenting and sharing the documentation within Metro.

### Short Term Goals (0-6 months) 7/1/15 – 12/31/15

#	Goal/Objective	Est. Start	Est. Duration
1	Develop documents to be used for construction projects and align them with Construction Specification Standards to the latest industry standards and form using the Construction Specifications standard for Division 27	7/15	4 months
2	Design new forms and update documents used by Low Voltage Contractor for bidding and reporting to Metro ITS on infrastructure projects. Align these form with the ITS Standards document	7/15	4 months



3	Manage and monitor the use of Metro duct systems by use of a signed agreement and use agreement	7/15	3 months
4	Continue to work on the best method for installation of fiber optic cable to be distributed to Metro facilities throughout the city on a daily basis.	9/15	Ongoing
5	Devise a plan that will include several methods of cable installation throughout the city by installing conduit pathways, and using alternate sources such as District Energy Services (DES) and Public Works	9/15	Ongoing

### Medium Term Goals (6-18 months) 1/1/16 – 12/31/16

#	Goal/Objective	Est. Start	Est. Duration
1	Work with designers and architects during the planning stages of a project to insure ITS needs are met and included in the construction documents	7/2015	8 months
2	Provide information to the Construction Manager on construction projects to insure IT information is included in the construction documents	9/2015	9 months
3	Develop a list of all Outside Plant (OSP) cable and perform an initial inspection for maintenance purposes	1/16	4 months
4	Establish an on-going survey and inspection of Outside Plant (OSP) cable for preventative maintenance measures	1/16	12 months

### Long Term Goals (18-36 months) 1/1/17 – 6/30/18

#	Goal/Objective	Est. Start	Est. Duration
1	Work with General Service using the Archibus application and Mapping using GIS for document integration purposes related to Metro facilities and Outside Plant infrastructure	1/17	12 months

### Related Roadmaps:

- Data Center and Environmentals
- Network Infrastructure
- Wireless Networking

