IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN

ITS NETWORK DOCUMENTATION AND ASSET MANAGEMENT BEST PRACTICES

HDR

OLSSON® ASSOCIATES

DTS DIGITAL TRAFFIC SYSTEMS INC.

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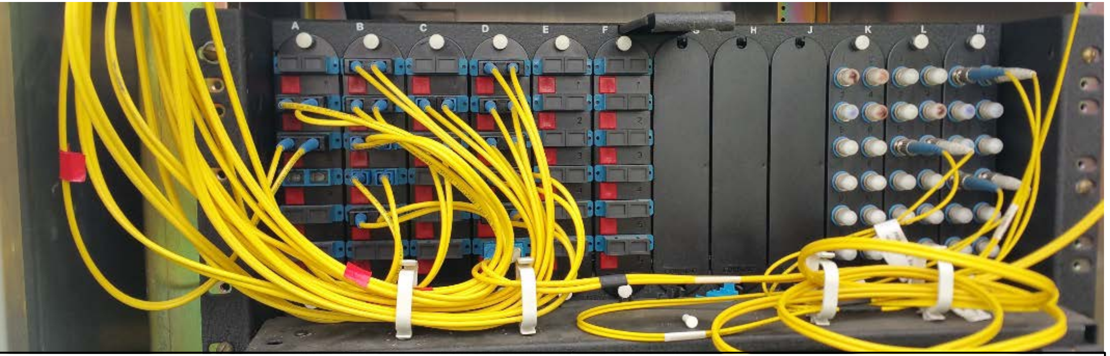
HDR

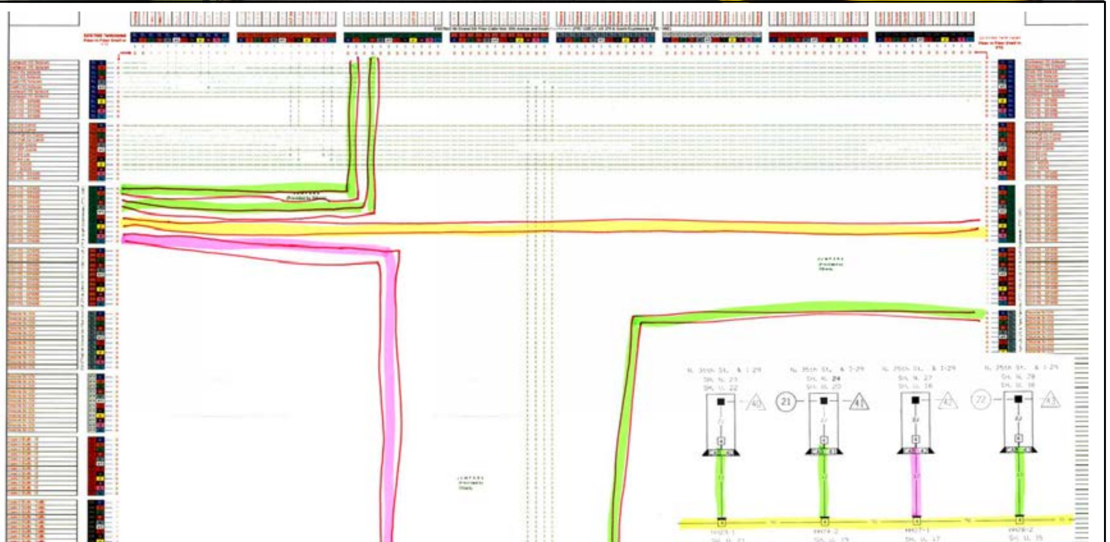
OLSSON® ASSOCIATES

DTS
DIGITAL TRAFFIC SYSTEMS INC.

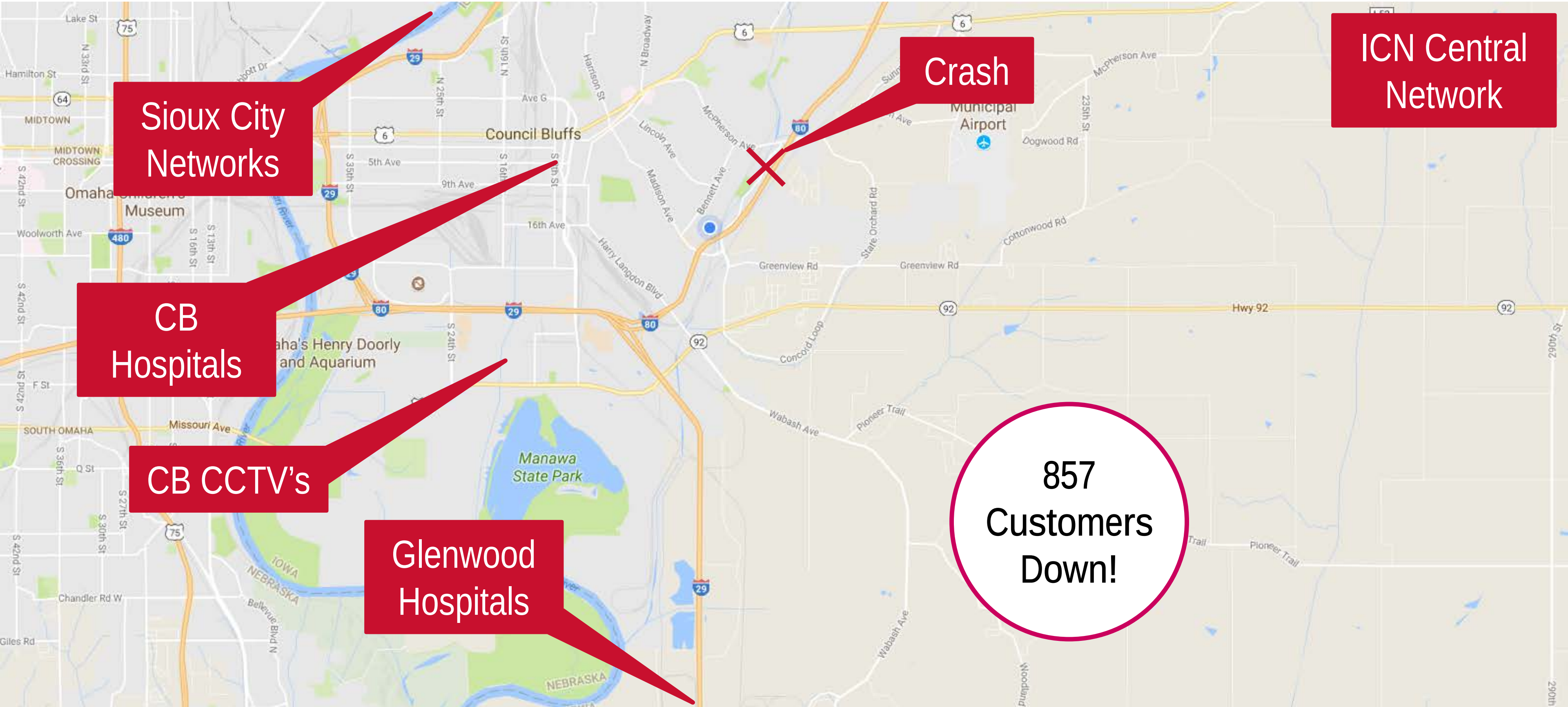
- Project Need
- Best Practices
- Tools
- Benefits

The Problem



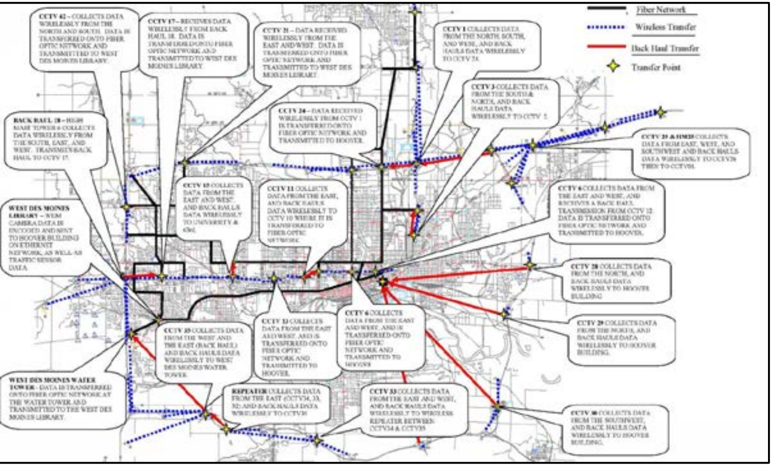


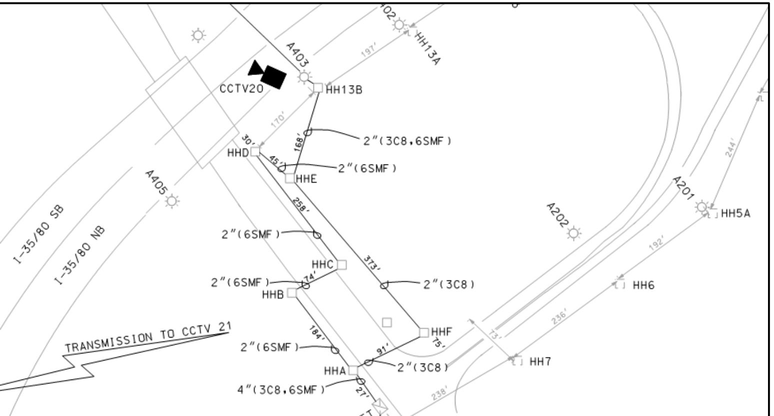
Impacts

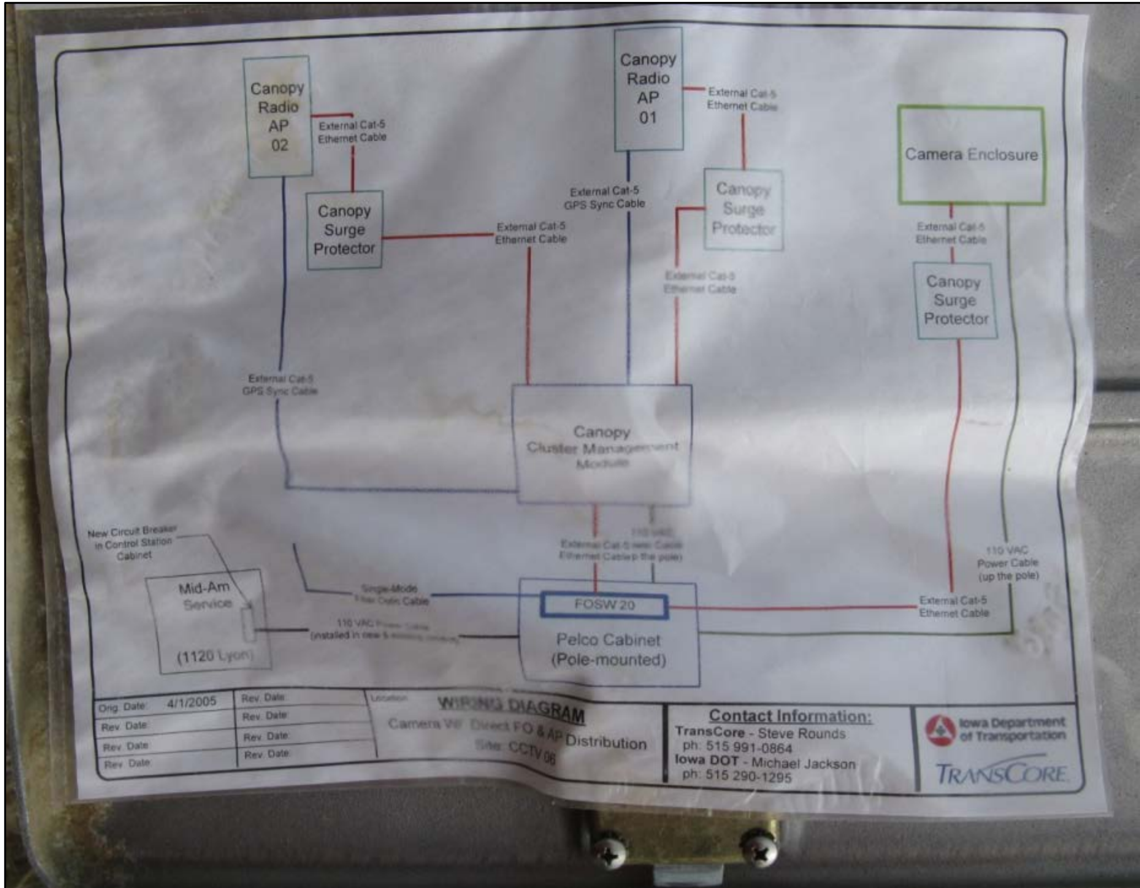


Sioux City Networks
CB Hospitals
CB CCTV's
Glenwood Hospitals
Crash
ICN Central Network
857 Customers Down!
Council Bluffs
Municipal Airport
Omaha's Henry Doorly Zoo and Aquarium
Manawa State Park
MIDTOWN
MIDTOWN CROSSING
SOUTH OMAHA
Greenview Rd
Hwy 92
Wabash Ave
Pioneer Trail
Cottonwood Rd
Dogwood Rd
McPherson Ave
Harry Langdon Blvd
State Orchard Rd
Concord Loop
Missouri Ave
Chandler Rd W
IOWA
NEBRASKA

Hand-drawn, Paper Copy, Stick Figure







Dec 2015 — Invest in NetDesigner

Mar 2016 — Develop Standards & Workflows

Nov 2016 — Complete Proof Project

Jan 2017 — Deploy Statewide

Simple – Reliable – Easy to Maintain

IOWA DOT

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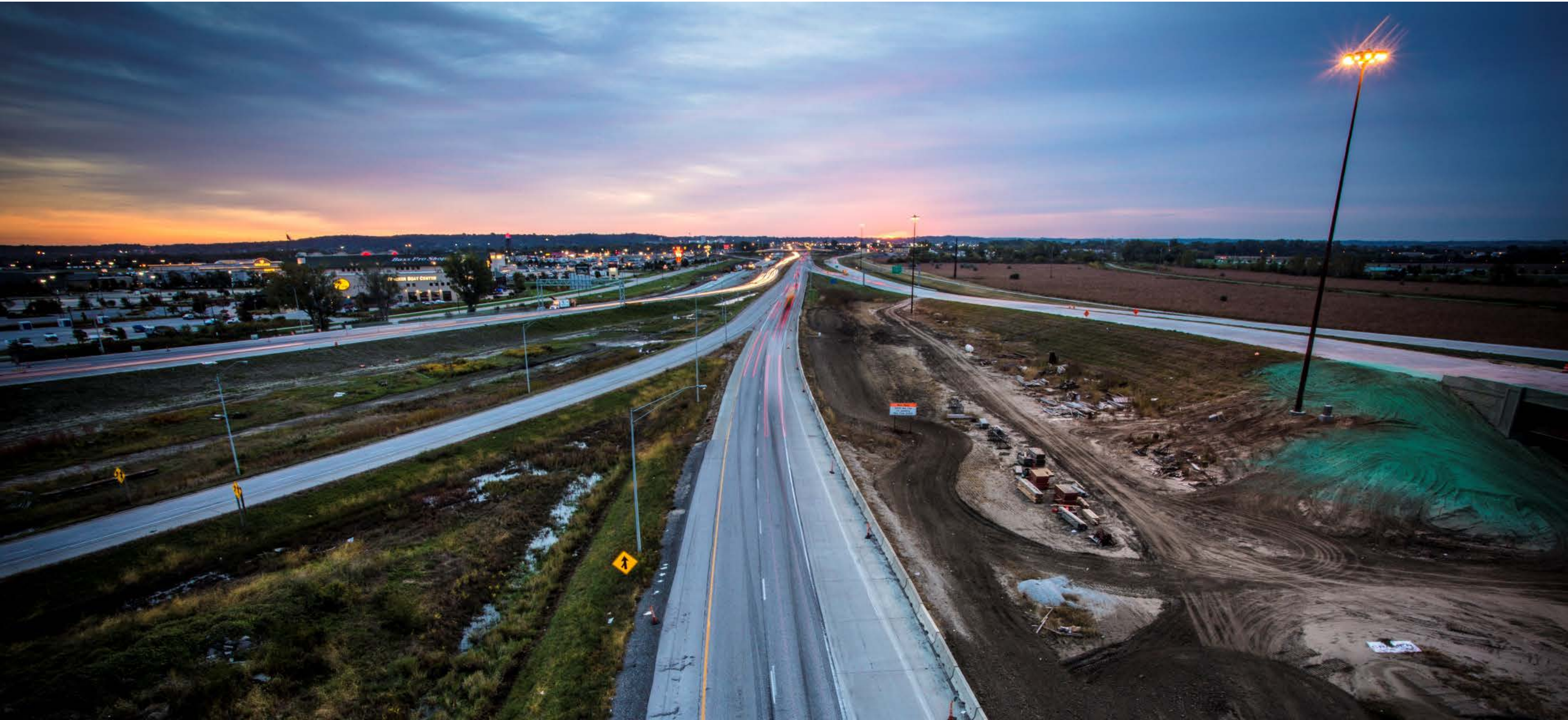
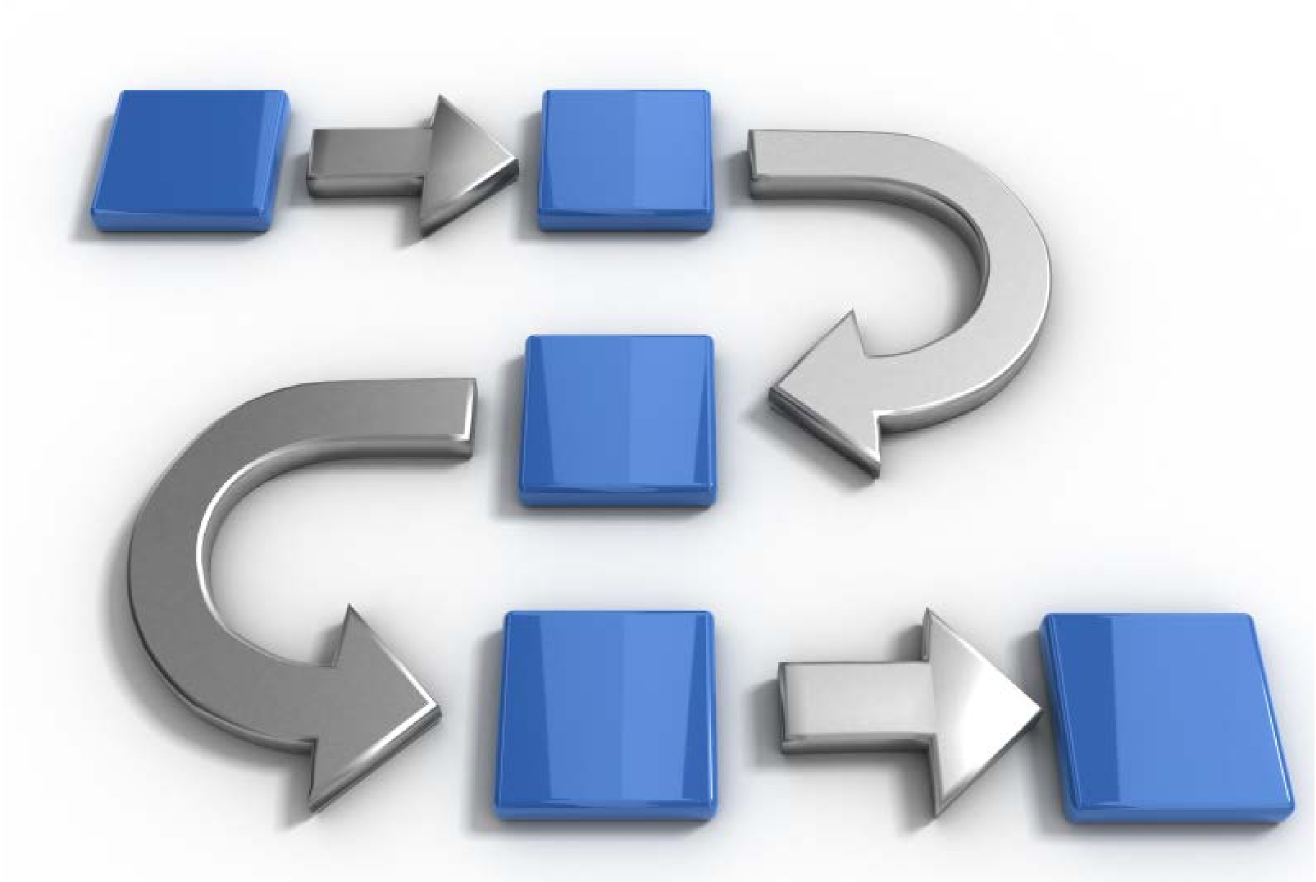
Show Me it Works – Proof Project

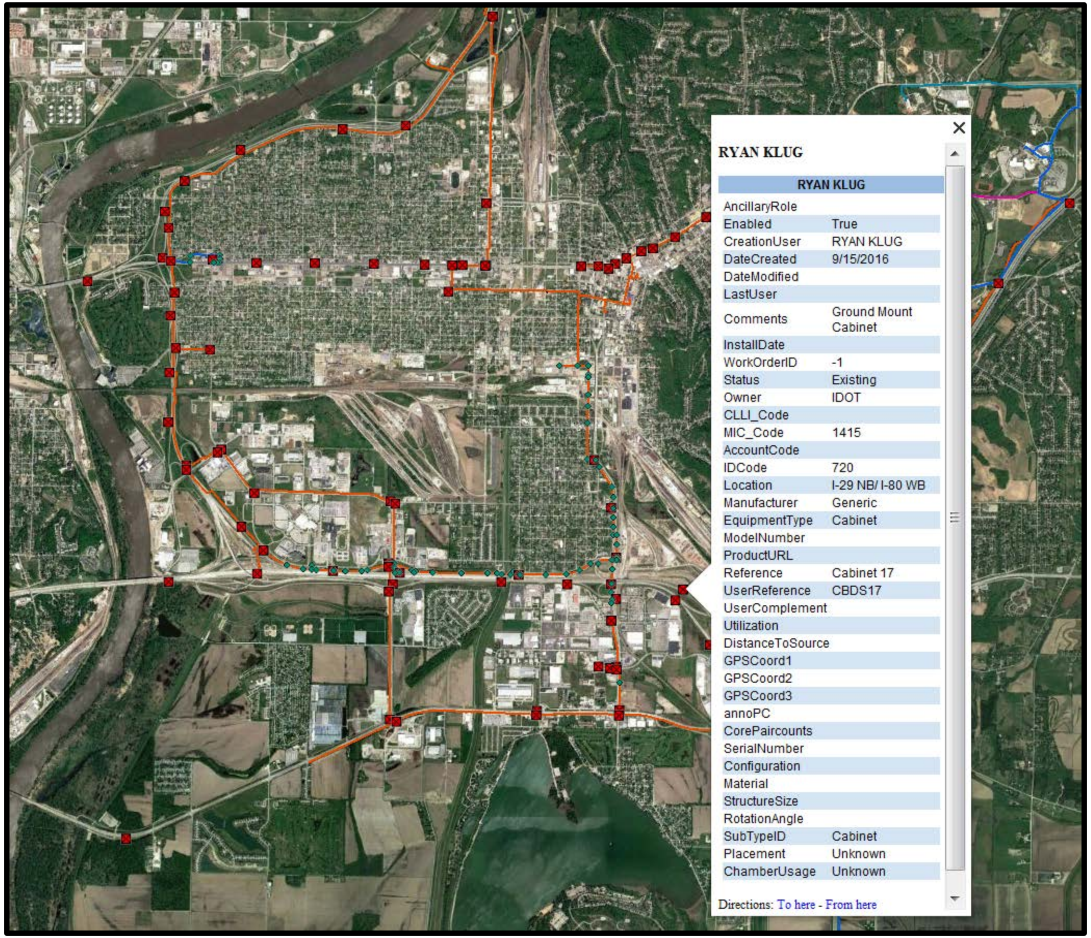


Show Me it Works – Proof Project

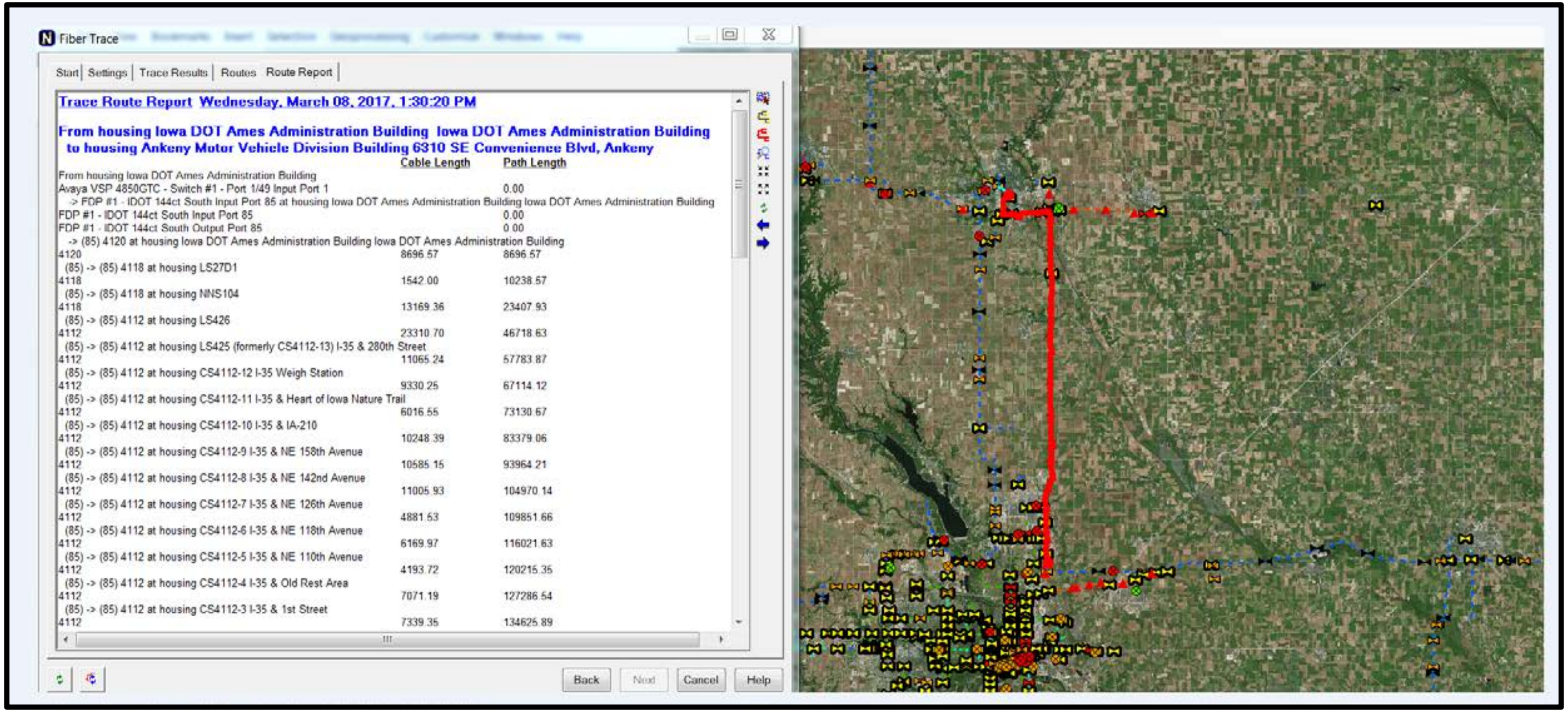
Standardize the Workflow Process



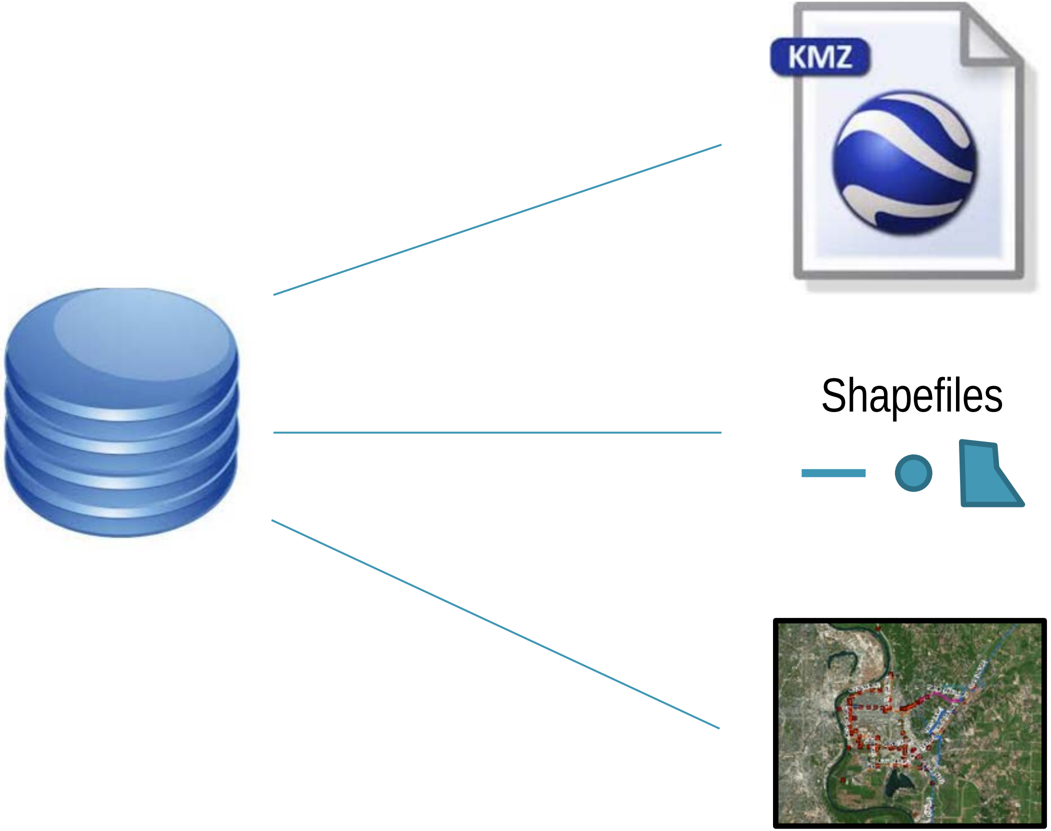
GEOSPATIAL


RYAN KLUG
RYAN KLUG
AncillaryRole
Enabled True
CreationUser RYAN KLUG
DateCreated 9/15/2016
DateModified
LastUser
Comments Ground Mount Cabinet
InstallDate
WorkOrderID -1
Status Existing
Owner IDOT
CLLI_Code
MIC_Code 1415
AccountCode
IDCode 720
Location I-29 NB/ I-80 WB
Manufacturer Generic
EquipmentType Cabinet
ModelNumber
ProductURL
Reference Cabinet 17
UserReference CBDS17
UserComplement
Utilization
DistanceToSource
GPSCoord1
GPSCoord2
GPSCoord3
annoPC
CorePaircounts
SerialNumber
Configuration
Material
StructureSize
RotationAngle
SubTypeID Cabinet
Placement Unknown
ChamberUsage Unknown
Directions: To here - From here

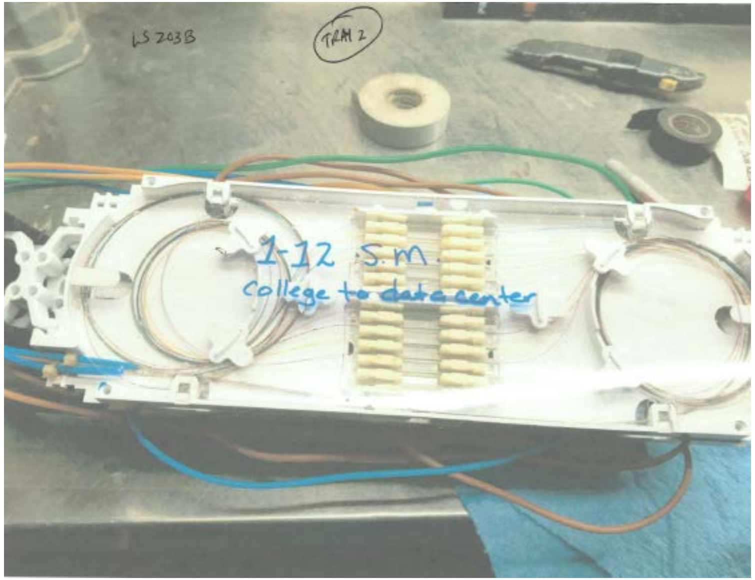
TRACEABILITY



STREAMLINED OUTPUTS



FUTURE PLANNING / ENGINEERING



Scan Unconnected Spares: Details of Route # 1 **Monday, May 01, 2017, 10:02:06 AM**

From housing LS248A
to housing Fire Safety and Training 2700 Dean Avenue

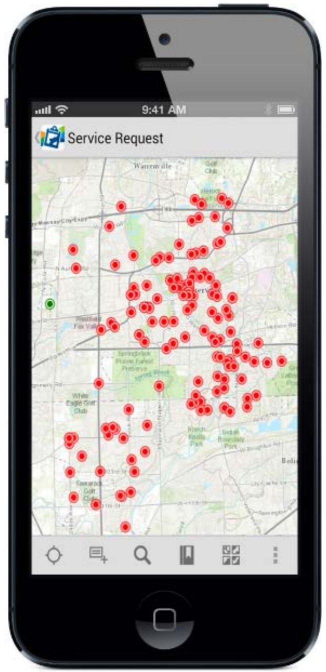
Item	Length	Unconnected Fibers	Unconnected Ports
LS248A			
DSM Fiber - 48F	1588.46	13-48 (36)	
DSM Fiber - 48F at LS248A		13-48 (36)	
DSM Fiber - 48F at Fire Safety and Training		7-48 (42)	
Fire Safety and Training 2700 Dean Avenue			
Fire AMT Cisco 6506 Switch			
Input - 30 Ports			1-30 (30)
Output - 30 Ports			1-30 (30)
Cisco 6506 port g5/1			
Input - 2 Ports			None
Output - 2 Ports			1-2 (2)
Cisco 6506 port g5/2			
Input - 2 Ports			None
Output - 2 Ports			1-2 (2)
Fire AMT Patch Panel A			
Input - 12 Ports			3-10 (8)
Output - 12 Ports			5-10 (6)

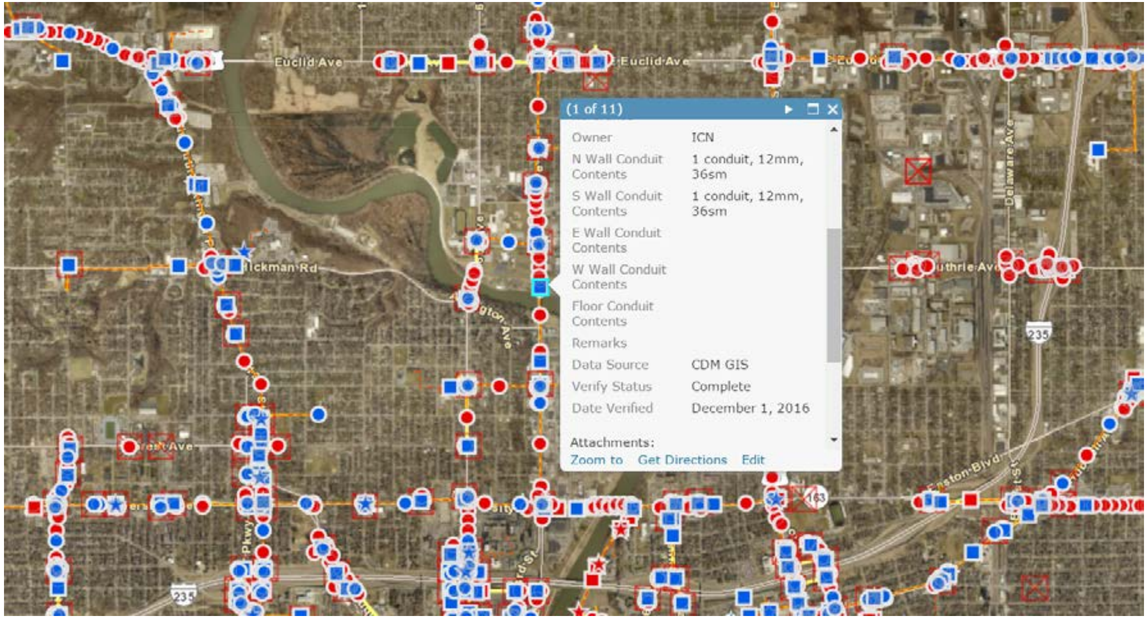
Total Length: 1588.46

FUTURE PLANNING / ENGINEERING

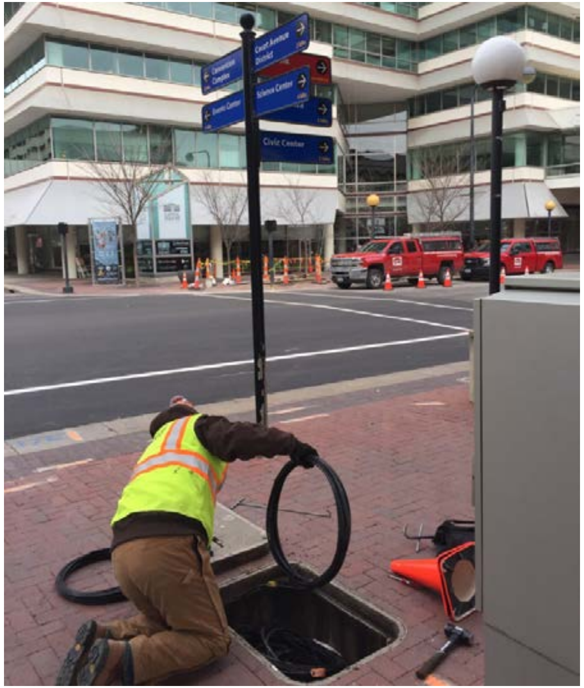
PREVENTATIVE MAINTENANCE

COLLABORATION / SHAREABILITY





ON-GOING DATA COLLECTION

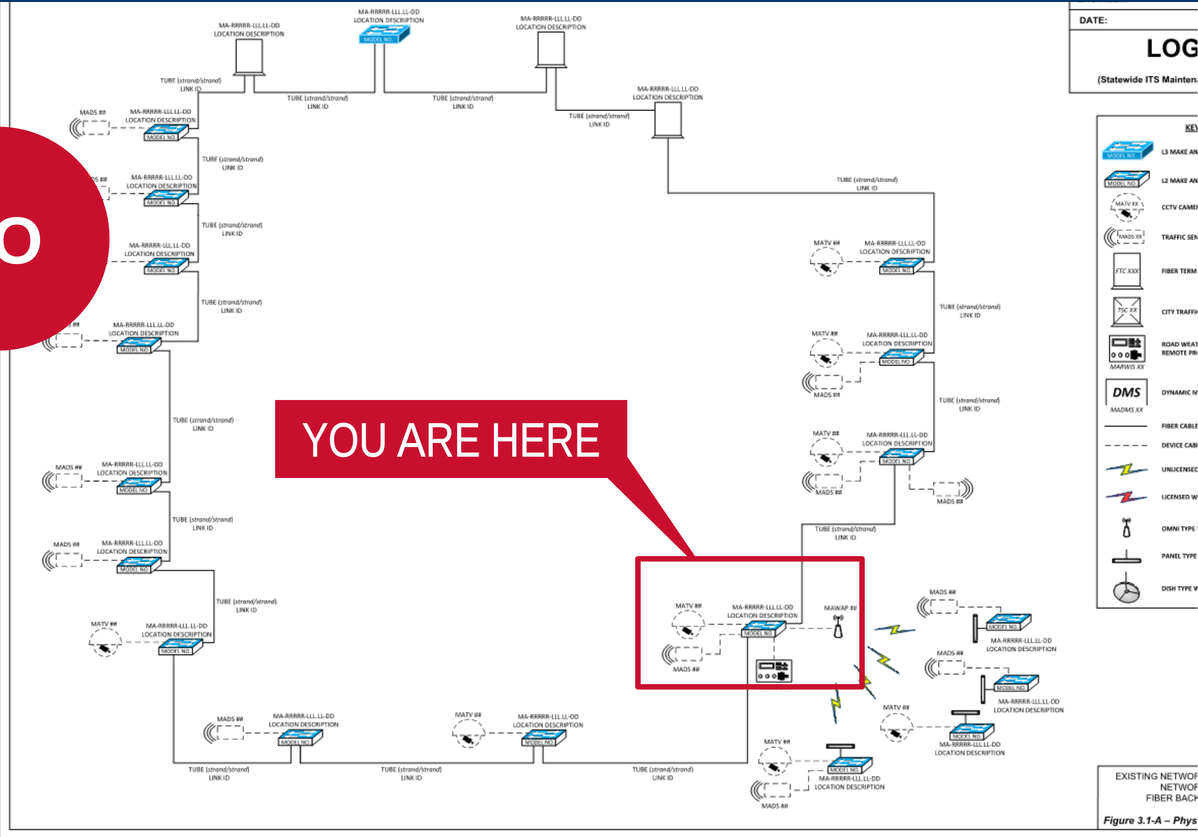


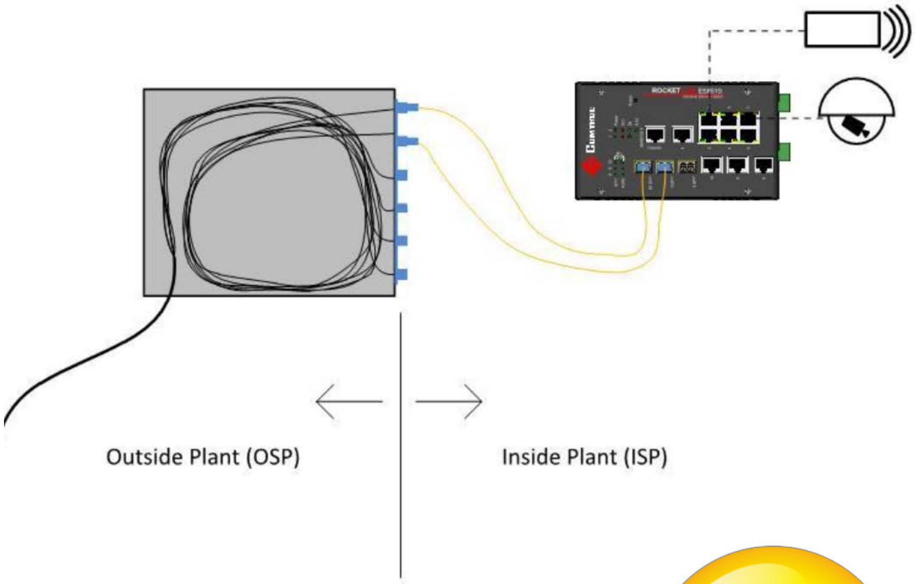
So what?!?

Show me the benefits

Easier and Quicker Trouble Shooting

TO





"These new Iowa DOT diagrams are **easy to understand!** *The laminated copies in the cabinets and the labeling on the cables is a* **time saver.** *This really* **helps me coordinate** *planned and unplanned changes with the network engineers."*

– Field Technician, ICN Maintenance Contractor

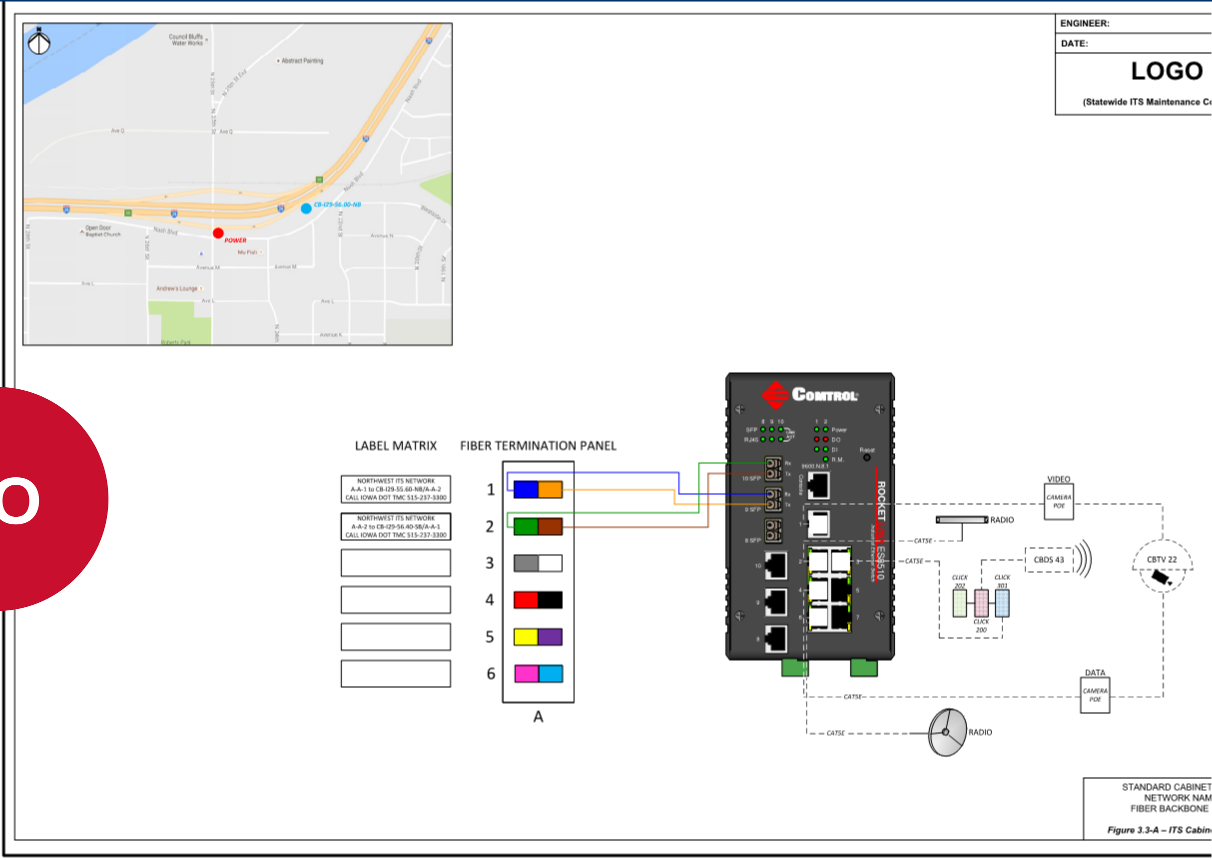
HDR

Improved Network Availability

TO

Decreased Reactive Issues

TO

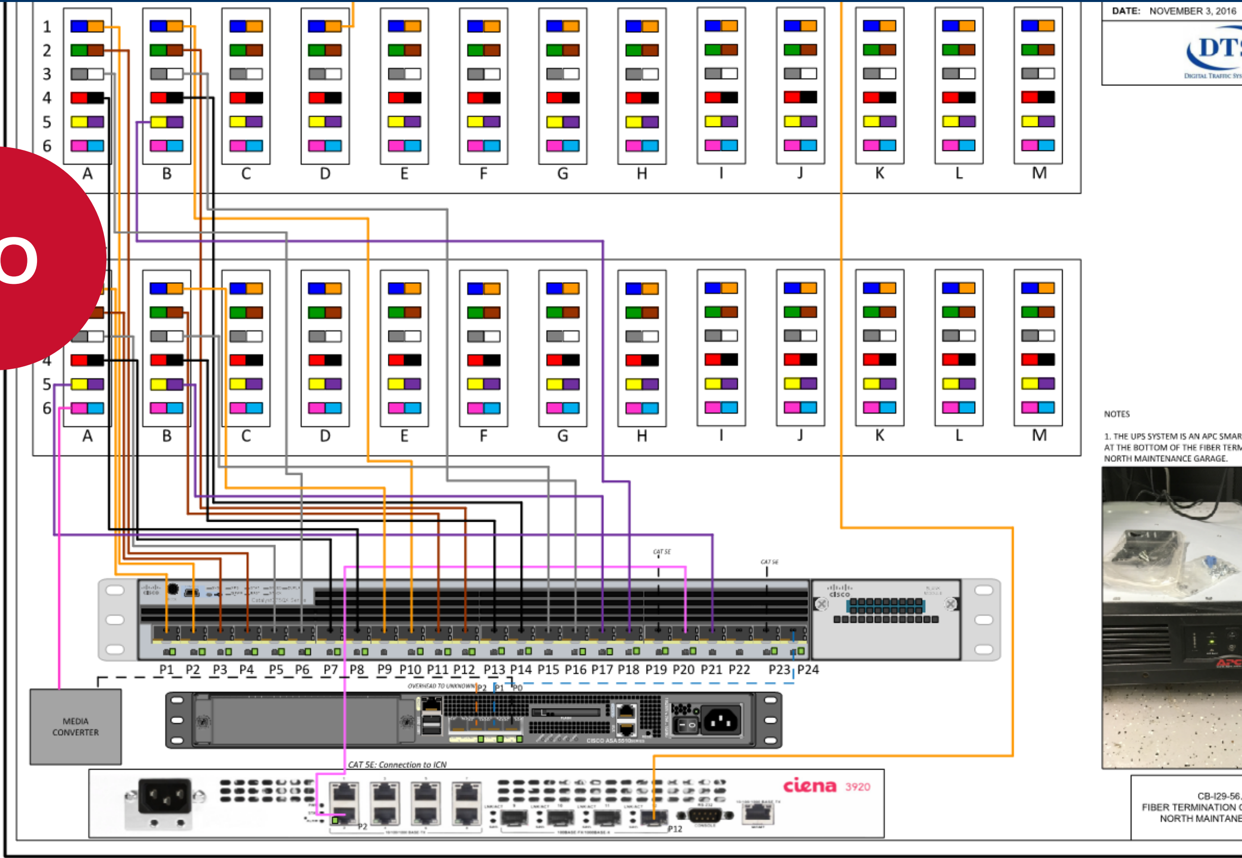


Lower Network Management Costs

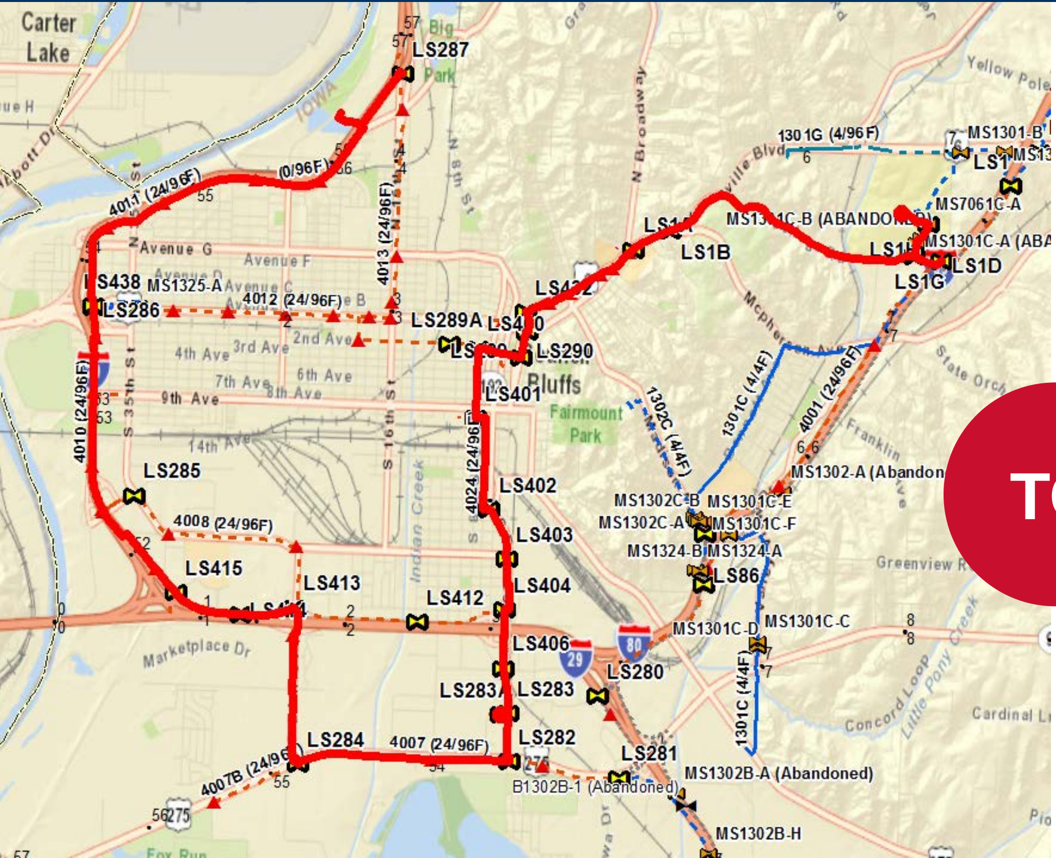
```
Port      Name              Status       Vlan       Duplex  Speed Type
Fa0/1     1/30              notconnect   31         a-full   auto 10/100BaseTX
Fa0/2     P/207             connected    207        a-full   a-10 10/100BaseTX
Fa0/3     0/31              notconnect   31           auto   auto 10/100BaseTX
Fa0/4     118/7/E1          notconnect   207          auto   auto 10/100BaseTX
Fa0/5     1/29              notconnect   29           auto   auto 10/100BaseTX
Fa0/6     1/93              connected    118        a-full   a-10 10/100BaseTX
Fa0/7     1/61              connected    31         a-full  a-100 10/100BaseTX
Fa0/8     115/1/P           connected    207        a-half   a-10 10/100BaseTX
Fa0/9     1/51              connected    31         a-full  a-100 10/100BaseTX
Fa0/10                      notconnect   207          auto   auto 10/100BaseTX
Fa0/11    109/1/1           connected    29         a-full  a-100 10/100BaseTX
Fa0/12    108/1/p           connected    118        a-full   a-10 10/100BaseTX
Fa0/13    111/1/E1          connected    31         a-full   a-10 10/100BaseTX
Fa0/14    118/8/E1          notconnect   207        a-full   auto 10/100BaseTX
Fa0/15    114/1/E1          connected    31         a-full  a-100 10/100BaseTX
Fa0/16    voip_114/2/E1     connected    207        a-full   a-10 10/100BaseTX
Fa0/17    voip_1/98         connected    29         a-full   a-10 10/100BaseTX
Fa0/18    118/3/E1          notconnect   118          auto   auto 10/100BaseTX
Fa0/19    118/4/E1          notconnect   31           auto   auto 10/100BaseTX
Fa0/20    118/5/E1          connected    207        a-full  a-100 10/100BaseTX
Fa0/21    118/6/E1          notconnect   31     23    auto   auto 10/100BaseTX
 --More--                                207
```

Lower Network Management Costs

TO



Accurate Designs and Improved Planning



TO

Prepare You for the Future