Ryan Romney

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PROFESSIONAL SUMMARY

Technical project manager with a background in telecommunications infrastructure, network integration, and intelligent transportation systems (ITS) for departments of transportation. Multidisciplinary problem solver combining practical network knowledge with GIS, database management, and technical project leadership. Develops tools and processes that improve network documentation, support operations, and simplify complex technical work. Brings extensive experience working with vendors and sales engineers to solve technical challenges and deliver simple solutions.

TECHNICAL SKILLS

Networks & Telecommunications: Network planning, fiber transport, outside plant (OSP) design and engineering, IP device integration, OTDR testing and troubleshooting, fiber and wireless connectivity

GIS, Data & Engineering Tools: Esri ArcGIS, QGIS, Bentley OpenComms, CAD, geospatial analysis and GIS development, asset and lifecycle management, scripting and automation, SOLIDWORKS, Autodesk Fusion

Systems & Technical Delivery: Systems and product integration, network monitoring, technical project management, vendor management, infrastructure documentation, workflow automation, cross-functional leadership

PROFESSIONAL EXPERIENCE

Technical Project Manager | Horrocks Engineers 2018 – Present

Consultant supporting statewide ITS communications infrastructure for the Utah Department of Transportation (UDOT)

- Support the design, documentation, integration, and troubleshooting of a statewide communications network with 3,000+ miles of fiber, approximately 80 fiber hubs, 4,000+ roadside cabinets, and 200+ connected buildings.
- Configure and commission hundreds of Ethernet field switches and ITS devices, including traffic cameras, variable message signs, traffic detection radar, signal controllers, and video decoders.
- Plan and support network connectivity at state, municipal, and public safety facilities through site surveys, equipment integration, fiber route and circuit design, structured cabling, and facility network installations.
- Manage the IP address request process and oversee a database documenting static IP addresses, network information, and physical locations for approximately 20,000 devices.
- Maintain the fiber network digital twin in Bentley OpenComms and related GIS data, including strand-level circuits, splice connections, fiber routes, splicing diagrams, and acceptance test documentation. Develop maps and GIS tools using ArcGIS Online, QGIS, Python, and custom web applications.
- Investigate fiber cuts and network outages using OTDR results, documentation, and GIS tools; coordinate restoration and cutovers with field crews, network engineers, contractors, and partner agencies.
- Manage technical and software projects, collaborate with vendors and agencies, and provide technical training and guidance on equipment integration and fiber communications troubleshooting.
- Support private 5G and distributed acoustic sensing (DAS) trials, video server commissioning, and other proof-of-concept demonstrations. Collaborate with vendors and sales engineers to resolve technical challenges, develop standards, and support long-term system planning.
- Support UDOT’s fiber-optic trade program with more than 80 telecommunications companies, state and municipal agencies, and private partners. Manage documentation, mapping, and connectivity for exchanges of underground infrastructure, fiber strands, and circuits.

Physical Facilities Manager | Arizona Co-Packing 2012 – 2018

Mesa, Arizona | Manufacturing facilities, automation, and IT infrastructure

- Installed and maintained Ethernet and fiber cabling, switches, routers, Wi-Fi, computers, security cameras, and access control systems.
- Troubleshot electrical, mechanical, and automated manufacturing equipment, including PLC programming, to support production operations.
- Designed and fabricated equipment and production-line improvements while managing maintenance, contractors, building security, and logistics.

SELECTED TECHNICAL PROJECTS

- **Network Monitoring and Video Diagnostics** - Built a Python monitoring tool and GIS map to track switch availability at approximately 80 buildings and service restoration at field sites during planned outages. Developed a separate diagnostic proof of concept covering nearly 2,000 camera locations, combining ping tests, SNMP switch identification, and RTP stream analysis to measure packet loss and investigate suspected links between switch hardware and multicast video problems. Reduced manual testing and provided mapped diagnostic data to guide troubleshooting.
- **Asset Record Matching and Database Joining** - Developed two Python pipelines to link records across two databases containing more than 3,000 locations each. The geolocation pipeline filled gaps and enriched each dataset with routes, mileposts, and jurisdiction information. A separate matching pipeline used those attributes alongside location names and proximity to score potential matches and identify corresponding records. Achieved an estimated 90–95% correct match rate despite inconsistent source data, substantially reducing manual review.
- **Automated Fiber Splice Diagrams** - Developed a browser-based application that converts Bentley OpenComms CSV exports into fiber splice diagrams for contractors. Automated diagram layout and connection-line routing while allowing manual adjustments and PDF export. Reduced diagram generation from up to two hours of manual drafting to seconds, with all data processed locally.
- **FCC Filing Automation** - Developed a Python geospatial enrichment pipeline to prepare FCC filing data for more than 250 point-to-point and point-to-multipoint radio links. Combined local datasets and API queries to recover missing coordinates, elevations, azimuths, and jurisdiction information. Reconstructed radio-link relationships from incomplete asset records and consolidated the results into the dataset required for batch submission, enabling the team to meet a same-week filing deadline.
- **Utility-Locate Updates Optimization** - Developed an ArcGIS Online and Experience Builder application to compare UDOT fiber routes against Utah Blue Stakes coverage polygons and identify gaps. Configured editable feature layers to automatically populate county and administrative attributes, with shapefile exports for bulk submission. Replaced manual polygon entry with a shared workflow for addressing years of missing fiber coverage and maintaining utility-locate notification records.
- **UDOT CCTV Streaming App** - Developed an ArcGIS Experience Builder application providing map-based access to live video from more than 2,000 UDOT cameras. Supported deployment of the video server and integrated its streams into the application, using existing organizational single sign-on (SSO) and ArcGIS group permissions to manage access. Delivered an interim solution supporting winter maintenance operations while the permanent video distribution platform was delayed.