Designing with Maintenance and Construction in Mind

Minnesota’s Rural Intersection Conflict Warning Systems (RICWS)
Background

• MnDOT’s RICWS Project
  – Safety Project
  – Design Build
  – Indefinite Delivery, Indefinite Quantity
    • Up to 50 sites
  – Three Year Warranty
  – Maintenance Incentive
Design Build Contractor Team

- Design Electric (Contractor)
- WSB & Associates (Engineer)
- Traffic Control Corporation (Vendor)
Team Focus

• Meet operational requirements
• Keep public and workers safe
• Mitigate safety concerns during construction
• Minimize traffic lane closures
• Minimize maintenance time
• Understand skills of stakeholders
• Product selection and reliability
• Vendor support
Proposal Development

• Team Meetings
  – Review options
  – Weight costs/benefits
  – Discuss installation
  – Discuss maintenance
  – Select components
  – Keep it simple
Key Considerations

• It must WORK!!!
• Safety!!!
• Simple system
• Easy and safe Installation
• Off the shelf products
• Proven products
• Maintainable
• Sustainable
• Perform underground work
  – Handholes
  – Conduits
  – Bores
• Pull wires
• Set cabinet
• Install signing
• Integrate and test system
Summary of Issues to Date

- Bore void fill
- Follow Vendors Guidelines on installation of components
- Firmware Version
- Configuration & Settings
- Installation tweaks
Lessons to Share

• Get Perspective
  – Construction
  – Maintenance
  – Integrator
  – Driver
• Get in the field
Let’s keep Saving Lives Together!!

Janelle Borgen, PE, PTOE
WSB & Associates, Inc.

jborgen@wsbeng.com
763-231-4843