Enterprise Route Management
Optimized Routes for Mobile Workers
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Agenda

• Background – Customers and Industries
• Routing and Optimization Use Cases Extend GIS
• Optimization Planning Fundamentals – Least Operational Cost
• Field Worker Planning – the Dynamic Challenge
• Enterprise Route Management Solution
• Operational Examples
Industry use of GIS
Primary, Secondary, and Routing Use Cases

- Mapping & Visualization
- Realtime GIS
- Data Collection & Management
- Spatial Analytics
- Territory/Service Region Planning
- Route and Wayfinding
Route Planning and Optimization

Optimizing the least cost paths.
Operating according to plan.
Monitoring operational progress
Mitigating when conditions change
Solving with a Least Cost Optimization

Optimization is assignment of orders to routes and sequencing of those orders on each route.

Orders
- Time Windows
- Volume
- Service Time
- Specialization

Routes
- Vehicle Capacity
- Work Time Duration
- Breaks
The Dynamic Planning Challenge
Optimal Solutions Get Stale

- Planned Work
- Completed Work
- Projected Late Arrivals
- New Work
Enterprise Route Management
GIS as an integration point
Enterprise Route Management
GIS as an integration point

- Managers using Executive Dashboards
- Operators using Route Planner
- Mobile Field Workers using Apps
- Federated enterprise GIS data
  - Publish: Asset data
  - Synchronize: Orders and optimized stops/plan data

ArcGIS Enterprise & ERM

Asset Management (business system)

Order Management (business system)
Real Time Status and Continuous Optimization
Accounting for dynamic changes through the day

1. Orders With Priority
2. Order Saved
3. Order Selected For Optimization
4. Order Optimized
5. Optimized Orders Saved
6. Routes Sent To Driver
7. Driver Navigates to service location
8. Driver Sets Status Complete
9. Stop Status Saved and Route Progress Updated
10. Exception Order Received

Navigator
Survey 123
ERM Logic Engine
Route Planning App
Order Management Business System
Enterprise Route Management

iOS/Android
Stop Status Updates
ERM Server
Optimizer Feature
Demo (time permitting)

Questions?

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