

ODOT Subsurface Utility Engineering Future

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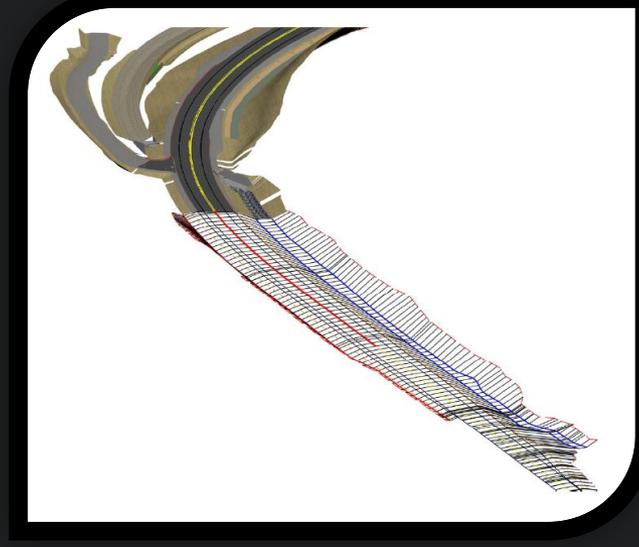
Bend, OR
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Moving forward



Automated Machine Guidance is here to stay contractors are using it everywhere and for more tasks everyday.



3D Design is no longer an option but a requirement. ODOT is moving towards all disciplines working in 3D.

ODOT currently using

- Total Stations/GPS – Traditional Surveying
- LIDAR – Laser Scanning
- Locate Marks – Through One-Call system

- Missing Piece
 - What is really Underground
 - How to get there

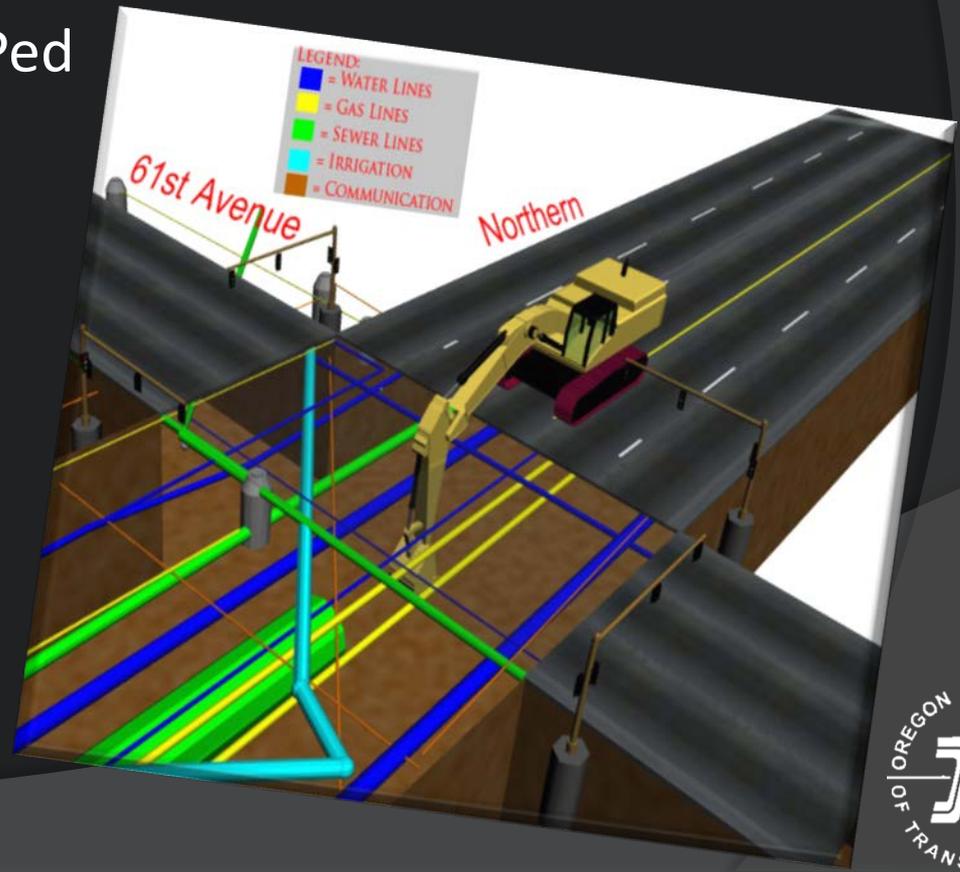
What projects and why will ODOT deploy Subsurface Utility Engineering?

➤ What?

- Projects with below existing grade earth work
- Culvert, Roadside Drainage, Stormwater Systems
- Roadway, Bridge, Bike, Ped
- Geotechnical Mitigation
- Signals, IT, Luminaires

➤ Location?

- Urban/Suburban
- High density of utilities



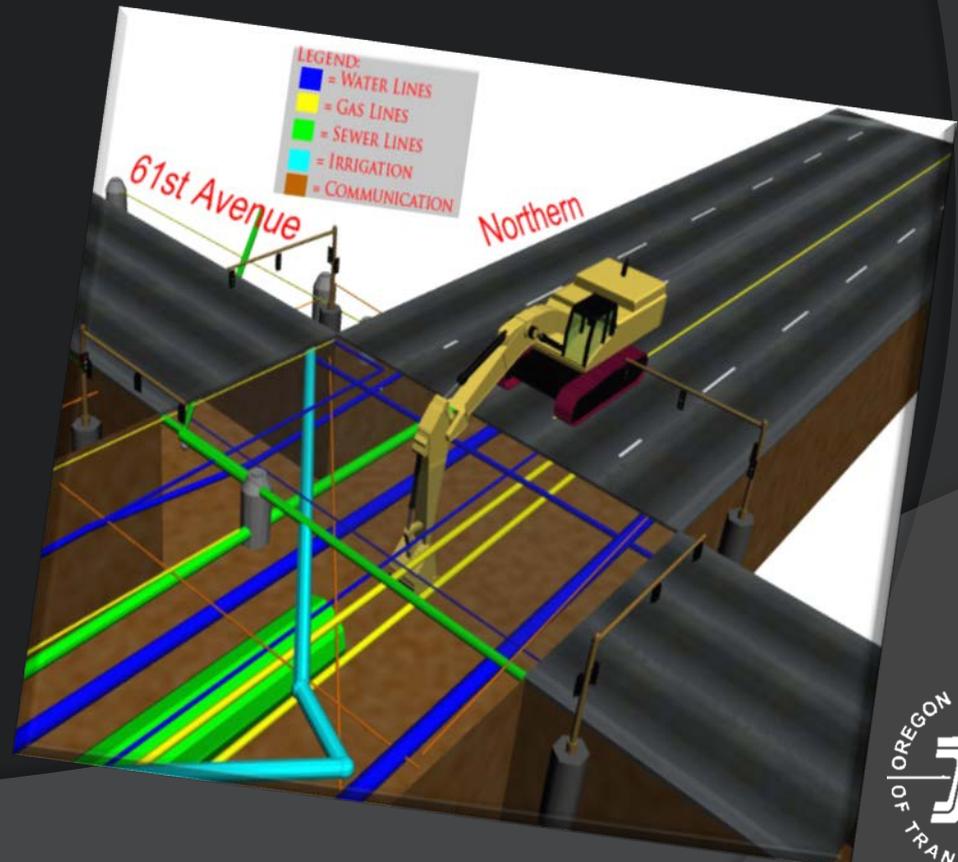
When will SUE be used at ODOT?

- When?
- At almost any point in a project's development, depending upon the project and its specific needs.
 - Major or Minor Utilities
 - Compensable interest
 - Limited RW access
 - Accuracy required
 - Level of Risk

Why will ODOT deploy Subsurface Utility Engineering?

➤ Why?

- Safety
- Accuracy and precision
- Clash detection
- Reduce risk and delay
- Return on Investment



Status of Deployment

➤ SUE Pilot Project

- Hwy 217 and Greenburg Road in Tigard
- In process now – plan to be complete by Fall 2016

➤ FHWA SHRP2 Implementation Grants

- ODOT has been awarded three grants to help implement SUE

➤ Statewide SUE Purchase Agreement

- Contract in review
- Workflow being determined
- Pilot projects planned for each region



Hwy 217 Pilot

➤ SUE Pilot Project

- Evaluating Quality Level D, C, and B against current methods
- Testing ODOT SUE contract with SUE consultant

➤ Results

- Discovered multiple unknowns
- Tested limits of equipment
- Labor intensive operation



What is ODOT doing?

➤ Gathering info – Now

- Seeking Utility Owner perspective.
- Seeking OMEU, NWUCA , AGC, APWA, and others input.
- Developing a plan with timelines.
- Presenting to Coordinating Councils and other groups.



Big Questions – Near Future

➤ Types of Secure Databases

- Who manages, stores, and provides data.
- ProjectWise – ODOT in-house Data Management System
- Creating a new one like KURTS – Kentucky Utility & Rails Tracking System
- Other System??

Secure Information Sharing between DOT and Utilities

- Need to address data security, standards, and quality.
- What are the data requirements for each utility?
- Will Utility companies be willing to share X,Y,Z information of their facilities? With ODOT? With conflicting utilities on a project?

Future Requirements?

- Should ODOT and Utility Owners require survey quality 3D data for all new and or modified installations within the Right-of-Way?
- What requirements will each utility have?
- As built standards are currently being developed by ASCE

COST



Yearly Utility Meetings to discuss upcoming projects

- Per Region / State Meeting
- What's coming
- What is working well?
- What needs improvement?

Construction Possibilities

Real-time 3D plan set projected onto Project Sites



Thank you!

Questions?

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