



# OpenRoads Navigator and preview New Navigator CE Collaboration and Design Information in the Field

Ernst van Baar: Application Engineer



# Bentley Tablet Platform Strategy

- Develop on multiple platforms to offer cross platform solutions
- Using various industry standards to increase code and application portability
- Enterprise consistency for ease of use

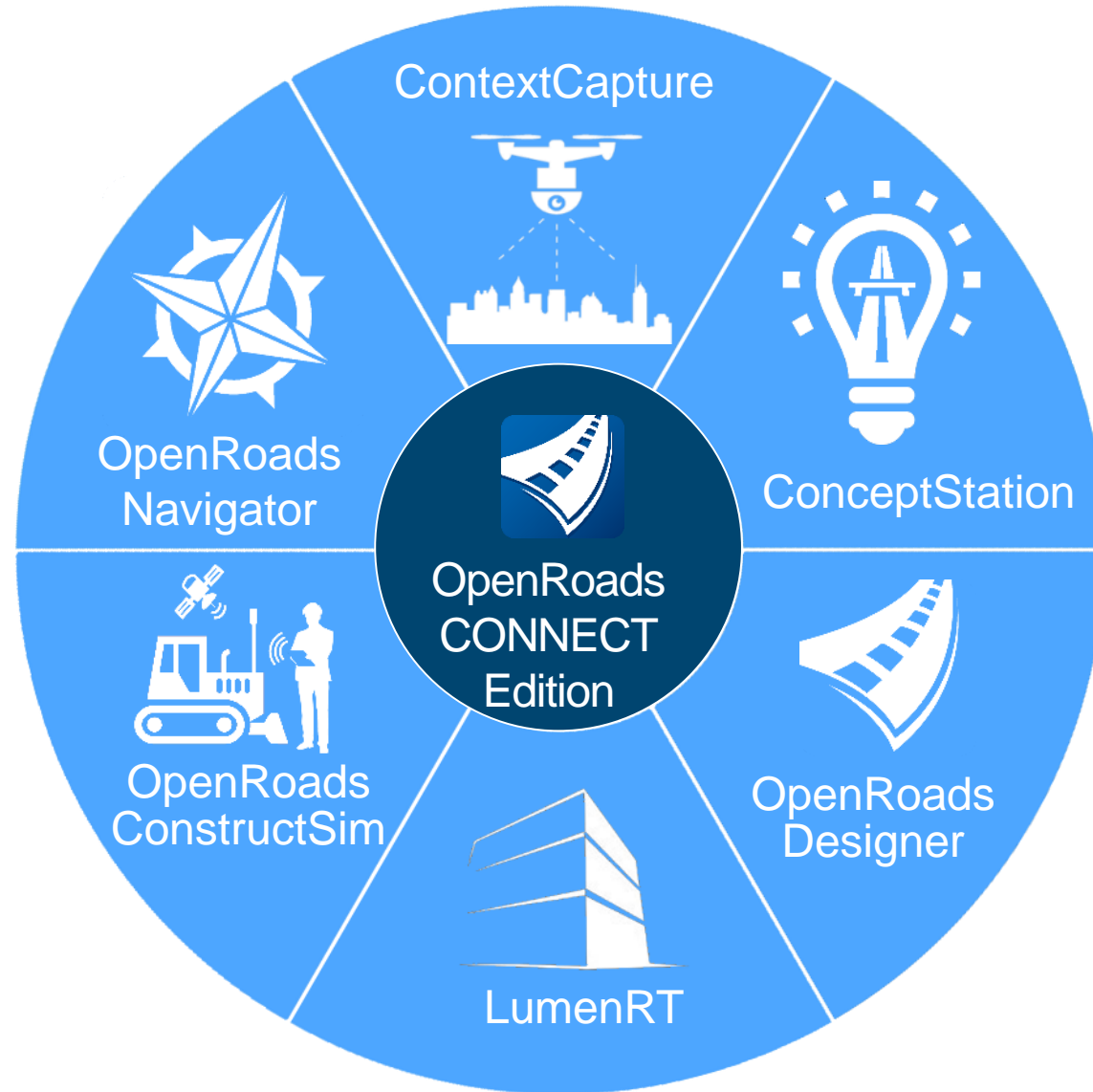


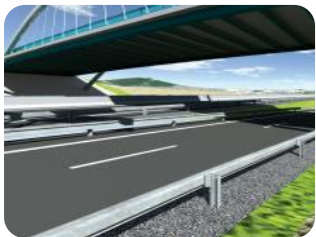
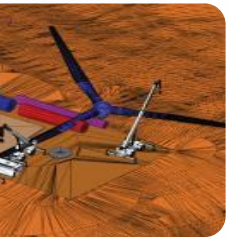
iOS



Windows 8

# Comprehensive Modeling Environment





Question:

# What is OpenRoads Navigator?

# What is OpenRoads Navigator (ORN)?

**Mobile app for tablet devices**

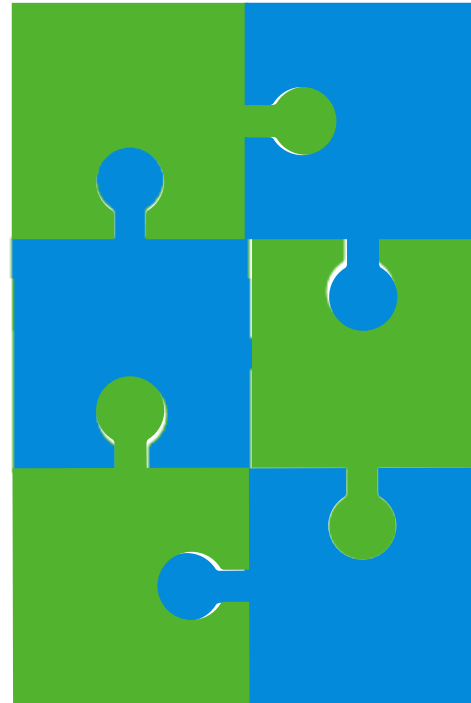
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**Uses 2D and 3D civil data**

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**Issue Resolution – Project documentation in the cloud**

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**Easy Redlines, Mark-ups overlay on source design**

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**GPS – see where you are in context of project**

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**View levels, models, features**

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# Timeline

November, 2015

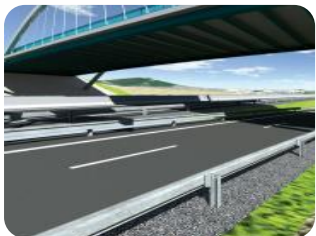
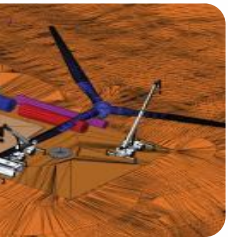


December, 2015



\*\* June, 2016

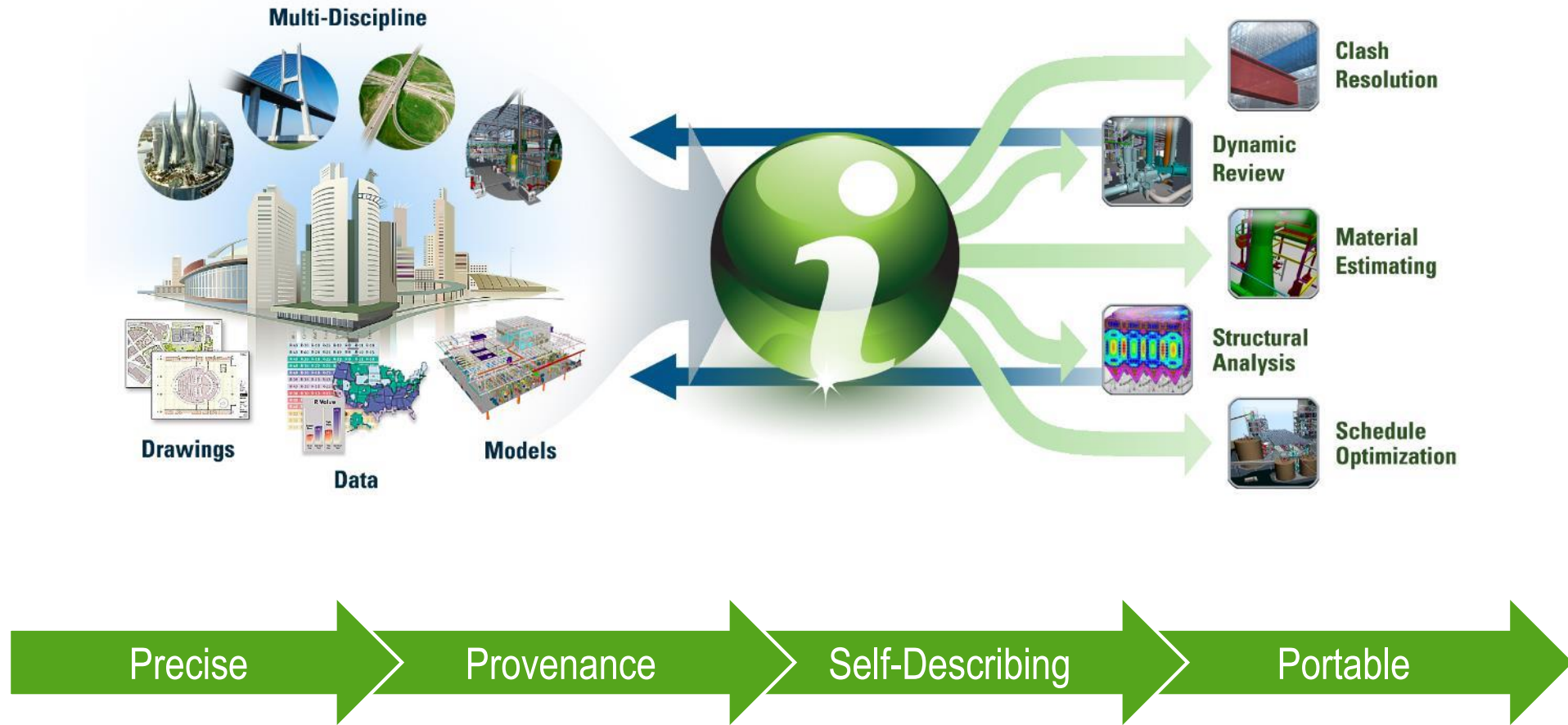




Question:

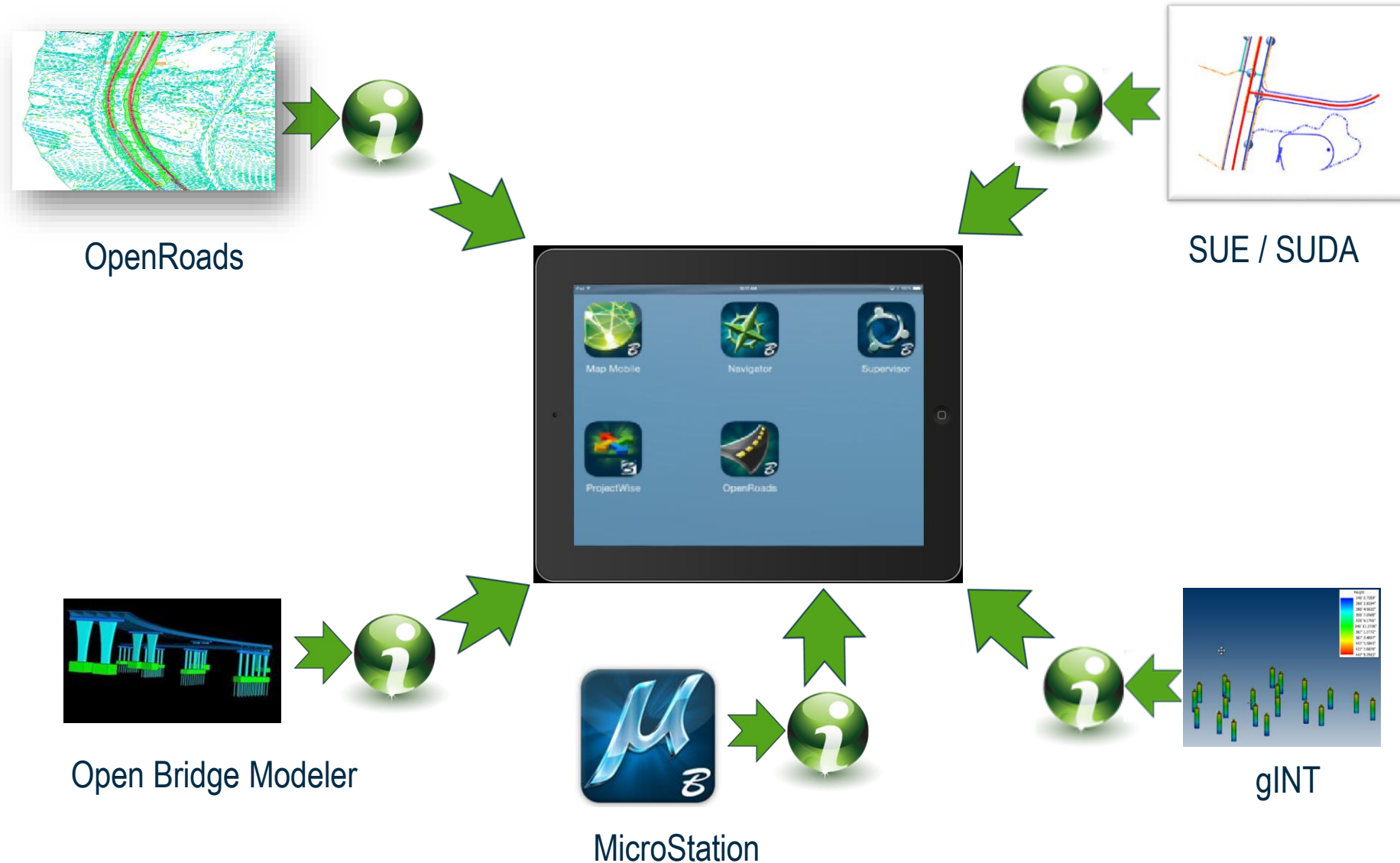
**What kind of files are recognized by OpenRoads Navigator and how do I create them?**

# I-model?





# Transportation Project – Civil Multi-Discipline



# i-model Extensions

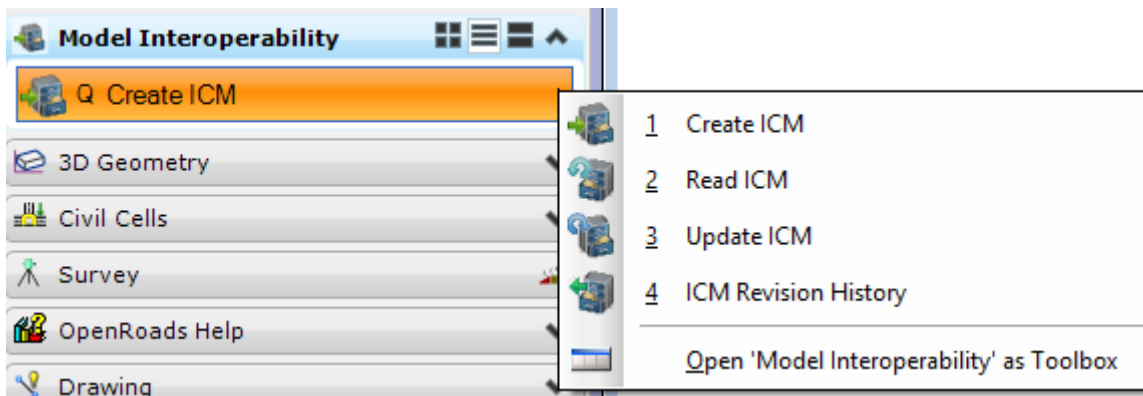
File Extension	Description
.i.dgn	A container for open infrastructure information exchange (viewed with desktop applications)
.imodel	i-models (graphic elements and properties) that are optimized for mobile device apps.
.icm	Integrated Civil i-models – enhanced meta data information.

# Publishing i-models for Civil

Keep in mind that there are now 2 different ways to create an i-model:

- *Using Bentley Civil*

This option should be used when creating an i-model for ***data exchange*** purposes.

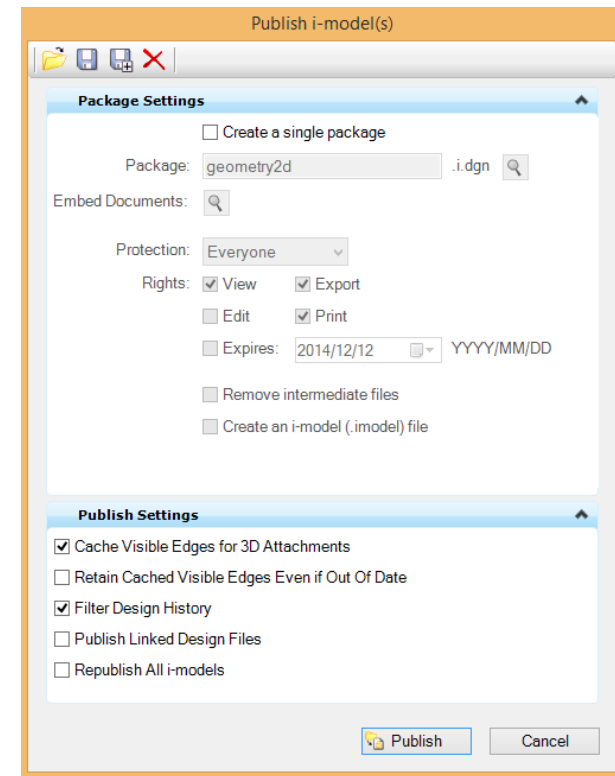


# Publishing i-models for Civil

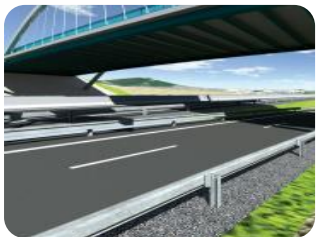
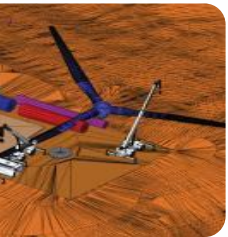
Keep in mind that there are now 2 different ways to create an i-model:

- *Using MicroStation's File > Publish i-model*

This option should be used when creating an i-model for *publishing, reporting, presentation* or *mobile* purposes.



# Demo create i-models



Question:

**How do I move the files to and from my tablet device?**

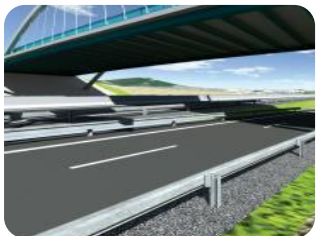
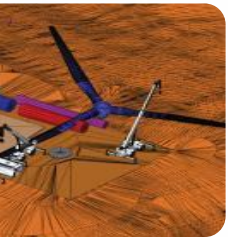
# Moving files to/from ORN

- Integrated with ProjectWise (not required)
  - Dropbox
  - OneDrive
  - iTunes file sharing
  - Publish to Personal Share
  - etc.



# Demo Project sharing





Question:

**Who would use OpenRoads Navigator?**

# ORN Users

*“Anyone who spends time in the field at any stage of project delivery ...”*

## PLAN

Scoping

Environmental

## OPERATE

Traffic

Maintenance



## DESIGN

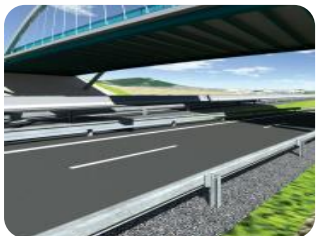
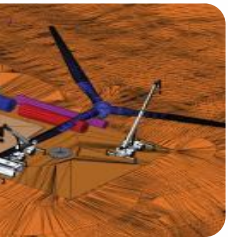
Design

Right of Way

## BUILD

Inspectors

Project Engineers



Question:

**Why should I take a look at OpenRoads Navigator?**

# Why Look at ORN?



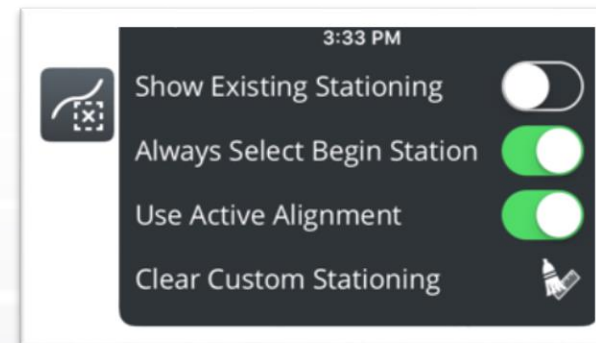
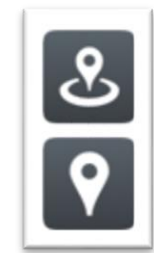
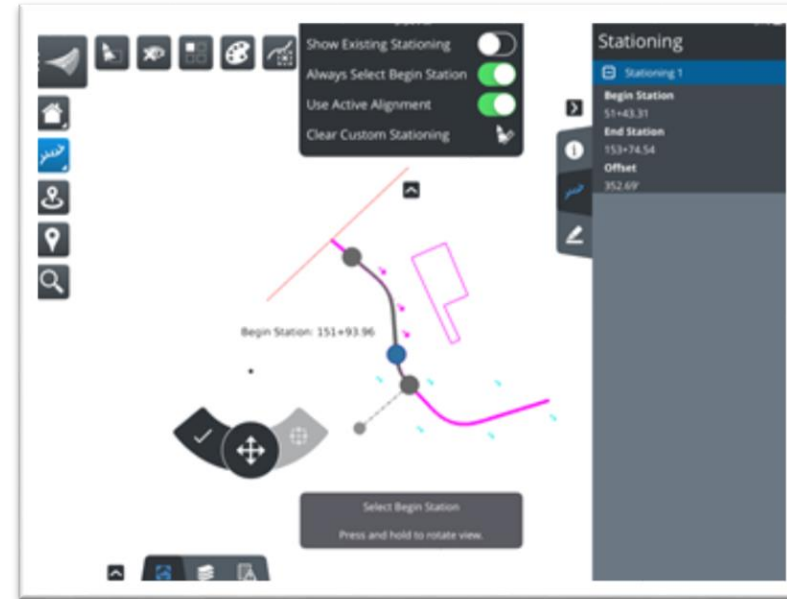
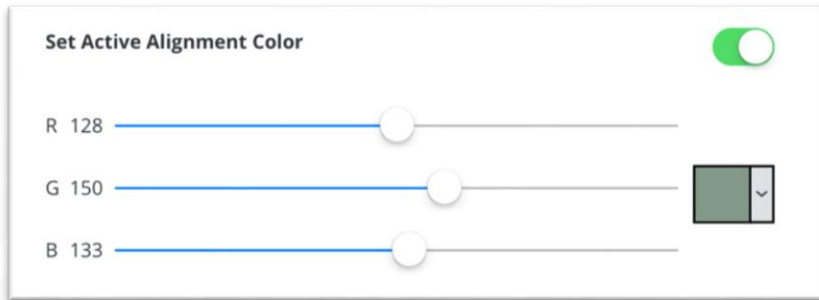
# Civil Focused

- Not just a vanilla viewer.
- Uses terminology and features familiar to the civil environment



# Civil Focused

- Linear referencing (station / offset)
- Active Alignment
- GPS
- Customizable Civil form (including default)



# Demo OpenRoads Navigator

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# Information Mobility

- Add real-time field information to the project.
- Redline models
- Incorporate photos and videos.
- Add comments





# Issue Resolution

- Identify issues in the field
- Notate/Redline/Comment/Photos/Videos
- Upload for resolution



# Issue Resolution

- Formal project documentation
- Collaborate with other team members
- Include photos, screenshots
- Editing capabilities
- Stored in the cloud
- Can be used offline



The screenshot shows the 'Add issue' form in the mobile application. The form has three tabs: 'Details', 'Attachments', and 'Comments'. The 'Details' tab is active. The form contains the following fields:

- System / Feature: 2476-174
- Description: Type F curb and gutter
- Logged to: [Dropdown menu]

# Documentation

- Combine design model information with pay item tracking
- Input quantities and track pay item information using custom forms
- Reduce costs due to automated processes and improved project information.



# Documentation

- Track with customized form including pay items, descriptions, beginning station / offsets
- Design links to PDFs, plansheets, Excel, Word docs, etc.
- Graphic mark-ups overlay on source DGN files

Cancel Add issue Done

Details Attachments Comments

Pay Item / Feature

Description

Assigned To

Status

Alignment

Begin Station

Begin Offset  
0.000000

End Station

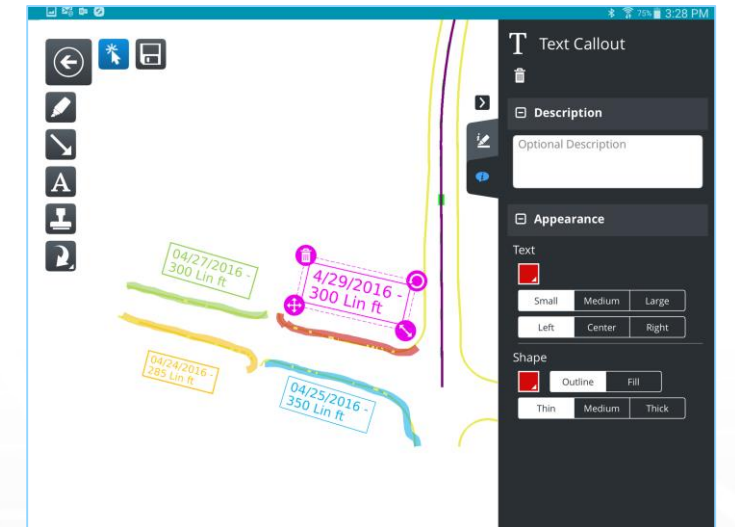
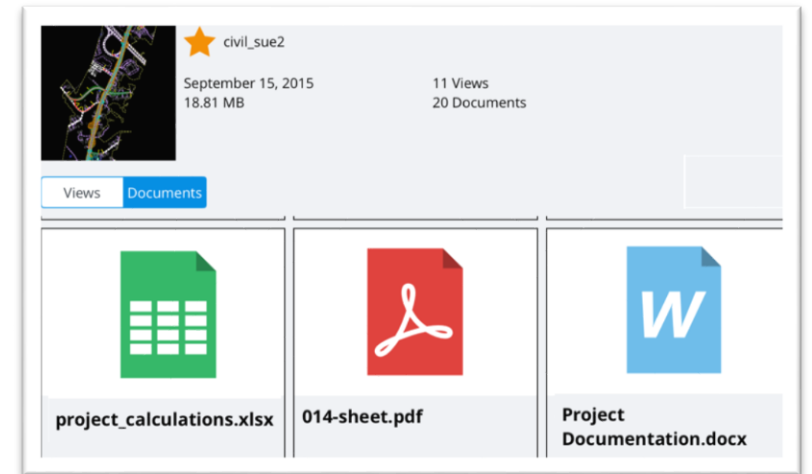
Begin Offset  
0.000000

End Station

End Offset  
0.000000

Quantity  
0.000000

Closed



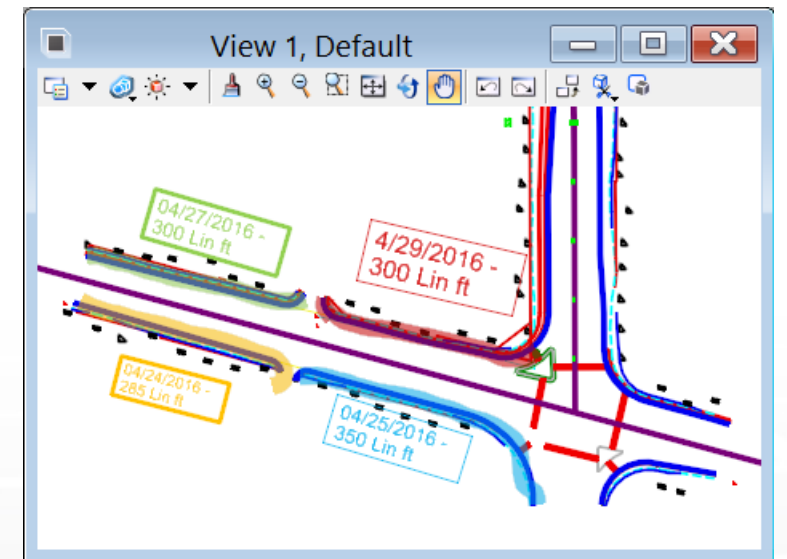
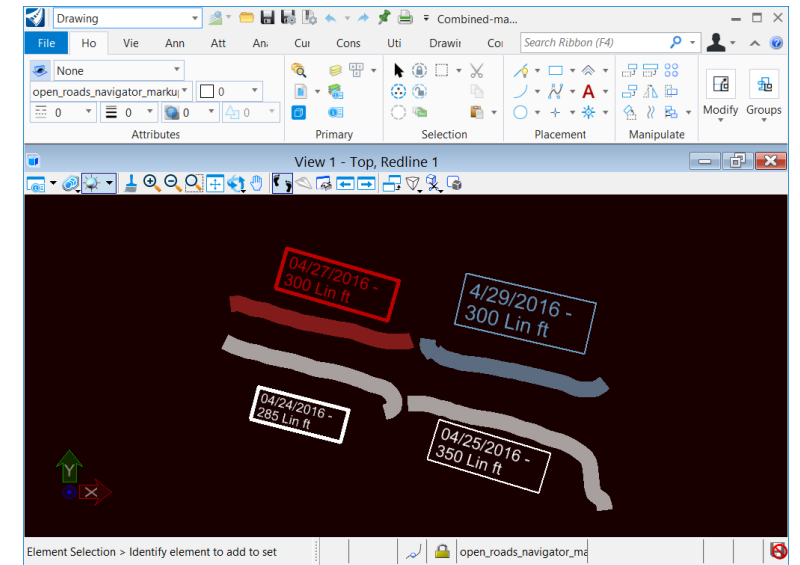
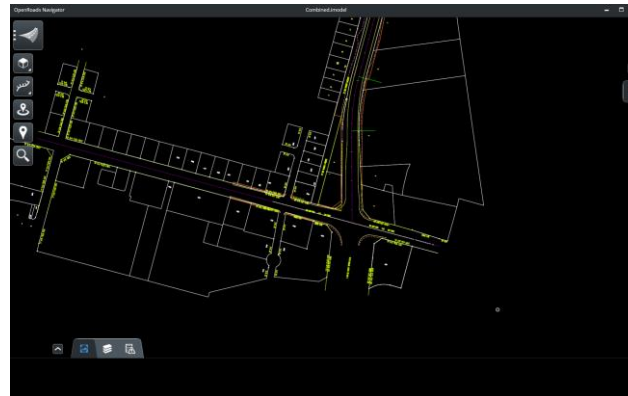
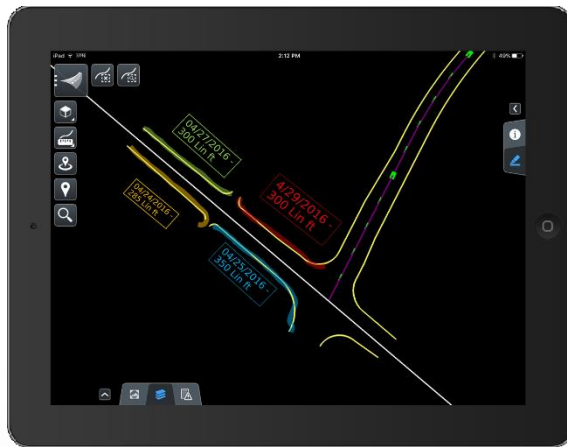
# Hybrid Environment

- Collaborate between field and office
- Integrate with ProjectWise to support all team members
  - Dropbox
  - OneDrive
  - Etc.
- Right information at the right time



# Hybrid Environment

- Multiple offices, multiple devices
- Mark-ups full circle

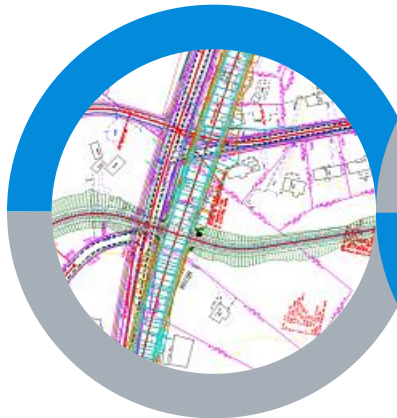


# Different Workflows,

# Different Tools

Issue Resolution

Collaborate



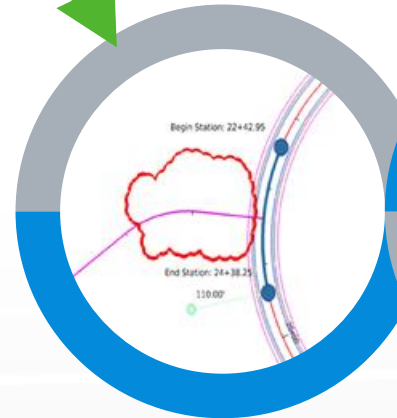
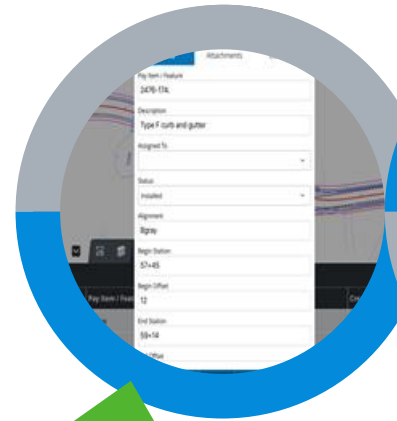
Create Data



Publish



Send to Field



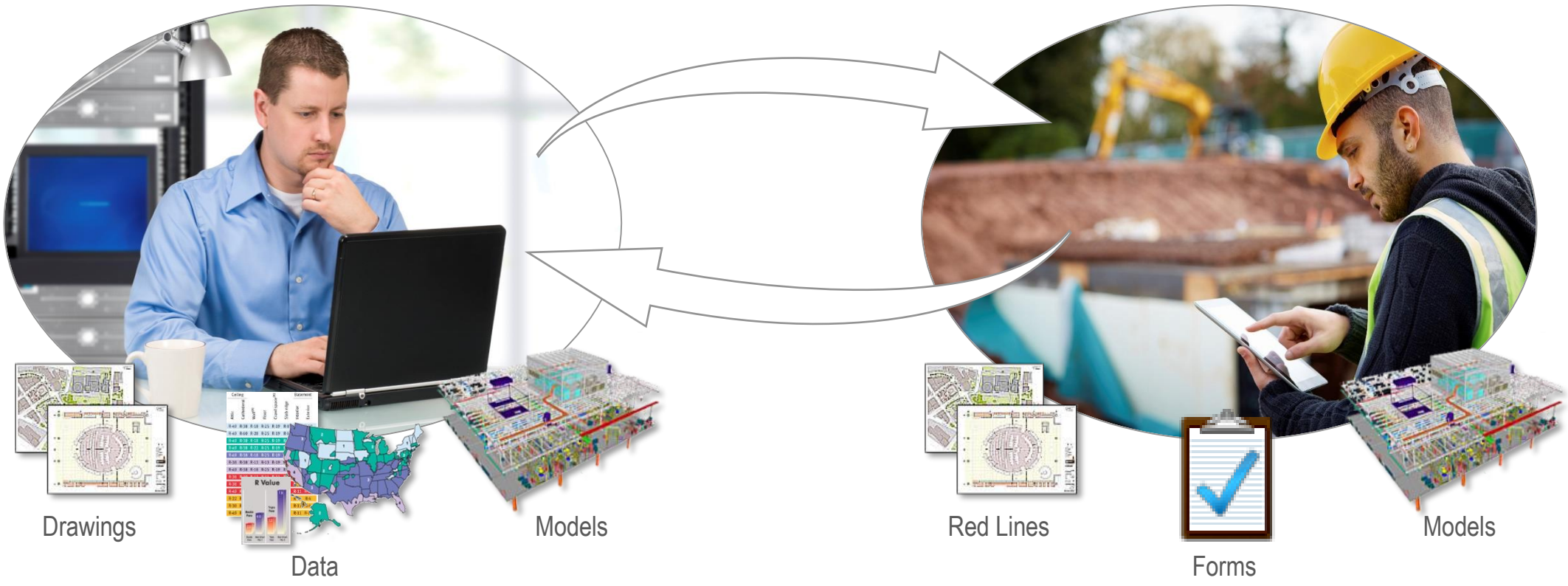
Mark-ups

Overlay to Source

# Summary

Multiple Offices

On Site

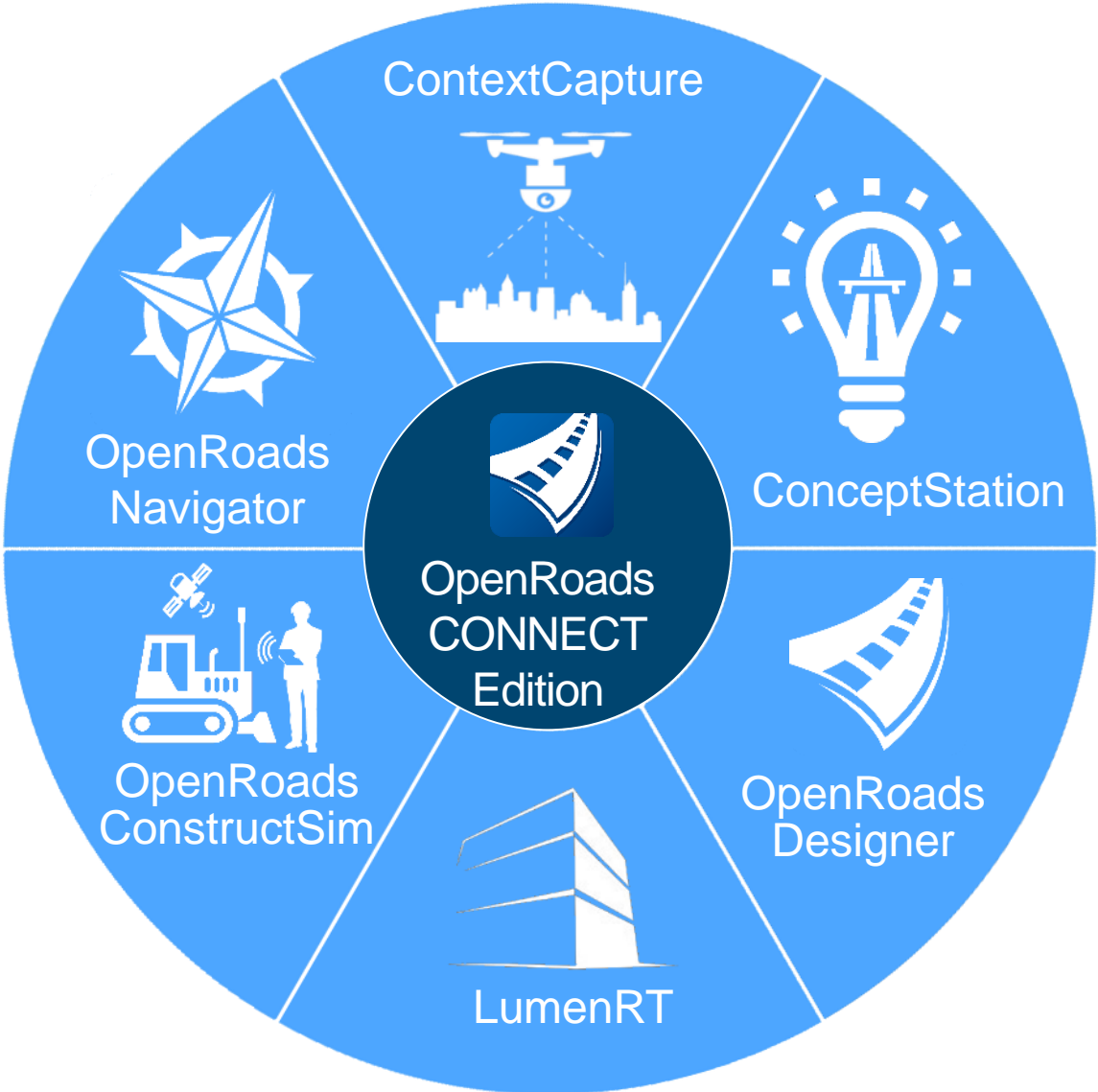




# Summary

- With OpenRoads Navigator, you can more efficiently work across disciplines to resolve issues during design, construction, and operations.
- Use the app to combine design artifacts with pay item tracking for field inspection.
- Take advantage of integrated GPS in both 2D and 3D models with linear and physical coordinate systems.

# Comprehensive Modeling Environment...





# OpenRoads Navigator: Collaboration and Design Information in the Field

## Questions??