Integrating BIM and GIS Workflows
Driving Business with Smarter Decisions

GIS DATA
- Master Planning
- Regulation & Permitting

BIM DATA
- Preliminary Design & Plan
- Detailed Design
- Preconstruction

GIS
- GIS Services
- Revenue Generation
- Monitoring & Enforcement

BIM
- Detailed Design
- Construction

Capital Portfolios

Capital Projects
BIM is a process for increasing efficiency throughout the construction process.
Reducing Uncertainty

Construction
Documentation
Scheduling
Costs
Safety
Visualization
Coordination
Where should we go next?
GIS Informs BIM
BIM Fuels GIS
3D Platform
Improving 3D Experience
3D Geoanalytics
ArcGIS for AutoCAD

GIS Services in AEC
Operations Dashboard

Collect and Update Data in the Field

Put mapping in the hands of your field workforce to improve the accuracy and timeliness of your spatial data and make more timely and informed decisions.

How It’s Used

From damage reports and service requests to inventory and inspection of asset data, create and edit accurate data in the field.

Platform
BIM to 3D GIS Workflow Today
Esri BIM Roadmap
Read Revit Files
Features or Visualization
Adding CAD Data in ArcGIS Pro

- CAD File
- Default Behavior
  - POINTS
  - POLYLINES
  - POLYGONS
  - ANNOTATION
  - MULTIPATCH
- Direct Read
  - ROOMS (MSC)
  - WALLS (MSC)
- CAD Reader
Adding REVIT Data in ArcGIS Pro

REVIT Reader
Adding REVIT Data in ArcGIS Pro
Reading Revit Files
Web Scene Layers & BIM
Information Framework
Civil / Infrastructure BIM
Near Term Workflows Enhancements…
Main Message

- **Transforming the Project Lifecycle** – Throughout our initial meetings, our focus has always started with understanding the complete workflow of how data moves between planning, designing, building and operating buildings and infrastructure. The key has been to figure out how we can more easily integrate BIM and GIS data to improve this process. We also want to bring context to the design and construction workflows that lead to construction and renovation of facilities and infrastructure. Improving data integration workflows will bring immediate value to both GIS and BIM users. We know we can achieve more than just data integration and are already researching opportunities.

- **Reality Capturing and Sharing** - the world around us (Imagery, Capture, AR/VR) – Unlike ever before, we are in a time when we can scan, photograph, and sense the three-dimensional world around us. Every project can start with a realistic, accurate ‘picture’ of the original site and then have daily scans recording how the site changes with every phase of development. Through use of drones, data processing and other sensor input, designers and project staff can have a continuous context of the site and the environment around it.

- **Designing the Real World in 3D** - Traditionally, designing and representing the world has been done in 2D. With advancements in technology and hardware, 3D is quickly becoming the standard people want to use for design, visualization, and analysis of assets throughout their lifecycle. Our focus will be on tools and apps that utilize 3D to facilitate better use of spatial information to inform and guide the design process so that projects can achieve economic, sustainability, and performance goals.

- **Geographically Informed Design** - Buildings and assets will be planned, designed, and built in a way that considers project context in depth by making relevant information available when it is needed most. By integrating GIS and BIM, planners and designers will better understand projects in relation to their surrounding context: how the natural and existing built environment will be impacted by and interact with new projects. By pulling these insights up the project lifecycle, project owners will be able to predict potential issues, streamline the project lifecycle, and reduce costly cycle churn.

- **Optimize how infrastructure operates (IoT)** – After an infrastructure asset such as a building or bridge is constructed, we’re now able to monitor every tremor and temperature change with embedded sensors. The world is going to be tracked with billions of sensors all around us, many of which will be designed into the assets we use and then tracked and analyzed in 3D experiences. This data will fuel machine learning that will generate new insights when they are most relevant. By sharing Esri’s expertise in the Science of Where and Autodesk’s leadership in design analysis, we hope to discover new opportunities for enabling customers to plan, deploy and consume sensor information to improve operational performance of large systems of assets.

- **Open Data Management** – Recognizing that Data is at the Center of our customers’ businesses and organizations, we want to create platforms that are extensible for our users to create the next generation of tools – the future of our platforms depends on users extending, creating new tools and inventing new workflows to become more productive and achieve great results.