



# Do more with less

Transportation solutions for better digital delivery

Today's transportation challenges are creating the need for the industry to:

- 1 Increase access to insights for better accountability across projects
- 2 Improve services to remain competitive
- 3 Do more with less with constrained budgets

The solution? Connecting workflows, teams and data for better digital delivery.



As designers and engineers, you look for the right tools and processes to collect, prepare, integrate, and use data more effectively to:

- Upgrade infrastructure
- Reduce the errors and risks that cause project overruns
- Establish collaborative digital practices across disciplines
- Coordinate linear and vertical infrastructure design
- Drive positive outcomes

At the core of this **data-focused approach** to infrastructure digital delivery is **Building Information Modeling (BIM)**.

## BIM powers design throughout the project lifecycle

- Uses intelligent models to improve coordination across design and construction
- Centralized location for collecting, managing, and disseminating information
- Delivers accuracy and less rework across the project lifecycle
- Saves time and money
- Enables designers and engineers make better decisions earlier in the digital delivery process
- Reduces risks that impact predictability, reliability, quality, and cost
- Ability to design and virtually build before construction begins

### AUTODESK<sup>®</sup> BIM COLLABORATE PRO

Connect your teams, workflows, and insights on a unified platform across every project phase.



## The three phases of transforming infrastructure digital delivery

### 01. Plan

Digital delivery solutions:

- Provide greater visibility to stakeholders from earlier in the conceptual design process
- Shift emphasis from being cost-centric to considering multiple outcomes and project value
- Lets you design with an assets' future performance in mind, saving money and time down the road, improving performance, and minimizing maintenance disruptions

- 1 Capture existing conditions**  
Aggregate traditional survey, reality capture, 2D CAD, raster data, and GIS data to create intelligent, accurate digital 3D models of your project's real-world environment.
- 2 Provide digitized project data**  
Capture and digitize infrastructure-related information and feed them into BIM models to enrich your dataset.
- 3 Get stakeholders on board**  
Help stakeholders better understand and visualize your design intent, and where tax or bond dollars are being invested.

### AUTODESK<sup>®</sup> RECAP<sup>™</sup>

Capture existing conditions and site evaluation

### AUTODESK<sup>®</sup> BIM COLLABORATE

Collaborate on designs

### AUTODESK<sup>®</sup> 3DS MAX<sup>™</sup>

Create final models for public viewing

### AUTODESK<sup>®</sup> INFRAWORKS<sup>™</sup>

Lay out future work, simulate mobility, and plan concepts

### 1 Rapidly conceptualize your design

Quickly conduct the preliminary conceptual layout in real-world context and optimize your proposal to achieve the best project outcome.

### 2 Transition from conceptual to detailed design and analysis

Speedily transition to a detail design process to optimize your design and eliminate costly errors during the design process.

### 3 Review design alternatives

Determine the most efficient and cost-effective design approach with the best performance and least community impact.

### 02. Design

Design solutions:

- Manage the exchange of data, visualize design process, and supercharge collaboration
- Automate clash detection and issue management for constructability
- Use project data and dashboards to identify trends, mitigate risks, and improve decisions

### AUTODESK<sup>®</sup> CIVIL 3D<sup>™</sup>

Align corridors, profiles and cross-sections; grade sites; plan drainage and production

### AUTODESK<sup>®</sup> REVIT<sup>™</sup>

Build facilities, expand and reconfigure terminals and multi-modal transport hubs

### AUTODESK<sup>®</sup> AUTOCAD<sup>™</sup>

Create precise 2D and 3D drawings for mapping, lines and sites, using specialized toolsets and apps

## 03. Build and Maintain

Build and maintain workflows:

- Connect field and project management workflows
- Manage quality and safety issues from one place
- Perform construction engineering, conduct scope analysis, and calculate quantities
- Allow easy handover to asset management system thanks to a Common Data Environment
- Access and track your project data to keep your transportation system running

- 1 Build with interdisciplinary coordination**  
Work through the trade-offs that impact design constructability and costs with a shared model, prior to pouring any concrete.
- 2 Enable connected construction**  
Capture and digitize infrastructure-related information and feed them into BIM models to enrich your dataset.
- 3 Facilitate seamless handoffs with reduced errors and omissions**  
Identify, inspect, and report on interferences in a 3D project model to better anticipate potential problems with your project before construction.
- 4 Asset management**  
Store functional data with BIM models, allowing operators to simulate actual and future asset performance.
- 5 Monitoring and enforcement**  
Improve monitoring and enforcement by giving operators accurate information about demand and performance based on real-time data.

### AUTODESK<sup>®</sup> NAVISWORKS<sup>™</sup>

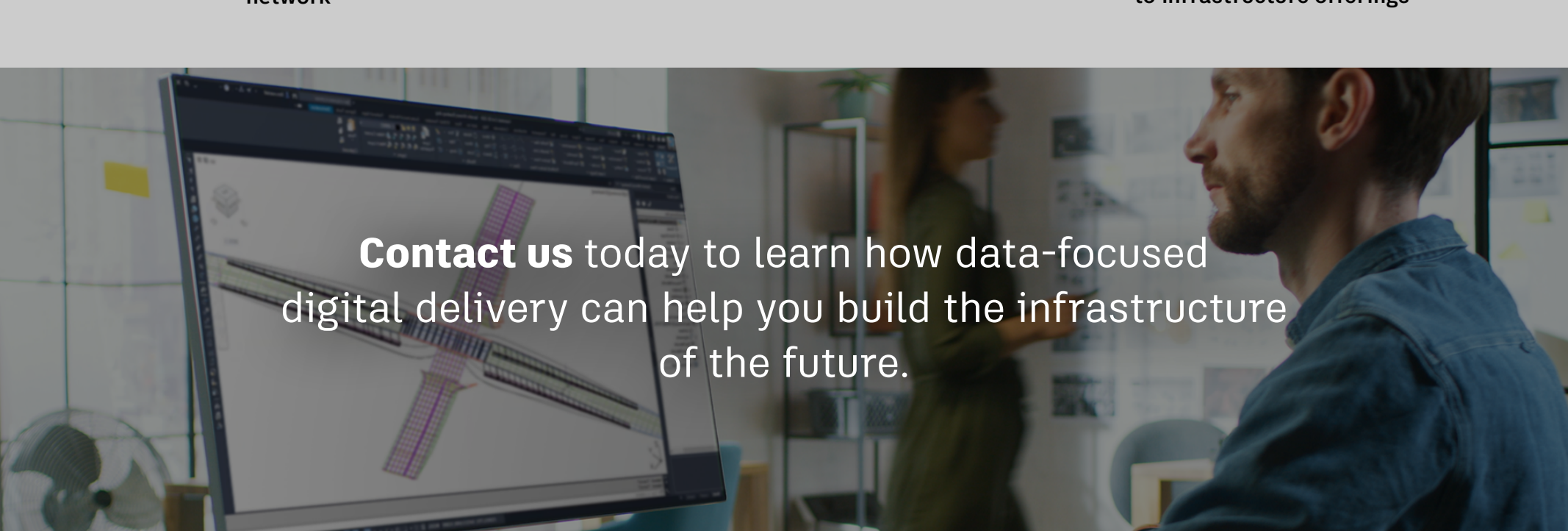
Schedule with construction, run clash detection, maintain existing traffic within your transportation network

### AUTODESK<sup>®</sup> BIM COLLABORATE

Check on progress, operations handover, and existing topography when connected to Civil 3D

### AUTODESK<sup>®</sup> CONSTRUCTION CLOUD

Harness the power of connected construction and improve construction handover as it relates to infrastructure offerings



Contact us today to learn how data-focused digital delivery can help you build the infrastructure of the future.