A photograph of railway tracks at dusk or dawn. The tracks curve into the distance, flanked by overhead power lines and utility poles. The sky is a deep blue, and the ground is illuminated by warm, low-angle light. The overall scene is industrial and serene.

e-Book

# ASSETWISE<sup>®</sup> FOR RAIL AND TRANSIT

Advancing asset performance to deliver safe,  
reliable, compliant, and cost-effective service.

Bentley<sup>®</sup>

# WELCOME TO THE **ASSETWISE FOR RAIL AND TRANSIT** **PRODUCT GUIDE**

This e-book provides a look at how you can gain better insights into your rail and transit data and make the best business decisions using AssetWise Digital Twin solutions.



It also includes links to **VIDEOS** that show how AssetWise supports the journey to digitalization by empowering effective asset management practices and enabling BIM management of information through the whole lifecycle of a built asset.

If you have questions or need more information, please visit [www.bentley.com/assetwise-rail-transit](http://www.bentley.com/assetwise-rail-transit) or call **1-800-236-8539**.



# RAILWAYS AND TRANSIT AGENCIES USE ASSETWISE TO:

- Improve overall service, safety, and reliability.
- Reduce maintenance and equipment costs.
- Increase profit margins.
- Streamline capital planning and operations.
- Improve field-reporting accuracy.



# ASSETWISE ASSET LIFECYCLE INFORMATION MANAGEMENT (ALIM)

## Trusted Information, When and Where It's Needed

ALIM manages rail and transit information throughout the lifecycle of change – delivering relevant, trusted information, in context – where and when it is needed.

## Connected Data Environment

The connected data environment leverages existing investments in BIM processes, establishing an open framework for collaboration and asset information management throughout the lifecycle of transportation infrastructure.

## Spatially-enabled Asset Information

ALIM provides the ability to view and use information from a graphical perspective for spatially-located assets and related information. This allows you to view information in a manner that can support enhanced decision-making across different types of linear assets and information.

## Support Positive Train Control (PTC) Information Management Requirements

A key element of PTC is managing the information related to the rail network and trains operating across it – speed limits, track composition, the speed of individual locomotives, train composition, and more. ALIM helps enable PTC deployment and provides best practice configuration management capabilities and information integrity in a changing environment.



[WATCH VIDEO](#)



# ASSETWISE ASSET RELIABILITY

## RELIABILITY STRATEGY, INSPECTION, AND MAINTENANCE MANAGEMENT FOR TRANSPORTATION INFRASTRUCTURE ASSETS

### Achieve a State of Good Repair

Bentley's rail and transit operations solution ensures you have well-maintained, reliable transit infrastructure – including tracks, signal systems, bridges, vehicles, and stations. Quickly update/add facility inventory and condition assessments into a fully managed reporting system, mitigating missed FTA deadlines or incomplete/inaccurate assessments while providing a repeatable method to produce high-quality decision support outcomes and prioritization.



[WATCH VIDEO](#)

### Streamline the Entire Inspection Process

Using Asset Reliability, inspectors can quickly and effectively collect, analyze, manage, and report inspection data while working in the field, the office, or any location using the application on mobile tablets. The software significantly improves the quality, usability, and amount of data available to make key decisions, prevent errors, and avoid mistakes.

### Rolling Stock Fleet Management

Rail and transit operators need to ensure that their fleet management practices achieve more efficient maintenance to save costs and improve rolling stock availability. Asset Reliability can help you improve the asset reliability and performance of your rolling stock fleet.

### Meet Federal Transit Facility Condition Assessment Requirements

Bentley's AssetWise Transit Facility Condition Assessment capabilities are purpose-built for FTA facilities and inspections, and are the ideal solution to satisfying the new FTA requirements and advancing any agency's Transit Asset Management (TAM) plan. Asset Reliability automatically calculates the overall facility condition assessment score per the FTA guidebook, supports the FTA reporting requirements, and includes standard configurations for detailed data collection of all facility components. Transit agencies can achieve significant cost savings by leveraging its out-of-the-box functionality, which enables rapid deployment to achieve immediate results in the hosted and purpose-built web and mobile applications.



[TRANSPORTATION INSPECTION](#)



# DIGITAL TWIN SERVICES

## THE FAST-TRACK TO DIGITAL TWINS FOR RAIL AND TRANSIT

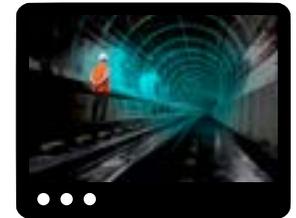
Rail and transit owners have recognized the potential for better outcomes by using digital twins in analytics, artificial intelligence, and machine learning in simulations and decision support throughout the lifecycle of design, construction, and operations.

### **iTwin Immersive Asset Services**

Establish immersive visualization and analytics visibility with iTwin Immersive Asset Services. The rich, interactive 4D digital twin context improves decision-making that sustains and enhances infrastructure asset performance. Its cloud and web services enable owner-operators to make infrastructure engineering information accessible and comprehensible to a wider population.

### **Linear Analytics**

Traditionally, the complexity of linear assets made it difficult to visualize and understand the vast quantity of data associated with these types of networks. AssetWise Linear Analytics takes data from many observed sources and aligns it, with engineering fidelity, to location and time on a linear network. Once aligned, users can identify trends and anomalies within rail or road networks using a library of linear network-aware data processing rules. AssetWise Linear Analytics includes visualization dashboards that provide users with instant access to all data at any location on the network.



[WATCH VIDEO](#)



# ASSETWISE LINEAR ANALYTICS

## DECISION SUPPORT FOR TRACK AND MAINTENANCE-OF-WAY ASSETS

Linear Analytics is a railway decision support system that enables proactive management and decision support for linear railway assets. Linear Analytics is designed to help you turn railway data into actionable information, enabling better decisions about track and other maintenance-of-way assets. Track managers can confidently determine what work needs to be done, where to focus the work, and when to perform the work.

### Data Analysis And Rules Engine

Linear Analytics has a library of more than 200 linear network-aware data processing rules and commands that can be applied to extract actionable information. These rules can find clusters of defects, trend track degradation to plan surfacing, filter spikes and flat lines from measurement data, and much more.

### Big Data and the Internet of Things

Data collection systems such as track geometry vehicles, ground penetrating radar, laser scanners, video recorders, track walkers, and more can produce many gigabytes of data in a day. Linear Analytics efficiently stores, links to, and correlates this data for rapid access and analysis, enabling you to make timely and accurate maintenance decisions.

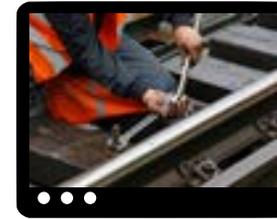
### Data Visualization

Data visualization is critical for transforming vast quantities of complex linear data into actionable information that users can readily access, understand, and utilize. Straight line diagram visualization features provide you with instant access to an informative representation of any combination of configured data types at any location on the railroad network.

### Improving Rail Maintenance Strategies

Railways can do more with less resources if they can better manage rail information and harness the vast amount of existing rail corridor data in a prioritized plan, assign the work, and monitor the execution and results with technology applications.

The Linear Analytics solution can help you perform analysis and data trend forecasting that enables your engineers to make better-informed decisions about maintenance and renewals.



**WATCH THESE VIDEOS ON  
RAIL PREDICTIVE MAINTENANCE**



# DRIVE YOUR DIGITAL ADVANCEMENT WITH ASSETWISE

- › Improve the overall accessibility, quality, integrity, and relevance of rail asset data.
- › Gain better insights into your data and make the best business decisions.
- › Ensure your assets are safe, reliable, and efficient over their operating life.

1-800-BENTLEY (1 800 236 8539)

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