

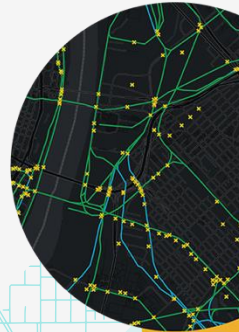
The Vision of a Railroads Data Model for ArcGIS

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Esri

**NORTH AMERICAN
GIS RAIL SUMMIT 2023**



Esri Industry Data Models

- Esri has built and maintains data models for the following industries



Natural Gas



Electric



Water



Sewer



Storm water



District Heating
& Cooling

- Data models completed in 2023



Ports
done!



Airports
done!



Railroads
-drafted-



Why a data model for Railroads?

- **Railroads newer to GIS**
 - A starting point that fully exploits GIS capabilities compatible with industry standards
- **Railroads established with GIS**
 - Ideas for extending your database design
 - Capabilities you're getting started with: schematic mapping, LRS, utility networks, etc
- **Foundation for solution building**
 - Esri solutions, Esri partner solutions, open source projects, etc
- **Facilitates data exchange**
- **Supports Web GIS architecture**



DATA MODELS

HOW ~~STANDARDS~~ PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

SITUATION:
THERE ARE
14 COMPETING
~~STANDARDS.~~

Data Models

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.



SOON:

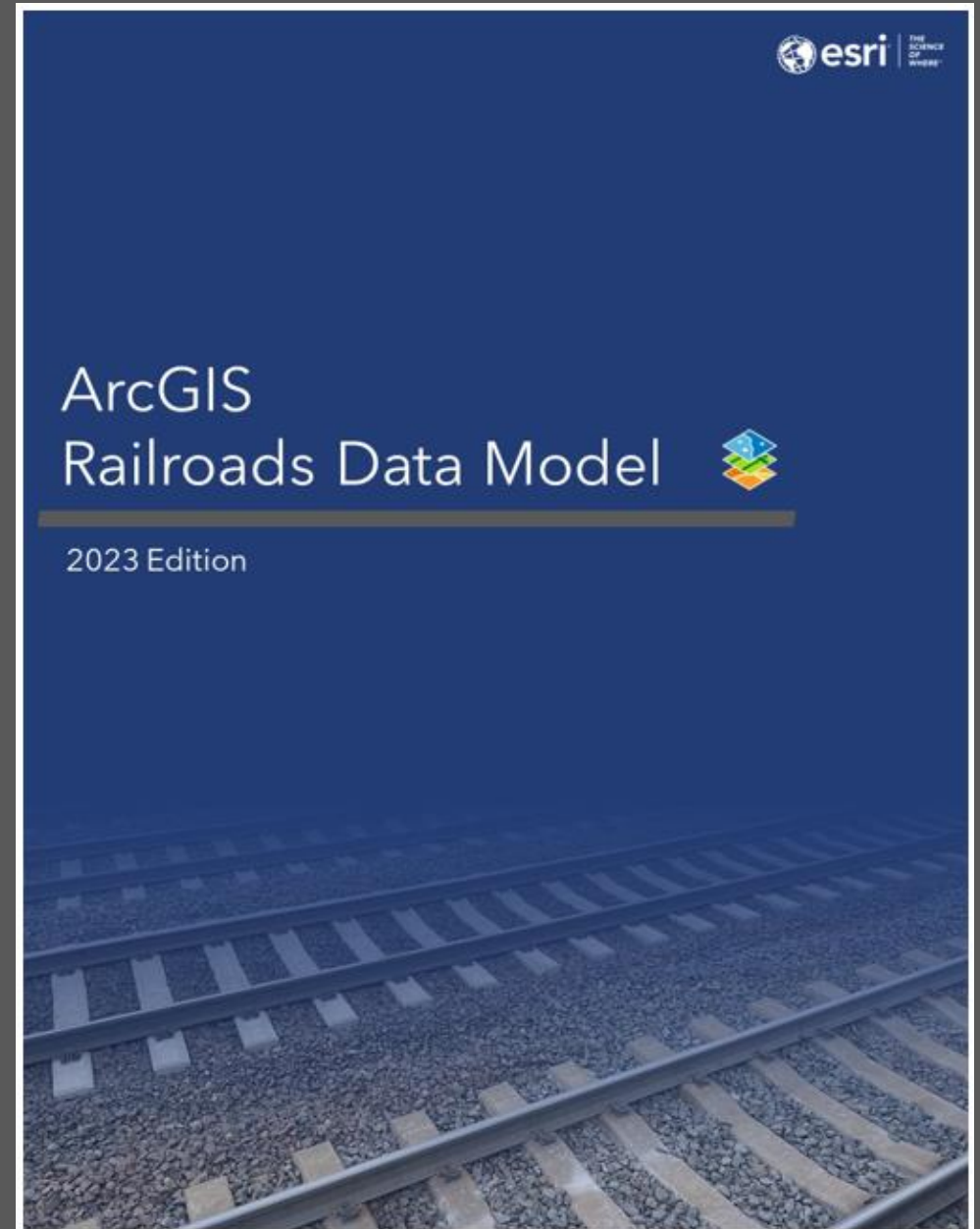
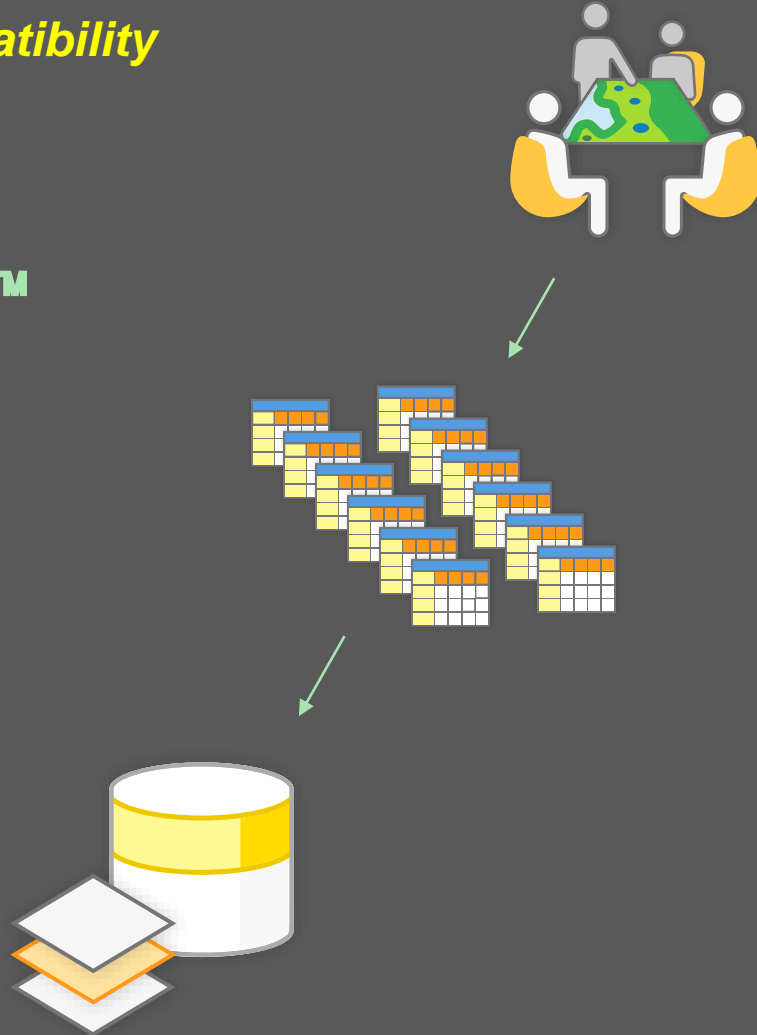
SITUATION:
THERE ARE
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Data Models

Design Considerations

Industry Compatibility

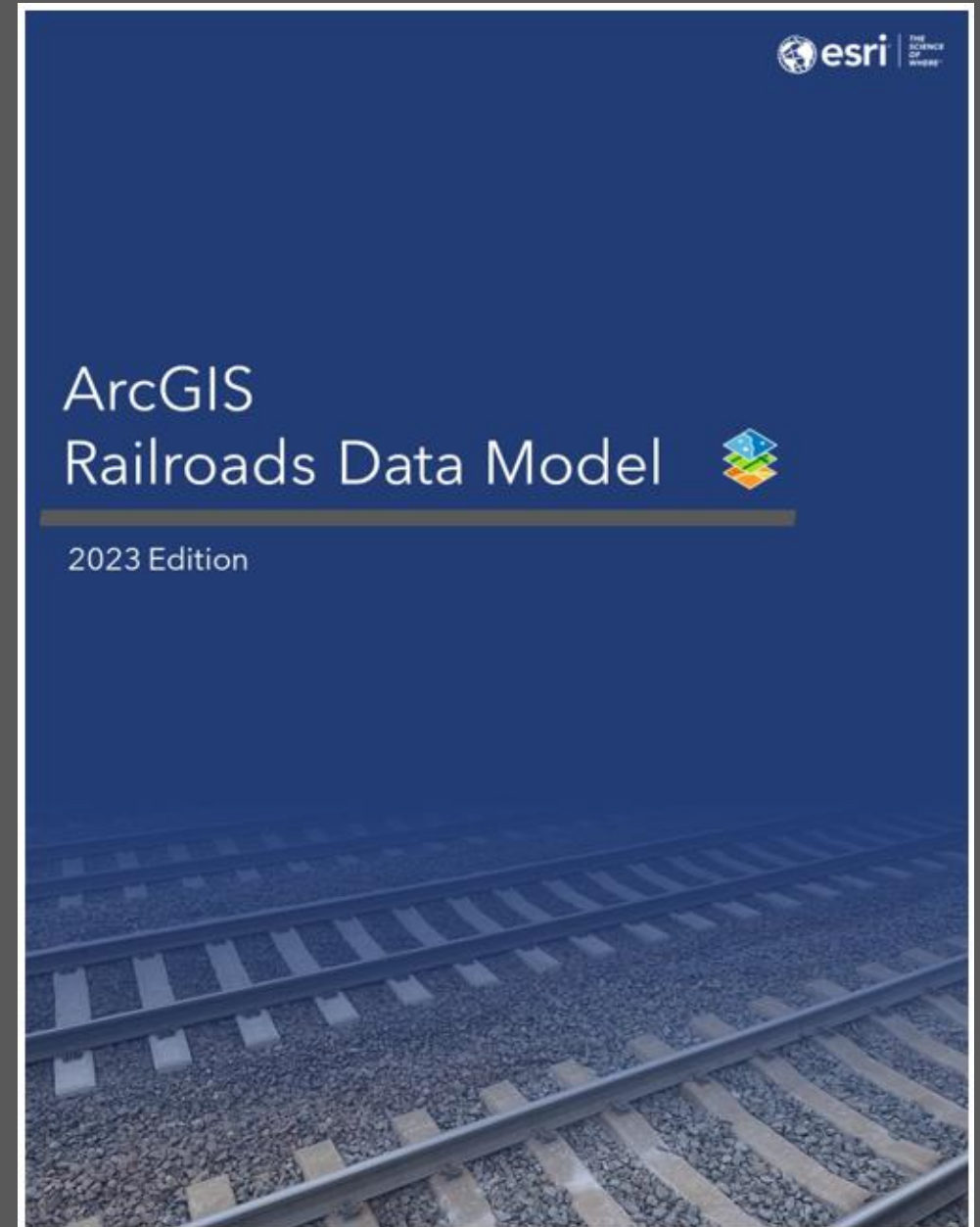
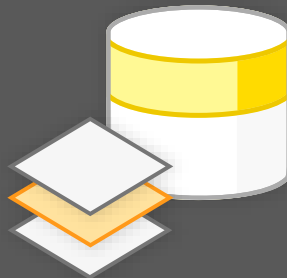
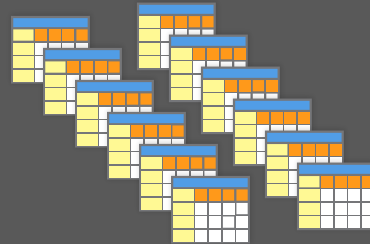
- PTC
- RIGIS™
- NARN



Design Considerations

Industry Compatibility

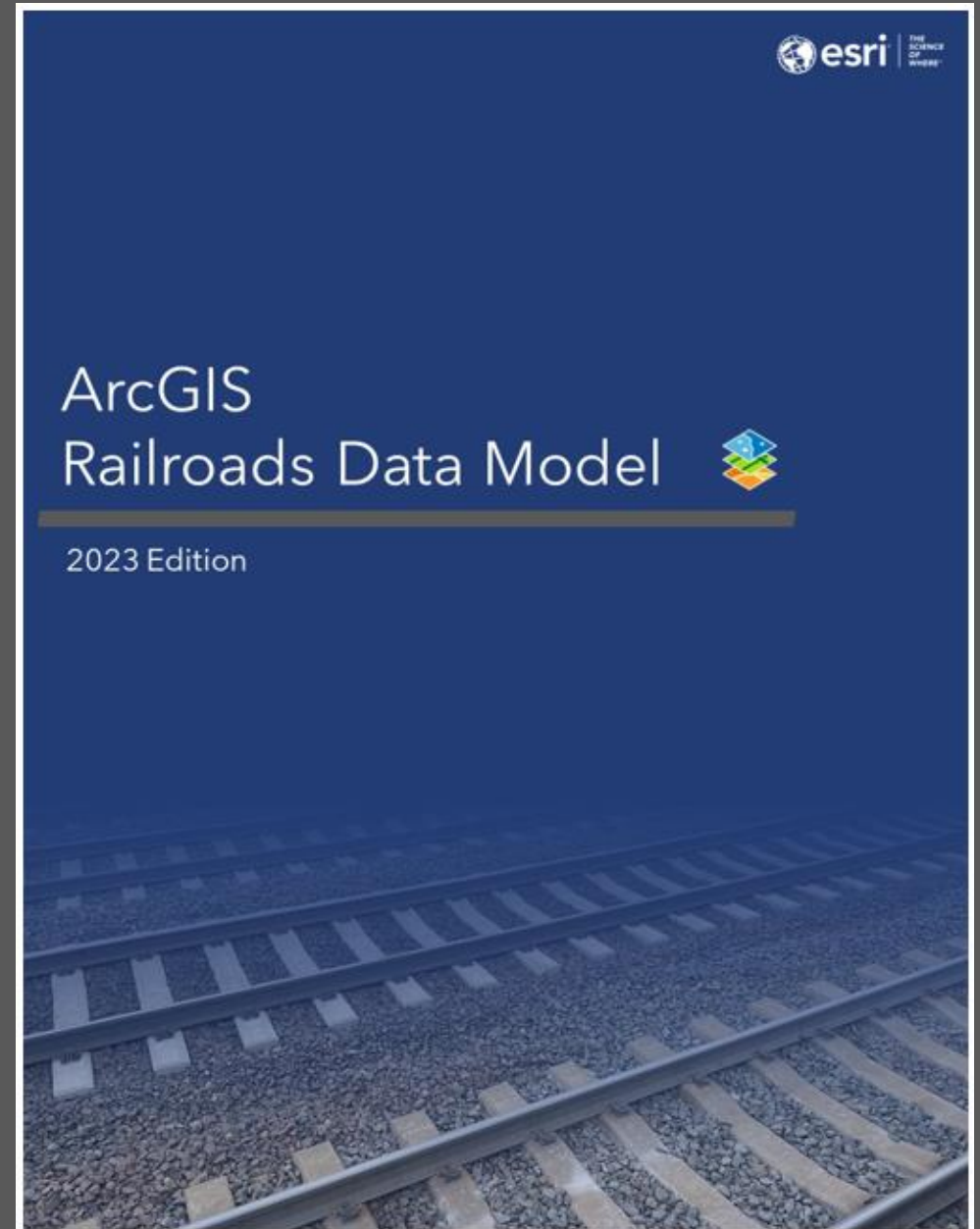
- PTC
- RIGIS™
- THE CHRONICLES OF NARNIA
- ArcGIS



Design Considerations

Industry Compatibility

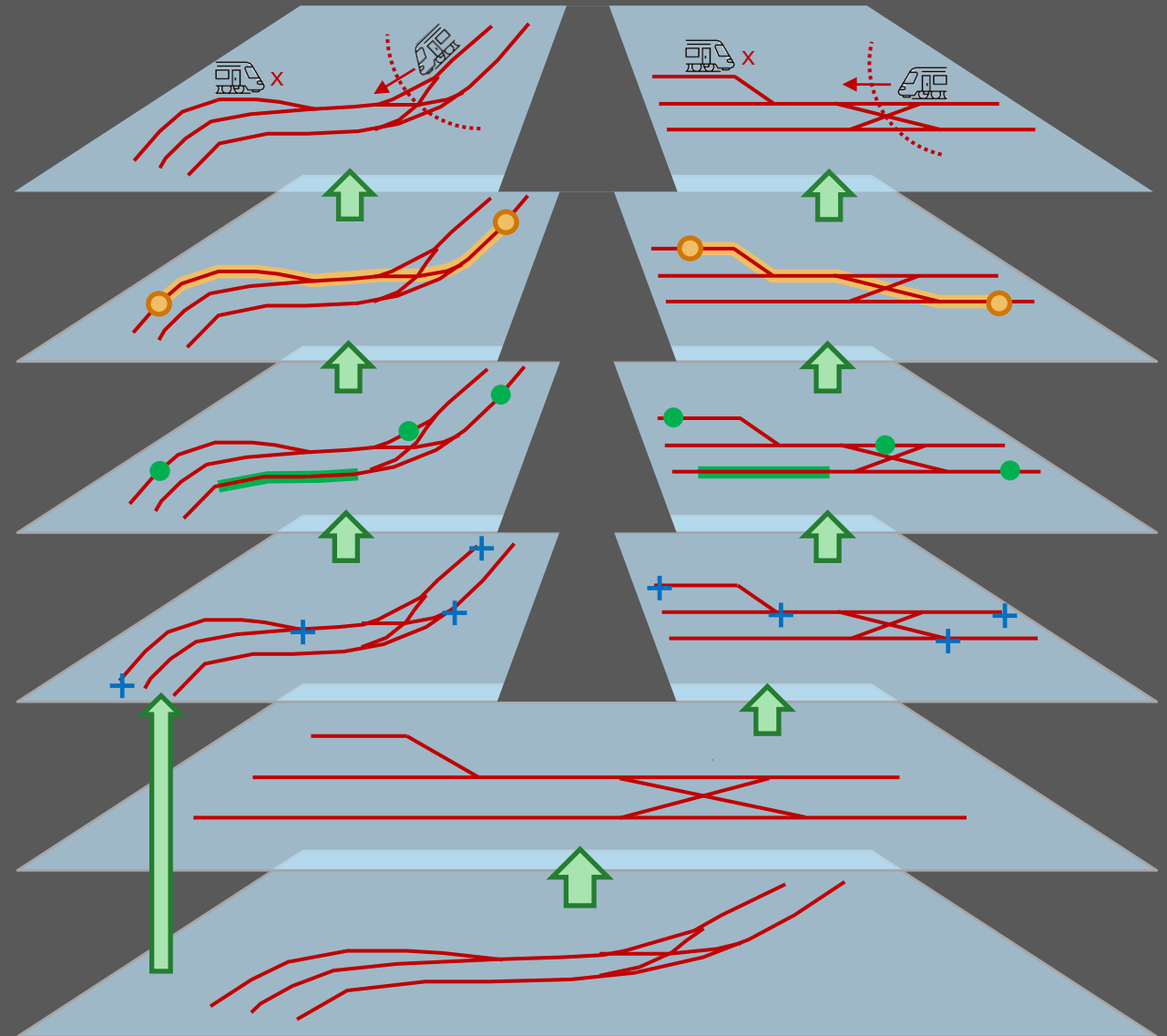
- PTC
- RIGIS™
- NARN
- ArcGIS



Design Considerations

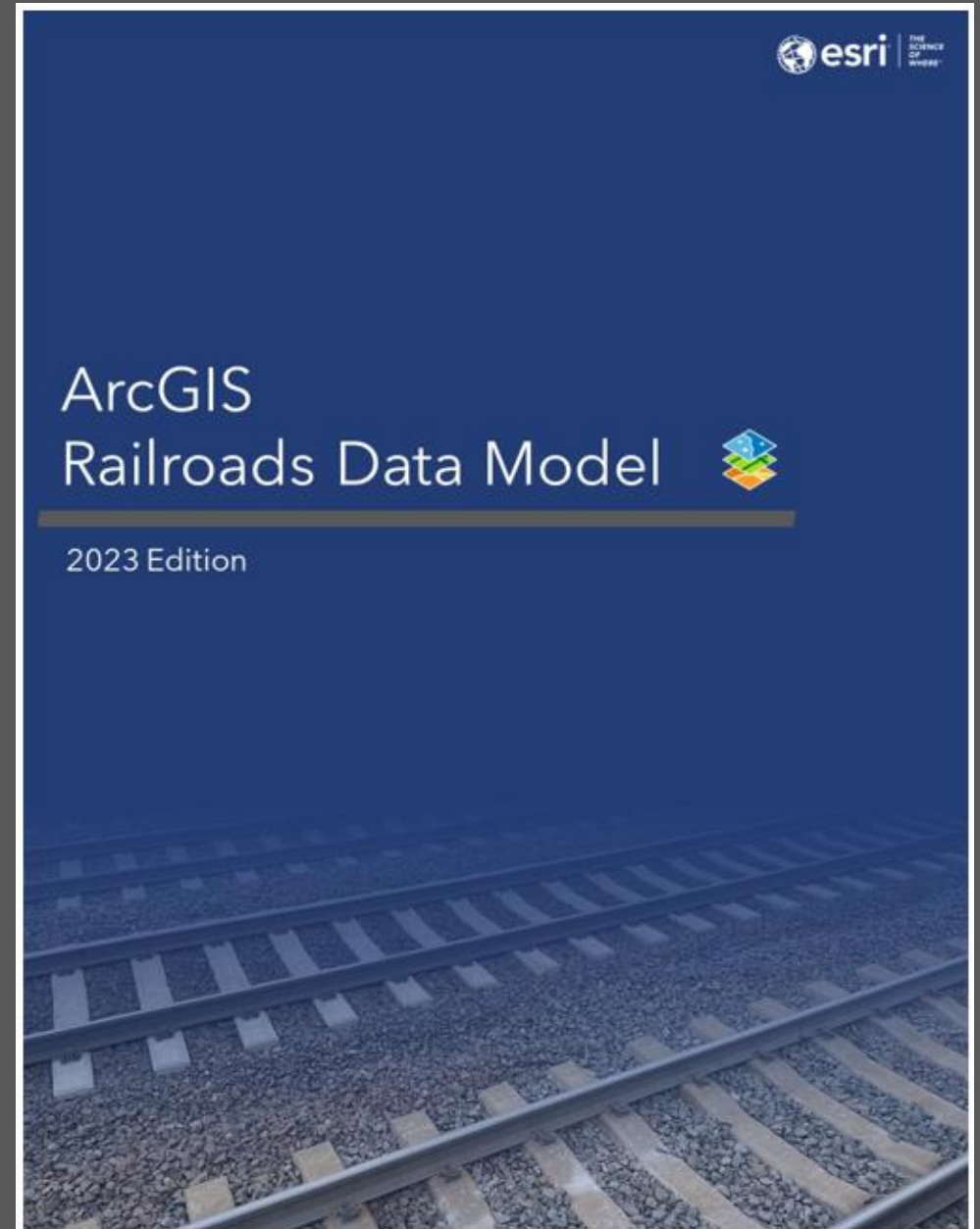
GIS Capabilities

- Schematic mapping
- Linear referencing
- Network routing and analysis
- Trace Networks
- Real-Time mapping
- Field mobility
- Parcel management
- Imagery
- 3D mapping
- Straight-Line diagrams
- Artificial Intelligence



Deliverables

- Data Dictionary
- ArcGIS Pro Project Package
 - Sample Dataset (*File Geodatabase*)





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SCIENCE
OF
WHERE®

