



ConnX Infrastructure Assessment *by Drone*

High-Resolution Insight for Safer, Smarter Infrastructure Decisions

INSPECT WHAT MATTERS MOST—SAFELY, EFFICIENTLY, AND WITH PRECISION.

A drone-enabled infrastructure assessment that delivers detailed visual and thermal insight across hard-to-reach, high-risk assets—without disrupting operations or exposing personnel to danger.

The Challenge

Critical infrastructure assets—across transit, energy, industrial, and commercial environments—are often:

- **Elevated, remote, or confined**
- **Costly and risky to inspect manually**
- **Difficult to access without shutdowns, scaffolding, or specialized equipment**

Traditional inspection methods can introduce **safety risk, operational disruption, and limited visibility,** making it difficult to detect early-stage issues before they escalate.

You cannot manage risk or plan maintenance effectively without accurate, timely condition data.

SAFETY, COMPLIANCE & OPERATIONAL INTEGRITY

Federal Aviation Administration

All assessments are conducted by ConnX **FAA-certified Part 107 drone pilots** and include:

- Compliance with FAA regulations and airspace requirements
- Pre-flight safety and risk assessments
- Coordination with facility operations and security teams

Safety of personnel, assets, and operations is a foundational requirement of every engagement.

What the ConnX Infrastructure Assessment by Drone Delivers

a safe, non-intrusive, and high-resolution method for evaluating asset condition using enterprise-grade unmanned aerial systems (UAS).

The ConnX Difference

ConnX combines **certified drone operations, advanced sensor technology, and infrastructure expertise** to deliver assessments that go beyond imagery—providing real operational insight.

- ☑ **Enterprise-grade UAS and sensor payloads**
- ☑ **Certified pilots with infrastructure inspection experience**
- ☑ **Actionable analysis—not just raw data**
- ☑ **Scalable approach across transit, energy, industrial, and commercial environments**

THIS ASSESSMENT HELPS ORGANIZATIONS ANSWER CRITICAL QUESTIONS SUCH AS:

What is the true condition of our hard-to-reach assets today?

Where are early signs of structural, thermal, or environmental risk?

How can we establish a reliable baseline for future comparisons?

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ConnX AI

Scope of the Assessment

Hard-to-Reach & High-Risk Infrastructure

- Rooftops, façades, towers, and elevated structures
- Bridges, rail corridors, and overhead infrastructure
- Depots, yards, stations, and elevated platforms
- Confined, remote, or hazardous areas without shutdowns

Transit Infrastructure (Bus, Rail & DOT)

- Bus facilities, depots, and maintenance yards
- Rail tracks, switches, and track beds
- Overhead catenary, signaling, and traction power infrastructure
- Station roofs, platforms, and structural elements
- Bridges, tunnels, and highway overpasses
- Rights-of-way conditions, roadway interfaces, and encroachment risks

Energy & Industrial Environments

- Tanks, stacks, vessels, and pipelines
- Power generation and distribution assets
- Industrial facilities with corrosion, wear, or heat exposure

Advanced Imaging & Sensor Capabilities

- High-resolution optical imaging
- Infrared (thermal) imaging for:
  - Heat loss and insulation breakdown
  - Electrical faults
  - Leaks and thermal anomalies
- Zoom and low-light imaging
- Optional payloads (environment-dependent):
  - LiDAR
  - Multispectral imaging
  - Gas or emissions detection

Deliverables

Executive Summary
Key findings and asset condition insights

Annotated Imagery & Video
Visual and thermal documentation

Asset-Specific Findings
Defects, anomalies, and risk indicators

Condition & Risk Ratings
Prioritized by severity and impact

Maintenance & Remediation Guidance
Actionable next steps

The Outcome

- **Safer inspection of high-risk assets**
- **High-resolution visibility into infrastructure condition**
- **Earlier detection of defects and anomalies**
- **Reduced operational disruption and inspection risk**
- **Scalable approach across transit, energy, industrial, and commercial environments**

The ConnX Assessment & Audit Process

STRUCTURED, SAFETY-FIRST APPROACH DESIGNED TO DELIVER ACTIONABLE CONDITION INTELLIGENCE:

Discovery & Planning

- Asset and site review
- Coordination with operations, security, and stakeholders
- Pre-flight risk and safety planning

Drone-Based Data Capture

- Visual and thermal data collection
- Non-intrusive inspection with no operational disruption
- Precise coverage of targeted assets

Analysis & Findings

- Review of imagery and sensor data
- Identification of defects, anomalies, and risks
- Condition ratings based on observed findings

Actionable Infrastructure Insights

- Clear documentation of issues and priorities
- Maintenance and remediation guidance
- Baseline condition data for future inspections

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