Implementation Flightmap → NCHRP 12-122: Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection

UAS Applications for Bridge Inspections: Element-Level Data Collection

Final Guidelines Submitted
- Receive final acceptance
- Prepare materials for presentation to lead agency (AASHTO)
- Present Guidelines to lead agency committee

Publication Acceptance
- Continue to promote and educate on Guideline content

Guidelines Published
- Policy & Management
- Workshops
- Training

Implementation

Q4 2023
- Final Guidelines Submitted

Q2 2024
- Publication Acceptance

Q3 2024
- Guidelines Published

Q4 2024
- Implementation
Implementation Steps \(\rightarrow\) Flying Forward with the AASHTO Guidelines

UAS Applications for Bridge Inspections: Element-Level Data Collection

Where to Start?
- Organizational Structure
- Policy
- Program Management

UAS
- Selection Process
- Security Considerations
- Flight & Sensor Characteristics

Remote Pilots
- Certification
- Ground School Training
- Flight School Training

UAS Inspection Operations
- Mobilization & Safety
- Collecting Element-Level Data
- Data Management

Data & Security
- Storage Types/Options
- Post-processing
- Agency Requirements
Implementation Support → Flying Forward with the AASHTO Guidelines

UAS Applications for Bridge Inspections: Element-Level Data Collection

UAS Policy & Management
- Provide support for policy development
- Evaluate current program status and identify personnel, roles and responsibilities necessary to sustain a UAS inspection program
- Develop and/or adopt UAS management systems to streamline a program’s management of remote pilots, UAS, and logistics to adhere to the UAS program’s policy

Workshops
- Hold virtual workshops with DOT stakeholders to assess program status and establish desired outcomes
- Develop organizational support mechanisms and training content based on the desired outcomes
- Hold virtual workshops to define and develop train-the-trainer materials to support implementation
- In-person workshops for specific personnel training such as a UAS Program Manager and/or UAS Inspection Manager

Training
- Remote pilot and manager training in accordance with policy and management requirements
- Web-based: Pre-recorded video instruction through website or Instructor-led virtual classroom
- In-Person:
  - Ground School: classroom setting to review policies and UAS-related documentation
  - Flight School: outdoor setting to train appropriate UAS flight skills
  - Skill Proficiency: repeatable evaluation to verify remote pilot skill for safe operation of UAS