

Colorado School HVAC Infrastructure Improvement Program

HVAC Infrastructure Improvement Cash Fund (24-75-232)

Total fund \$168,250,000

Available until used or June 30, 2028

Ventilation Verification and HVAC System Assessments (22-32-153)

Schools may use the cash fund to undertake HVAC Infrastructure Improvements. When using this fund, they shall perform Ventilation Verification and HVAC assessment activities conducted by qualified professionals. These assessments evaluate HVAC system performance and identify deficiencies that may affect ventilation, indoor air quality, and energy efficiency.

Why is this important?

The Colorado Infrastructure 2025 Report Card for Schools received a D+ grade from the American Society of Civil Engineers (ASCE). Proper ventilation and HVAC operation are important for children's health and for promoting better learning.

Key Elements of Ventilation Verification

Assessments

- **Filtration**

Ensure installation of highest MERV rating.

- **Ventilation Performance**

Measure outdoor air intake and verify ventilation rates meet minimum IMC requirements.

- **Demand Control Ventilation**

Verify proper operation of DCV systems and verify ventilation rates are provided.

- **Economizer Operation**

Test and repair economizer dampers and controls for proper operation.

- **Air Distribution and Pressurization**

Measure zone supply and return airflow and verify building pressurization are within design.

- **Exhaust System**

Measure airflow rates of laboratory, restroom, and other exhaust systems.

HVAC Assessment and Verification Reports

Prepare report shall:

- Document system conditions, deficiencies, and recommended improvements.
- Be reviewed by a Mechanical engineer to verify or adjust ventilation requirements, and recommend repairs, upgrades, or replacements.
- Be maintained by the local education provider for at least five years and made available to the public upon request.

Why Install Permanent Airflow Measurement Devices?

- Ability to verify ventilation rates long after the assessment has been completed.
- To limit DCV operation between minimum and maximum rates to prevent under- or over-ventilation.
- Supports fault detection and diagnostics (FDD) of economizer operation by validating when economizers are operating, damper modulations, and excess outdoor air.
- Building pressurization is created by the airflow differentials in and out of a building. Monitoring and controlling these rates are essential for proper pressurization.

Pressurization is critical to preventing wildfire smoke from entering buildings.

Ventilation verification depends on accurate airflow measurement.