



**Presentation Title:** School Inspection Effectiveness

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## **I. Formative Evaluation – Planning**

Unlike many local programs where the fire department identifies an issue and commits resources to addressing it, this Minnesota State Fire Marshal Division inspection program was mandated by the state legislature.

Goal: Reduce the impact and severity of fires in schools

Objectives: Improve life safety, ensure adequate egress, reduce ignition scenarios, and provide automatic fire protection systems (often in lieu of more costly construction-related features).

State and national school fire loss (NFPA) was analyzed and the program's priorities were developed based on the available data (preventable fire causes, the area of origin).

A close working relationship was developed with the Minnesota Department of Education (MDE) which supplied a list of school names, addresses, and building age. The program's initial inspections were of those school districts that had buildings constructed prior to 1910 (80 years old or more).

## **II. Process Evaluation - Implementation**

State Fire Marshal staff traveled around the state with MDE conducting training for school officials on what to anticipate when their schools were inspected.

Portable computers were purchased for staff and a computerized database was developed for tracking inspections and violations.

MDE's list of school properties was "mapped" by county and inspector territories were established balancing the number of schools and anticipated travel times. Inspectors were allowed to "bid" on the territories based on union contracts (seniority and location); three fairly senior inspectors transferred to the school inspection program.

In conversations with MDE and staff, a philosophy of helping schools improve their fire and life safety was developed as opposed to a philosophy of aggressive enforcement.

### **III. Impact Evaluation – Short-Term Results**

The initial years of the school inspection program saw an increase in the number of school fires. While this initially seemed counter-intuitive, it was actually a by-product of the impact of the program. We believe that since the vast majority of the schools had never been inspected before, school officials were unaware of the requirement to report fires.

Using the data collected from the inspection program (including most common fire safety violations based on the type of school – elementary vs. secondary, etc.), State Fire Marshal staff provided school fire and life safety training to school administrators, architects, engineers, and local fire inspection personnel. This has led to a 54% decrease in the number of school fires during the program.

### **IV. Outcome Evaluation – Long-Term Results**

Twice in recent years (2011 and 2016), the division analyzed school fire loss by comparing Minnesota's school fire loss data with the national fire loss (using NFPA and USFA data) and by reviewing school fire loss before the school inspection program began with current fire information.

Both reviews showed a significant reduction in the number and severity of school fires in Minnesota. The most recent report (published in 2017) showed that:

- Minnesota's school fire rate (number of fires per 100 schools) is about 29% lower than the national rate
- The average annual school fire loss in Minnesota is about 60% lower than the national average
- The average school fire loss has been reduced by 70% since the program began
- Minnesota's average loss per school fire is about 81% lower than the national average

#### **Recommendations for others:**

1. Research school fire loss – nationally and in your state/community
2. Partner with your state department of education
3. Use an educational and cooperative approach; avoid "heavy-handed" enforcement tactics
4. Prioritize on control of ignition sources and preventing fire spread
5. Encourage, wherever possible, the use of automatic fire protection systems
6. Understand that passive fire protection construction features can run counter to what schools need to educate students
7. Be prepared to give schools time to comply
8. Set-up some sort of data system to measure violations and inspection activity

#### **Conclusions:**

The number and severity of school fires can be reduced by regular school inspections. Inspection priorities, common violations, solutions and code equivalencies can be determined using data-driven decision-making techniques.