

# Vehicle Fire Risk Assessment

Experience should be used for prevention not as a lesson



## Isolated events seldom lead to a fire, but more often the combination of several events

Dafo Vehicle Fire Protection's is based on an in-depth knowledge of fire hazards and fire risks for buses, trucks and mobile equipment. Our personnel have extensive background in vehicles, fire risks, fire investigations and risk mitigation.

The ever changing environmental requirements, introduction of lower cost lighter materials can have a significant impact on the risk of fires. In many cases the risks are associated with pre-mature failure and aging of components which have a negative impact on design and operational costs.



# Connecting The Dots

## Operational Characteristics

Understanding the operational characteristics is one of the most important steps of a comprehensive risk assessment and one that is often overlooked. Each one of these can have an impact on the pre-mature failure which can not only have a cost impact but increase the risk of fire and passenger safety.

- Vehicle (size,type, fuel)
- Passengers Capacity (Standing/Seated)
- Means of Egress
- Mode (City, Intercity, Tour/Coach)
- Duty Cycle (Hrs/day)
- Environment (Climate, Exposure)
- Maintenance (Intervals and "Risk of Fire" training)

## Hazard Analysis

The goal of the "Hazard" analysis is to identify known areas in which a fire could ignite or which could spread. The information is used to determine failure modes , fire spread and other impacts.

- Geometry
- Ventilation (openings/airflow)
- Temperature (design and peak potentials)
- Clutter/Density of Components
- Firewalls/Fire Resistance methods
- Fire Detection and Suppression

## Risk Assessment

Known issues that have resulted in thermal events and feedback from the OEM's and operators are crucial to ensure a thorough assessment. Risks are categorized and ranked based on cause, severity and recommended best practices.

- Arching/shorting risks
- Heat Sources (Ignition potential, aging of material)
- Mistake Proofing (maintenance actions)
- Mechanical Damage (e.g abrasion)
- Vibration
- Fire Detection and Suppression

## Recommended Best Practices

- Design
- Quality Assurance
- Maintenance
- Documentation
- Training

