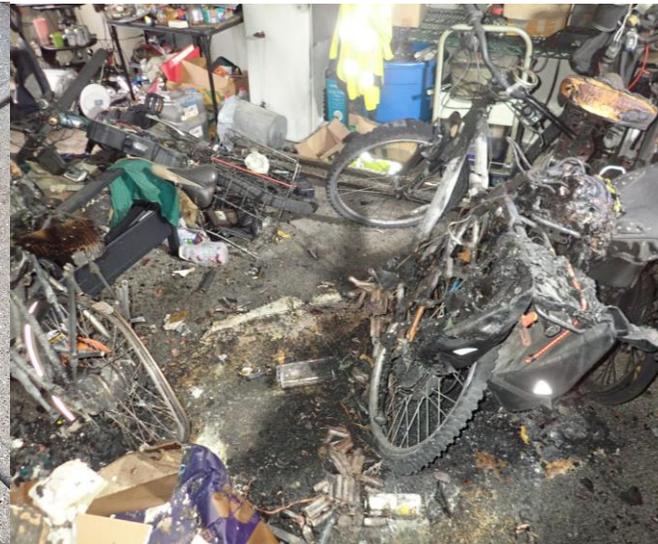


RISKS ASSOCIATED WITH LITHIUM-ION BATTERIES



Presented By:
Deputy Fire Marshal Kris Cooper

GENERAL OVERVIEW

Battery Types:

- Small
- Micromobility
- Electric Vehicles
- Energy Storage Systems



Photo Courtesy of: Tycorun

GENERAL OVERVIEW

Leading Causes of L-Ion Fires:

- Damage
- Incompatibility
- Non-listed Charges



Photo Courtesy of: Enhesa

GENERAL OVERVIEW

Additional Causes:

- Thermal Runaway
- Physical Damage
- Puncturing
- Excessive Heat
- Lack of Regulation & Safety Testing
- Manufactured to Lesser Standards

Photo Courtesy of: IndyStar



GENERAL OVERVIEW



In the United States:

- Past 3 Years - Average of 20 EV Fires Annually
- 25 EV Fires for Every 100,000 Sold
- 2023 Statistics
 - 445 Lithium-Ion Fires
 - 38 Deaths
 - 214 Injuries

Fire incidents, injuries, and deaths will continue to increase as more consumer devices increase and tracking of these incidents improve.

Data Sources: Edmunds and NTSB

GENERAL OVERVIEW

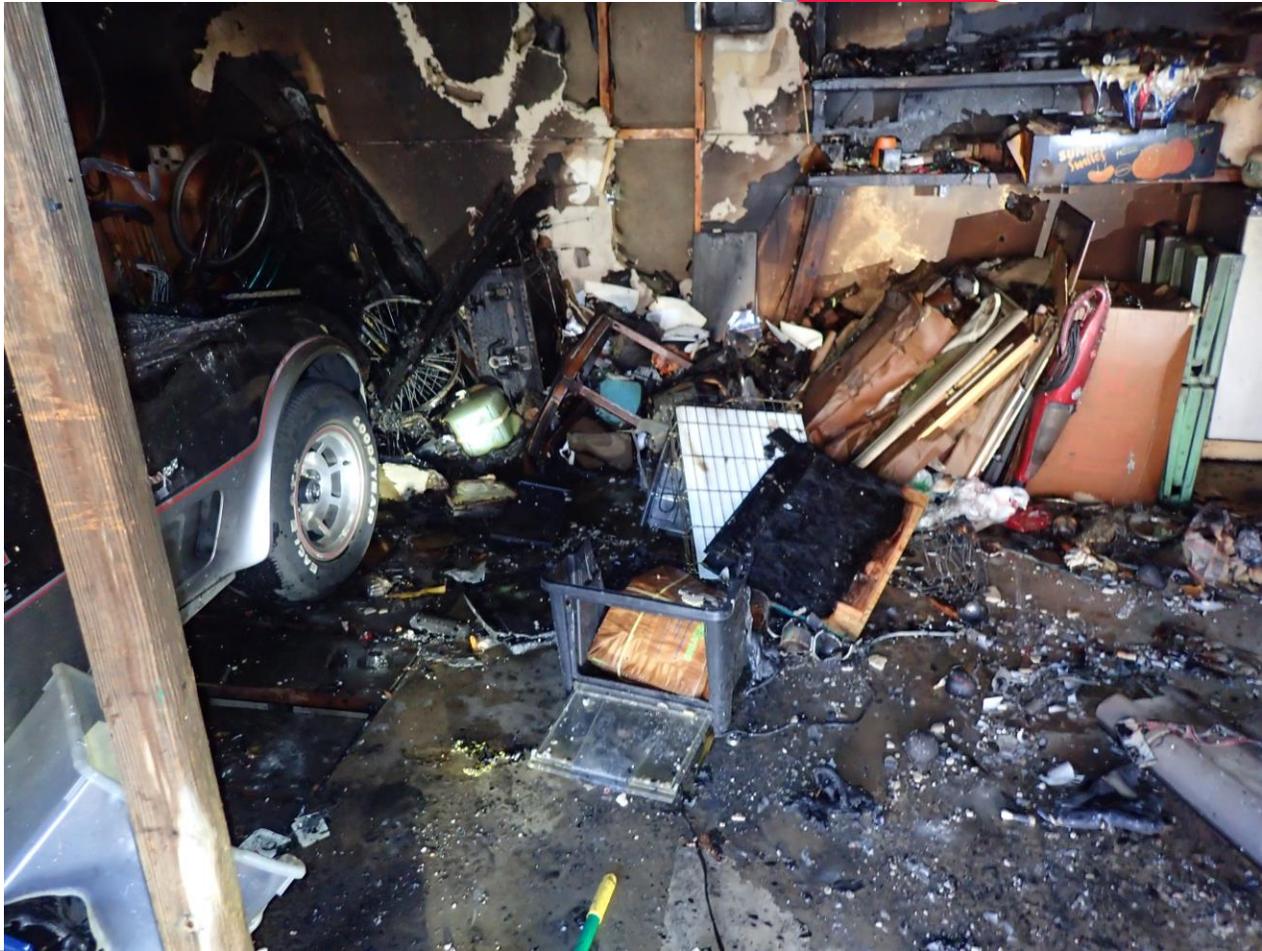
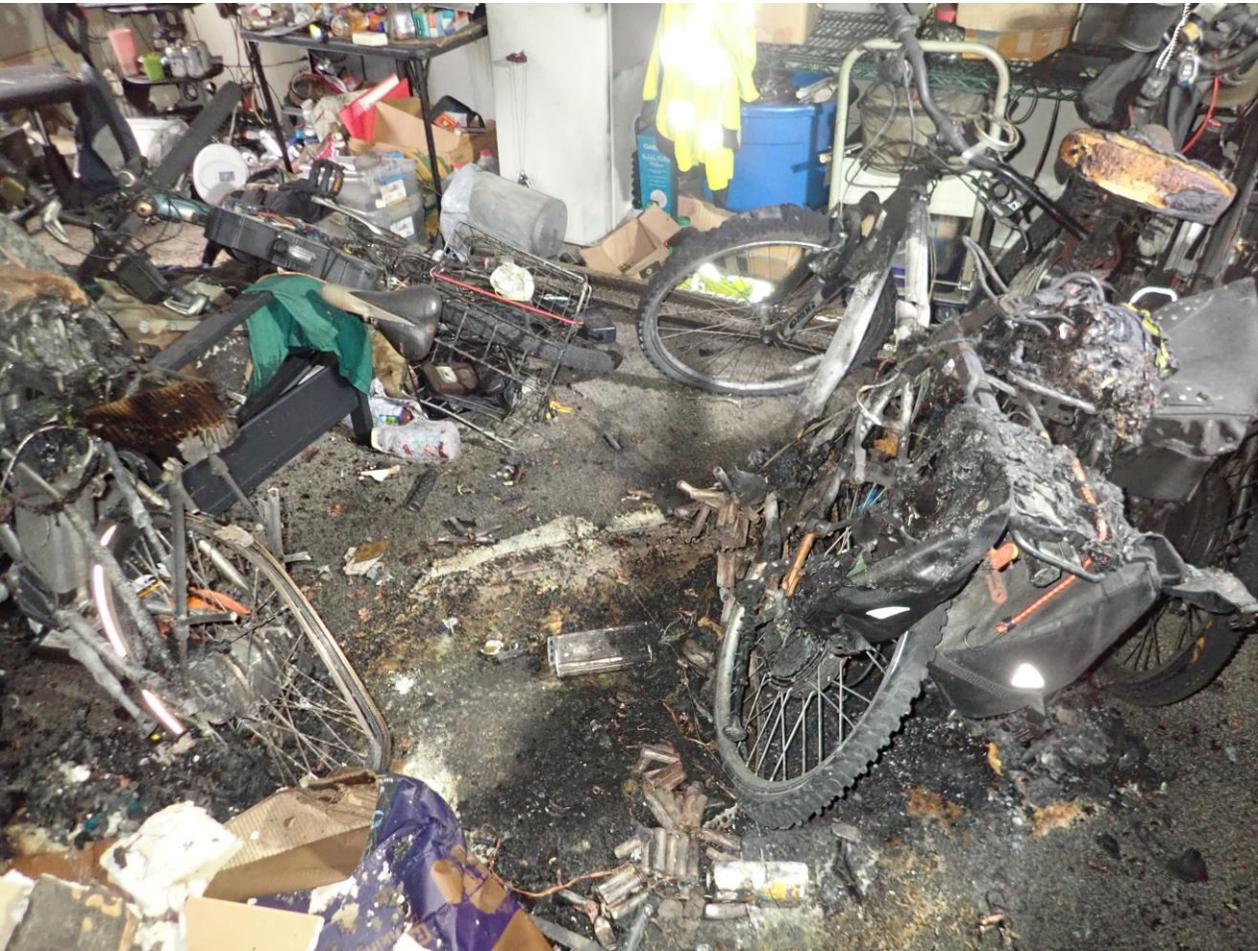


CSFD Concerns:

- EV Popularity
- Multi-Family Housing
- Battery Technology Growth
- Battery Lifespan



LOCAL FIRES



ADDRESSING THE RISK

Fire Code Improvements:

- Fire Protection Systems
- Storage Requirements
- Energy Storage Requirements
- EV Charging Requirements



MICRO-MOBILITY FIRE HAZARDS



ELECTRIC BUS FIRE HAZARDS



ELECTRIC VEHICLE FIRE HAZARDS



TOPIC RESPONSE

- Lithium-Ion Taskforce
- Response Tactics
- Disposal
- Community Education



L-ION TASK FORCE



- CSFD
 - Operations Staff
 - Division of the Fire Marshal Staff
- Colorado Springs Utilities
- Pikes Peak Regional Office of Emergency Management



RESPONSE TACTICS

- Fire Blankets
- Isolation
- Removal from Exposure(s)
- Let it Burn



Photo Courtesy of South Metro Fire Rescue

HANDLING & DISPOSAL



- Place each battery or device in a separate plastic bag
- Place non-conductive tape over the battery's terminals
- Contact the battery or device manufacturer for directions
- Take them to certified recyclers or participating retailers
- Contact local solid waste or household waste collection programs

C.H.A.R.G.E.

- **C**hoose Certified Products
- **H**andle with Care
- **A**lways Stay Alert
- **R**ecycle Properly
- **G**et Out Quickly
- **E**ducate Others



CSFD encourages our community to take C.H.A.R.G.E. of battery safety.

QUESTIONS?



Kris Cooper NFA – EFO, CPSE - FM
Deputy Fire Marshal
City of Colorado Springs Fire Department
719-385-7358
kris.cooper@coloradosprings.gov