The purpose of this document is to identify key strategic and tactical objectives in Phoenix Fire Department operations in High-rise buildings. These include initial and ongoing building size-up, appropriate use of the PFD risk management profile, assessment of occupant location and removal, and effective sectorazation within the incident structure. In the City of Phoenix, a high-rise building is defined as 6 elevator stops or greater or 75 feet in height or greater.

The actions and priorities in this procedure are further covered in depth in the Phoenix Fire Department High-rise Manual.

- **High-rise Building Size-up**
  - Exterior view
    - Often hide fire and smoke due to building being well sealed and large internal capacity for smoke
    - Estimate potential for falling debris and/or major structural collapse
    - Guide responding companies around these hazards
  - Interior view
    - Building personnel accounts
    - Is building being evacuated?
    - Alarm indications
    - Stairwell assessment
      - Number of stairwells?
      - Conditions within?
      - How are they labeled?
    - Have the elevators been recalled?
  - What resources are responding?
    - Additional alarms needed based on observations?

- **Risk Management Assessment**
  - Is the building occupied?
    - Commercial or Residential?
  - What caused this incident?
    - Accidental fire
    - Intentional
    - Unknown?
  - How has this affected building integrity?
    - Is the building going to allow fire and/or rescue operations
    - Will PFD inaction cause the building to collapse into other buildings?
  - Fire location?
    - What floor?
**Tactical objectives**

- **Rescue**
  - Secure and maintain viable evacuation and fire attack stairwells
  - The PFD will never use elevators as a means of rescue in smoke or fire conditions
  - Each must be declared to Command or AHQ prior to making way to the fire floor
    - Evacuation stairwell = stairwell dedicated to the removal of occupants from the building
    - Fire attack stairwell = stairwell dedicated to the fire attack operations ideally with roof access with no evacuation traffic to impede the fire attack operations
  - Attempt to diminish smoke conditions
  - Identify stair access to roof
  - Rescue of immediately threatened occupants
    - Protect in place?
    - Remove to safe location?
    - Removal from the building?
  - Establish evacuation plan for remainder of building
    - Remove fire from the victims or victims from the fire?
    - Remove/guide occupants to lower floors or out of building all together
    - Is protection in place a safe option?

- **Fire attack**
  - Assess fire and smoke conditions
    - Size of the fire
    - Resources in position to make an attack
    - Overall elapsed time for set up prior to fire attack
  - Provide water supply via standpipe system
    - Built in fire pump or pumped by apparatus?
  - Stop the production of heat and smoke
  - Manage the spread of heat and smoke throughout the building
    - Use of building systems
      - Sprinklers
      - Standpipes
      - Fire pump
      - HVAC
    - Use of PFD equipment
      - PFD vent truck
      - Portable fans carried on apparatus
      - Natural ventilation
o Property conservation
  ▪ Often involve high value occupancies
  ▪ Extensive damage not usually contained to 1 floor

• Deployment

  o First arriving Phoenix Fire Department Engine or Ladder Company
    ▪ Assume Command
    ▪ PFD Rescue should not take command if first arriving

  o First arriving Engine Company
    ▪ Spot apparatus as close to interior access as possible
    ▪ Proceed directly to the building lobby and gain access to the Fire Control Room or building alarm panel if a dedicated control room does not exist
    ▪ Establish Building Systems Sector with 1 member from the initial Engine Company
    ▪ Crew should initiate a lobby level size up

  o First arriving Ladder Company
    ▪ Spot in position to utilize aerial device for rescue or defensive firefight if necessary
    ▪ Proceed directly to the building lobby
    ▪ Captain should proceed to the Fire Control Room or alarm panel and meet with first arriving Engine Company Captain
    ▪ Crew should begin elevator assessment for possible use

  o Second arriving Engine
    ▪ Company should establish water connection to building standpipe system
    ▪ Engineer should remain with the pumper
    ▪ Captain should proceed to the Fire Control Room or alarm panel to meet with first arriving Engine Company and Ladder Company Captains

  o All additional operational resources
    ▪ After a declaration of a “working fire”, once on scene, all 1st and 2nd Alarm companies should proceed directly to the building and report to Lobby Sector
    ▪ Purpose of this is to decrease transit time once assignment is made
    ▪ Lobby Sector will be operating on the Staging radio channel as per the standard Phoenix Fire Department staging procedures (See Lobby Sector, Phoenix Fire Department High-rise Firefighting Manual)
    ▪ Lobby Sector, Staging Sector and Command will coordinate arriving companies for accountability until assigned to a tactical position in the building
**Sectorization**

- Sector priorities
  - Building systems
    - Manage distribution of building keys, fire phones and floor maps
      - May be turned over to Lobby Sector once established
    - Provide direct communications (via radio or red fire phones) to fire attack companies regarding alarm and building information
    - Necessary for managing all building systems including personnel to access all remote building systems
      - Fire pump
      - Ventilation and pressurization systems
      - Emergency generators
    - Elevator operator reports to Building Systems Sector
    - Needs to coordinate communications regarding effectiveness of ventilation systems between Ventilation Sector as well as Fire Floor Sector

- Fire floor
  - Key for managing company work cycles in stairwells and on fire floors
  - Will create “on-deck” staging area for companies in a “clean” environment
  - Communicate with all sectors to establish effective support for fire attack

- Stairwell teams – Fire Attack Stairwell team/Evacuation Stairwell Team
  - Dedicated crews to directly manage stairwells and the occupants moving in them
  - Not involved with fire attack

- Ventilation
  - Manage built in ventilation and pressurization systems
    - Assess the effectiveness of above systems
  - Manage PFD ventilation equipment and effectiveness
  - Communicate with Fire Floor and Building Systems regarding effectiveness of ventilation systems
- **Lobby**
  - Works directly with Staging Sector on the staging radio channel to direct fire companies in Lobby Sector to tactical assignments
  - All companies on first 2 alarms should proceed directly to Lobby. Limit staging from outside of building. Need resources immediately available from lobby.
  - Crew accountability tracked based on assignment
    - All crews ultimately should be tracked by Command
  - Create lobby staging area for crews
  - Manage lobby level elevator access
  - Assist with safe egress of evacuating occupants
  - Work with PD to prevent re-entry of evacuated occupants

- **Resource**
  - Establish equipment pool in building
  - Needs to be well below the “on-deck” floor
    - Decrease likelihood of becoming contaminated with smoke

- **Treatment/Transportation**
  - May be remote from building
  - Triage is key
  - Large volume of resources may be needed

- **Battalion Chief assignment priorities**
  - Depend on conditions and actions in the building
    - Fire Floor
    - Building Systems
    - Ventilation
    - Lobby

- Incident may quickly become larger than sectors can support
  - Identify trigger points that should automatically lead to expansion of the incident organization
  - Branches may be needed?
    - Fire
    - Medical

- **PD Liaison**
  - Coordinate all PD functions within our operations
  - C958/TLO
• **Rescue Profile**
  - Most severely threatened
  - Largest number
  - Escape routes or methods of removal
  - Protect in place
  - Use of PD in Lobby sector
  - Each building is directed by fire code to have an evacuation plan including a meeting place outside, away from the building

• **Treatment needs**
  - Location of treatment area
    - Away from building and fire operations
  - Resources needed for treatment and extrication if required
    - Utilize PD to secure corridor

• **Fire attack**
  - Crew accountability
  - Stairwell teams
    - Immediate deployment to stairwell
      - Provide C.A.N. report from stairwell
      - Assist in establishing operational/tactical priorities
      - Access roof to establish viable exit if necessary
      - Rescue immediately endangered occupants
      - Not involved in fire attack
  - Use of elevators
    - Determine if conditions exist that prohibit elevator use
    - Determine when elevators can be used safely
    - Elevators must be prepped for use under fire conditions
      - Roof hatch opened
      - Appropriate tools present including telescoping ladder
  - Hose line deployment
    - Small diameter hand lines
      - Fire attack (offensive type activity)
      - Back up line with 2.5"
    - Larger diameter hand line or master streams
      - Prevent fire extension floor to floor (defensive type activity)
Coordination of support activities
- Building system ventilation and pressurization
- FD equipment ventilation (vent truck)
- Utility Truck for support of built in Air Standpipe System (if equipped)
  - Provide air cart to “on-deck” location for Fire Floor Sector

Crew staging and logistical supply
- Air
  - Extra bottles
  - Air cart/Utility trucks
- Manpower

**Unique High-rise Safety Considerations**
- The standard BC/FIT Sector/Safety officer will operate in key tactical positions
  - Provide for management of accountability, air management and work cycles in a standard manner

- All operations in high-rise buildings must be tied to areas of safe refuge
  - Clean environment for changing SCBA bottles

Air Management
- All crews entering building must bring a minimum of 1 spare SCBA bottle
  - 1 spare per crewmember initially
- Due to nature of the building, firefighter can’t just step outside to change their SCBA bottle
  - When using stairs to ascend, crews must collectively check their air supply every 5 floors, managed by the captain
  - Areas of “clean” atmosphere must be identified for retreat
  - These conditions may change rapidly
- Atmospheric monitoring may be necessary
  - CO monitoring in stairwells
  - Invisible dangerous gases

Stack affect
- Unique atmospheric conditions during summer and winter months
- Building security systems
- Electronic locking mechanisms in stairwells and on floors
  - Possibly trapping occupants or firefighters

Fire on first floor or in lobby
- Cuts off the natural escape routes for occupants
- Inhibits the use of Fire Control Room and building systems
- Fire attack may need to come right off Engine companies on street level
• **Specialty Considerations**
  - Communication
    - Phoenix Fire Department testing has stated that most difficult areas to communicate to and from will be fire control room and elevators
    - Use of mobile radios in fire control room and fire floor sector
  - Haz Mat
  - TRT
  - Air operations
    - Recon
    - Victim removal
    - Deliver firefighters to roof with equipment