



# Modeling Ducts in Conditioned Space

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# Agenda

- Duct locations in CBECC-REs
- Attic variants
- Whole house fans



## Duct Locations in CBECC-Res

1. Ducts that are a full component of a simulated space
  - Ducts located in attic (Ventilated and Unventilated)
  - Ducts located in a crawl space
  - Ducts located in garage
2. Duct conduction losses ignored because they are in conditioned space
  - Ducts located entirely in conditioned space
    - Leakage modelled to/from the attic
  - Verified low leakage ducts entirely in conditioned space
    - No duct leakage modelled



## Attic Variants

- Vented attic
  - Minimum attic ventilation
  - Minimum ceiling insulation
  - Optional roof deck insulation
  - Optional ducts
- Unvented attic
  - No attic ventilation
  - Roof deck and optional ceiling insulation
  - Optional ducts



## Whole House Fans

- Blows air from house to attic
  - Proven cooling measure
  - Works well in CA Central Valley
  - Low energy use
  - Requires attic relief vents
  - Listing required at CEC
- Unvented attic version seems possible



Questions?