Inputs: Year of construction Construction class: Concrete Steel Masonry Buildings Wood Mobile home 3. Latitude and longitude of representative point 4. Census tract Appraisal value Scaled raster matrix that each pixel represents 10×10 compartment 1. Intersections (nodes): Coordinates (latitude & latitude) Transportation network 2. Roadways (edges): From-node & to-node Width of roadways (i.e. number of lanes) Roadways speed limit **Inputs:** Pipe junctions (nodes): 1. Input & output flow values Coordinates (latitude & longitude) • Elevation 2. Pipe lines (edges): • From-node & to-node Diameter Pipe friction factor (Hazen Williams roughness coefficient) 3. Tanks: Diameter Water network Volume Minimum & maximum level of water Type (according to HAZUS-MH 4 Manual) 4. Pumps: • Diameter • Backup power Service substation Pump curve Design flow • Pump loss coefficients 5. Reservoirs: Elevation Type **Inputs:** 1. Electric junctions (nodes): • Coordinates (latitude & longitude) 2. Electric transmission lines (edges): From-node & to-node Electric network Loadability of transmission line (MW) Power generators (source): • Capacity (MW) 4. Service area (sink): Demand (MW) **Inputs:** Entrainment characteristics 1. Wind direction and 10 m height speed 2. Temperature