



3.4 STATE AND CRITICAL FACILITY ANALYSIS

The analysis of State facility and critical facility vulnerability was completed using two major sources of facility data: (1) West Virginia State Owned and Insured Structures provided by the West Virginia Board of Risk (BOR) and (2) The critical facility database built from datasets provided from various State and national sources. Many of the buildings in the West Virginia State-owned structures dataset are critical to disaster preparedness and response, although not all State-critical facilities are in the BOR database. For example, many privately owned buildings and structures (hospitals, power plants, certain industrial facilities, etc.) are critical to societal function, especially during emergencies and disasters. Thus, critical facilities data collection extended to a broader array of critical facilities than would be available through the BOR. However, assembly of a robust critical facilities database will be an ongoing effort.

3.4.1 BOARD OF RISK DATABASE

The most comprehensive source of State facility information is found in the West Virginia BOR database maintained by the West Virginia Board of Risk and Insurance Management (BRIM). This database stores facilities information for 152 West Virginia State agencies, representing 12,736 records. The majority attributes in this database are provided by the submitting agency and have not been verified by BRIM. Building stock is valued at \$12 trillion, with contents valued at \$2.2 trillion (which is likely low). More than 77% of the records are for buildings, accounting for more than 94% of the total known building and contents value in the State.

1. Kanawha County has 1,389 State facility records, 1,097 of which are buildings accounting for \$1,856,127,502 in building value and \$403,495,396 in contents value. The State capitol is located in Kanawha County.
2. The West Virginia State Department of Natural Resources (Parks) represents 1,524 of the records, accounting for \$288,414,958 in property and \$34,063,804 in contents.
3. West Virginia Department of Highways (WVDOH) represents 1,332 of the records, accounting for \$236,127,814 in property and \$54,024,026 in contents.
4. West Virginia University represents the largest number of buildings and contents for the State agencies. The university has 486 records, totaling \$1,156,367,047 in building values and \$389,355,054 in content value.

The BOR database that was provided is maintained as a non-spatial dataset; the majority of the facilities in the dataset were geocoded for this plan update and provided to BRIM for their records. The database does contain some attributes about each building or structure, such as basic structural information, construction type, building value, square footage, year built, and sprinkler systems (Table 3-15). Several of the



database attributes are not used by BRIM for rating purposes, but include information normally requested by private insurers.

The database does not contain any indication if the record is critical. This type of information would help to narrow down the number of records to be considered for analysis. Table 3-16 highlights the 13 building types attributed in the data, number of facilities, and building and contents value. It should be noted that one facility, Horace Mann Middle, is recorded as a dam type in state facilities dataset and not a complete listing of dams in the state; this record is for the state-owned structure at this location. Of the 12,736 State facilities, 12,691 were geo-coded based on the address information provided in the database. However, a complete accuracy assessment of geo-coded locations was not conducted because it was beyond the scope of this study. Figure 3-20 shows the distribution of State facilities within West Virginia. Facility risk and vulnerability is described in the hazard-specific sections that follow.

West Virginia is a self-insured State. BRIM is the insurance provider for all State property. In addition to State property, other governmental agencies (e.g., Boards of Education (BOEs), Public Service Districts, and Cities) as well as some nonprofit organizations are also insured. In order to insure these properties, BRIM purchases a property policy (presently the insurer is National Union Fire); this policy has a \$1,000,000 deductible. BRIM uses charge rates to various types of business (State, BOE, Towns) based on rates established by actuaries. A third-party administrator is contracted to handle all claims; agencies are charged a \$2,500 deductible. If there is a claim that exceeds \$1,000,000, BRIM submits a claim to the property insurer. The deductibles are per-occurrence deductibles; an occurrence can be an event that lasts for longer than a certain period. An example includes the 2009 ice storms. This event occurred over a period of time, but BRIM handled all claims resulting in damage as one occurrence¹⁷.

¹⁷ Correspondence with West Virginia BRIM. 5/25/2010 and 8/3/2010



TABLE 3-15. STATE FACILITY DATABASE ATTRIBUTES.

CODE	DESCRIPTION
Cust_type	Code used by BRIM to distinguish State owned (RM) to other insured (SB)
Account	Number used by BRIM to distinguish agencies by account number
Account Name	Name of agency insured through BRIM
Div_num	Code used by BRIM to distinguish structures by agency and location
Loc_num	Code used by BRIM to distinguish structures by agency and location and within agency
Comm_num	Code assigned by BRIM to distinguish location of structure within assigned community number
Loc_type	Coded used by BRIM to determine if building is owned, leased, or owned and uninsured
Structure_name	Name of structure as listed by insured agency
Structure_city	City location of structure
Structure_street	Physical address or street location as listed by insured agency
Structure_zip	Zip code at physical location of structure
Structure_county	County location of physical structure
Structure_in_incorporated	Declaration if structure is located in incorporated area
Type_building	Code used to determine type of structure as indicated by insured. Some examples of structures that are categorized in the "All Other Types" include bleachers, scoreboards, and artificial turf fields. These are mainly from school board properties that are insured.
Sprinkler	Code to determine if structure is sprinklered, partially sprinklered, not sprinklered, or unknown
Year_constructed	Year of construction as determined by insured
Protection_class	National fire protection classes as established by Insurance Services Office (ISO) and determined by insured agency
Const_type	Type of construction ranging from fire resistive to frame; includes unknown and bridge class
Struct_use	The use of the structure as determined by insured agency. There are 25 codes to establish use of a particular structure. These can range from "Office Occupancy" to "Prison or Jail" to "Vacant or Unoccupied." This information is provided by the submitting agency.
Basement	Does structure include basement, as determined by insured agency
Structure_levels	Number of levels (floors) of the structure, including basement, as determined by insured agency
Structure_area	Total square feet of insured structure (if leased, actual square footage of lease agreement)
Alarms	Alarm type as determined by insured agency
Flood_Zone	Flood zone location as determined by insured agency. This is based on location based on the FEMA FIRMs. This is not used by BRIM for rating.
Underground_mine	Location of structure in relation to mine subsidence
Fire_mfl	Maximum Foreseeable Loss - the percentage of structure loss with complete failure of fire prevention measures. In other words, this is the percentage of loss in a worst circumstance with the nonfunctioning of fire prevention equipment. In most cases 100% is recorded, representing the worst-case scenario.
Fire_pml	Probable Maximum Loss - the percentage of structure loss with fire prevention methods fully functioning. This assumes all firefighting equipment is functioning properly. In most cases 100% is recorded, representing the worst-case scenario.
Amount_bldg	Amount of insurance carried on building
Amount_contents	Amount of insurance carried on contents
Amount_time_elements	Amount of time element (business interruption) coverage carried on building (not required, included in policy)



TABLE 3-16. BOARD OF RISK DATABASE BUILDING TYPES AND BUILDING AND CONTENTS VALUE.

Type of Building	Number of Buildings	Total Building Value	Total Contents Value
Building	9,890	\$11,309,047,288	\$2,134,902,845
Highway Bridge	118	\$373,952,320	\$0
All other types	1,027	\$162,103,213	\$37,464,044
Observation Tower	25	\$39,748,246	\$1,340,804
Shelter-Shed-Rack	872	\$39,664,662	\$11,972,705
Communications Tower	213	\$29,554,639	\$45,566,275
Above ground Tank	293	\$27,060,956	\$1,556,770
Lightning Towers	92	\$16,388,742	\$182,910
Unknown	41	\$12,604,652	\$1,349,939
Dam (Horace Man Middle)	1	\$6,088,220	\$953,188
Mobile Home	80	\$2,745,762	\$1,169,485
Wall or Fence	74	\$1,894,329	\$2,000
Farm Silo	10	\$403,083	\$80,000
Total	12,736	\$12,021,256,112	\$2,236,540,965

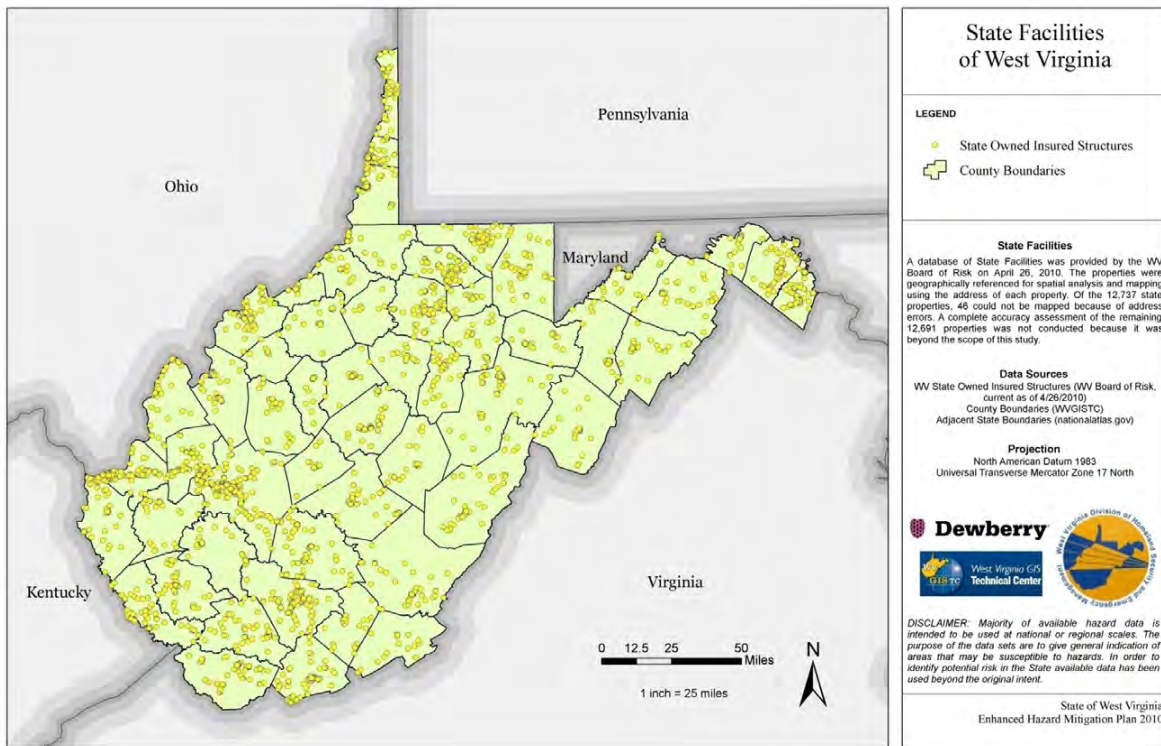


FIGURE 3-20. WEST VIRGINIA BOARD OF RISK STATE FACILITIES – NOTE CONCENTRATION NEAR MORGANTOWN (WVU) AND CHARLESTON (STATE CAPITOL)