

## 4.15 Utility Failure

### 4.15.1 Description

Utility failure refers to the loss of electric power (blackouts), water, sewage, natural gas or other utilities. These are primarily caused by system overload or lack of updated infrastructure. Power failures are generally caused by natural events such as severe storms, ice storms, tornadoes, and high winds. These power failures are common and cannot easily be predicted due to the random nature of storms; however, updates to infrastructure can reduce the among and frequency of these power outages.

Clinton County residents receive electric services from Dayton Power and Light, American Electric Power (AEP), and Duke Energy. The Village of Blanchester then redistributes the power as a municipality under the Board of Public Affairs. Natural gas is provided by Vectren Energy Delivery and Volunteer Energy Services Incorporated (VESI). County residents have access to aggregation programs for both electric and natural gas through AEP and VESI.

Residential internet providers include Spectrum and Frontier Communications. **Figures 4.15.1 and 4.15.2**, below, show the internet coverage in Clinton County. According to these images, which were provided by Connected Nation Ohio, 91.65 percent of Clinton County has access to internet service with speeds of at least 10 Mbps download and 1 Mbps upload. Additionally, only 66.15 percent of the County has broadband service with speeds of at least 100 Mbps download and 10 Mbps upload.

**Figure 4.15.1: Internet Service with Speeds of at Least 10 Mbps Download/1 Mbps Upload**

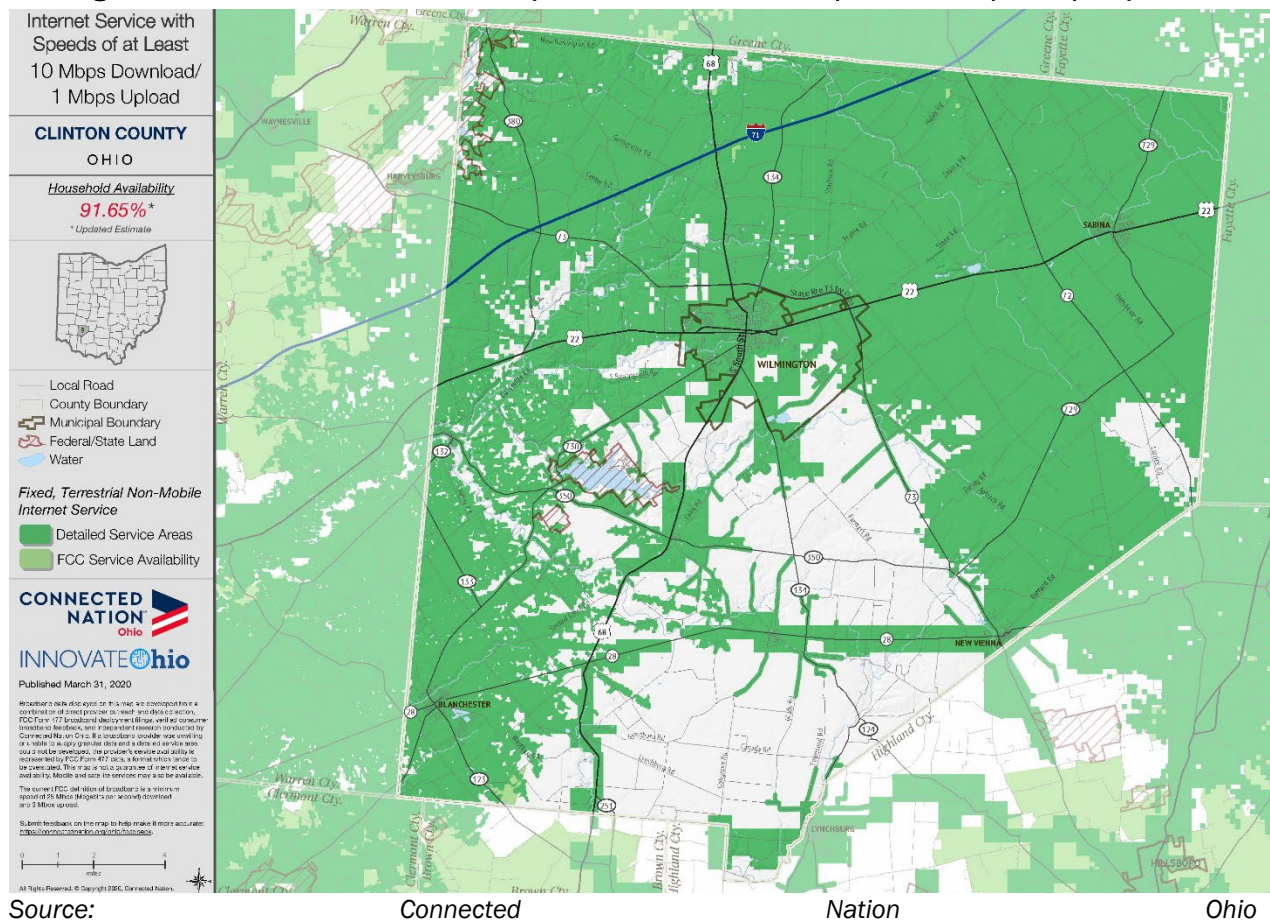
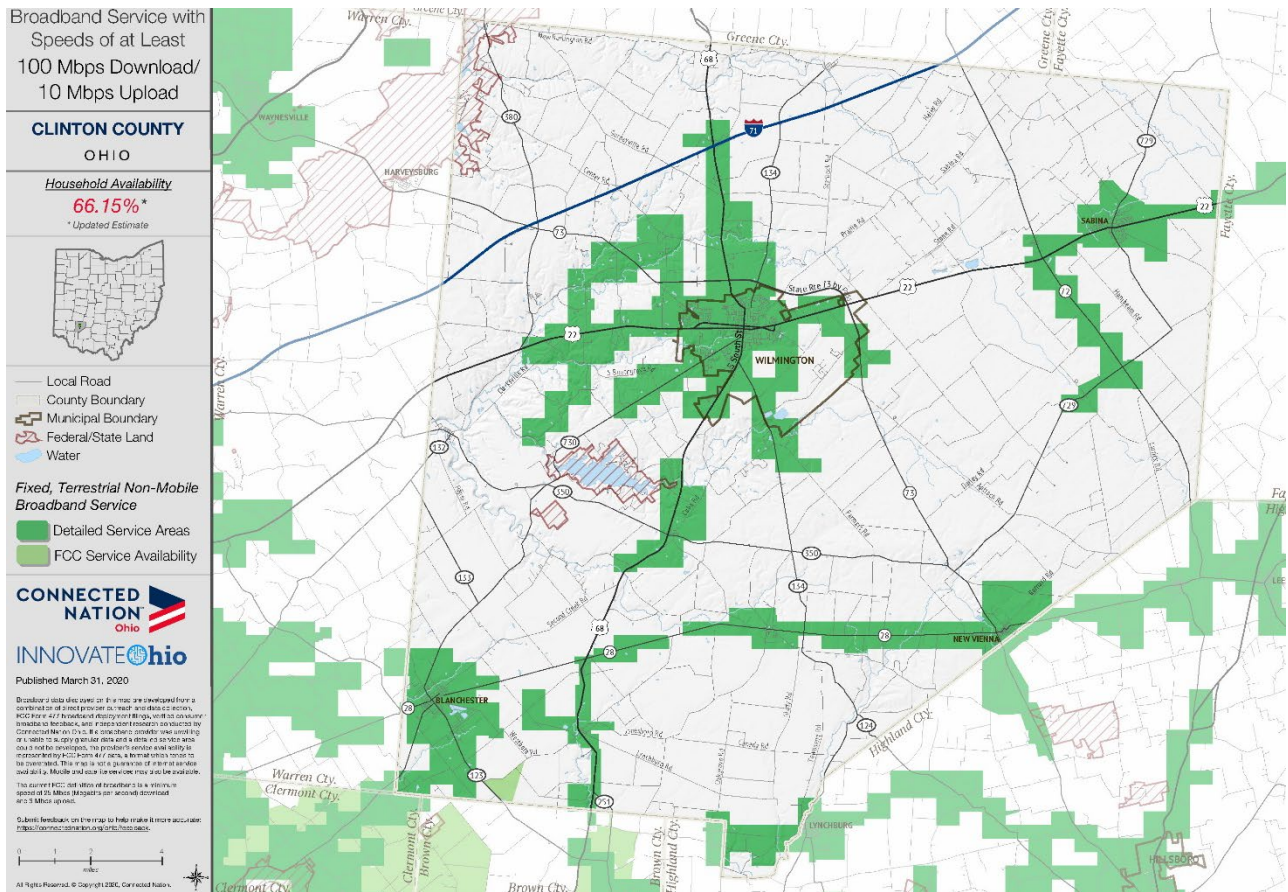


Figure 4.15.2: Internet Service with Speeds of at least 100 Mbps Download/10 Mbps Upload



Source: Connected Nation Ohio

Water services are provided by jurisdictional water departments, as well as the Western Water Company. Cowan Creek and Caesar Creek Lake are the two primary sources of water for Clinton County. The City of Wilmington also maintains an auxiliary connection with the Western Water Company to supply the City’s outlying customers, as necessary, during main break repairs.

**4.15.2 Location**

Depending on the cause, blackouts can be isolated or countywide. Utility failures can occur in any area where the utility is provided.

**4.15.3 Extent**

Utility failures due to damaged infrastructure have the potential to impact large areas of the County through the loss of utilities that provide necessary services for the population. Loss of electric or gas can affect household temperatures, which can lead to severe dehydration or possibility of loss of life if outdoor temperatures are extreme. Additionally, utility failure affecting the water service has the potential to lead to contamination of the water supply.

Furthermore, lack of utility access during a larger hazard event such as epidemic/pandemic, as seen with the COVID-19 pandemic, can result in an inability to perform work duties remotely, which has



the potential to have negative economic impacts at both the individual and family levels, as well as at a larger scale.

### **4.15.4 History**

Numerous utility failures have occurred within Clinton County in the form of power outages due to severe storms, severe winter weather, or other natural hazards. Events resulting in power outages can be referenced in the Risk Assessment sections of the appropriate hazard. The following event is included due to the widespread nature of the outage and associated damages.

#### ***March 10, 2019 – March 17, 2019***

The region experienced higher than normal precipitation prior to the week of March 10, 2019 which resulted in localized flooding and saturated soil throughout the County. On March 14, 2019, wind gusts greater than 60 MPH topped 93 DP&L poles supporting transmission and distribution lines. This resulted in localized outages, blocked rail line travel for 3-days, and reduced the operable transmission feeder lines to the County from three to one. On Saturday, March 16, 2019, a “jumper” line failure from a transmission line occurred. This resulted in a mass six-and-a-half-hour power outage. Power was restored to the majority of the County shortly after 5 PM that day and rail traffic resumed on March 17. The sole Clinton County governmental organization that reported a limiting factor/shortfall was Clinton County Health District in relation to critical cold-storage vaccines valued at over \$180,000.

### **4.15.5 Probability**

As there are no previous indications that a widespread utility failure has occurred in Clinton County, there is less than one percent chance of a widespread utility failure within the County. However, it is likely that utility failures in the form of power outages will occur throughout any given year due to severe storms, ice storms, and other natural hazards. Probability of these natural hazards can be found in their respective sections.

### **4.15.6 Vulnerability Assessment**

#### ***Infrastructure Impact***

In the event of a utility failure caused by downed power lines, roads may be closed. Utility infrastructure may also suffer long-term damage as a result of such an event.

#### ***Population Impact***

Extensive utility failures can threaten the health and safety of the public. During extreme temperature events, the impacts on residents are heightened. Loss of utilities that provide air conditioning or heat can create a safety hazard, especially for children and older populations. The County and/or communities should have a plan in place for how to notify and assist residents in case of utility failure.

#### ***Property Damage***

Direct damage to property may result directly from downed power lines. Fires may also occur because of downed power lines.

#### ***Loss of Life***

Loss of life from the loss of electricity can occur. Those who depend on electricity for necessary medical treatment are at risk. Critical facilities such as hospitals and nursing homes should be

prepared in the event of a utility failure, as they manage sensitive populations that may be reliant on utilities. Downed power lines can also lead to unsafe environments with live electric lines that have the potential to lead to loss of life.

### ***Economic Losses***

Blackouts are often caused by systems that are aging and deteriorating, and updates to these systems may require additional funds. Economic loss can occur because of reduced commercial activity. Goods that need electricity or other utilities for preservation may also be lost. If widespread blackouts occur, people may not be able to work, and wages or income may be lost as a result.

### **4.15.7 Land Use and Development Trends**

Utility failure can impact any development. All development that has occurred since the previous plan and all development in the future can be impacted by utility failure.