

Loudoun County 2019 General Plan
Adopted June 20, 2019
Amended through February 7, 2023

Chapter 6 - Fiscal Management & Public Infrastructure

Energy and Communication

Electrical demand in the County has grown dramatically in recent years with the development of data centers in eastern Loudoun. Demand is expected to continue to grow with new data center construction, the operation of the Silver Line Metrorail, and other land development. Changes in data center technology have resulted in electrical demand increasing from 100 watts up to 300 watts per square foot. Demand for data center development within the County is anticipated to be strong for the foreseeable future.

Electrical and communication services are provided under the purview of state and federal agencies. This limits the County's ability to mitigate certain impacts. For example, the County regulates the location of electrical substations but not the high voltage distribution lines to and from the substations. Similarly, the County may review the location of cell towers and monopoles for impacts on surrounding properties, but cannot prescribe locations and, therefore, cannot require broadband or communication service in underserved areas. The County does, however, work with the providers to encourage improved service and locations.

Rather than a centralized, regional substation to serve the County's growing electrical demands, smaller substations have been constructed for individual providers. As demand for electrical power continues, consideration should be given to the appearance of substations and power lines and adequate screening of these facilities to reduce the visual impact upon the community.

Broadband internet service is an increasingly important asset to business in Loudoun as e-commerce grows throughout the nation. The lack of broadband service in western Loudoun is cited as a major constraint on the rural economy. It also puts western households and students in particular at a disadvantage. County efforts to extend broadband service have included regulatory changes to support new technologies. With limited control over market factors and federal regulation, the County will encourage landowners to put in place the conduits and other infrastructure to help minimize the cost of extending the service, and will explore other incentives to encourage network expansion.

Electrical

Fiscal Policy 6: Support expanded electrical capacity through generation facilities that use clean burning and environmentally sound fuel sources and energy efficient design.

Strategy

6.1 Encourage local electrical generation in appropriate locations throughout the County.

Actions

- A. Establish zoning regulations and design standards that permit alternative electrical generation such as wind and solar generation by and for individual users.
- B. Encourage the safe grouping and burying of utility lines and facilities.
- C. Work with electrical providers to identify potential high voltage distribution lines and substation locations that minimize impacts on key travel corridors, sensitive cultural and historic resources, and existing residential communities or to place high voltage distribution lines underground when approaching such areas; and where possible, use existing transmission corridors and substation sites to expand capacity.
- D. Encourage the use of design techniques that will minimize the visual impact of electrical substations adjacent to major travel corridors or residential communities including the use of stealth design techniques.
- E. Continue to monitor and minimize energy use in County facilities and create a program that would encourage benchmarking energy use in private buildings.