



WASHINGTON COUNTY IMPROVEMENTS PROJECT

SOUTH ABINGDON-ARROWHEAD

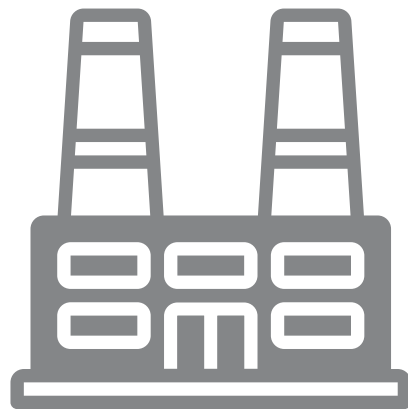
WELCOME TO OUR VIRTUAL OPEN HOUSE

As a result of the COVID-19 pandemic and social distancing recommendations made by the Centers for Disease Control and Prevention (CDC), Appalachian Power invites you to attend this virtual open house in order to minimize in-person contact. Appalachian Power remains committed to listening to your concerns and answering your questions, but we are also committed to keeping our customers and employees safe and healthy. We welcome your feedback via telephone and email as we strive to make the most informed decisions possible.

HOW THE SYSTEM WORKS

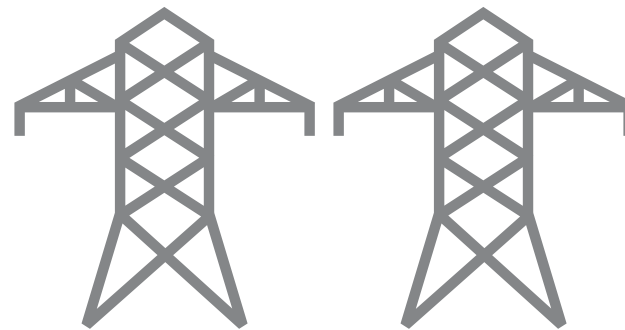
HIGH VOLTAGE

LOCAL TRANSMISSION >>



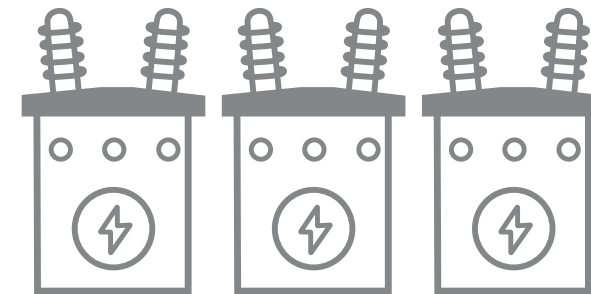
1) GENERATION STATIONS

Appalachian Power produces electricity at coal, natural gas, nuclear, wind and hydro-electric power stations and then transports it long distances over transmission lines.



2) EHV TRANSMISSION

Extra High Voltage (EHV) electric transmission lines are generally 765 kilovolt (kV), 500 kV, and 345 kV on Appalachian Power's system.



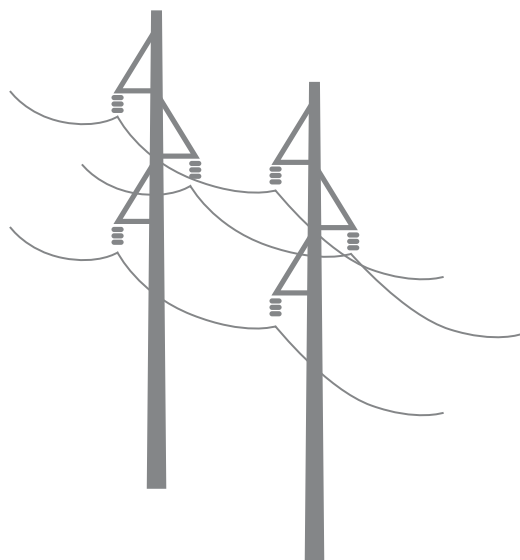
3) SUBSTATIONS

Substations direct the flow of electricity and either decrease or increase voltage levels for transport.

HOW THE SYSTEM WORKS

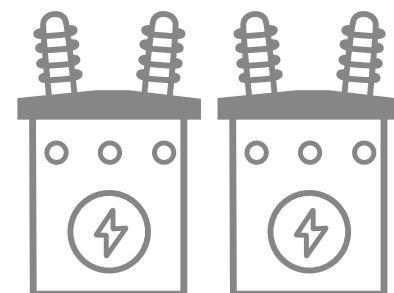
LOCAL TRANSMISSION

DISTRIBUTION >>



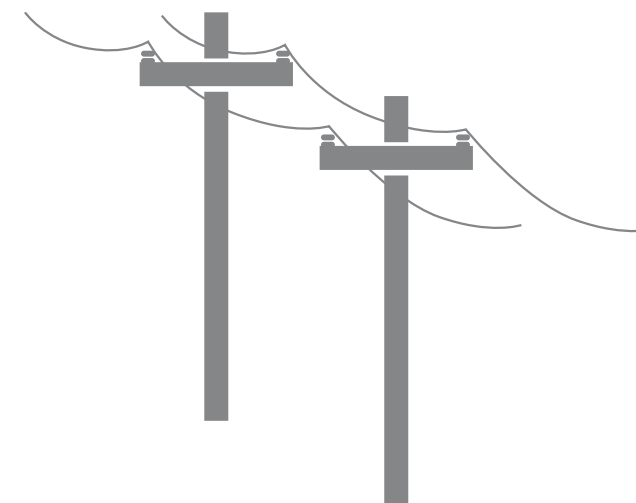
4) LOCAL TRANSMISSION

Appalachian Power typically uses 69 kV and 138 kV transmission lines to move power shorter distances - for example, to different parts of a city or county.



5) SUBSTATION

Substations transform 69 kV and 138 kV electricity into lower distribution level voltages such as 34.5 kV, 12 kV, or 7.2 kV.



6) PRIMARY DISTRIBUTION

These main lines (also called circuits) connect substations to large parts of the community.

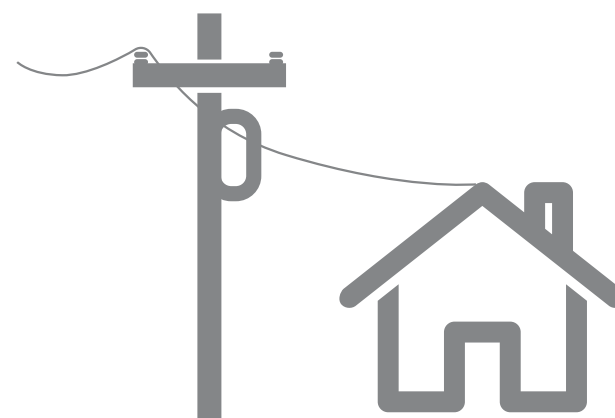
HOW THE SYSTEM WORKS

DISTRIBUTION



7) LATERAL DISTRIBUTION

These smaller capacity lines deliver electricity to neighborhoods and other smaller groups of customers.



8) INDIVIDUAL SERVICE

Smaller transformers step down voltage to levels customers can use. 120/240 volts is typical for an individual residence.

TO USE AN ANALOGY, ELECTRIC TRANSMISSION IS SIMILAR TO OUR NATIONAL ROAD SYSTEM. THREE KINDS OF POWER LINES EXIST BETWEEN POWER PLANTS AND HOMES AND BUSINESSES:

- Extra High Voltage lines (EHV) are like electrical interstate highways.
- High voltage local transmission lines are like four-lane roads.
- Distribution lines are like two-lane roads that eventually connect to your driveway.

PROJECT NEED

WHY IS THE PROJECT IMPORTANT TO OUR COMMUNITY?

IMPROVED RELIABILITY

The project involves building approximately 6.5 miles of new 69-kilo-volt transmission line and increases electric reliability in the area.

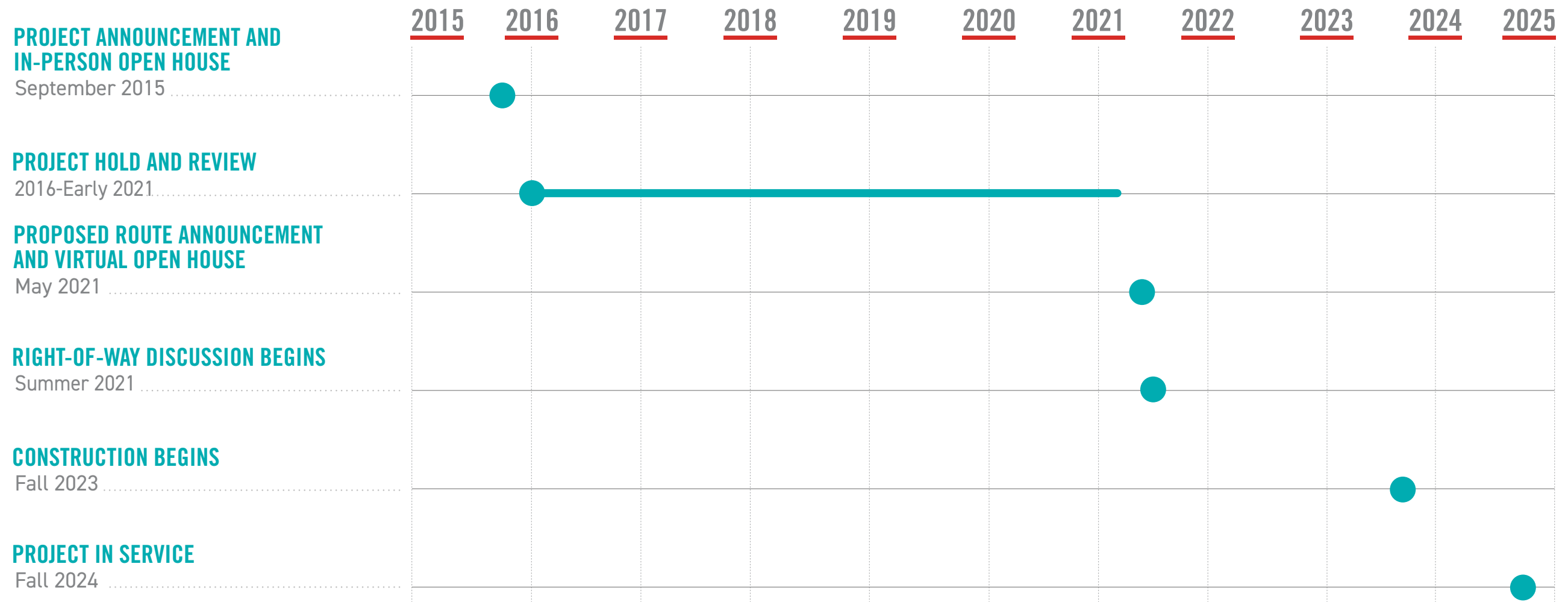
MODERN EQUIPMENT

The project improves substation reliability by upgrading deteriorating equipment at three substations.

RETIREMENT OF AGING TRANSMISSION LINES

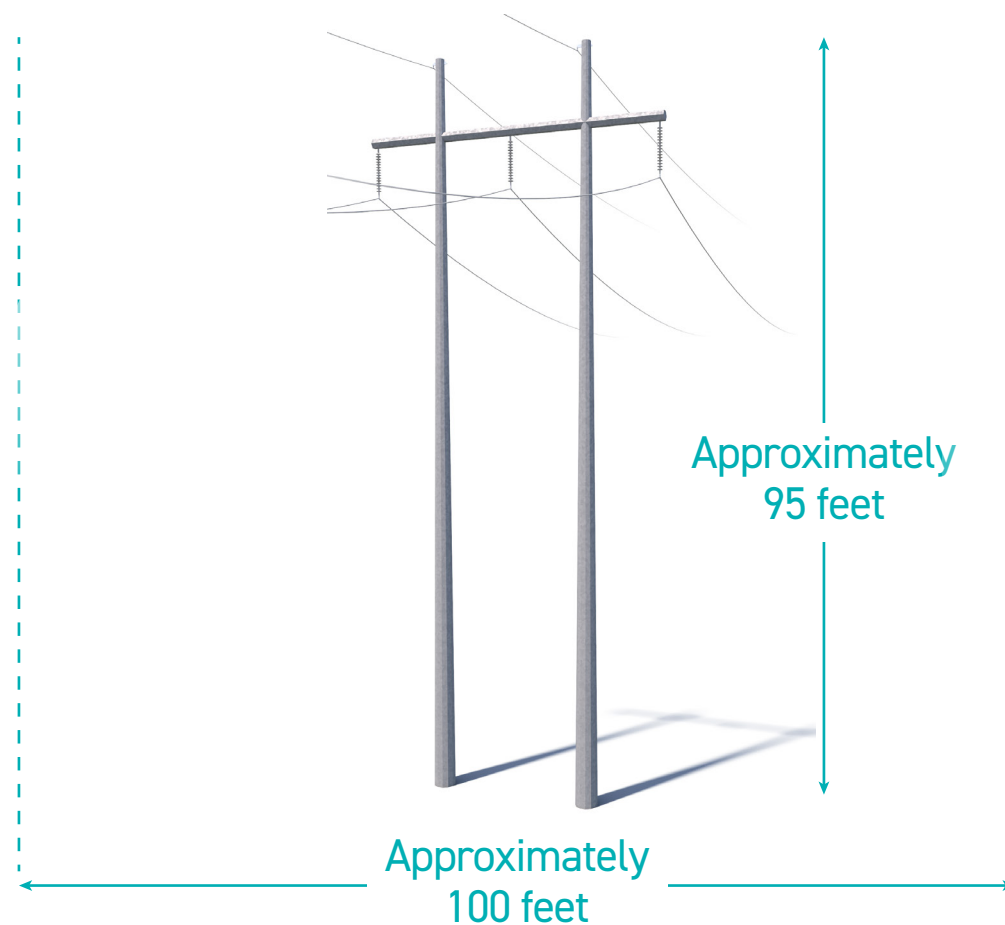
The project allows for future retirement or replacement of transmission lines in the area.

PROJECT SCHEDULE



*Timeline subject to change.

PROPOSED STRUCTURES



Crews plan to build the power line primarily using steel H-frame poles.

Structure Height: **Approximately 95 feet***

Right-of-Way Width: **Approximately 100 feet***

At Appalachian Power, we are committed to meeting the energy needs of customers while protecting the environment and natural beauty of the region.

*Exact structure, height and right-of-way requirements may vary

RIGHT-OF-WAY

**APPALACHIAN POWER HAS TWO KEY PHILOSOPHIES
THAT PERTAIN TO POWER LINE RIGHTS-OF-WAY:**



1 Routes should cause the least possible disturbance to people and the environment, and



2 Property owners should be fairly compensated for any land rights that must be acquired.

RIGHT-OF-WAY

Appalachian Power studies the land and, wherever possible, proposes routes that reduce impacts on property owners. Appalachian Power reaches out to landowners in the following ways:

TO GAIN RIGHT-OF-ENTRY TO BEGIN:

- Environmental assessments
- Appraisal work
- Land surveying, soil boring and below grade study
- Cultural and historic resource reviews

TO SECURE RIGHT-OF-WAY AND COMMUNICATE:

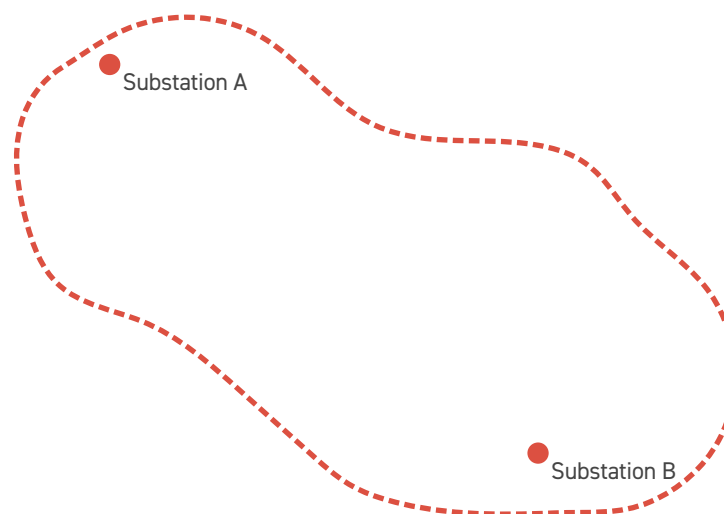
- Landowner compensation
- Terms and conditions of easement
- Width of the right-of-way

TO OUTLINE APPALACHIAN POWER'S CONSTRUCTION PROCESS WITH A SPECIFIC FOCUS ON:

- Property restoration
- Damage mitigation as appropriate

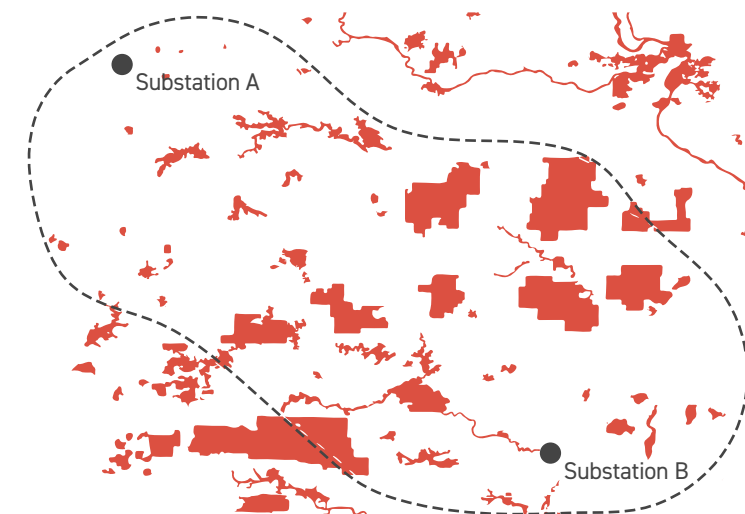
ROUTING PROCESS

Appalachian Power implements a comprehensive siting process that takes into account land use, the environment, public input, and engineering guidelines to develop a transmission line route. This process is inherently iterative with route segments changing over time as more information is gathered. Below is a discussion of the terminology used at each stage in the process.



1) STUDY AREA

Appalachian Power develops a Study Area for the Project that incorporates the two end points and the area in between.

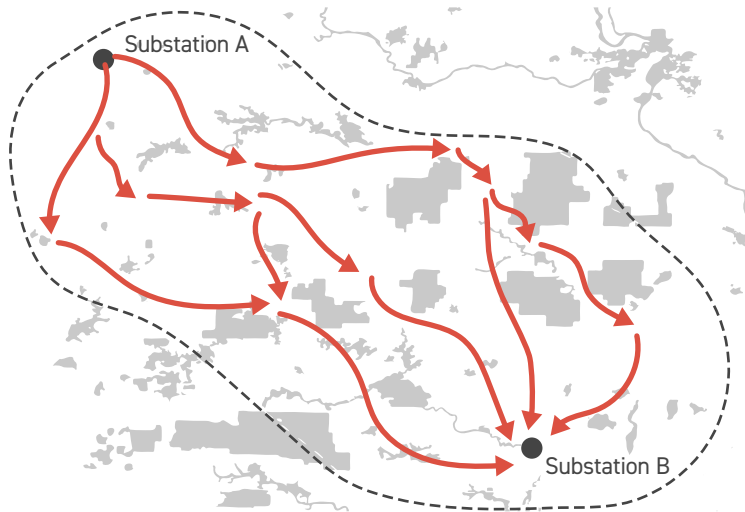


2) DATA GATHERING

Data is gathered for the defined study area including environmental, land use, historic and cultural resources, existing infrastructure and sensitive areas.

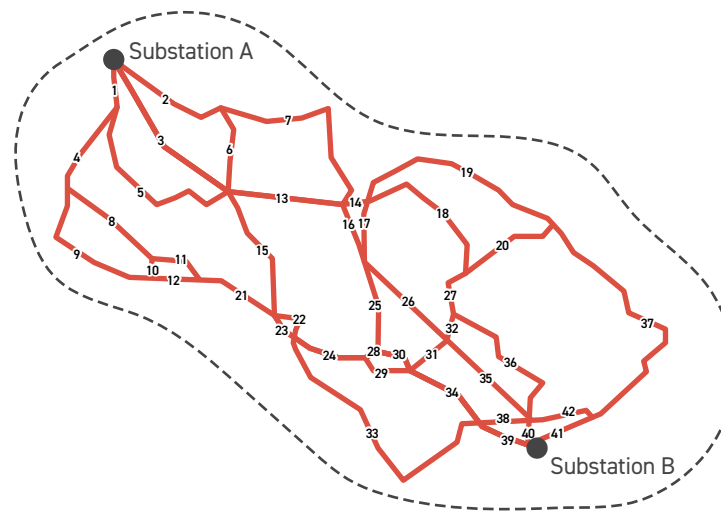


ROUTING PROCESS



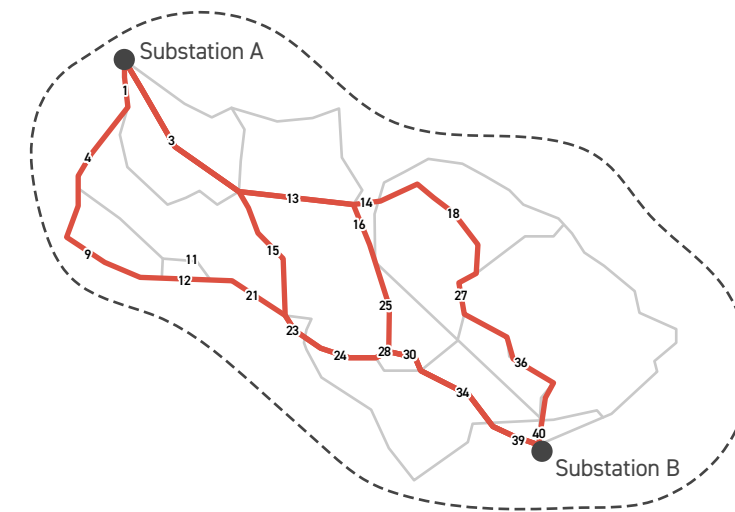
3) CONCEPTUAL ROUTES

The Routing Team uses this information to develop Conceptual Routes adhering to a series of general routing and technical guidelines.



4) STUDY SEGMENTS

Where two or more Potential Study Segments intersect, a node is created, and between two nodes, a link is formed. Together, the network formed by these links is referred to as Potential Study Segments.

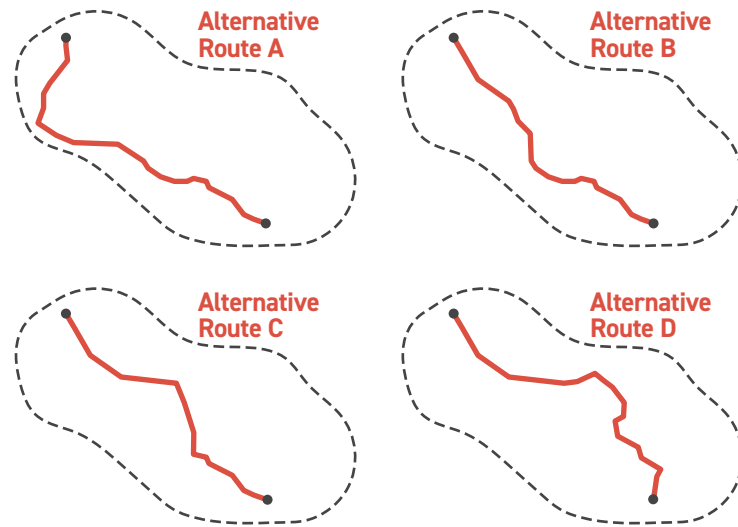


5) REFINED STUDY SEGMENTS

As more information is gathered, the Study Segments are refined. Some Study Segments are eliminated or modified, leaving the Refined Study Segments for further consideration

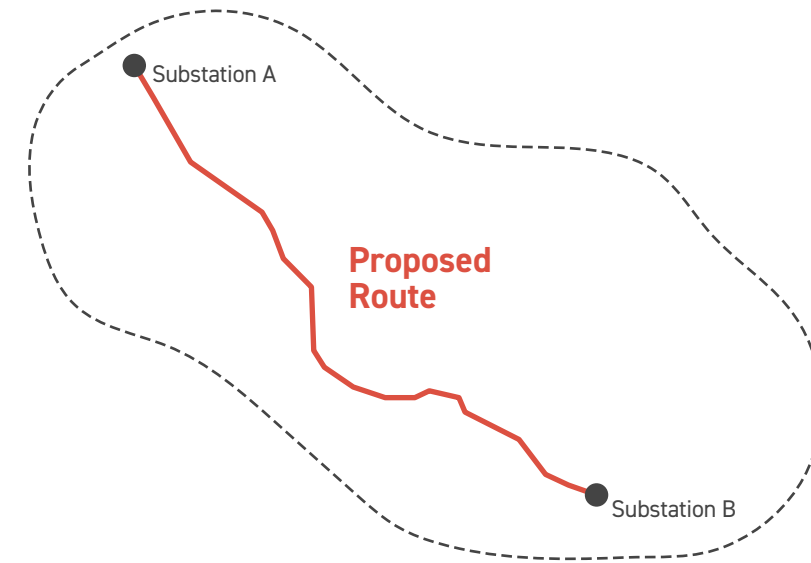


ROUTING PROCESS



6) ALTERNATIVE ROUTES

After public input is incorporated, the Refined Study Segments are further evaluated and a selection of the most suitable segments is assembled into Alternative Routes.



7) PROPOSED ROUTE

Potential impacts are assessed and compared with land uses, natural and cultural resources, and engineering and construction concerns for all the Alternative Routes. Ultimately, a Proposed Route is selected that minimizes the effect of the Project on the natural and human environment, while avoiding circuitous routes, extreme costs, and non-standard design requirements.

PROJECT MAPS

OVERVIEW MAP

Step 1: Below is an Overview Map that displays the entire project area. Please use the **Overview Map** to find the general location of your property.

[Overview Map \(PDF\)](#)

DETAILED MAPS

Step 2: Each outlined area on the **Overview Map** represents a single, numbered Map Page that shows that section in greater detail. Visit the appropriate **Map Page** below for your area.

[Detailed Map 1 \(PDF\)](#)

[Detailed Map 2 \(PDF\)](#)

[Detailed Map 3 \(PDF\)](#)

[Detailed Map 4 \(PDF\)](#)

[Detailed Map 5 \(PDF\)](#)

[Detailed Map 6 \(PDF\)](#)

WASHINGTON COUNTY IMPROVEMENTS PROJECT

SOUTH ABINGDON-ARROWHEAD

THANK YOU!

Thank you for visiting the project virtual open house. For more information and project updates please visit the project website, or contact us with any additional questions.



**REPLAY
OPEN HOUSE**



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SLIDE DECK**



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