

Fiber Pre-Engineering Toolkit

Broadband
Infrastructure
Planning &
Analysis

Getting Started Guide



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Introduction

This guide describes how to install and launch the Fiber Pre-Engineering Toolkit. One can be up and running in 15 minutes.

Users are encouraged to read this “Getting Started Guide” in its entirety and to visit the whitepaper section of BroadbandToolkit.com for additional insights:

<https://broadbandtoolkit.com/whitepapers>

Quick Start

To getting started:

1. *Download* the Fiber Pre-Engineering Toolkit. You will receive an e-mail with a link immediately following your purchase.
2. *Unzip the File.* Unzip and *remove* the contents and place them in a convenient location on your computer, such as the computer desktop.
3. *Download and Install QGIS.* The Visual Toolkit (part of the Fiber Pre-Engineering Toolkit) is an application built upon an open-source world class GIS tool. You need to download and install a copy. It’s free and is available to support every major operating system (Windows, macOS, Linux, BSD).



Recommendation: download the “Long Term Release” standalone installer, 64-bit version. Long Term Release means that is extremely stable. Virtually every computer today runs a 64-bit operating system. It leverages the hardware capabilities of your computer.

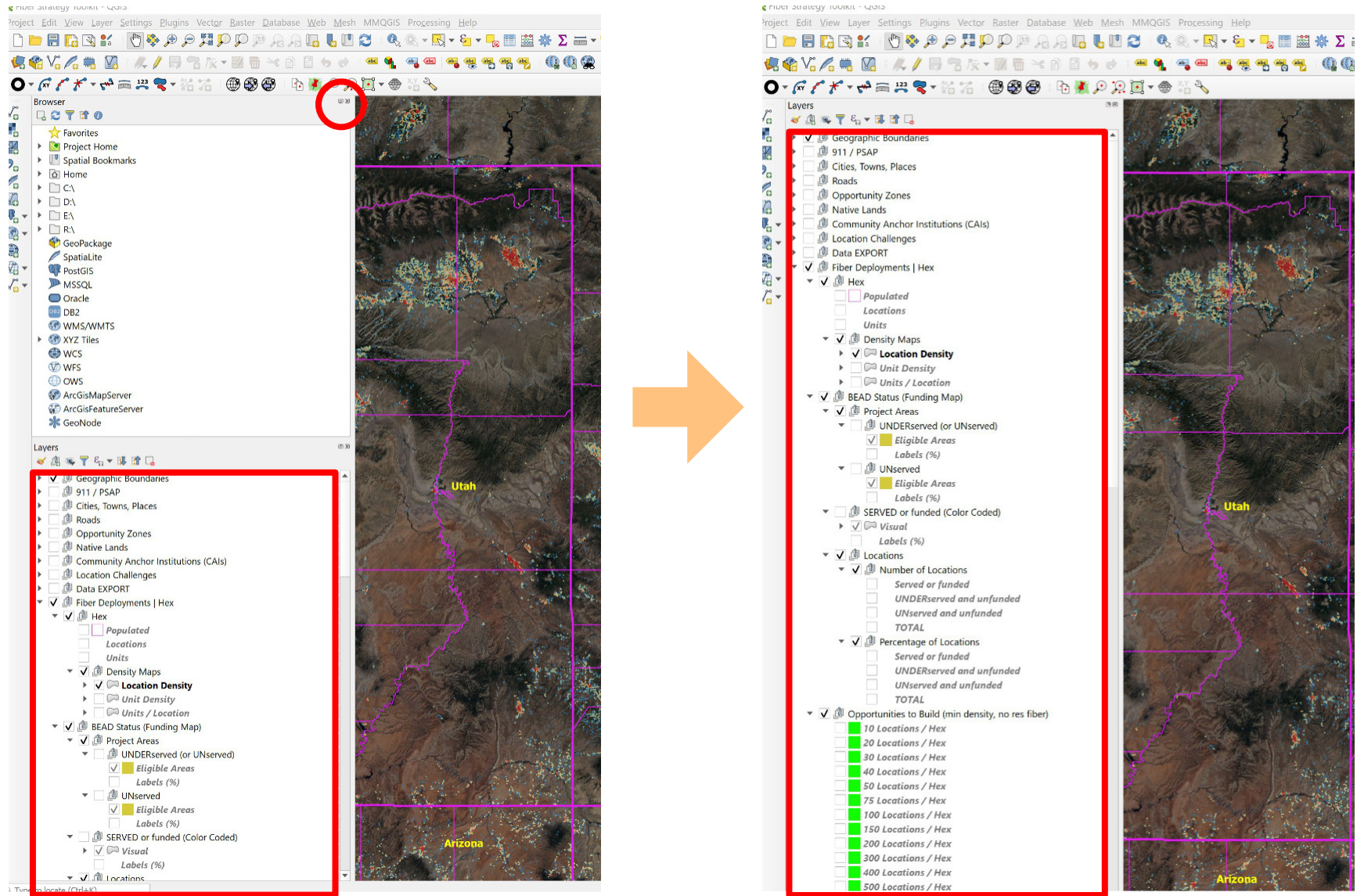
<https://www.qgis.org/en/site/forusers/download>

4. *Close Panels.* When you install QGIS it opens two panels by default, “Browser” and “Layers”. It is recommended that you close the “Browser” panel (see Figure 1). It is not needed and it consumes valuable screen real estate. If you want to see it again you can easily enable it from the “View” pull-down menu.
5. *Launch the Application.* Go to the Visual Toolkit folder within your unzipped Toolkit and double-click on *Fiber Pre-Engineering Toolkit.qgz* to launch the Visual Toolkit.

There’s More

- *Spreadsheets.* The “Excel Spreadsheets” folder may include additional data, complementing the contents of the Visual Toolkit.
- *Web Site Links.* The folder Web Site Links includes links to important updates. It is likely that the Toolkit documentation will be updated and that the Toolkit functionality will be enhanced over time. This folder also includes links that

Figure 1: Reducing Clutter by Closing Unnecessary Panels in QGIS



describe third party data in greater detail.

- *Still Need Help?* The Toolkit team is happy to answer quick questions by e-mail (support@BroadbandToolkit.com) or more complicated questions via a Zoom meeting.

Toolkit Options

The Fiber Pre-Engineering Toolkit is part of a suite of related tools. It extends the functionality of the [Fiber Strategy Toolkit](#) and the [National Hex Toolkit](#) to enable an analysis of road distances and their implications for fiber economics.

The Fiber Pre-Engineering Toolkit is explained in detailed in a companion document called *Introduction*. It resides in the same folder as this Getting Started Guide.

The Fiber Pre-Engineering Toolkit ships in Region (Northeast, Midwest, South, and West) bundles, which in turn have road segments organized by Division (1/9th of the US), each with a large shape file database of road segments. The collections include:

Northeast

- 0 - Territories
- 1 - New England
- 2 - Mid Atlantic

Midwest

- 0 - Territories
- 3 - East North Central
- 4 - West North Central

South

- 0 - Territories
- 5 - South Atlantic
- 6 - East South Central
- 7 - West South Central

West

- 0 - Territories
- 8 - Mountain
- 9 - Pacific

Layer Visibility: many decorative items and labels become overwhelmingly dense as one zooms out. Consequently, some layers are designed to “disappear”, even if selected, as the user zooms out. They will then reappear as the user zooms in. Importantly, the coverage footprint and the background map do not disappear.

Troubleshooting

QGIS launches with error messages. What should I do?

QGIS will not run properly from within a zipped file folder. If you simply opened the zipped file but did not actually extract its contents (e.g. drag them to your desktop) then you will experience an error. First fully extract the zipped contents by dragging them out of the zipped file to your desktop then try again. When you do this the files will expand to their full size and QGIS will launch properly.



How do I zoom?

The easiest way - by far - is to use a physical mouse with a zoom wheel. If you have a laptop with a mouse pad and don't happen to have a mouse with a zoom wheel you will find that a small investment in this important hardware accessory will make your life much easier, as you use the Toolkit and use GIS applications. Without a zoom wheel one can zoom in using the magnifying glass with a plus or minus sign (buttons along the top) but using a mouse with a physical zoom wheel is much easier.

The tool produces lots of beautiful pictures but does not display any numbers.

If you click on the triangle icon next to each set of data you will see a check box that enables the data labels. If you check it each polygon will have an associated numerical value. You should enable data layers when you are zoomed into a small area. As you zoom out labels for small geographic areas are likely to become unreadable. In many cases their display is disabled by default when the tool is zoomed out. The behavior / visibility of labels at various zoom levels is user configurable. Ideally one would turn on labels appropriate to the zoom level.

When I turn on additional layers of data it gets cluttered.

The Toolkit includes multiple layers of data. In addition, most users are likely to turn on some labels. Each layer is translucent,

primarily to enable the user to see hints of the map below the data layer. The Toolkit is designed to display a single layer at a time. The simple solution is to turn off any existing data layers when you turn on a new one.

When I click the checkbox next to a data layer nothing happens.

The data layers are contained in "groups" (a.k.a. folders) to help users find everything in the Toolkit. A data layer will display only if each of its parent "groups" is enabled. If nothing is happening check to make sure that each of the parent "groups" is enabled with a check mark.

I'm lost! How do I know what geography I'm viewing?

The Toolkit includes a number of features to provide context. These include state, county, and other boundaries. Most of these can be displayed with numbers and/or names. You can also turn on roads or roads with labels.

Finally, you can change the underlying map in the "Maps" section near the bottom to a map that includes local names and places of interest. Each map blocks the maps that are below it, so if you wish to try a different map make sure you turn off the default map.

I already had QGIS installed. Its not launching the Toolkit.

The Toolkit expects a recent release of QGIS (Long Term Release version 3.10) or later.



Download and install the current “Long Term Release”. The Toolkit should then launch properly.

Questions?

We’re here to help! Give us a call (415-346-5393) or send us an email (support@broadbandtoolkit.com). We are happy to do customer support Zoom sessions and discuss other Toolkits and resources for state broadband offices.

Additional resources:

Whitepapers:

<https://broadbandtoolkit.com/pages/whitepapers>

YouTube Channel

<https://www.youtube.com/@broadbndtoolkit>

Geospatial Business Planning Toolkits:

National Hex Toolkit

(Includes all BEAD technologies, a BEAD compliance layer, and many other supporting data layers)

<https://broadbandtoolkit.com/products/national-hex-toolkit>

Fiber Strategy Toolkit

(Advanced analysis of everything related to fiber, including detailed competitive information)

<https://broadbandtoolkit.com/products/national-fiber-toolkit>

Other (home page)

<https://broadbandtoolkit.com/>

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