

## **INFORMATION PURSUANT TO OAR 860-200-0250(2)**

**The total cost of capital for Oregon in newly constructed, or installed real or tangible personal property constituting communication infrastructure that enables the company to offer the qualified service.**

The amount of capital investment made in 2016 exclusively for the 1G symmetrical customer offering was \$2,609,545.00. This added additional power in Central offices, expanding our interoffice (ROADM) transport network, and completion of COR network upgrades. An additional \$153,047.00 capital dollars were spent expanding to expand the FTTP outside plant fiber. This includes various projects consisting of new fiber splitters, new FTTP HUBS, MDU builds, and various new subdivisions.

## **INFORMATION PURSUANT TO OAR 860-200-0250(3)**

**A general description of how the company is providing the qualified service.**

### **Evolution of the FIOS network:**

Frontier has gone through numerous revisions, upgrades and improvements to the Fiber-to-the-Premise (FTTP) Network. The FIOS network is a combination of Voice, Data, and Video. The Data network component for the 1G/1G offering is as follows:

#### **A. Transport:**

Reconfigurable Optical Add Drop Multiplexing (ROADM/NANO Transport Packet Optical network)

- i. The three mesh ROADM/NANO transport networks are a key component to the FIOS service, providing transparent DWDM transport for IP traffic from local exchange offices into the national core network.
- ii. DWDM transport network has been upgraded from originally providing frame relay and ATM aggregation routes, to providing gigabit native Ethernet to 10G native Ethernet and in 2016 to 100G OTU Ethernet transport to support the aggregation network needs.

#### **B. Optical Line Terminal (OLT)**

- i. Frontier uses OLT's to deliver high speed internet from the end office to the subscribers home over fiber.
- ii. 1G/1G is only available for stand-alone internet service and CPE home routers are not supported with this product nor in-home wireless connections.

#### **C. Frontier Backbone Network**

- i. Frontier's Backbone Network is an MPLS (Multi-Protocol Layer Switching) network that provides L3 IP transport between markets and to Peering POPs (Point of Presence).
  - ii. Oregon currently has no local peering.
1. IP traffic from Oregon is diversely routed from the Tigard and Beaverton metro offices, on the core network.

2. Frontier also operates Oregon local caches in conjunction with popular content providers to reduce traffic on the backbone network, and provide a better experience for customers. A significant amount of local Oregon traffic for content is served locally in Oregon and does not transit the backbone.

The Frontier Symmetrical Gigabit Project consists of nine FiOS Distribution Routers. These routers have been in full production/operation since 11/30/2016 and support all FiOS broadband services in each of the offices below including the 1G/1G symmetrical offering.

- Aloha (Unincorporated Washington County)
- Beaverton
- Gresham (Damascus, Orient)
- Hillsboro (Cornelius)
- Somerset West (Unincorporated Washington County)
- Bull Mountain
- Forest Grove
- McMinnville
- Tigard (Durham, King City, Lake Oswego)

Please refer to **Tabs 3(A), 3(B), 3(C), 3(D), 3(E), and 3(F)** of the Report for detailed schematics and descriptions.

#### **INFORMATION PURSUANT TO OAR 860-200-0250(4)**

A map, including county and city designations, depicting the area where the company offers qualified service and identifying, using census blocks, where residential customers of the company subscribe to broadband services indicating the highest of the following download speed tiers for each census block in which it has customers:

- (a) Up to and including 100 Megabits per second (Mbps);
- (b) Greater than 100 Mbps up to and including 500 Mbps; and
- (c) Greater than 500 Mbps.
- (d) The company may submit information regarding speed tiers in addition to those shown above. As an example, a company may choose to also submit information regarding download speed of 1 gigabit per second (Gbps) or greater.

Please refer to **Tab 4(A)** for the map depicting the area where Frontier Communications offers qualified service, as well as the download speed tiers for its residential customers. An electronic copy of this map is also being filed with this Report, and may be found on the **flash drive**.

Frontier Communications has attached four additional confidential maps depicting a more-granular Detail. Please refer to **Tabs 4(B), 4(C), 4(D), and 4(E)** for the additional maps.

For the four additional confidential maps in electronic form, please refer to the PDF files located on the "Confidential" flash drive submitted with Frontier's Report.

### **INFORMATION PURSUANT TO OAR 860-200-0250(5)**

The quartile containing the percentage of the company's residential broadband services customers in Oregon that have access to the company's at least, approximately one gigabit per second symmetrical service.

- (a) Quartile 1 – 0 percent to 25 percent;
- (b) Quartile 2 – 26 percent to 50 percent;
- (c) Quartile 3 – 51 percent to 75 percent;
- (d) Quartile 4 – greater than 75 percent.

Frontier Communications qualifies under "Quartile 3" because approximately [REDACTED] of Frontier's residential broadband services customers in Oregon have access to Frontier's qualified service.

### **INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(6)**

The percentage, rounded up to a whole percent, of the company's residential broadband services customers with access to the company's qualified service that subscribe to broadband service in the following download speed tiers:

- (a) Up to and including 100 Mbps;
- (b) Greater than 100 Mbps up to and including 500 Mbps; and
- (c) Greater than 500 Mbps.
- (d) The company may submit information regarding speed tiers in addition to those shown above. As an example, a company may choose to also submit information regarding download speed of 1 gigabit per second (Gbps) or greater.

The following percentages reflect Frontier's residential broadband service customers with access to Frontier's qualified service that subscribe to broadband service in the following download speed tiers:

- 63% subscribe to download speed tiers up to and including 100 Mbps.
- 29% subscribe to download speed tiers greater than 100 Mbps up to and including 500 Mbps.
- 8% subscribe to download speed tiers greater than 500 Mbps

### **INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(7)**

The percentage, rounded up to a whole percent, of the company's residential broadband services customers in Oregon that subscribe to broadband service in the following download speed tiers:

- (a) Up to and including 100 Mbps;
- (b) Greater than 100 Mbps up to and including 500 Mbps; and
- (c) Greater than 500 Mbps.
- (d) The company may also submit information regarding speed tiers in addition to those shown above. As an example, a company may choose to also submit information regarding download speed of 1 gigabit per second (Gbps) or greater.

The following percentages reflect Frontier's residential broadband service customers in Oregon that subscribe to the following download speed tiers:

99.75% subscribe to download speed tiers up to and including 100 Mbps.  
.25% subscribe to download speed tiers greater than 100 Mbps up to and including 500 Mbps.  
.004% subscribe to download speed tiers greater than 500 Mbps

**INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(8)**

**A product description and a copy of the company's customer service agreement form for each qualified service offering.**

Frontier's Residential Service Terms & Conditions can be viewed at <https://frontier.com/~media/corporate/terms/general-terms-residential.ashx?la=en>. Please refer to **Tab 8(A)** for Frontier's Customer Service Agreement and **Tab 8(B)** for specific 1G/1G product information.

**INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(9)**

**The network speed test methods, data, and results from a sample of tests conducted within six months of the date of the report, using industry-standard testing methodology, for the company's broadband service that provides at least, approximately one gigabit per second symmetrical service.**

Please refer to **Tab 9(A)** and **Tab 9(B)** for the network speed test methods, data, and results from a sample of tests conducted for Frontier's qualified service.

**INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(10)**

**In the previous calendar year, the percentage of households to whom the company offers its qualified service who properly placed an order requesting the equivalent of at least, approximately one gigabit per second symmetrical service and were denied that service by the company.**

In the previous calendar year, Frontier Communications has denied its qualified service to 0% of households to whom the company offers its qualified service who properly placed an order requesting such service.

**INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(11)**

**In the previous calendar year, the number of complaints the company received that the company had denied access to its qualified service to a group of residential customers because of the income level of the residential customers in the local service area in which the residential customers reside, and a description of how each complaint was resolved.**

In the previous calendar year, Frontier received zero complaints that it had denied access to its qualified service to any group of residential customers based on the income level of the residential customers in the local service area in which the residential customers reside.

**INFORMATION REQUESTED PURSUANT TO OAR 860-200-0250(12)**

**Any additional information the company wishes to report regarding benefits of any tax exemption granted to the company under ORS 308.677.**

Frontier Communications has made significant capital investments due to the tax exemption incentive offered under ORS 308.677. These investments would not have been made without being incentivized to do so. A majority of Frontier residential broadband customers have the opportunity to subscribe the offered, Oregon PUC qualified, 1G symmetrical gigabit product that was built, is maintained and has operated since December 11, 2016.