

## Objectives of proposed site "SW Rapid City"

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The main objective of the proposed Verizon Wireless site "SW Rapid City" is to provide additional capacity for the neighborhood areas around Sheridan Lake Road and Park Drive. This proposed site will help offload the demand of the existing sites "Dinosaur Park" (located on Skyline Drive) and "Foghorn Cleghorn" (located near Jackson Boulevard).

Typically we have two main options for increasing capacity for any given service area. First, we can utilize additional frequencies of the wireless spectrum. Secondly, we can increase the density of cell sites in the service area. In the Rapid City market, we are already utilizing the frequencies allocated by the FCC, so that leaves us with the option to increase our cell site density.

The requested location is ideal for us because this site aids the two existing sites mentioned above that are reaching a "capacity exhaust" condition. With the increased capacity from the new site, more customers in this area will experience our advertised throughputs for our high-speed data services.

Figure 1 shows the proposed location for the site "SW Rapid City", located on the grounds of the Arrowhead Country Club. It also shows the locations of the two existing sites we are trying to offload. Figure 2 shows an example plot of our existing 4G LTE coverage. Figure 3 shows a prediction plot of coverage with the proposed site added. With users offloaded to the new site, the two existing sites would have to cover a smaller number of users, giving more customers in the area an improved experience on our 4G LTE network.

Figure 4 shows a graph of our user's average downlink throughput on the site "Dinosaur Park". We advertise a downlink throughput of 5-12 Mbps (megabits per second) on our LTE network. We started utilizing our AWS spectrum on the same site on December 20<sup>th</sup>, causing a slight improvement in our customer's overall experience. Unfortunately due to hardware and propagation limitations, the AWS spectrum does not offload all of the existing users. As you can see by the red trend line, we are beginning to see the effects of the increased demand while utilizing our entire allotted spectrum. As of today, we are struggling to meet our advertised speeds of 5-12 Mbps.

With the increasing customer demand for wireless services, Verizon Wireless hopes to be proactive in meeting our customers' needs. Thank you for your consideration.



Figure 1: Site Locations



Figure 2: Existing 4G LTE Coverage

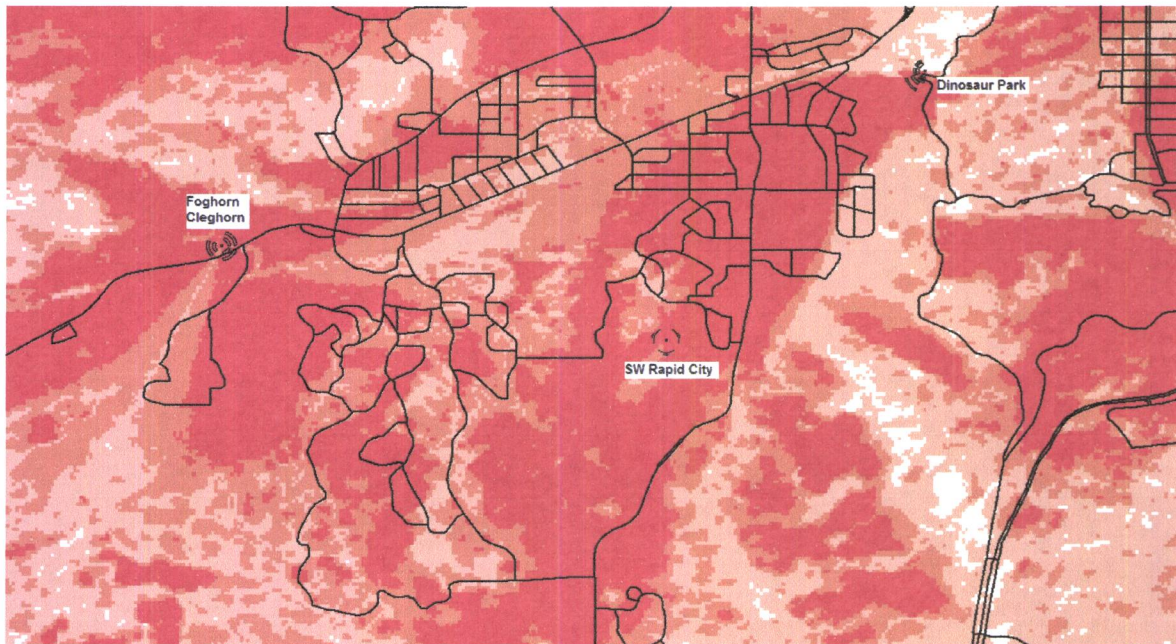




Figure 3: Future 4G LTE Coverage

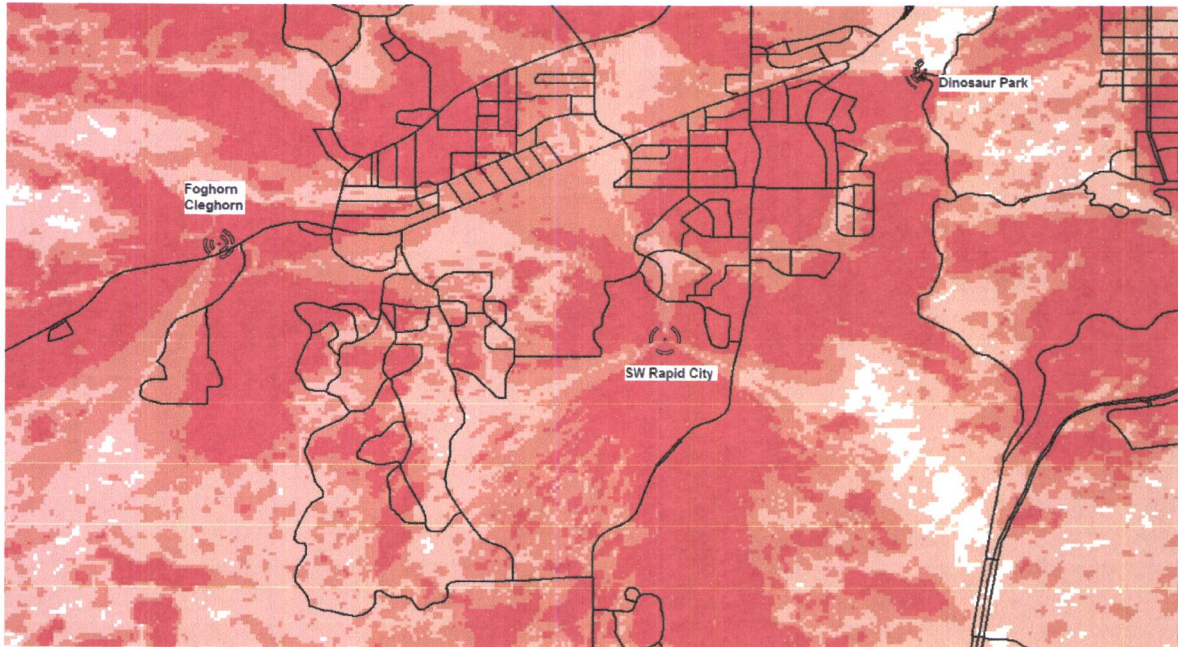


Figure 4: Dinosaur Park Downlink Throughput

