

Justification for proposed site GO FISH

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**RAPID CITY COMMUNITY PLANNING
& DEVELOPMENT SERVICES**

Verizon Wireless has seen an explosive increase in demand for 4G LTE services since the initial launch of the service. This increase has put a strain on the existing macro cellular network. In this paper we will first demonstrate the increased demand across the local South Dakota market. Then we will show the increased demand for the sites around the proposed location.

Since the beginning of this calendar year, South Dakota has seen a steady increase in the volume of data that has been downloaded by 4G LTE customers. In Figure 1, we use the volume of data downloaded on the first of the year as a baseline. The graph shows the growth through June 30th. The trendline shows that we have seen a more than 50% increase in downloaded data over the last six months when compared to the 1st of the year. None of our current models suggest this trend will slow down or reverse in the foreseeable future. Figure 2 shows the peak number of connected users for the South Dakota market. We see a similar trend with the peak connected users as we do with total volume of data downloaded. In this case, the increase from the beginning of the year is just under 50%. The conclusion we draw from this data is that more people are using our services, and downloading more data than they have before on a per user basis.

Figure 3 shows a similar graph to Figure 1, just using data only from the alpha sector of the site North Rapid City. Again we see the significant increase in total volume of data downloaded with the total amount trending just over 50% growth over the last half year.

Looking at Figure 4, you will see a coverage plot of our existing cell sites. This plot shows what areas we would expect to be covered by which sites in the existing macro network. The main sites we are still focusing on offloading are North Rapid City and Rapid Mall. The area covered by North Rapid City is shown in shades of green and the area covered by Rapid Mall is shown in gray shades.

Figure 5 shows a similar plot, but this time we include the coverage provided by Go Fish shown in shades of teal. While the Rapid Mall site would see a slight offload on the southeast area of the mall, we would see more offload for the alpha sector of North Rapid City where all three of the new sectors would contribute to covering some area previously covered by North Rapid City. The offloading would improve the customers' experience in these areas, where we are seeing our throughput speeds struggle to keep up with our brand promise.

As the number of users on our 4G LTE system increases, downloading an increasing volume of data, we will continue to see a need for capacity offload of our existing macro sites. Please take this into consideration when you review our application for the proposed site Go Fish.

Figure 1

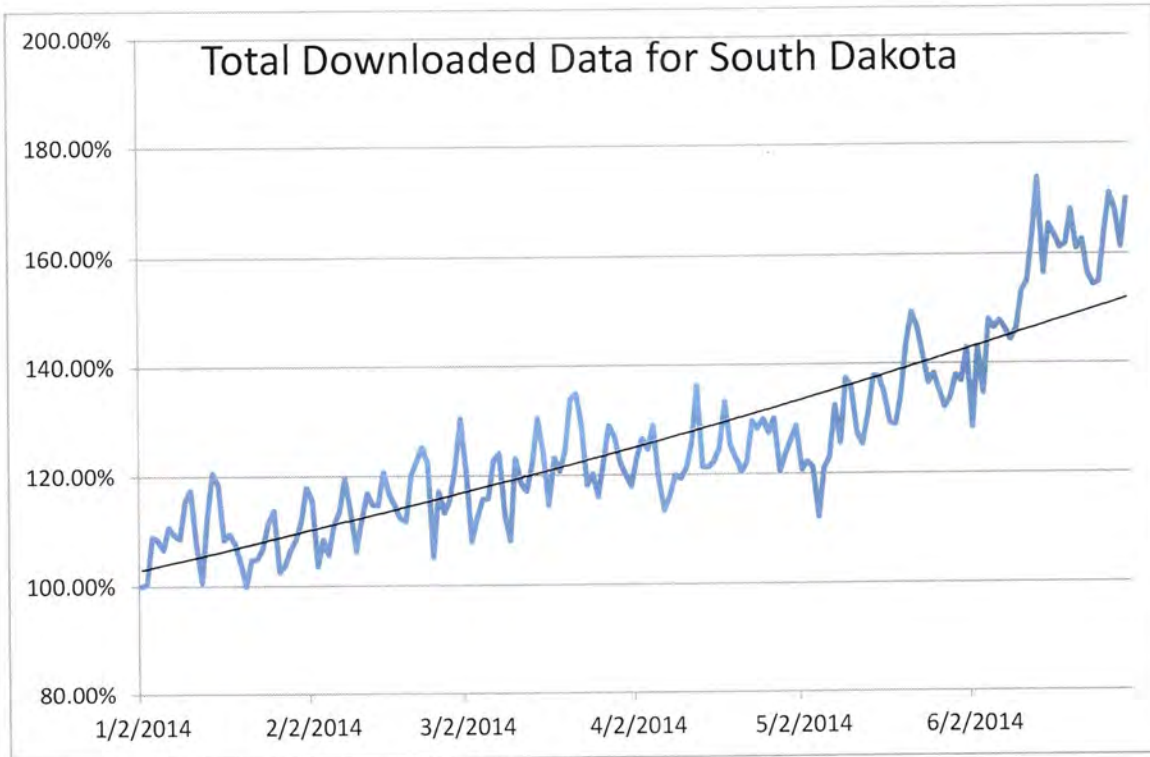


Figure 2

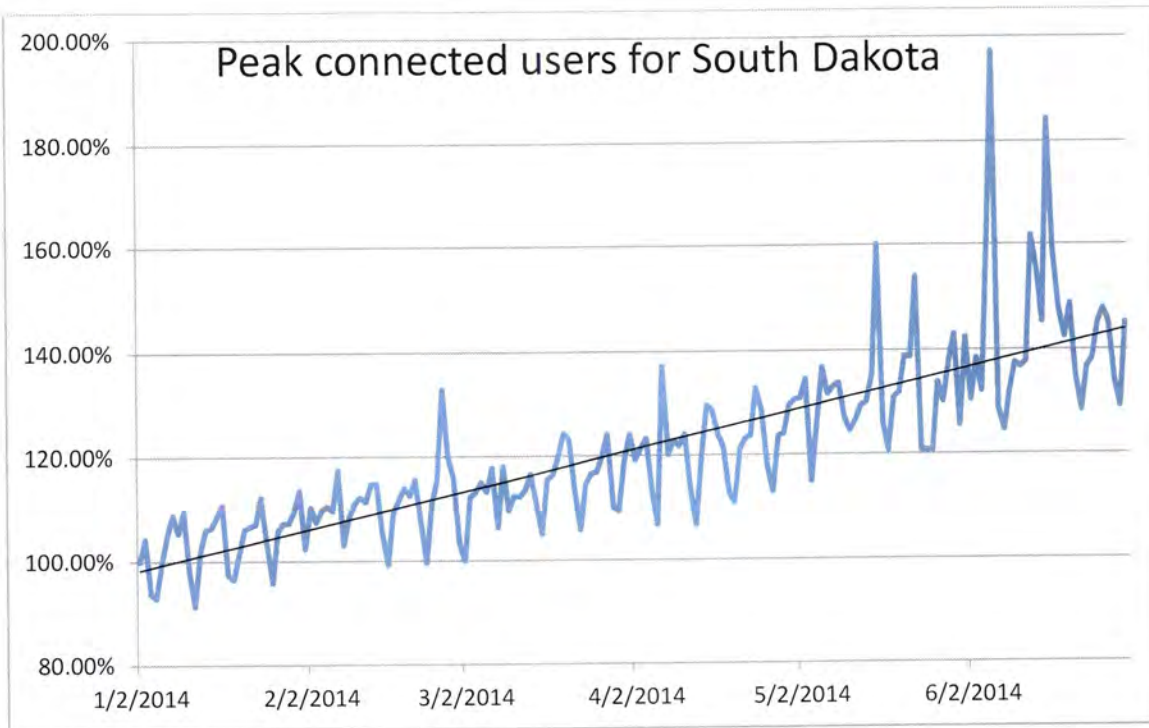


Figure 3

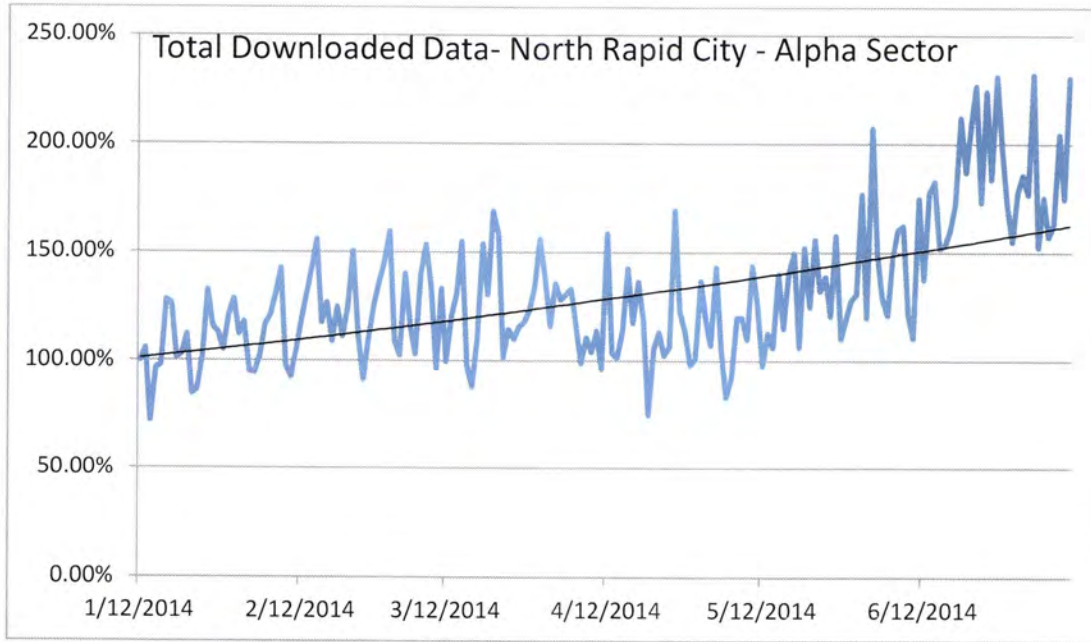


Figure 4

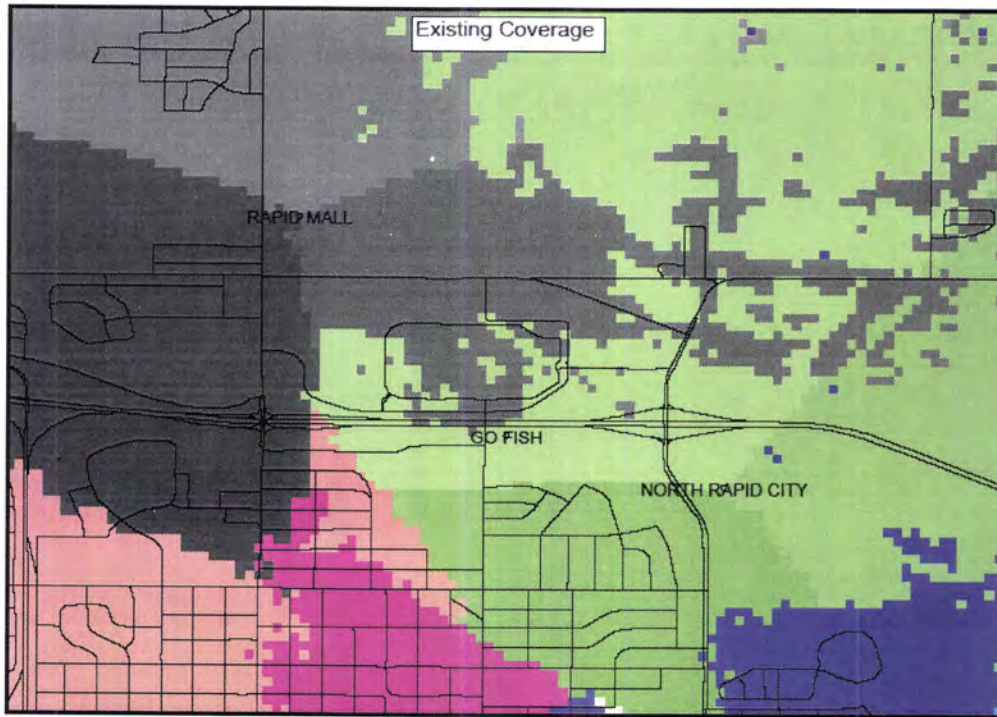
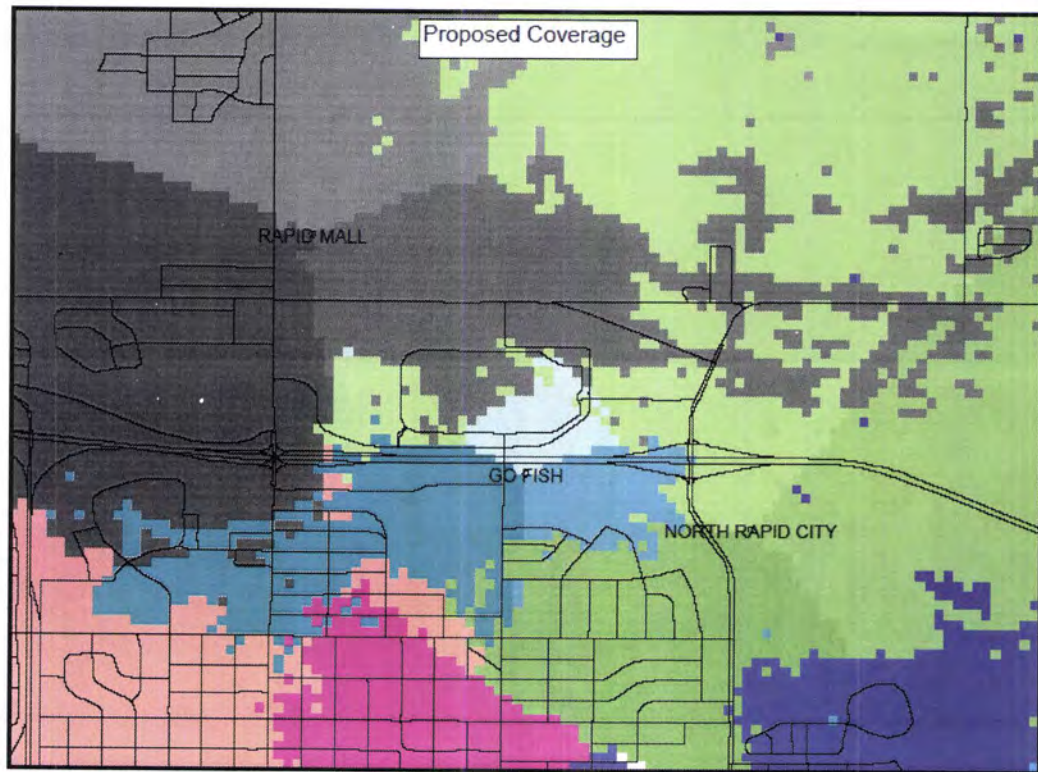


Figure 5

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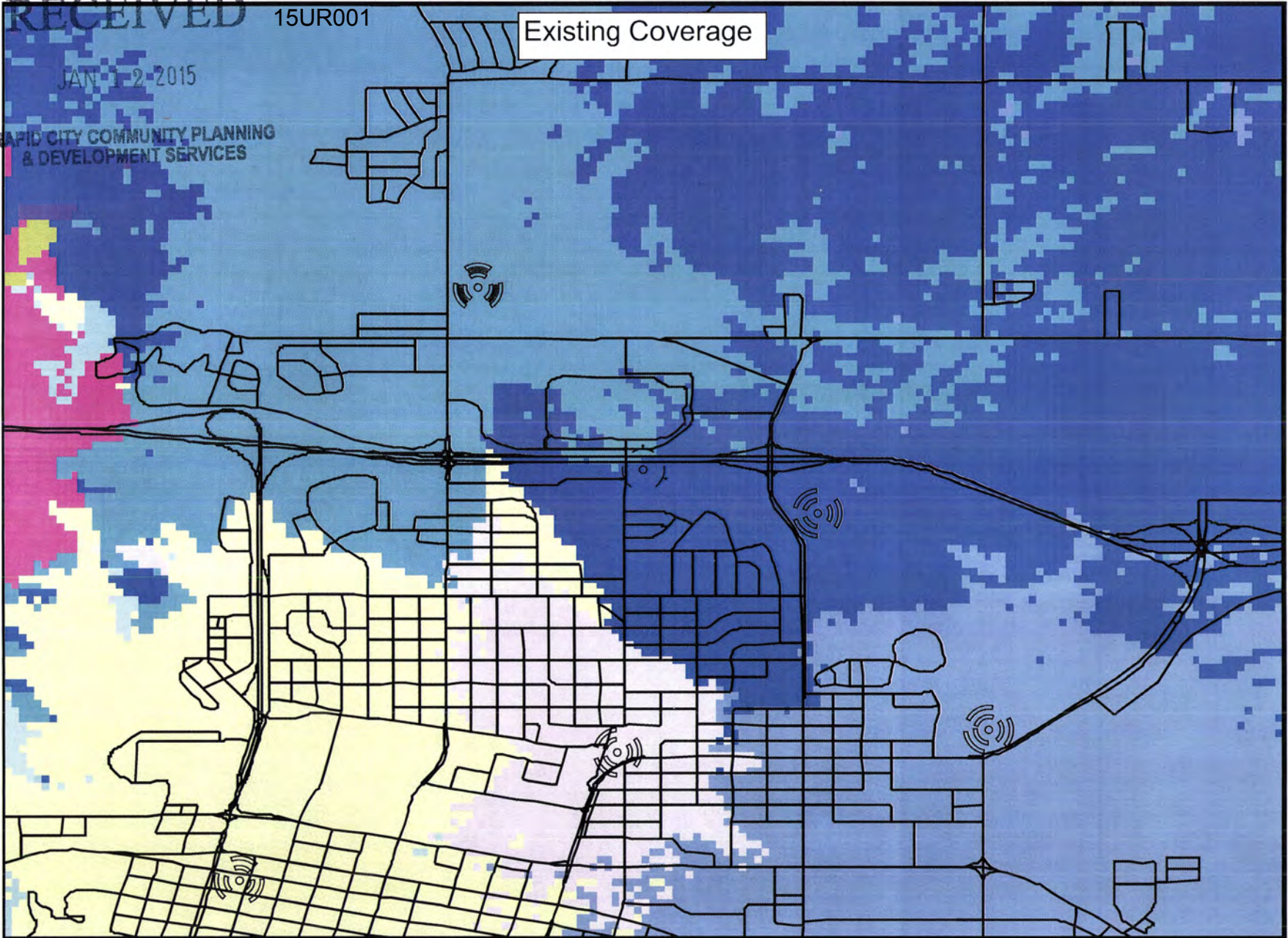
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Existing Coverage

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Go Fish - Proposed

