



CASE STUDY

How the State of Vermont Gets an Accurate View of Mobile Network Coverage and Quality with Ookla Solutions

Introduction

When driving along major federal and state-funded roadways, Vermont state residents consistently experience poor cell service and dropped calls. Drivers are unable to call 911 in an emergency with such poor coverage — and in many instances, no coverage — even along many of the state’s federally funded highways. The lack of reliable mobile network coverage has become not only a common complaint from residents, but a real public safety concern.

The State of Vermont Department of Public Service (PSD) used Ookla Cell Analytics™ to identify areas of poor network coverage with crowdsourced data and Ookla Wind® to perform drive testing in those locations to get detailed coverage and performance metrics along state roadways.

Benefits



Identified areas of poor coverage with crowdsourced data to more efficiently plan drive test routes



Tested mobile networks across more than 6,500 miles of state roadways to understand how operators are performing

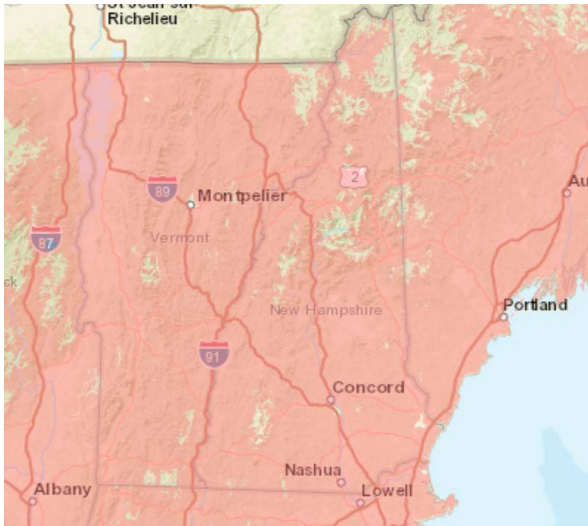


Identified specific areas with poor service on certain operator networks to submit for the FCC challenge process, which helps determine funding prioritization

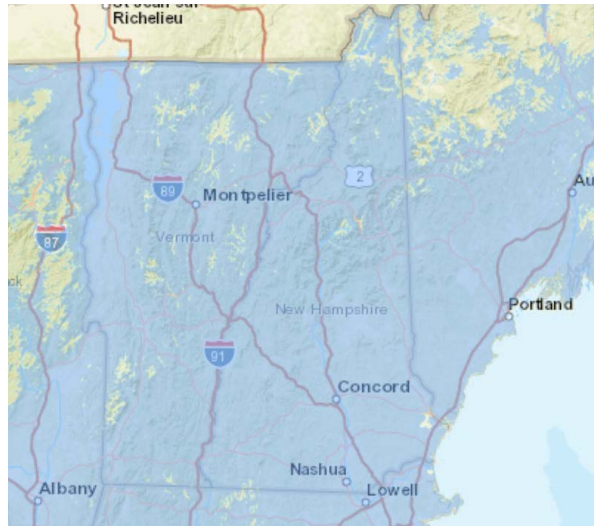
Situation

The FCC coverage maps are based on operator-provided information, and they show that coverage is sufficient in Vermont. Operators’ claims of sufficient coverage have made it difficult for the state to receive the funding needed to address known mobile service issues. On the FCC maps, you can see that both Verizon and AT&T show that their LTE Voice coverage for making phone calls spans across the entire state.

Verizon LTE Voice Coverage in Vermont
FCC Mobile LTE Coverage Map | 2022



AT&T LTE Voice Coverage in Vermont
FCC Mobile LTE Coverage Map | 2022

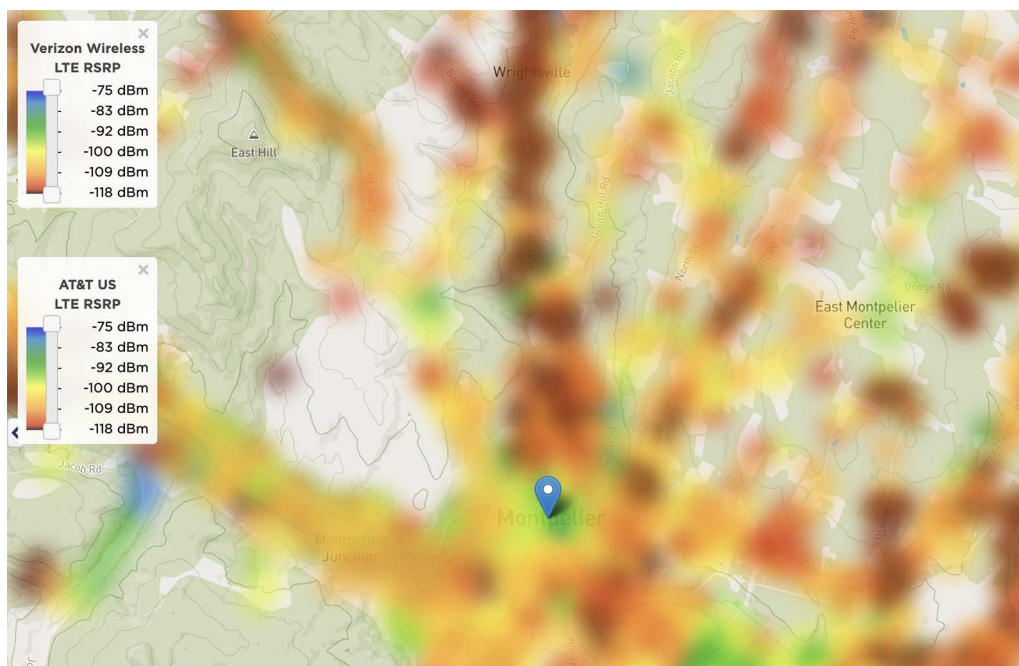


Since these maps are so influential in funding decision processes, Vermont needed a way to prove that the on-the-ground experience of residents does not match up with FCC coverage maps. For PSD, identifying areas that lack service has been a critical step toward the expansion and improvement of mobile wireless service around the state.

Solution

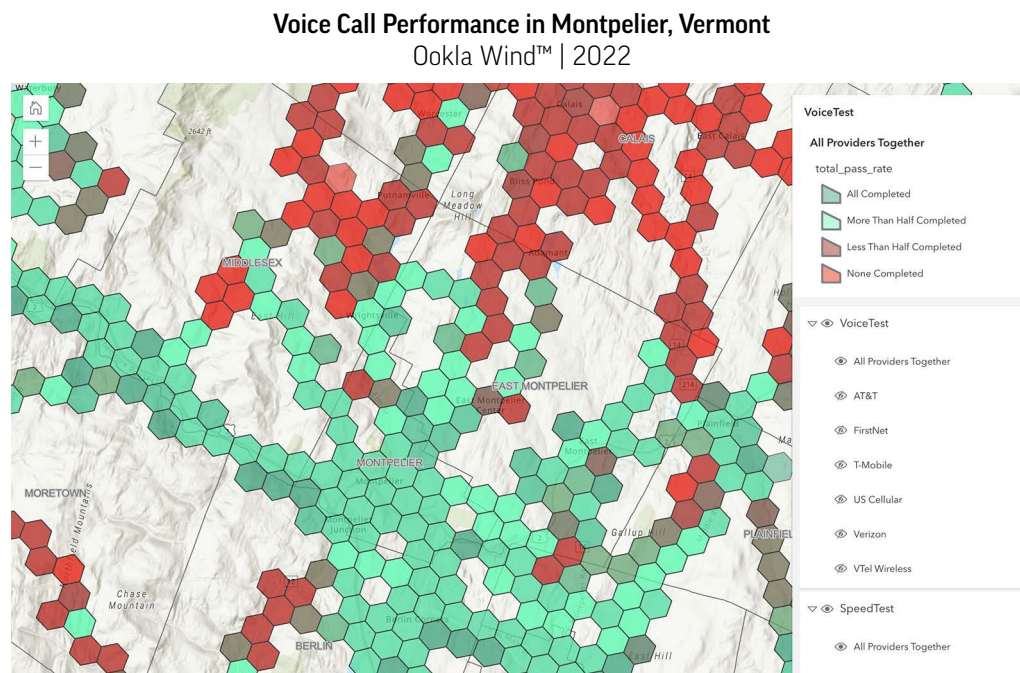
PSD used crowdsourced data drawn from millions of real-world network measurements in Cell Analytics to identify problem areas and determine drive test routes. Cell Analytics data helped them plan the most efficient and cost-effective way to drive test the state, focusing on the areas that needed it most. Below is an example of Cell Analytics data for the Montpelier area which indicates very weak signal strength (in red) along the roadways north of the capital city.

LTE RSRP (Signal Strength) on Verizon & AT&T in Montpelier, Vermont
Cell Analytics™ | 2022



After the routes had been determined, PSD used Ookla Wind, a mobile handset-based testing and monitoring solution, to perform the drive test. From July to September 2022, Vermont Agency of Transportation employees drove more than 6,500 miles of state roadway. Since Wind is the only drive-test solution that leverages Ookla's industry-standard Speedtest® and the global Speedtest Server Network™, they were able to capture network performance data that accurately reflects user experience. Agency of Transportation employees set out on their routes with Wind handsets that were equipped to continuously conduct internet tests and voice calls for six networks: AT&T, FirstNet, T-Mobile, US Cellular, Verizon, and VTel Wireless.

Wind provided instant analytics that allowed PSD to quickly compile coverage maps and performance reports for all the operators. The example below shows the drive-test results for the Montpelier area of Vermont. Just as Vermont had observed from the crowdsourced intelligence in Cell Analytics, the drive-test results showed many failed calls along the roadways north of Montpelier.



Outcome

The State of Vermont was able to efficiently drive test key routes to understand where network improvements were needed. The results of the drive test were published to the [PSD website](#), and made accessible to the public through an [interactive map](#).

Vermont's work with Ookla has attracted a lot of media attention and has shed light on the mobile coverage issues across the state. It has spurred action among community members who are emailing their local legislators with the results of the drive test to demonstrate their wireless service issues.

FCC chairwoman Jessica Rosenworcel has encouraged PSD to submit the data as part of the FCC challenge process and Vermont plans to do so. Vermont governor Phil Scott has proposed \$10 million in funding for the construction of up to 20 new cell towers in the highest priority areas of the state. The drive-test results will inform municipal planning and where to prioritize funding if it is secured.

Ookla's industry-leading Cell Analytics platform and Wind drive-test solution provide results that state and local governments can rely on to identify areas that lack coverage. With these insights, they can make the most informed, data-driven decisions on planning, funding prioritization, and relationships with mobile network operators.