September 29, 2017

The Honorable Ajit Pai
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Pai,

We are writing to express our concern for the growing challenge presented by low-Earth orbit (LEO) space debris. As the Commission considers multiple requests for new LEO satellite constellations, we ask that you formally coordinate with the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA) to establish an interagency working group on space debris and to develop a comprehensive domestic policy on space debris mitigation.

We note that NASA, as stated in its own filings with the Commission, is conducting an internal parametric study on large constellations, which will be completed later this year. As part of your coordination with NASA on this issue, we ask that the Commission use any recommendations or best practices from this study to inform regulatory decisions on LEO constellation permitting.

As you may know, the U.S. Department of Defense Space Surveillance Network currently tracks nearly 22,000 pieces of orbital debris, defined as man-made objects in Earth's orbit that no longer serve a useful purpose. This figure does not include hundreds of thousands of pieces of debris smaller than 10cm that are also orbiting the Earth. Collisions with debris as small as 10cm can catastrophically damage satellites, and debris as small as 1cm can disable spacecraft. Each collision exponentially increases the likelihood of another collision, creating a potential cascade that could severely inhibit future telecommunications, national security, and other space-based activity in the LEO environment.

In the last decade, two major satellite collisions dramatically increased the amount of fragmented debris currently in orbit. Model predictions suggest that even with nearly full compliance with existing mitigation measures, LEO space debris is expected to grow by an average of 30% in the next 200 years. A number of national and international studies have concluded that orbital debris may have already reached a tipping point.

Collectively, if approved, the applications pending at the Commission for new satellite constellations could drastically increase the number of satellites in LEO. In light of these pending requests, we remind you of the United States' obligation to ensure that any licensed system will not operate near other systems in a way that could potentially create space new debris, endanger national and international assets, and threaten our future access to space.

We are extremely excited by the unique potential for these proposed satellite constellations to connect rural and underserved American populations to the internet. However, swift action to mitigate the collision risk associated with a growing number of constellations is critical to ensuring the long-term sustainability of our space environment.

We stand ready and willing to support the Commission, NASA and FAA in establishing comprehensive regulatory policy to mitigate the space debris challenge. We appreciate your prompt attention to this issue and we look forward to discussing further.

Sincerely,

Cory A. Booker
United States Senator

Dan Sullivan
United States Senator

cc: The Honorable Robert M. Lightfoot, Jr.
Acting Administrator, National Aeronautics and Space Administration

The Honorable Michael P. Huerta
Administrator, Federal Aviation Administration