



Frequently Asked Questions

Telecommunications Plan / Environmental Assessment

1. What is the purpose of this telecommunications plan?

The purpose of the Telecommunications Plan and Environmental Assessment (EA) is to identify appropriate types and locations of telecommunications infrastructure and services within Grand Canyon National Park that, if installed, would provide sufficient and reliable wireless coverage, data network capacity, and two-way radio communications to meet the needs of visitors, the National Park Service (NPS), and park partners within developed areas of park.

2. Why is action needed?

Existing wireless coverage and data network capacity within Grand Canyon National Park is insufficient to support the needs of visitors—who totaled close to 6.4 million in 2018, the NPS, and park partners including concessioners, non-profit organizations, tribes, a public school, medical clinic, utility company, and other local and federal law enforcement agencies.

Action is specifically needed at this time to:

- Comprehensively address telecommunications deficiencies within developed areas of the park that currently inhibit NPS operations as well as the activities of visitors and park partners.
- Ensure that telecommunications infrastructure is designed and located in a manner that minimizes impacts to park resources.

3. What is Grand Canyon National Park proposing to do?

The NPS is proposing to implement a telecommunications plan that would provide a framework and guidance for the future construction and operation of telecommunications infrastructure—specifically, telecommunications towers, small-cell sites, and fiber optic communications cable (fiber)—within developed areas of Grand Canyon National Park. The proposal also includes the removal and/or potential relocation of some existing telecommunications infrastructure.

The NPS is not proposing to directly develop new telecommunications infrastructure under this plan. This type of infrastructure is typically proposed by private telecommunications companies through applications for right-of-way (ROW) permits. If ROW permits are approved and issued, the telecommunications company, or permittee, is responsible for building and maintaining the related infrastructure according to the terms and conditions of the permit and pays a fair market value for the use of federal land.

This planning effort is not in response to a specific application from a telecommunications company for a ROW permit within Grand Canyon National Park. Rather, the NPS is seeking to develop guidance for the types and locations of this infrastructure that would be used to inform the review of future ROW applications.

Under the plan, the park would consider accommodating up to five additional telecommunications towers within specific developed areas on the North and South Rims, the installation of small-cell sites in high visitor use areas, and the installation of fiber optic communications cable along existing developed corridors.

The proposed action also includes the removal or relocation of existing telecommunications infrastructure. For example, one existing telecommunications tower within Grand Canyon Village may be relocated to an area outside of a national historic landmark district.

All new or relocated telecommunications infrastructure would be sited, designed, and constructed in adherence to NPS-identified parameters in order to avoid or minimize impacts to park resources. For example, towers would be limited in height based on the surrounding area, sited outside of historic districts, designed to blend into surroundings, and would be able to accommodate a number of carriers.

4. What is small-cell technology?

Small-cell technology is an umbrella term for short-range antenna systems that can provide cellular coverage within a range of up to approximately a mile and a half. In comparison, macro-cell technology such as cellular telecommunications towers may have a range of several miles. Small-cell technology enhances coverage, both in terms of speed and capacity, in congested areas and where towers are not practical.

Small-cell technology has a distinctly smaller footprint than structures such as traditional telecommunications towers and can be placed on existing infrastructure and closer to the user. For example, a typical antenna panel for a small-cell site is three to four feet tall, about six inches wide, and four to six inches thick. Between two and four of these panels can be mounted on existing infrastructure, such as wrapped around an existing light pole (visually similar to having three power transformers that are wrapped on top of a power pole).

5. How tall could the proposed towers be?

All potential new traditional telecommunications towers would be sited, designed, and constructed in adherence to NPS-identified parameters in order to avoid or minimize impacts to park resources. Maximum tower heights would be site-specific, and would range from a maximum height of 80 feet near Desert View and the area around Hopi Fire Lookout to 180 feet on the North Rim. Proposed heights are intended to provide some expanded coverage while accommodating up to four cellular carriers on each tower. Four out of the five additional towers would be in close proximity to an existing NPS radio tower of comparable height.

The NPS would additionally complete site-specific review of any proposed towers to ensure that proposed tower heights are the minimum necessary to provide services within the developed areas of the park and/or are technologically required to meet conditions such as line-of-sight requirements.

6. Where would these proposed towers be located?

Potential new telecommunications towers, which would need to comply with specific NPS parameters, could be located in the following general areas: On the South Rim within Grand Canyon Village (outside of historic districts), south of Hopi Point—where existing telecommunications infrastructure would be consolidated, and near Desert View; and on the North Rim at CC and Lindberg Hill.

Small-cell technology, which would also need to adhere to specific NPS parameters, could be accommodated in high visitor-use areas such as the Grand Canyon Visitor Center, Grand Canyon Village, and at Market Plaza on the South Rim, and near Grand Canyon Lodge on the North Rim.

7. Why are towers proposed at the locations identified?

Factors that have and would continue to influence the specific locations of proposed telecommunications towers within Grand Canyon National Park include:

- Identified need for new or improved service (cellular, radio, and/or internet) in the area
- Protection of natural and cultural resources
- Presence of or proximity to previous infrastructure
- Proximity of tower to existing development, most notably power and existing fiber optic cable or conduit
- Distance of tower to existing NPS radio infrastructure
- Aesthetics of tower and potential impacts to NPS resources
- Height of structure and associated antenna over surrounding terrain (feasibility and practicality)

- The frequency of signal in use
- Timing limitations in some technologies
- Transmitters rated power
- Required uplink/downlink data rate of the subscriber's device
- Directional characteristics of the site antenna array
- Reflection and absorption of radio energy by buildings or vegetation

8. How would the proposal change cellular and Internet service within the park?

The plan, if fully implemented, would continue to allow wireless services, including cellular—voice and data, in existing areas, and would improve wireless coverage and data network capacity in developed areas of the park where it is currently limited or absent.

9. How did the NPS identify the proposed action?

The need for action was informed by visitor comments, internal NPS discussions, staff surveys, and outreach to in-park partners. The proposed action was informed by these identified needs; technical information obtained from NPS staff, other agency staff, and telecommunication companies; public scoping that was completed in July and August 2019; and internal NPS discussions on balancing needs, resource impacts, and technical limitations.

10. Who would pay for the proposed infrastructure?

The NPS is not proposing to install infrastructure directly. The park would accept and process applications for telecommunications equipment and services that are consistent with the plan. If ROW permit applications are approved and a ROW permit is issued, the permittee(s) would pay for the capital investment and associated maintenance. The permittee(s) would also be required to pay applicable fees to the federal government for the use of NPS land.

11. What is an environmental assessment?

The NPS has prepared an environmental assessment (EA) in conjunction with the telecommunications plan to develop and evaluate alternatives to address the purpose and need for telecommunications infrastructure within Grand Canyon National Park. An EA, which is completed in accordance with the National Environmental Policy Act, guides decision makers as they seek to create policy or take action that balances human needs with environmental stewardship.

12. How were the alternatives in the EA evaluated?

The NPS evaluated impacts from the proposed action to a number of resources, including scenic resources, archaeological resources, historic buildings and structures, historic districts, dark skies, migratory birds, bats, California condor, Mexican spotted owl, vegetation and soils, wilderness, and visitor use and experiences. Impacts from a no action alternative and the proposed action to scenic resources, historic districts, and visitor use and experience were carried forward for a more thorough analysis within the EA.

13. How can the public comment on the Plan/EA?

The public review period on the EA begins December 2, 2019, and will remain open for 36 days, closing at midnight (MST) January 6, 2020. Comments may be submitted by mail, online, or in-person at a scheduled public meeting. The preferred method for submitting comments is through the NPS Planning, Environment and Public Comment (PEPC) database at <http://parkplanning.nps.gov/GCTelecommunications>. Click on “Documents Open for Review” on the left panel of the webpage.

Mail-in comments can be sent to:
 Superintendent
 Grand Canyon National Park
 Attn: Telecommunications Plan
 P.O. Box 129
 Grand Canyon, AZ 86023.

Comments may also be submitted at public meetings scheduled during the public comment period. An open house will take place at the Grand Canyon's South Rim, and a webinar will be hosted online. Meeting dates and locations are posted on the website at: <http://parkplanning.nps.gov/GCTelecommunications> under "Meeting Notices" on the left panel of the webpage. Comments submitted by any other means (including fax, email, or social media) will not be considered.

14. How will my comments affect the Plan/EA?

Comments that inform the accuracy or adequacy of the information within the EA, present reasonable alternatives than those considered within the EA, or cause changes or revisions in the proposal are particularly helpful.

The NPS anticipates making a final decision on this plan in early 2020.