

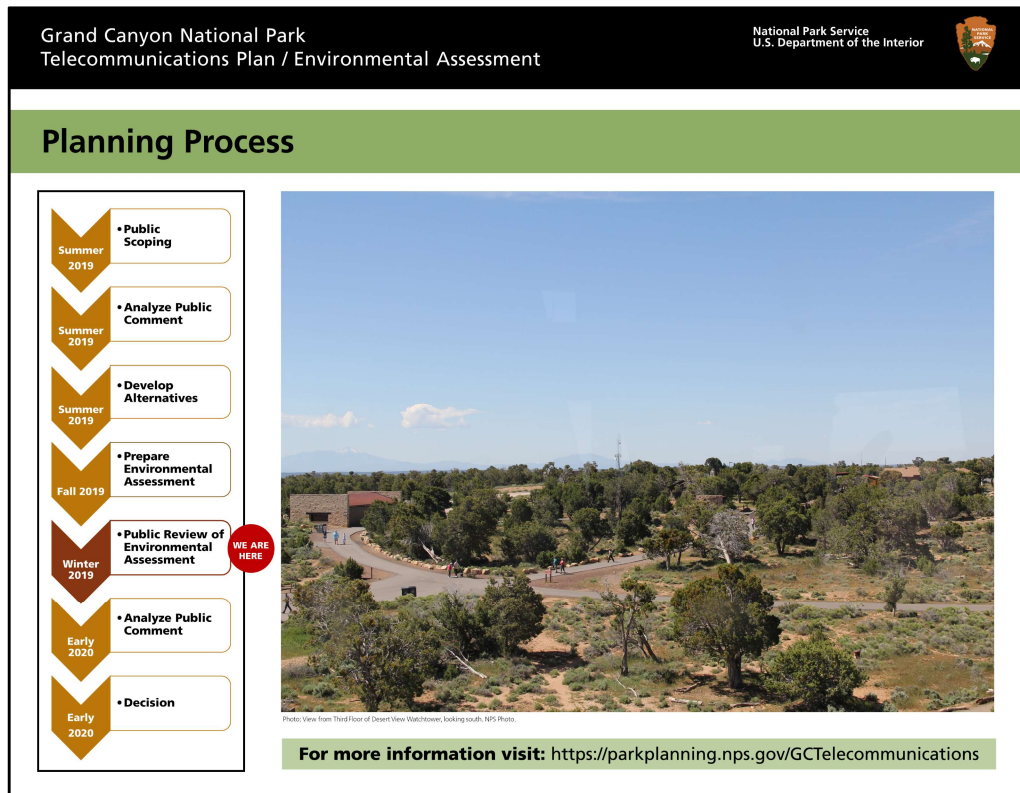


## Welcome

- Welcome to our public webinar on Grand Canyon National Park's Telecommunications Plan and Environmental Assessment.
- My name is Elly Boerke and I am an environmental protection specialist with Grand Canyon National Park. I am also the lead planner on this planning effort.
- We also have with us today several members from our planning team:
  - Sharon Ringsven is the Deputy Chief of Commercial Services here at Grand Canyon and is also the park's ROW program manager.
  - Brian Pederson who is also on the line is our Regional Right of Way Coordinator.
  - Peter Jones is our Telecommunications Specialist here in the park.
  - Tim Gilk is our Radio Program Manager for the Regional Office.
  - Rachel Bennet is the Deputy Chief and now acting chief of our Planning, Environment, and Project office at Grand Canyon National Park.
  - Jill Beshears is an environmental protection specialist here at the park who is also working on the environmental compliance for this plan.

Before we begin there are a few business items I would like to touch upon:

- First and foremost – our agenda for the next hour. We will spend the first 20-30 minutes together walking through our purpose and need for action, the alternatives considered, resources analyzed in the plan, and talk through the planning process. We will then open the floor for any questions for myself or the project team.
- On that note, because this is a webinar, you are each on mute at this time. As we move into the questions section of this webinar, my request will be that you submit questions via the comment box in the lower right hand corner of your screen and one of us on the project team will do our best to respond. As a heads up, it will be easiest for us to process your questions if they are received one at a time, as opposed to a single, long chat, with multiple questions. For that reason, if you have many questions come up as I present this information, please feel free to type them into the chat and send them as we go along. Please also send these directly to the “organizer” that you find within the drop down menu.
- Please also note that these slides will be available online – on the project website – following this presentation; so you will be able to download these at a later time, should you so desire. That said, and I will speak to this again at the end of this webinar, but please note that we are not recording this webinar and are not accepting formal comments through this venue. As we state on the project website and in our public materials, please instead submit comments via the project website, via mail, or on a comment form at our public meeting which will be held a week from today in the park.
- My last item of business is really a request – we typically have sign in sheets at our public meetings to both get a sense of how many people come but to also know who came and who is interested in this planning effort. If you are willing, we would love to know who we are speaking with today – your full name, if you are here on behalf of an organization or company, and your email address if you would like us to notify you directly when we have made a decision regarding the plan. If willing, please share that information with us via the comment box in the lower right hand corner of your screen and send to the “organizer only” so that it is visible only to the NPS and not all participants. We greatly appreciate it and again, welcome!



So - Let's Get Started! Just to give all of us some context for this planning effort, I thought it would be good to first review the overall planning process – where we have come from, where we are at, and where we are going.

In July of this year, we kicked off a planning effort for a comprehensive Telecommunications Plan for Grand Canyon National Park. We initiated public scoping on this planning effort in mid July and initiated consultation with agencies such as the Arizona State Historic Preservation Officer, or SHPO, the United States Fish and Wildlife Service, and the 11 associated tribes of the Grand Canyon.

After reviewing feedback from this initial planning process, we refined our purpose and need for action, developed alternatives, and prepared an environmental assessment in accordance with the National Environmental Policy Act that is now available for your review and comment through January 6, 2020. (4 weeks from today)

We are also continuing our consultation with the Arizona State Historic Preservation Officer and the 11 traditionally associated tribes of the Grand Canyon in compliance with the National Historic Preservation Act, and are consulting with the USFWS in compliance with the Endangered Species Act.

Following this public review period, we will review public, tribal, and agency comments and prepare a decision on the document, which we hope to have in early 2020. Please note that the press release that went out with this effort stated that the decision would result in what is called a Finding of No Significant Impact (or a FONSI), while that may be the case, the decision may also be to proceed with the preparation of an

environmental impact statement.



Grand Canyon National Park  
Telecommunications Plan / Environmental Assessment

National Park Service  
U.S. Department of the Interior

## Introduction

The National Park Service is proposing to implement a Telecommunications Plan that would provide a framework and guidance for the future construction and operation of telecommunications infrastructure within developed areas of Grand Canyon National Park.

Construction and operation of any new telecommunications infrastructure would require site-specific review and approval in accordance with current NPS policies.




Photo: Existing South Rim Village tower. NPS Photo.

## Purpose and Need

The purpose of this Telecommunications Plan / Environmental Assessment 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 (including cellular—voice and data), data network capacity, and two-way radio communications to meet the needs of visitors, the National Park Service, and park partners within developed areas of the park.

The plan is needed to:

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




Photo: Existing telecommunications infrastructure near Hoge Fire Lookout. NPS Photo.

So what is the National Park Service (or NPS) proposing to do within this Telecommunications Plan? 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 within developed areas of Grand Canyon National Park. There are a few things that I would like to note here:

- Although this is an NPS led plan and planning effort, the NPS is not proposing to directly telecommunications infrastructure in the park. Rather, the type of infrastructure that we will be discussing today and that which is considered within the plan is typically built and maintained by a private telecommunications company that:
  - Is interested in providing these services,
  - Submits a complete application for a right-of-way (ROW) permit to use NPS lands for these services, and
  - Ultimately, if approved, receives what is called a right-of-way Permit from the NPS and pays a fair market value for the use of that land.
- In fact, the National Park Service is required by the Telecommunications Act of 1996 to consider all complete applications for the installation of wireless communication facilities on NPS lands.
- That said, this planning effort is also not in response to a specific application from a telecommunications company for a telecommunications right-of-way permit within

Grand Canyon National Park.

- Rather, in anticipation of receiving ROW applications to construct and operate telecommunications infrastructure and provide these services within Grand Canyon National Park, the park is needing to develop guidance for the types and locations of that infrastructure within the park - that minimizes impacts to park resources – and that will be used to inform the park’s review of future right-of-way applications.
- Therefore, construction and operation of any new telecommunications infrastructure that could be considered if this plan is approved and implemented, would require site-specific review and approval in accordance with current NPS policies.

So why write this Plan and why now? The need for this plan is really two-fold: The first need is to comprehensively address telecommunications deficiencies within developed areas of the park that currently inhibit National Park Service operations as well as the activities of visitors and park partners. For a little background here:

- There are currently 5 NPS radio towers within Grand Canyon National Park and one commercial tower that provides phone and data service to the NPS, partners, and visitors. This South Rim Village Tower also includes one ring of cellular antenna.
- Despite this infrastructure, due to considerations such as topography, line-of-sight requirements, and the technological and physical capacity of the existing tower facilities, this existing infrastructure, including those on surrounding lands, are limited in their ability to provide sufficient and reliable wireless (including cellular voice and data) services and data network capacity to meet the needs of:
  - visitors - who totaled close to 6.4 million in 2018;
  - the National Park Service (NPS),
  - in-park partners – including a public school and medical clinic, the local post office, concessioners (which are the private companies who are authorized to operate the lodges, restaurants, and grocery stores within Grand Canyon NP), the park’s philanthropic partner Grand Canyon Conservancy, a utility company, other local and federal law enforcement agencies, and the Havasupai Tribe who has a small community of residents within the park;
- As an example of these service limitations, available bandwidth to Grand Canyon National Park is provided almost solely by microwave antennae which is limited to roughly 850 megabits/sec of data. For context, NPS operations – which currently utilize less than 4% of that data, could utilize an entire gbps for operations alone.

The second identified need is to ensure that telecommunications infrastructure is designed and located in a manner that minimizes impacts to park resources.

Therefore, the drafted purpose of this Telecommunications Plan 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 (including cellular—voice and data), data network capacity, and two-way radio

communications to meet the needs of visitors, the National Park Service, and park partners within developed areas of the park.



## Alternatives

### Alternatives Considered but Dismissed

- A number of alternatives were dismissed as they did not meet the purpose and need.
- See the environmental assessment for more information.

### Alternatives Carried Forward in EA

- No Action Alternative
- One Action Alternative: Comprehensive Telecommunications Plan (Preferred)



Photo: Aerial View of Powell Memorial along West Rim Drive. NPS Photo.

To address this purpose and need, the NPS considered a number of alternatives for action, but dismissed several as they did not meet the purpose and need or were not feasible while meeting the purpose and need. These alternatives that were considered but dismissed are further explained in the EA on page 21.

This plan carries two alternatives forward for analysis that we will be discussing today, a no action alternative and one action alternative.



## Alternative A – No Action Alternative

### Telecommunications Services

- Coverage and capacity would likely increase but would be unlikely to fully address existing deficiencies within developed areas of Grand Canyon National Park.

### Telecommunications Infrastructure

- The NPS would receive and review applications to install telecommunications infrastructure on a case-by-case basis.
- No comprehensive, park-specific guidance as to where such services should be provided would exist. Criteria for placement of associated infrastructure would be identified on a case-by-case basis with the goal of avoiding or minimizing impacts to resources.
- Existing telecommunications infrastructure would remain for the duration of existing right-of-way permits or longer.
- The NPS would also consider future renewals for existing telecommunications ROW permits on a case-by-case basis, with minor modifications and upgrades anticipated over time.
- New, minor telecommunications equipment could be considered and approved. No major telecommunications infrastructure, such as telecommunications towers, would be authorized within the park.



Photo: Existing South-Rim Village Tower. NPS Photo.

The no action alternative (Alternative A) assumes ongoing management decisions/actions would continue into the future.

- Under both alternatives, the NPS would receive and review applications to install telecommunications infrastructure on a case-by-case basis, and the NPS may elect to approve or deny these applications. However, there would be no comprehensive, park-specific guidance for siting, designing, operating telecommunications infrastructure. Criteria for placement of associated infrastructure would be identified on a case-by-case basis with the goal of avoiding or minimizing impacts to resources.
- Existing telecommunications infrastructure that is either NPS-owned or authorized (via existing right-of-way permits) would likely remain for the duration of existing right-of-way permits. This includes five existing NPS radio towers.
- The NPS would consider future renewals for existing telecommunications ROW permits on a case-by-case basis, with minor modifications and upgrades anticipated over time.
- New, minor telecommunications equipment, such as small-cell sites on existing infrastructure, could also be considered and approved, but no major telecommunications infrastructure, such as telecommunications towers, would be authorized within the park.
- Because of the actions related to infrastructure, telecommunications coverage and capacity could increase as modifications to existing infrastructure are made and/or

new infrastructure is installed. But these changes in service would not be guided by a comprehensive plan and are unlikely to fully address existing deficiencies in telecommunications services within developed areas of Grand Canyon National Park given limitations of the existing infrastructure. For example, there is no capacity for additional cellular providers to place antennas on existing commercial towers and without additional towers, that limitation would continue into the future.





## Alternative B – Comprehensive Telecommunications Plan

### Telecommunications Services

- Coverage and capacity would increase. Focus would be to provide services in the developed areas of the South Rim, Desert View, and North Rim and along the two highway corridors.

### Telecommunications Infrastructure

- The NPS would receive and review applications to install telecommunications infrastructure.
- Same as Alternative A, plus, park-specific guidance for the consideration of:
  - Up to five additional telecommunications towers and 1 removal and/or relocation of an existing tower
  - Small-cell sites in high use areas
  - Backhaul – microwave and fiber



Photo: Existing NPS Radio Tower at Desert View. NPS Photo.

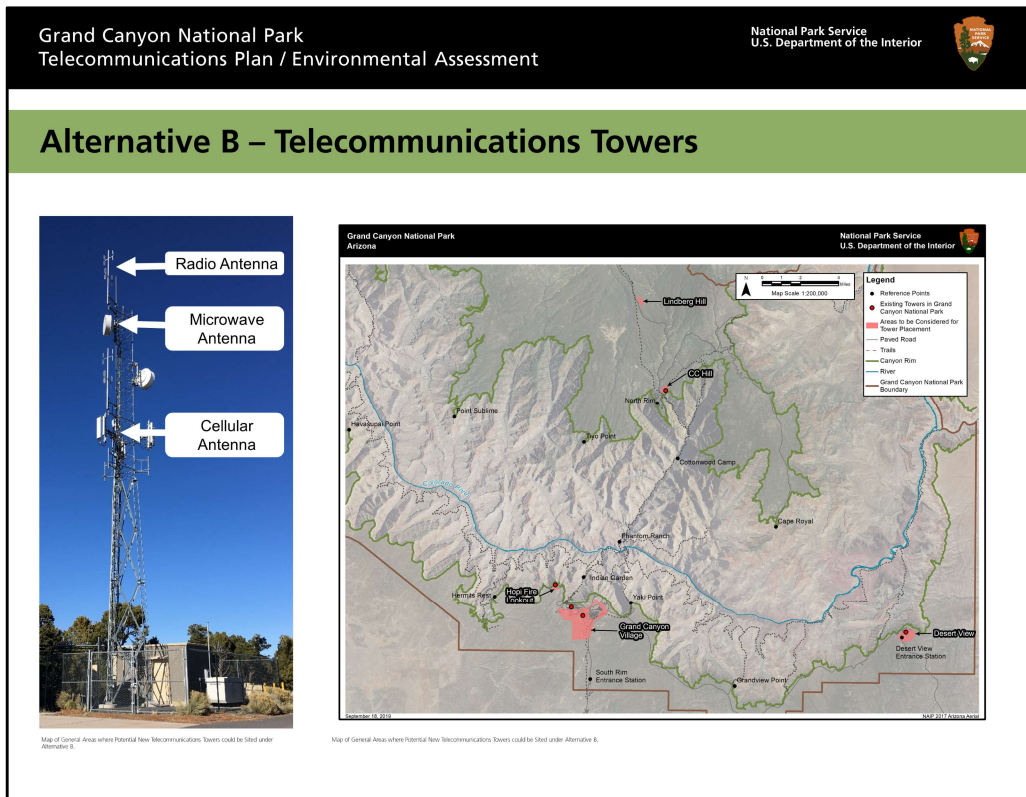


Photo: Example of Small Cell Antennas. NPS Photo.

The NPS considered one action alternative, a comprehensive telecommunications plan that would provide a framework and guidance for the future construction and operation of telecommunications infrastructure within developed areas of Grand Canyon National Park.

Under this plan, the NPS could consider accommodating three broad types of new telecommunications infrastructure within Grand Canyon National Park, all of which would adhere to identified parameters. These include telecommunications towers (includes radio, cellular, and microwave antenna), small cell sites, and backhaul via microwave and fiber optic communications cable. The proposal also includes the removal and/or relocation of some existing telecommunications infrastructure.

As a reminder, this alternative does propose the direct development of telecommunications infrastructure in the park but rather provides a framework and guidance to inform the review of future proposals to develop this type of infrastructure. The construction and operation of any new telecommunications infrastructure would require site-specific review (including additional compliance with laws such as the National Environmental Policy Act (NEPA) and National Historic Preservation Act) and approval in accordance with current NPS policies.



Like I mentioned in the last slide: one of the types of infrastructure that the NPS could allow under this plan is telecommunications towers.

Under Alternative B, the NPS could allow up to 5 additional telecommunications towers - one within each of the five general locations shown on this map in pink, with maximum heights associated based on surrounding topography, vegetation, and proximity to the Rim of the Grand Canyon. Notably, four of the five areas currently have NPS radio towers in close proximity. Under the proposed action, no towers would be allowed below the Rim of the Grand Canyon.

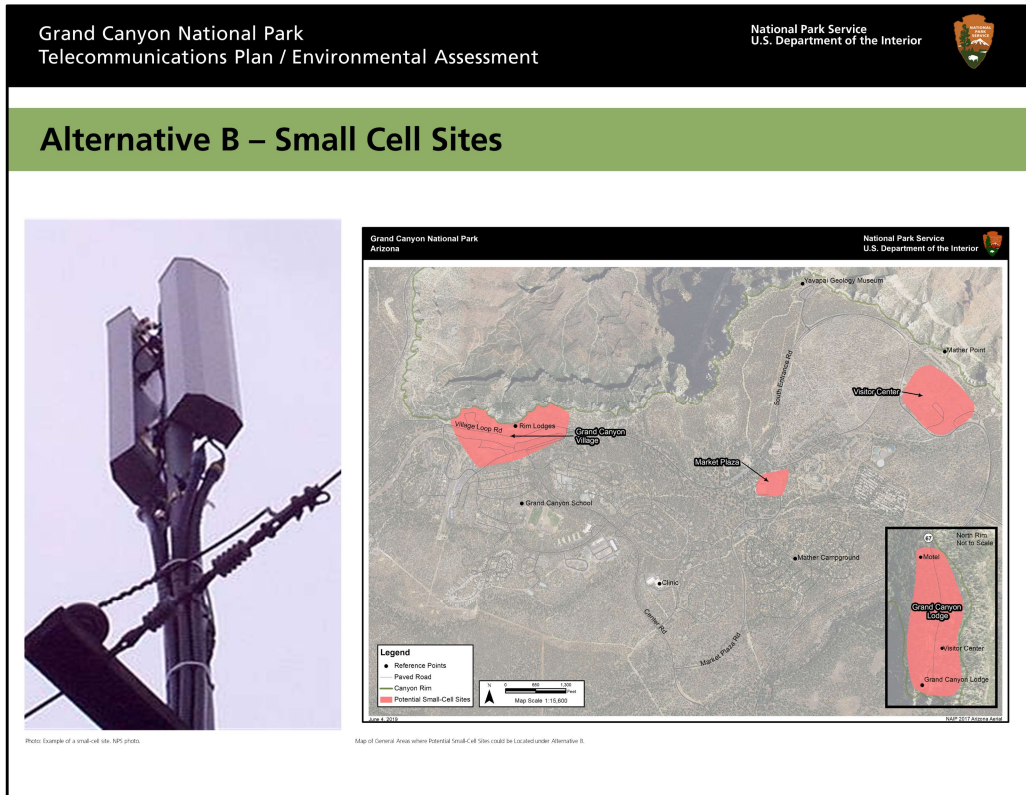
Monopoles, lattice towers, and alternative designs could be considered for tower design, though no guy lines would be allowed. Final tower design would be determined on a case-by-case basis that considers infrastructure needs and minimizes impacts to resources, including wildlife and scenic views.

Telecommunications towers would promote facility and site sharing by multiple users. All telecommunications equipment including, but not limited to, towers, equipment shelters, outdoor cabinets, radios, backup power, and fuel supply would need to be co-located within the telecommunications site. The plan states a preference for shared antennas on a tower, but if not feasible, all towers primarily constructed for cellular purposes would have the capacity for multiple carriers.

In addition to this guidance, the NPS has identified other parameters/requirements to minimize impacts and protect resources such as: Locating this infrastructure only within or immediately adjacent to disturbed areas and locating this infrastructure outside of

sensitive areas such as historic districts and wetlands. You can check out these parameters starting on may 14 in the EA.

In addition to these potential new towers, the South Rim Village Tower could be removed and/or relocated outside the Grand Canyon Village National Historic Landmark District. If so, it would be relocated within the Village area (seen in pink in the map), close to the new tower, if constructed, and would have to follow all of the parameters identified for all new towers.



The NPS could also allow the installation of what are referred to as small-cell sites.

A small-cell site is a telecommunications site designed to enhance cellular system coverage and/or provide more capacity of users to a cellular system. A small-cell site consists of an antenna panel and associated equipment that is, within the context of this plan, mounted on or within existing infrastructure such as streetlights or buildings, generally at some elevation.

Under Alternative B, the NPS could consider allowing the placement of small-cell sites in high visitor use areas: around Grand Canyon Visitor Center, within Grand Canyon Village, at Market Plaza, and surrounding Grand Canyon Lodge (on the North Rim).

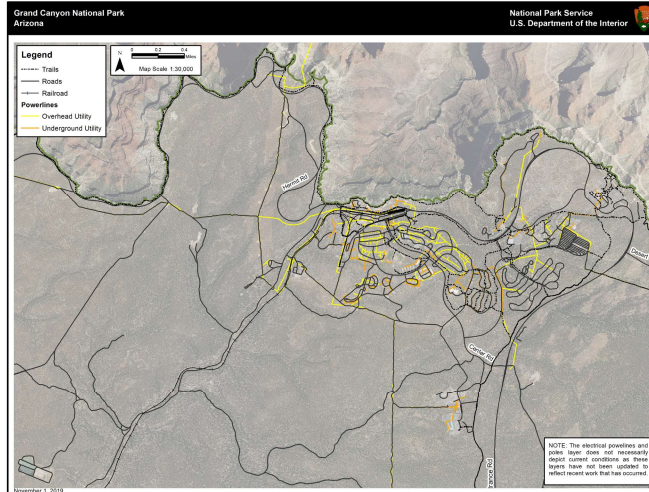
Again, in order to minimize impacts and protect resources, the NPS has parameters under which these small cell sites could be sited and designed. For example: Small cell sites would need to be installed on existing structures and all antennas on these towers would need to be shared by users. Again, you can check out these parameters starting on page 17 in the EA.



## Alternative B – Backhaul



Photo: Existing microwave dish on South Rim Village Tower. NPS photo.



Map of Existing Utility and Transportation Corridor that could be used for Fiber under Alternative B.

Finally, backhaul under the proposed action would be provided by a combination of Microwave Antenna and fiber optic communications cable.

Microwave Antenna would be on existing or new towers and would need to be shared between carriers on these towers to reduce heights and profiles of towers.

That said, under the plan, the NPS could also consider the installation of fiber optic communications cable between the park boundary, Grand Canyon Village on the South Rim, and distributed from there within the developed area of the South Rim. This cable would primarily be buried along existing disturbed corridors such as roads, paths, or utility lines but could be hung along existing power lines when needing to avoid impacts to resources.

Notably, some microwave antenna, particularly on the North Rim would still be needed even if fiber was proposed, approved, and installed.





## Resource Concerns



**Scenic Resources**

Photo: Expansive views of the Grand Canyon. NPS Photo.



**Historic Districts**

Photo: Lookout Studio, National Historic Landmark and within the Grand Canyon Village National Historic Landmark District. NPS Photo.



**Visitor Use & Experience**

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.

Based on potential impacts, we fully analyzed these impact topics in the EA:

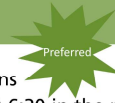
- Scenic: Resources: Expansive views of the Grand Canyon
- Historic Districts: Namely districts from which towers could be visible
- Visitor Use and Experiences: Visitor Activities and Experiences, Visitor Information, and Public Safety





## How to Comment

- ✓ At [parkplanning.nps.gov/GCTelecommunications](https://parkplanning.nps.gov/GCTelecommunications)
- ✓ At the open house on December 16, 2019, 4:30-6:30 in the park
- ✓ Mail to Superintendent, Attn: Telecommunications Plan, Grand Canyon National Park, P.O. Box 129, Grand Canyon, AZ 86023



## Next Steps in the Planning Process

Comments will be accepted through January 6, 2019.

Comments may be submitted on the project webpage (see below), at a public open house, or via mail. Comments submitted by other means (including fax, email, Facebook or other social media posts) will not be considered.

Comments that question, with reasonable basis, 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 intends to make a decision on this planning effort in early 2020.

<https://parkplanning.nps.gov/GCTelecommunications>

