AGENDA 3:00 P.M.

CITY OF SEDONA, SPECIAL CITY COUNCIL MEETING WEDNESDAY, DECEMBER 13, 2017

NOTES:

- Meeting room is wheelchair accessible. American Disabilities Act (ADA) accommodations are available upon request. Please phone 928-282-3113 at least two (2) business days in advance.
- City Council Meeting Agenda Packets are available on the City's website at:

www.SedonaAZ.gov

PLEASE NOTE THAT NO PUBLIC COMMENT WILL BE TAKEN AT THIS MEETING. ALL PUBLIC COMMENT WILL BE TAKEN DURING THE PUBLIC HEARING AT A DATE TO BE DETERMINED.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE
2. ROLL CALL
3. SPECIAL BUSINESS LINK TO DOCUMENT =
   a. AB 2287 Discussion/possible direction regarding amendments to the Wireless Communications Facilities Ordinance, Sedona Land Development Code, Article 17, to be consistent with changes in federal and state regulations; and the review and consideration of a draft Wireless Communications Master Plan.
   b. Discussion/possible action on future meeting/agenda items.
4. EXECUTIVE SESSION

   If an Executive Session is necessary, it will be held in the Vultee Conference Room at 106 Roadrunner Drive. Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

   a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).
   b. Return to open session. Discussion/possible action on executive session items.
5. ADJOURNMENT

Posted: _____ _____

By: _____ Susan L. Irvine, CMC
City Clerk

Note: Pursuant to A.R.S. § 38-431.02(B) notice is hereby given to the members of the City Council and to the general public that the Council will hold the above open meeting. Members of the City Council will attend either in person or by telephone, video, or internet communications. The Council may vote to go into executive session on any agenda item, pursuant to A.R.S. § 38-431.03(A)(3) and (4) for discussion and consultation for legal advice with the City Attorney. Because various other commissions, committees and/or boards may speak at Council meetings, notice is also given that four or more members of these other City commissions, boards, or committees may be in attendance.

A copy of the packet with material relating to the agenda items is typically available for review by the public in the Clerk's office after 1:00 p.m. the Thursday prior to the Council meeting and on the City's website at www.SedonaAZ.gov. The Council Chambers is accessible to people with disabilities, in compliance with the Federal 504 and ADA laws. Those with needs for special typeface print, may request these at the Clerk's Office. All requests should be made forty-eight hours prior to the meeting.

CITY COUNCIL CHAMBERS
102 ROADRUNNER DRIVE, SEDONA, AZ

The mission of the City of Sedona government is to provide exemplary municipal services that are consistent with our values, history, culture and unique beauty.

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CITY COUNCIL AGENDA BILL

AB 2287
December 13, 2017
Special Business

Agenda Item: 3a
Proposed Action & Subject: Discussion/possible direction regarding amendments to the Wireless Communications Facilities Ordinance, Sedona Land Development Code Article 17, to be consistent with changes in federal and state regulations; and the review and consideration of a draft Wireless Communications Master Plan.

Department	City Manager's Office
Time to Present	30 minutes
Total Time for Item	2 hours
Other Council Meetings	July 13, 2016 September 14, 2016
Exhibits	A. Draft Wireless Communications Facilities Ordinance B. Draft Wireless Communications Master Plan C. PPT Presentation

City Attorney Approval	Reviewed 12/4/17 RLP
City Manager's Recommendation	For information, discussion, and possible direction.

Expenditure Required	
	$ 0
Amount Budgeted	
	$ 0
Account No. (Description)	N/A
Finance Approval	☒

SUMMARY STATEMENT

Background:

CityScape Consultants, Inc. was hired by the City in 2016 to assist with drafting amendments to the existing zoning ordinance pertaining to the siting of wireless facilities and in the development of a Wireless Master Plan. On July 13, 2016, and September 14, 2016 CityScape Consultants, Inc., presented the following to the City Council and the Planning and Zoning Commission at joint public meetings:

- Goals and Objectives of the Master Plan program
- Interrelationship between the Land Development Code (Article 17) and Master Plan
- Impact of the Telecommunications Act of 1996 and other more recent federal regulations
- History of wireless telecommunications, network design, and deployment practices utilized by the wireless telecommunications industry
- Overview of concepts behind wireless facilities planning and zoning

- Assessments of the existing wireless infrastructure in Sedona
- Propagation maps identifying areas that will likely need future wireless infrastructure to meet service demands over the next 10 years.

The discussions that took place during these two initial meetings provided the initial input necessary for Staff and CityScape to complete the initial draft of the Land Development Code (LDC) Article 17 Wireless Communications Facilities amendments and the development of a draft Wireless Master Plan.

Once those items were drafted, they were considered by the Planning and Zoning Commission (Commission). The Commission conducted one additional work session and a public hearing, continued over the course of three meetings, to discuss the Land Development Code (LDC) Article 17 Wireless Communications Facilities amendments and the development of a draft Wireless Master Plan. Planning and Zoning Commission recommendations are outlined below.

Article 17, Wireless Communication Ordinance Proposed Amendments

The Sedona LDC Article 17 was originally adopted in 1998 and last underwent a comprehensive revision in 2003. In the 14 years since, there have been significant changes to wireless technologies and federal legislation. The update to the ordinance is needed to reflect those changes and ensure that the city's codes are reflective of current wireless technology and federal law. The complete list of federal legislation and applicable regulations is included in the staff report included in the Planning and Zoning Commission packet dated August 1, 2017.

The substantive changes to LDC Article 17 (Exhibit A) include the following:

1. Allowance for administrative review for applications that federal legislation requires that the City approve, and for city-owned properties included in the Wireless Master Plan
2. Addition of requirements specific to various types of facilities; newer types of facilities not contemplated in last comprehensive update are now addressed
3. Clarified review procedures
4. Updated definitions, clarified terms
5. Development and inclusion of a preference hierarchy for types of wireless infrastructure
6. Added requirement that provider must certify compliance with Federal Communications Commission limits on radio frequency emissions (RF) (initial and ongoing every two years)
7. Due to the passage of ARS Section 9-591 (2017 HB2365) in the 2017 legislative session, small cell wireless facilities sited within the City's rights of way will not be addressed in LDC Article 17. Small cell wireless within the City's rights of way will be issued through the right of way permitting process, regulated through the Sedona City Code Chapter 12. These code changes are in process. LDC Article 17 provides the criteria by which all other wireless facilities will be regulated

Draft Wireless Master Plan

The Wireless Master Plan is intended to be a planning tool that provides information related to:

- Wireless telecommunications technology
- Network deployment practices
- Existing wireless infrastructure inventory
- Theoretical propagation mapping
- Ten-year projection maps of potential future network deployment patterns
- Recommendations designed to meet ten-year network deployment objectives
- Identifying City owned properties that can be part of a network deployment solution for the wireless industry

The draft Master Plan (Exhibit B) is primarily designed to identify city-owned sites appropriate for possible future siting of wireless facilities, and incentivize the use of those sites, so wireless providers elect to locate on those sites (versus less desireable sites) and comply with conditions set forth by the City. After the consultant's initial propagation mapping, City staff coordinated several tours to familiarize themselves and members of the City Council and Planning and Zoning Commission with all the identified sites. At each site, various considerations were discussed such as acceptable height, style (e.g. camouflaged, monopole, etc.), and appropriateness of the location.

Twenty city-owned sites emerged as properties that should be further evaluated. These properties are included in the Draft Master Plan with identification of what types of facilities and designs are acceptable. Siting on City owned property gives the community more say in the tower and equipment size and aesthetic, because as landlords the City can dictate much stricter terms than it could simply through use of regulatory powers.

These properties have been been taken through an initial public vetting process including sending letters to notify adjacent property owners that these sites are being considered, and discussion and public comment at Planning and Zoning Commission meetings and public hearings.

Council Work Session

The City's consultants will be in attendence for this work session. This item is agendized for information, discussion and direction only and will be brought back to City Council for public hearing and final action at a later date(s). That meeting date(s) has not been set.

A draft version of CityScape's presentation for the work session is included as Exhibit C.

Community Plan Compliant: ☒**Yes -** ☐**No -** ☐**Not Applicable**

Land Use, Housing, and Growth section of the Community Plan, Land Use Policy 5. Preserve scenic views, including potential utility undergrounding and view corridor planning, in the consideration of new development and infrastructure, including limits on the approval of multi-story structures (page 53).

Board/Commission Recommendation: ☒**Applicable -** ☐**Not Applicable**

On November 7, 2017 the Planning and Zoning Commission recommended approval of the Article 17 updates (Exhibit A) and recommended approval of the Draft Wireless Master Plan

(Exhibit B) conditioned upon the exclusion of the following six city-owned properties from further consideration:

M (11 New Castle Lane)
O (160 Panorama Blvd)
A1 and A2 (2050 & 2070 Buena Vista Drive)
P (515 Back O Beyond Road)
E1 (700 El Camino Road).

The Commission cited these sites' proximity to either residential properties and/or national forest as reasons for exclusion from the Wireless Master Plan.

Packets from previous public hearings are not included as attachments but can be accessed online at the following links:

- Jun 1, 2017 Public Hearing: http://www.sedonaaz.gov/Home/ShowDocument?id=31222
- Aug 1, 2017 Public Hearing: http://www.sedonaaz.gov/Home/ShowDocument?id=31611
- Nov 7, 2017 Public Hearing: http://www.sedonaaz.gov/Home/ShowDocument?id=33316

Alternative(s): N/A

MOTION

I move to: for discussion and possible direction only.

Article 17
WIRELESS COMMUNICATION FACILITIES

Sections:

1701 Title.

This article shall be known as the Sedona Wireless Communication Facilities Ordinance.

1702 Purpose.

The purpose of this article is to promote the following:

A. The City Council has adopted a Wireless Master Plan (MP) to provide long-term planning for an efficient and capable wireless telecommunications network throughout the city that promotes collocation and optimal new tower and base station locations to meet the current and future wireless telecommunications needs of the city's residents, businesses, industry and visitors. The Wireless Master Plan minimizes negative visual impacts so as to preserve the character and viewsheds of the community and its natural surroundings;

B. Protection of the unique natural beauty and small-town character of the city as specified in the Sedona Community Plan while meeting the needs of its citizens to enjoy the benefits of wireless communication services;

C. Promote the health, safety and general welfare of the public by regulating the siting of wireless communication facilities, including satellite earth stations;

D. Consideration of historical and environmentally sensitive areas as well as consideration of potential impacts on adjacent properties;

E. Minimize the impacts of wireless communication facilities on surrounding areas by establishing standards for location, structural integrity and compatibility;

F. Encourage the location and collocation of wireless communication equipment on existing structures thereby minimizing new visual, aesthetic and public safety impacts, effects upon the natural environment and wildlife, and to reduce the need for additional towers;

G. Antenna configurations, which minimize additional visual impact through careful and innovative siting, design, landscape and camouflage techniques;

H. Accommodate the growing need and demand for wireless communication services;

I. Encourage coordination between suppliers of wireless communication services in the city;

J. Respond to the policies embodied in the Telecommunications Act of 1996 and the 2012 Spectrum Act in such a manner as not to unreasonably discriminate between providers of functionally equivalent

personal wireless service or to prohibit or have the effect of prohibiting personal wireless service in the city;

K. Establish predictable and balanced regulations governing the construction and location of wireless communication facilities, within the confines of permissible local regulation for locations outside of public rights of way. Wireless communication facilities within a public ROW shall be regulated in accordance with the provisions of Sedona City Code Title 12 and the provisions of Arizona Revised Statutes Section 9-591 et seq.; and

L. Establish review procedures to ensure that applications for wireless communication facilities are reviewed and acted upon within a reasonable period of time.

1703 Definitions.

Amateur radio tower - A tower used for non-commercial amateur radio transmissions consistent with the "Complete FCC U.S. Amateur Part 97 Rules and Regulations" for amateur radio towers.

Ancillary structure - For the purposes of this section, any form of development associated with a telecommunications facility, including foundations, concrete slabs on grade, guy anchors, generators and transmission cable supports, but excluding equipment cabinets.

Antenna - Any apparatus designed for the transmitting and/or receiving of electromagnetic waves, including telephonic, radio or television communications. Types of elements include omni-directional (whip) antennas, sectionalized (panel) antennas, multi or single bay (FM & TV), yagi or parabolic (dish) antennas. An antenna includes at least one (1) antenna element, typically a metal rod which is physical and electrically attached via feed lines to a transmitter/receiver.

Antenna array - A single or group of antenna elements and associated mounting hardware, transmission lines or other appurtenances which share a common attachment device such as a mounting frame or mounting support structure for the sole purpose of transmitting or receiving electromagnetic waves.

ASR - The Antenna Structure Registration Number as required by the FAA and FCC.

Base station - Equipment and non-tower supporting structure at a fixed location that enable wireless telecommunications between user equipment and a communications network. Examples include transmission equipment mounted on a rooftop, water tank, silo or other above-ground structure other than a tower. The term does not encompass a tower as defined herein or any equipment associated with a tower. "Base station" includes, but is not limited to:

- Equipment associated with wireless telecommunications services such as private, broadcast and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul;
- Radio transceivers, antennas, coaxial or fiber optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks);
- Any structure other than a tower that, at the time the application is filed under this section, supports or houses equipment described in this definition that has been reviewed and approved under the applicable zoning or siting process, or under another city regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

"Base station" does not include any structure that, at the time the application is filed under this section, does not support or house any wireless communication equipment.

Breakpoint technology - The engineering design of a monopole, or any applicable support structure, wherein a specified point on the monopole is designed to have stresses concentrated so that the point is at least five percent (5%) more susceptible to failure than any other point along the monopole so that in the event of a structural failure of the monopole, the failure will occur at the breakpoint rather than at the base plate, anchor bolts or any other point on the monopole.

Broadband facility - Any infrastructure used to deliver broadband services or for the provision of broadband service.

Broadband service - Any technology identified by the US Secretary of Agriculture as having the capacity to transmit data to enable a subscriber to the service to originate and receive high-quality voice, data, graphics and video. Broadband service includes:

- *Cable service* - the one-way transmission to subscribers of video programming or other programming services and subscriber interaction required for the selection or use of such video programming or other programming service.
- *Telecommunications service* - the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.
- *Wireless service* - data and telecommunications services, including commercial mobile services, commercial mobile data services, unlicensed wireless service and common carrier wireless exchange access services, as all of these terms are defined by federal law and regulations.

Collocation - The mounting or installation of transmission equipment on an eligible support structure for the purposes of transmitting and/or receiving radio frequency signals for communications purposes so that installation of a new support structure will not be required.

Concealed - A tower, base station, ancillary structure or equipment compound that is not readily identifiable as a wireless communication facility and that is designed to be aesthetically compatible with existing and proposed building(s) and uses on a site or in the neighborhood or area. There are two types of concealed facilities:

1. Base stations, including faux parapets, windows, dormers or other architectural features that blend with an existing or proposed building or structure; and
2. A freestanding concealed tower which looks like something else that is common in the geographic region such as a church steeple, windmill, bell tower, clock tower, light standard or flagpole with a flag that is proportional in size to the height and girth of the tower or tree that grows naturally or is commonly found in the area.

DAS - Distributed Antenna System - A system consisting of: (1) a number of remote communications nodes deployed throughout the desired coverage area, each including at least one antenna for transmission and reception; (2) a high-capacity signal transport medium (typically fiber optic cable) connecting each node to a central communications hub site; and (3) radio transceivers located at the hub site (rather than at each individual node as is the case for small cells) to process or control the communications signals transmitted and received through the antennas.

DAS hub - Ancillary equipment usually contained in a shelter or other enclosure which does not have any wireless transmission or receive equipment contained therein but is utilized in the deployment and operation of wireless DAS receive/transmit infrastructure that is located elsewhere.

Development area - The area occupied by a telecommunications facility including areas inside or under an antenna support structure's framework, equipment cabinets, ancillary structures and/or access ways.

Dual purpose facility - A banner pole, light stanchion, support tower for overhead electric lines or other similar utility structure onto which one or more antenna(s) are or can be mounted or attached.

Eligible facilities request - Any request for modification of an existing tower or base station involving collocation of new transmission equipment; removal of transmission equipment; or replacement of transmission equipment that is not a Substantial Change to the physical dimensions of such tower or base station.

Eligible facility - Existing tower or base station that has been approved through a local government land use review process prescribed for the tower or base station.

Eligible support structure - Any tower or base station existing at the time the application is filed with the city.

Existing - A constructed tower or base station is "existing" for purposes of this section if it has been reviewed and approved under an applicable city land use review process. "Existing" also includes a tower that was lawfully constructed but not reviewed because it was not in a zoned area when it was built.

Equipment compound - The fenced-in area surrounding, inside or under a ground-based wireless communication facility containing ancillary structures and equipment (such as cabinets, shelters and pedestals) necessary to operate an antenna that is above the base flood elevation.

Equipment cabinet - Any structure used exclusively to contain equipment necessary for the transmission or reception of communication signals.

Equipment shelter - A self-contained building housing ancillary electronic equipment typically including a generator.

FAA - The Federal Aviation Administration.

FCC - The Federal Communications Commission.

Feed lines - Cables or fiber optic lines used as the interconnecting media between the base station and the antenna.

Geographic search ring - An area designated by a wireless provider or operator for a new base station and/or tower produced in accordance with generally accepted principles of wireless engineering.

Handoff candidate - A wireless communication facility that receives call transference from another wireless facility, usually located in an adjacent first "tier" surrounding the initial wireless facility.

Node - A single location as part of a larger antenna array which can consist of one or multiple antennas, such as part of a DAS network antenna array.

Non-concealed - A telecommunication facility that is readily identifiable as such (whether freestanding or attached).

OTARD - Over The Air Reception Devices - Limited to either a "dish" antenna one meter (39.37 inches) or less in diameter designed to receive direct broadcast satellite service, including direct-to-home satellite service, or to receive or transmit fixed wireless signals via satellite, or an antenna that is one meter or less in diameter and is designed to receive video programming services via broadband radio service (wireless cable), or to receive or transmit fixed wireless signals other than via satellite or an antenna that is designed to receive local television broadcast signals.

PWSF - Personal Wireless Service Facility - Any staffed or unstaffed location for the transmission and/or reception of radio frequency signals or other personal wireless communications, including commercial mobile services, unlicensed wireless services, wireless broadband services, and common carrier wireless exchange access services as defined in the Telecommunications Act of 1996, and usually consisting of an antenna or group of antennas, transmission cables, feed lines, equipment cabinets or shelters, and may include a tower. Facilities may include new, replacement, or existing towers; replacement towers; collocation on existing towers; base station attached concealed and non-concealed antenna; dual purpose facilities; concealed towers; and non-concealed towers (monopoles, lattice and guyed), so long as those facilities are used in the provision of personal wireless services as that term is defined in the Telecommunications Act.

Qualified collocation request - Collocation of PWSF on a tower or base station that creates a Substantial Change in the facility but is entitled to processing within 90 days under 47 U.S.C. §332(c)(7).

Radio frequency emissions **-** Any electromagnetic radiation or other communications signal emitted from an antenna or antenna-related equipment.

RFI - Radio Frequency Interference - Any electromagnetic radiation or other communications signal that causes reception or transmission interference with another electromagnetic radiation or communications signal.

Replacement - A modification of an existing tower to increase the height, or to improve its integrity, by replacing or removing one (1) or several tower(s) located in proximity to a proposed new tower in order to encourage compliance with this section, or improve aesthetics or functionality of the overall wireless network.

ROW - Right of Way - The area on, below or above a public roadway, highway, street, sidewalk, alley or utility easement. ROW does not include a federal interstate highway, a state highway or state route under the jurisdiction of the Arizona Department of Transportation, a private easement, property that is owned by a special taxing district or a utility easement that does not specifically authorize deployment of wireless infrastructure.

Satellite earth station - A single or group of parabolic or dish antennas mounted to a support device that may be a pole or truss assembly attached to a foundation in the ground, or in some other configuration, including the associated separate equipment cabinets necessary for the transmission or reception of wireless communication signals with satellites.

Site - For towers other than towers in a public ROW, the boundaries of the leased or owned property on which the facilities are or are proposed to be situated.

SLDC - Sedona Land Development Code.

Small cell facility - A wireless communication facility outside of a public ROW that meets all of the following qualifications:

1. Each antenna is located inside an enclosure of no more than three (3) cubic feet in volume, or, in the case of an antenna that has exposed elements, the antenna and all its exposed elements could fit within an enclosure of no more than three (3) cubic feet;
2. New poles for new small cells are no larger than eight inches (8") in diameter as measured thirty-six inches (36") above ground level; and
3. Primary equipment enclosures are no larger than seventeen (17) cubic feet in volume. The following associated equipment may be located outside of the primary equipment enclosure and, if so located, is not included in the calculation of equipment volume: electric meter, concealment, telecommunications demarcation box, ground-based enclosures, back-up power systems, grounding equipment, power transfer switch, vertical cable runs and cut-off switch.

Small cell network - a collection of interrelated small cell facilities designed to deliver wireless service.

Stanchion - A vertical support structure generally utilized to support exterior lighting elements.

Streamlined processing - Expedited review process for collocations required by the federal government (Congress and/or the FCC) for PWSF.

Substantial change - A modification or collocation constitutes a "substantial change" of an eligible support structure if it meets any of the following criteria:

1. A PWSF collocation or modification of an existing antenna-supporting structure not in a public ROW increases the overall height of the antenna-supporting structure, antenna and/or antenna array more than ten percent (10%) or twenty (20) feet, whichever is greater or, if a base station, by more than ten percent (10%) or ten (10) feet, whichever is greater. A PWSF collocation on an existing antenna-supporting structure within a public ROW increases the overall height of the antenna-supporting structure, antenna and/or antenna array more than ten percent (10%) or ten (10) feet, whichever is greater.
2. A PWSF collocation for towers not in a public ROW protrudes from the antenna-supporting structure more than twenty (20) feet or the width of the structure at the elevation of the collocation, and for towers within a public ROW, protrudes from the antenna-supporting structure more than six (6) feet.
3. A PWSF collocation on an existing antenna-supporting structure fails to meet current building code requirements (including wind loading).
4. A PWSF collocation adds more than four (4) additional equipment cabinets or one (1) additional equipment shelter.
5. A PWSF collocation requires excavation outside of existing leased or owned parcel or existing easements.
6. A PWSF collocation defeats any existing concealment elements of the antenna-supporting structure.
7. A PWSF collocation fails to comply with all conditions associated with the prior approval of the antenna-supporting structure except for modification of parameters as permitted in this section.

Support structure - Anything constructed or erected, the use of which requires permanent location on the ground, or attachment to something having a permanent location on the ground.

Temporary PWSF - A temporary tower or other structure that provides interim short-term telecommunications needed to meet an immediate demand for service in the event of an

emergency or a public event where a permanent wireless network is unavailable or insufficient to satisfy the temporary increase in demand or when permanent PWSF equipment is temporarily unavailable or offline.

Transmission equipment - Equipment that facilitates transmission of communication service (whether commercial, private, broadcast, microwave, public, public safety, licensed or unlicensed, fixed or wireless), such as radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply.

Tower - Any support structure built for the primary purpose of supporting any antennas and associated facilities for commercial, private, broadcast, microwave, public, public safety, licensed or unlicensed, and/or fixed or wireless services. A tower may be concealed or non-concealed. Non-concealed towers include:

Guyed - A style of tower consisting of a single truss assembly composed of sections with bracing incorporated. The sections are attached to each other, and the assembly is attached to a foundation and supported by a series of wires that are connected to anchors placed in the ground or on a building.

Lattice - A self-supporting tapered style of tower that consists of vertical and horizontal supports with multiple legs and cross bracing, and metal crossed strips or bars to support antennas.

Monopole - A style of freestanding tower consisting of a single shaft usually composed of two (2) or more hollow sections that are in turn attached to a foundation. This type of tower is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a foundation that rests on or in the ground or on a building's roof. All feed lines shall be installed within the shaft of the structure.

Tower base - The foundation, usually concrete, on which the tower and other support equipment are situated. For measurement calculations, the tower base is that point on the foundation reached by dropping a perpendicular from the geometric center of the tower.

Tower height - The vertical distance measured from the grade line to the highest point of the tower, including any antenna, lighting or other equipment affixed thereto.

Tower site - The land area that contains, or will contain, a proposed tower, equipment compound, support structures and other related buildings and improvements.

Wireless communication facility - At a specific physical location, one or more antenna, tower, base station, mechanical and/or electronic equipment, conduit, cable, and associated structures, enclosures, assemblages, devices and supporting elements that generate or transmit nonionizing electromagnetic radiation or light operating to produce a signal used for communication, including but not limited to all types of transmission equipment defined further herein. Wireless communication facilities include amateur radio tower, base stations, DAS, OTARD, PWSF, satellite earth station, small cell facility and temporary PWSF.

1704 Administration.

1704.01 Applicability.

A. Except as provided for in subsection 1704.01(B) of this section, this section shall apply to development activities including installation, construction or modification to all the following wireless communication facilities:

1. Existing towers, concealed and non-concealed; publicly and privately owned;

2. Proposed towers, concealed and non-concealed; publicly and privately owned;

3. Replacement of any existing tower;

4. Collocation on any existing tower or base station;

5. Existing concealed and non-concealed base stations, publicly and privately owned;

6. Proposed concealed and non-concealed base stations, publicly and privately owned;

7. Proposed base stations and towers in public ROW and utility easements;

8. AM/FM/DTV broadcasting facilities; and

9. Amateur radio facilities.

B. The following items are exempt from the provisions of this section, notwithstanding any other regulations established in the SLDC of the city:

1. Noncommercial, amateur radio towers or antennas which are less than sixty-five (65) feet in height and attached to the rear or side of residential or commercial structures or freestanding in an area directly behind the rear structural wall of a residential or commercial structure. Noncommercial, amateur, ham radio or citizens' band towers, antennas or antenna arrays with heights greater than sixty-five (65) feet or not located directly behind the rear structural wall of a residential or commercial structure, or attached to the rear or side of residential or commercial structures shall be regulated in accordance with SLDC 1705;

2. Regular maintenance of any existing wireless communication facility that does not include an increase in the size or number of antenna; the addition of radio heads or other similar structures; the addition of coaxial cable; or the addition of equipment shelters, cabinets or generators;

3. The replacement of existing antennas, antenna panels, antenna elements or other equipment on an existing tower or base station by the same owner or wireless communication facility provider; provided, that the replaced antennas, antenna elements or equipment meet building code requirements (including wind loading) and provided such replacement does not increase the overall height or width of the structure;

4. A government-owned wireless communication facility, upon the declaration of a state of emergency by federal, state or local government, and a written determination of public necessity by the Fire Chief or Chief of Police; except that such facility must comply with all federal and state requirements. No wireless communication facility shall be exempt from the provisions of this section beyond the duration of the state of emergency;

5. Data, video or information transmission as part of the day-to-day operations of a commercial business, including, for example, processing of credit card sales, automatic inventory control, and the like which are mounted on and do not extend more than two (2) meters or six and one-half (6.5) feet above the roof surface of any building. Where technologically feasible, such antennas shall not be mounted on an exterior parapet wall facing a public or private ROW;

6. All users (such as both commercial and residential) of a wireless internet service for which a send/receive antenna is required to be located at the point of use. Where technologically feasible, such antennas shall not be mounted on an exterior parapet wall facing a public or private ROW;

7. OTARD including satellite earth stations, so long as the device does not require construction of a tower or other structure exceeding twelve (12) feet above the home or building and the

device is no more than one (1) meter in diameter in a residential zone or two (2) meters in any other zone district. Where technologically feasible, such antennas shall not be mounted on an exterior parapet wall facing a public or private ROW;

8. Any antenna-supporting structure that is damaged or destroyed by fire, flood, explosion, earthquake, war, riot, or act of God may be reconstructed and used as before if done within twelve (12) months of such calamity; provided, that there is no increase in structure height, width or number of antennas. If a new, larger antenna-supporting structure is proposed as a replacement structure, then the requirements of subsection 1704.02 of this section shall be satisfied;

9. A temporary PWSF, utilized for not more than sixty (60) calendar days, which does not require FAA lighting or marking and does not require any kind of excavation; and

10. A wireless communication facility located within a public ROW, which shall be regulated in accordance with the provisions of Sedona City Code Title 12 and the provisions of Arizona Revised Statutes Section 9-591 et seq.

C. Siting preferences for new telecommunications facilities:

Siting of new PWSF of any type shall be in accordance with the siting preferences below and with the use table in Section 1704.04. Where a lower-ranked alternative is proposed, the applicant must demonstrate through relevant information including, but not limited to, an affidavit by a radio frequency engineer demonstrating that despite diligent efforts to adhere to the established preferences within the geographic search area, higher ranked options are not technically feasible, practical or justified given the location of the proposed facilities, by clear and convincing evidence. The applicant must provide such evidence in its application in order for the application to be considered complete.

The siting preferences are, in order:

1. Concealed base station (macro, small cell, DAS or node) on:

a. City-owned property identified in the MP;

b. City-owned property not identified in the MP;

c. Other public property;

d. Privately-owned property zoned non-residential;

e. On privately-owned property which is:

i. Non-residential use in residential single family (RS) or residential multi-family (RM) districts;

ii. Residential multi-family structures;

iii. Residential single family structures.

2. Concealed collocation on an existing concealed tower or concealed base station on:

a. City-owned property identified in the MP;

b. City-owned property not identified in the MP;

c. Other public property;

d. Privately-owned property.

3. Replacement of existing non-concealed tower with a concealed tower.

4. Concealed tower for small cell, DAS or node (not macro) on:

a. City-owned property identified in the MP;

b. City-owned property not identified in the MP;

c. Other public property;

d. Privately-owned property.

5. Concealed macro tower on:

a. City-owned property identified in the MP;

b. City-owned property not identified in the MP;

c. Other public property;

d. Privately-owned property.

6. Collocation on existing non-concealed tower on:

a. Public property;

b. Privately-owned property.

7. Non-concealed macro tower on:

a. Public property:

i. Monopole;

ii. Lattice;

iii. Guyed.

b. Private property:

i. Monopole;

ii. Lattice;

iii. Guyed.

D. The preferred order of alternative ranking, from highest to lowest, shall be 1, 2, 3, 4, 5, 6 and 7 (and within each ranking a, b, c, etc.). Where a lower-ranked alternative is proposed, the applicant shall file an affidavit demonstrating that despite diligent efforts to adhere to the established preferences within the geographic search ring, as determined by a qualified radio frequency engineer, higher-ranked options are not technologically feasible.

1704.02 Approvals required.

A. All applications for PWSF shall be considered by the Planning and Zoning Commission

(Commission) at a public hearing as set forth in SLDC 402, Conditional Uses, based on potential location, aesthetic or visually related impacts as a result of the proposed antenna's height, color, size and the like, except as set forth below.

B. All applications for (i) either new concealed base station facilities, new concealed towers or collocations as listed in the Master Plan; (ii) concealed replacement tower collocations that do not constitute a "substantial change" on an existing tower or base station that has been designed and approved to accommodate multiple wireless collocations; or (iii) replacements of existing non-concealed towers with concealed towers; shall each be subject to review and approval by the Community Development Director (Director), relative to the review criteria provided in subsection 1704.03 of this section. The Director may require any application outside of a public city ROW to be considered by the Commission at a public hearing as set forth in SLDC 402, Conditional Uses, based on potential location, aesthetic or visually-related impacts.

C. All new non-concealed towers on lands outside of the properties listed in the Master Plan and non-concealed replacement towers intended for commercial use shall obtain a conditional use permit from the City Council following recommendation from the Commission (as indicated in the Use Table in Section 1704.04(C) below), as set forth in SLDC 402, Conditional Uses, after consideration of the review criteria provided in subsection 1704.03 of this section, prior to submittal for building permit approval and the initiation of construction related impacts as a result of the proposed concealed antenna's height, color, size and the like.

D. All applications for any wireless communication facilities within a public ROW that meet the eligibility criteria for "small cell facilities" in A.R.S. §9-591 et seq. shall be subject to review and approval by the Director in accordance with the provisions of application processes and approval criteria are set forth in Title 12, Sedona City Code and A.R.S. §9-591.

1704.03 Approval criteria.

In considering any application for a conditional use permit for the establishment of a tower or base station, the Director, Commission or City Council's decision shall be guided by the application of the following criteria:

A. Use of suitable existing towers or base stations is preferred over placement of new towers;

B. New base stations that do not exceed height limitations for the zoning district;

C. Concealed communication facilities are preferred over non-concealed; non-concealed that cannot be readily observable by pedestrians on adjacent streets to such facility are preferred over non-concealed that are readily observable by pedestrians on adjacent streets;

D. Collocation of multiple uses on a single wireless communication facility will have significant favorable weight in evaluating the application;

E. Network development plans that achieve the fewest number of wireless communication facilities of all users reasonably necessary for commercial coverage;

F. Location in the least restrictive zoning district;

G. Suitability of the location for collocation of governmental public service wireless service facilities.

1704.04 Location by zoning district.

A. Generally: No wireless communication facilities shall be allowed in any Open Space Districts. Wireless communication facilities may be permitted in the following districts subject to approval by

the Director or Commission or Council as set forth in subsection 1704.02 of this section:

B. Definitions of zoning districts:

OP	Office Professional District
C-1	General Commercial District
C-2	General Commercial District
C-3	Heavy Commercial/Light Manufacturing District
RC	Resort Commercial District
PD	Planned Development District
CF	Community Facilities District
L	Lodging District
P	Parking District
RS	Single Family Residential
RM	Multi-Family Residential
OS	Open Space

C. Use table:

	RS		RM		OP	GC	C-3	L/RC	PD	CF	P	OS
	R	NR	R	NR								
Concealed base station (macro, small cell, DAS or node) on												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
Other city-owned property	C	C	C	C	C	C	C	C	C	C	C	N
Other public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Concealed collocation on existing concealed tower or base station on												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
Other city-owned property	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Replacement of existing non-concealed tower with a new concealed tower on												
City-owned property	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
Public property	A	A	A	A	A	A	A	A	A	A	A	N
Private property	A	A	A	A	A	A	A	A	A	A	A	N
Concealed small cell tower, DAS or node (not macro) on												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											
Other city-owned property	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	N	C	C	C	C	C	C	C	C	C	C	N
Concealed macro tower on												
City-owned property listed in MP	A – See Master Plan for Site Specific Details											
Other city-owned property	N	C	N	C	C	C	C	C	C	C	C	N
Other public property	N	C	N	C	C	C	C	C	C	C	C	N
Private property	N	C	N	C	C	C	C	C	C	C	C	N
Collocation on eligible facility												
Non substantial change	A	A	A	A	A	A	A	A	A	A	A	N
Collocation on eligible facility with substantial change or on a non-eligible facility on												
City-owned property	C	C	C	C	C	C	C	C	C	C	C	N
City-owned property listed in MP	A	A	A	A	A	A	A	A	A	A	A	N
Public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Non-concealed tower on												
Public property												
Monopole, lattice, guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-2	C-2	N
Private property												
Monopole, lattice, guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-2	C-2	N

Key A = Administrative Permit; C = Conditional Use Permit from Planning & Zoning Commission; C-2 = Conditional Use Permit from City Council, following recommendation from Planning & Zoning Commission; N= Not Permitted; NA = Not Applicable

D. City parks: Concealed wireless communication facilities may be permitted within city park areas. Consideration will be given to locating wireless communication facilities on athletic field lighting standards, provided the equipment does not interfere with the primary purpose of the lights and does not detract from the overall aesthetics of the facility.

1704.05 Application submittal requirements.

A. Application: An application for any type of wireless communications facility shall include the following information:

1. A completed application form and any appropriate fees.

2. An accurate inventory of applicant's existing wireless communication facilities, which are existing or for which application for approval or permit has been submitted for zoning or construction, which are within the jurisdiction of this article or within one (1) mile of the city limits. The inventory shall include the location, height, type, ownership and all tenants of each facility.

3. A map of all locations owned, leased or operated by the applicant and their coverage that are located within the jurisdiction of this article or within one (1) mile of the city limits of the proposed site or which are capable of service with the proposed site by wireless means.

4. An accurate site plan of the proposed wireless communication facility showing the means of access, all adjacent roadways and a complete landscape plan.

5. A scaled drawing of the exterior of the proposed wireless communication facility, clearly showing the method of fencing; coloration; materials; illumination; and camouflage.

6. Photo-simulated pre- and post-construction renderings of the proposed wireless service facilities, equipment enclosures and ancillary structures as they would look after construction from locations to be determined at the time of application submittal (but shall, at a minimum, include renderings from the vantage point of any adjacent roadways and occupied commercial or residential structures), as well as photo-simulations of the antenna-supporting structure after it has been fully developed with antenna structures (applicant may assume for the purpose of the simulation that other antenna structures on the facility will resemble their proposed structure in size and design).

7. Exterior paint or finish samples of the colors to be used in the construction of the wireless communication facility.

8. Proof of ownership or a letter of authorization from the property owner stating that the applicant may install a wireless communication facility on their property.

9. A signed statement from the wireless communication facility owner or owner's agent stating that the radio frequency emissions comply with FCC standards for such emissions as set forth in 47 CFR 1.1307, 1.310, 2.091 or 2.093, as applicable (*Report and Order*, ET Docket 93-62 (Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation), 11 FCC Rcd 15123 (1996); *Second Memorandum Opinion and Order and Notice of Proposed Rule Making,* ET Docket 93-62 (WT Docket 97-192), 12 FCC Rcd 13494 (1997). In particular, the statement shall demonstrate the proposed facility, individually and cumulatively, will not exceed the maximum permissible exposure level to the general public of approximately 580 microwatts per square centimeter. In addition, any collocation application shall contain an analytical report which confirms that following installation, the composite facility will remain in compliance with FCC standards as stated in OET-65.

10. Proof of an FCC license to transmit and/or receive radio signals in the city prior to commencement of operations.

11. Prior to issuance of a building permit, a stamped or sealed structural analysis of the proposed antenna-supporting structure prepared by a licensed Arizona engineer indicating the proposed and future loading capacity of the antenna-supporting structure.

12. Prior to issuance of a building permit, proof of FAA compliance with Subpart C of the Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace.

13. A signed statement from the wireless communication facility owner agreeing to allow the collocation of other wireless equipment on the proposed antenna-supporting structure.

14. When conditional use permit is required, an ownership map of property owners within 300 feet of the exterior boundaries of the subject property as shown on the last assessment of the property. A list of these property owners shall also be provided on mailing labels and keyed to a map showing the location of the identified properties.

15. Cover letter describing the overall project and addressing in writing how the proposed wireless communication facility satisfies the requirements of this article.

16. All other documentation, evidence or materials necessary to demonstrate compliance with the applicable approval criteria set forth in this article, including where applicable:

a. Existing wireless communication facilities to which the proposed facility will be a handoff candidate, including latitude, longitude and power levels of each;

b. A radio frequency plot indicating the coverage of existing wireless service sites, and that of the proposed site sufficient to demonstrate radio frequency search area, coverage prediction with legend and signal levels, and design radius, together with a certification from the applicant's radio frequency engineer that the proposed facility's coverage or capacity potential cannot be achieved by any higher ranked alternative such as collocation, attached facility, replacement facility or concealed facility;

c. Prior to issuance of a building permit, a statement by a qualified professional engineer specifying the design structural failure modes of the proposed facility;

d. Antenna heights and power levels of the proposed facility and all other facilities on the subject property; and

e. A statement from the applicant that demonstrates that alternative locations, configurations and facility types have been examined; and addresses in narrative form the feasibility of any alternatives that may have fewer adverse effects on adjacent properties than the facility, configuration and location proposed including but not limited to:

i. Height;

ii. Mass and scale;

iii. Materials and color;

iv. Illumination; and

v. Information addressing the following items:

(A) The extent of any commercial development within the geographic search ring of the proposed facility;

(B) The proximity of the structure to any residential dwellings;

(C) The proximity of the structure to any public buildings or facilities;

(D) The existence of tall and like structures within the geographic search ring of the proposed structure.

17. Citizen Participation Plan and Report as set forth in SLDC 408 when a conditional use permit is required.

18. A statement that the proposed facility conforms with state of the art, as defined herein, or alternatively, that state of the art technology is unsuitable for the proposed facility. Costs of state of the art technology that exceed facility development costs shall not be presumed to render the

technology unsuitable.

19. Any other materials and data as may be required by the Director.

1704.06 Expert review.

A. Because of the complexity of the methodology or analysis required to review an application for a wireless communication facility requiring a conditional use permit, the Director may require a technical review by a third-party expert. The costs of this review shall be payable in advance by the applicant, in accordance with the Fee Schedule of the City of Sedona and shall be in addition to applicable conditional use permit and building permit fees.

B. The expert review may address any or all the following:

1. The accuracy and completeness of submissions;

2. The applicability of analysis techniques and methodologies;

3. The validity of conclusions reached;

4. Whether the proposed wireless communication facility complies with the applicable approval criteria set forth in these regulations;

5. Other matters deemed by the Director to be relevant to determining whether a proposed wireless communication facility complies with the provisions of these regulations.

C. Based on the results of the expert review, the Director may require changes to the applicant's application or submittals.

1704.07 Essential public services.

A. Wireless communication facilities shall be regulated and permitted pursuant to this article and shall not be regulated or permitted as essential services, public utilities or private utilities.

B. Applicant agrees that their service is subordinate to essential public service services, and agrees to suspend use of any site, which may conflict with such services, regardless of the reason for such conflict, until such conflict is resolved.

1704.08 Enforcement. Wireless communication facilities that are not in compliance with all portions of this article shall be removed at the owner's expense if not brought into compliance within thirty (30) days after written demand by the city.

1705 General development and design standards and processes.

1705.00 All wireless communication facilities regulated under this section shall meet the following general development and design standards and processes at a minimum:

A. Radio frequency emissions: The radio frequency emissions shall comply with FCC standards for such emissions, as set forth in 47 CFR 1.1307, 1.310, 2.091 or 2.093, as applicable (*Report and Order*, ET Docket 93-62 (Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation), 11 FCC Rcd 15123 (1996); *Second Memorandum Opinion and Order and Notice of Proposed Rule Making,* ET Docket 93-62 (WT Docket 97-192), 12 FCC Rcd 13494 (1997), and shall not, individually or cumulatively, exceed the maximum permissible exposure level to the general public of approximately 580 microwatts per square centimeter. In addition, each collocation application shall contain an analytical report which confirms that following installation, the composite facility will remain in compliance with FCC standards as stated in OET-65.

B. Impact fee calculation:

1. For the purposes of impact fee calculation, the floor area for a wireless communication facility shall be considered a commercial use and shall include the total square footage of all equipment enclosures and the areas of the antenna-supporting structure foundation at or above grade.

2. The following shall be considered as development area and shall be required to meet the setbacks and open space ratio requirements for the land use district where they are located:

a. The area beneath all equipment enclosures;

b. The area of the antenna-supporting structure foundation at or above grade;

c. The area beneath ancillary structures;

d. The area inside the antenna-supporting structure framework.

C. Signage:

1. Identification signage for each wireless communication facility shall be required for the purpose of identifying the owner as well as the tenants, responsible party for the operation and maintenance of the facility, its current address and telephone number, ASR registration number, site name, security or safety signs and property manager information (if applicable). Identification signage on wireless communication facilities shall not exceed four (4) square feet.

2. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the structure, signs located every 20 feet and attached to an enclosing fence or wall shall display in large, bold, high contrast letters (minimum height of each letter: four (4) inches) the following: “HIGH VOLTAGE – DANGER.”

D. Sounds: No unusual sound emissions such as alarms, bells, buzzers or the like are permitted and shall be consistent with City Code. Sounds shall not exceed sixty-five (65) dba at any exterior line of a property in a commercial district and fifty-five (55) dba at any exterior line of a property in a residential district.

E. Antenna mounting: Antennas and related service equipment mounted on a service tower shall be mounted as close to the tower as possible.

F. Equipment cabinets:

1. Vaulting underground freestanding equipment cabinet or shelter and/or power meter not attached to an existing structure is preferred. However, if the applicant can demonstrate that underground water table or floodplain issues prevent vaulting the supporting ground equipment then it may be placed on the ground. In no instance shall supporting group equipment be located farther than 2 feet from the base of the structure and it shall not interfere with pedestrian or vehicular traffic.

2. Equipment shelters or cabinets not vaulted shall be consistent with the general character of the neighborhood and historic character if applicable. Equipment shelters or cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with the surrounding backdrop.

3. Screening enclosures shall be allowed when the design is architecturally compatible with the building.

4. Screening materials shall consist of materials and colors consistent with the surrounding backdrop and/or textured to match the existing structure.

The use of foliage and vegetation around ground equipment may be required based on conditions of the specific area where the ground equipment is to be located.

G. Maintenance: Wireless communication facilities shall be maintained in compliance with standards contained in applicable state or local building codes and the applicable health and safety standards established by the FCC or other bodies having jurisdiction, as amended from time to time.

H. Structural integrity: The entire tower or base station and all appurtenances shall be designed pursuant to the design requirements of the most current edition of the IBC adopted by the City of Sedona. In addition, the entire tower or base station and all appurtenances shall be designed pursuant to the design requirements of ASCE 7, including wind speed design requirements, and tower loading/wind design requirements of EIA/TIA 222-G, Series II, including any subsequent modification to those specifications.

I. Lighting: New towers shall be illuminated only when required and in accordance with FAA requirements to provide aircraft obstruction lighting. All other on-site lighting required for security or emergency purposes shall be in accordance with SLDC 911 and be activated by timers or motion detectors.

J. Grading and drainage: Applicants shall furnish evidence that the proposed facility does not violate requirements in SLDC Article 8.

K. Historical/environmental review compliance: Applicants shall furnish evidence that the proposed facility has completed any applicable federal/state/tribal historical review or environmental review processes.

In addition to the foregoing general development and design standards, the following additional development and design standards apply to the specific type of wireless communication facility identified below:

1705.01 New concealed base station facilities for macro, small cell, DAS or nodes.

The following additional standards and processes apply to all new concealed base station facilities:

A. Height:

1. The overall height of any new base station facility on a rooftop shall not exceed more than ten (10) feet above the rooftop or parapet whichever is greater. “Height” for all purposes in this section shall mean the linear distance from the rooftop where the antenna is attached to the highest physical point on the wireless communication facility.

2. The overall height of any new base station facility on an existing utility or light pole shall not exceed five (5) feet above the existing pole.

B. Color, screening and placement:

1. Buildings:

a. Where feasible, antennas shall be placed directly above, below or incorporated with vertical design elements of a building or structure to maximize concealment.

b. Base station facilities shall be concealed in some fashion; e.g. screened by a parapet or other device to minimize its visual impact as measured from the boundary line of the subject

property in accordance with the provisions of Article 9 SLDC.

c. Base stations shall be designed in such a manner as to be compatible with the existing structure. The base station facility shall be constructed to integrate with the existing architecture. There shall be as little contrast as possible between the communications equipment and the structure.

2. Poles:

a. All cables shall be installed internally; but where internal mounting is not possible, surface mounted wires shall be enclosed within conduit or a similar cable cover which shall be painted to match the structure or building on which that DAS is mounted.

b. Attached equipment box and power meter is discouraged; however, if attachment is justified, equipment box and meter shall be located on the pole at a height that does not interfere with pedestrian or vehicular traffic or visibility and where applicable shall not interfere with street name signs or traffic lighting standards.

C. Approval process: If the proposed facility under this section is within the Master Plan, approvals shall be pursuant to 1704.02 (B), if not, then pursuant to 1704.02 (A).

D. Timing for review of new concealed base station facilities for macro, small cell, DAS or nodes: A new concealed base station facility shall be reviewed and a decision rendered within one hundred and fifty (150) days of receipt of the application, subject to any applicable tolling for application deficiencies and resubmissions, so long as the applicant demonstrates that the facilities will be used, immediately upon completion of construction, to provide personal wireless services, or within such other mutually agreed upon time. ("Spec" base stations are not entitled to review and decision within one hundred fifty (150) days, or to any of the other protections of the Telecommunications Act.) Construction permits issued for new concealed base stations shall be valid for a term of one hundred eighty (180) days and shall lapse and be void if construction of the contemplated concealed base station is not completed within that time.

1705.02 Collocations on existing towers or base stations.

The following additional standards and processes apply to all collocation facilities:

A. On eligible facility; non-substantial change:

1. Collocations on existing eligible towers and existing eligible base stations shall meet and shall not exceed the definition of substantial change.

2. Approval process:

a. Applicants shall complete a wireless infrastructure application and building permit application and submit applicable filing fees.

b. The Director shall review application and decide if the application meets the non-substantial change definitions and notify applicant in writing within thirty (30) days of submission if the application is incomplete or complete. If incomplete, the city shall specifically delineate the missing information. The applicant shall resubmit the missing information. The timeframe for review will begin running again when the applicant makes a supplemental submission. The city shall review and provide written notice to the applicant within ten (10) days if the application is approved or remains incomplete. If incomplete the City shall provide in writing specifically delineating the missing information.

c. City shall complete review process within sixty (60) days, accounting for any tolling, including any review to determine whether an application is complete unless there is a mutual

agreement to an extension of time. The request will be deemed granted is not approved within the sixty (60) day period, accounting for any tolling or mutually agreed upon extension of time.

B. Collocation on non-eligible facility or a substantial change:

1. Approval process: Any and all collocations that exceed the parameters set forth in the substantial change definition or are on a non-eligible facility are subject to discretionary approval on a case by case and site-specific basis through the conditional use process as set forth in Section 1704.02(A), except for collocations on city owned property in the Master Plan, which will be administratively approved. Applicants shall minimize substantial changes as much as possible.

2. Antenna mounting: Antennas and related service equipment mounted on a service tower shall be mounted as close to the tower as possible.

3. Timing for review of substantial change collocations: A substantial change collocation shall be reviewed and a decision rendered within ninety (90) days of receipt of the application, subject to any applicable tolling for application deficiencies and resubmissions, so long as the applicant demonstrates that the facilities will be used, immediately upon completion of construction, to provide personal wireless services, or within such other mutually agreed upon time. ("Spec" collocations are not entitled to review and decision within ninety (90) days, or to any of the other protections of the Telecommunications Act.)

1705.03 Concealed towers, DAS, small cell or nodes.

A. New freestanding concealed DAS, node and concealed small cell tower development standards. The following additional standards and processes apply to all new concealed freestanding DAS, node and small cell tower facilities:

1. Height: The total height of a DAS / small cell facility including antenna shall not exceed thirty (30) feet.

2. Setbacks for DAS / small cell facility shall meet the same setbacks of the underlying zoning district.

3. The use of foliage and vegetation around ground equipment may be required by the city based on conditions of the specific area where the ground equipment is to be located. In order to avoid the clustering of multiple items of ground equipment in a single area, a maximum of two ground equipment boxes may be grouped together in any single location. Individual ground equipment boxes shall not exceed the dimensions provided for in Section 1703 above.

4. Visibility of new DAS / small cell structures:

a. New DAS / small cell structures shall be configured and located in a manner that minimizes adverse effects on the landscape and adjacent properties, with specific design considerations as to height, scale, color, texture and architectural design of the buildings on the same and adjacent zoned lots. Concealment design is required to minimize the visual impact of wireless communication facilities.

b. All cables, conduits, electronics and wires shall be enclosed within the structure.

c. Small cell facilities shall be no larger in size than what is specified in the Section 1703 Definitions.

5. Timing for review of new concealed DAS, node and concealed small cell tower applications. A new concealed DAS, node and concealed small cell tower shall be reviewed and a decision rendered within one hundred and fifty (150) days of receipt of the application, subject to any

applicable tolling for application deficiencies and resubmissions, so long as the applicant demonstrates that the facilities will be used, immediately upon completion of construction, to provide personal wireless services, or within such other mutually agreed upon time. ("Spec" towers are not entitled to review and decision within one hundred fifty (150) days, or to any of the other protections of the Telecommunications Act.) Construction permits issued for new concealed PWSF towers shall be valid for a term of one hundred eighty (180) days and shall lapse and be void if construction of the contemplated concealed PWSF tower is not completed within that time.

B. DAS Hub Development Standards: Setbacks for DAS hubs shall meet the setback standards of the underlying zoning district.

1. DAS Hub: Equipment shelters or cabinets shall be consistent with the general character of the neighborhood and historic character if applicable. Equipment shelters or cabinets shall be screened from the public view by using landscaping or materials and colors consistent with the surrounding backdrop.

a. Screening enclosures shall be allowed when the design is architecturally compatible with the building;

b. Screening materials shall consist of materials and colors consistent with the surrounding backdrop and/or textured to match the existing structure;

c. The use of foliage and vegetation around ground equipment may be required based on conditions of the specific area where the ground equipment is to be located.

1705.04 Concealed macro or replacement tower.

A. The following additional standards and processes apply to new or replacement concealed wireless communication facilities:

1. Setbacks: Concealed facilities shall meet the greater of either:

a. The minimum setback requirements for the zoning district; or

b. Away from single family residential use properties by a minimum distance of 100% of the tower height; notwithstanding the foregoing requirements, if the antenna-supporting structure has been constructed using "breakpoint" design technology, the minimum setback distance shall be equal to 110% of the distance from the top of the structure to the "breakpoint" level of the structure. For example, on a 100 foot tall monopole with a "breakpoint" at 80 feet, the minimum setback distance would be 22 feet (110% of 20 feet, the distance from the top of the monopole to the "breakpoint"). Certification by an Arizona professional engineer of the "breakpoint" design and the design's fall radius shall be provided together with the other information required in SLDC 1704.05.

c. Either the Director (for Master Plan sites) or the Planning and Zoning Commission (for all other sites) shall have the authority to waive any applicable setback requirements where the City favors a more desirable location within the applicable parcel for the concealed facility.

2. Collocation feasibility:

a. No new concealed tower shall be permitted unless the applicant demonstrates that no existing base station or tower can accommodate the applicant's proposed facility; or that use of such existing facilities would prohibit personal wireless services in the area of the city to be served by the proposed antenna-supporting structure. The new tower shall be designed to accommodate the maximum amount of wireless communication equipment, including that of other wireless communication providers. In all cases, the minimum number of collocated facilities on a new tower between sixty (60) and seventy (70) feet shall be three (3).

b. Evidence submitted to demonstrate that no existing wireless communications facility could accommodate the applicant's proposed facility may consist of any of the following:

i. No existing wireless communication facilities located within the geographic search ring or a one-half mile around the geographic search ring meet the applicant's engineering requirements.

ii. Existing wireless communication facilities are not of sufficient height to meet the applicant's engineering requirements.

iii. Existing wireless communication facilities do not have sufficient structural strength to support the applicant's proposed wireless communication facilities and related equipment.

iv. The applicant demonstrates that there are other limiting factors that render existing wireless communication facilities unsuitable.

3. Construction: No new or replacement concealed wireless communication facility shall be guyed or have a lattice type construction.

4. Aesthetics:

a. No concealed facility, whether fully enclosed within a building or otherwise, shall have antennas, antenna arrays, transmission lines, equipment enclosures or other ancillary equipment that is readily identifiable from the public domain as wireless communication equipment. Examples of concealed facilities include, but are not limited to, flagpoles, light standards, utility poles, church steeples, bell towers, clock towers and artificial trees.

b. Concealed wireless communication facilities shall be placed and constructed in such a manner as to be compatible with the existing structure or surrounding natural terrain. There shall be as little contrast as possible between the communications equipment and the structure or natural terrain.

c. Concealed facilities constructed in the form of a "faux" tree shall mimic a tree native to Sedona with sufficient number of "faux" branches and foliage to conceal all external antenna, panels, trays, cables, support rods, crossbars, port holes, splitters, couplers and attenuators and any other equipment external to the tower mast, which shall be painted or have applied material to simulate tree bark, branches, and leaves indigenous to the area, with variations in color and shape to replicate natural fauna. "Faux" branches shall surround the tower in a multi-dimensional pyramid shape pattern to the top of the tower, with branches and foliage material in variable length, width and depth sufficient to obscure physical view of the tower, antenna elements and brackets.

5. Placement of equipment for pole-mounted antennas: Any ground-mounted equipment and equipment shelters shall be located outside of the public ROW. Such ground-mounted equipment and equipment shelters shall be painted to comply with the color requirements of SLDC 904, and shall be screened from public view with appropriate landscaping. In the alternative, equipment may be mounted on the pole; provided, that access to the pole and to any other services or equipment above it is not impeded. Pole-mounted equipment shall also be designed and placed to be aesthetically compatible with existing and proposed uses and as visually inconspicuous as possible.

6. Security: An opaque fence or masonry wall no greater than eight (8) feet in height from finished grade shall be provided around the perimeter of all development areas for ground-mounted wireless communication facilities. The decision to provide either a fence or a wall shall rest with the Director and/or Commission. If a fence is used to enclose the site, the fence shall be constructed of wire mesh, metal picket or an alternative material as approved by the Director

and/or Commission. If a wall is used to enclose the site, the wall shall have a decorative finish of native stone, stucco, split-faced block, brick, or an alternative material as approved by the Director and/or Commission. The Director will give administrative approvals; and for conditional use permits the Director will make recommendations and the Commission will give approvals. Access to the development area shall be through a locked gate.

7. Landscaping: Landscaping and buffering shall be required around the perimeter of development areas, except that the Director or Commission, as applicable, may waive the any applicable landscaping requirements as outlined in SLDC on one (1) or more sides of the development areas or allow the placement of required landscaping elsewhere on the development area when the required landscape area is located adjacent to undevelopable lands or lands not in public view. Landscaping shall be installed on the outside of the perimeter fence or wall. Existing vegetation shall be preserved to the maximum extent practicable and may be used as a substitute for or in supplement towards meeting the landscaping requirements, subject to approval by the Director (for administrative approvals) or Commission (for conditional use permits). Landscaping shall be placed in a manner so as to maximize the screening between residential areas and the wireless communication facility and minimize the view of the facility from any residential areas.

8. Control buildings and ground mounted equipment:

a. The control buildings shall be designed to be architecturally compatible with adjacent buildings and shall comply with the provisions of Articles 9 and 10 SLDC. The control buildings shall not be placed in minimum setback areas as required in Article 6 SLDC, nor shall they encroach into required landscape areas.

b. Ground-mounted equipment shall not be visible from beyond the boundaries of the site and shall be screened by a solid wall or fence and dense landscaping materials as described in subsection 1705.04(6) and (7) of this section.

9. Height: The overall height of any concealed tower, antenna and/or base station shall not exceed the greater of (a) seventy (70) feet or (b) twenty (20) feet above the average height of native trees within a five hundred (500) foot radius of the proposed facility. “Height” for all purposes in this section shall mean the linear distance from the ground to the highest physical point on the antenna-supporting structure, including all antennas and antenna arrays.

10. Adverse effects on properties:

a. New concealed towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on adjacent properties. The applicant shall demonstrate that alternative locations, configurations and facility types have been examined and shall address in narrative and graphic form the feasibility of any alternatives that may have fewer adverse effects on adjacent properties than the facility, configuration and location proposed.

b. An applicant shall demonstrate through the photo-simulation requirements under SLDC 1704.05 that the project design employs each of these attributes in a manner that minimizes adverse effects to the greatest extent feasible.

c. The following attributes shall be considered from vantage points at adjacent properties, roadways and occupied structures:

i. Height and location;

ii. Mass and scale;

iii. Materials and color;

iv. Illumination;

v. Existing and proposed vegetation and intervening structures.

11. Timing for review of new concealed tower applications: A new concealed PWSF tower, shall be reviewed and a decision rendered within one hundred and fifty (150) days of receipt of the application, subject to any applicable tolling for application deficiencies and resubmissions, so long as the applicant demonstrates that the facilities will be used, immediately upon completion of construction, to provide personal wireless services or within such other mutually agreed upon time. ("Spec" towers are not entitled to review and decision within one hundred fifty (150) days, or to any of the other protections of the Telecommunications Act.) Construction permits issued for new concealed PWSF towers shall be valid for a term of one hundred eighty (180) days and shall lapse and be void if construction of the contemplated concealed PWSF tower is not completed within that time.

1705.05 New non-concealed macro towers.

A. The following additional standards and processes apply to new non-concealed towers:

1. Setbacks: New towers shall be located as follows:

a. For new wireless communication facilities, the setback shall be away from public ROW by a minimum distance of one (1) foot for each one (1) foot of tower height;

b. Away from single family residential use properties by a minimum distance of 100% of the tower height;

c. Notwithstanding the above requirements, if the antenna-supporting structure has been constructed using "breakpoint" design technology, the minimum setback distance shall be equal to 110% of the distance from the top of the structure to the "breakpoint" level of the structure. For example, on a one hundred (100) foot tall monopole with a "breakpoint" at eighty (80) feet, the minimum setback distance would be twenty-two (22) feet (110% of twenty (20) feet, the distance from the top of the monopole to the "breakpoint"). Certification by an Arizona professional engineer of the "breakpoint" design and the design's fall radius shall be provided together with the other information required in SLDC 1704.05.

2. Height: The overall height of any tower, antenna and/or base station outside of the ROW shall not be exceed the greater of (a) seventy (70) feet or (b) twenty (20) feet above the average height of native trees within a five hundred (500) foot radius of the proposed facility. "Height" for all purposes in this section shall mean the linear distance from the ground to the highest physical point on the antenna-supporting structure, including all antennas and antenna arrays.

3. Construction: New towers and base stations shall be in accordance with the prescribed preferences in SLDC1704.01 (C).

4. Collocation Feasibility:

a. No new tower or new base station shall be permitted unless the applicant demonstrates that no existing base station or tower can accommodate the applicant's proposed facility; or that use of such existing facilities would prohibit personal wireless services in the area of the city to be served by the proposed antenna-supporting structure. The new tower shall be designed to accommodate the maximum amount of wireless communication equipment, including that of other wireless communication providers. In all cases, the minimum number of collocated facilities on a new tower between sixty (60) and seventy (70) feet shall be three (3).

b. Evidence submitted to demonstrate that no existing wireless communications facility could accommodate the applicant's proposed facility may consist of any of the following:

i. No existing wireless communication facilities located within the geographic search ring or one-half (½) mile around the geographic search ring meet the applicant's engineering requirements.

ii. Existing wireless communication facilities are not of sufficient height to meet the applicant's engineering requirements.

iii. Existing wireless communication facilities do not have sufficient structural strength to support the applicant's proposed wireless communication facilities and related equipment.

iv. The applicant demonstrates that there are other limiting factors that render existing wireless communication facilities unsuitable.

5. Color:

a. New non-concealed towers shall be painted to match the background or other accepted contextual or compatible color in accordance with the requirements of Article 9 SLDC, except as required by federal rules or regulations.

b. If permitted, non-concealed antenna and related service equipment attached to towers and base stations shall be of a color compatible with the color of the supporting structure so as to make the antenna and related service equipment visually unobtrusive in accordance with the provisions of Article 9 SLDC.

6. Security: An opaque fence or masonry wall no greater than eight (8) feet in height from finished grade shall be provided around the perimeter of all development areas for ground-mounted wireless communication facilities. The decision to provide either a fence or a wall shall rest with the Commission or Council, as applicable. If a fence is used to enclose the site, the fence shall be constructed of wire mesh, metal picket, or an alternative material as recommended by the Director and approved by Commission or Council for conditional use permits. If a wall is used to enclose the site, the wall shall have a decorative finish of native stone, stucco, split-faced block, brick, or an alternative material as recommended by the Director and approved by Commission or Council. Access to the development area shall be through a locked gate.

7. Landscaping: Landscaping and buffering shall be required around the perimeter of development areas, except that the Planning and Zoning Commission or City Council may waive the any applicable landscaping requirements as outlined in SLDC on one (1) or more sides of the development areas or allow the placement of required landscaping elsewhere on the development area when the required landscape area is located adjacent to undevelopable lands or lands not in public view. Landscaping shall be installed on the outside of the perimeter fence or wall. Existing vegetation shall be preserved to the maximum extent practicable and may be used as a substitute for or in supplement towards meeting the landscaping requirements, subject to approval by the Planning and Zoning Commission or City Council, as applicable. Landscaping shall be placed in a manner so as to maximize the screening between residential areas and the wireless communication facility and minimize the view of the facility from any residential areas.

8. Control buildings and ground-mounted equipment:

a. The control buildings shall be designed to be architecturally compatible with adjacent buildings and shall comply with the provisions of Articles 9 and 10 SLDC. The control buildings shall not be placed in minimum setback areas as required in Article 6 SLDC, nor shall they encroach into required landscape areas.

b. Ground-mounted equipment shall not be visible from beyond the boundaries of the site and shall be screened by a solid wall or fence and dense landscaping materials as described in

subsections 1705.05(6) and (7) of this section.

9. Maintenance: Wireless communication facilities shall be maintained in compliance with standards contained in applicable state or local building codes and the applicable health and safety standards established by the FCC or other bodies having jurisdiction, as amended from time to time.

10. Adverse Effects on Properties:

a. New towers and base stations shall be configured and located in a manner that shall minimize adverse effects including visual impacts on adjacent properties. The applicant shall demonstrate that alternative locations, configurations and facility types have been examined and shall address in narrative and graphic form the feasibility of any alternatives that may have fewer adverse effects on adjacent properties than the facility, configuration and location proposed.

b. An applicant shall demonstrate through the photo-simulation requirements under SLDC 1704.05 that the project design employs each of these attributes in a manner that minimizes adverse effects to the greatest extent feasible.

c. The following attributes shall be considered from vantage points at adjacent properties, roadways and occupied structures:

i. Height and location;

ii. Mass and scale;

iii. Materials and color;

iv. Illumination;

v. Existing and proposed vegetation and intervening structures.

11. Timing for review of new tower applications: A new non-concealed PWSF tower shall be reviewed and a decision rendered within one hundred and fifty (150) days of receipt of the application, subject to any applicable tolling for application deficiencies and resubmissions, so long as the applicant demonstrates that the facilities will be used, immediately upon completion of construction, to provide personal wireless services, or within such other mutually agreed upon time. ("Spec" towers are not entitled to review and decision within one hundred and fifty (150) days, or to any of the other protections of the Telecommunications Act.) Construction permits issued for new PWSF towers shall be valid for a term of one hundred eighty (180) days and shall lapse and be void if construction of the contemplated PWSF tower is not completed within that time.

1705.06 AM/FM/TV/DTV broadcasting facilities.

The following standards apply to new AM/FM/DTV broadcasting facilities:

A. An antenna, antenna array and/or antenna-supporting structure for AM/FM/TV/DTV facilities licensed by the Federal Communications Commission shall only be permitted in zoning districts C-1, C-2 or C-3 in the city.

B. Any applicant for the construction or installation of any antenna, antenna array and/or antenna-supporting structure for use as an AM, FM, TV or DTV broadcasting facility must demonstrate, prior to submitting an application, a valid FCC construction permit for the proposed location (showing NAD 27 coordinates and appropriate conversion to NAD 83 coordinates) together with an FAA Determination of No Hazard to Air Navigation (Form 7460) for the same coordinates.

C. An antenna, antenna array and/or antenna-supporting structure for use as an AM, FM, TV or DTV broadcasting facility shall, in no event, exceed two hundred fifty (250) feet in height.

D. Any antenna-supporting structure, equipment enclosures and ancillary structures shall meet the minimum setback requirements for the land use district where they are located, except that where the minimum setback distance for an antenna-supporting structure from any property line or public ROW is less than the height of the proposed antenna-supporting structure, the minimum setback distance shall be increased to equal the height of the proposed antenna-supporting structure. However, in all instances, the minimum setback distance from the setback line of any residentially zoned property, with a constructed residence or potential residence, shall be at least 200% of the height of the entire proposed structure.

E. The entire antenna-supporting structure and all appurtenances shall be designed pursuant to the wind speed design requirements of ASCE 7-95, including any subsequent modification to those specifications.

F. Any facility shall be illuminated in accordance with FAA requirements to provide aircraft obstruction lighting, where required. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (such as the longest duration between flashes) allowable by the FAA. No strobes or other lighting shall be permitted unless required by the FAA.

G. New towers shall maintain a galvanized gray finish or other accepted contextual or compatible color, except as required by federal rules or regulations.

H. The radio frequency emissions shall comply with FCC standards for such emissions on an individual and cumulative basis with any adjacent facilities. The applicant shall certify that any and all new services shall cause no harmful interference to the existing City of Sedona Public Safety Communications equipment.

I. Applicants shall provide for a fence or wall around the proposed facility that meets the requirements of subsection 1705.01(K) of this section.

J. Landscaping and buffering shall be required around the perimeter of development areas, as required by SLDC 910, except that the Planning and Zoning Commission may waive the required landscaping otherwise required under SLDC 910 on one (1) or more sides of the development areas or allow the placement of required landscaping elsewhere on the development area when the required landscape area is located adjacent to undevelopable lands or lands not in public view. Alternative landscaping may be approved by the Planning and Zoning Commission. Landscaping shall be installed on the outside of the perimeter fence or wall.

K. The only signage that is permitted upon an antenna-supporting structure, equipment enclosures, or fence (if applicable) shall be informational, and for the purpose of identifying the tower (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility, its current address and telephone number, security or safety signs, and property manager signs (if applicable). If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters (minimum height of each letter: four (4) inches) the following: “HIGH VOLTAGE – DANGER.”

L. Grading and Drainage - Applicant shall furnish evidence that the proposed facility does not violate requirements in SLDC Article 8.

M. Adverse Effects on Adjacent Properties:

1. New towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on adjacent properties. The applicant shall demonstrate that alternative locations, configurations and facility types have been examined and shall address in narrative

and graphic form the feasibility of any alternatives that may have fewer adverse effects on adjacent properties than the facility, configuration and location proposed.

2. The following attributes shall be considered from vantage points at adjacent properties, roadways and occupied structures:

a. Height and location;

b. Mass and scale;

c. Materials and color;

d. Illumination;

e. Existing and proposed vegetation and intervening structures; and

f. Overall aesthetics of the proposed structure.

1706 Noncommercial amateur wireless facility or oversized satellite earth station.

An applicant proposing either (i) a satellite earth station larger than the parameters set forth in Section 1704.01 (B)(7) above or (ii) an amateur wireless facility which is sixty-five (65) feet or greater in all zoning districts or is not located either directly behind the rear structural wall of a residential or commercial structure, or is attached to the rear or side of a residential or commercial structure, shall obtain a conditional use permit as set forth in SLDC 402, Conditional uses, relative to the review criteria provided in SLDC 1704.03, prior to submittal for building permit approval and the initiation of construction.

A. Application Requirements:

1. Site Plan application in accordance with the Site Plan requirements of the codes of the city.

2. Applicant's copy of current, valid FCC license for amateur radio operation (not applicable for satellite earth station applicants).

3. Site Plan sketch showing all proposed structures (such as support structures, anchorage) and setbacks from such structures to property boundaries.

B. Approval Standards:

Approval standards for amateur wireless facility in excess of sixty-five (65) feet in all zoning districts:

1. The facility shall be accessory to a legal, principal use on site (such as a residence).

2. Structures, including towers, shall meet the setback requirements for primary structures for the zoning district in which the proposed facility shall be located.

3. Applicant shall commit in writing that the facility will be erected in accordance with manufacturer's recommendations.

4. If more than 220 voltage is present in the ground grid or in the tower, a sign shall be attached to the tower and shall display in large bold letters the following: "HIGH VOLTAGE – DANGER."

5. Applicant shall certify that the proposed facility meets or exceeds FCC guidelines for radio frequency radiation exposure.

6. Applicant shall furnish evidence that the proposed facility does not violate requirements in SLDC Article 8.C. Collocation Prohibited. Collocation of any antenna, antenna arrays, microwave

or similar type equipment not used for the purposes of either a satellite earth station or an amateur wireless facility is prohibited.

1707 Interference with public safety communications.

In order to ensure that the city's public safety radio services will be free from objectionable technical interference, all applicants requesting a permit for a wireless communication facility or an AM/FM/TV/DTV facility shall agree, in addition to any other requirements:

A. To demonstrate compliance with good engineering practices;

B. To provide the city a copy of all inter-modulation studies submitted to the FCC;

C. Not to induce objectionable technical interference to the city's public safety radio services;

D. To comply with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI);

E. In the case of collocation of telecommunications facilities either in the same location or on the same tower as the city's, to not cause or permit to be caused by its transmissions or other activities on the premises, objectionable technical interference of any kind whatsoever to the broadcasting transmissions, reception, or electromagnetic communications of the city;

F. To pay for any studies requested by the city's Director to determine if the applicant's telecommunications facilities are causing objectionable technical interference; and

G. Upon notification by the Director, if the operations of the applicant are causing objectionable technical interference, to immediately undertake all steps necessary to determine the cause of and eliminate such interference utilizing the procedures set forth in the joint wireless industry-public safety "Enhanced Best Practices Guide," released by the FCC in Appendix D of FCC 04-168 (released August 6, 2004), including the "Good Engineering Practices," as may be amended or revised by the FCC from time to time in any successor regulations, at the cost of the applicant. If said interference continues for a period in excess of forty-eight (48) hours after notice from the Director, the city shall have the right to cause the applicant to cease operating the equipment that is causing the objectionable technical interference or to reduce the power sufficiently to ameliorate the objectionable technical interference until the condition causing said interference has abated.

1708 Post construction inspections.

A. Wireless communication facility owners (other than amateur facility owners) shall submit a report to the Department of Community Development certifying structural and electrical integrity, as well as continued compliance with RF exposure standards specified in OET-65, upon activation of the facility and thereafter once every two (2) years on the anniversary of the certificate of completion.

B. Inspections shall be conducted by an engineer licensed to practice in the State of Arizona. Based upon the results of an inspection, the Director of the Department of Community Development may require repair or removal of a wireless communication facility.

C. The city may conduct periodic inspections with the cost of such inspection paid by the owner of the wireless communication facility as provided in the fee schedule of the city to ensure structural and electrical integrity. The owner of the wireless communication facility may be required by the city to have more frequent inspections if there is evidence that the wireless communication facility has a safety problem or is exposed to extraordinary conditions.

1709 Abandonment and removal.

A. Towers and base stations shall be removed, at the owner's expense, within one hundred eighty (180) days of cessation of use.

B. An owner wishing to extend the time for removal or reactivation shall submit an application stating the reason for such extension. The Director may extend the time for removal or reactivation up to sixty (60) additional days upon a showing of good and unique cause. If the tower or base station is not removed within this time, the city may give notice that it will contract for removal within thirty (30) days following written notice to the owner. Thereafter, the city may cause removal at the cost of the owner.

C. Upon removal of the tower or base station, the site shall be returned to its natural state and topography and vegetation consistent with the natural surroundings or consistent with the current uses of the surrounding or adjacent land at the time of removal, excluding the foundation, which does not have to be removed. The Director may extend the time for returning the site to its natural state, topography and vegetation up to sixty (60) additional days upon a showing of good and unique cause. If the site improvements are not made, the city may give notice that it will contract for the improvements within thirty (30) days following written notice to the owner. Thereafter, the city may contract the improvements at the cost of the owner.

Wireless Master Plan

City of Sedona, Arizona

Draft

November 30, 2017

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Preface

Purpose of the Wireless Master Plan

Background

The City of Sedona contracted with CityScape Consultants, Inc., (CityScape) to develop a Wireless Master Plan (MP), to best identify the most appropriate locations for future siting of wireless infrastructure. CityScape was contracted to update the City's Land Development Code (LDC) to ensure the local ordinance complies with federal regulations, but still exercises the City's limited authority to influence certain aspects of the infrastructure's placement and appearance.

CityScape developed the Wireless Master Plan in partnership with City staff, local elected and appointed officials, citizenry and industry stakeholders. The MP is designed to balance the goals of providing good wireless network services throughout the City while minimizing the visual impacts of wireless infrastructure.

The MP is an illustrative planning tool which includes:

- A short history on wireless telecommunications technology; and
- An overview on network deployment practices; and
- An inventory of existing wireless infrastructure throughout the City; and
- Theoretical propagation mapping; and
- Ten-year projection maps of potential future network deployment patterns; and
- Recommendations designed to meet ten year network deployment objectives; and
- City-owned properties that can be part of a network deployment solution for the wireless industry.

The scope of services for the MP includes the following five tasks:

- **Task A**: Preliminary research for data assessments and base mapping.
- **Task B**: Infrastructure assessments; kick-off meeting; and initial theoretical root mean square (RMS) mapping.
- **Task C**: Inventory catalogue of existing towers and base stations assessed during the site assessment process.
- **Task D**: Design and development of draft MP; existing ordinance review and ordinance amendment recommendations.
- **Task E**: Final documents based on review and approval by City staff, appointed and elected officials.

Dual Purpose Concealed Small Cell Facility
Red Rocks Church

Chapter 1

The Telecommunications Industry

Telecommunications is defined as the exchange of information over distances by electronic means and refers to all types of voice, data and or video transmission. Telecommunications includes the transmission of such data via wires or wirelessly and includes a wide range of transmitting technology such as telegraph, telephones, microwave, fiber optics, satellite, radio and television broadcasting and the Internet.

Traditional landline telephone service utilizes an extensive network of copper lines to transmit and receive phone calls between parties. Wireless telephony, also known as wireless communications, includes mobile phones, pagers, and two-way enhanced radio systems. It relies on the combination of landlines, cable and an extensive network of elevated antennas most typically found on communication towers to transmit voice and data information.

The current evolution of personal wireless technology is benchmarked by the underlying network platforms and referenced as first, second, third, fourth and fifth generations of wireless deployment (1G, 2G, 3G, 4G and 5G respectively). Copper based connectivity has been the mainstay of the initial wireless technology evolution. With the evolution to 3G and beyond copper wire based technology is no longer sufficient. The popularity of the Smartphone, the demand for faster Internet speed and more bandwidth is leading to the migration from copper to fiber optic communications. Fiber optic communications is a method of transmitting the information by sending pulses of light through an optical fiber. Fiber optics is preferred when high bandwidth or long distance is required. Wireless microwave is used when fiber optics is not available or economical.

Satellite technology, while initially promising, currently cannot compete well with ground-based services due to the physics of speed of light and the long delays created by the great distance between the satellites and end user. Present demand for large data usage compounds complications with this type of technology.

The development of 5G wireless technologies will exponentially expand wireless network capacity by incorporating multiple-input and multiple-output (MIMO) antenna technologies and a wide range of frequency spectrum between 5 and 95 gigahertz (GHz). Fifth Generation advanced technologies will result in much faster download speeds for all devices including Smartphones, other smart devices, and machine-to-machine (M2M) data transmission between automotive vehicles other interconnected equipment such as transportation and logistics, home health care, manufacturing and public safety.

Wireless Handset Device Evolution

1G, 1984 Mobria Cell Phone (Image: J Bundy)

During the early 1980's, the first generation, operating in 850 megahertz (MHz) band cellular system, was launched nationwide. The 1G portable cell phones were boxy in shape and operated much like a small AM or FM radio station. The 850 MHz frequency also known as low band, allows the radio signal from the antenna on the tower to travel beyond five miles provided the transmitting signal has a clear line of sight. Customers using a cell phone knew when they traveled outside of the service area because they would hear a static sound on the phone similar to the sound of a weak AM radio station. The signal either faded or remained crackling until the subscriber was within range of another facility.

Originally, the 850 MHz band only supported an analog radio signal. By 2010, 1G was phased out of network design in most urban markets, but still serves as a platform of initial coverage in remote and undeveloped areas.

Early 1992 marked the deployment of 2G technologies operating in the 1900 MHz frequency. The 1900 MHz frequency, also known as high band, converted the technology from an analog to digital signal and primarily allowed for simultaneous phone calls over the digital signal. Calls placed on the 1900 MHz system were audibly clearer than those made on an analog signal. The handsets were much smaller than the 1G cellular phones and the first handsets provided low speed data services such as paging and limited text messaging through the handheld unit. However, 2G had some network functionality trade-offs. The use of high band frequency offers a static free signal but the technology change reduces the service area causing a higher rate of disconnects or dropped calls. The network solution to reduce the number and frequency of dropped calls required significantly more infrastructure for several reasons. First, the propagation signal in the high band does not travel as far as the low band signal. Thus, the number of required facilities almost tripled just to provide basic 2G coverage in the same geographic area as a 1G service area. Second, the industry was reluctant to share tower space with a competitor and many service providers resisted collocating on the same tower. And third, subscriber base and usage grew rapidly so the industry needed more sites to improve network coverage demands by their customers.

2G and 4G devices (Image: Answers.com)

Third generation wireless was launched in the early 2000's and offered improved mobile download speeds and increased penetration of signal strength for indoor environments. This technology also permitted multi-media messaging (MMS) which increased the character limit on text messaging, allowed photo transfer and provided elementary applications and video conferencing.

Fourth generation (4G) wireless handsets were introduced in 2010 and with the implementation of the Smartphone it offered a wide variety of new tools and services that provided access to e-mail, news, music and videos. Newer technologies incorporated better cameras for still photos and video, global positioning services (GPS), Internet commerce, and millions of downloadable applications for just about any use.

One of 4G's greatest advancements is the transition to Long Term Evolution (LTE) services as the global cellular network operating standard. Network operating platforms, nationally and internationally, were inconsistent between markets during the implementation of 3G networks because of the adoption of Time Division Multiple Access (TDMA) and Code Division Multiple Access (CDMA) as competing operating platforms. The new universal LTE and LTE-Advanced platforms promote efficient use of spectrum, faster download speeds and continued use of smart devices. The need for additional 4G infrastructure is significant nationwide and the continued deployment of new towers and base stations will be necessary as the industry transitions to 5G networks.

Technology advancements in 2015 resulted in leading edge Smartphones and devices that support video streaming and remote access to Internet based cloud data storage requiring large amounts of bandwidth. Service providers continue to upgrade existing networks by: 1) adding additional infrastructure to improve and increase network capacity; 2) purchasing additional licenses in the 700, 1700-1800, and 2100-2400 MHz frequencies; 3) upgrading equipment at the towers and base stations by adding more antennas and feed lines; and 4) adding remote radio units (RRU) on existing towers to increase efficiency, signal strength and capacity.

In summary, first and second generations provided the initial launch of personal wireless service. Third generation improved data transfer with the addition of MMS and provided some simple applications and games. Fourth generation substantially increased download speeds allowing interactive services on the Smartphone.

Network design and testing for 5G technology is currently underway. Deployments will expand wireless services to the next level and focus on implementation into full broadband service. Developments of 5G at the time of this publication are in the early testing processes therefore network standards are not finalized. Opportunities of 5G will open for additional providers beyond those currently authorized in Sedona. The implementation is highly technical and while many of the same frequencies will be used, all providers will expand into the Super High Frequencies (SHF) between 3 gigahertz (GHz) to 30 GHz and Extremely High Frequencies (EHF), between 30 GHz and 300 GHz spectrum. Fifth generation networks will require lower antenna elevations and facilities to be spaced closer together utilizing smaller antenna. The spacing between facilities is predicted to be between 165 feet to 1,650 feet

5G Technology
(Image hsc.com)

depending on the population density of the area to be served. Fifth generation networks are anticipated to be sufficient to compete directly with today's fastest computer networks with download speeds above the 100 Megabits per second (Mbps). Fifth generation technologies and beyond will allow all forms of communications and entertainment to be streamed, resulting in the eventual elimination of digital subscriber lines (DSL) and cable/satellite TV and will provide the underlying communication technology that will allow vehicles to drive themselves. Like all previous generations, 5G and beyond will require more wireless infrastructure.

Figure 1:
Omni Whip Antenna

Antennas and Antenna Arrays

Antennas are used for both transmitting and receiving signals. A single omni-directional (whip) antenna, see Figure 1, can be used to transmit and or receive two-way radio, cellular, Personal Communication Systems (PCS), Enhanced Specialized Mobile Radio (ESMR) or Specialized Mobile Radio (SMR) signals. A sectionalized panel antenna array is used to transmit and receive cellular, digital or ESMR wireless telecommunication signals, see Figure 2.

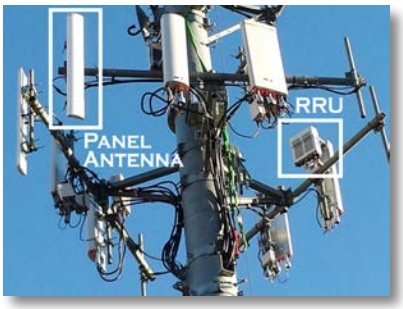


Figure 2:
Panel Antennas with RRU's

Most service providers are now mounting a power amplifier unit on the tower close to the antenna. The top mounted amplifiers (TMA) and remote radio units (RRU), see Figure 2, provide greater efficiencies and better service in both transmitting and receiving modes. However, these improvements come at the cost of higher visual impacts and space allocation caused by the increased amount of tower mounted equipment on the infrastructure.

Microwave dish antennas, as shown in Figure 3, are used by service providers to send the signal received by the antenna to the supporting network and vice versa. Point-to-point microwave antennas are used to provide wireless coverage over greater distances and when fiber optics is unavailable. Microwave is frequently used to connect towers in remote locations like Schnebly Hill to the urban areas of Sedona.

Figure 3:
Microwave Dish Antennas

Macro Towers

As defined in the Federal Communications Commission (FCC) Report and Order, released October 21, 2014 in WT Docket 13-283, commonly referenced as Report and Order, a wireless tower is "a structure built for the sole or primary purpose of supporting any commission licensed or authorized antennas and their associated facilities". Macro towers are high powered

sites intended to cover sizable geographic areas for basic voice service, texting capabilities and Internet access. These taller towers require a strong structure and have large antenna with coaxial cables connecting the antenna to the ground equipment. The macro cell site footprint is large with infrastructure spaced between one and three miles apart. These facilities can accommodate between 1,750 and 2,500 devices simultaneously for voice and texting, but many less devices when large amounts of data, such as streaming video is being used. Macro towers can either be concealed or non-concealed and comprise the majority of the towers deployed and constructed to date within Sedona.

Non-concealed towers as shown in Figure 4 includes:

Guyed - A style of tower consisting of a single truss assembly composed of sections with bracing incorporated. The sections are attached to each other, and the assembly is attached to a foundation and supported by a series of wires that are connected to anchors placed in the ground or on a building.

Lattice - A self-supporting tapered style of tower that consists of vertical and horizontal supports with multiple legs, cross bracing and metal strips or bars to support antennas. This type of tower is designed to support itself without the use of guy wires or other stabilization devices.

Monopole - A style of freestanding tower consisting of a single shaft usually composed of two (2) or more hollow sections attached to a foundation. This type of tower is designed to support itself without the use of guy wires or other stabilization devices. Monopoles are mounted to a foundation that rests on or in the ground. They are designed so that all feed lines can be installed within the shaft of the structure so they are not visible.

Figure 4: Non-concealed Macro Towers - Guyed - Lattice - Monopole

A concealed tower is one that is not readily identifiable as a wireless facility and is designed to visually blend in with its surroundings. Concealed towers are disguised to look like something other than a tower. For example in Figure 5 a faux tree is painted and have manufactured branches covering the monopole and antenna while fiberglass shields cover the antenna on the flagpole and bell tower. There are many other designs of camouflaged sites and many are often difficult to detect.

Figure 5: Concealed Macro Towers - Monopine, Flag Pole - Bell Tower

Base Stations

A base station as defined in the FCC Report and Order is, "equipment and non-tower, supporting structure at a fixed location that enables commission licensed or authorized wireless communications between user equipment and a communications network". Examples include transmission equipment mounted on top of buildings, water tanks, tall signage, light poles, silos or any other above ground structure not built for the sole purpose of supporting wireless equipment. Similar to macro towers, base stations can also be concealed. Some types of antenna concealment include faux dormers and chimneys, elevator shafts encasing the antenna feed lines and equipment cabinet, and painted antenna and feed lines to match the color of a building or structure. Examples of base station concealment techniques are shown in Figure 6.

Figure 6: Concealed Base Stations - Light Stanchion - Building Concealment

Electronic Equipment Cabinet and Feed Lines

The electronic equipment used to transmit and receive the radio signals from the antenna is installed within an equipment facility and are either cabinets, shelters, pedestals or other similar enclosures. Copper coaxial cable (coax) or fiber optic (fiber) feed lines are used to connect the antenna on the tower or base station to the ground based equipment. The equipment cabinets shown in Figure 7 are typical for service providers operating in the high band frequencies and ground space requirements for this equipment is estimated to be around ten square feet.

Figure 7: High Band Facility

The electronics equipment used with low band systems generates substantial heat, and therefore the shelters which house the ground equipment are much larger and generally need a minimum of four hundred (400) square feet. The only noise that would typically be generated in the vicinity of any tower or base station would be from an air conditioner or a backup generator that automatically starts in the event of a power failure. Figure 8 shows a typical configuration for low band ground equipment.

Figure 8: Low Band Facility

Network Footprint

Theoretical Root Mean Squared (RMS) maps as depicted in Figure 9 represent cell sites with a connected pattern of overlapping circles that illustrate the coverage area for a tower or base station. A wireless device trying to communicate with another device or with the Internet must be within this network coverage area. Wireless devices outside the cell site coverage area will not function reliably. To design the wireless network, radio frequency (RF) engineers overlay circular cells over the geographic area intended for wireless service. The center dot in the middle of the smaller circle is the theoretical ideal location for a tower or base station to serve an intended coverage area while the outer circles represent the overall coverage area. The smaller circle within each larger circle is called the search area and is considered to be the best location for a new facility. In reality, many cell site patterns are not circular because the coverage area is affected by topography, land cover, climate, type of cell site being constructed and the size and location of the subscriber base.

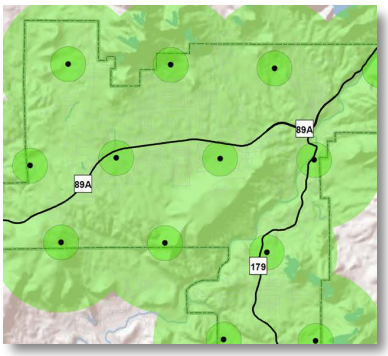


Figure 9: Theoretical RMS Map

Small Cell Sites

There are multiple types of infrastructure that is considered in the small cell category with many options for small cell design. Small cell sites, also known as microcell sites, are connected to form a "mini-network" and are lower powered sites that cover a geographic area less than one mile in diameter. Picocells and femtocells have a much smaller footprint generally less than 820 feet in diameter. All small cell sites accommodate a much lower number of subscribers and simultaneous devices.

Small cell site antennas and feed lines along with any associated equipment is smaller in design and should be mounted at lower elevations and are typically found on light poles, street lights or buildings. Small cell sites can be concealed or non-concealed as shown in Figure 10. The ground equipment consumes less space and can be mounted on the ground, vaulted underground or in or on the structure itself. Small cell sites and nodes are typically installed in densely populated environments such as downtowns, sporting stadiums, malls, office buildings and convention centers.

Figure 10: Small Cell Facilities - Single Node

Also in the small cell category are Distributed Antenna Systems (DAS). DAS is a series of low powered antennas, as shown in Figure 11, connected by fiber optics and often used in higher density populated areas. Distributed antenna systems may be deployed indoors (iDAS) or outdoors (oDAS).

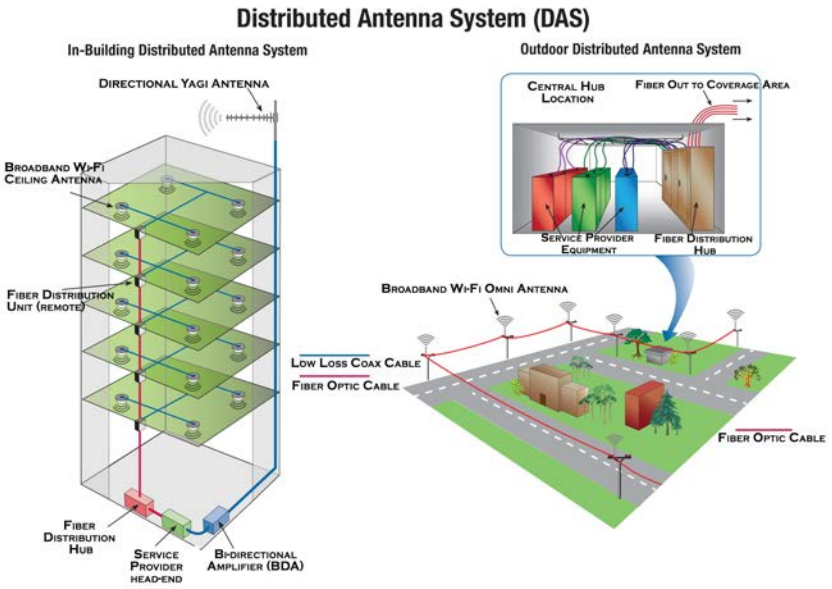


Figure 11: DAS (Image L-Com Global Connectivity)

Technological advances and predicted demand for small cell sites have many infrastructure developers racing to obtain leasing rights and approvals for small cell sites in right-of-ways (ROW's). These companies are looking for quicker approval processes and less cost for deployment. There are pros and cons to these types of installations. The pros of small cells in ROW's is that they can be in closer proximity to residential dwellings and vehicles, they can attach to existing infrastructure and provide much needed capacity relief. A downside to this approach is that ROW applicants may try to bypass the local municipalities in an effort to circumvent the ordinance and aesthetic requirements. In March of 2017, the Arizona Legislature approved House Bill 2365 which gives use of public ROWs to the wireless providers for their infrastructure with minimal zoning empowerment to local governments within the State. Luckily, HB 2365 allows local government to apply "objective design standards for decorate utility poles or reasonable stealth and concealment or public safety and reasonable spacing requirements" to new infrastructure in their ROWs. Going forward robust wireless networks will require a combination of both small cell and macro sites to make a complete wireless network system.

Wireless Broadband

The goal for wireless broadband technology is to provide high-speed wireless Internet access or computer networking access over a wide area. However, this technology is using the same medium that was previously intended for voice communications only. High-speed broadband is necessary for Smartphones and tablets but is also laptops, computers and many other wireless devices. The FCC recently revised the definition of broadband to mean Internet access with download speeds of at least 25 megabits per second (Mbps) and upload speeds of at least 3 Mbps. Because of this revised standard there are few wireless service providers that can effectively meet present access speeds. The coverage area for wireless broadband will be smaller in size in order to meet FCC defined download speed for subscribers. This will result in the need for more wireless infrastructure. For purposes of the MP, the term broadband will be referenced

as wireless Internet since it does not meet the new definition.

For illustrative purposes only and without consideration of any variables the number of tower sites needed to cover an area of approximately five square miles would be:

- 1G - Analog (1 macro site)
- 2G - Digital TDMA (3 macro sites)
- 3G - CDMA/Email/MMS (5 macro sites)
- 4G - LTE/AWS (8 macro or a combination of macro and small sites)
- 5G - Platform TBD (approximately 80 nodes in addition to above)

Wireless Telecommunications Summary

Wireless handset devices used for personal wireless services have changed significantly from the initial launch of cellular phones in the 1980's. From a visual perspective the traditional infrastructure that serves as the network backbone has changed very little. To function best, the service providers still need antennas elevated above tree lines, rooftops and many manmade or natural obstructions. Moisture contained within foliage absorb and refract the signal and create an unpredictable propagation variable. These variable will always be a factor when designing wireless systems. Wireless antennas can function below the tree line but not at the same performance level when compared to antennas placed above the tree line at the same location. For this reason, the industry will continue to prefer placement of their antenna arrays above the tree line or in a favorable location with few manmade obstructions to achieve optimal propagation from the infrastructure so as to maximize their investment in the communities they are servicing. The antenna sizes used have changed minimally over the years. Recent inclusion of remote radio heads and tower mounted amplifiers on the antenna mounting structure will generally result in larger and more complex antenna arrays as compared to the earlier 2G and 3G installations.

The monopole and lattice towers remain the most widely used macro tower nationwide. Concealment techniques continue to be used to mitigate the visual impact of infrastructure in areas identified by local governments with visual concerns. As the industry begins to migrate towards 5G many more small cell sites will be implemented especially in high density areas to meet the demands of the service subscribers.

Mergers and acquisitions will continue and the industry will continue to need more infrastructure for the transition to 5G and beyond.

Chapter 2

Master Plan Development

The MP Design Process

Many considerations and variables go into the design of the MP including the size of the area, seasons, tourism, year round residents, topography and location of existing infrastructure in and around the City.

The MP development process includes:

- Engineering a search radii template and applying it over the jurisdictional boundary of the City to evaluate theoretical build-out conditions; and
- Identifying, assessing, cataloguing and mapping existing transmission equipment; and
- Forecasting future wireless infrastructure needs based on existing locations, terrain, climate, demographics, gap analysis, population trends, gaps in network coverage and anticipated continued evolution of the industry.

Search Rings For Proposed Coverage Areas

The search area or search ring is part of a site search package provided to a site acquisition consultant who looks for property or existing infrastructure that can be leased to accommodate the required new wireless infrastructure. From an engineering perspective, any location within the search ring is considered to be acceptable however, many times finding an acceptable location within the search ring can be challenging. The relative location of the selected property to the ideal location within the search ring can dictate the required antenna height.

Generally, in areas where signal coverage is the objective, taller macro towers allow the antennas to mount at a higher elevation to serve a larger geographic coverage area and provide collocation opportunity by other service providers. Shorter macro towers limit antenna mounting to lower elevations thus the geographic coverage area is smaller. Additionally shorter macro, micro and small cell towers reduce the number of possible collocations on that tower resulting in a greater number of towers or base stations required within each search ring.

Search Area Radii

Search ring calculations for the low and high band frequencies are shown in Tables 1 and 2. The tables utilize the "Okumura-Hata" propagation path loss formula for low band frequencies, and the "COST-231" formula for high band frequencies. Maximum coverage radii for typical in-vehicle coverage is calculated for various tower heights, reduced by twenty percent to account for a reasonable handoff zone, then divided by four to obtain a search ring radius for each tower height. For example, according to the information in the following tables, a low band antenna

mounted at the 100 foot elevation would have a search ring radius of 0.72 miles, and a radius of 0.36 miles for high band antennas.

ANTENNA MOUNTING HEIGHT	40′	50′	100′	115′
Radius, miles	2.28	2.53	3.6	3.88
Allow for handoff	1.84	2.03	2.88	3.1
Search ring, miles	0.47	0.51	0.72	0.78

Table 1: Okumura-Hata Propagation Path Loss Formula for Low Band Frequencies

ANTENNA MOUNTING HEIGHT	40′	50′	100′	115′
Radius, miles	1.21	1.33	1.82	1.95
Allow for handoff	0.98	1.07	1.46	1.56
Search ring, miles	0.25	0.27	0.36	0.39

Table 2: Cost 231 Formula for High Band Frequencies

The service providers primary objective of the first phase of network development is creating coverage over a projected service area. When network coverage is achieved wireless service providers begin to monitor the number of calls. Once the number of simultaneous calls reaches a predetermined maximum number and the facility cannot support the subscriber base, the wireless network exceeds the capacity design of the system. Exceeding network capacity equates to overloading the network which results in lost service, dropped calls, and the inability to make calls or use the Internet on the wireless device.

Theoretical Root Mean Square Maps

CityScape is often asked to estimate how many towers and base stations it may take to cover a particular geographic area. CityScape uses RMS maps to help the client visualize the number of antenna locations that may be necessary to provide wireless communications coverage for a given geographic study area. This hypothetical network identifies the minimum number of tower or base station locations required for one service provider to provide complete coverage without any considerations for terrain, vegetative cover or subscriber base.

One of the key variables affecting the theoretical coverage analysis is the assumed height of the antennas on the tower or structure. CityScape reviewed the existing tower and base station inventory and applicable height regulations for the City and determined the average tower height used for wireless telecommunications purposes to be around fifty (50) feet. Therefore, the antenna mounting elevation of fifty (50) feet was chosen for the development of the theoretical RMS coverage maps.

The following examples represent a theoretical build-out of equally apportioned antennas mounted at a tower height of 50-feet for a single service provider that excludes topographic, vegetative cover and population density considerations. The black dot within each larger circle indicates the ideal antenna location while the smaller circle within the larger circle represents the acceptable search ring for locating the tower and antennas. Figure 12 illustrates that three (3) towers or base stations equally distributed throughout the City would provide complete low frequency coverage to the defined study area.

Figure 13 illustrates that thirteen (13) locations would be needed to provide complete high frequency coverage to the same geographic area.

Topographic Variable on Theoretical Coverage

As previously described in flat terrain and sparsely populated areas, infrastructure prediction is easier. The service area is dramatically impacted by the type of terrain within the signal line-of-sight. Line-of-sight technology works best with an unobstructed path between the facility and the device, however, typically there are obstructions in the way of the wireless signal as it travels from point A to point B. An analogy to consider would be similar to that of a light bulb. The area closest to the bulb is illuminated the brightest. Once obstructions get in the way i.e: lampshade, walls or doors, the light becomes dimmer. Similarly the line-of-sight for wireless technology becomes a reflected or refracted signal and will fill in some geographic areas, but at a reduced power level.

As shown in Figures 14 and 15 adding the topographical variations have a significant impact on the coverage in and around the City. Areas shaded in gray show no coverage due to the affects of the local terrain. These gray areas represent large pockets of coverage gaps making additional infrastructure needed to close in the gaps in coverage.

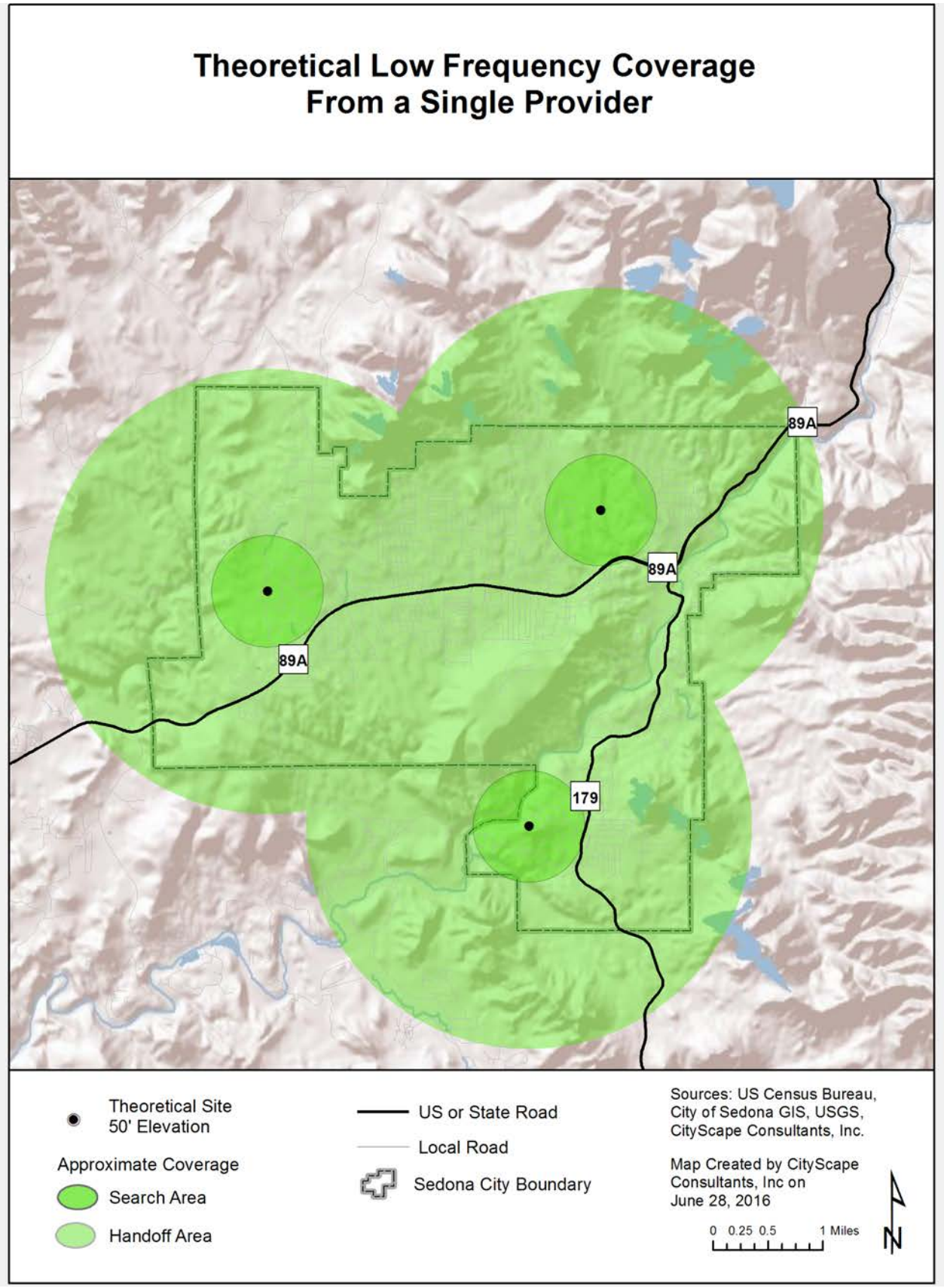


Figure 12: Theoretical Low Frequency From Single Provider

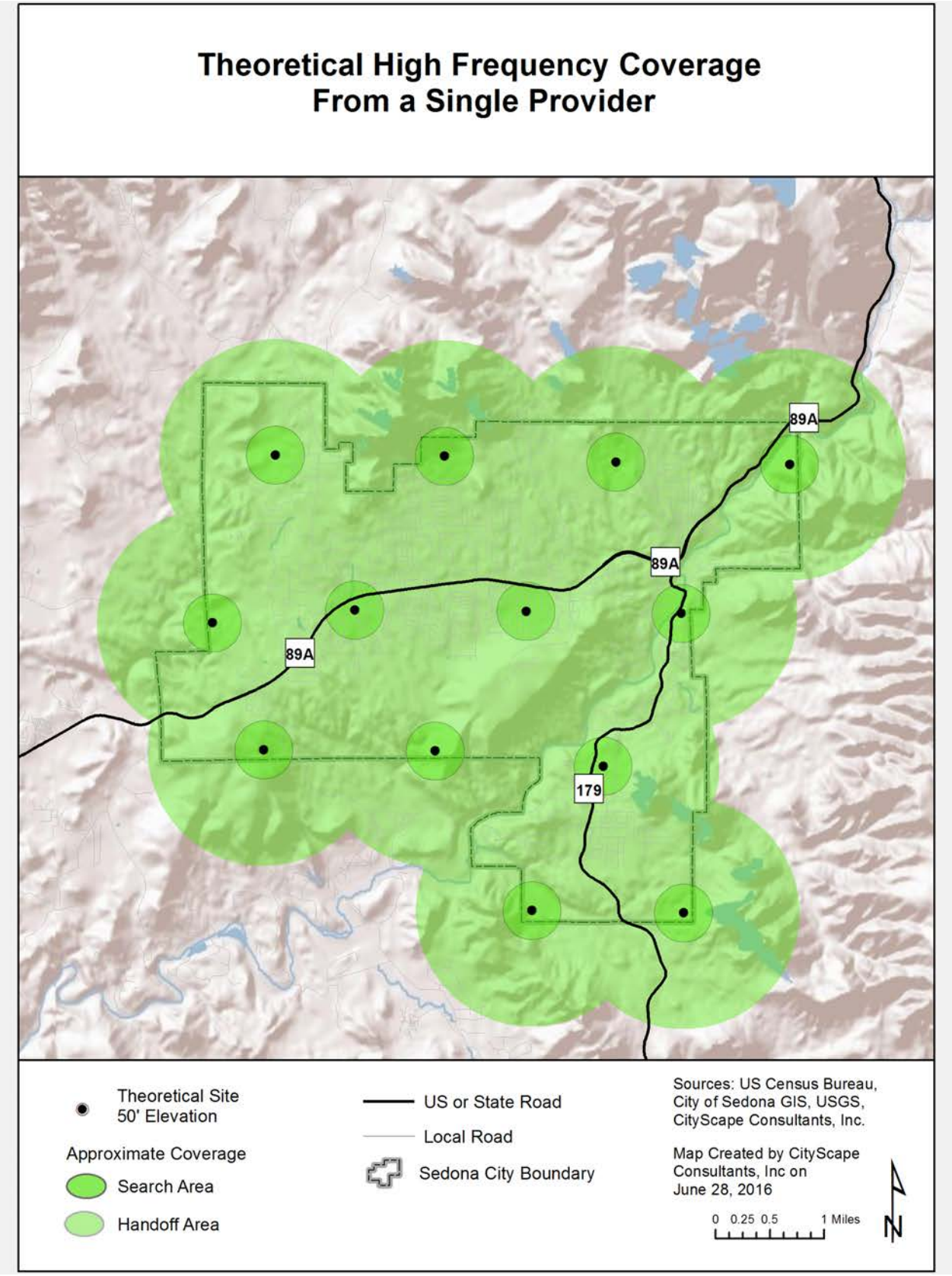


Figure 13: Theoretical High Frequency From Single Provider

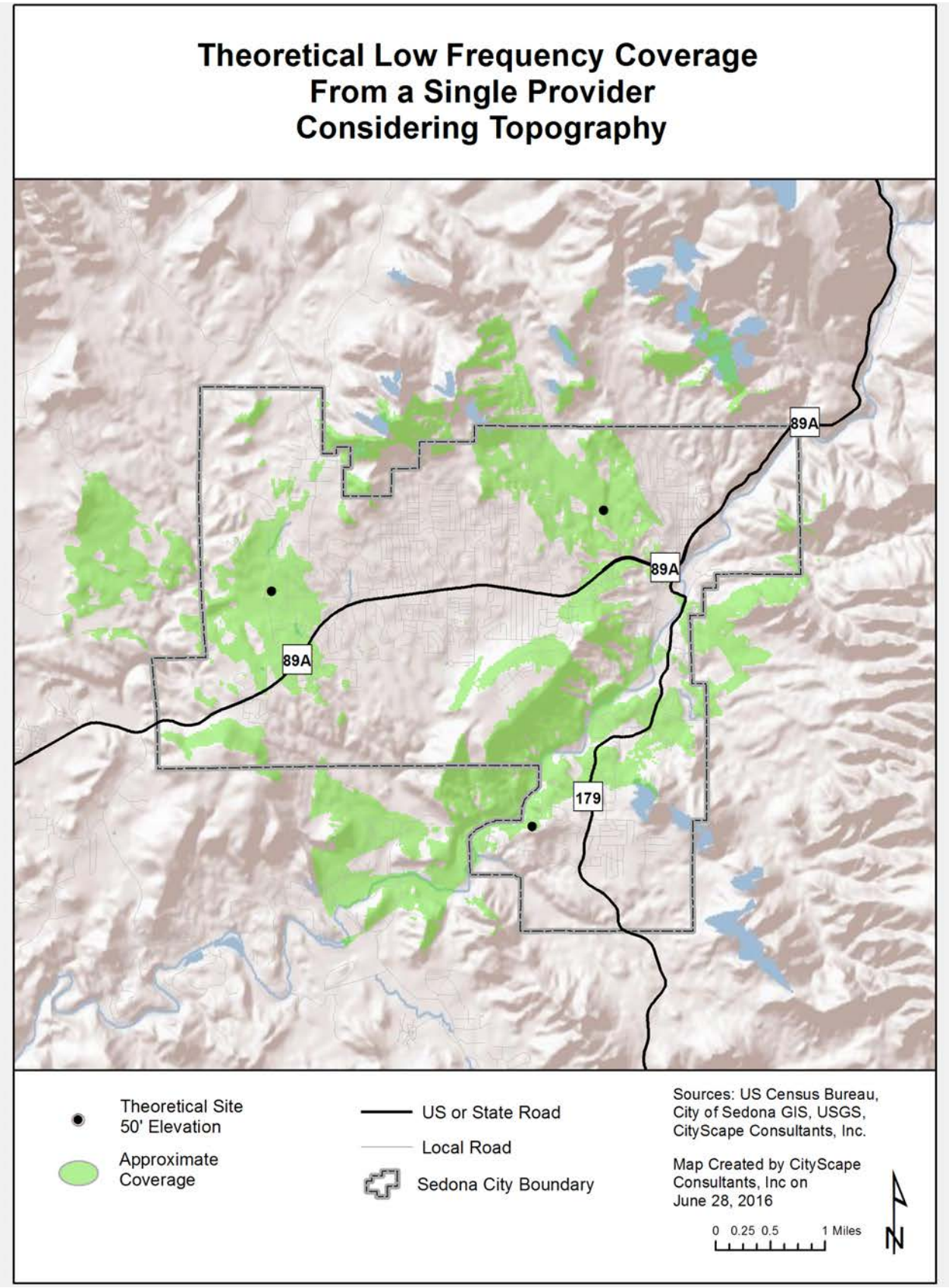


Figure 14: Theoretical Low Frequency From Single Provider with Topography

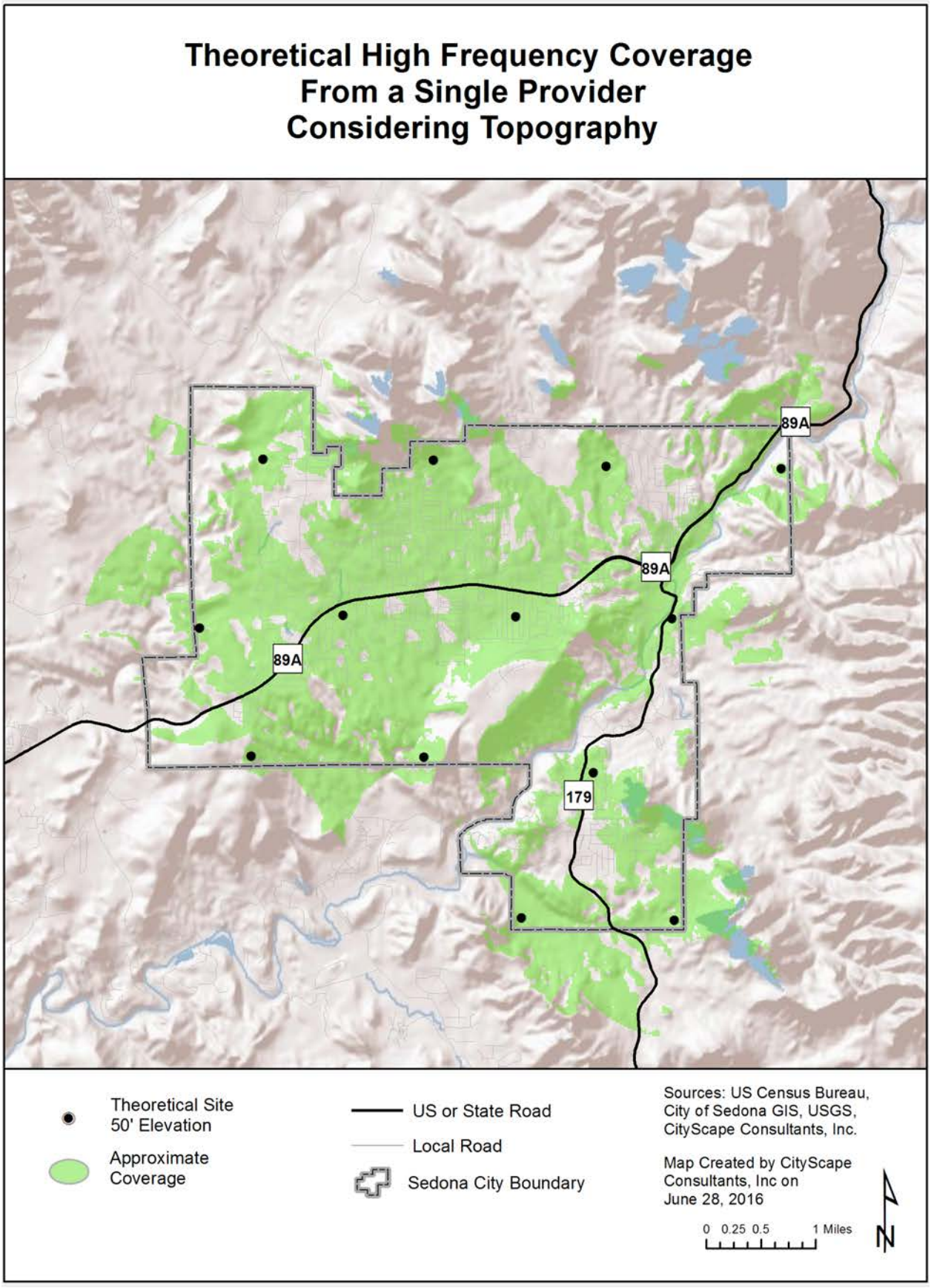


Figure 15: Theoretical High Frequency From Single Provider with Topography

Signal Strength on Theoretical Coverage

Propagation mapping is a process that illustrates the level of coverage from an individual antenna site. Signal strength, in this application, is a term used to describe the level of operability of a wireless device. The stronger the signal between the elevated antenna and the wireless device the more likely the device and all the built-in features will work. A reduced signal causes unsatisfactory service due to dropped calls or data interruption on the wireless device. Distance between elevated antennas and the physical location of the person (indoors or outdoors) using the wireless device along with any obstructions are variables that affect signal strength.

The level of propagation signal strength is shown through the gradation of colors from yellow to blue. The geographic areas in yellow identify superior signal strength; green equates to areas with average signal strength; shades of blue symbolize acceptable signal strength; and gray shades show marginal or no signal strength. Generally, the closer the proximity to the antenna the brighter shades of yellow within the geographic service area, which means the quality of service is better. As distance increases between the device and the antenna, the green, blue and gray shades appear indicating geographic service areas with average, acceptable and or no signal strength, respectively. Table 3 provides further explanation of the color coding relative to propagation signals.

SIGNAL STRENGTH COLOR	SIGNAL STRENGTH TITLE	SIGNAL STRENGTH DESCRIPTION
Yellow	Superior	Strong enough to operate within most buildings
Green	Average	Strong enough to operate in a vehicle, but not inside most buildings
Blue	Acceptable	Strong enough to operate outsides, but not in a vehicle or building
Gray	No Service	Marginal or no service

Table 3: Propagation Signal Description

Using the same antenna locations identified in the previous figures, Figures 16 and 17 illustrate the various levels of signal coverage from the site locations including terrain, network capacity and environmental variables. The areas in yellow identify geographic areas with superior signal strength; green equates to areas with average signal strength; shades of blue symbolize acceptable signal strength; and gray shades show marginal or no signal strength. While the industry standards identify green and blue shades as “average” and “acceptable” coverage; customers tend to indicate otherwise. Most early twenty-first century wireless subscribers are demanding superior signal strength (yellow) in their residences, schools, offices, and places frequented for shopping and entertainment. As consumers continue the trend of terminating traditional landline phone services and using the wireless handset as the primary mode of communication having signal strength inside buildings is paramount to meeting these

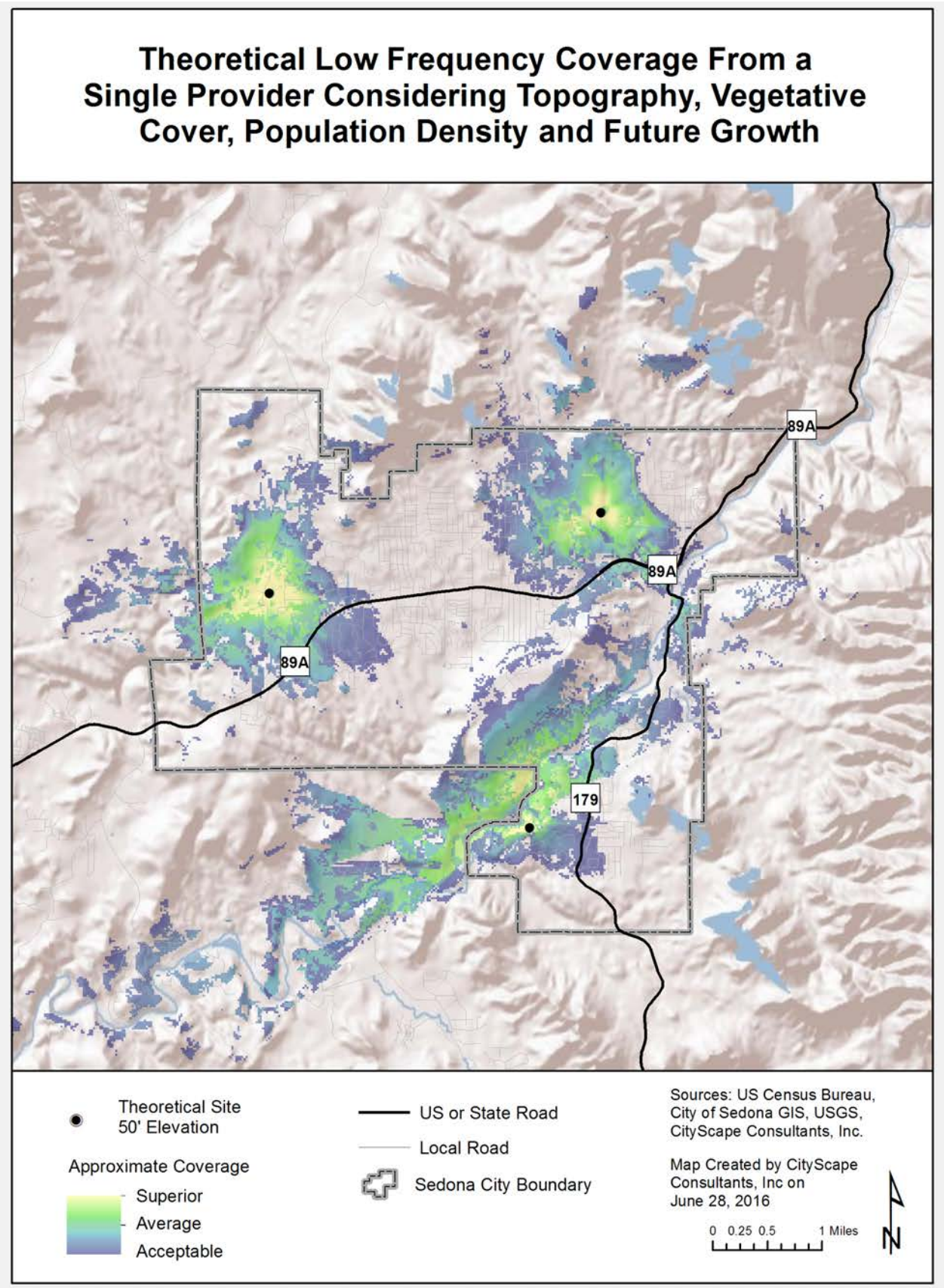


Figure 16: Future Growth Theoretical Low Frequency with Variables

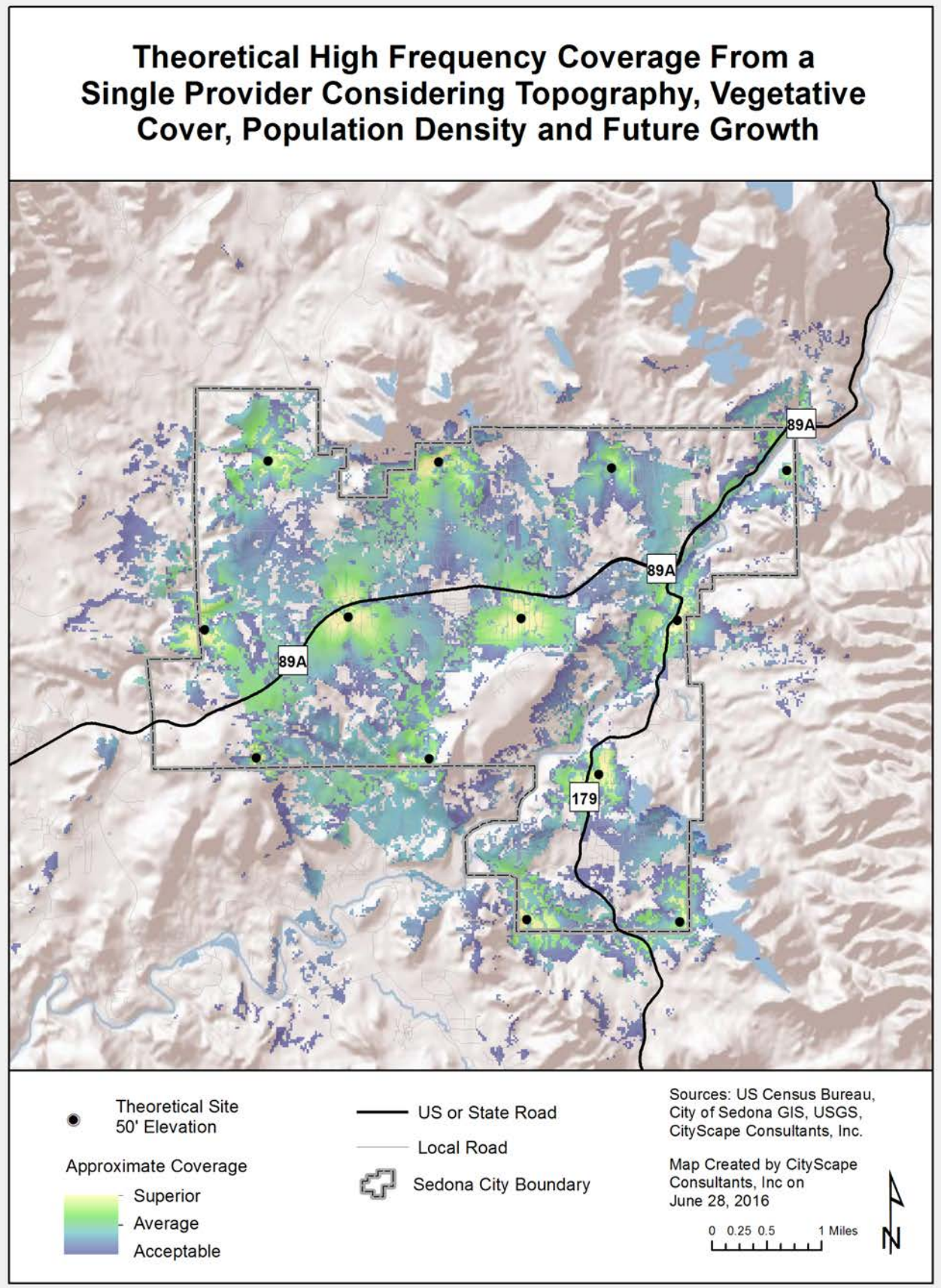


Figure 17: Future Growth Theoretical High Frequency with Variables

expectations. Therefore the industries "average" and "acceptable" coverage variables do not necessarily meet current customer demands and expectations.

You will note that these figures show very little yellow or superior signal coverage throughout the geographic area from these theoretical sites. This indicates the significant need for additional infrastructure to improve the quality of network coverage.

Existing Transmission Equipment

Prior to granting the cellular licenses in 1980 for the first phase of deployment, the United States was divided into 51 regions by Rand McNally and Company. These regions are described as Metropolitan Trading Areas (MTA). The spectrum auction conducted by the Federal Government for the 1900 MHz bands for 2G (PCS) further divided the United States into 493 geographic areas called Basic Trading Areas (BTA). The City of Sedona is located in the Phoenix MTA (MTA 27) and the Flagstaff, AZ and Prescott, AZ BTAs (BTA 144 and BTA 362, respectively). Service providers acquire the rights to deploy their networks by service area and range of spectrum frequency.

Per Section 704 of the Telecommunications Act of 1996, all service providers will require uninterrupted and continuous handoff service throughout the City. There are at least fifteen known wireless service providers that each want to compete for the subscriber base in and around Sedona. Each wireless provider will need towers and or elevated antenna mounting locations to improve network coverage and capacity demands resulting in an ongoing need for infrastructure especially in greater residential density areas.

The following service providers have purchased licenses to serve the City in the lower frequency ranges of 700 - 900 MHz: Allele Communications Southwest Holdings; AT&T; Access 700, LLC; Atlantic Tele-Network; Dish (Manifest Wireless, LLC); NTUA Wireless; SAL Spectrum, LLC; Smith Bagley (Cellular One of NE AZ); T-Mobile and Verizon Wireless.

Personal Communications Services (PCS) licensees and service providers for wireless phone and broadband operating in the higher frequencies of 1700 - 2700 MHz bands include: AT&T Wireless; Cable One; Clearwire Spectrum Holdings III, LLC; CommSpeed, LLC; Commnet Wireless, LLC; MCG PCS; NTUA Wireless, LLC; Smith Bagley (Cellular One of NE AZ); Sprint, (Alamosa PCS, Nextel License Holding 4, Inc.); T-Mobile; Telecom North American Mobile and Verizon Wireless.

Most network service providers do not own the antenna mounting structure on which they attach their equipment. Tower companies typically construct and own the tower and lease tower and ground space to service providers. A service provider may also contract with a tower builder to construct a tower in a particular location and once the facility is constructed lease space from the tower owner. Currently there are a number of tower companies within the City who lease their vertical real estate to the service providers including: American Tower Corporation (ATC) and Crown Castle International (CCI).

Existing Antenna Locations

A base map with the existing tower and base station sites allows for observations and analysis of current and future deployment patterns. Task B of the Scope of Services includes research to identify the location of existing towers and base stations, the assessment of the facility and cataloguing the pictures and data from the assessment process. A complete data base of facilities was compiled from various databases including but not limited to the the City, FCC, American Tower, Crown Castle International, SBA and TowerCo. Each location was individually assessed and validated for:

- Physical location
- Type of infrastructure
- Ownership of the infrastructure
- Wireless tenants at each facility
- Potential for future collocation

There are many types of antennas used for a variety of communication purposes throughout the defined study area including but not limited dispatch, wi-fi hot spots, and data links. CityScape generally only includes infrastructure sites in the inventory that met the following criteria:

- Towers and base stations for currently licensed wireless phone service providers
- Towers and base stations with microwave dish antenna because of their potential to promote collocation
- Broadcast towers because of their potential to promote collocation
- Towers in remote locations because of their potential to either promote collocation or to be reconstructed to accommodate future collocations

Specifically the inventory does not include:

- Data, vide or information transmission as part of the day-to-day operations of a commercial business, including for example, processing of credit card sales
- Non-commercial antenna and wireless communications facilities used solely for transmission and/or recent by a single users, including for example, satellite dishes for TV reception
- Amateur radio facilities.

The wireless infrastructure assessment identified twenty-two (22) existing transmission equipment sites that meet the prescribed criteria. Sixteen (16) of the sites are within the City's jurisdiction and six (6) sites are outside the City's boundary but have an impact on the wireless networks within the City.

The following Tables 4 and 5 provide a summary of the total number of types of antenna mounting structures found throughout the study area and there varying heights. Table 6 identifies the known infrastructure ownership as of November 2016.

INFRASTRUCTURE TYPE	TOTAL
Concealed Base Station	1
Non-Concealed Base Station (rooftop or attached tower)	6
Concealed Tower	2
Monopole Tower	2
Lattice Tower	7
Guyed Tower	4
TOTAL	22

Table 4: Infrastructure Type

INFRASTRUCTURE HEIGHT	TOTAL
25′ - 30′	5
42′ - 86′	7
90′ - 100′	3
175′-190	3
Unknown height	4
TOTAL	22

Table 5: Infrastructure Height

INFRASTRUCTURE OWNER	TOTAL
Unknown	6
Others (building owner for base station)	6
Fire District	4
Tabback Broadcast Companies	2
American Tower Corporation	2
Crown Castle International	2
TOTAL	22

Table 6: Infrastructure Owner

Most of the wireless infrastructure is generally located parallel to the Highway 179 and Highway 89A corridors. Two (2) macro tower clusters are found at significant elevations both at the airport and on top of Schnebly Hill. It is likely the tower clusters are network anchor sites servicing the vast part of the City providing mostly coverage needs while minimally addressing capacity issues.

Figure 18 identifies the location of the base stations and towers assessed for the MP. The nine (9) towers and base stations with PWSF are identified by a black dot. The site numbers are: 1, 2, 6, 8, 13, 14, 16, 20 and 22. The remaining thirteen (13) towers and base stations have no PWSF and are identified with a purple dot. Of the thirteen (13) non PWSF facilities, two towers are used for radio broadcasting; five are used for public safety purposes; three are used for private mobile radio purposes; and three have no signage therefore the purpose of those antennas cannot be identified. Table 7 provides an overview of the inventory. More specific details for each site are available in the inventory catalogue in Chapter 4.

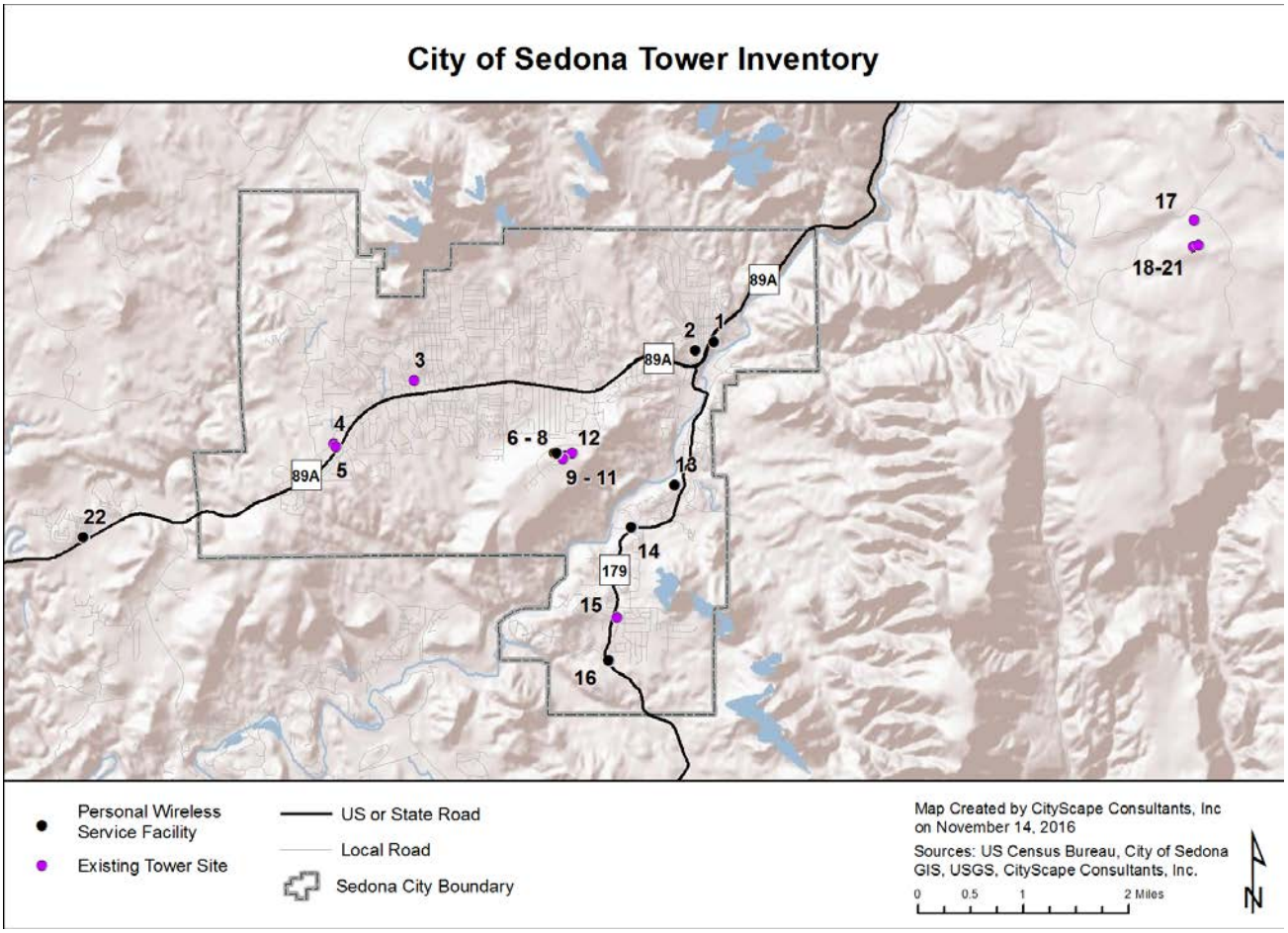


Figure 18: Tower Inventory

TYPE	SITE NUMBERS				
	2	6	8	20	22
Macro Towers with PWSFs (Site 2 is also Public Safety)					
	1	14	16		
Base Stations with PWSFs					
	3	7	15	17	21
Public Safety Only - Towers and Base Station					
	4	5			
Broadcast Tower					
	9	10	11		
Base Stations Not PWSF with Private Mobile Radio Use					
	12	18	19		
Towers Other					
	13				
Small Cell Tower with PWSF					

Table 7: Infrastructure by Category

Estimating The Wireless Subscriber Base

Population, location and density are important variables in wireless network design considerations. CityScape uses the United States Census Bureau (US Census) and local data for subscriber base data as growth rates vary between local community estimates and the US Census. According to the US Census the City is approximately 19.14 square miles and the 2015 estimated population for the City is 10,388 (2016 population estimates for the City were not available at this time). The population estimates for the City in 2000 was 10,036. Based on this information the City has seen a 3.5 percent growth rate over the five year timeframe.

Figure 19 illustrates the 2015 US Census Bureau's population densities by block group for the City. The highest population densities are in the southern half of the City; south of Highway 89A; parallel to Highway 179 and north of Highway 89A just west of the Yavapai County line.

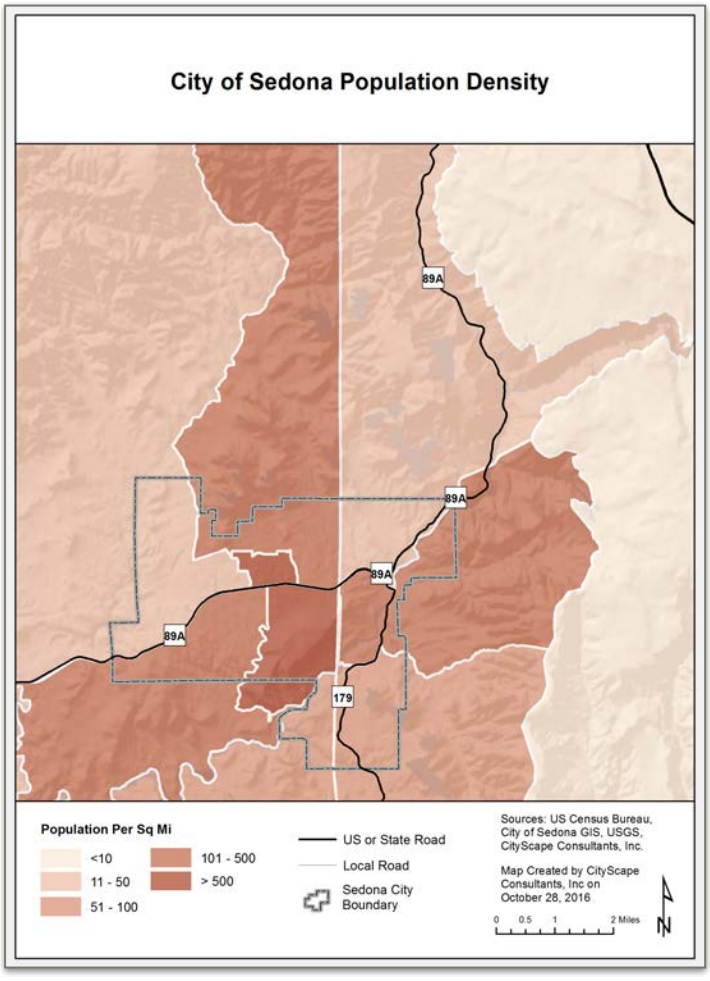


Figure 19: Population Density

The block group population covers a vast geographic area and goes beyond the City jurisdiction making the density look much smaller than it is in actuality. In fact, the majority of the population in the census blocks are in Sedona and not spread throughout the block group as shown on the US Census map. The map is misleading because it makes it look like fewer people are residing within the City limits.

In order to gain an accurate understanding of the City's population density, CityScape queried Census Quick Facts for the estimated population of only the City of Sedona and distributed the population around the City based on land use. The maps in Figures 20 and 21 are more realistic and are the basis for the comparative analysis between wireless coverage and subscriber base. Figure 20 reflects a representation of the City's population density of year round residences distributed across residential parcels.

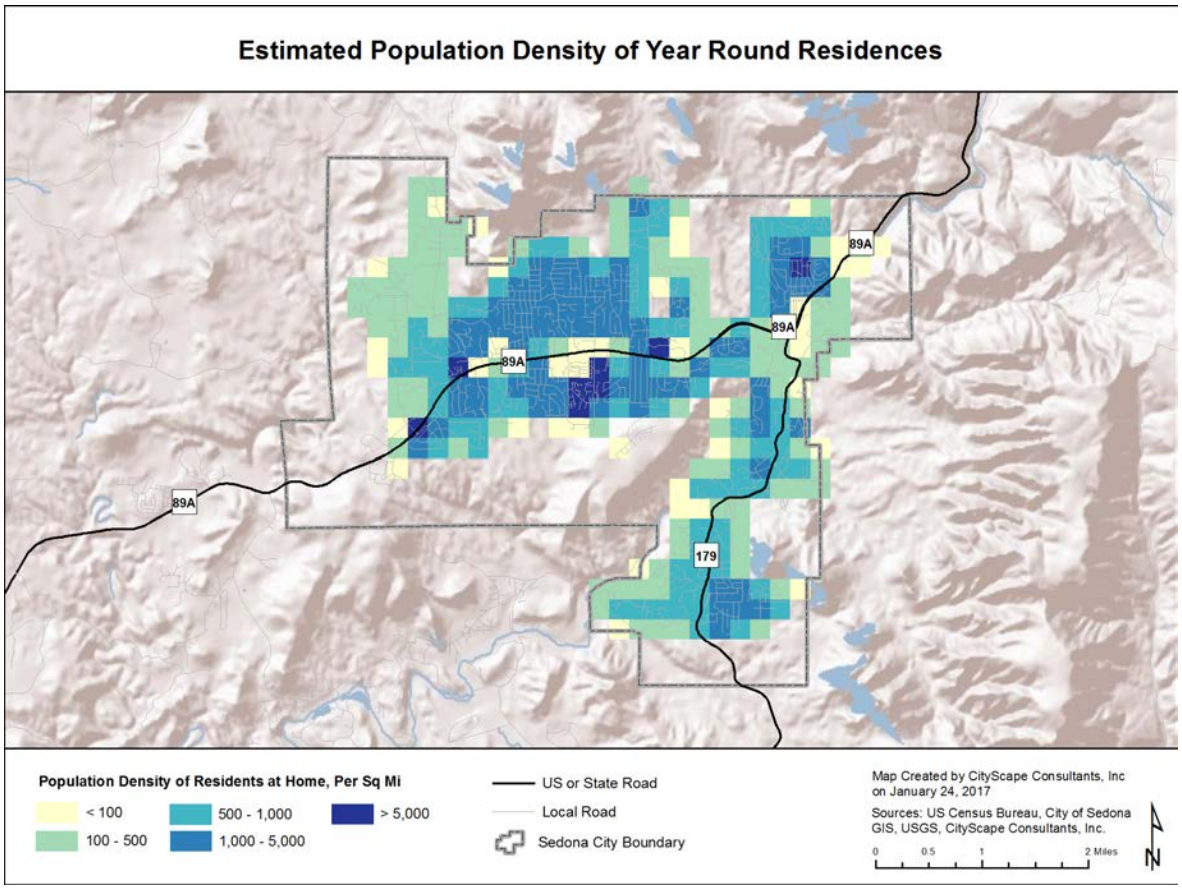


Figure 20: Population Density - Year Round Residents

Additionally, CityScape contacted the Sedona Chamber of Commerce (Chamber) for information on commuter workforce and seasonal tourist data. Data from the Chamber was attained from phone calls, reports online and the "Annual Report to the City of Sedona" dated October 2016. The map titled Estimated Population Density During Peak Tourism Daytime in Figure 21, simulates:

1) Commuters that drive into the City to their workplaces; and

2) Peak months (March and April) for tourists in the City's resorts and hotels; and

3) Routes used by the employed workforce from their homes to workplaces.

The areas in navy and dark blue illustrate the most densely populated areas of the City during peak times of the day and year and the geographic areas that CityScape identifies as the greatest need for wireless infrastructure over the next ten years.

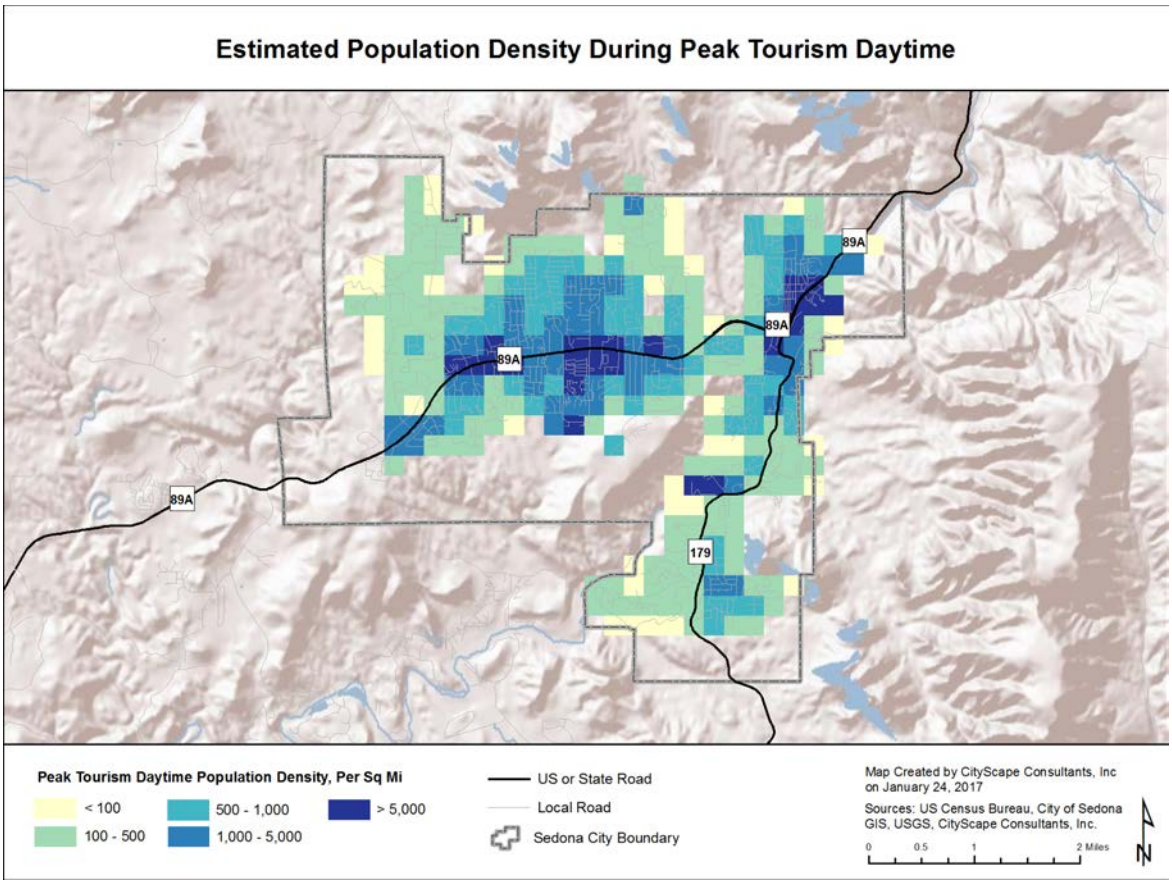


Figure 21: Population Density - Peak Tourism

Network coverage

With the exponential growth of Smartphones and other wireless devices, the demands for improved level of services requires more information to be interchanged between the service providers facilities and the wireless subscriber's device. In the function of the network the signal density becomes substantially more important in 4G and 5G networks. Improvement of the signal quality is paramount to proximity of the antenna or node to the wireless device. For this reason dozens to hundreds of smaller nodes located in the 20 to 30 foot elevation will be needed over the next few decades to saturate the City to meet future wireless network traffic, especially high speed wireless Internet and other broadband devices, even if the population growth differs from the expected scenario for the City.

Because 5G technology is still in development the exact launch date is not known, however it is predicted to be within the next three to seven years for Sedona. True high speed data with download speeds in excess of 100Mbps is expected to be implemented with 5G technology. With download speeds in this range most types of communications and video entertainment will be streamed over wireless systems. The primary objective and criteria of the network design will be the proximity from the wireless source to the customer. In residential areas the expectation is one wireless node each 10-12 households or 165 to 1,650 feet.

The next step in the wireless network evaluation process is to examine existing coverage from all known existing PWSF facilities and all other existing towers and compare that to the population maps to determine where coverage gaps are now and will be within the City. Coverage gaps will need to be filled in with new or additional infrastructure to meet the wireless saturation objectives of the industry.

CityScape asks the following questions:

1) Would network coverage gaps be visible if a single high frequency (1900-2600 MHz) service provider was utilizing all identified antenna locations; and

2) Does the City have adequate existing infrastructure suitable for providers to meet complete network coverage objectives?

CityScape acknowledges that the existing towers and base stations do not have the same service provider at each site and not all existing infrastructure has sufficient support capacity for all service providers. For planning purposes, assumes each tower and base station has the same service provider because in many cases the existing infrastructure can accommodate future collocations. CityScape uses high frequency modeling because of its smaller propagation pattern. Network designs based on the objectives of high frequency will also work for low frequency service providers. The converse does not work because as shown in the following theoretical high and low frequency mapping, high frequency providers will need more sites than the lower frequency service providers.

Figure 22 demonstrates the theoretical coverage for a single high frequency service provider with antennas mounted at the top mounting position of all known PWSF support structures throughout the City. Figure 23 illustrates theoretical coverage for a single high frequency service provider from every known tower and antenna location. Both maps include the following variables: existing tower heights, Chamber population data, subscriber rate data, terrain, environmental variables and signal strength. The mapping exercise illustrates that most of the Highway 89A and Highway 179 corridors to the downtown areas could be well served by utilizing the existing PWSF wireless infrastructure, provided the same service provider was at each location. It is noted that a large geographic area to the north and south of Highway 89A west of downtown has some superior and average coverage without any towers or base stations in the immediate area.

This coverage is believed to be coming from the towers at Schnebly Hill and the towers at the Sedona Airport. The signal is projecting from those sites and bouncing off the mountain walls collecting in that geographic area.

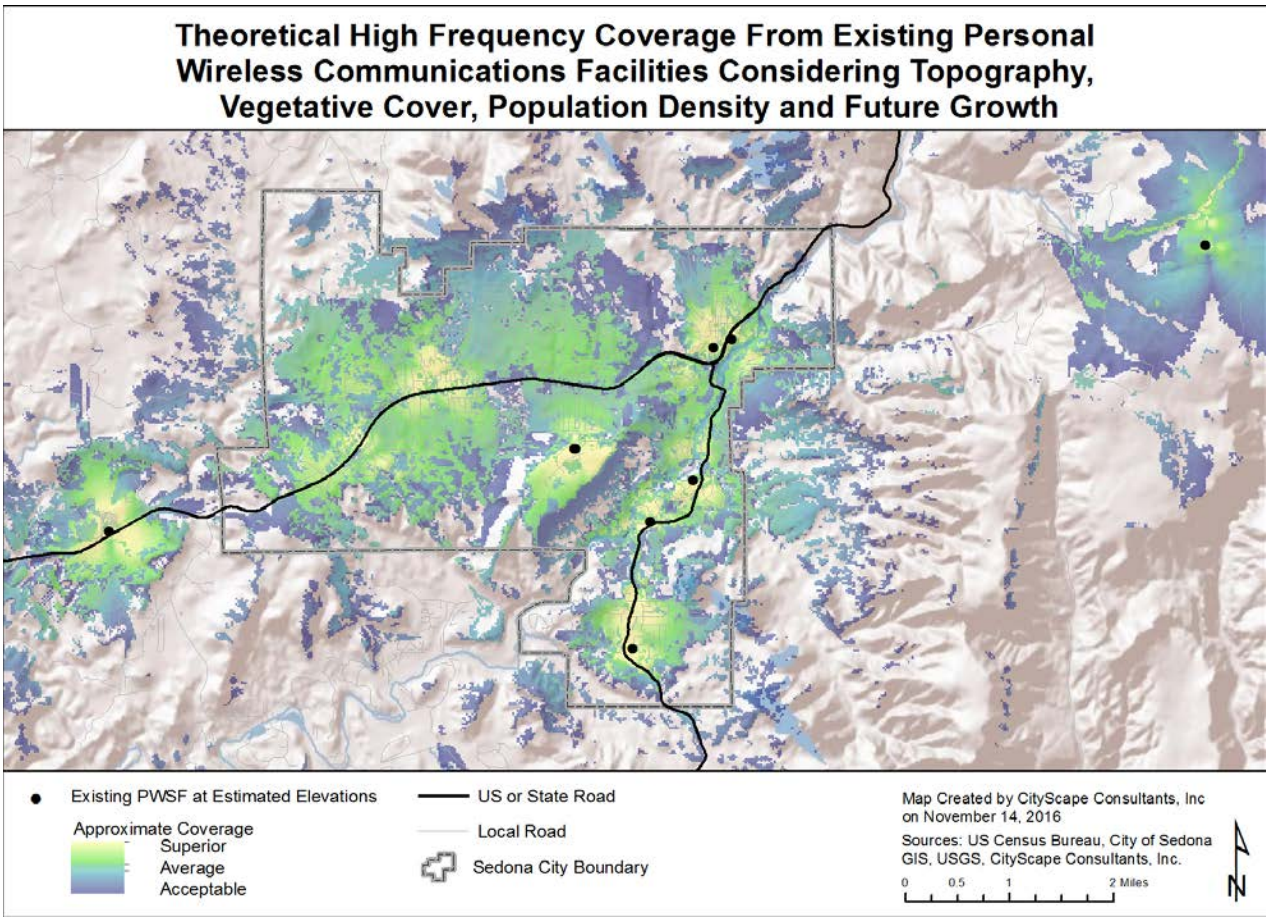


Figure 22: Theoretical High Frequency PWSF with Variables

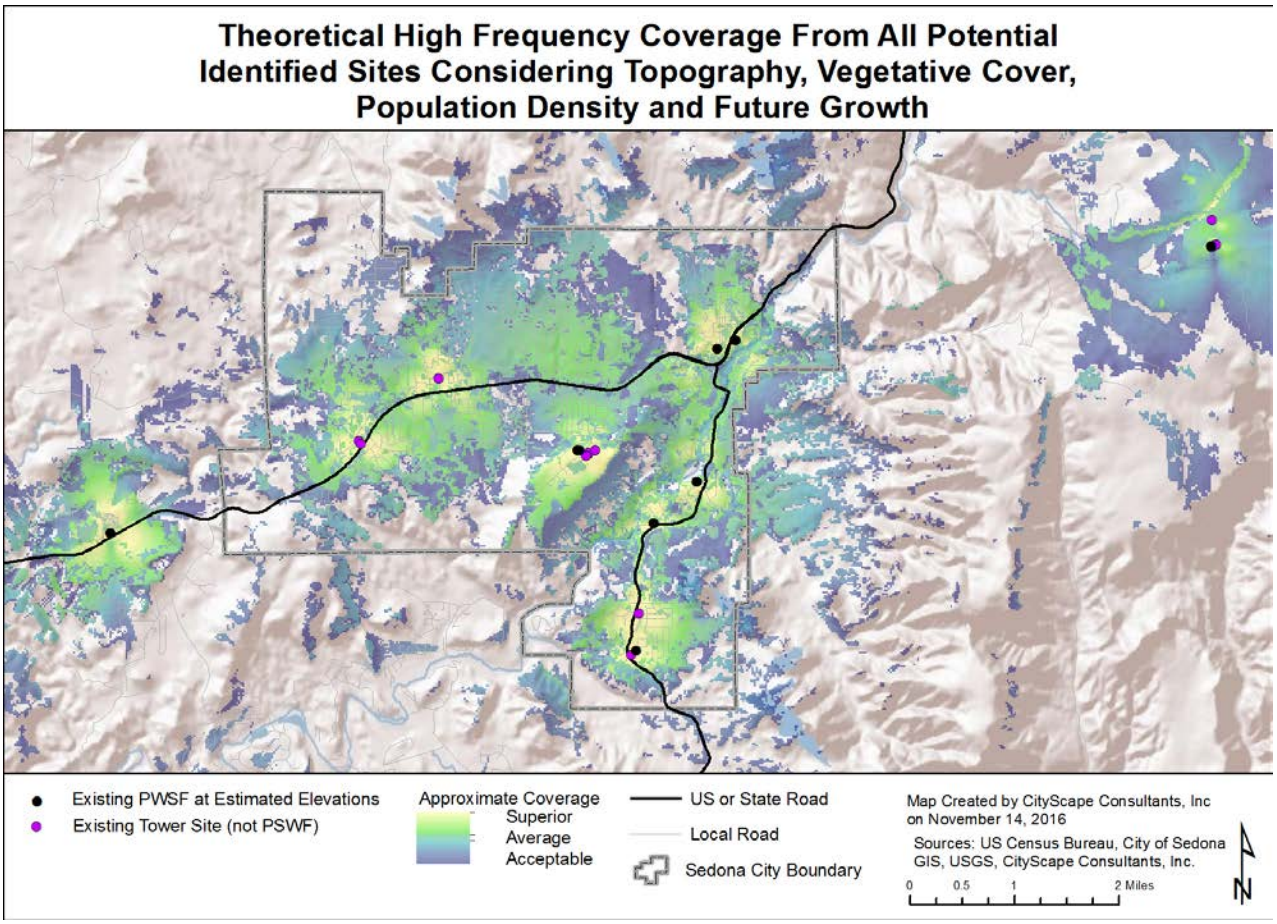


Figure 23: Theoretical High Frequency All Identified Facilities with Variables

10-Year Plan Estimates

Cityscape estimates that it will require between seventeen (17) and twenty-five (25) new antenna and small cell locations at a mounting elevation of 30-35 feet to fulfill the wireless coverage and capacity needs for Sedona over the next ten (10) years. That total number is in addition to the existing facilities and represents a combination of new macro tower facilities together with small cells and node antenna locations. Antenna location estimates include collocations on existing infrastructure along with new towers and base stations. Regular year to year progressive increases cannot be anticipated as new technologies and customer network demands affect the timing of future deployments. Over the next three to five years the City can anticipate three to five new sites until the transition to 5G technology is complete, after which the City can expect greater numbers of small cells and node sites throughout the higher populated areas. This estimate is based on the mathematics of the population density; subscriber base and usage; transient movement throughout the City and how the number of calls per site can simultaneously be served at any given time.

It is important to emphasize that the mounting elevation of thirty-five (35) feet would be for a single service provider. If the proposed facility is a neutral host facility, then multiple service providers would be able to share the same technology platform or set of antennas and additional height to the structure would not be necessary. If collocation is encouraged, then the initial structure will need to be taller than thirty-five (35) feet in order to accommodate any potential additional tenants on that facility. Pursuant to federal law (47 USC §1455(a)), if the initial tower is constructed at thirty-five (35) feet a collocation that meets certain federal standards has the absolute right to increase the height of the tower a single time by twenty (20) feet, making it a fifty-five (55) foot tower. If the infrastructure is located in a ROW and meets the same standards, then a single ten (10) foot increase would be permitted, making it a forty-five (45) foot tower. Notwithstanding the foregoing, it is possible by contract or covenant, depending on the parties involved, to limit a tower or base station to a fixed height (e.g. where the City is the lessor of the property).

Public Properties as Fill-in Sites for Network Gaps

When publicly owned property is used for infrastructure, the community can be assured that concealed and non-concealed preferences for designs would be met. As public properties are developed, the infrastructure installed also becomes a precedent for how future sites should be developed on both public and private land. For example, many creative concealment techniques are available to the industry and some are more aesthetically pleasing and more practical than other types. As local government adopts preferred designs on publicly owned property, their installations become the standard for future sites developed on public or private land within their zoning jurisdiction. Leasing public properties for new wireless infrastructure can also create new sources of public revenue. Additionally, locating infrastructure on public property can result in an

asset for the City with potential availability for the use of emergency services and public safety equipment.

Figure 24 is an illustration of potential coverage gap fill-in solutions. Areas colored with yellow to green gradients shows theoretical coverage from existing towers and base stations with PWSF equipment. Areas colored with light to dark shades of red gradients represent the projected theoretical coverage from existing towers and base stations without current PWSF that could be utilized or upgraded for PWSF collocations. Areas colored with pink gradients represent proposed new fill-in sites from vetted City-owned property. Areas colored with light to dark orange gradients are gaps that will need fill in from other public properties, privately owned lands or ROW's. The two (2) gray shaded patches are areas with commuter and tourism capacity concerns. The areas identified in gray could benefit from temporary tower facilities during peak events or by installing two to three additional microcells in these specific geographic areas.

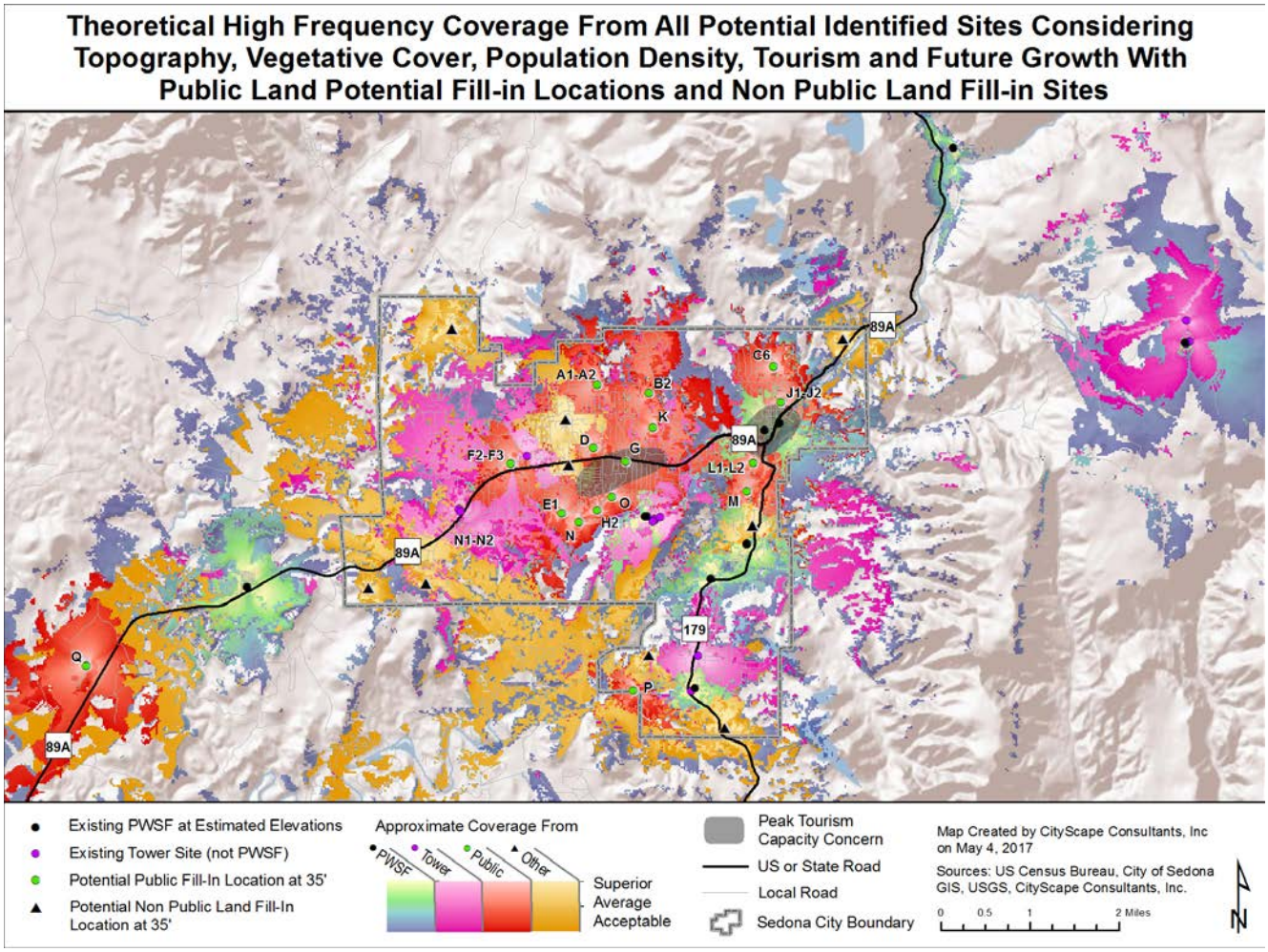


Figure 24: Theoretical High Frequency with Variables Fill-in

Chapter 3

Wireless Master Planning and Public Policy

Wireless Deployment and Public Policy

There were only two competing wireless cellular providers with the deployment of first generation wireless services. With the deployment of 2G, six (6) competing PCS providers were added to the marketshare and the wireless marketplace became furiously competitive. "Speed to market" and "location, location, location" became the slogans for the competing 1G and 2G providers. The concept of sharing facilities was not part of the strategy as each provider sought to have the fastest deployment to develop the largest customer base. This resulted in a quick return on the cost of deployment but also meant there was an extraneous amount of new tower construction happening without the benefit of local land use planning and management.

As local governments began to adopt development standards for the wireless communications industry, the industry strategy changed yet again. The cost associated with each provider developing an autonomous inventory of facilities put a financial strain on their ability to deploy their networks. Consequently, most of the wireless providers divested their internal real estate departments and tower inventories. This change gave birth to the new industry of vertical real estate and it includes a consortium of tower builders, tower owners, site acquisition and site management firms.

No longer was a tower being built for an individual wireless service provider but for a multitude of potential new tenants who would share the tower without enduring the individual cost of building, owning and maintaining the facility. This sharing antenna space on a tower between wireless providers is called collocation.

This industry change benefited local governments who adopted new tower ordinances requiring collocation as a way to reduce the number of new towers. But, *initially* it did not work as intended. As a result, local landscapes became dotted with all types of towers and communities started adopting regulations to prohibit or have the effect of prohibiting all wireless communication towers within their jurisdictional boundaries.

Wireless deployment came to a halt in many geographical areas and all involved in the process of wireless deployment became equally frustrated with the situation. So the FCC stepped in and with the issuance of Section 704 of the Telecommunications Act mandated the networks be deployed within a specific time period and local government agencies cannot slow down or prohibit wireless deployment.

Section 704 Facilities Siting; Radio Frequency Emission Standards

Fortunately Section 704(a) 322(c)(47 U.S.C.332(c))(7) titled Preservation of Local Zoning Authority of the Federal Telecommunications Act of 1996 (Section 704 or The Act), provides local governments zoning authority over the deployment of wireless telecommunication facilities subject to several specific guidelines such as:

- Land use development standards may not unreasonably discriminate among the wireless providers and may not prohibit or have the effect of prohibiting the deployment of wireless infrastructure. For example, some communities adopted development standards restricting the distance between towers to three or more miles. In some geographic locations with sparse populations this might be adequate for 1G deployment; however the Laws of Physics make it impossible for 2G wireless deployments to meet this spacing requirement. And unintentionally some local governments prohibited the deployment of 2G.
- Local governments must act on applications for new wireless infrastructure within a "reasonable" amount of time but didn't specify what "reasonable" meant.
- Land use policies may be adopted to promote the location and siting of telecommunications facilities in certain designated areas.
- Encouraging the use of third party professional review of site applications.
- Prohibiting local government from denying an application for a new wireless facility or the expansion of an existing facility on the grounds that radio frequency emissions are harmful to human health provided the wireless service provider met federal standards.

The Shot Clock Ruling

After obtaining some relief from Congress with Section 704 the wireless industry, specifically the infrastructure companies, became frustrated with the time that it took for local governments to act on siting requests. Consequently they petitioned the FCC for relief. The FCC issued a "Shot Clock" Declaratory Ruling in 2009. The Shot Clock ruling requires collocation decisions to be made in 90 days and new tower decisions to be made in 150 days. This puts an administrative burden on local government to make decisions expeditiously or otherwise the application will be deemed approved. Some communities have challenged the FCC's authority to impose these timelines, but the US Supreme Court ultimately decided the FCC was within its authority to impose the Shot Clock on local governments.

Federal Communications Commission

Image FCC.Gov

Since this time additional relief has been sought after by the wireless industry so in 2012 the Spectrum Act was released.

The Spectrum Act

Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, referenced as the "Spectrum Act" was enacted by Congress to promote wireless deployments of broadband for public safety and commercial purposes. As stated in the Spectrum Act:

"…a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station."

Much debate arose between the wireless industry and local government agencies nationwide on the meaning of this passage. After acknowledging that Congress did not provide much guidance on what it meant by some of the terms used in Section 6409(a), the FCC decided to provide some definitions and rules of interpretation, saying that "that clarifying the terms in Section 6409(a) will eliminate ambiguities in interpretation and thus facilitate the zoning process for collocations and other modifications to existing towers and base stations." This resulted in the FCC issuing a response in a Report and Order released October 21, 2014 in W.T. Docket 13-238 commonly called Report and Order.

In the introduction of the Report and Order the FCC states,

"Demand for wireless capacity is booming: more consumers are accessing mobile broadband every year, driving more innovation and expanding access to public safety. But our ability to meet this demand depends on the infrastructure that supports the services. We therefore take concrete steps to facilitate the deployment of the infrastructure necessary to support surging demand, expand broadband access, support innovation and wireless opportunity, and enhance public safety all to the benefit of consumers and the communities in which they live". (Paragraph 2). "Accordingly, our actions are intended to encourage deployments on existing towers and structures - rather then entirely new towers - in recognition that collocations almost always result in less impact or no impact at all." (Paragraph 3)

So what does this mean and how does it affect local planning agencies nationwide?

> First, "[n]otwithstanding section 704 of the Telecommunications Act of 1996 or any other provision of law, a State or local government may not deny, and shall approve, any *eligible facilities request* for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. An *eligible facilities request* is one that requests modification of an existing wireless tower or base station that involves (a) collocation of new transmission equipment; (b) removal of transmission equipment; or (c) replacement of transmission equipment.

Second, it is important to understand how the FCC in the Report and Order defines base station, eligible support structure and tower.

- *Base Station*, "a structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communication between user equipment an a communications network. There term does not encompass a tower as defined in this subpart or any equipment associated with a tower. This term includes any structure other than a tower, at the time the relevant application is filed with the State or local government."

- *Eligible support structure,* "any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section."

- *Tower* means, "any structure built for the sole or primary purpose of support any Commission licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site."

The Report and Order reaffirms that broadcasting infrastructure is also considered a wireless tower or base station for purposes of Section 6409(a) and that transmission equipment includes antennas, cables, and auxiliary power equipment, such as generators.

The FCC further clarified:

"…the term "existing" requires that wireless towers or base stations have been reviewed and approved under the applicable local zoning or siting process or that the deployment of existing transmission equipment on the structure received another form of affirmative state or local regulatory approval (*e.g.*, authorization from a State public utility commission). Thus, if a tower or base station was constructed or deployed without proper review, was not required to undergo siting review, or does not support transmission equipment that received another form of affirmative State or local regulatory approval, the governing authority is not obligated to grant a collocation application under Section 6409(a)."

A wireless tower that does not have a permit because it was not in a zoned area when it was built, but was lawfully constructed is considered an "existing" tower. In other words, a collocation application that "shall be approved" under Section 6409(a) has to be for a location that has been previously reviewed and approved through the local regulatory approval process and is not a "substantial change" to the original approval.

Under the new FCC definition a "substantial change" to an eligible tower or base station is as follows:

(1) (a) for towers outside of public rights-of-way, it increases the height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest

existing antenna not to exceed twenty feet, whichever is greater; (b) for those towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than 10% or 10 feet, whichever is greater; or

(2) (a) for towers outside of public rights-of-way, it protrudes from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; (b) for those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six feet; or

(3) it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or

(4) it entails any excavation or deployment outside the current site of the tower or base station;

(5) it would defeat the existing concealment elements of the tower or base station; or

(6) it does not comply with conditions associated with the prior approval of construction or modification of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds identified above. We further provide that the changes in height resulting from a modification should be measured from the original support structure in cases where the deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of Section 6409(a).

For example, provided the request is not a substantial change then, if the City previously approved a non ROW (a.k.a. eligible facility) to be constructed at 100 feet then under Section 6409(a) that tower height can be increased by ten (10) percent or by twenty (20) feet, whichever is greater. In this case 20 feet is the greater so an eligible 100-foot tower could be increased to 120 feet in height to accommodate an additional collocation provided the modification does not exceed the six substantial change criteria. For eligible towers in the ROW and for all eligible base stations the height can be increased by ten (10) percent or ten (10) feet, whichever is greater. Thus an existing eligible 100-foot tower in the ROW or any eligible 100-foot base station could be increased in height by right to 110 feet.

The Report and Order affirms that these standards apply equally to legally nonconforming structures in your jurisdiction. They too will be eligible for Section 6409(a) modifications.

Finally, the FCC points out that wireless facility modifications under Section 6409(a) should remain subject to building codes and other non-discretionary structural and safety codes. In

particular, they clarified that Section 6409(a) does not "preclude states and localities from continuing to require compliance with generally applicable health and safety requirements on the placement and operation of backup power sources, including noise control ordinances if any."

As to timeline, local government has sixty (60) days to review a new collocation application for an eligible facility under Section 6409(a). The timeline starts when the application is submitted. Local government can then "stop" or "toll" the clock within the initial thirty (30) days if the the application is incomplete. The local government's request for additional information "must specify the code provision, ordinance, application instruction, or otherwise publicly stated procedures that require the information to be submitted."

The time clock restarts when the applicant resubmits with the missing information. If the application is still incomplete local government can then "stop" or "toll" the process again by again identifying, in writing, missing information. The clock will restart again upon the second resubmission. After that local government cannot stop the clock because of incompleteness.

If the local government does not complete the application review within sixty (60) days (subject to the tolling provisions above), the Report and Order adopts a "deemed granted" remedy.

If, after reviewing a proposed Section 6409(a) application, the local government determines that the application request is not eligible for Section 6409(a) processing because it constitutes a "substantial change", then the ninety (90) day timeline from the 2009 Shot Clock ruling applies, starting from the day the City decides the application is not Section 6409(a) eligible. (However, certain applications may need to be processed in accordance with Arizona statutory law which differs from the federal rules above. For example, non-substantial collocations of "small cells" within a City right of way must be reviewed upon receipt to determine if they meet the non-substantial change definitions and the City must notify applicant in writing within twenty (20) days of submission if the application is incomplete and advise as to any deficiencies and request resubmittal. If no notice is given, the application shall be deemed complete. The City shall process such application once complete within seventy-five (75) days of receipt or the application will be deemed granted. For new small cells within a City right of way, the applicant must be notified by the City within thirty (30) days of submittal of its application as to any deficiencies and request resubmittal. If no notice is given, the application shall be deemed complete. The City shall process such application once complete within one hundred fifty (150) days of receipt or the application will be deemed granted.)[1]

The Report and Order does suggest that the "deemed granted" isn't necessarily the last word on the subject. Acknowledging that judicial determination may be necessary, the Report and Order states:

[1] See Arizona Revised Statutes, Title 9, Chapter 5, Article 8, Sections 9-593 and 9-594

"…. a State or local authority may challenge an applicant's written assertion of a deemed grant in any court of competent jurisdiction when it believes the underlying application did not meet the criteria in [Section 6409(a)] for mandatory approval, would not comply with applicable building codes or other non-discretionary structural and safety codes, or for other reasons is not appropriately "deemed granted".

The takeaway from this part of the Report and Order is that Section 6409(a) applications must be tailored to request permissible information and then must be acted upon quickly in order to avoid a "deemed granted" remedy.

The Report and Order continues by pointing out that Section 6409(a) applies only to local government in its regulatory capacity and NOT as a landlord. Should the City choose, in the capacity as landlord, to limit the number and type of applicants on City property infrastructure, then there will not be a burden by Section 6409(a).

In an important nod to local government, the FCC said in the Report and Order that it would *NOT* find establishment of a preference for siting on public property in local regulations to be a per se violation of Section 704's requirements to not discriminate amongst providers. The Report and Order said while some preferences coupled with onerous regulations could have that effect those decisions would have to be made on a case by case basis.

Standards that should be included in the City's land use development standards are the Telecommunications Act of 1996, the Shot Clock, and Section 6409(a) of the Middle Class Tax and Job Creation Act of 2012.

State of Arizona House Bill 2365
(Arizona Revised Statutes, Title 9, Chapter 5, Article 8)

Article 8 titled, "Use of Public Highways by Wireless Providers" was amended through House Bill (HB) 2365 passed by the Legislature and signed by the Governor on March 31, 2017. It states that,

> "Right-Of-Way means the area on, below or above a public roadway, highway, street, sidewalk, alley or utility easement. Right-Of-Way does not include a Federal Interstate Highway, State Highway or State Route under the jurisdiction of the Department of Transportation, a private easement, property that is owned by a Special Taxing District, or a utility easement that does not authorize the deployment sought by the wireless provider."

The two (2) main throughways in Sedona are both under the jurisdiction of the Department of Transportation (89A and 179) and by definition are exempted from HB 2365. The public City street Right-Of-Ways affected by HB 2365 are identified by black lines in Figure 25.

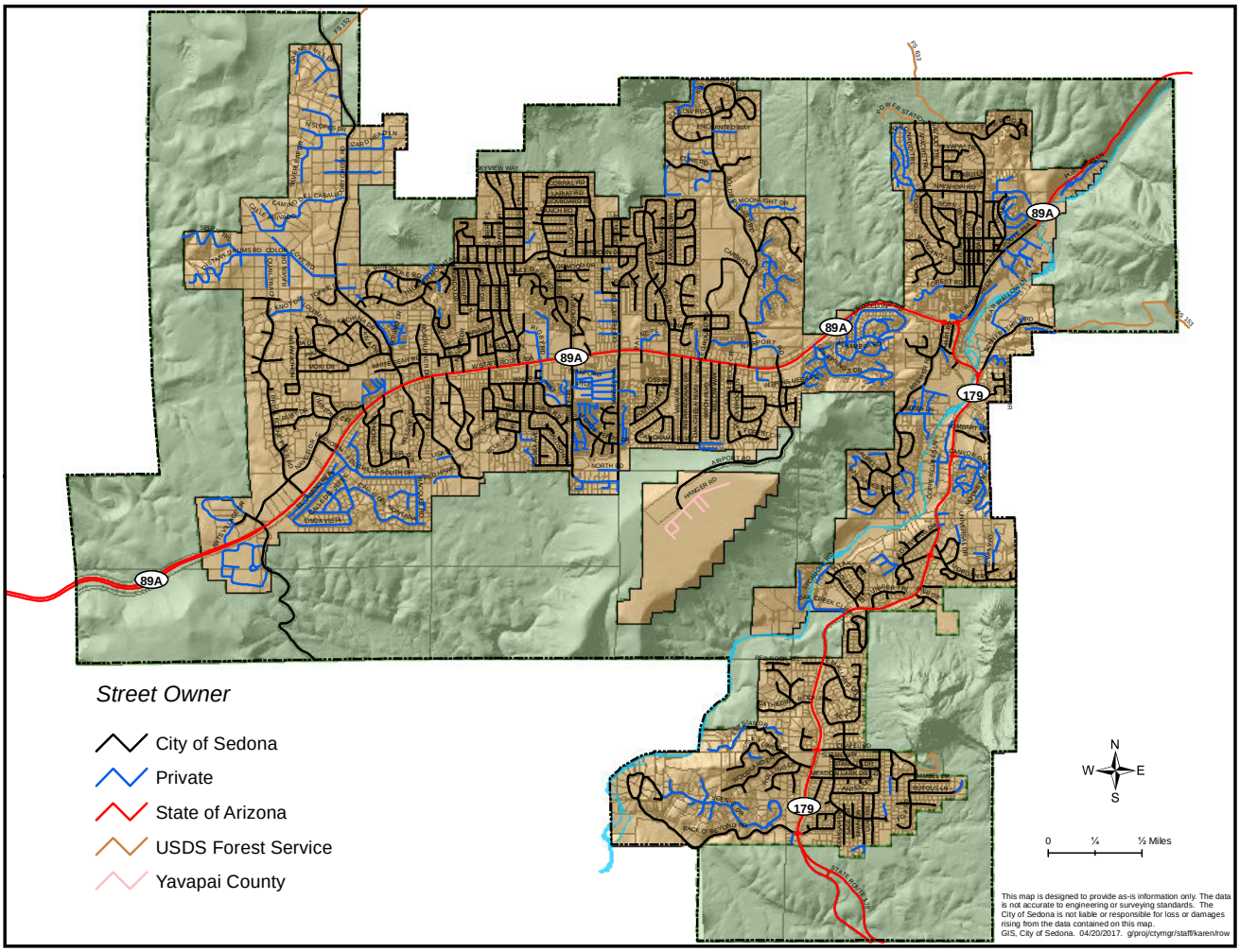


Figure 25: City of Sedona Public Right-Of-Ways

Section 9-593 titled, "Applicability: collocation of small wireless facilities; permits; application; fee "outlines the standards the City is required to follow when allowing a collocation within the City ROW. Generally this Section requires the City to determine if applications for small wireless facilities in the City's ROW are complete or incomplete within twenty (20) days after receiving an application. If the applicant is not notified within that timeframe, the the application is deemed complete. Per the Spectrum Act and the City's proposed ordinance changes, a collocation is allowed on an eligible tower or base station in City's public ROW, by right, subject to application approval.

Per the FCC's definition in the Report and Order, existing poles and other structures in the ROW that, at the time of the effective date of the revised City ordinance, does not support or house wireless equipment (radio transceivers, antenna, coaxial or fiber optic cable, DAS, small cell networks…) are not an existing eligible base station or tower. Existing poles in the ROW without wireless equipment on them at the time of the effective date of the Spectrum Act are not eligible facilities and not subject to collocation by right until first approved as a new base station.

New policies for the City relative to State of Arizona House Bill 2365 are being addressed in revisions to the City's Title 12, "Streets, Sidewalks and Public Places" development standards.

Wireless Master Planning and Public Policy

Wireless telecommunications master planning is an approach taken to reveal how the wireless service industry has initiated deployment patterns throughout the community and revealing the gaps in their coverage. The industry needs complete network coverage and the goal of the City is to allow that fill-in to occur with the least amount of visual impact on the community.

Addressing the engineering gap analysis within the federal guideline parameters and developing public policy based on these two items is the final step in the wireless master planning process. Primary goals identified by the City regarding future wireless infrastructure installations within the identified gaps include:

- Providing wireless connectivity for residents, businesses, visitors and emergency management personnel; and
- Protection of community aesthetics by planning for well sited, well designed, concealed facilities so that the infrastructure aesthetically fits into the landscape of the community; and
- Management over the number and placement of all base stations, towers and associated equipment (including buildings and compound areas) and ancillary equipment to promote efficient wireless voice, broadband and public safety service delivery; and
- Addressing safety of telecommunication facilities and avoid potential damage to people and property; and
- Maximizing City-owned and other publicly owned assets in order to control design standards and to create a revenue opportunity for the City and other public agencies for the overall use by the citizenry.

Public Participation Process

Public participation is a critical element of the master planning process. The goal of the public participation process is to obtain input from citizens, elected and appointed officials, the wireless industry and other interested parties regarding current and future deployment practices of wireless infrastructure within the City. The feedback from these stakeholders helps the City and its consultants to build consensus on how to provide good cell phone and wireless broadband services, while minimizing impacts from telecommunication facilities on neighborhoods and viewsheds. To be as inclusive as possible, City staff and CityScape devised a public participation process that included a kickoff meeting, follow-up presentations, site visits , online polling, direct

outreach to key stakeholders, the distribution of educational materials and a series of public meetings and hearings.

CityScape conducted a MP kick-off meeting with the City Council and Planning and Zoning Commission on July 13, 2016 and participants were asked to vote on their preferences of different types of infrastructure including non-concealed and concealed towers and base stations. In an effort to reach a larger audience, City staff prepared and posted online the same presentation of the survey conducted at the Kickoff meeting. For those interested parties unable to attend the meeting, the online survey remained open for several weeks allowing for participation. Between the two survey methods staff received around 30-35 responses to the survey and the results are as follows in Table 8:

PREFERENCES	TYPE OF INFRASTRUCTURE	TOTAL VOTES
Preferred Base Station	Concealed	27
Preferred Non-concealed	Monopole	25
Preferred Concealed	Faux Tree	23
Preferred Small Cell	Concealed dual purpose light post	11
Preferred Utility Installation	Base station in ROW or easement	8

Table 8: Infrastructure Preferences

CityScape facilitated another public meeting with the City Council and Planning and Zoning Commission on September 14, 2016 where propagation mapping results were presented, showing likely locations for future in-fill sites. This led to discussions for potential land use solutions for future infrastructure requirements.

Once the initial list of City-owned properties was developed, in the general locations identified within the propagation mapping, City Councilors and Planning and Zoning Commissioners conducted site visits to preliminarily assess suitability of those locations for fill-in sites. Forty out of sixty sites were eliminated by combining certain parcels of land or they were deemed unsuitable for this type of infrastructure. Therefore 20 sites remained under consideration.

[2]The City conducted a more intensive public participation process to further vet those sites by notifying all property owners within 300 feet of each of the potential sites under consideration for future wireless siting. These property owners were invited to provide input through the Planning and Zoning Commission's public meetings, or by contacting staff directly.

[2] At this time this process is on-going and may change before final adoption

Public hearings were held with both Planning and Zoning and City Council discussing the proposed City-owned properties, LDC suggested revisions and the Draft MP. An informational video discussing the MP was created and promoted on the City's website at www.sedonaaz.gov/wirelessmasterplan as well as through City local print and social media.

Stakeholders have considered the options for filling in the gaps in wireless coverage and developed a list of preferred types and locations for future wireless infrastructure based on the feedback from the kick-off meeting, follow-up meeting , site visits, public outreach, and public hearings. The overall goal of the listing of preferred locations is to locate and design facilities as inconspicuously as possible. Based on the citizenry comments the preferences are as follows:

- Use of public land over private land is preferred because of the benefit to the entire community, specifically controlling location and aesthetics; and
- Concealed base stations (antennas mounted on existing structures) are preferred over new non-concealed base stations or towers; and
- Non-residential locations are better than residential locations for new infrastructure because such facilities are less noticeable and more accepted by the public; and
- Use of right-of-ways (ROW) with concealed small cells, DAS and nodes are now allowed by right per Arizona State law, so the City expects the industry to use this method to get high speed Internet and broadband to residential areas; and
- Base stations on residential buildings, if carefully designed to look like faux chimneys, louvers or dormers might be preferred over the use of the ROW.

After final review the City qualified a total of twenty (20) City-owned properties for fill-in locations including site-specific infrastructure that will be allowed on each property. All 20 City-owned properties meet the following criteria:

- Have vehicular access to an improved public right-of-way;
- Have access to utilities;
- Contain adequate area outside the 100 year flood plain to accommodate wireless infrastructure.

Additionally, any new tower, base station or node facility on any of these 20 properties must meet all City development standards and be subject to all regulations of the zoning code. Should an applicant request any variation from what is proposed and accepted at the time of the MP vetting process that application will require a Conditional Use Permit (CUP).

The map in Figure 26 shows the location of the vetted City-owned properties and Table 9 identifies the City-owned properties on the map alphabetically and provides the site address,

parcel number, acreage and site specific recommendation for future facilities. Use of these public fill-in sites is encouraged and promoted in the City's LDC.

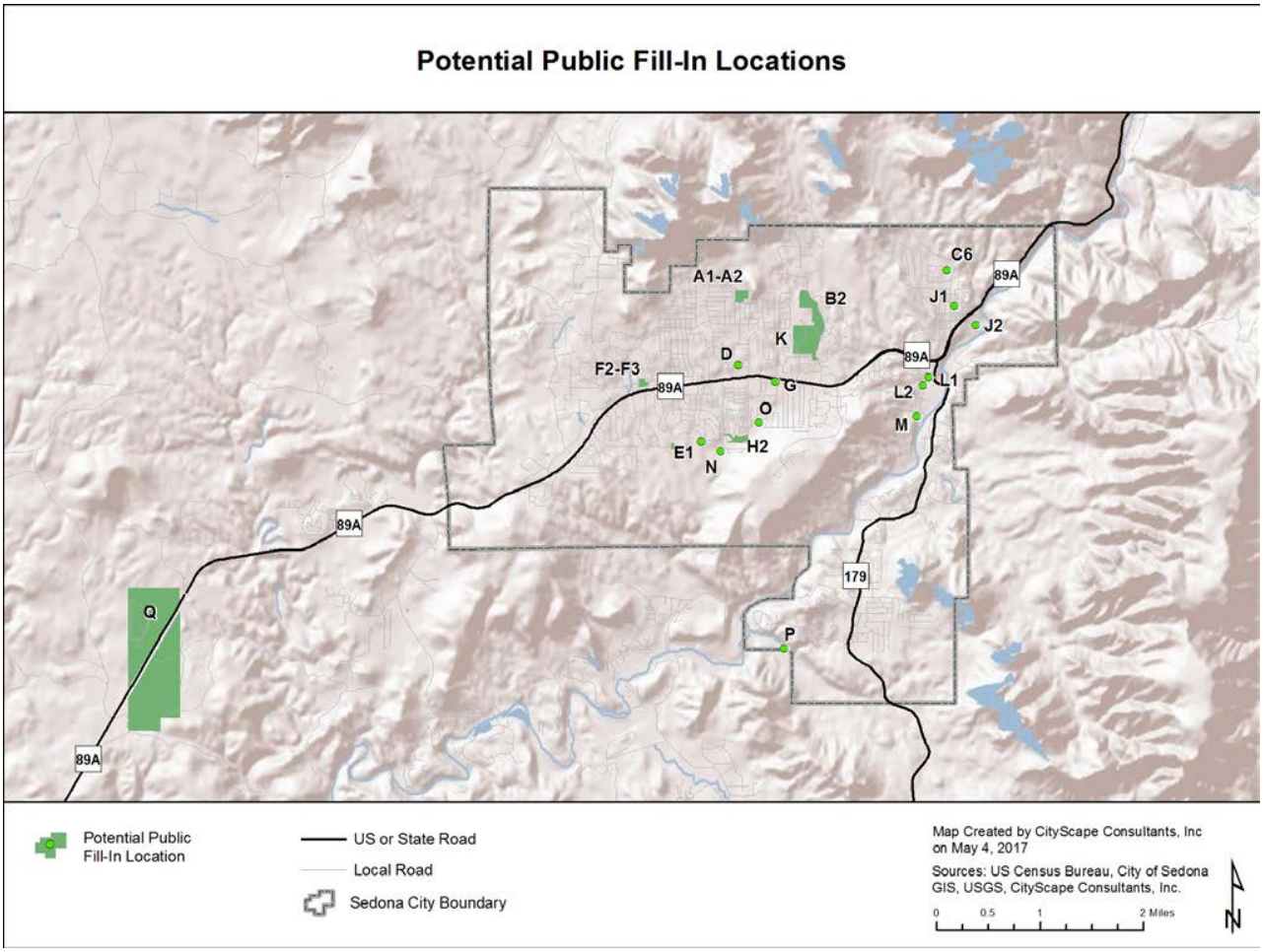


Figure 26 City-Owned Fill-in Sites (Subject to Change)

CITY PRIORITY SITE ID	ADDRESS	PARCEL NUMBER	ACREAGE	SITE SPECIFIC RECOMMENDATION
A1	2070 Buena Vista Drive	408-24-117F	8.380	Faux tree only preferred
A2	Sugarloaf Trailhead 20150 Buena Vista Drive	408-24-117C	0.406	Faux tree or concealed small cell if by parking lot
B2	City of Sedona	408-25-341D	25.866	Faux tree behind West Sedona School close to bus lot
C6	Jordan Park Overflow Parking Lot 735 Jordan Road	401-03-001K	1.0	Faux tree to the west of parcel or west of parking lot
D	Maintenance Yard 20170 Contractors Road	408-24-037A	0.853	Concealed base station on rooftop; monopole or pole
E1	El Camino Pump Station 700 El Camino Road	408-28-343	1.198	Faux tree or concealed base station on rooftop
F2	Singagua Former Real Estate Building 55 Sinagua Drive	408-24-325	0.801	Concealed small cell light pole or concealed base station on rooftop
F3	City Hall Complex 102 Roadrunner Drive	408-020116	2.919	Concealed small cell light pole or concealed base station on rooftop
G	Jack Jameson Park 25 Northview Rd	408-26-498	0.388	Faux tree or flagpole with underground equipment cabinets at south end of property
H2	Recycle Center/Pump Station 2260 Shelby Drive	408-28-103B	0.837	Tower, base station on rooftop on WW building; not on recycle center
J1	Municipal Parking Lot 260 Schnebly Rd	408-14-011, 401-14-093 through 401-14-099	2.01	Concealed small cell
J2	Lift Station 90 Art Barn Lane	401-13-060H	0.06	Concealed small cell
K	Possee Grounds Park 505 and 525 Posse Ground Rd	408-25-339B and 408-25-043A	45.64	Concealed macro at ball park or concealed small cell
L1	Lift Station 41 Ranger Rd	408-25-340	0.33	Concealed small cell or concealed base station
L2	Old Ranger Station- Brewer Property 250 Brewer Rd	408-13-022L	3.38	Concealed macro or concealed small cell
M	Lift Station 11 New Castle Ln	401-20-026M	0.15	Concealed small cell
N	Drainage culvert 60 Finley Drive	401-28-344E	0.11	Concealed small cell
O	Lift Station 160 Panorama Blvd	408-26-195A	0.05	Concealed small cell
P	Cathedral Rock Parking Lot 515 Back O'Beyond Rd	408-13-022L	0.33	Concealed small cell
Q	Waste Water Treatment Plant 7420 and 7500 W State Route 89A	408-21-010A, 408-21-382A, 408-21-463E, 408-21-011D, E, F, 408-21-383A, 408-21-463B, D, F	400.12	Possible concealed macro site subject to County zoning

Table 9: Vetted City-Owned Properties (Subject to Change)

Article 17 Wireless Communications Facilities

Title, Purpose and Definitions

Article 17 of the City's Land Use Development Code is titled as the Sedona Wireless Communications Facilities Ordinance (Ordinance). There are twelve (12) items listed as purposes and intents of Article 17. In summary the purpose of the development standards is to provide for and allow continual wireless deployment Citywide, especially in the identified gaps. These are consistent with Section 704, the Spectrum Act, and Arizona Revised Statutes, Title 9, Chapter 5, Article 8 with strong emphasis on collocation and concealment options to minimize visual impacts throughout the City. The Ordinance promotes wireless connectivity within the legal parameters provided by the FCC and State, protecting as much as possible the unique natural beauty and small-town character of the City as specified in the Sedona Community Plan.

The definitions provided in the Ordinance are consistent with terms commonly used in the industry and in Section 704 and the Spectrum Act. The definitions provide clarity to the industry, staff and citizenry on the meaning and expectations of the development standards.

Administration and General Development and Design Standards

The Administration section of the Ordinance specifies the type of wireless infrastructure subject to the development standards and the infrastructure and identifies situations that are exempt from the Ordinance. The following policies and development standards addressed throughout this section are indented to:

- Promote properties identified in the MP as the most suitable for siting telecommunication facilities and create incentives for their use; and
- Provide guidance and assistance to telecommunication facility applicants in the siting and design of proposed facilities, consistent with the hierarchy of preferred locations listed in this plan; and
- Identify other potential locations for siting telecommunication facilities consistent with the hierarchy of preferred locations and telecommunication facility types; and
- Provide a streamlined process for facilities that meet siting and design standards. Require pre-application discussions and/or meetings to review, comment on, and guide the applicant on the submittal process; and
- Establish a tiered approval process that incentivizes applicants to propose telecommunication facilities in preferred locations using a preferred design with administrative approval, while requiring other proposals to secure a CUP.

This section provides siting preferences for new telecommunications facilities. The overall goal of the listing of preferred types of infrastructure and preferred locations is to locate and design facilities so they are as inconspicuous as possible. In general, concealed antennas mounted on existing base stations and concealed new base stations are preferred to new non-concealed

antennas mounted on new non-concealed facilities. Non-residential locations are preferred over residential locations because such facilities are less noticeable and more accepted by the public. And the use of public land over private land is beneficial to the entire community so it is listed as a preference before private land sites.

Utilizing City-owned lands assures the community the preference of concealment materials and technologies presently available to the industry. As City properties are developed with concealed wireless facilities that infrastructure installed becomes the precedent of how future sites should be developed on private land. For example, many slick sticks and "flag pole" towers are available to the industry, as well as other creative ideas for concealment towers; some are more aesthetically pleasing and more practical than other types. As the City utilizes these products their applications become the standard for future tower sites on both public and private land. As public land sites are considered and utilized for these purposes, staff gains invaluable knowledge on how wireless sites are constructed, which will aid them in reviewing and processing future site plan designs and evaluations on both public and private properties. Leasing public lands for purposes of new wireless infrastructure can create new sources of public revenue. As new sites are developed on public land, the community generates lease revenue from that tower owner and tenant.

The most preferred option is listed first with the least preferred option last. When a lower ranked alternative is proposed the applicant must demonstrate through relevant information why the higher ranked options are not technically feasible, practical or justified given the location of the proposed facilities. This includes, but is not limited to, an affidavit by a radio frequency engineer demonstrating that despite diligent efforts to adhere to the established preferences within the geographic search area and by clear and convincing evidence it is not possible. The applicant must provide such evidence in its application in order for the application to be considered complete.

The City developed the siting preferences for future wireless communications infrastructure from the information gathered during individual site visits, online polling, the kick-off meeting, and a second public meeting, held September 14, 2016.

The siting preference is as follows:

1. Concealed base station (macro, small cell, DAS, or node) on:
    a. City-owned property identified in the MP
    b. City-owned property not identified in the MP
    c. Other public property
    d. Private owned property zoned non-residential
    e. On private owned property which is;
        i. Non-residential use in RS or RM districts;
        ii. Residential multifamily structures;
        iii. Residential single family structures

2. Concealed collocation on an existing concealed tower or concealed base station on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

3. Replacement of existing non-concealed tower with a concealed tower.

4. Concealed tower for small cell, DAS or node (not macro) on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

5. Concealed macro tower on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

6. Collocation on existing non-concealed tower on:
   a. Public property
   b. Private owned property

7. Non-concealed tower on:

a. Public property
   i. Monopole
   ii. Lattice
   iii. Guyed
b. Private property
   i. Monopole
   ii. Lattice
   iii. Guyed

The City developed a Definitions of Zoning Districts as shown in Table 10 and a Preferred Use Table shown in Table 11 that pairs with the list of preferred sites and depicts at a glance which types of infrastructures are permitted in the City's zoning districts and the approval process for each scenario. The goal is to incentivize the wireless industry to deploy preferred types of infrastructure in preferred locations by allowing speed to market through a more streamlined review process with a more stringent review process for less desired types of infrastructure.

DEFINITIONS OF ZONING DISTRICTS	
OP	Office Professional District
C-1	General Commercial District
C-2	General Commercial District
C-3	Heavy Commercial/Light Manufacturing District
RC	Resort Commercial District
PD	Planned Development District
CF	Community Facilities District
L	Lodging District
P	Parking District
RS	Single Family Residential
RM	Multi Family Residential
OS	Open Space

Table 10: Zoning Districts

USE TABLE												
	RS		RM		OP	GC	C-3	L/RC	PD	CF	P	OS
	R	NR	R	NR								
Concealed base station (macro, small cell, DAS or node) on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
City-owned property not identified in the MP	C	C	C	C	C	C	C	C	C	C	C	N
Other public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Concealed collocation on existing concealed tower or base station on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
City-owned property not identified in the MP	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Replacement of existing non-concealed tower with a new concealed tower on:												
City-owned property	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
Public property	A	A	A	A	A	A	A	A	A	A	A	N
Private property	A	A	A	A	A	A	A	A	A	A	A	N
Concealed small cell tower, DAS or node (not macro) on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											
City-owned property not identified in the MP	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	N	C	C	C	C	C	C	C	C	C	C	N
Concealed macro tower on:												
City owned property identified in the MP	A – See Master Plan for Site Specific Details											
City-owned property not identified in the MP	N	C	N	C	C	C	C	C	C	C	C	N
Other public property	N	C	N	C	C	C	C	C	C	C	C	N
Private property	N	C	N	C	C	C	C	C	C	C	C	N
Collocation on eligible facility.												
Non substantial change	A	A	A	A	A	A	A	A	A	A	A	N
Collocation on eligible facility with substantial change or on a non-eligible facility on:												
City-owned property	C	C	C	C	C	C	C	C	C	C	C	N
City-owned property identified in the MP	A	A	A	A	A	A	A	A	A	A	A	N
Public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Non-concealed tower on:												
Public property												
Monopole, Lattice, Guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-2	C-2	N
Private property												
Monopole, Lattice, Guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-2	C-2	N

Table 11: Preferred Use Table

Key for Table 11 is as follows: A=Administrative Permit; C=Conditional Use Permit from Planning & Zoning Commission; C-2=Conditional Use Permit from City Council following recommendation from Planning & Zoning Commission; N=Not Permitted

The applicability section also provides application submittal requirements and application review processes. Each request for any type of new infrastructure requires a completed application form, fee, site plan, scaled drawing, photo simulated pre and post renderings, and many other documents intended to meet safety and aesthetic concerns. This section also includes provisions for third party expert review of all submitted materials from a radio frequency engineering perspective.

Future wireless facilities not in compliance with all portions of the Ordinance shall be removed if not brought into compliance within thirty (30) day after written demand of the City. The General Development and Design Standards section lists required design guidelines in addition to those required in the application process. These additional development standards are intended to further meet the goals and objectives identified during the kick-off and follow-up meetings.

To minimize the visual impacts and promote safety of telecommunication facilities applicants are required to:

- Minimize heights to maintain appropriate mass and scale with the surrounding property, neighborhood, and community. Provide identification signage on nameplate size signs; and
- Comply with radio frequency emissions; and
- Address structural integrity guidelines; and
- Follow impact fee requirements; and
- Require security fencing and landscape screening material around the compound area to match that found in the vicinity (where applicable).

New tower applicants are also required to:

- Protect people and property near telecommunication facilities from structural failure by maintaining the minimum/maximum setback requirements based on the adjoining land use; and
- Incorporate breakpoint technology if applicable; and
- Minimize the sound from power generators or other noise sources; and
- Monitor all facilities to ensure they are being properly maintained.

Applicants should make the best effort for the appearance of towers and base stations to blend into its surroundings. The guidelines set forth in the MP are not all inclusive and applicants are encouraged to propose creative solutions that would be most appropriate for each site.
In general:

- Concealed facilities are preferred; and
- New concealed facilities should blend with the surroundings and avoid being conspicuous, such as concealed base station, a tree or a concealed dual functioning pole; and
- The surrounding environment (e.g. trees, landscaping, fencing and buildings) should be used to the maximum extent possible to conceal the telecommunication compound area; and
- Concealed telecommunication facility types should vary in the City to avoid too many of any one particular type; and
- Equipment cabinets should be vaulted underground whenever feasible.
- Base stations on rooftops should be screened with materials that are transparent to the RF signal, and mitigate the visual impact; and

- Base stations in the right-of-way should not interfere with street lighting, street signage, vehicular or pedestrian access or visibility; and
- A monopole tower is preferred over a lattice and guy tower. The non-concealed tower should be sited among other elements to reduce its visibility, such as, among a stand of trees or behind the principal building on the same zone lot (if applicable); and
- As appropriate, monopoles should be colored to match their foreground or background elements; and
- Cable along the ground should be placed underground; and
- If the cable runs are located above ground, they should be hidden from public view; and
- Cables and feed lines should not be mounted to the exterior of a building or structure; and
- In monopole type facilities (e.g. slick stick, faux tree, painted pole, etc.) cables and feed lines shall be installed inside the pole.

Regarding Equipment Cabinets and Compound Areas:

- Interiors of existing adjacent buildings can be a location for equipment cabinets; and
- Access to equipment cabinets and compound areas shall be limited to authorized personal only and remain gated and locked at all times; and
- Building base station compound areas should be concealed and architecturally compatible with the building; and
- Most ground level equipment must be screened with opaque security fencing and landscaping; and
- The landscape material should match or compliment the surrounding material; and
- Ground level compound areas should be of sufficient height to screen the equipment and, if applicable, match the material(s) and color(s) of the adjoining building; and
- Ground level compound areas should not remove any required parking spaces, required buffer areas, or encroach into any easements; and
- Pole−mounted base station equipment cabinets should be vaulted, placed within the pole on which the antennas or nodes are attaching and if on the ground be small, low profile and flush to the base of the pole; and
- If the equipment cabinet is mounted to the pole it should be mounted high enough off the ground to not interfere with pedestrian, bicycle, and vehicle traffic.

The Ordinance provides application requirements for approval standards for noncommercial amateur wireless facilities. Towers or base stations in excess of sixty-five (65) feet have seven (7) development standards and no wireless communication antennas are allowed on any noncommercial amateur wireless facility.

Regarding radio frequency exposure, wireless communication facility owners (other than amateur facility owners) shall submit a report to the Department of Community Development certifying structural and electrical integrity, as well as continued compliance with RF exposure standards specified in OET-65, upon activation of the facility and thereafter once every two (2) years on the anniversary of the certificate of completion.

Additionally the Ordinance provides guidelines for compliance as it relates to ensuring the City's public safety radio services are free from objectionable technical interference and guidelines for compliance with FCC regulations.

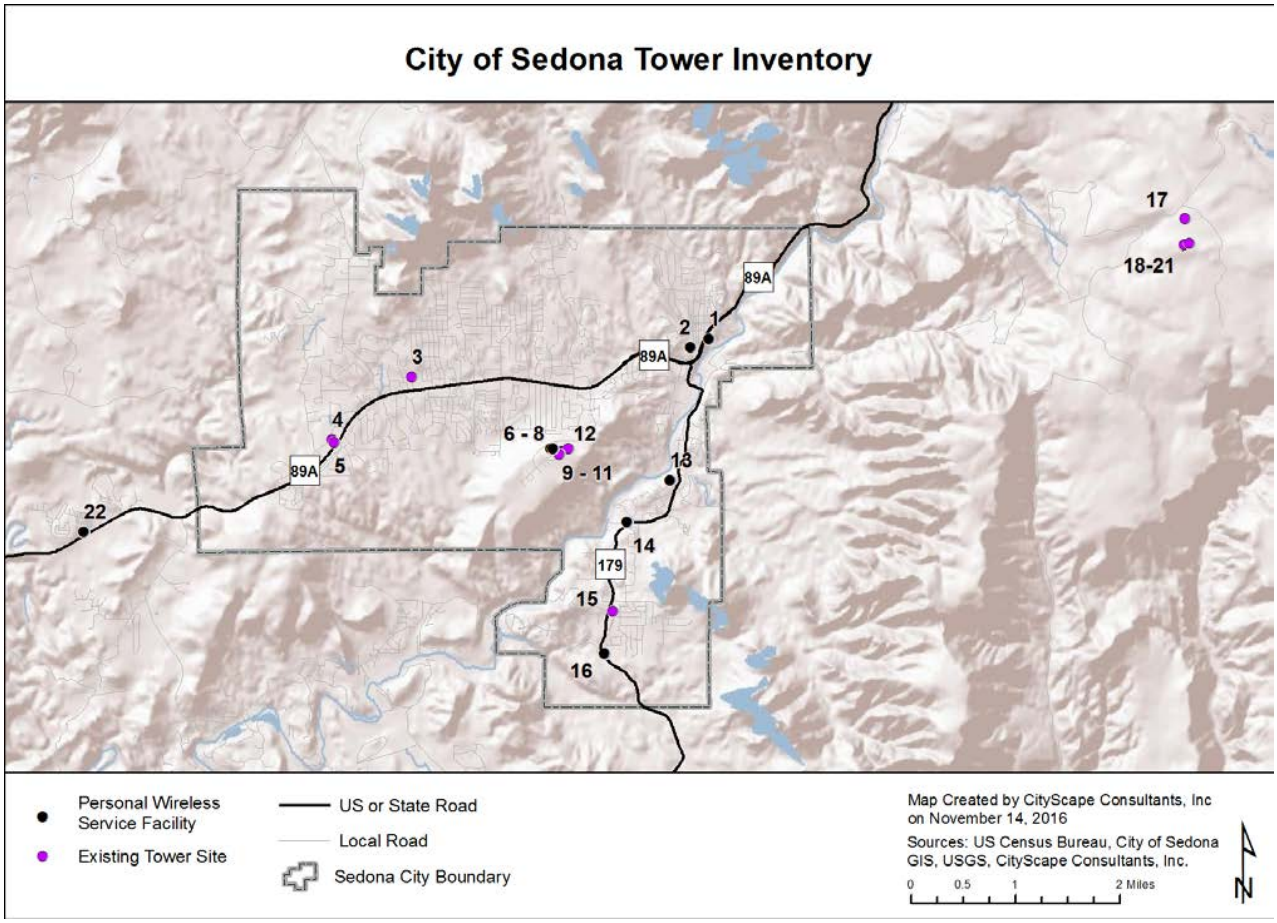


Figure 27: Existing Infrastructure Inventory

Abandoned towers and base stations will be required to be removed at the owner's expense within 180 days of cessations of use and the site area returned to its natural state prior to the tower or base station being built, or if applicable, to match existing new development in the immediate vicinity.

Chapter 4

Inventory Catalog

Creation of Inventory Catalog; Existing Infrastructure

Procedure

Data for the assessments was obtained from a number of sources including actual permits obtained from the City for wireless infrastructure, research of FCC registered site locations, direct information from existing wireless service providers and tower owners active in and around the City, the City's GIS, and through actual site visits to each location. CityScape visited each location and gathered as much information as possible about the facility ownership and tenants.

Evaluation

Based on a visual inspection of antenna arrays already on existing antenna support structures, CityScape made a judgment as to whether each support structure is likely to physically accommodate more antennas. In this consideration, adding antennas equates to adding other wireless antenna platform(s) consisting of several antennas, ancillary equipment and associated cables. Prior to mounting new antennas and related equipment, the structure must be analyzed by a structural engineer for its ability to support the proposed addition(s).

Representation

The towers and base stations are listed in numeric order and are shown on the map in Figure 27. A catalog of the wireless infrastructure inventory follows and includes photographs of the exiting tower or base station, site map of the location and detailed information gathered from the on-site visits as well as from the above referenced sources.

Existing Infrastructure Inventory

Creation of City-Owned Property

The City-owned sites for future telecommunications facilities are listed alphabetically following the examples of concealment options. These particular properties have been visited and vetted by City staff and many members of the City Council and Planning and Zoning Commission. In total twenty (20) City-owned properties are provided in the inventory. Each site was reviewed individually for tower or base station type, height and best general location on the property for the potential new infrastructure, see Figure 28.

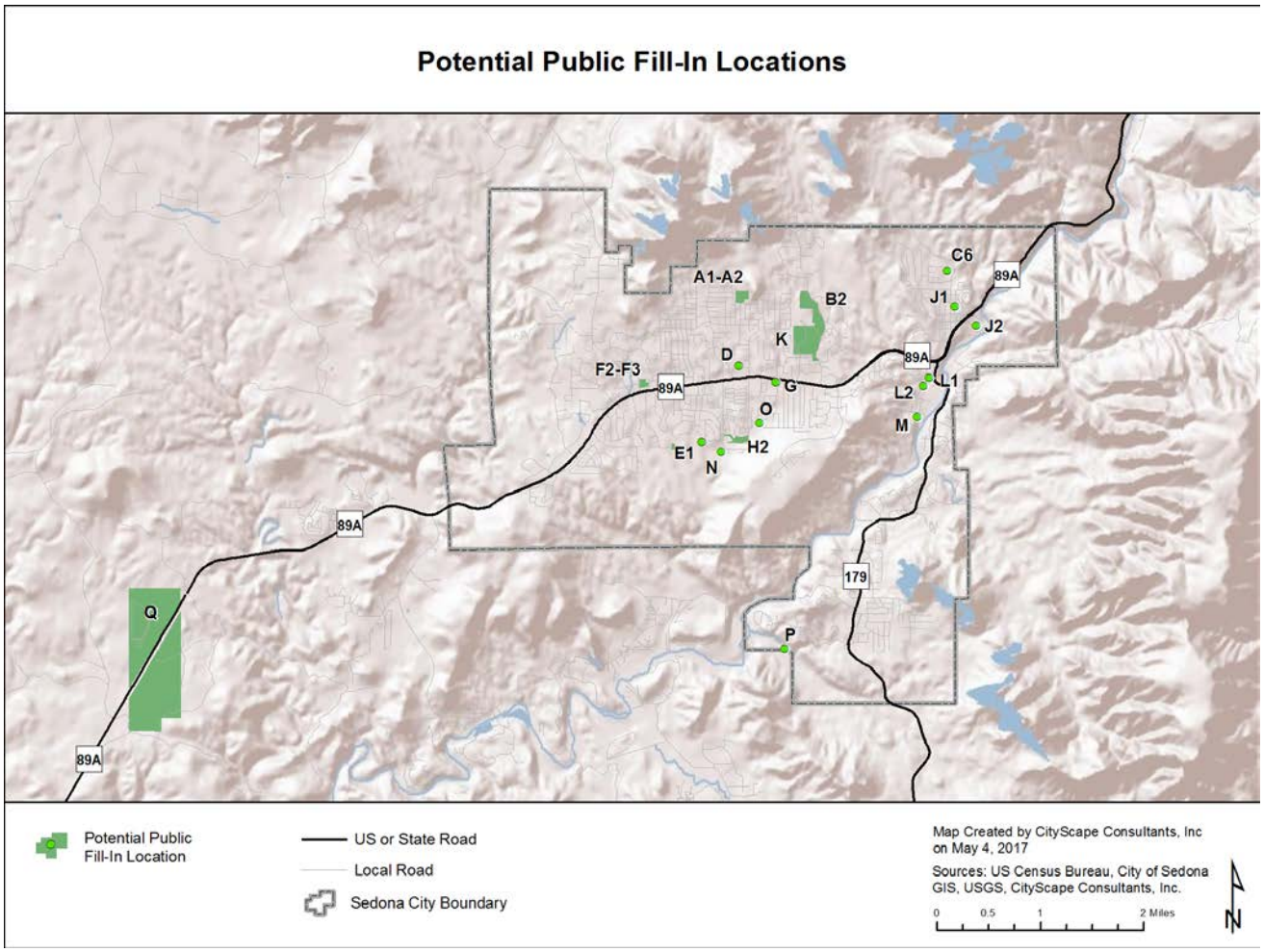


Figure 28 City-Owned Fill-in Sites (Subject to Change)

All the notes were compiled, studied and the consensus for site specific tower or base station appropriateness was determined. Some City-owned sites have more than one possibility due to the land use. For example, site A-2 is the Sugarloaf Trailhead has two possible options; a concealed light pole in the parking lot or a faux tree if closer to the trailhead.

Sugarloaf Trailhead
(Image: City of Sedona)

Additionally, as concealment options continue to improve the City may find it prefers a different style of concealment. For this reason the City promotes creativity by the industry and allows for flexibility on the exact type of concealment options for each property. This thereby prevents repetitive structures appearing throughout the City.

Examples of options for possible concealed sites are shown in Table 12 below.

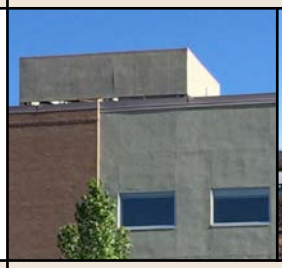
TYPE	EXAMPLES			
FAUX TREES				
FLAG POLES				
CONCEALED BASE STATIONS				
CONCEALED SMALL CELLS				
OTHER CREATIVE OPTIONS				

Table 12:Examples of Concealment Options
***other concealment options may be considered if deemed appropriate for surroundings**

City-Owned Property Inventory

Draft Wireless Master Plan and Ordinance

City Council Work Session

Anthony Lepore, Esq., Partner
Susan Rabold, Project Manager

CityScape CONSULTANTS, INC.

December 13, 2017

Draft Wireless Telecommunication Master Plan and Ordinance

BACKGROUND

Without a Wireless Master Plan the wireless industry will likely install infrastructure based on their individual business needs which results in a proliferation of towers and spotty coverage.

The Master Plan is a tool to guide the industry to build out their networks the way the community prefers to fill in their coverage gaps. The Master Plan identifies the coverage gaps so the community can brainstorm on land development standards for the industry to follow with their future deployments.

The Ordinance is the product of the brainstorming on how to fill in the gaps with the least amount of impact to the community.

Draft Wireless Telecommunication Master Plan

- Master Plan includes a catalogue of existing towers and base stations to facilitate collocation
- Master Plan includes a catalogue of City-owned property as potential locations for future infrastructure with prescribed equipment types for each property
  - Benefits of using City-owned property include: maximum control on where new infrastructure is placed, how it looks and how it is maintained
  - Potential long term revenue from lease agreement

Draft Wireless Telecommunication Ordinance

- Ordinance addresses the preferred infrastructure types, approval process and development standards to be followed by the industry when filling in the network gaps based on community comments
- Ordinance includes a Siting Preference, Use Table and development standards addressing to the fullest extent possible aesthetic and public safety concerns
- Ordinance cross references public land list in the Draft Master Plan in the Siting Preference, Use Table and development standards

Draft Master Plan and Ordinance Review and Approval Process

Kick Off Meeting	Council/Planning & Zoning/ Stakeholders	7/13/16
Community Meeting	Council/Planning & Zoning/ Stakeholders	9/14/16
AZ HB 2365	Introduced	1/30/17
AZ HB 2365	Passed	3/31/17
Public Hearing Planning & Zoning	Presentation of Draft Master Plan and Ordinance	5/18/17 & 6/1/17
Public Hearing Planning & Zoning	Continuance of Draft Master Plan and Ordinance	8/1/17 & 11/7/17
City Council Work Session	Discussion Draft Master Plan and Ordinance	12/13/17
City Council Public Hearing & Adoption	Draft Master Plan and Ordinance	TBD
City Council Adoption	Draft Small Cell in ROW Ordinance	TBD

Federal Legislation Ground Rules for Master Plan and Ordinance

- 47 USC §332(c)(7) (a/k/a Section 704 of the Telecommunications Act of 1996)
- “Preserves” local zoning authority BUT
- Requires local government to regulate in a manner that does not:
  - “unreasonably discriminate among providers of functionally equivalent services; and;
  - prohibit or have the effect of prohibiting the provision of personal wireless services.”
- Requires you to make written decisions on siting applications that are based on “substantial evidence” and not on speculation or because of federally preempted reasons (such as concerns about RF Radiation)

Federal Legislation

- “Shot Clock”
- 2009 Declaratory Ruling by FCC
- Requires local government to make decisions on wireless applications within a specific time frame
- 90 days for SOME
- Collocation applications
- 150 days for new structures/towers

Federal Legislation

Congress included a small paragraph in the Middle Class Tax Relief and Job Creation Act of 2012 -*Section 6409(a*); saying:

- "…a State or local government may not deny, and **shall approve,** any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station"

- *Congress* said it only applied to **collocation**, removal or replacement of existing facilities that did not "substantially change" the physical dimensions of existing structure

- Congress did not define **"substantially change"**

Federal Legislation

- FCC Report and Order released October 21, 2014
- Streamlined federal rules on environmental review processing for towers and exempted “Temporary Towers” from environmental review processes
- Re-defined **“substantial change”** and a host of other terms used in Section 6409(a)
- Clarified provisions of Section 704 and “Shot Clock” and definitions of terms used in connection with same
- Remedies for failure to meet either Section 6409(a) or Section 704 ”Shot Clock” requirements

Proposed Regulations

- Provide conformity with applicable Federal laws;
- Regulate wireless infrastructure to the greatest extent still permissible under existing laws;
- Address concerns regarding aesthetics, public safety and other matters of note to Sedona residents
- Regulate infrastructure outside of ROW

Proposed Regulations

- Provide siting preferences of both location, type and design
- Provide preference for concealment and guidance on desired concealment design
- Require significant certification and testing for RF compliance with Federal laws both initially and periodically
- Provide protection to public safety communications from interference

State Legislation HB 2365 for Use Of Public Highways by Wireless Providers

- Effective July 1, 2017
- Restricts local regulation of wireless infrastructure within public ROW
- Separate set of regulations being developed in City Code Chapter 12 for ROW siting
- NOT covered in pending regulations, which deals with everything OTHER than ROW

State Legislation HB 2365

Key Elements of the State Law:

- Establishes definitions at odds with FCC Definitions in 2014 Report and Order; e.g. “collocate” and “small wireless facility”
- Removes zoning review for “small wireless facilities” in ROW
- Can still require application, limited in what you can ask for
- 20 days to determine if application complete, determination in 75 days or deemed granted

State Legislation HB 2365

Key Elements of the State Law:

- Denials must document basis for same including reference to applicable code section or application requirements
- Installation must be complete within 180 days of permit grant, but no enforcement ability in legislation
- Limited to $50 annual rent for each facility in ROW

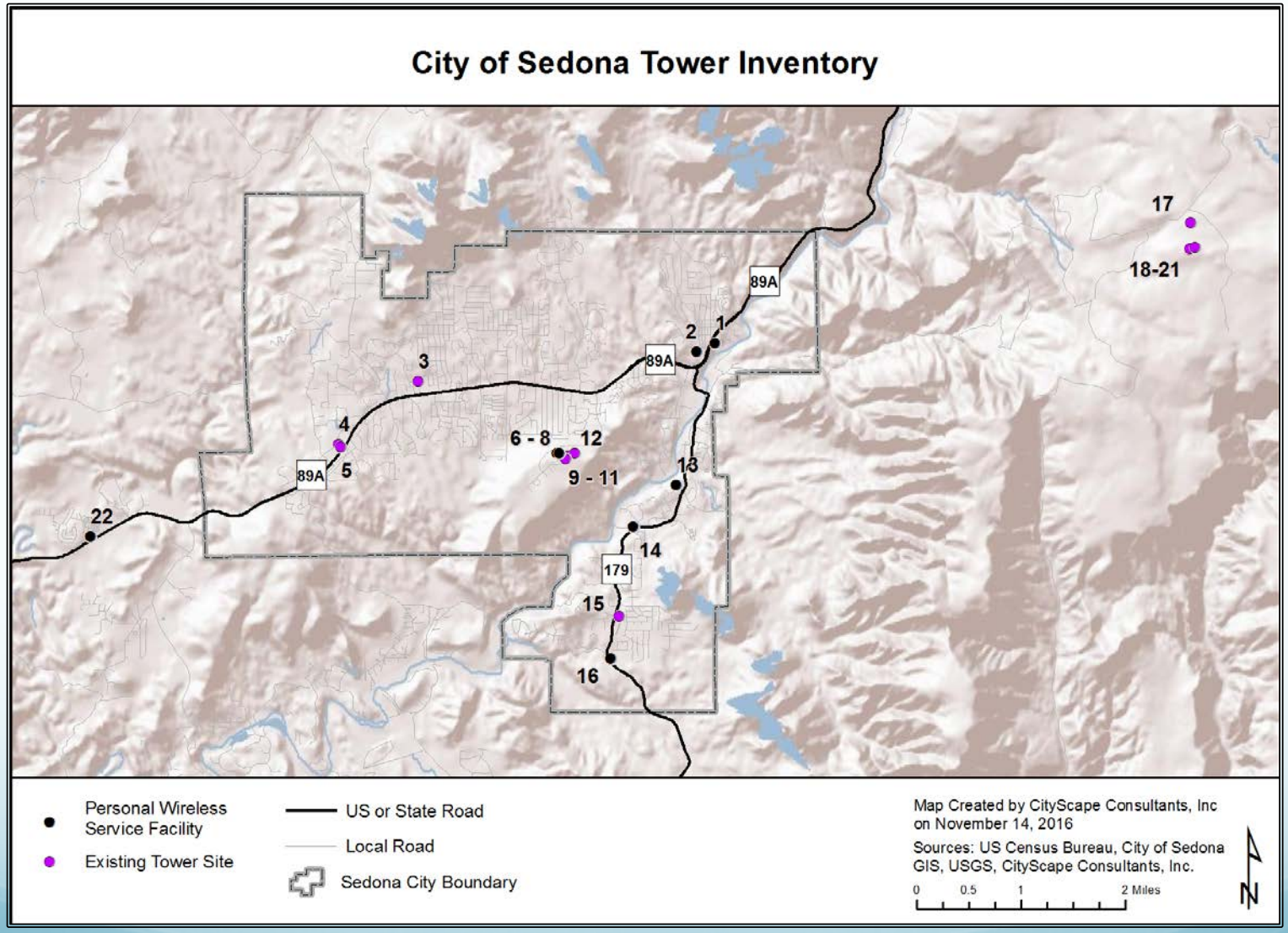
Local, State, Federal Law

- Some circumstances require approval of infrastructure, no matter what local or state law requires
- Federal definition of collocations on existing infrastructure that do NOT cause a “substantial change” MUST be approved and SHALL NOT be denied, according to federal law (47 USC §1455)

Must Approve/Shall Not Deny

Draft Master Plan and Ordinance

Existing Wireless Inventory



22 Total: 16 Inside and 6 Outside the City

Existing Wireless Inventory

INFRASTRUCTURE TYPE	TOTAL
Concealed Base Station	1
Non-Concealed Base Station (rooftop or attached tower)	6
Concealed Tower	2
Monopole Tower	2
Lattice Tower	7
Guyed Tower	4
TOTAL	22

INFRASTRUCTURE HEIGHT	TOTAL
25' - 30'	5
42' - 86'	7
90' - 100'	3
175'-190	3
Unknown height	4
TOTAL	22

Current Wireless Service Providers

Service Provider	Frequency Band	Type Service
AT&T (AT&T Mobility Spectrum LLC, BellSouth Mobile Data, Inc.)	Low and High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Access 700, LLC	Low	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Atlantic Tele-Network	Low	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Clearwire Spectrum Holdings III, LLC	High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Commnet Wireless, LLC (Commnet Four Corners, LLC)	High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Dish (Manifest Wireless, LLC)	Low	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Telecom North America Mobile, Inc.	High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
NTUA Wireless, LLC	Low and High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television

Broadband As Listed in FCC License Not By Current Definition
Bold Indicates Services Providers Found in the Study Area.

Current Wireless Service Providers

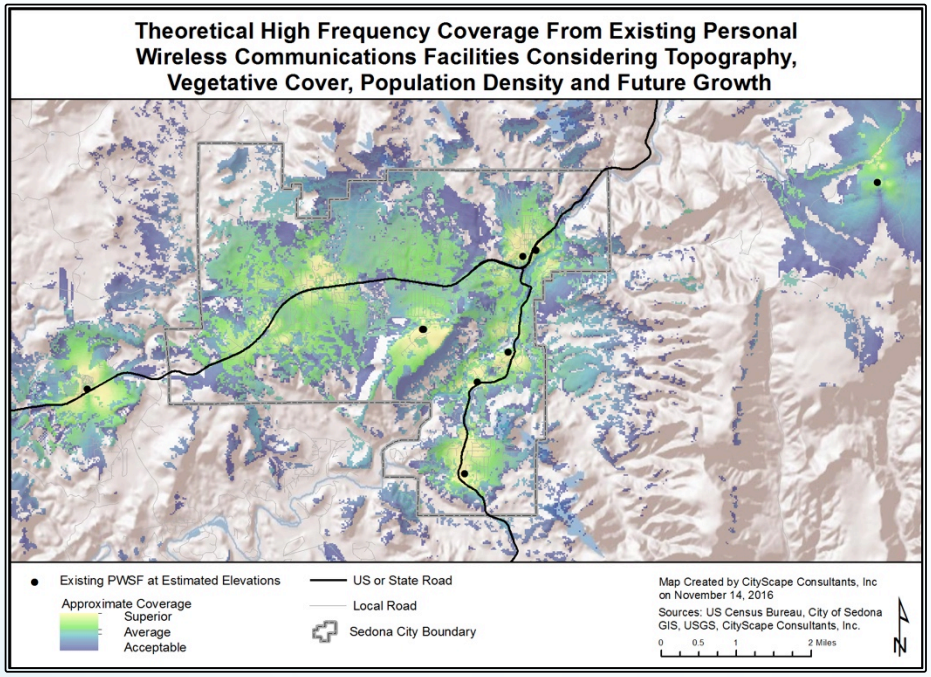
Service Provider	Frequency Band	Type Service
Smith Bagley (Cellular One of NE AZ)	Low and High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Sprint (**Alamosa PCS**, **Nextel** License Holding 4, Inc.; Wirelessco, L.P.)	High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
T-Mobile (T-Mobile License LLC)	Low and High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television
Verizon Wireless (Alltel Communications; Cellco Partnership)	Low and High	Broadband*; Fixed Wireless; Mobile Radio; Phone; Television

Broadband As Listed in FCC License But Not By Current Definition
Bold Indicates Services Providers Found in the Study Area.

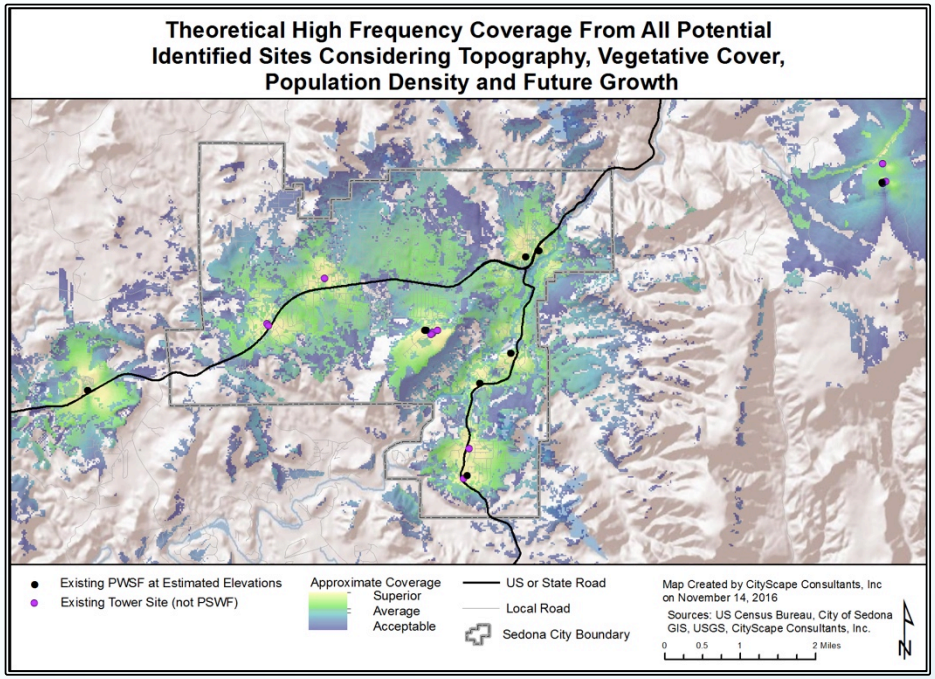
Tower owners include but are not limited to:

- American Tower; Crown Castle International; SBA; Service providers listed above; Broadcast companies and Fire Districts

Theoretical Propagation Maps From Existing Towers and Base Stations



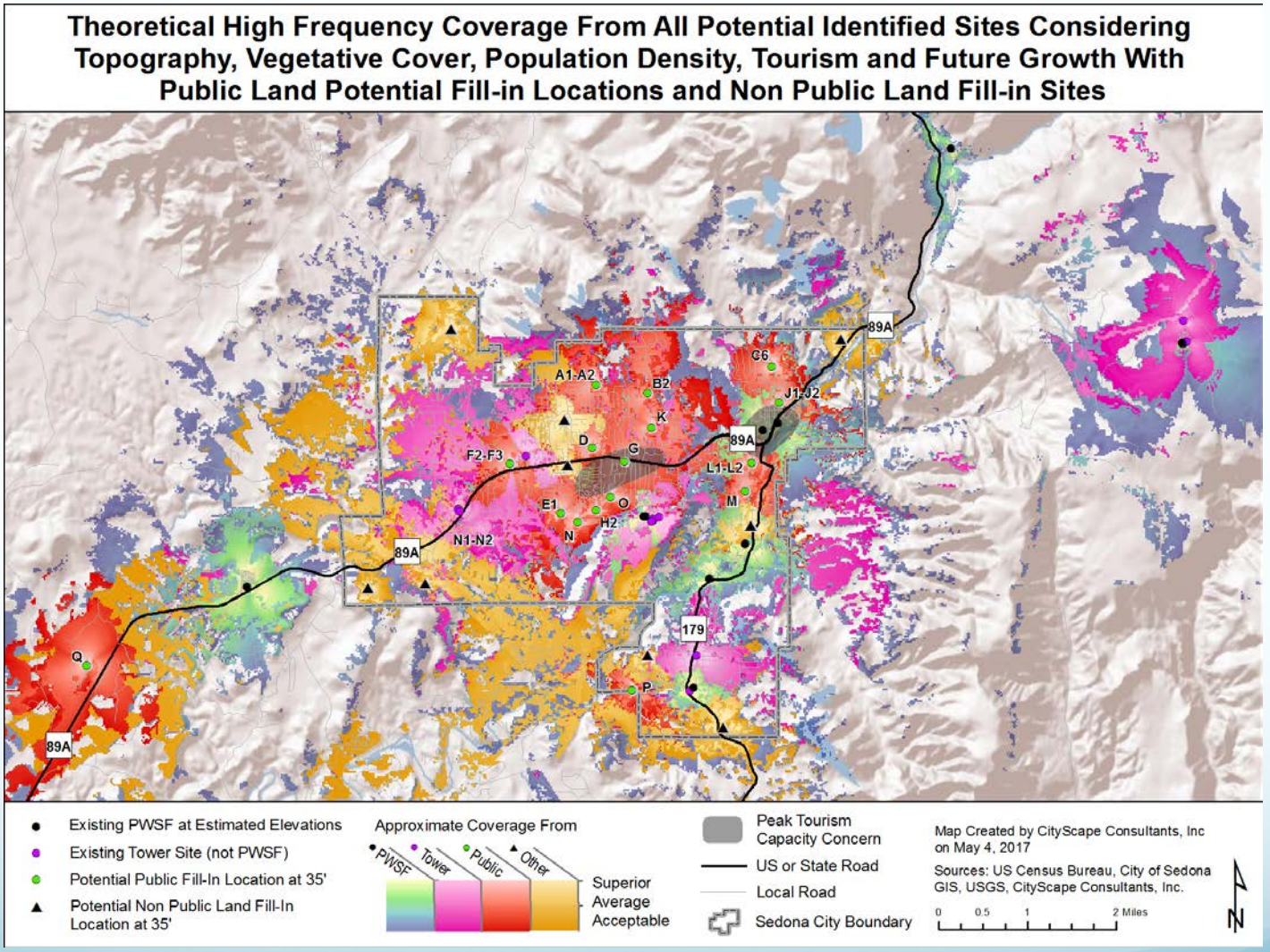
From Existing PWSF Locations



From All Tower and Base Station Locations

Gap Analysis: Approximately 17-25 new facilities over the next 10 years

Gap Analysis From Existing Towers and Base Stations



Gap Analysis:

Approximately 17-25 new facilities over the next 10 years

Draft Siting Preference

For New Infrastructure

Siting Preference based on local stakeholder polling process:

The siting preference is as follows:

1. Concealed base station (macro, small cell, DAS, or node) on:
   a. City-owned property identified in the MP
   b. City-owned property not identified in the MP
   c. Other public property
   d. Private owned property zoned non-residential
   e. On private owned property which is;
      i. Non-residential use in RS or RM districts;
      ii. Residential multifamily structures;
      iii. Residential single family structures

Draft Siting Preference

For New Infrastructure

Siting Preference based on local stakeholder polling process:

2. Concealed collocation on an existing concealed tower or concealed base station on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

3. Replacement of existing non-concealed tower with a concealed tower.

4. Concealed tower for small cell, DAS or node (not macro) on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

5. Concealed macro tower on:

a. City-owned property identified in the MP
b. City-owned property not identified in the MP
c. Other public property
d. Private owned property

Draft Siting Preference

For New Infrastructure

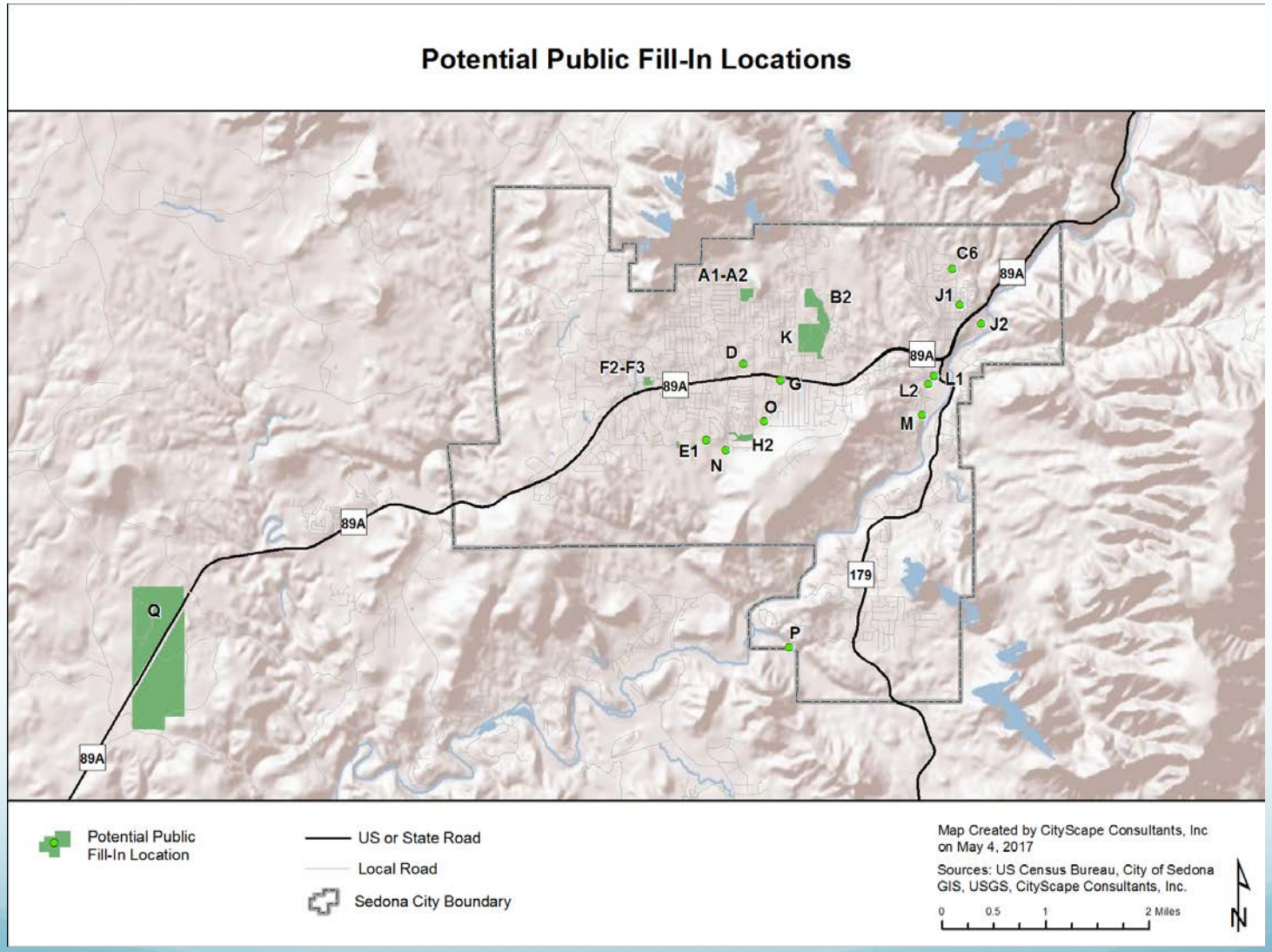
Siting Preference based on local stakeholder polling process:

6. Collocation on existing non-concealed tower on:
    a. Public property
    b. Private owned property

7. Non-concealed tower on:

    a. Public property
        i. Monopole
        ii. Lattice
        iii. Guyed
    b. Private property
        i. Monopole
        ii. Lattice
        iii. Guyed

Potential City-Owned Fill In Sites



Example Draft Recommendation Types

CONCEALED SMALL CELLS				
FAUX TREES				
CONCEALED BASE STATIONS				

Example of Siting Preferences for City Owned Property

SITE A2 — **2050 Buena Vista Drive**

SITE NAME:	Sugarloaf Trailhead		
PROPERTY OWNER:	City of Sedona	**ACREAGE:**	0.406
PARCEL ID:	408-24-117C	**ZONING:**	RS-10a
SITE SPECIFIC RECOMMENDATION:	Faux tree or concealed small cell if by parking lot		

SITE B2

SITE NAME:			
PROPERTY OWNER:	City of Sedona	**ACREAGE:**	25.866
PARCEL ID:	408-25-341D	**ZONING:**	CF
SITE SPECIFIC RECOMMENDATION:	Faux tree behind West Sedona School close to the bus lot		

Potential City-Owned Land Fill-In

Highlighted Rows P&Z Recommends Removal From List

MAP ID	NAME/ADDRESS	Proposed Site Specific PWSF
A1	2070 Buena Vista Drive	Faux tree only
A2	Sugarloaf Trailhead/2050 Buena Vista Drive	Faux tree or concealed small cell by parking lot
B2	950 Soldiers Pass Road	Faux tree behind school by bus lot
C6	Jordan Park Overflow Parking Lot/735 Jordon Road	Faux tree west side or west of parking lot
D	Maintenance Yard/2070 Contractors Road	Concealed base station, monopole or pole
E1	Pump Station/700 El Camino Road	Faux tree or concealed base station
F2	Former Real Estate Building/55 Sinagua Drive	Concealed small cell light pole or concealed base station
F3	City Hall Complex/102 Roadrunner Drive	Concealed small cell light pole or concealed base station
G	Jack Jameson Park/25 Northview Road	Faux tree or flag pole with underground or hidden equipment
H2	Recycle Center Pump Station/ 2260 Shelby Drive	Concealed tower or concealed base station

Potential City-Owned Land Fill-In
Highlighted Rows P&Z Recommends Removal From List

MAP ID	ADDRESS	Proposed Site Specific PWSF
J1	Municipal Parking Lot/260 Schnebly Road	Concealed small cell
J2	Lift Station/90 Art Barn Lane	Concealed small cell
K	Posse Grounds Park/505 Posse Ground Road	Concealed macro at ball park or concealed small cell
L1	Lift Station/41 Ranger Road	Concealed small cell or concealed base station
L2	Old Ranger Station Brewer Property/250 Brewer Road	Concealed macro tower or concealed small cell
M	Lift Station/11 New Castle Lane	Concealed small cell
N	Drainage Culvert/60 Finley Drive	Concealed small cell
O	Lift Station/160 Panorama Boulevard	Concealed small cell
P	Cathedral Rock Parking Lot/515 Back O'Beyond Road	Concealed small cell
Q	Waste Water Treatment Plant/ 7420 & 7500 W State Route 89A	Possible concealed macro site subject to County zoning

Draft Use Table

USE TABLE												
	RS		RM		OP	GC	C-3	L/RC	PD	CF	P	OS
	R	NR	R	NR								
Concealed base station (macro, small cell, DAS or node) on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
City-owned property not identified in the MP	C	C	C	C	C	C	C	C	C	C	C	N
Other public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Concealed collocation on existing concealed tower or base station on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											N
City-owned property not identified in the MP	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Replacement of existing non-concealed tower with a new concealed tower on:												
City-owned property	N	NA	N	N	NA	NA	NA	NA	NA	N	N	N
Public property	A	A	A	A	A	A	A	A	A	A	A	N
Private property	A	A	A	A	A	A	A	A	A	A	A	N
Concealed small cell tower, DAS or node (not macro) on:												
City-owned property identified in the MP	A – See Master Plan for Site Specific Details											
City-owned property not identified in the MP	N	C	C	C	C	C	C	C	C	C	C	N
Other public property	N	C	C	C	C	C	C	C	C	C	C	N
Private property	N	C	C	C	C	C	C	C	C	C	C	N

A=Administrative Permit; C=Conditional Use Permit from Planning & Zoning Commission; C-2=Conditional Use Permit from City Council following recommendation from Planning & Zoning Commission; N=Not Permitted

Draft Use Table

USE TABLE												
	RS		RM		OP	GC	C-3	L/RC	PD	CF	P	OS
	R	NR	R	NR								
Concealed macro tower on:												
City owned property identified in the MP	A – See Master Plan for Site Specific Details											
City-owned property not identified in the MP	N	C	N	C	C	C	C	C	C	C	C	N
Other public property	N	C	N	C	C	C	C	C	C	C	C	N
Private property	N	C	N	C	C	C	C	C	C	C	C	N
Collocation on eligible facility.												
Non substantial change	A	A	A	A	A	A	A	A	A	A	A	N
Collocation on eligible facility with substantial change or on a non eligible facility												
City-owned property	C	C	C	C	C	C	C	C	C	C	C	N
City-owned property identified in the MP	A	A	A	A	A	A	A	A	A	A	A	N
Public property	C	C	C	C	C	C	C	C	C	C	C	N
Private property	C	C	C	C	C	C	C	C	C	C	C	N
Non-concealed tower												
Public property												
Monopole, Lattice, Guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-	C-	N
Private property												
Monopole, Lattice, Guy	N	N	N	N	C-2	C-2	C-2	C-2	C-2	C-	C-	N

A=Administrative Permit; C=Conditional Use Permit from Planning & Zoning Commission; C-2=Conditional Use Permit from City Council following recommendation from Planning & Zoning Commission; N=Not Permitted

Development Standards Support The Siting Preference and Use Table

- Height:
  - Collocation on eligible tower outside of ROW 10% or 20’ whichever is greater
  - Collocation on eligible base station 10% or 10’ whichever is greater
  - New small cell and DAS outside of ROW 30’
  - Macro towers outside of ROW 70’
- Structural Integrity
- Radio Emission Accountability
- Color, Screening and Placement
- Signage
- Sounds

Expert Review Process

OVERVIEW OF APPLICATION REVIEWS:

- Verification of completeness by CityScape
- Confirmation of application timelines and required deadlines for meetings by CityScape

EVALUATION OF:

- Proposed site's search ring
- Site option and alternative site options
- Aesthetic impacts and possible mitigation
- Proposed height of requested facilities, based on capacity or coverage
- Applicability of analysis techniques and methodologies
- Validity of conclusions reached
- Compatibility with Public Safety Communications
- Structural integrity of support structure for compliance with applicable wind zone designations, state building codes
- Future facility expansion capabilities

COMPLIANCE WITH:

- FCC "shot clock"
- All applicable federal, state, and local structural, safety and exposure to human safety codes
- FCC Radio Frequency exposure compliance
- Applicable ordinances and regulations
- Telecom Act and other applicable federal laws
- Original zoning approvals

REPORT GENERATION: Recommendation and report summary of request and detailed findings.

HEARING ATTENDANCE: Expert testimony and follow-up submittal letters on applications.

SUPPLEMENTAL REPORTS: Follow-up letters for any supplemental information submitted by Applicant.

Questions and Open Discussion

CityScape
CONSULTANTS, INC.