

AGENDA

3:00 P.M.

CITY OF SEDONA, SPECIAL CITY COUNCIL MEETING
JOINT MEETING WITH PLANNING & ZONING COMMISSION

WEDNESDAY, JULY 13, 2016

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

GUIDELINES FOR PUBLIC COMMENT

PURPOSE:

- To allow the public to provide input to the City Council on a particular subject scheduled on the agenda.
- This is not a question/answer session.
- The decision to receive Public Comment during Work Sessions/Special City Council meetings is at the discretion of the Mayor.

PROCEDURES:

- Fill out a "Comment Card" and deliver it to the City Clerk.
- When recognized, use the podium/microphone.
- State your:
 1. Name and
 2. City of Residence
- Limit comments to **3 MINUTES**.
- Submit written comments to the City Clerk.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE

2. ROLL CALL

3. SPECIAL BUSINESS

LINK TO DOCUMENT = 

- a. AB 2129 Discussion/possible direction on the preparation, by CityScape Consultants, Inc., of possible zoning amendments to Article 17 (Wireless Communication Facilities) of the Land Development Code and the development of a citywide Wireless Master Plan to help guide the future development and construction of wireless infrastructure within the community. 
- 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 2129
July 13, 2016
Special Business**

Agenda Item: 3a

Proposed Action & Subject: Discussion/possible direction on the preparation, by CityScape Consultants, Inc., of possible zoning amendments to Article 17 (Wireless Communication Facilities) of the Land Development Code and the development of a citywide Wireless Master Plan to help guide the future development and construction of wireless infrastructure within the community.

Department	City Manager's Office
Time to Present	45 minutes
Total Time for Item	2 hours
Other Council Meetings	N/A
Exhibits	A. CityScape PowerPoint Presentation Slides

City Attorney Approval	Reviewed 7/5/16 RLP	Expenditure Required	\$ 0
City Manager's Recommendation	For information, discussion, and possible direction.	Amount Budgeted	\$ 0
		Account No. (Description)	N/A
		Finance Approval	<input checked="" type="checkbox"/>

SUMMARY STATEMENT

Background:

A comprehensive approach to wireless development in the City of Sedona will help align the needs of wireless broadband service providers with government and community objectives. This should allow for infrastructure planning and development that will accommodate multiple providers, improve public safety and help attract and retain residents and businesses.

The City has contracted with CityScape Consultants, Inc., a professional firm with telecommunication expertise to assist in the development of a wireless master plan and with drafting amendments to existing zoning ordinances. The July 13th work session, a joint meeting with the Planning and Zoning Commission, is intended to provide necessary background information on this technical topic and will include presentation of initial research and data relative to existing towers and wireless telecommunication antenna locations in Sedona.

Specific items to be discussed include, but not limited to:

- 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
- Current wireless issues, policies, priorities, agency interactions, opportunities and plan recommendations

CityScape’s presentation for the work session is included as Exhibit A.

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

Alternative(s): N/A

MOTION

I move to: for discussion and possible direction only.

Wireless Communication Master Plan

Kick Off Meeting
City of Sedona

Susan Rabold, Project Manager

Elizabeth Herington-Smith, Government Relations/
Marketing Manager

CityScape Consultants, Inc.

July 13, 2016

CityScape Consultants, Inc.

- Company started in Florida in 1997
- Offices in Florida, Georgia, North Carolina and Washington, DC
- Exclusively serve government clientele with unbiased information
- Company goals & objectives consistent with Federal Statutory, Decisional and Regulatory Law
- Assists local government with:
 - Wireless Master Planning
 - Site Application Engineering review
 - Ordinance review
 - Leasing and Development of Public Land

CityScape Consultants, Inc.

Management Team

- Richard Edwards, President, Partner, Engineer
- Anthony Lepore, Esq., Vice President, Partner
- Kay Miles, Vice President, Partner
- Jonathan Edwards, P.E., Principal Engineer
- Susan Rabold, Project Manager
- Elizabeth Harington-Smith, Government Relations/Marketing Manager

Introduction to Wireless Telecommunications

The Wireless Industry

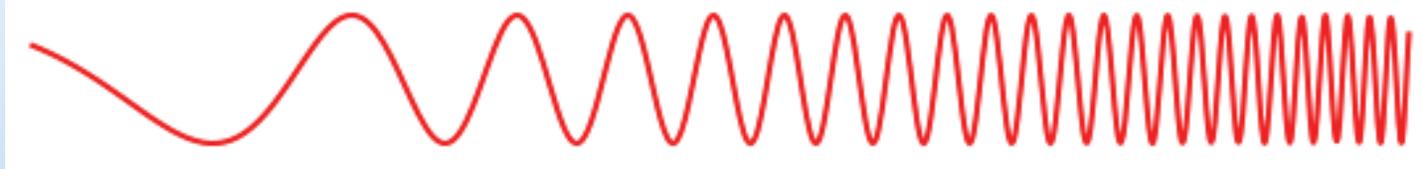
Wireless Telecommunications History



- 1G service provided voice calls only.
- 2G service included voice, texting and data.
- 3G service offered in early 2000's improved data speeds.
- iPhone in 2007 offers thousands of applications.
- 4G service on AWS and LTE began around 2010 and increased data speeds; included new 700 & 2100 MHz frequencies.
 - Even smaller handsets, increased battery power and offer more features
- Wireless phones for voice & Broadband for internet



Site Location Considerations – Spectrum, Coverage, Capacity

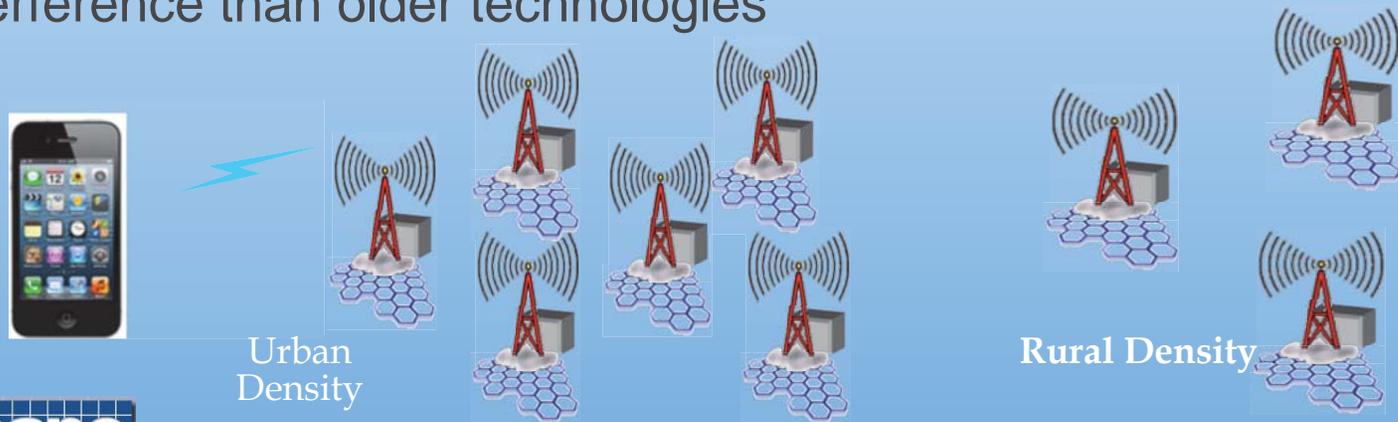


- Wireless service providers do not all use the same frequencies.
- Lower frequencies (700, 850 MHz) propagate farther than higher frequencies (1900, 2100 MHz).
- Spacing of cell sites is influenced greatly by the frequencies that a service provider can use in an area.



Site Location Considerations – Spectrum, Coverage, Capacity

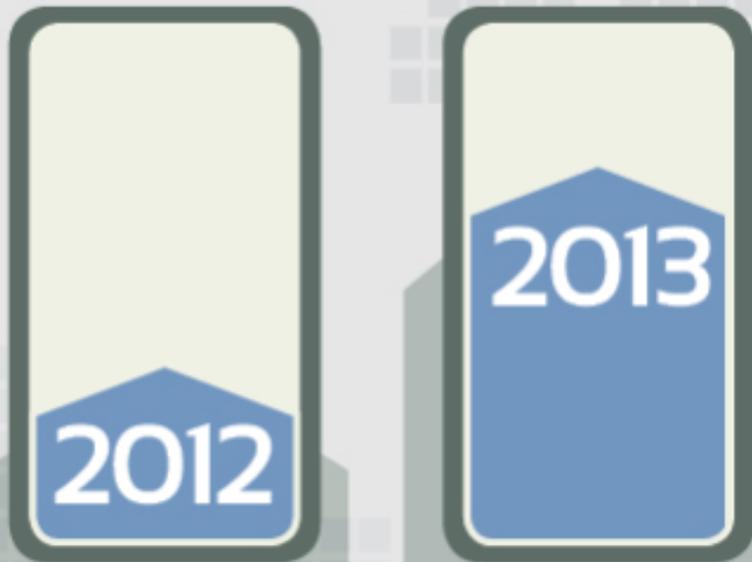
- More people with more smartphones using data intensive applications such as Facetime, streaming HD video, Internet, Pandora, Facebook, etc.
 - 39% of U.S. households have “cut the cord” – they are wireless only
 - 45 Million Americans use mobile phones as their primary internet access device
- Existing towers reach service provider capacity and create demand for more cell towers
- LTE has stricter alignment tolerances and is more sensitive to interference than older technologies



CityScape

Source: CTIA Wireless Quick Facts, 2015

Site Location Considerations – Spectrum, Coverage, Capacity



Mobile Data Doubles

U.S. mobile data use doubled from 2012 to 2013, and will increase about 650% by 2018.

Source: Cisco, VNI Mobile Forecast Highlights, 2013-2018, at "United States – 2018 Forecast Highlights and 2013 Year in Review."

Site Location Considerations – Spectrum, Coverage, Capacity



600%

INCREASE IN VIDEO
TRAFFIC BY 2018

Mobile Video Huge Winner

About 56% of all mobile data is now data-intensive video, and that traffic will increase by 600% by 2018.

Source: Cisco, *VNI Mobile Forecast Highlights, 2013-2018*, at "United States – Mobile Applications."

Site Location Considerations – Spectrum, Coverage, Capacity



Smartphones Driving Traffic Increase

The network traffic generated by a smartphone is 49 times more than a basic handset, and smartphone traffic is predicted to increase 325% by 2018.

Source: Cisco, VNI Mobile Forecast Highlights, 2013-2018, at "United States – Year in Review and Device Growth Profiles – Smartphones."

Site Location Considerations – Spectrum, Coverage, Capacity

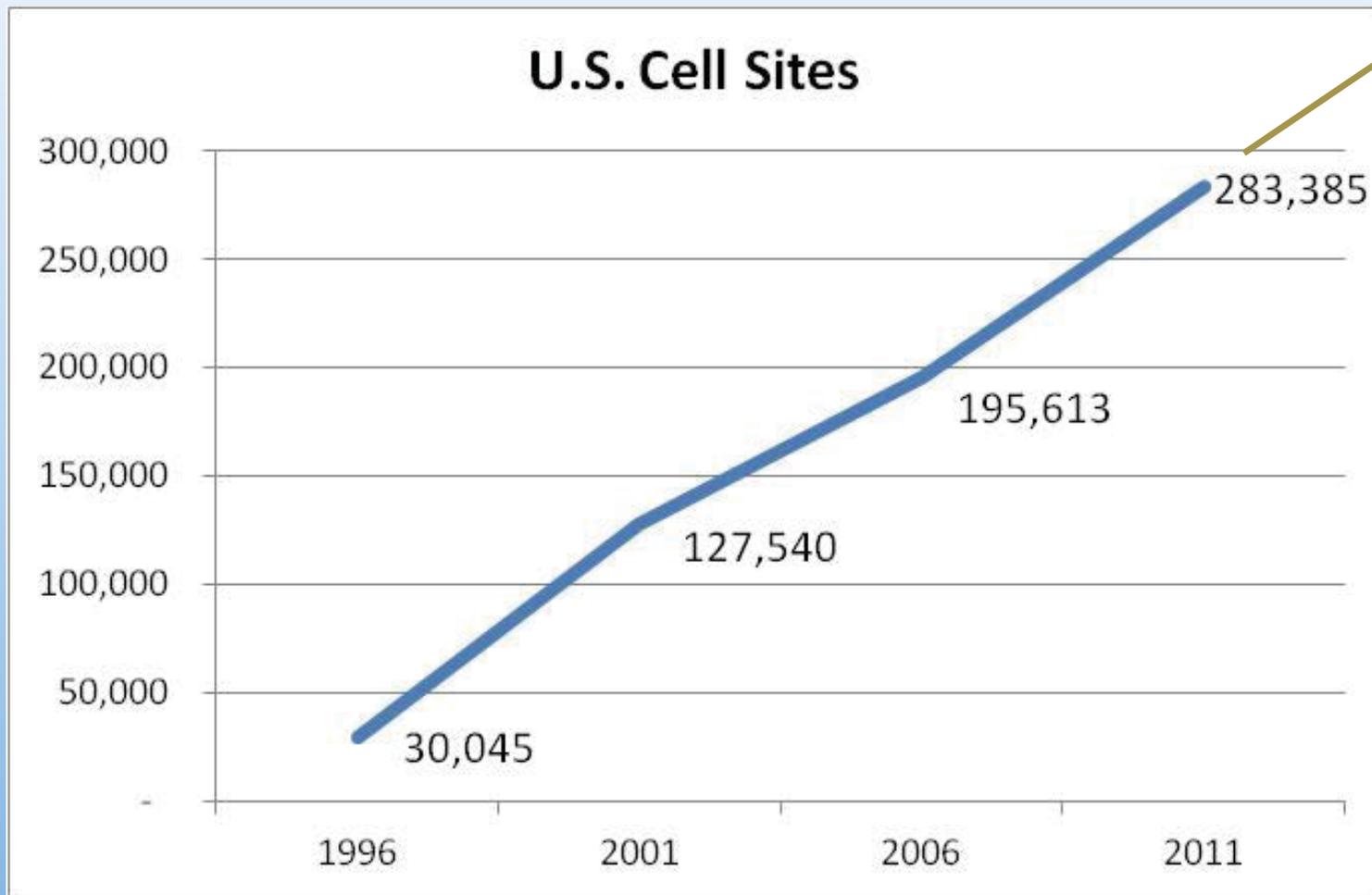


Tablet Use and Bandwidth

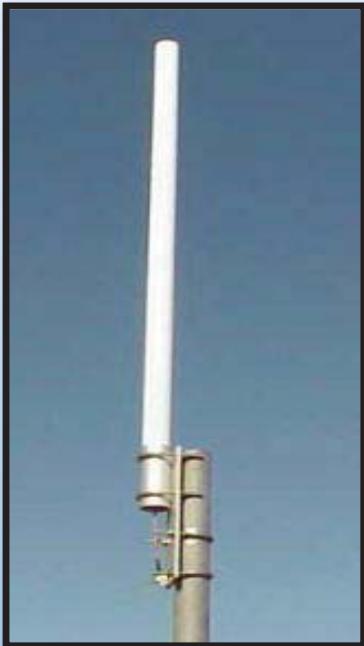
The network traffic generated by a tablet is 127 times more than a basic handset, and tablet traffic is predicted to increase by nearly 370% by 2018.

Source: Cisco, VNI Mobile Forecast Highlights, 2013-2018, at "United States – Device Growth Traffic Profiles – Tablets."

Site Location Considerations – Spectrum, Coverage and Capacity



Infrastructure



Omni-directional whip type antenna



Sectorized (panel) antenna array



Base station ground equipment

Feed lines

Tower & Base Station Ground Equipment



Typical Low Frequency
(700-800 MHz) Ground
Equipment



Typical High Frequency
(1900-2400 MHz) Ground
Equipment

Non-Concealed Towers



Monopole
Self Support



Lattice
Self Support



Guy
With Support

Collocation on Towers



Concealed Freestanding Towers



Flag Pole



Slick Stick

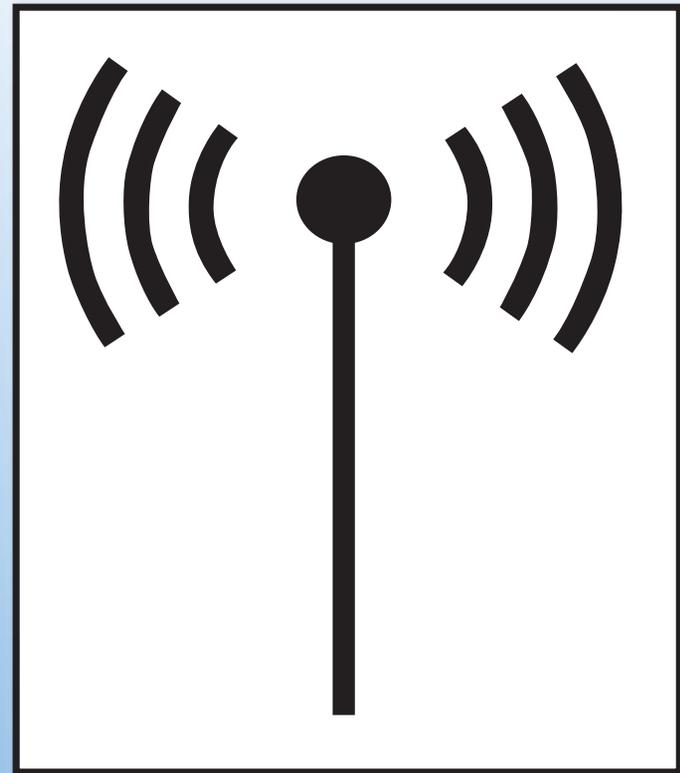
Concealed Freestanding Towers



CityScape

Challenges of Cell Siting

- Availability of potential tower sites to provide coverage where people are: living, working, playing...
- Speed to market
- Access to subscriber base
- Structural analysis on existing towers



Projected Network Demand

(by the year 2020 wired services may be virtually non-existent)



- Airtime minutes to increase as wired lines are replaced
- Airtime minutes increase as more services are added to the handsets
- Emerging technologies of wireless internet and mobile commerce to compete and coexists with traditional wireless telecommunications services
- More wireless infrastructure necessary to meet demands placed on existing networks

Wireless Telecommunications Regulatory Perimeters

Federal Statutory, Decisional and
Regulatory Law

Federal Legislation Section 704

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 local government 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 Section 704

- Must allow for the carriers to deploy their systems.
- Must act expeditiously in these requests.
- Must treat providers equally by providing equal access to “functionally equivalent services” (Cellular/PCS/Data).
- Local government’s land development standards may not supersede or undermine areas of federal jurisdiction.
- Enables Federal Government to use Federal property, rights-of-way and easements for leasing for new telecommunications infrastructure.

What Cannot be Regulated



- Requirements for tower lighting and markings are exclusively regulated by the FAA/ FCC.
- Local government may be able to require dual lighting systems and can require support structures to be lighted as long as they comply with FAA codes.

What Cannot Be Regulated

Radio Frequency Emissions are exclusively regulated by federal standards.

- Ionizing radiation
- Non-ionizing radiation
- World Health Organization and American Cancer Society Findings
 - RF exposure is so low that human and animal health is not affected



(<http://eon3emfblog.net>)

FCC 2009 Declaratory Ruling

- “Shot Clock” Requires local government to make decisions on wireless applications within a specific time frame from date application is received;
 - 90 days for collocation applications
 - 150 days for new structures/towers



Congress' 2012 Middle Class Tax Relief & Job Creation Act

Congress included a small paragraph in "**Section 6409**" in the Middle Class Tax Relief and Job Creation Act of 2012 :

- (1) IN GENERAL. Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) 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.** *(emphasis added by speaker)*

- (2) ELIGIBLE FACILITIES REQUEST means any request for 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.

Congress' 2012 Middle Class Tax Relief & Job Creation Act

- (3) APPLICABILITY OF ENVIRONMENTAL LAWS.
Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

Congress said requirements only applied to the collocation, removal or replacement of existing equipment that did not “*substantially change*” the physical dimensions of such tower or base station;

Congress did not define “*substantially change*”.

FCC January 2013 “Guidance”

- FCC’s Wireless Telecommunications Bureau issued “informal guidance” on Section 6409 on January 25, 2013
- Adopts a prior FCC definition of “substantial increase in the size of the tower” (referencing Appendix B to Part I of the National Programmatic Agreement for the Collocation of Wireless Antennas) for “substantially change” as what it thinks Congress intended to define.
- Acknowledges that local government can still require land use/site applications, but must approve requests that meet criteria of Section 6409.



FCC 2013 “Guidance”

Appendix B to Part I of the National Programmatic Agreement for the Collocation of Wireless Antennas defines “substantial increase to the size of a tower” means:

1. Addition of antenna on a tower that would increase its height by the greater of 10% or 20 vertical feet; or
2. Addition of antenna that requires installation of more than standard number of equipment cabinets (not to exceed 4), or more than 1 new equipment shelter; or
3. Addition of antenna that would increase the girth (width) of the tower by more than 20 feet; or
4. Addition of the antenna would involve excavating around the tower site beyond the existing boundaries of the property associated with the facility.

Vertical Height Increase Examples



96" to 105"
antenna heights
(average 8'3")

----- 20' increase to 170' new height
----- 150' original tower height

Congress/FCC

10% of 150' is 15'

$150' + 15' = 165'$

$150' + 20' = 170'$

tower could increase to maximum of 170'

US Supreme Court June 2013 “Shot Clock” Challenge

- San Antonio and Arlington TX challenged FCC’s authority to impose shot clock timelines on local government
- US Supreme Court decided in June 2013 that the FCC had the authority to impose shot clock timelines on local governments (applicable where states have not imposed their own timelines).



FCC Wireless Infrastructure Report and Order

- FCC issued a Notice of Proposed Rulemaking (“NPRM”) on September 26, 2013 for “Improving Wireless Siting Facility Policies”
- Sought comment from all stakeholders (industry, public, local and state government) on variety of siting issues and local regulation of same
- Hundreds of comments and responses were filed through June 2014 by various parties.

FCC Wireless Infrastructure Report and Order

Released October 21, 2014; Effective In Its Entirety May 18, 2015

- 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.
- 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 requirements or Section 704 Shot Clock requirements.

Infrastructure Report and Order – Part 3 Partial & Brief Overview

(All Parts will be discussed in greater detail at next public meeting)

Definitions & Clarifications of Federal Law:

- Section 6409: local governments shall approve and may not deny *an eligible facilities* request for collocation if there is not a “substantial change” in an existing “tower or base station”
- 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.

Infrastructure Report and Order – Part 3

Definitions & Clarifications of Federal Law:

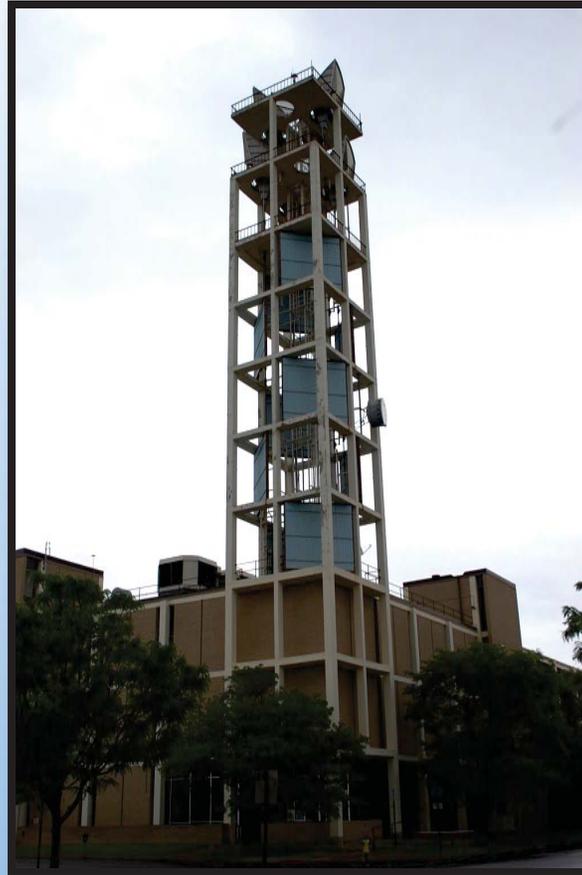
Transmission equipment:

- Means any equipment used in connection with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast, and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.
- Includes not only traditional wireless services but also unlicensed equipment (i.e. wifi hotspots), commercial and private mobile (dispatch radio systems), satellite downlinks, and fixed wireless (i.e. microwave links).

Examples of Transmission Equipment



Non Concealed
Towers

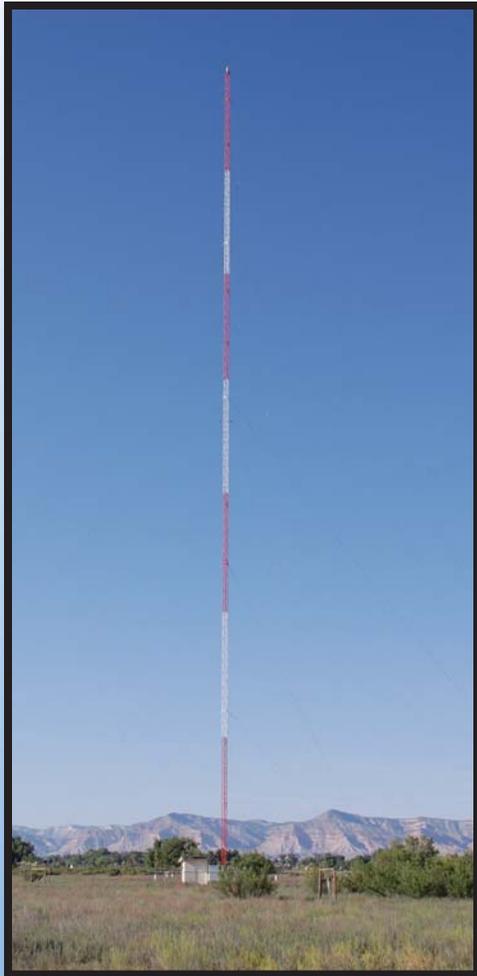


Commercial and
Private Mobile



Amateur Radio

Examples of Transmission Equipment



Broadcast
Facilities

CityScape



Microwave



Satellite



Emergency Services

Examples of Transmission Equipment



Commercial and private mobile
(dispatch radio systems)



Wifi Hot Spots

Infrastructure Report and Order – Part 3

Definitions & Clarifications of Federal Law:

“Wireless Tower or Base Station”

- Any infrastructure that supports equipment used for all Commission-licensed or authorized wireless transmissions.

Further refinement:

Wireless Tower means “a structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities.”

Base Station means “equipment and non-tower supporting structure at a “fixed” location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network.”

Examples of Towers and Base Stations



Towers



Base Stations

Infrastructure Report and Order – Part 3

- Existing wireless towers and base stations that have been approved by a local government agency through a prescribed process for the tower or radio frequency is an “*eligible facility*”
 - Collocations meeting the standards as refined in the Order and/or 6409 are to be approved within a 60 day time frame, excluding any tolling periods for incomplete applications.
- If existing wireless tower or base station was built without local review, or wasn't required to have local review, or doesn't have existing equipment that required local review, no obligation for local authority to approve collocation under Section 6409 or the Order applies.
 - The local government has 90 days (from the 2009 Shot Clock) to decide to approve or deny the requested modifications.

Introduction to Wireless Communications Master Planning

Master Plan Process and Town of
Morrisville, NC Example

What is a Wireless Communication Master Plan?

The pro-active development of your communities long range goals and objectives for wireless telecommunications.

- CityScape will develop this Master Plan detailing all current infrastructure while developing a realistic future evolution blueprint that will allow communities to direct the growth while maintaining the aesthetics of the community.

Updating and Integrating Ordinance with Master Plan

- Master Plan is unique to client because it builds on existing tower and antenna infrastructure, geographic particulars and each community's individuality.
- Because of complexity and fluidity of federal regulation, updating existing regulations in conjunction with Master Plan ensures:
 - Community is best prepared for wireless siting applications going forward; and
 - Community has defensible positions if challenged by an applicant over a siting decision.

Wireless Master Planning

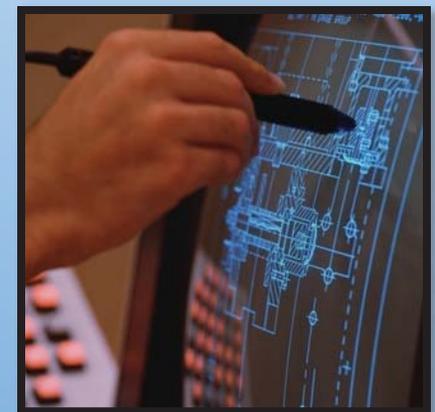
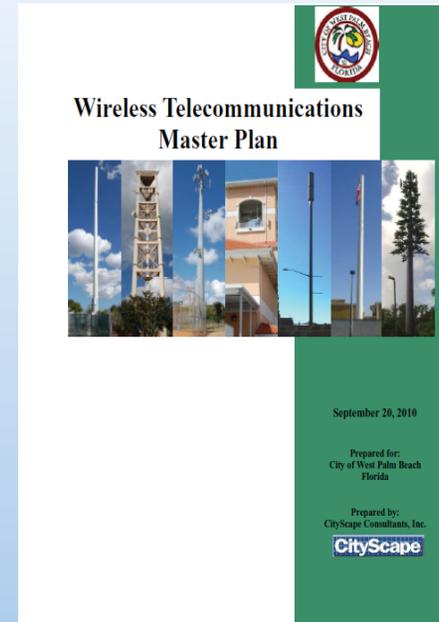
- Master Planning will:
 - Identify existing infrastructure and project where new infrastructure will be necessary to meet wireless connectivity goals and objectives by the community and industry.
 - Simplify the network deployment process enabling technology of wireless services to citizens in your community in an expedient and efficient manner.
 - Ensure compliance with State and Federal legislation required of local government
 - Create a new method for new community revenues

Developing Your Wireless Master Plan

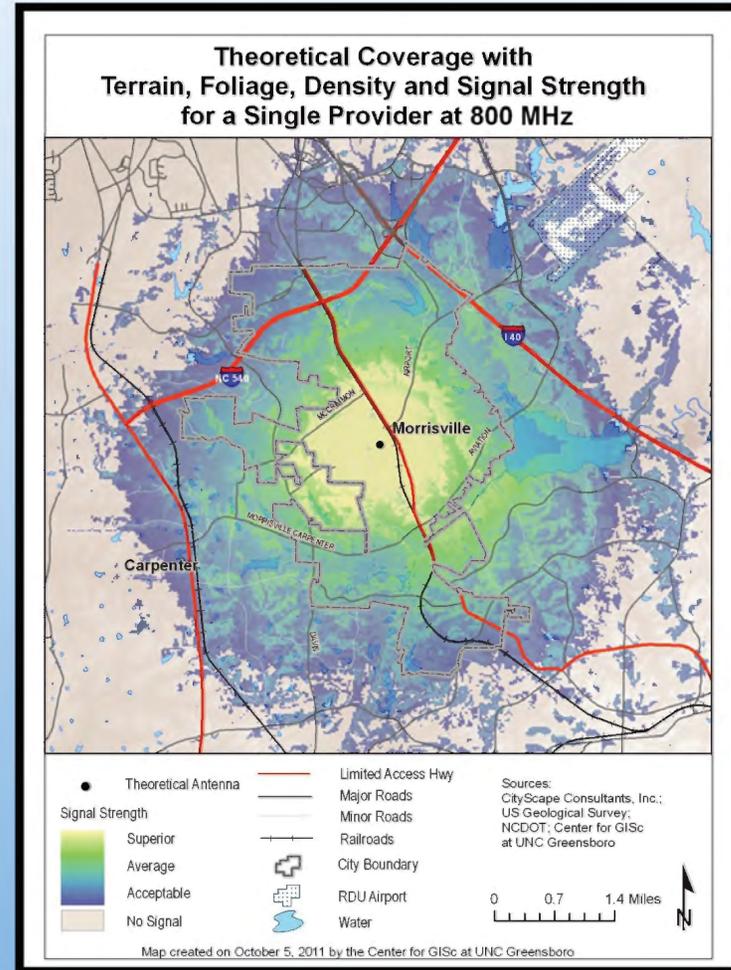
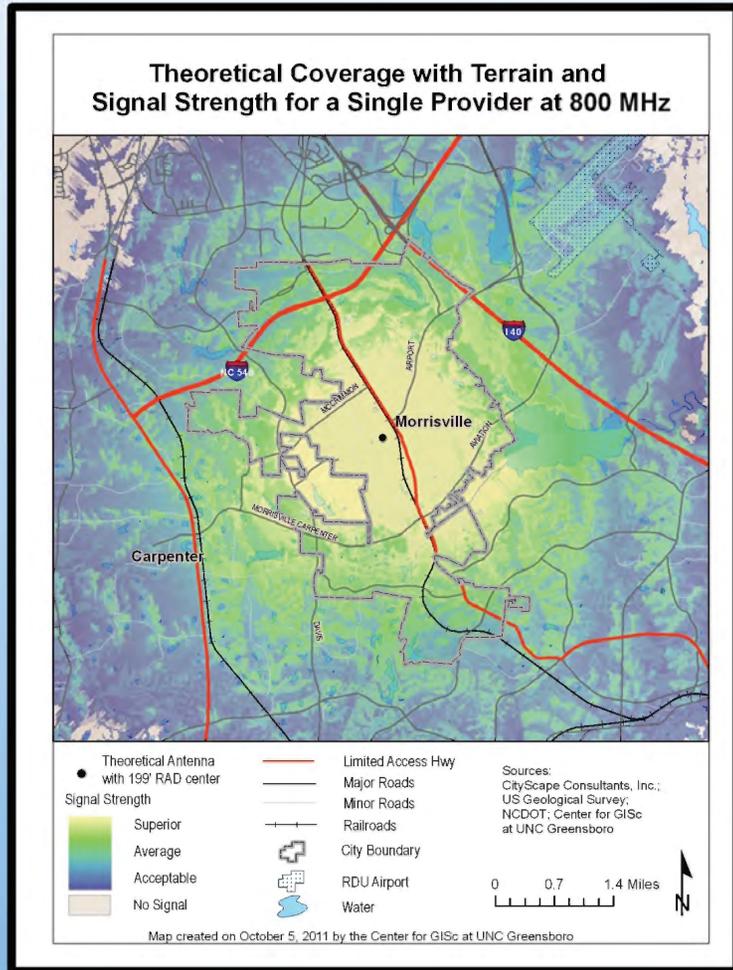
- Background policy research with a community kick off meeting
- Inclusive tower and antenna research for assessments
- Inventory catalog and propagation mapping of all sites
- Stakeholder Meeting to review mapping and develop strategies for future installations
- Ordinance review and amendment recommendations
- Public Meeting presentations of Master Plan & Policies
- Final Wireless Master Plan

Included in a Wireless Master Plan

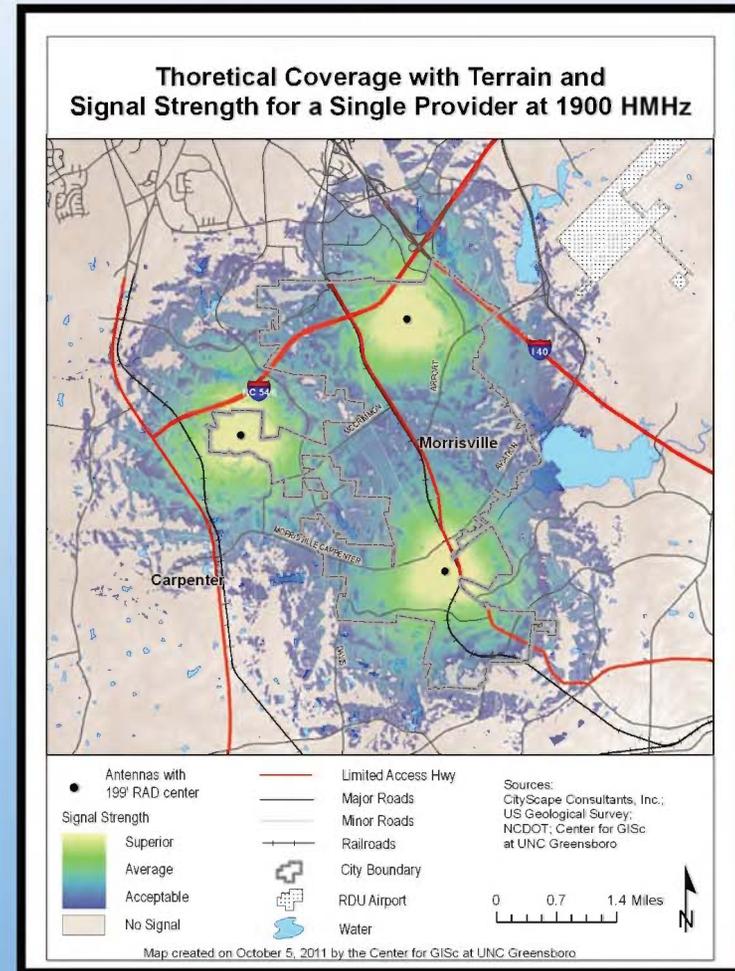
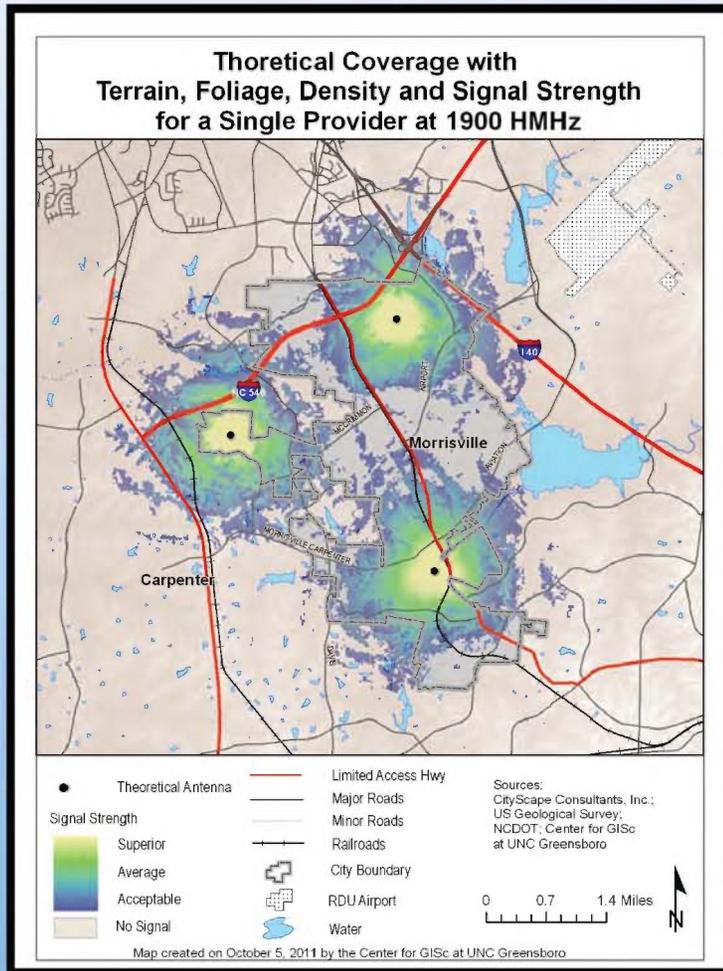
- Engineering Working with Variables
 - Providers & Tower Owners
 - Topography
 - Population Trends
 - Transportation Networks
 - Location of Subscriber Base
 - Climate
 - Future Network Requirements



Example: *Low Frequency* Theoretical Coverage

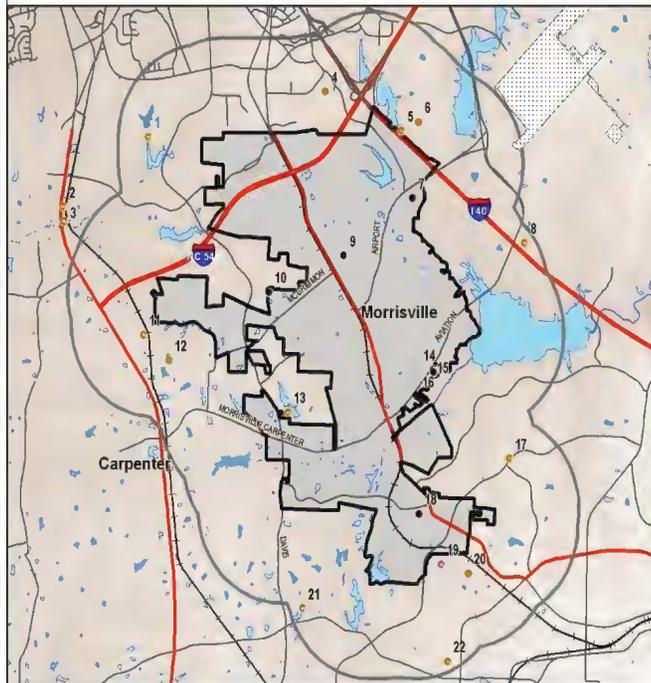


Example: *High Frequency* Theoretical Coverage



Example: Antenna Location & Population Analysis

Existing Antenna Locations



- Tower Inside City Limits
- Tower Outside City Limits
- Broadcast Tower Outside City Limits
- City Boundary
- RDU Airport
- 1 Mile Buffer Around City
- Limited Access Hwy
- Major Roads
- Minor Roads
- Railroads
- Water

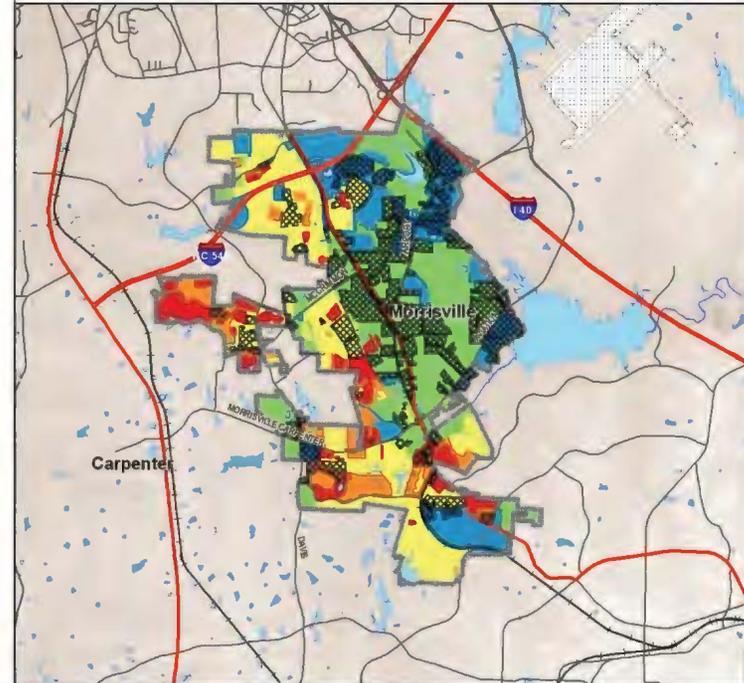
Sources:
CityScape Consultants, Inc.;
US Geological Survey;
NCDOT; Center for GISc
at UNC Greensboro

0 0.7 1.4 Miles

Map created on October 11, 2011 by the Center for GISc at UNC Greensboro

Population Density Estimate

By 2010 Census Blocks



- Average of 8,400 Jobs Per Square Mile
- Population Density per Square Mile
- 0
- 0 - 1,000
- 1,000 - 4,000
- 4,000 - 8,000
- > 8,000
- Limited Access Hwy
- Major Roads
- Minor Roads
- Railroads
- City Boundary
- RDU Airport
- Water

Sources:
CityScape Consultants, Inc.; US
Geological Survey; NCDOT;
Center for GISc at UNC
Greensboro; US Census Bureau;
Wake County GIS

0 0.7 1.4 Miles

Map created on October 7, 2011 by the Center for GISc at UNC Greensboro

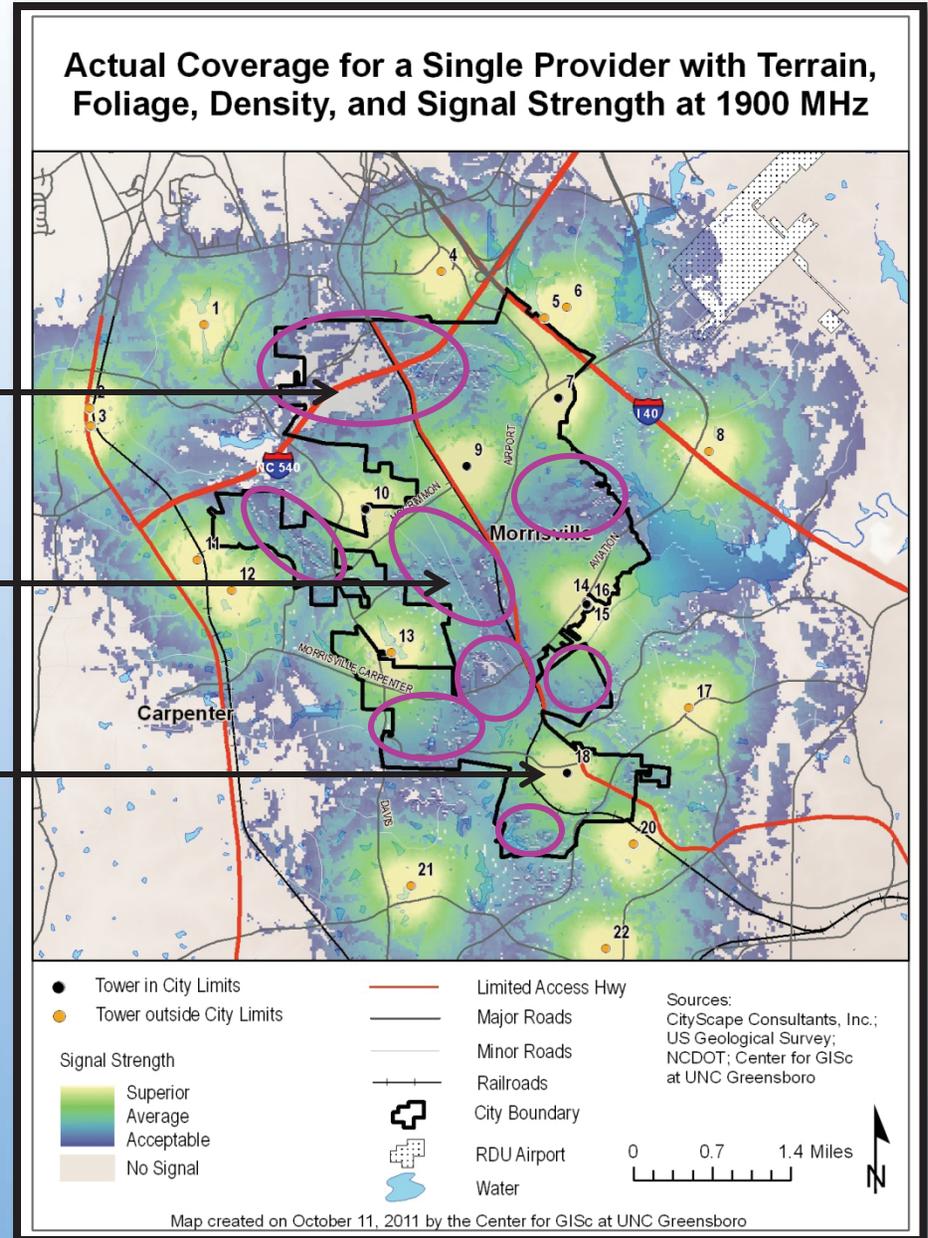
Example: 10-Year Propagation 1900 MHz

No Coverage

Outside Coverage

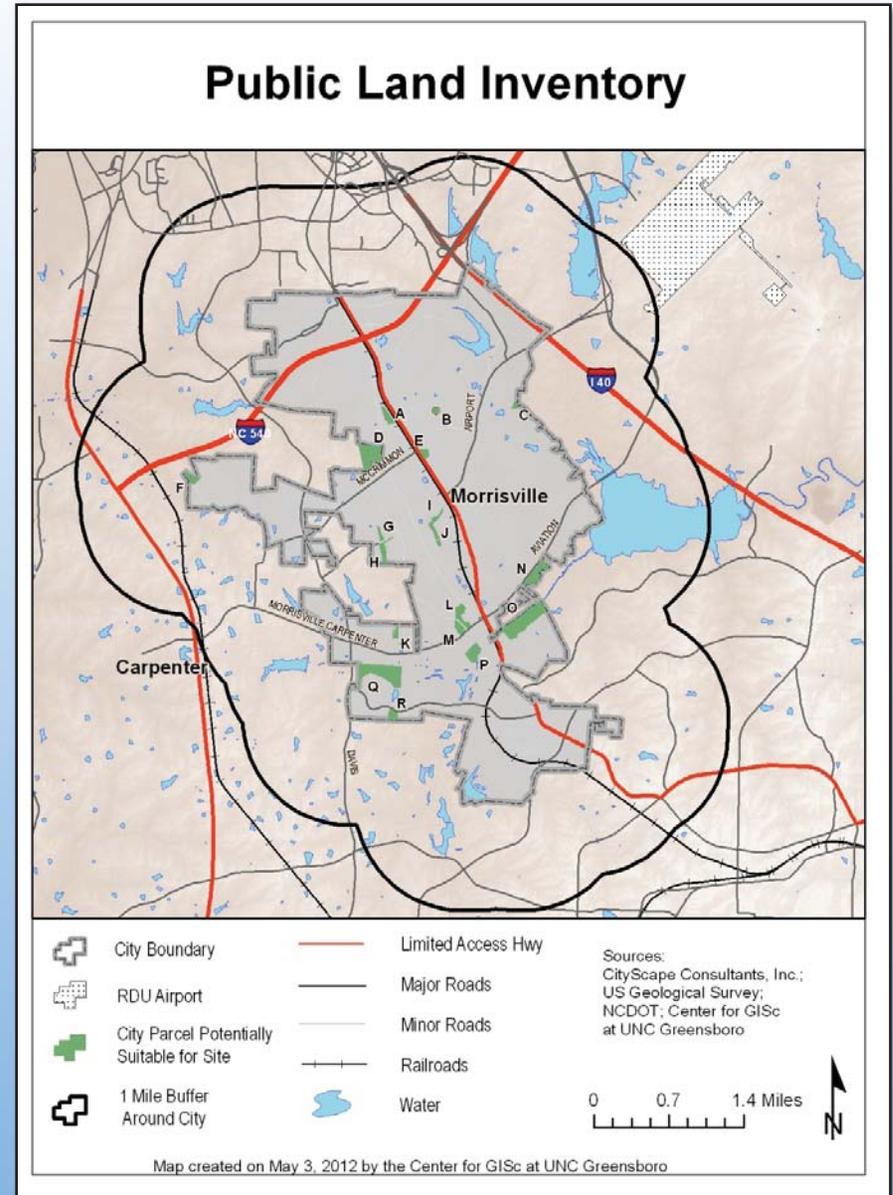
In-building Coverage

(all variables)



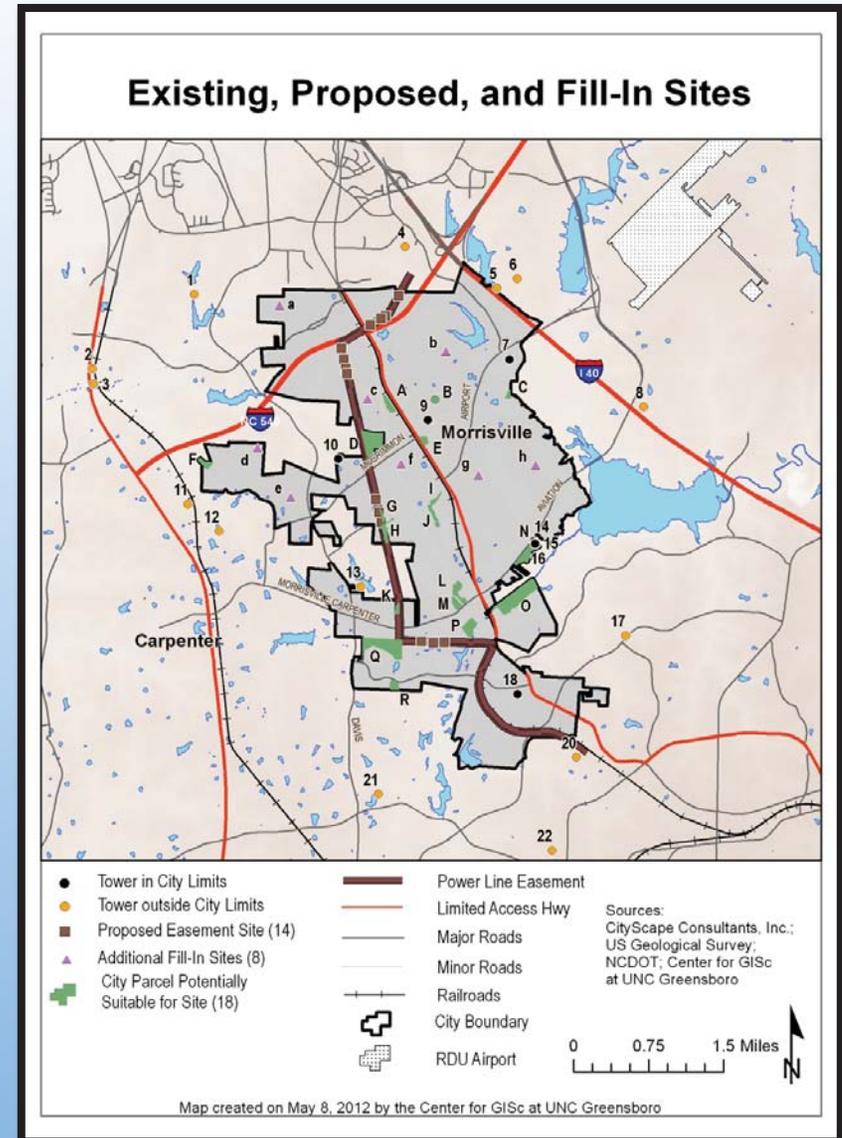
Example: Certain Town-owned Properties

- 18 Town-owned lands identified as potential fill-in sites
- Criteria for study: Location relative to projected gaps in coverage
- Size of property



Example: Summary and 10-Year Projections

- Existing Towers
 - 8 within the Town
 - 14 within 1-mile of Town
- 18 Potential Town-owned land locations
- 14 Potential Utility Easement options
- 8 Other projected locations



Example: Inventory

Preliminary Draft Master Plan Maps - Town of Morrisville, NC - November 16, 2012

Inventory

	<p>SITE LOCATION 1 Crown Castle International FCC # 1063926 CCI ID: 881315 7001 Development Drive Latitude: 37-52.1 N Longitude: -78-52-34 W</p> <p>Height: 195' Type: Monopole Future Capacity: 3</p>		<p>SITE LOCATION 2 KGI FCC # 1245668 KGI ID: 21364 5326 NC Highway 55 Latitude: 35-51-21.5 N Longitude: -78-53-39.4 W</p> <p>Height: 184' Type: Monopole Future Capacity: 3</p>
	<p>SITE LOCATION 3 Wake County FCC # 1233784 ID: HP-1322 NC Hwy 55 Latitude: 35-50-56.9 N Longitude: -78-53-32.8 W</p> <p>Height: 262' Type: Lattice Future Capacity: 5</p>		<p>SITE LOCATION 4 Crown Castle International FCC # 1003636 CCI ID: 811527 4600 Emperor Way Latitude: 35-52-24.9 N Longitude: -78-50-18.8 W</p> <p>Height: 150' Type: Monopole Future Capacity: 4</p>
	<p>SITE LOCATION 5 American Tower Corporation FCC # 1063435 ATC ID: 306362 1250 Innovation Avenue Latitude: 35-52-3.3 N Longitude: -78-49-19.9 W</p> <p>Height: 161' Type: Monopole Future Capacity: 3</p>		<p>SITE LOCATION 6 Tower Assets Newco II, LLC FCC # 1065734 1250 Innovation Avenue Latitude: 35-52-8.1 N Longitude: -78-49-7 W</p> <p>Height: 155' Type: Monopole Future Capacity: 3</p>
	<p>SITE LOCATION 7 Crown Castle International FCC # 1006912 CCI ID: 814011 960 Airport Boulevard Latitude: 35-51-25.5 N Longitude: -78-49-12 W</p> <p>Height: 177' Type: Monopole Future Capacity: 2</p>		<p>SITE LOCATION 8 SBA FCC # 1239354 SBA ID: NC20297 1500 RDU Center Drive Latitude: 35-51-1.16 N Longitude: -78-47-46.03 W</p> <p>Height: 154' Type: Monopole Future Capacity: 3</p>

■ EXISTING ■ PROPOSED ■ PUBLIC SAFETY

56

Preliminary Draft Master Plan Maps - Town of Morrisville, NC - November 16, 2012

Site A	Site Location	Town Owned Site	Preferable Option
Town of Morrisville			
Luther Green Center			
920 Church Street			
Public Park			
Agricultural District			
6.072 Acres			
Preferable Second Option: Flag Pole			

Site B	Site Location	Town Owned Site	Preferable Option
Town of Morrisville			
Perimeter Park			
0 Watkins Road			
Vacant			
Office & Institutional			
0.457 Acres			
Preferable Second Option: Painted Pole or Slick Stick			

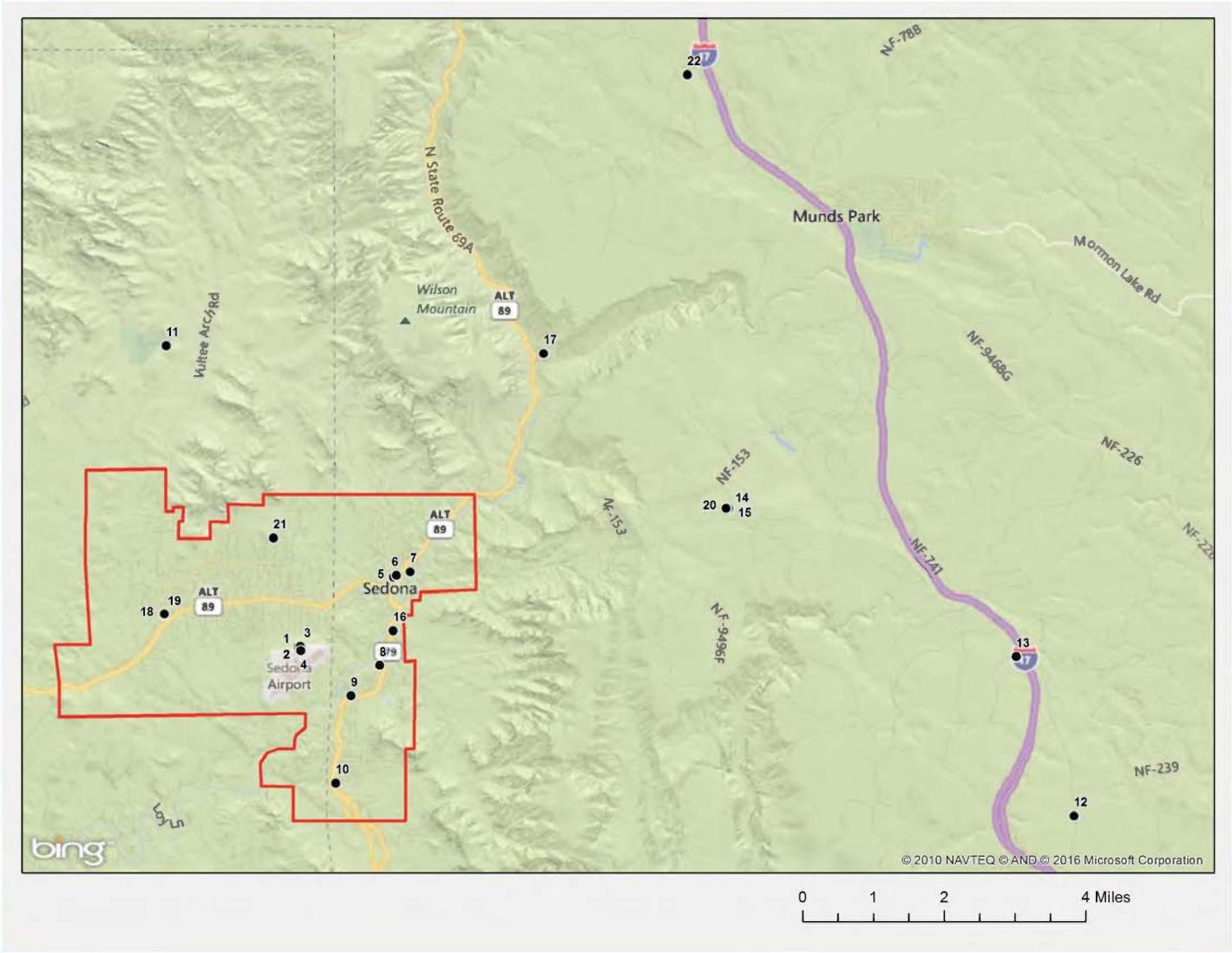
Site C	Site Location	Town Owned Site	Preferable Option
Town of Morrisville			
Eastridge			
0 Perimeter Park Drive			
Pump Station			
Office & Institutional			
2.383 Acres			
Preferable Second Option: Monopole or Painted Pole			

59

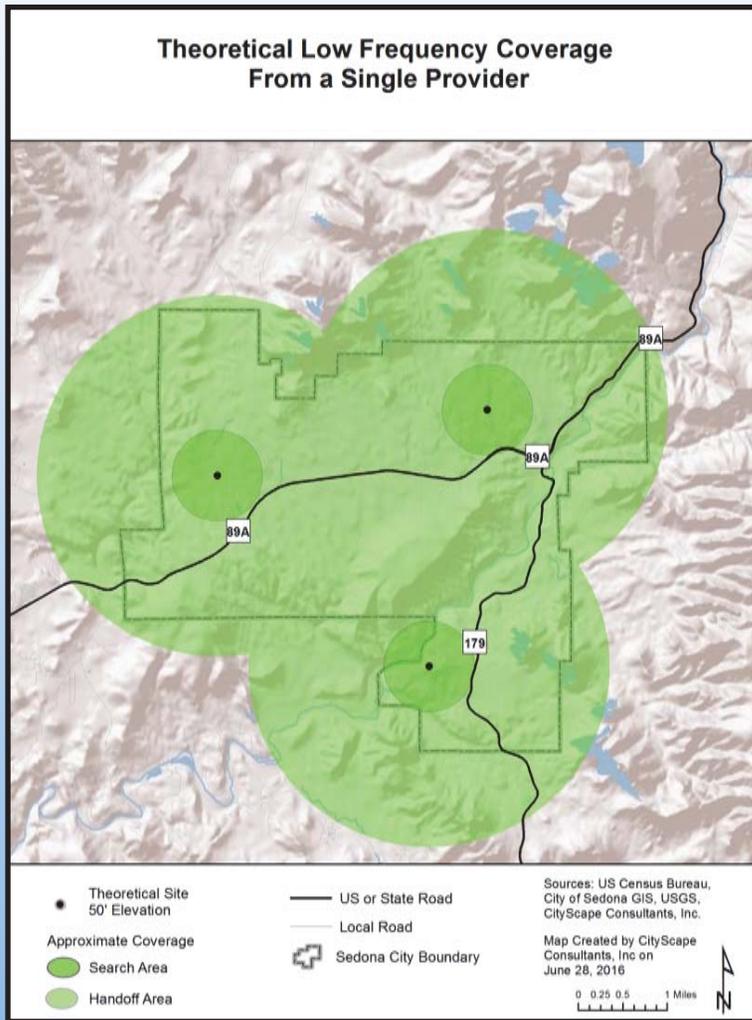
Wireless Industry Information

- 13 transmission equipment facility locations identified within the City of Sedona study area; 8 identified outside the study area that might impact network coverage
- Wireless service providers for mobile radio/phone/broadband include: AB Spectrum; AT&T; Access 700, LLC, Cable One, Continuum 700, DISH, Data-Max Wireless, LLC; MCG PCS; NTUA Wireless, LLC, PTPMS II Communications LLC, San Carlos Apache Telecommunications Utility, Smith Bagley (Cellular One of NE AZ); T-Mobile; Verizon Wireless
- Tower owners include but are not limited to:
 - American Tower; Crown Castle; SBA; the service providers listed above; broadcast companies; the City of Sedona

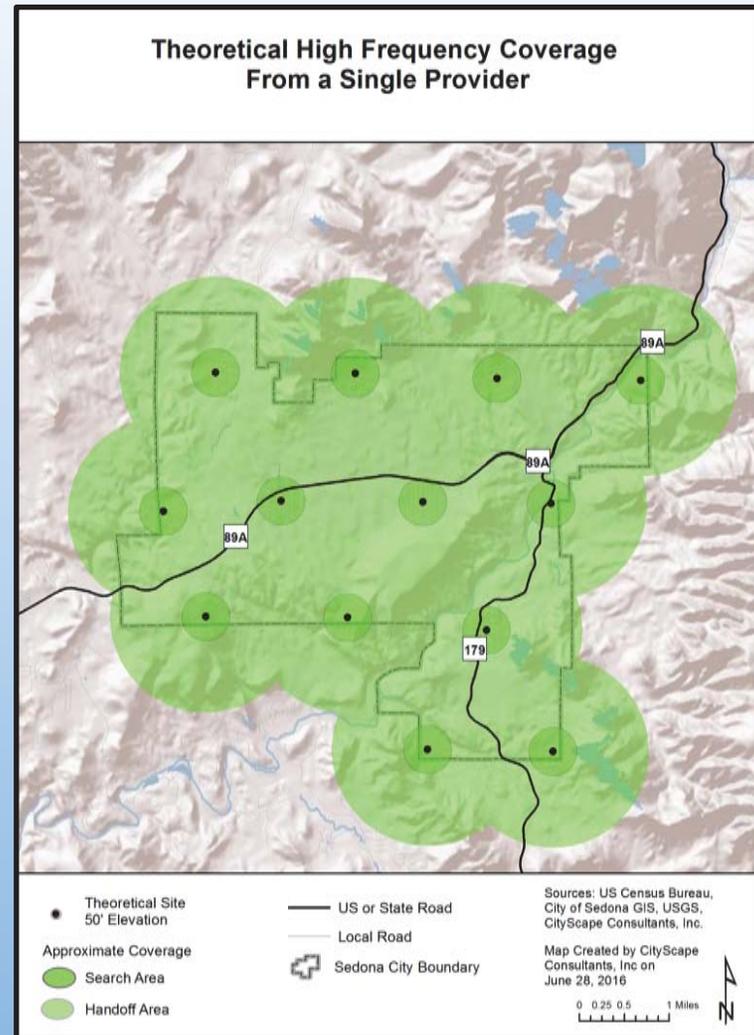
Draft Inventory Map



Theoretical RMS Maps

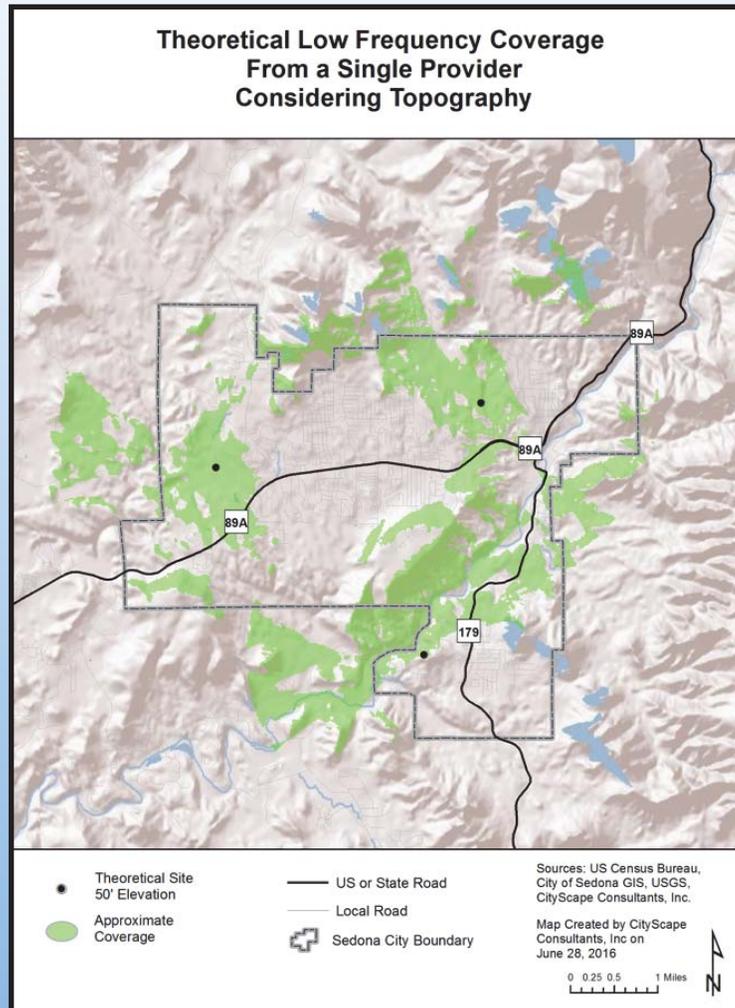


3 Low Frequency Sites

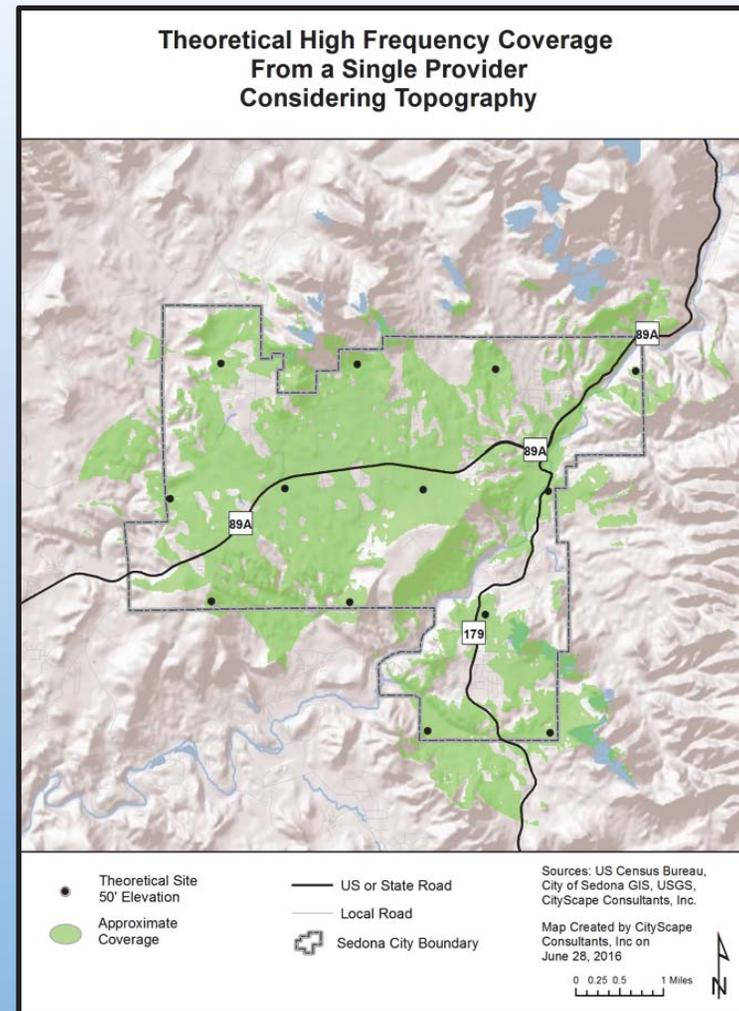


13 High Frequency Sites

Theoretical RMS Maps With Terrain

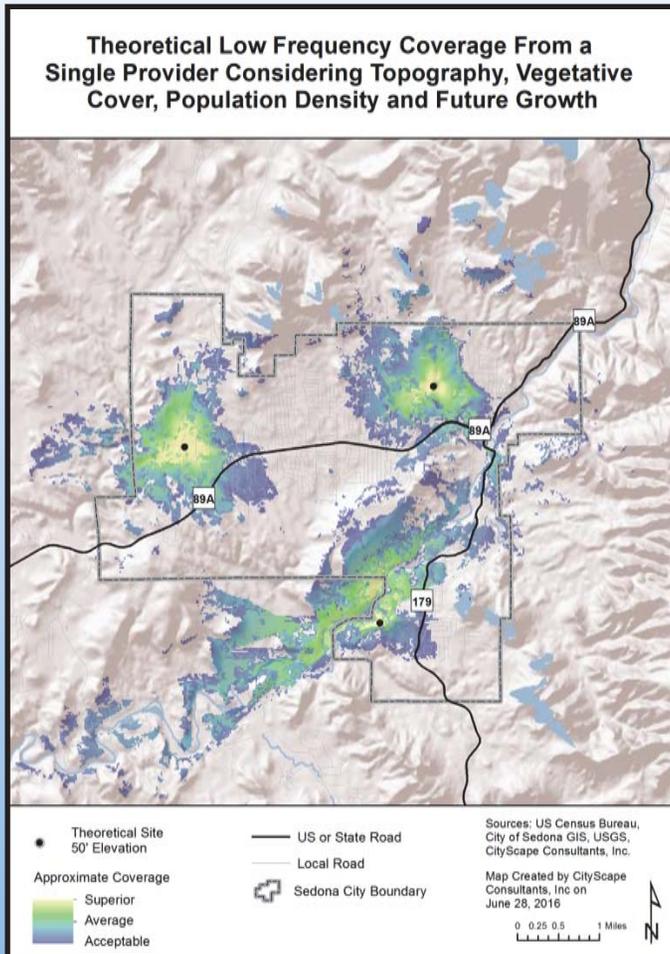


3 Low Frequency Sites

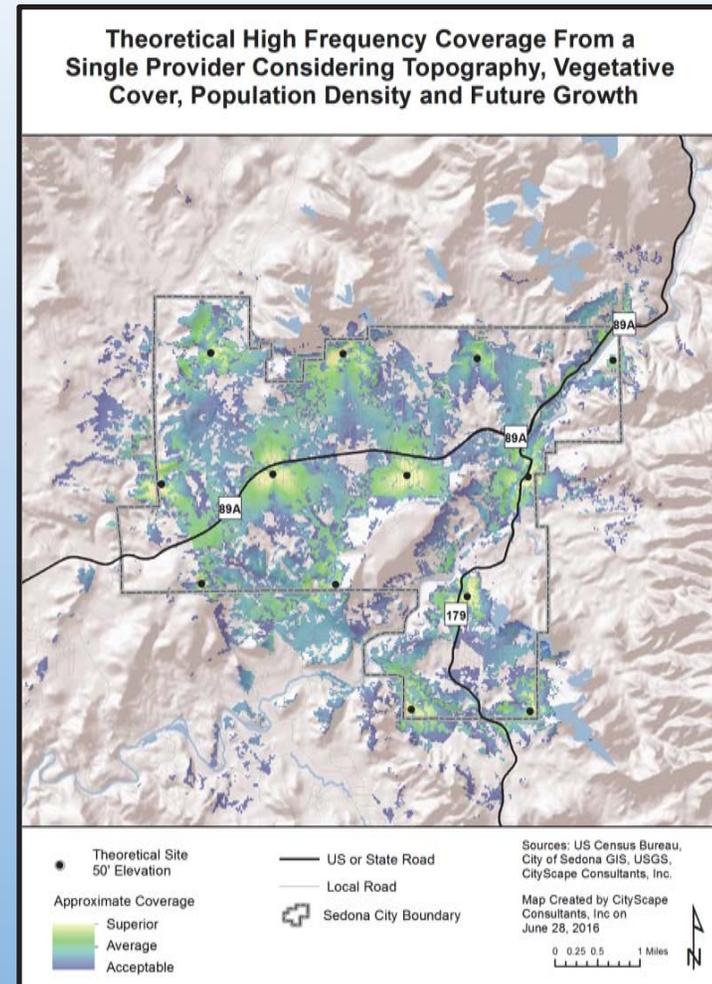


13 High Frequency Sites

Theoretical Propagation Maps



3 Low Frequency Sites



13 High Frequency Sites

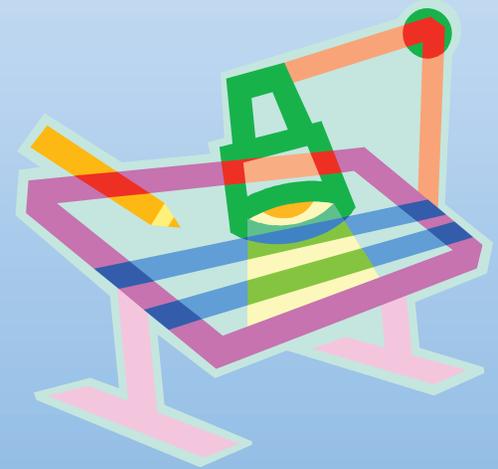
Introduction to Wireless Telecommunications Land Use Regulations

Master Planning and Zoning

What Can Be Regulated



- Protection of Public Health, Safety & Welfare
- Development Standards:
 - Landscaping
 - Height
 - Infrastructure Type
 - Siting strategies
 - Setbacks
 - Location Preferences
 - Fencing
 - Signage
- Geographical Particulars



Zoning Solutions

Wireless Telecommunication Regulations should include the following:

- Statement of Intent or Purpose of Regulations
- Hierarchy of Preferred Types of Facilities depending on community likes and dislikes, including use of public facilities
- Zoning Chart encouraging preferred types and discouraging non-preferred types of facilities
- Provisions to enable expert review of applications
- Uniform process that does not discriminate unduly among any providers of wireless services
- Hierarchy of submittal requirements, less extensive for preferred facilities and more extensive for non-preferred facilities

Tower Height and Collocation



Preferred Locations and Preferred Types

Locations:

- Existing Towers
- Rooftops
- Steeples
- Water Tanks
- Zoning Districts
- Publicly-owned Land
- Light Stanchions

Types:

- Concealed Attached Antenna
- Non-concealed Attached
- Collocation
- Mitigation/replacement
- Concealed Freestanding Tower
- Non-concealed Freestanding Tower

Transmission Equipment

Infrastructure Preference Survey

Non-Concealed Towers



Monopole
Self Support



Lattice
Self Support



Guy
With Support

Concealed Freestanding Towers



Flag Pole

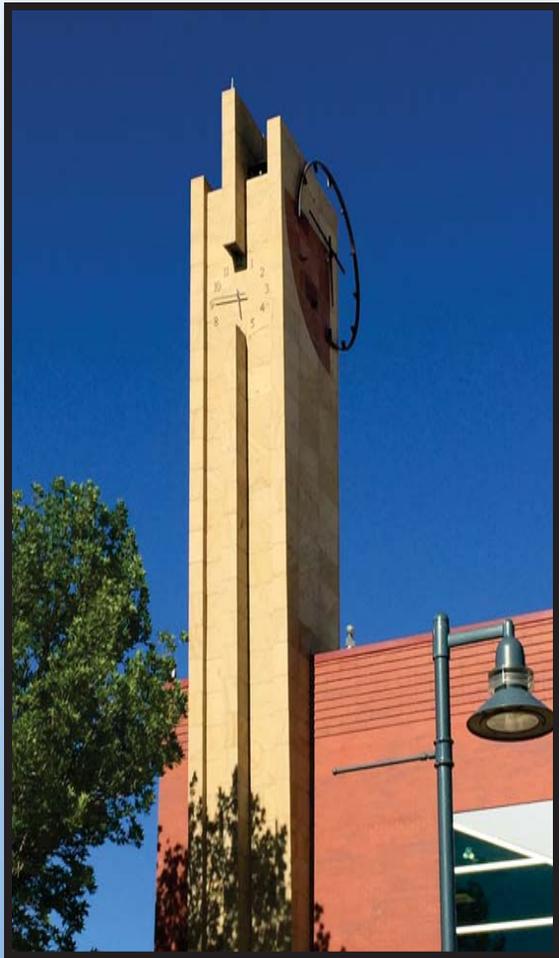


Slick Stick



3-Legged Pole

Concealed Freestanding Towers



Clock Tower



Concealed Tower

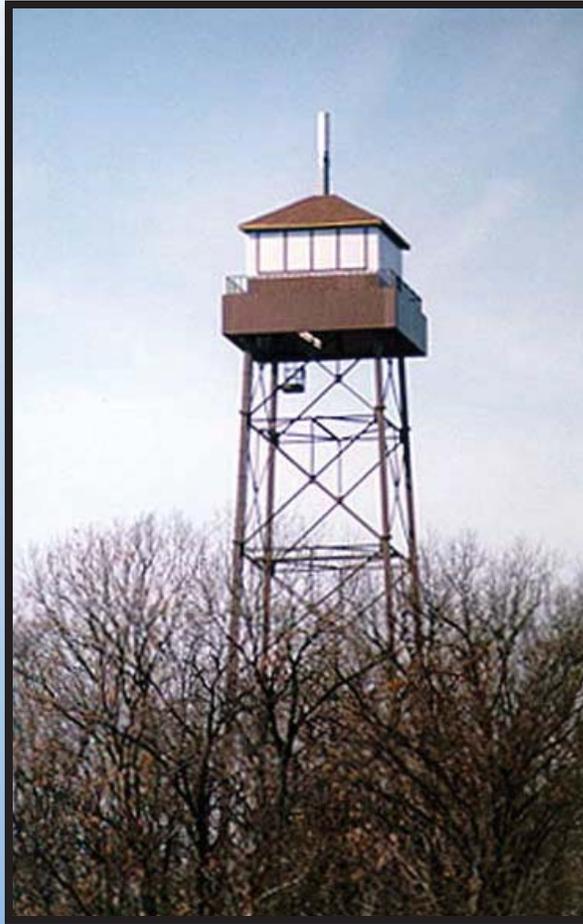


Concealed Tower

Concealed Freestanding Towers



Banner Pole
Stealthsite.com



Faux Fire Tower
Stealthsite.com



Faux Tree

Light Stanchions and Painted Freestanding Towers



Light Stanchion

CityScape



Painted/wrapped Pole



Painted Pole

Other Types of Infrastructure



Additional Pole in
Utility Easement

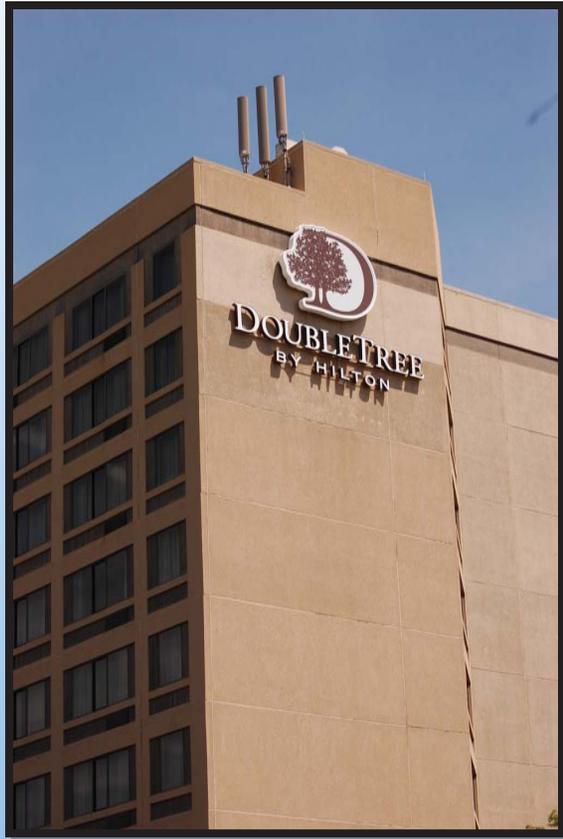


Attachments in
Utility Easement



Water Tank

Base Station Attachments

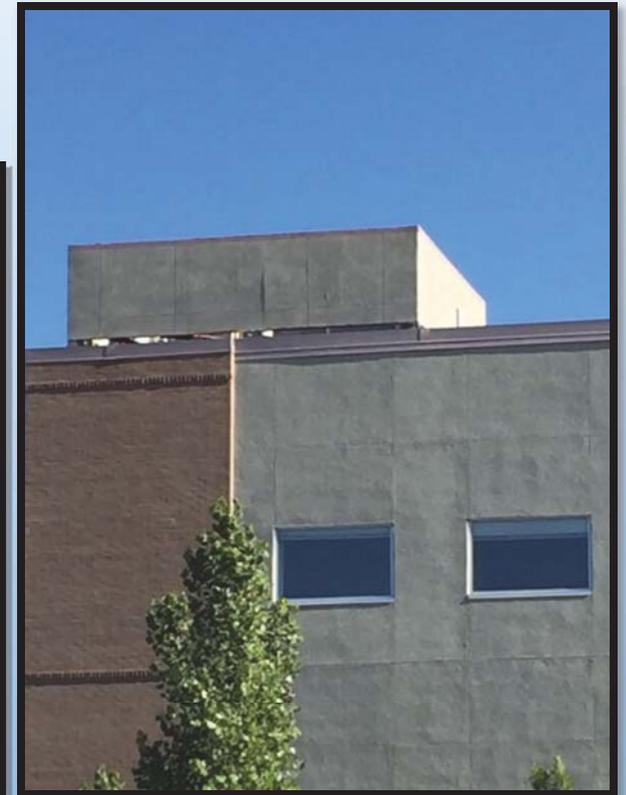


Base Station
Non-Concealed
above Roof

CityScape



Base Station
Non-Concealed
below Roof



Base Station
Concealed above
Roof

Wireless Communications Master Planning

Next Steps

Next Steps

- Finish Assessments
- Finalize Inventory Map
- Create Catalogue of Inventory
- Propagation Mapping
- Identify possible City-owned properties for future fill-in infrastructure.
- Land Use Planning recommendations based on master planning tools
- Ordinance revisions meeting recent Report and Order

Wireless Telecommunications

Questions and Open Discussion

Wireless Telecommunications

Thank you!