



# Board of County Commissioners and Planning Commission Study Session on Telecommunication Facilities

October 15, 2019



# Agenda

- Objectives, Scope and Background
- 10 minutes presentation from panelist on topics/questions
- Q/A between panelists and PC and BOCC
- Wrap up with discussion on Design Requirements & Guidelines



# Objectives and Scope

- Gain a better understanding of the interrelationship between telecommunication-related topics: tower height, co-location and density of infrastructure to inform decision making.
- Provide Planning Commission and Board of County Commissioners to discuss jointly how to address challenging topics related to telecommunication decision making
- Determine what, if any, role third party verification can play in review of telecommunication infrastructure decision making.



# Existing Telecommunication Infrastructure in Boulder County

**6452 SOMERSET DR**







# Existing Telecommunication Infrastructure in Boulder County

**4901 Jay Rd**





# Existing Telecommunication Infrastructure in Boulder County







# Existing Telecommunication Infrastructure in Boulder County

**32897 COAL CREEK CANYON DR**

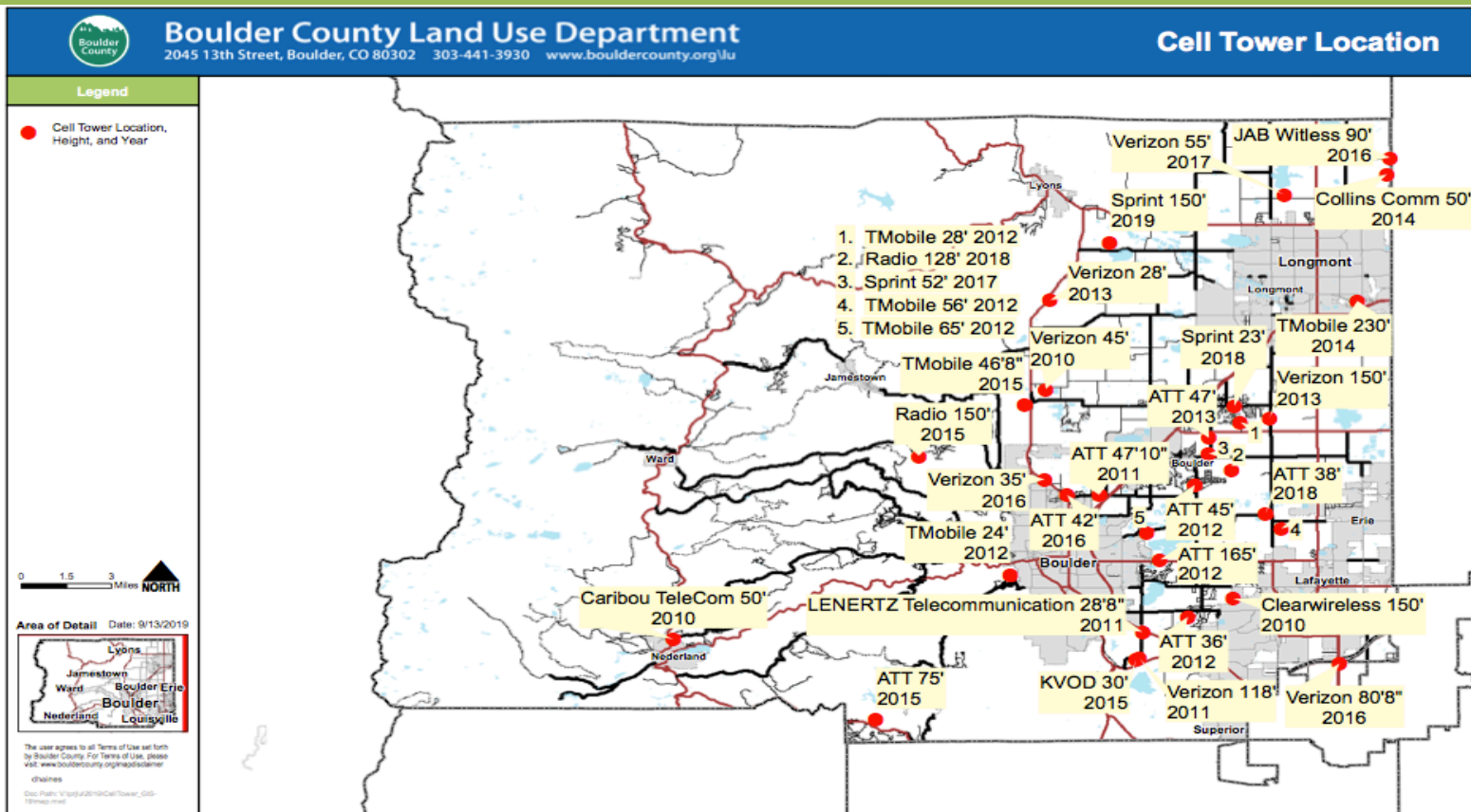


**6589 95TH ST**



**EXTERIOR VIEW: TOWER**  
2  
A1  
SCALE IN FEET

# 10 year sample of Telecommunication permits & applications







# 10 year sample of Telecommunication permits & applications

Row Labels	Building	SPR	SU
2010	3	1	4
2011	4	6	2
2012	10	8	1
2013	5		
2014	2	1	1
2015	10	1	
2016	12		1
2017	6		1
2018	9		3
2019	2		
Grand Total	63	17	13



# Design Requirements and Guidelines

## ***Design Requirements and Guidelines***

- Kept separately from Code; can be updated to keep up with the evolution of the technology
- Clarifies the order of preference for location
- Addresses architectural consistency, protection of view corridors
- Addresses health and safety of the traveling public by ensuring proper sight-triangles and minimal clutter



# County Authority to Regulate Telecommunication Facilities

Federal and state laws significantly restrict the County's regulatory authority in the following manner:

- No regulation may be based on the environmental effects of RF Emissions.
- Local Governments may not discriminate among providers.
- Local Government regulations and fees may not “effectively prohibit” the provision of wireless services, including both coverage and data capacity.
- Local Governments must act on an application within a specified “shot clock” time.
- Local Government may not deny and shall approve any eligible facility 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, including requests for the collocation, removal, or replacement of transmission equipment.





# Focus Questions

1. Interrelationship between height, density and emissions
  - Does encouraging co-location or consolidation of towers in appropriately increase RF emissions in term of FCC rules, health & environmental impacts
  - How do carriers monitor their RF emissions?
  - How does the relationship between height, density, and emissions change for macro-towers verses small cell towers?
  - What can the County do to make sure emissions are meeting FCC requirements?
2. Co-location: feasibility, analysis guidelines, incentives
  - Should the County be encouraging/requiring silo or other co-location particularly for macro-towers?
  - What guidelines should the County use for analyzing and requiring co-location.



# Focus Questions

## 3. Third party Verification

- Is it feasible for the County to use third party verification for every tower application?
- Are third party verifiers able to acquire and analyze data presented by carriers to determine whether carriers' alternative sites analysis is adequate and accurate?
- What type of third-party verification are available?

## 4. Design Requirements and Guidelines

- How should the PC/BOCC weigh the different requirements of the BCCP?
- Based on the discussion today, should the DRG change in any manner?







# Design Requirements and Guidelines

1. Applicants shall work with the County and relevant third parties to locate small cell wireless facilities based on the following order of preference for location and deployment:
  - a. Small cell facilities shall be collocated and attached to existing and previously approved small cell facilities.
  - b. Small cell facilities shall be attached to or replace available existing structure previously approved in the County Right of Way (ROW).
  - c. New freestanding small cell facility poles shall be built in a manner that allows for collocation.



# Design Requirements and Guidelines

2. Any new pole with an antenna must be architecturally consistent with the surrounding area by:
  - a. Utilizing one of the following configurations:
    - i. Replacing existing permitted facilities (including without limitation, traffic signs, traffic signals, light poles or light standards) so that the presence of the small cell facility is not readily apparent;
    - ii. Integrating the equipment in an architectural feature of an existing structure; Integrating or attaching equipment to an outdoor fixture such as a traffic signal, light standard, utility pole or flagpole;
  - AND
  - b. Using a design which mimics or is consistent with the nearby natural or architectural features; and
  - c. Using a design that is consistent with the size and shape of the pole-mounted equipment installed by communications companies on utility poles within three hundred feet of the facility.



# Design Requirements and Guidelines

3. All small cell equipment and required structures, including, but not limited to, antennas and meters, must be housed internally within in the pole or alternative tower structure hosting the small cell facility. This requirement may be waived by the Director of the Land Use Department, in whole or in part, where it is technically infeasible to internally house the requisite components.
4. Ancillary equipment that is not integrated into the pole such as cabinets, or boxes shall be located below grade. This requirement may be waived by the Director of the Land Use Department, in whole or in part, where it is technically infeasible to house such structures below grade.
5. The siting map must clearly delineate the floodplain and floodway boundaries.





# Design Requirements and Guidelines

6. Small cell wireless facilities shall be separated from all other wireless communication facilities and small cell facilities within the right-of-way by a distance of at least six hundred feet, unless the facility replaces an existing traffic signal, street light pole or similar vertical infrastructure. Freestanding small cell poles shall be staggered on alternating sides of the street where feasible. The Land Use Director may exempt an applicant from this requirement if: the applicant demonstrates through technical network documentation that the minimum separation requirement cannot be satisfied for technical reasons, or the Land Use Director determines, when considering the surrounding topography, the nature of adjacent uses and nearby properties and the height of the existing structures in the vicinity, that the placement of a small cell wireless facility at a distance less than 600 feet from another small cell wireless facility in the public right of way will meet the intent of reducing visibility and visual clutter of the small cell wireless facilities.
7. Any stand-alone small cell wireless facility shall not block windows or building entrances.
8. Small cell wireless facilities and equipment shall not be installed within the dripline of any tree.
9. All poles and related appurtenances shall be located to ensure proper sight-triangles.
10. All poles and related appurtenances shall be located outside the specified clear zone for the facility on which it is located as specified in the Boulder County Multi Modal Transportation Standards.



# Design Requirements and Guidelines

11. Poles and related appurtenances shall not interfere with traffic operations or with approved Traffic Control Devices.
12. Poles and related facilities shall not encroach into or interfere with pedestrian ways such as sidewalks, trails, or transit stops or facilities.
13. Proposed locations of poles and related appurtenances shall be reviewed relative to future county capital improvements.
14. Small cell wireless facilities shall not be allowed within historic districts or land owned or maintained by the Boulder County Parks and Open Space or the City of Boulder Open Space and Mountain Parks properties, including conservation easements. The Land Use Director may waive this prohibition if he or she determine that it is appropriate to do so based on consideration of technological feasibility, environmental and visual impacts, and any other relevant considerations based on the Boulder County Comprehensive Plan.
15. Small cell wireless facilities shall be located to ensure minimal impacts to view protection corridors.
16. Small cell wireless facilities must not conflict with the Boulder County Comprehensive Plan goals, policies, and mapped features.
17. All small cell wireless facilities shall meet the current standards and regulations of the FAA, the FCC and any other agency of the federal governments with the authority to regulate small cell facilities. If the standards and regulations are changed, then the owners of the small cell facilities shall bring such facility into compliance with such revised standards and regulations within the time period mandated by the controlling federal agency.