



# Wireless Communications Briefing

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City Council Work Session  
October 18, 2016

# Purpose of Briefing

- Background
- Consultant's Key Recommendations to City Staff
- Proposed New Small Cell ROW Rental and Fee Ordinance
- Next Steps



# Background

- Staff presentation to Public Utilities Committee in January of 2016
- Interdepartmental working group convened on March 26, 2016
- Staff update via Council memo on July 6, 2016
- Staff briefing at August 16, 2016 Council Work session
- Staff update via Council memo on September 2, 2016
- Outside consultant, Aero Solutions, contracted on September 9, 2016



# Aero Solutions Technical Report Strategy and Analysis

## Objectives:

- Establish a City-wide approach to wireless antenna attachment and equipment placement
- Build a strategy that positions Austin for the SMART City, Internet-of-Things future
- Ensure reliable, ubiquitous, city-wide wireless coverage
- Encourage market competition
- Compensate the city for use of city infrastructure



# Consultant's Process

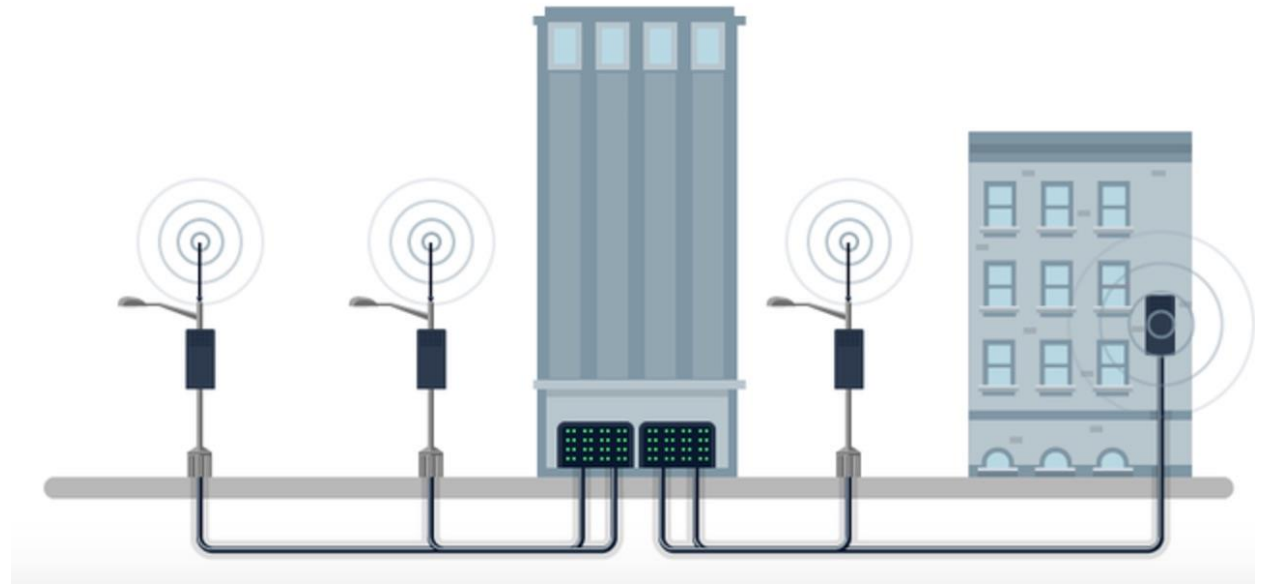
- Stakeholder Meetings with City staff and wireless companies
- Wireless Network Infrastructure Assessment:
  - Antenna and Equipment Specifications
  - Fiber and Backhaul Requirements
- Goal to maximize use of 3 key elements of a small cell deployment
  - Vertical Infrastructure
  - Power
  - Fiber (other backhaul)



# Wireless Industry Engagement

Held a combination of meetings, conference calls and correspondence with all four major wireless carriers and neutral host providers

- Small cell node counts
- Antenna and equipment specifications
- Cabling; power and fiber requirements



# Consultant's Key Recommendations to City Staff



# Recommendation 1

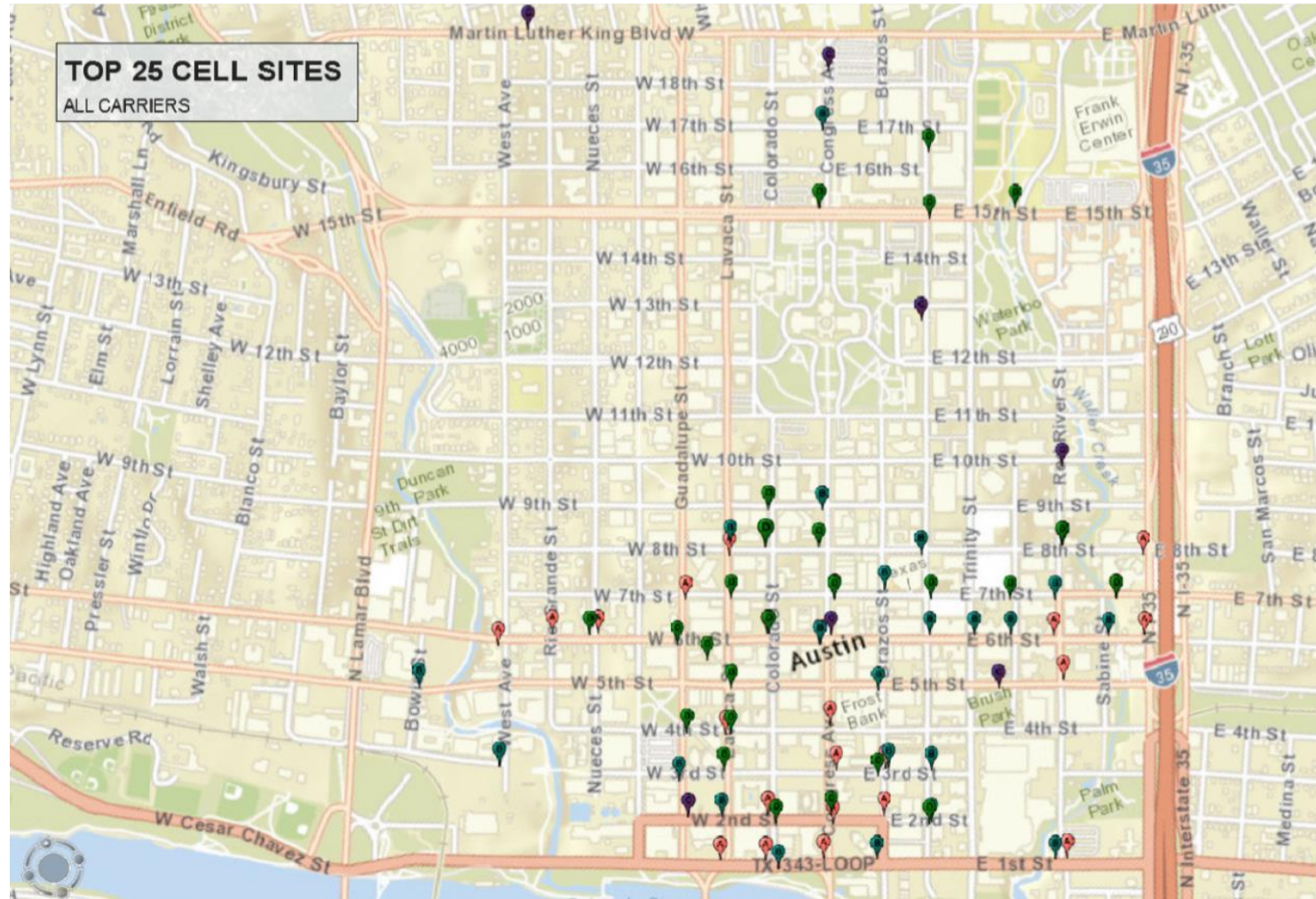
## Implement Phased Small Cell Deployment

- Install the highest priority 25 small cell sites identified by each of the four carriers onto traffic signal structures located within the Great Streets downtown area defined from North to South by Martin Luther King Jr to Cesar Chavez and West to East from Lamar to I-35
- Transition deployment to expanded program from top 25 priority small cell sites per carrier represents 100 downtown sites





# Phase I – Combined Priority Small Cell Site Locations



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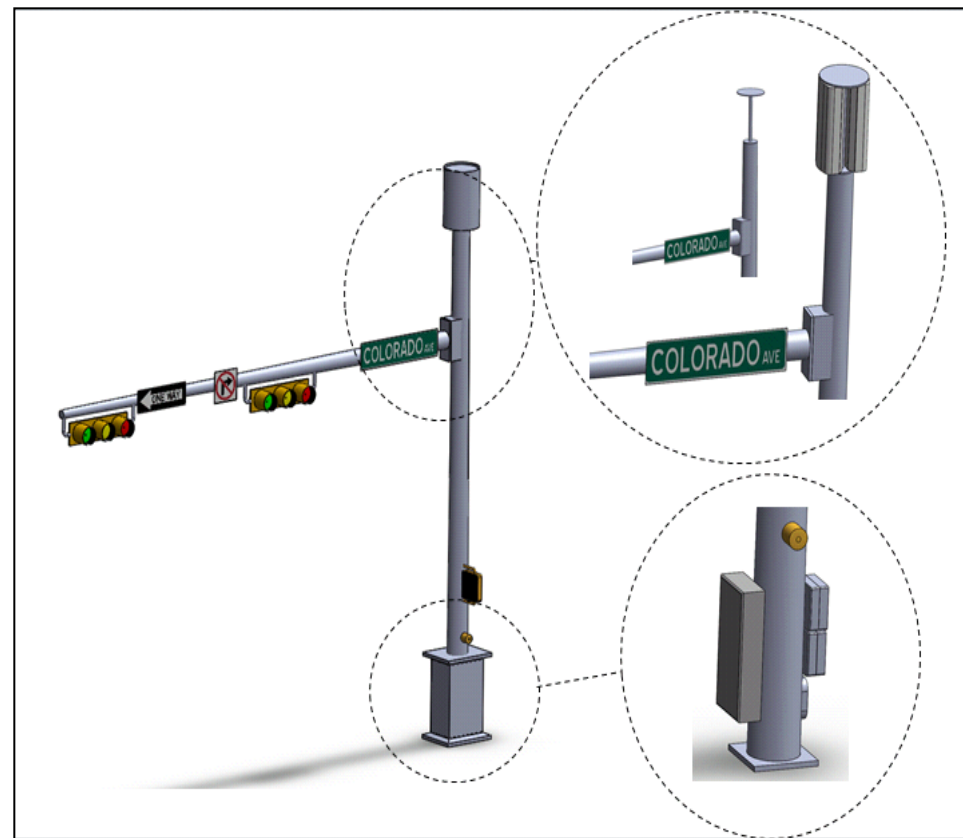




# Recommendation 2

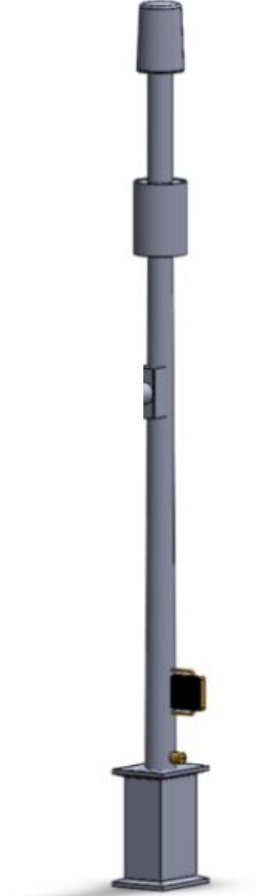
## Provide Pole Attachment Appearance Guidelines for Antennas

- Use of cylindrical antenna shrouds to cover side mounted panel type antennas and their attachments
- Use of Slender structural members where panels are located
- Apply consistent attachment details that for all carrier's antenna types



Shrouded Panel Antennas

# Illustration



## Pole Attachment – Two Carriers

Top mounted antenna (canister)

Side mounted panel antennas

Shroud diameters similar

Extension installed onto traffic structure



# Illustration

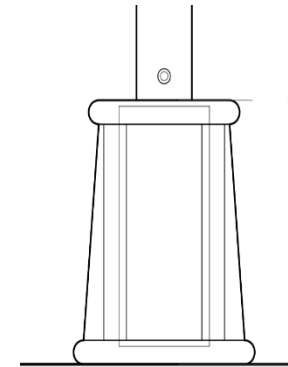
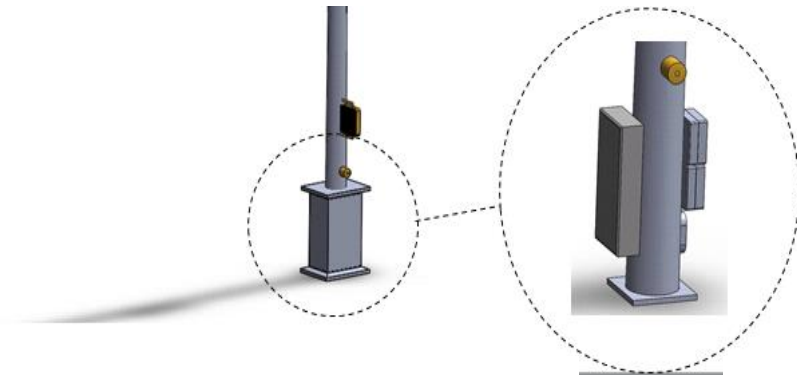
## Pole Attachment Rendering – Two Carriers



# Recommendation 3

## Locate radio and power equipment in aesthetic pole base enclosure

- Locate equipment at ground level directly below the antenna to reduce signal and minimize sidewalk infringement
- Exterior of equipment cabinet to architecturally blend into urban streetscape



City of Austin, Texas  
Public Works Department  
Engineering Division  
2014



# Recommendation 4

## Require Concealed Base-mounted Radio and Power equipment

- Externally mounted equipment varies in form and size by carrier, each requiring cable and power lines to exist on the outside of the traffic pole
- Where more than one carrier is located on a pole, additional conduit must be installed to avoid cabling on the outside of the pole





# Recommendations 5 & 6

Establish a methodology to support the fair and equitable availability of high-demand pole locations to all interested wireless service providers

## Establish a Streamlined Site Application Process (SSAP)

- The SSAP will include a pre-approved pricing model, antenna configurations, equipment placement options, aesthetics and approved intersections for site deployments





# Recommendation 7

Where new fiber conduits are installed, the COA should have rights to require new fiber for Austin's use or to retain additional space in conduits for future COA fiber

- In locations where the COA elects to participate in collocating in new fiber conduits, an adjusted and reduced ROW license fee should be offered



# Benchmarks of Fees

Municipality	Application Fee	Term	Annual Rent	Annual Escalation
<b>Austin, TX</b> (Proposed)	\$1,250/ Site	4 Year w/ 5 Year Renewable	\$2,500/Site or \$2,000/ Site with Wireless Back Haul. Fiber license = \$5.00/linear foot	No
<b>Dallas, TX</b>	\$750/All \$100/Site	5 Year/ Renewable	\$1,000/Site temporary license. \$6.32/linear foot for downtown based on adjacent land value	No
<b>Houston, TX</b>	None	25 Yrs.	\$2,000/Utility \$2,500/Muni Pole. Backhaul fees included.	2%
<b>San Antonio, TX</b>	\$700/Site	25 Yrs.	\$1,500/(Muni Pole + 6 sq. ft. ground space. Fiber ROW fee based on value of adjacent property, ranges \$0.79 to \$3.00 sq. ft.	3%
<b>Highland Park, TX</b>	None	5 Year/Renewable	\$2,400/Site	No
<b>Baltimore, MD</b>	\$500/Site	10 Year+ 3-5 Yrs.	\$1,200-\$2,400/Site	Unknown
<b>Boston, MA</b>	None	10 Year + 10 Renew.	> \$2,500 or 5% of Gross Revenue	1.50%
<b>Glendale, AZ</b>	None	10 Year + 3-5 Yrs.	\$3,469/Site	3%
<b>Scottsdale, AZ</b>	None	10 Year + 3-5 Yrs.	\$3,680-\$5,256/Site	Consumer Price Index



# Proposed Fee Ordinance

- Scheduled for Council approval on 10/20/16
- Site Application Fee - \$1,250 per location
  - Based on Proposed Staff Activities:
    - Intake
    - Initial Field Assessment
    - Inspection During Connection
    - Post Operations Inspection
- Annual Rental Fee - \$2,500 per antenna
  - Based on rents charged by comparable Texas cities. Fee is all inclusive of traffic signal pole attachment rent and Right of Way rent for above ground equipment and below ground fiber use connecting through existing fiber. Rental Fee will be reduced by \$500.00 for installations not using below ground fiber (Example: Carrier is proposing some nodes to connect by way of pole-mounted wireless transmission).



# Proposed Fee Ordinance

Incentivized Fee Structure To Encourage the Use of Existing In-Ground Infrastructure or Joint Trenching or Directional Boring

## ➤ **New Trench Fiber Right of Way Rent**

- \$5.00 per linear foot per year (assuming single trench)
- To encourage joint trenching, the Director may prorate this fee among carriers participating in the joint trench



# Administrative Rules

- Drafting underway
- Using recommendations from the consultant to set specific regulations and standards
- Transportation Department publicizing administrative rules for the installation of small cell antennas on Austin Traffic Signal Poles
  - City and Service Provider Responsibilities by Template Master License
  - Use of Existing Infrastructure Only
  - Aesthetics/ Equipment Dimensions
  - Supplemental Conduit Installation
  - Joint Trenching



# Next Steps

October 20, 2016

Council fee schedule adoption, thereafter  
Transportation Department initiate administrative rules

Late November

Response to comments and adoption of  
administrative rules, including form Master License  
Agreement (MLA) and publish in accordance with City  
Code Chapter 1-2

Early December

Downtown small cell site location applications accepted

April of 2017

Update to Public Utilities Committee



# Next Steps (cont.)

Austin Energy study physical characteristics of identified street intersections:

- Determine location of existing street light circuits
- Develop plan for installation of new power circuits in locations where existing circuit capacity is inadequate

Analysis of identified AC power requirements:

- Develop appropriate energy usage fees and propose adoption in early 2017
- Identify appropriate fees and charges for Austin Energy investigation, design and construction services

