The seal of the Vieux Carré Commission is a large, faint watermark in the background. It is an oval shape with a decorative border. The text "VIEUX CARRE COMMISSION" is written along the top inner edge, and "ESTABLISHED 1936" is written along the bottom inner edge. In the center of the seal is a stylized map of the French Quarter in New Orleans, showing the Mississippi River and the city's layout.

**Vieux Carré Commission**  
Special Meeting on 5G Infrastructure  
Wednesday,  
November 11, 2020



# Other Business

URBAN CONNECTIVITY SOLUTIONS IN NEW ORLEANS' FRENCH QUARTER  
**HISTORIC PRESERVATION THAT ENABLES  
MODERN CONNECTIVITY**



2020



Toro Blanco Group, LLC





PHILADELPHIA



DALLAS



ATLANTA



FORT WORTH



INDIANAPOLIS

**FRENCH QUARTER  
ROW TECH  
INSTALLATIONS  
DON'T HAVE TO  
LOOK LIKE THIS**



Three new poles, in a line, within 100' of each other, installed for the express purpose of individual carrier, 4G only, small cell installations. These installations do not have to define the new landscape of your ROW. As mm wavelength 5G deployments become more prevalent, more nodes become necessary. With four carriers that means four times the node installations unless multi-carrier solutions are pushed forward.





Densification of cellular networks will be a necessity of our modern world. In turn, small cells are a vital aspect of the future 4G and 5G networks that will connect that world. Whether we like it or not, an estimated **720,000 additional small cell nodes** are projected to be installed by 2026 to facilitate nationwide 5G connectivity. 5G connectivity will be necessary for the next generation of connected devices, **from automated vehicles to first responder logistics**. Small cells are a necessity to keep up with the connectivity demands of tomorrow's local businesses and citizens.

**However necessary these installations might be, the impact on the French Quarter may be huge if not handled properly. Get ahead of the problem before thousands of small cells dot the ROW of New Orleans.**

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# WHAT THIS MEANS FOR NEW ORLEANS

The FCC has granted certain rights to carriers and infrastructure providers allowing them the right to install small cells in your Public ROW. If you don't get ahead of the problem and put into place the designs necessary to mitigate what these installs look like you could find yourself with an onslaught of poles that actively degrade your ROW's aesthetic.



EXISTING LAMP POST

EXISTING CROWN CASTLE SMALL CELL

# THE VARIED LAMP POSTS OF THE FRENCH QUARTER



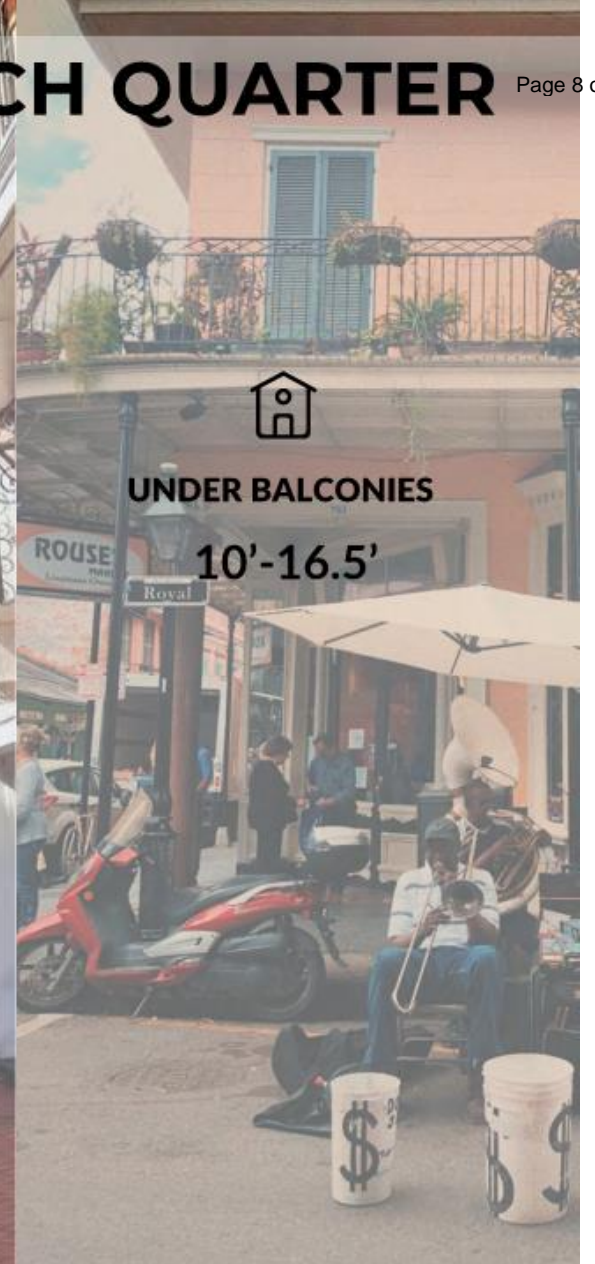
**UNDER TREES**  
11'-18'



**UNDER AWNINGS**  
10'-13'



**IN THE OPEN**  
11.5'-18'



**UNDER BALCONIES**  
10'-16.5'

In the last 300 years, a wide variety of lamp posts have been installed in the French Quarter, from 10' poles squeezed under balconies to 18' posts in parks and down avenues.



The variance and detail of the French Quarter calls for a customizable solution. Our modular design allows us to tailor the site to the location.



DUAL LUMINAIRES  
4G+5G



DUAL LUMINAIRES  
4G + 5G



SINGLE LUMINAIRE  
4G + 5G



SINGLE LUMINAIRE  
4G or 5G

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# PREVIOUS FRENCH QUARTER SMALL CELL PROPOSAL



Each orange square represents one (1) linear foot.  
Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.

# 2<sup>nd</sup> ITERATION FRENCH QUARTER SMALL CELL PROPOSALS

14' EXISTING LAMP POST



**EXISTING**

20' PROPOSED SMALL CELL



**DUAL SIDE MOUNT LUMINAIRES, PERFECT FOR MID-BLOCK INSTALLS**

20' PROPOSED SMALL CELL



**SINGLE REAR MOUNTED LUMINAIRE, GREAT FOR CORNERS OR MID-BLOCK**

16.25' PROPOSED SMALL CELL



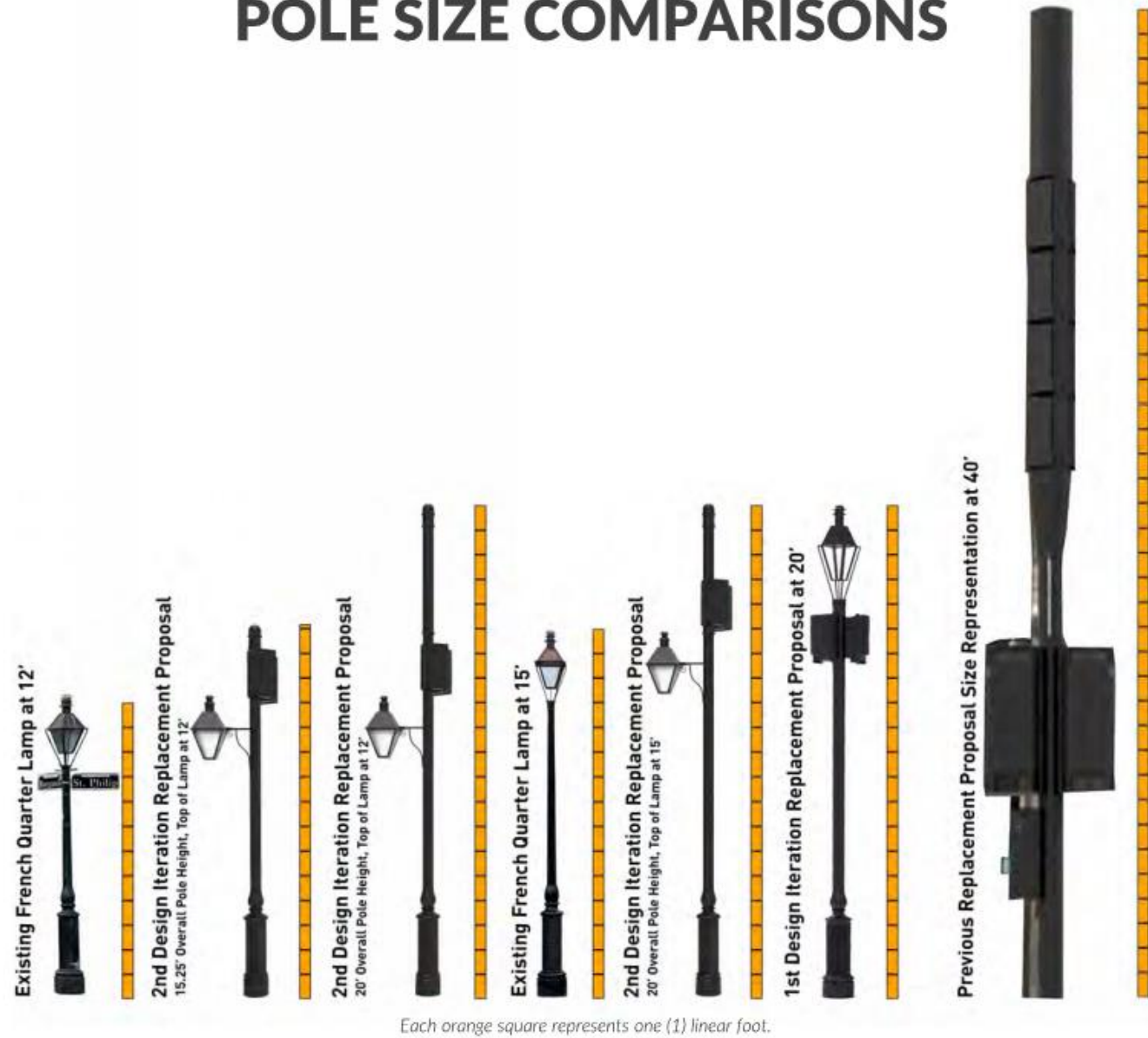
**SINGLE TECH (4G or 5G), FOR SITES WITH OVERHEAD OBSTRUCTIONS**

*Each grey square represents one (1) linear foot.*

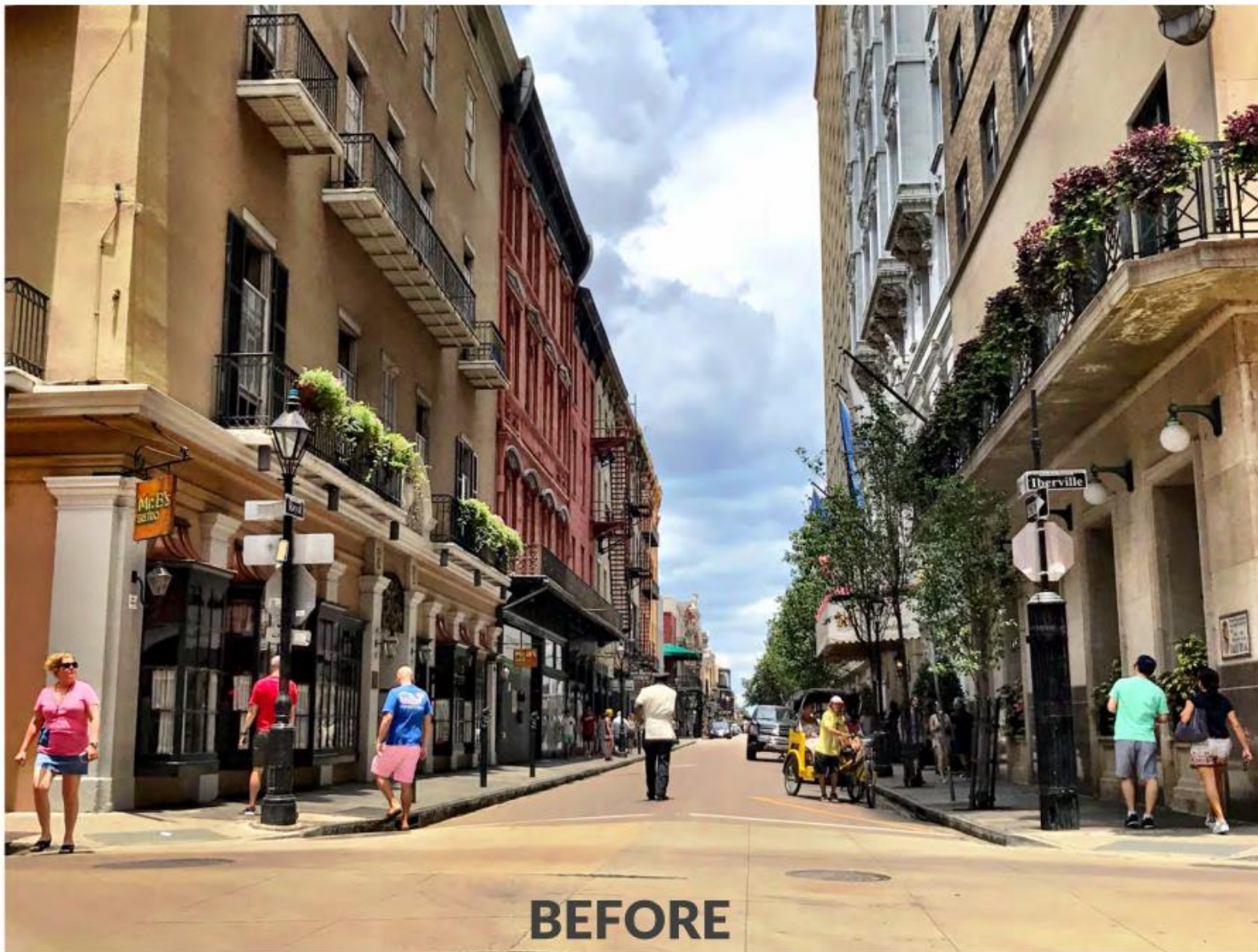
*Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.*



# POLE SIZE COMPARISONS



16' EXISTING LAMP POST



**BEFORE**

*Each orange square represents one (1) linear foot.  
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20' PROPOSED SMALL CELL



**AFTER, 1<sup>st</sup> DESIGN ITERATION**

*Each orange square represents one (1) linear foot.*

*Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.*

15' EXISTING LAMP POST



12' EXISTING LAMP POST

## BEFORE

Each grey square represents one (1) linear foot.

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20' PROPOSED SMALL CELL



## AFTER

Each grey square represents one (1) linear foot.

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12' EXISTING LAMP POST

## BEFORE

Each grey square represents one (1) linear foot.

Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.



## AFTER

Each grey square represents one (1) linear foot.

Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.



12' EXISTING LAMP POST

## BEFORE

Each grey square represents one (1) linear foot.

Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.



15.25' PROPOSED SMALL CELL

## AFTER

Each grey square represents one (1) linear foot.

Please note, the photo simulations within this document are for design purposes only and in no way represent locations of proposed small cells.

## CABLING – FIBER & COAX

Except in rare cases of wireless backhaul we will see fiber needs at every site. In the French Quarter that often means underground cabling, which can in turn mean dealing with underground obstructions. On the pole itself we are typically looking at a minimum of two coax cables per radio head for 4G omni antennas, and more for MIMO applications. The more cables going up a pole the wider the pole has to be, in turn the further radio heads are from the antenna, the greater the necessary diameter of coax cables.

## 4G ANTENNAS

Option for a remote radio head. Higher still means better propagation. Lower bands (typically 2.5 GHz and down) mean signal travels through objects better.

## EQUIPMENT STORAGE

Ancillary equipment and the communication between that and antennas are the greatest threats to space consumption. Within each of these installations we will see a need for a fiber box, some form of AC distribution panel, disconnect, radio head(s), and a meter.

## 5G ANTENNAS

Typically AIR (Antenna Integrated Radios) configurations for small cells. Lower power signal across MM band (20 GHz and higher) means lower height is often necessary. Higher bands mean greater difficulty with propagation through objects, including concealment materials.

## METERING & POWER

Each site needs a meter. In the event of multi-carrier installs, sometimes multiple meters are necessary and must be visible. Meters are large and cumbersome. Smart, wireless meter options are available that conserve space and visible impact on an installation however, Entergy's meter department can be difficult to work with. We will also see power separation concerns. Who will own the power at your lights on co-located installations? Who will own the maintenance? If you allow the carrier to own this you can cut down on potential separation requirements thus opening up space internal to the pole.

## ADA COMPLIANCE

With concerns over pole diameter (either due to the number of coax pairs necessary within a pole, or due to internal equipment storage) we begin to see compliance issues for mobility amid sidewalks and pedestrian thoroughfares.

# DESIGN CONCERNS

What are the main concerns around designing a 4G/5G small cell in a dense, urban, historic locality such as the French Quarter?

Old infrastructure can mean attachment options aren't always the best solution structurally. Why not have the carriers update your infrastructure for you?

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## AESTHETIC INTEGRATION THROUGH CUSTOM DESIGN SOLUTIONS

Too often we see jurisdictions who have allowed installations that don't fit in with their existing infrastructure and the carefully maintained aesthetic their municipality has cultivated, simply because they have been told "that is the only option". You don't have to find yourself picking between "the best of two bad designs", settling for something that is obtrusive and out of place instead of expressly designed, not just with the technology requirements, but with New Orleans' specific design language, in mind.

Toro Blanco Group, LLC

# A HOLISTIC APPROACH TO TECHNOLOGY INTEGRATION WITHIN NEW ORLEANS

Small cells and smart city sensor arrays shouldn't have to stick out like something that doesn't belong there.

You don't have to allow installations that look out-of-place or lack **aesthetic integration** into your communities standards and designs. Use a process that looks at the integration of these technologies from a **big picture, holistic viewpoint**, giving you a unique perspective that helps you **control where, how, and when** deployments **affect New Orleans and your ROW**. Work to drive future oriented designs that are adaptable to the ever-changing nature of tech developments. Don't be reactive to these issues, get ahead of these deployments and the problems they can bring.

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## WHERE IS NEW ORLEANS HEADED?

Don't let your city be forced into un-attractive installations which don't fit its aesthetic qualities. **Take charge** of the conversation with designs that you choose, not those which are thrust upon you, be **invested in what you want and need**, while still giving your citizens and businesses the next generation of connectivity.

**Don't be pushed into installations which you don't like and don't "fit in" with your city. Take the lead in your ROWs future.**

Toro Blanco Group, LLC



# LET'S ALL WORK TOGETHER

By working together to create designs that fit into the aesthetic and historic fabric of the French Quarter we can build systems designed expressly to maintain that fabric you have worked so hard to create and maintain, all while enabling the next generation of wireless connectivity to drive growth for your citizens and businesses.

**DON'T BE REACTIONARY.**  
GET THE HELP YOU NEED BEFORE  
TECH ADVANCES NEGATIVELY  
AFFECT YOUR ROW AND THE  
CITIZENS YOU SERVE

Toro Blanco Group, LLC