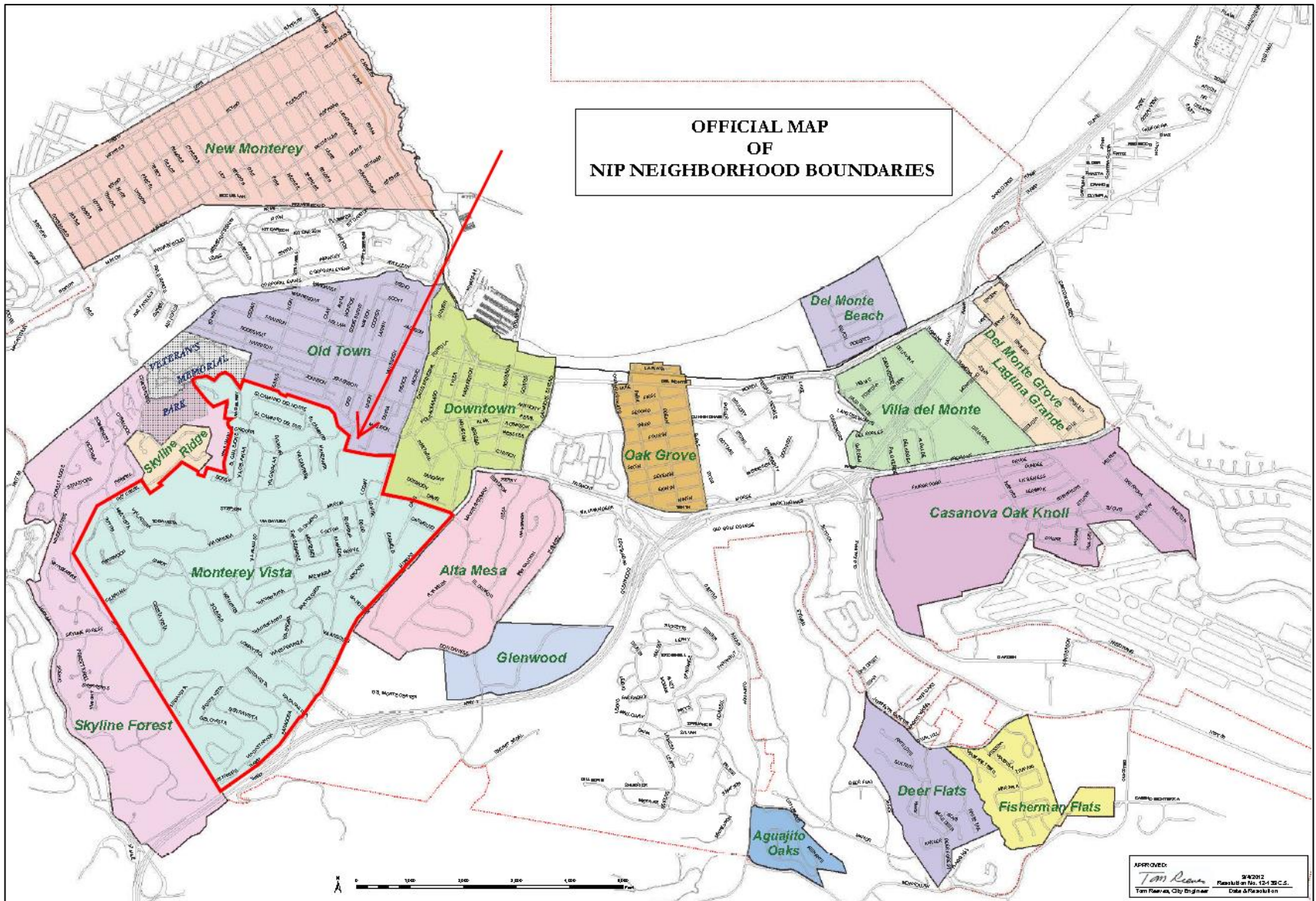


# **CITY OF MONTEREY COMMUNITY MEETING**

## **NOVEMBER 14, 2017**

# AREA MAP



# DESIGN METHODOLOGY, GOALS, AND CHALLENGES

- **Minimize total number of installations required**
- **Select poles that allow pole-top antennas**
- **Design installations to blend with existing utilities/vegetation**
- **Utilize small, 2-foot antenna concealed within shroud**
- **Install ancillary equipment in underground vaults**
- **CPUC and PG&E rules restrict options**

# DESIGN VARIATIONS

**Proposed installations vary slightly based on:**

**1. Pole type**

- **Concrete light pole**
- **Wood utility pole**

**2. Antenna location**

- **Pole-top above power lines**
- **Side-mounted in the “communication zone”**

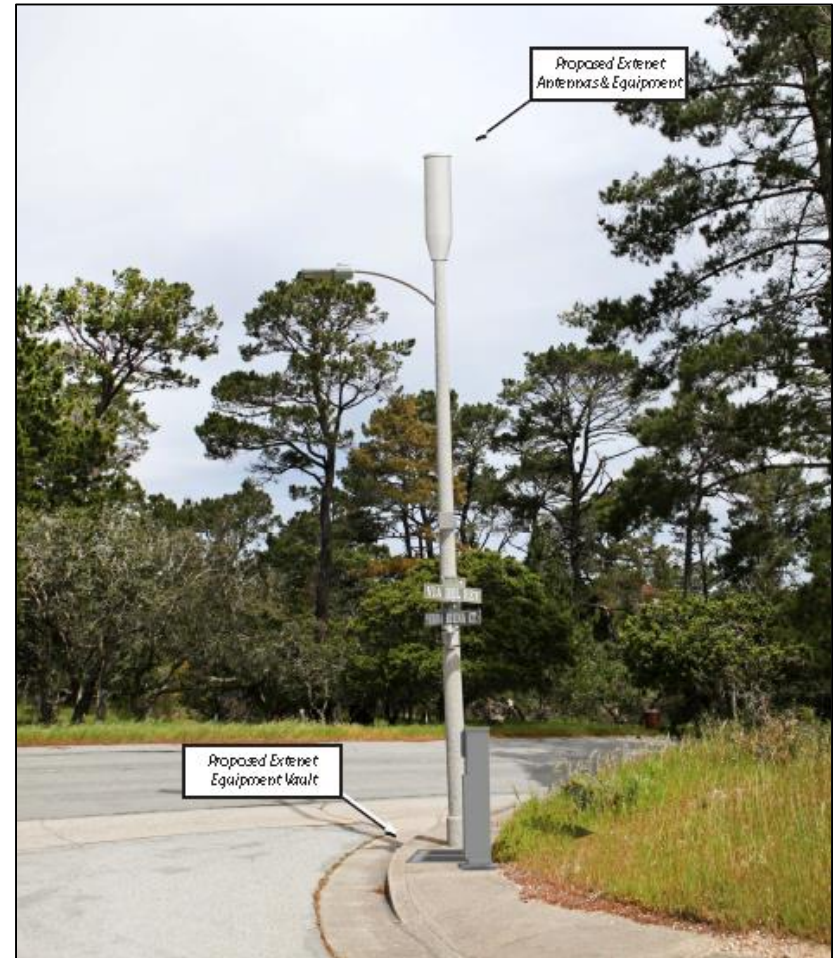
**3. Equipment location**

- **Pole-mounted**
- **Vaulted**



# CONCRETE STREET LIGHT

## POLE-TOP INSTALLATION WITH VAULTED EQUIPMENT



# WOOD UTILITY POLE

## POLE-TOP INSTALLATION WITH VAULTED EQUIPMENT





# WOOD UTILITY POLE

## SIDE-MOUNTED INSTALLATION WITH VAULTED EQUIPMENT



# WOOD UTILITY POLE

## SIDE-MOUNTED INSTALLATION WITH POLE-MOUNTED EQUIPMENT





# PHOTO OF EXISTING INSTALLATION



# COMMENTS AND QUESTIONS

**We've received a number of comments and questions both from City staff and members of the public at the 10/5/17 Zoning Administrator hearing.**

- **Need for service improvements**
- **Site selection methodology**
- **Design questions**
- **Structural integrity of the utility poles**
- **Compliance with FCC's standards for public exposure**

# NEED FOR SERVICE IMPROVEMENTS

- **Why are these small cells proposed in this area?**
- **My coverage seems fine, why are these installations necessary?**
- **Why do the coverage maps on the Verizon Wireless website look different than the maps ExteNet has submitted with the applications?**
- **Are these installations part of a test market for 5G?**



# VERIZON'S 5G PILOT PROGRAM

02.22.2017 | Network

## Verizon to deliver 5G service to pilot customers in 11 markets across U.S. by Mid 2017

### Media contact(s)

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### Company operating largest proving ground for 5G technology

**NEW YORK** - Verizon will deliver 5G pre-commercial services to select customers in 11 markets throughout the country on its newly built 5G network. Verizon's 5G build is the largest proving ground in the world and encompasses several hundred cell sites that cover several thousand customer locations. Verizon will begin offering 5G to pilot customers during the first half of 2017 in the following metropolitan areas: Ann Arbor, Atlanta, Bernardsville (NJ), Brockton (MA), Dallas, Denver, Houston, Miami, Sacramento, Seattle and Washington, D.C. This is another important step in commercializing gigabit broadband service to homes and offices via a wireless 5G connection. This implementation of 5G technology leverages the close collaboration with Verizon's 5G Technology Forum (5GTF) partners.



## Verizon Testing Super Fast 5G Internet With Customers in 11 Cities



SPRITED  
PERFORMANCE



BUICK  
ALL-NEW 2017 LACROSSE  
LEARN & PRICE

© Albert Gao / Reuters/REUTERS

By [Aaron Pressman](#) February 22, 2017

Verizon disclosed plans to pilot test a new super-fast wireless service with customers in 11 cities starting in April. The next generation, or 5G, service will provide Internet speeds at a gigabit per second or faster, comparable to the fastest speeds offered by fiber optic wired services from [Google](#), [AT&T](#) and others.

Working with partners Samsung and Ericsson, Verizon said on Wednesday it will offer the free trials to selected customers in Ann Arbor, Atlanta, Bernardsville, N.J., Brockton, Mass., Dallas, Denver, Houston, Miami, Sacramento, Seattle, and Washington, D.C. in the first half of the year. Verizon has built out several hundred cell sites with 5G transmitters capable of reaching several thousand customer homes and businesses.

In pre-commercial trials that started in December, Verizon and Samsung demonstrated multi-gigabit per second speeds at distances of up 1,500 feet. The initial customer trials will use 28 GHz frequency airwaves for service to fixed points, like a home router, but Verizon also plans to test 5G mobile service later this year.

# NEED FOR IMPROVED SERVICE

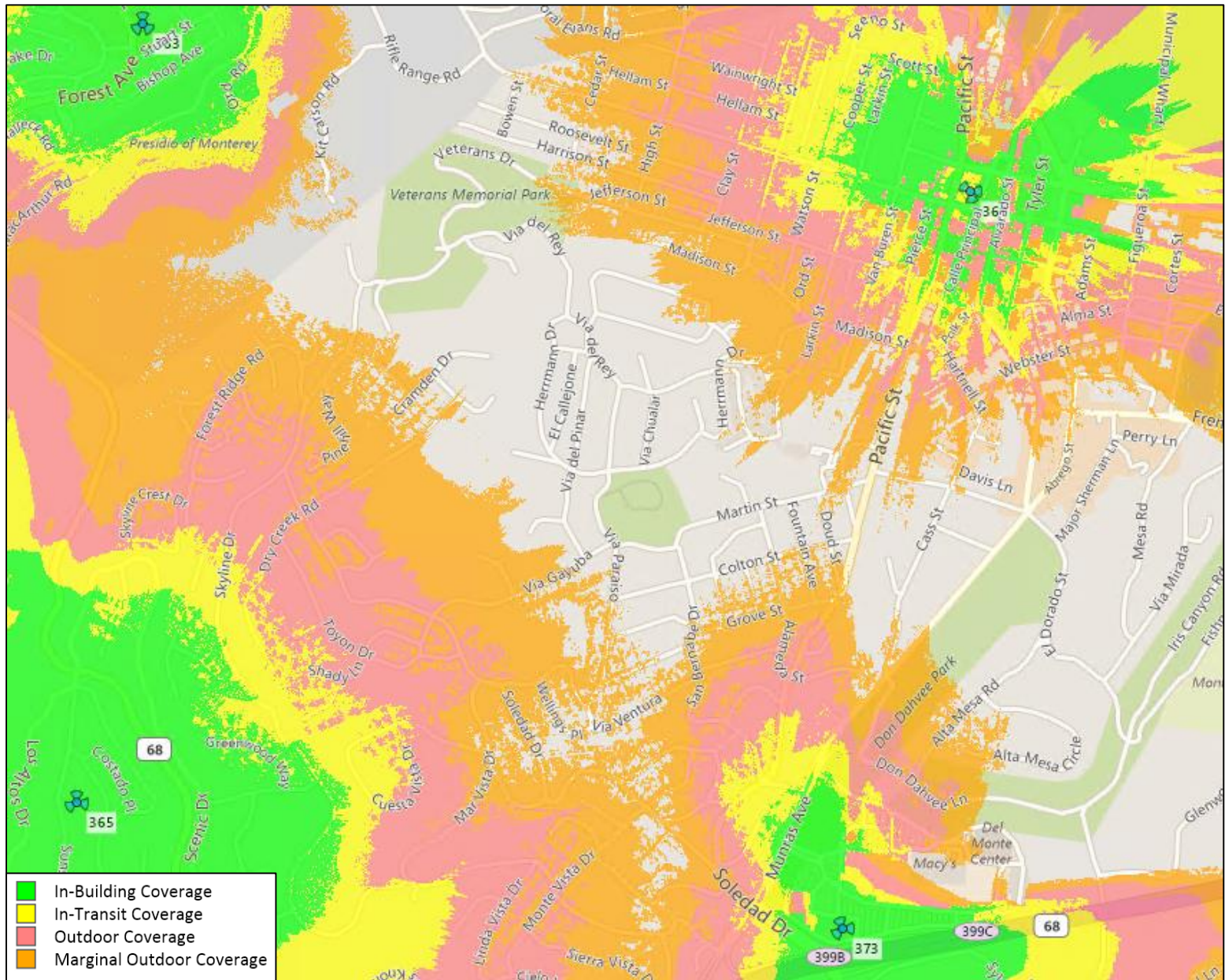
- **There is both a coverage gap and lack of capacity in the area**
- **Large areas of marginal or poor service in the neighborhood**
- **Existing sites can't provide high quality service in the area**
- **Data usage still spiking and existing sites are at or approaching capacity**

# MOBILE VOICE/DATA IN HIGH DEMAND

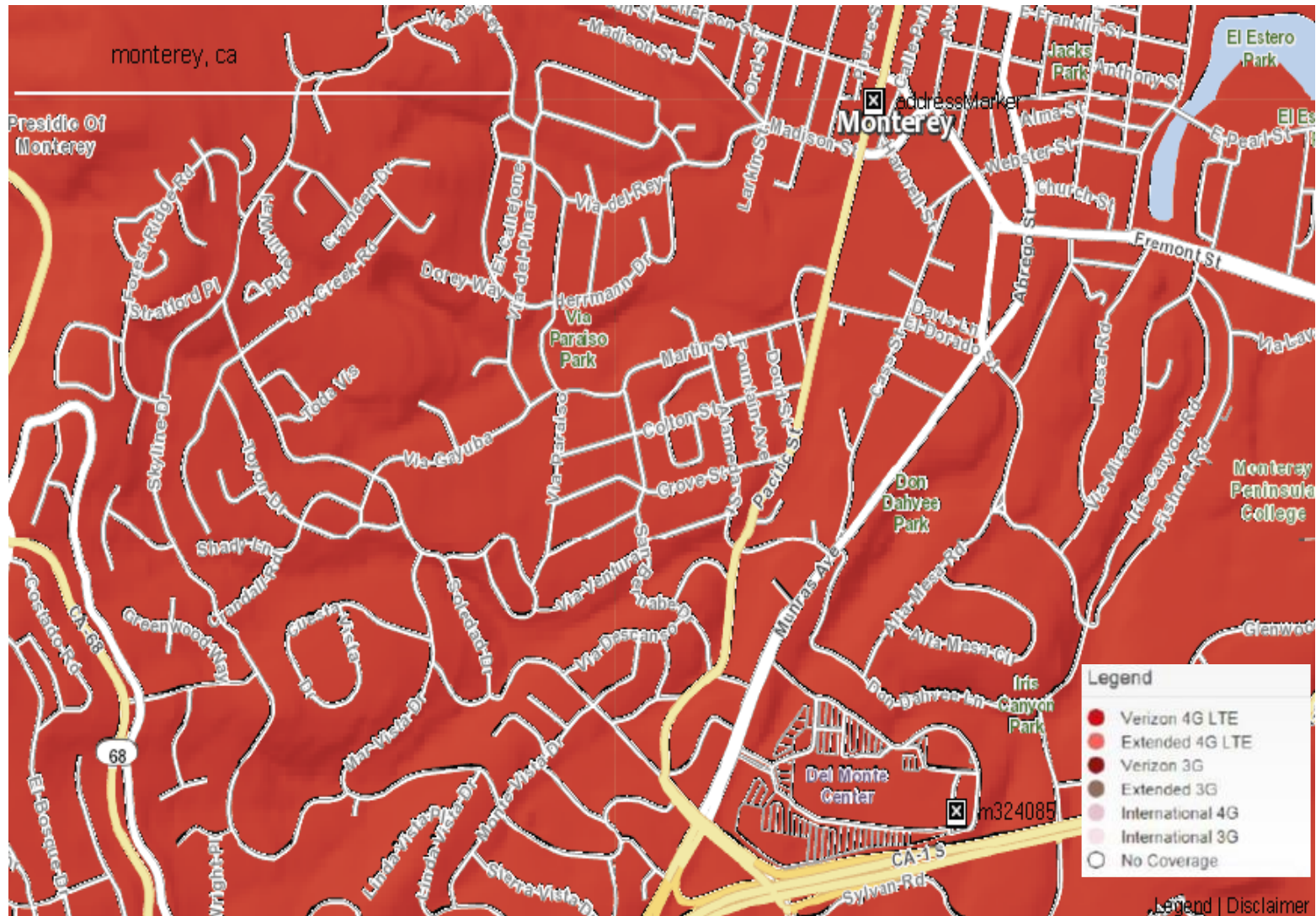
- **In 2016 mobile data use was 35 times the volume of traffic in 2010** (2017 CTIA Wireless Snapshot, May 2017)
- **For the first time, more than half of all American households only have a mobile voice connection** (2017 CTIA Wireless Snapshot, May 2017)
- **More than 75% of prospective home buyers prefer strong cellular connections** (Rootmetrics, June 2015)
- **76% of 911 calls originate from a cell phone** (National Highway Traffic Administration, February 2016)



# EXISTING VZW MACRO CELL COVERAGE

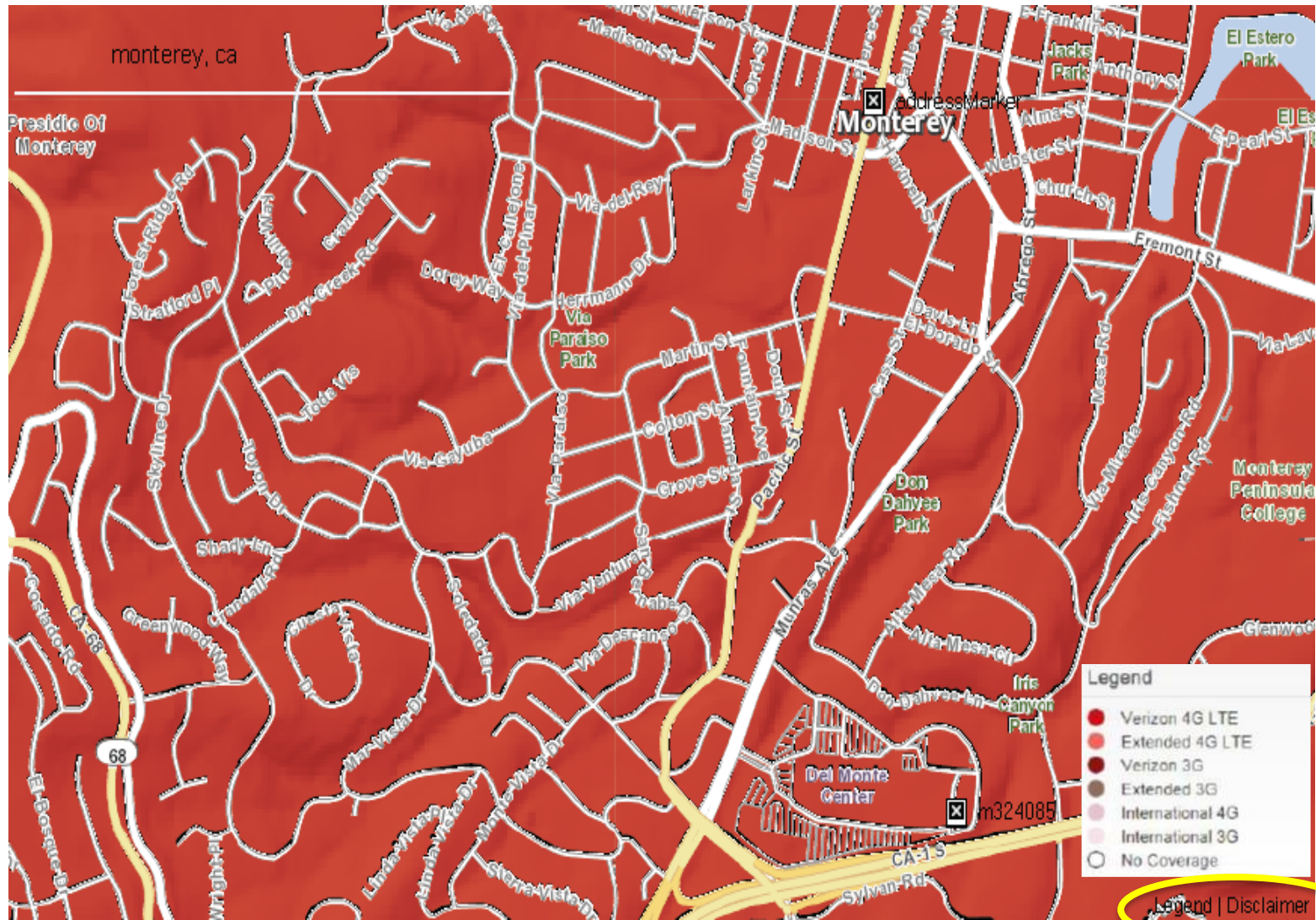


## COVERAGE MAP ON VERIZON'S WEBSITE





# COVERAGE MAP ON VERIZON'S WEBSITE

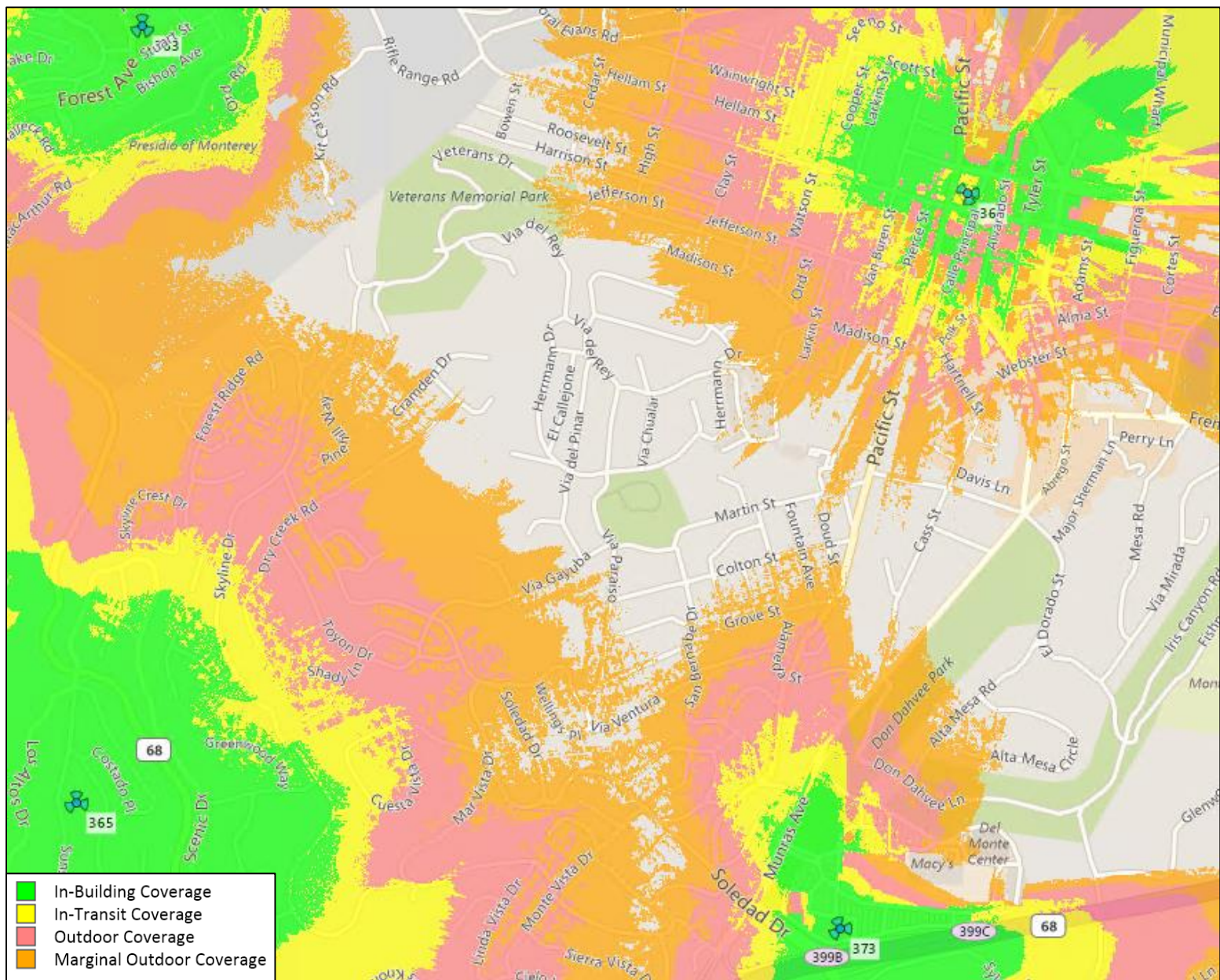




# COVERAGE DISCLAIMER ON VERIZON WEBSITE

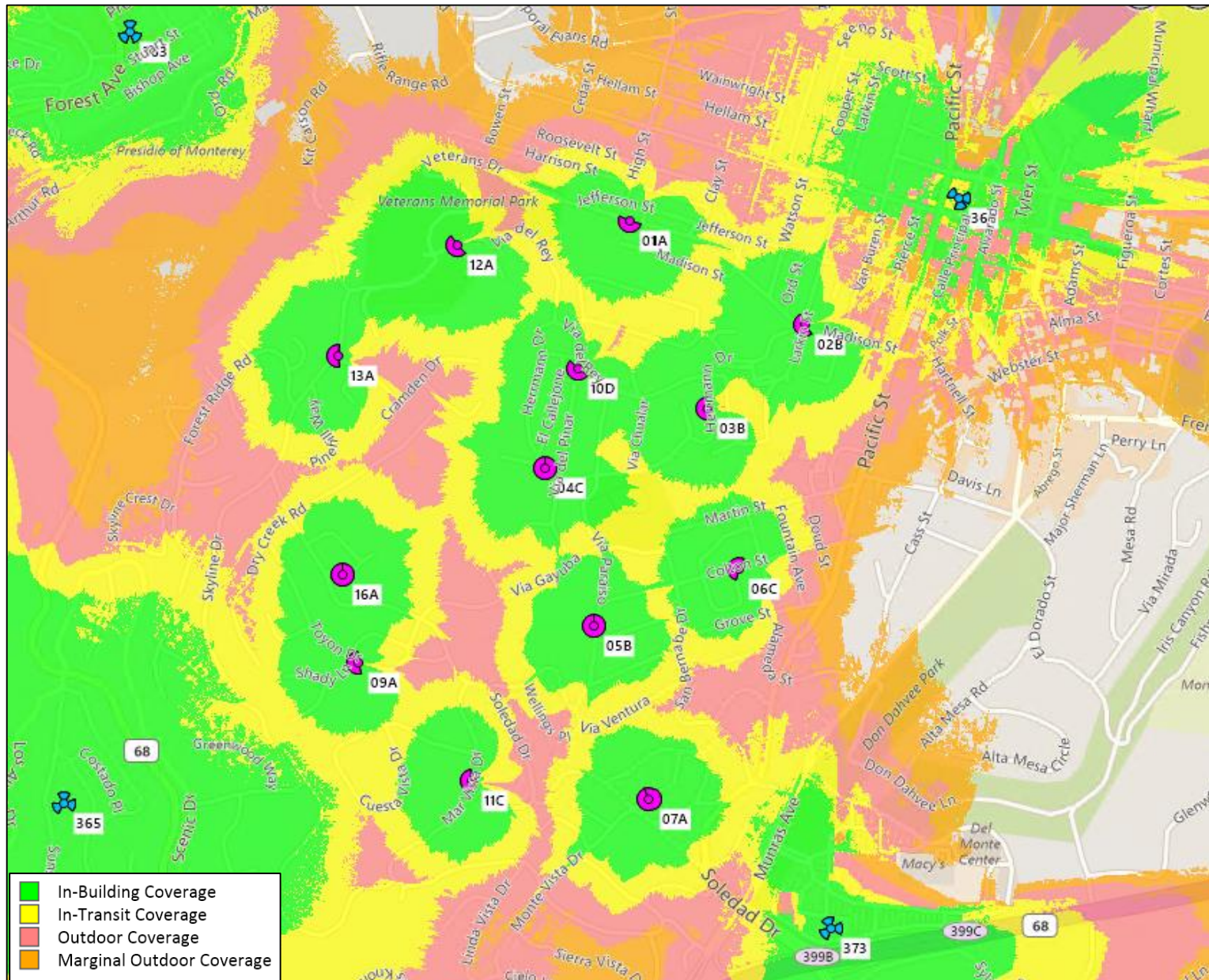
**“These maps are not a guarantee of coverage and contain areas of no service, and are a general prediction of where rates apply based on our internal data. Wireless service is subject to network and transmission limitations, including cell site unavailability, particularly near boundaries and in remote areas. Customer equipment, weather, topography and other environmental considerations associated with radio technology also affect service and service may vary significantly within buildings. Some information on service outside the Verizon Wireless proprietary network, and we can not vouch for its accuracy.”**

# EXISTING VERIZON COVERAGE





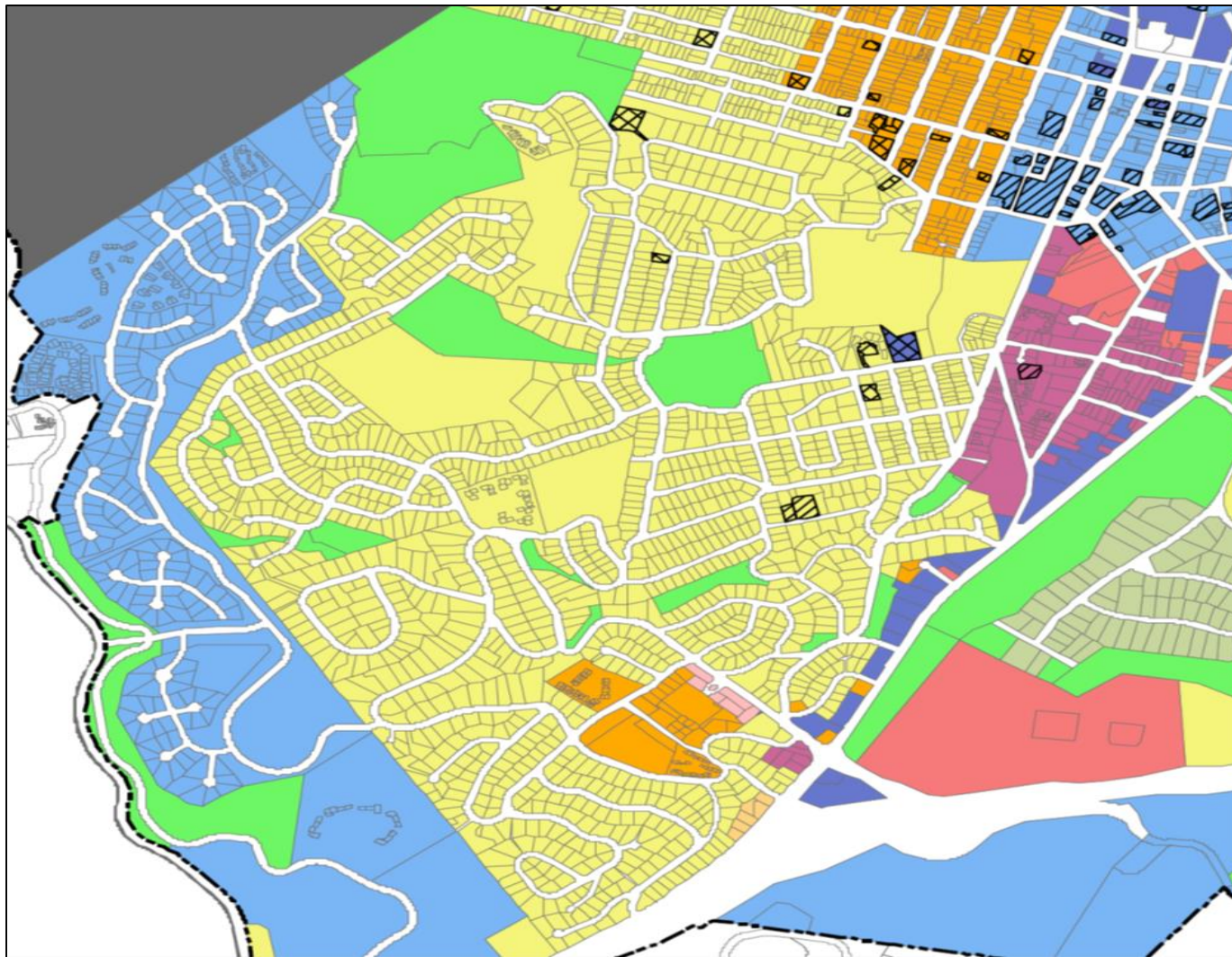
## PROPOSED VERIZON COVERAGE





# ZONING MAP OF SERVICE AREA

## PRIMARILY RESIDENTIAL ZONING



### LEGEND

- City Boundary
- Lake
- Historic H1
- Historic H2
- COMMERCIAL-1
- COMMERCIAL-2
- COMMERCIAL-3
- COMMERCIAL OFFICE
- CANNERY ROW
- INDUSTRIAL
- OPEN SPACE
- PLANNED COMMUNITY
- RESIDENTIAL ESTATE
- RESIDENTIAL-1
- RESIDENTIAL-2
- RESIDENTIAL-3
- VISITOR ACCOM. FACILITY
- N/A
- Parcel

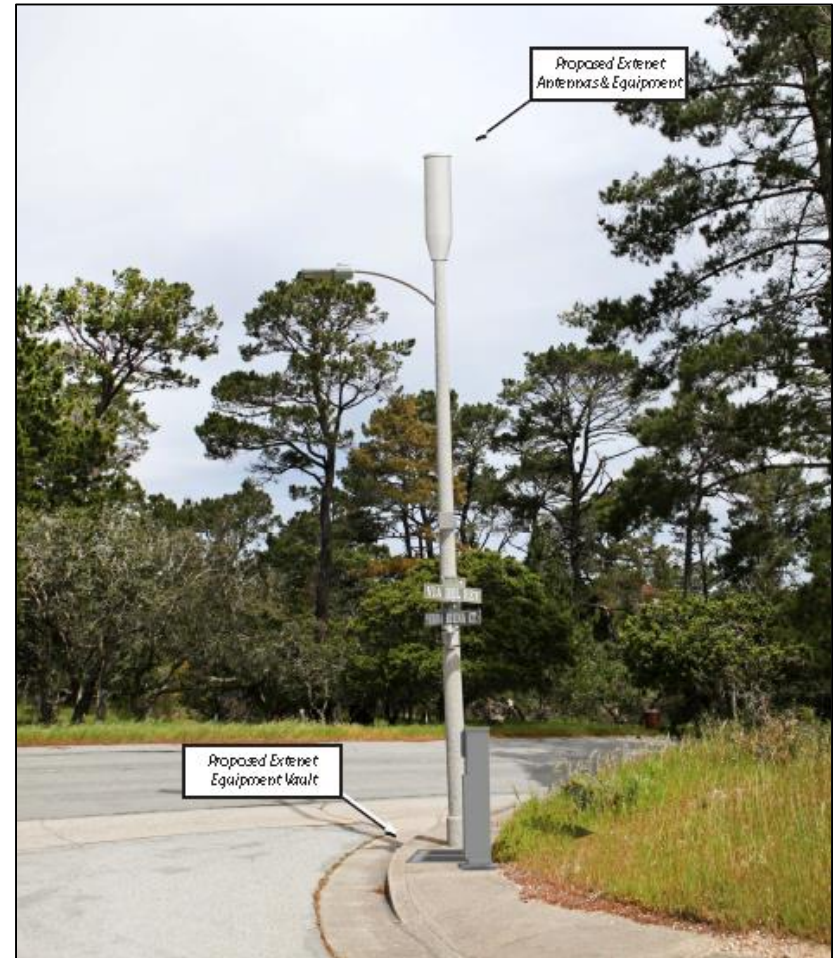
# NEW PG&E METER RELOCATED





# CONCRETE STREET LIGHT

## PG&E METER CANNOT BE LOCATED ON THE POLE





# STRUCTURAL INTEGRITY AND POWER SUPPLY

- **Installations are designed by a registered civil engineer and take into account all existing and proposed equipment on a utility pole**
- **Structural design and calculations are reviewed by City staff to confirm compliance with all applicable building/electrical codes**
  - **Includes seismic and wind loading analyses**
- **ExteNet works closely with PG&E to confirm availability of power supply and ensure local power grids are not overloaded**

# COMPLIANCE WITH FCC STANDARDS

- **All proposed installations comply with federal standards for public exposure to radio energy**
- **Analyses prepared by Hammett & Edison, Inc.**
- **Bill Hammett can speak to the federal standard and study methodology**

# EMERGENCIES AND PUBLIC SAFETY

- **76% of 911 calls originate from a cell phone** (National Highway Traffic Administration, February 2016)
- **Communication during natural disasters (North Bay fires)**
- **Personal emergencies**
- **City of Monterey emergency responders use Verizon service**



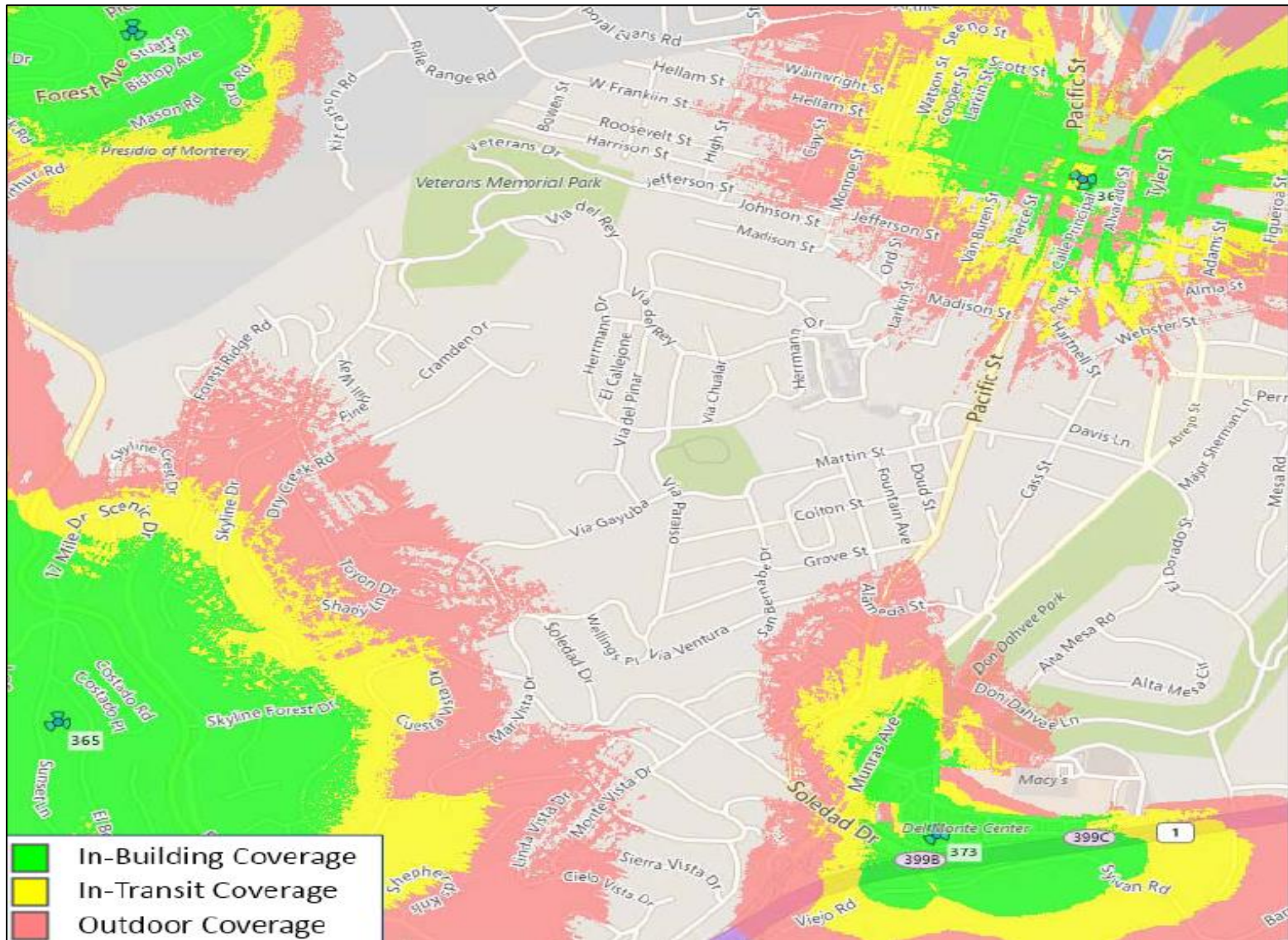
# SUMMARY

- **Proposed locations and designs consistent with ordinance**
- **Antennas are concealed**
- **Ancillary equipment is vaulted wherever feasible**
- **Pole-mounted equipment is as small and close to the pole as possible**
- **Compliance with FCC public exposure standards**
- **Minimal visual impact**



**Thank You!**

# EXISTING VERIZON COVERAGE





# PROPOSED VERIZON COVERAGE

