

# Comparison of 477 and California Broadband Map Data

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# FCC Aware of Form 477 Deficiencies

- Data not independently verified
- Census block level reporting can overstate availability
  - ISPs serve or *could* serve without “extraordinary commitment of resources”
- Rejected more granular data collection in 2013 due to administrative and data-quality challenges
  - Collect location-level data from USF recipients to assess meeting buildout requirements



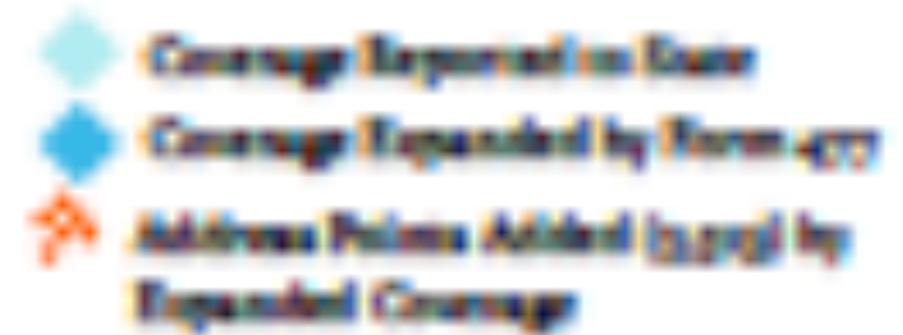
# FCC Aware of Form 477 Deficiencies (cont'd)

- FNPRM in Aug 2017 (Modernizing the FCC Data Program)
  - Eliminate committed information rate reporting
  - Require ISPs to report for each technology code:
    - areas served by existing customers where number of customers can be increased
    - areas served but no net-additional customers possible
    - areas with no existing customers but new customers can be added upon request
  - Option to file geospatial data (as required for mobile broadband), or sub-census-block level (street address or segments, parcel)



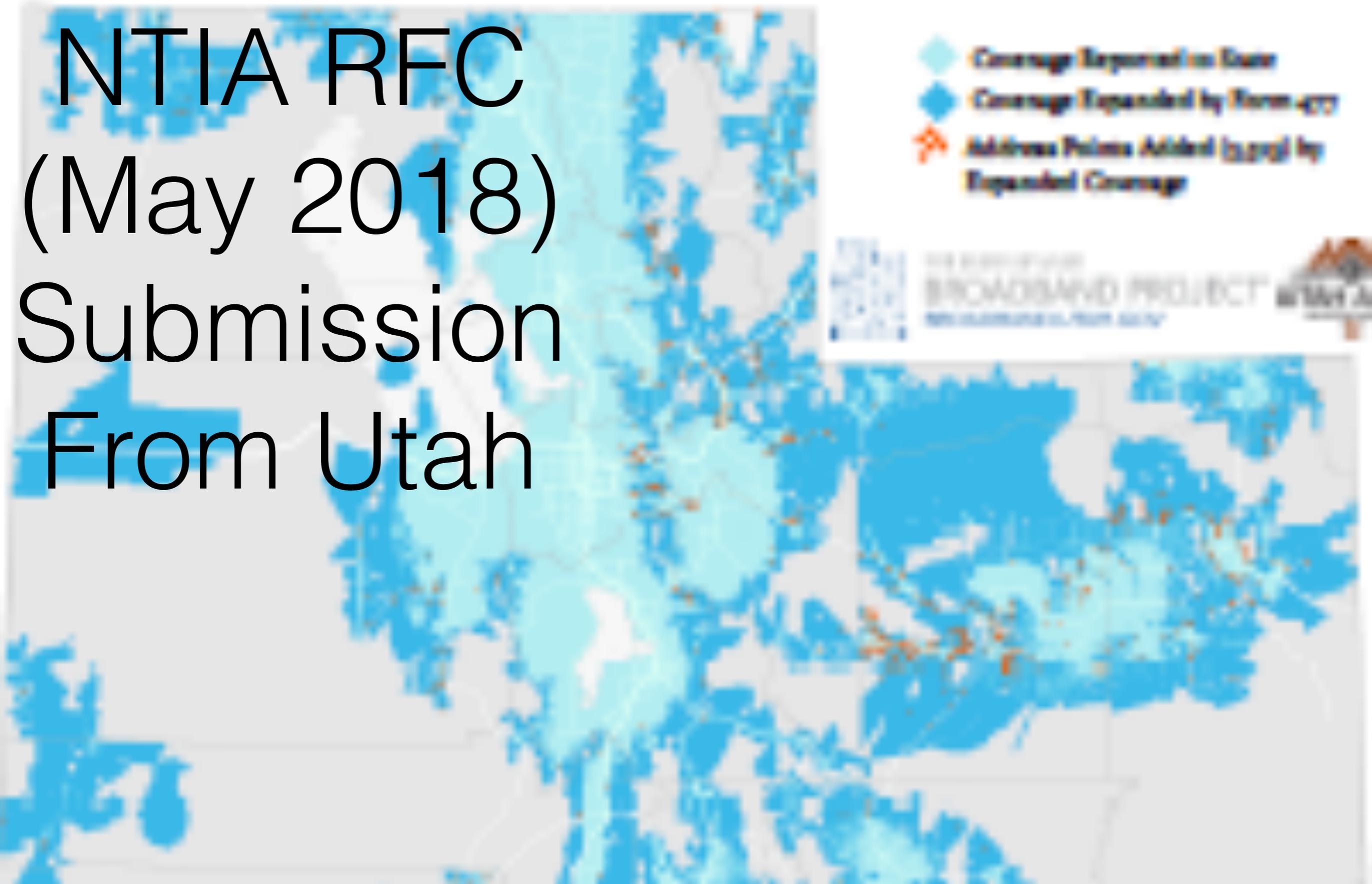
# FCC Form 477's Broadband Coverage Maps by Census Block Overreport Service Areas as Reported to the State of Utah

NTIA RFC  
(May 2018)  
Submission  
From Utah

- 
- Coverage Reported in Data
  - Coverage Expanded by Form 477
  - Address Points Added (based by Expanded Coverage)



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RECONSTRUCTING AMERICAN INFRASTRUCTURE



# Approach - Compare FCC and California PUC Data

- CPUC gathers same data as FCC plus verification of fixed wireless providers coverage
- Uses EDX and submitted tower, antenna and radio information
- Examine overlap in coverage between fixed wireless providers within census blocks

## Fixed Wireless Service (6/1 Mbps)

Census Blocks - 1 ISP 189,036

Census Blocks - 2 ISPs 60,892

Census Blocks - 3 ISPs 20,379

Census Blocks - 4 ISPs 2,082

Census Blocks - 5 ISPs 515

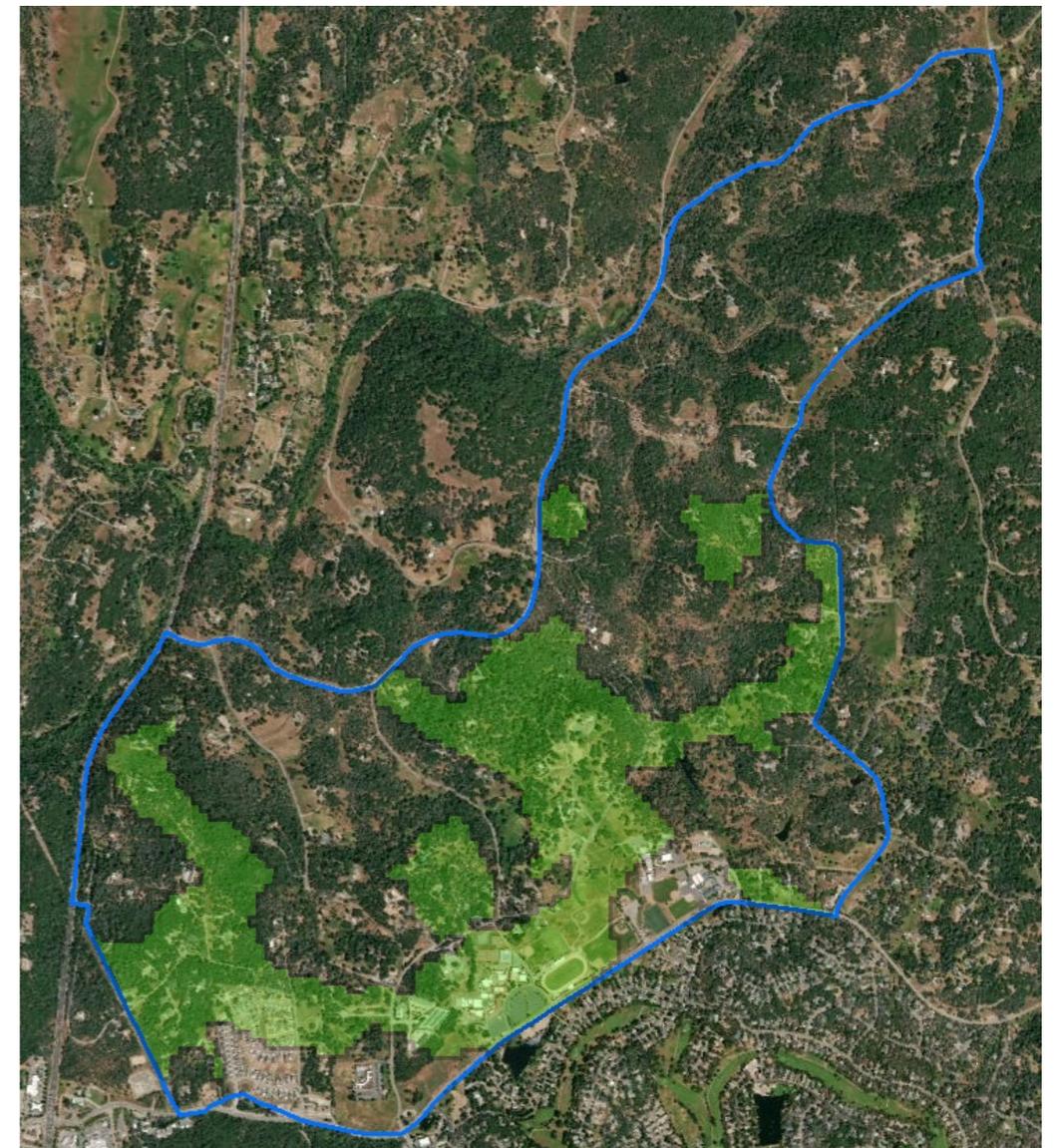
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272,904



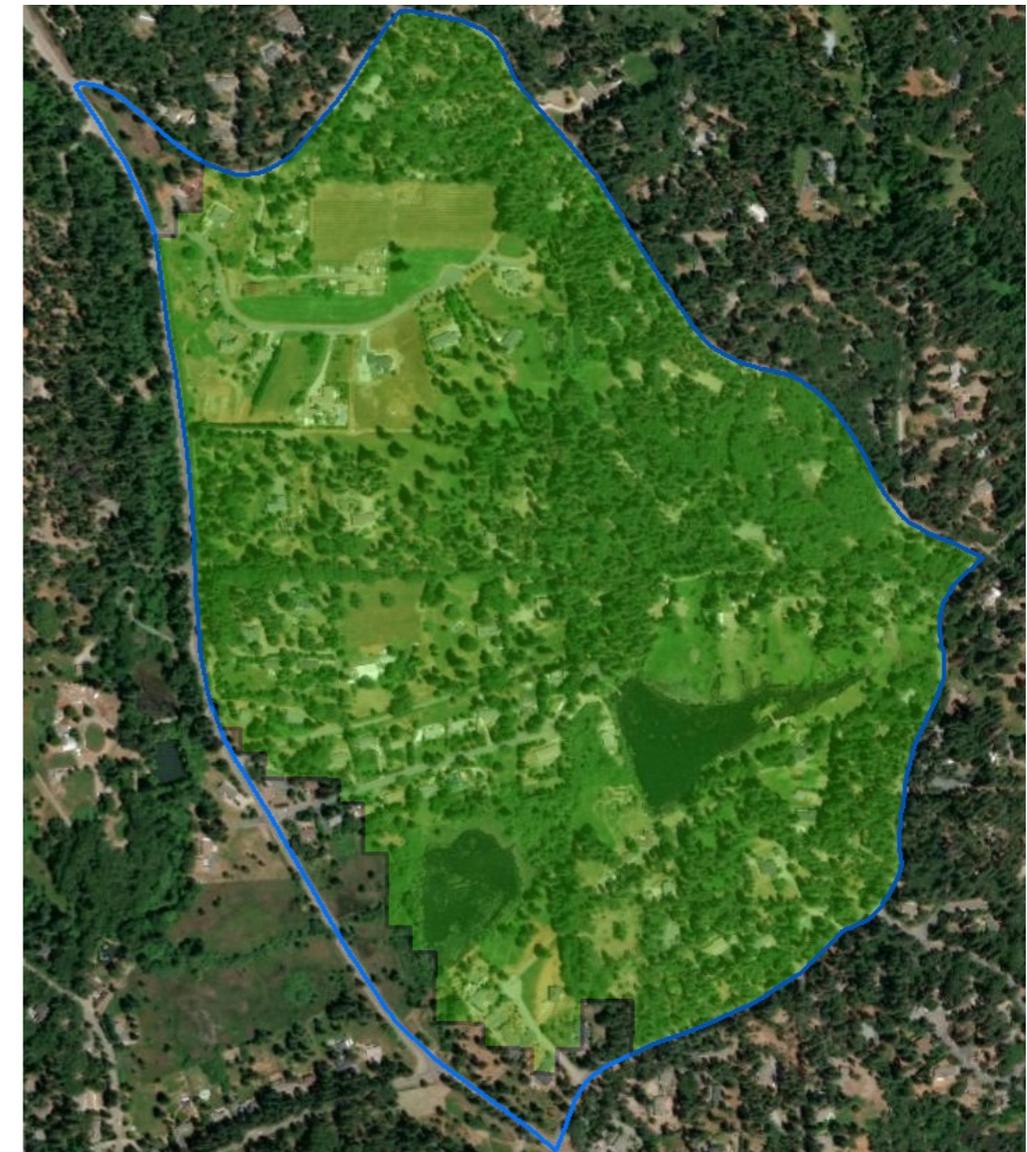
# Largest Rural Census Block (2.2 sq mi) with 5 Fixed Wireless ISPs

| Total Number of Wireline ISPs | % Coverage of Census Block By Number of WISPs | Estimated Uncovered (Pop. 356, 142 HH in |
|-------------------------------|-----------------------------------------------|------------------------------------------|
| 0 or 1                        | 1 WISP 100%                                   | 0                                        |
|                               | 2 WISPs 100%                                  | 0                                        |
|                               | 3 WISPs ?%                                    | ?                                        |
|                               | 4 WISPs ?%                                    | ?                                        |
|                               | 5 WISPs 32%                                   | ~75 structures                           |



# Largest Urban Census Block (0.3 sq mi) with 5 Fixed Wireless ISPs

| Total Number of Wireline ISPs | % Coverage of Census Block By Number of WISPs | Estimated Uncovered (Pop. 185, 79 HH in) |
|-------------------------------|-----------------------------------------------|------------------------------------------|
| 2                             | 1 WISP 100%                                   | 0                                        |
|                               | 2 WISPs 100%                                  | 0                                        |
|                               | 3 WISPs 100%                                  | 0                                        |
|                               | 4 WISPs 100%                                  | 0                                        |
|                               | 5 WISPs 93%                                   | ~7 structures                            |



# Database Comparison

|              | FCC Wireline               | CPUC Wireline                  | FCC Wireless | CPUC Wireless                                                               |
|--------------|----------------------------|--------------------------------|--------------|-----------------------------------------------------------------------------|
| <b>Urban</b> | AT&T<br>Altice*<br>Comcast | AT&T<br>Suddenlink*<br>Comcast | -            | Cal.net Inc.<br>ColfaxNet<br>DigitalPath, Inc<br>Exwire<br>SmarterBroadband |
| <b>Rural</b> | AT&T<br>Altice*            | -                              | Cal.net Inc. | Cal.net Inc.<br>ColfaxNet<br>DigitalPath, Inc<br>Exwire<br>SmarterBroadband |

\*Business Offering Only



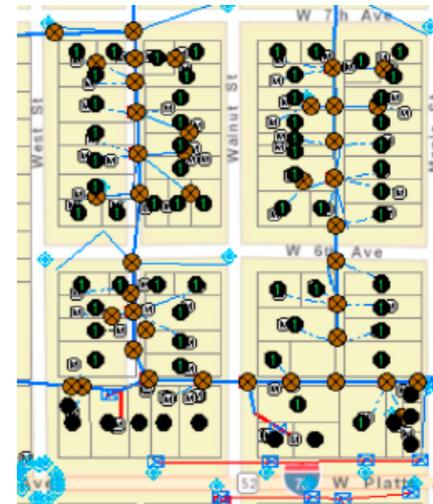
# Key Policy Questions

- Is competition in rural/urban overestimated by broadband maps?
  - FCC reports average of 5-6 ISPs per census block\*
  - No insight on wireline
  - CPUC data may overstate WISPs, particularly rural
  - Tough to give general answer
- Overestimating users meeting broadband thresholds as well?
  - Microsoft estimating 162.8M people (63M out of 130M homes) below broadband threshold based on speed of customer of MS products\*\*
  - Wi-Fi new demarcation in the home



# Key Policy Questions (cont'd)

- Options for broadband data collection to address shortcomings
  - Geospatial data as currently required of mobile broadband
    - PPP model for munis on broadband using “City GIS Departments”
    - Addresses, Streets
    - Right of Ways, Easements, Parcels, Utility Poles, Meters
    - Overhead Strand, Underground Utility Routes
- Deployment data at sub-census block geographies such as road segments, street-address or parcel levels



# Key Policy Questions (cont'd)

- How long does collection of this data make sense?
  - Address accuracy issues
  - Be dynamic on goals over time (phases) to maintain focus

