Memo

Fresno Coalition of Digital Inclusion

To: Martha Guzman Aceves, Commissioner, California Public Utilities Commission
From: Philip Neufeld, on behalf of the Fresno Coalition for Digital Inclusion
Subject: Underrepresentation of underserved within urban areas of high poverty

The Fresno Coalition for Digital Inclusion (FCDI) is concerned about the under representation of underserved people within urban areas of high poverty and rural areas countywide. **Broadband policies and investments are guided by maps** that outline existing infrastructure, broadband services, demographics, etc. **The maps currently used for this purpose underrepresent the underserved.** The FCC maps, based on data from incumbent carriers' Form 477 filings, **vastly overstate service quality, availability, and adoption in urban areas of high poverty and rural areas of low density.** Congress in 2020 mandated substantive improvements to FCC internet access maps, however they are not yet updated and there is little prospect they will better represent the underserved. The CPUC maps also appear to understate the underserved.

FCDI is a cross-sector collaborative working to improve access to digital services for the underserved in Fresno County. Digital inclusion requires 1) quality, affordable, accessible internet, 2) devices, 3) supports, and 4) digital literacy skills that enable all people to better access digital services like education, healthcare, employment, etc. We have included with this memo the FCDI charter along with a list of members.

This memo urges the CPUC to invest more in urban areas of high poverty as it considers investments in last mile and middle mile as well as the funding allocation to counties.

Current Maps Do Not Reflect on the Ground Reality

The FCC maps indicate 100% broadband deployment of 25/3 Mbps to households in urban areas of high poverty within the City of Fresno. The CPUC maps indicate deployment of 25/3 Mbps at either 60-80% or 80% and greater within these urban areas of high poverty. The CPUC maps indicate broadband adoption at either 60-80% or 80% and greater within these urban areas of high poverty. Microsoft used anonymized data collected as part of its ongoing work to improve the performance and security of their software and services to produce maps that reflect what users are actually experiencing.[1]

A comparison of Fresno County data from FCC deployments against Microsoft usage data shows:

- FCC: Broadband has or "could" be available at 25/3 Mbps except to ~4,000
- Microsoft: usage data indicates ~478,000 do not use internet at broadband speeds anywhere near 25/3 Mbps

The CPUC maps show that the urban area within the City of Fresno has less than 5,000 underserved residents. Yet, the Fresno Coalition for Digital Inclusion has learned there are 3,700 underserved residents *just within the 27 largest Fresno Housing multi-dwelling complexes* in the City of Fresno.

[1] Kahan. "It's time for a new approach for mapping broadband data to better serve Americans". 2019. Available at https://blogs.microsoft.com/on-the-issues/2019/04/08/its-time-for-a-new-approach-for-mapping-broadband-data-to-better-serve-americans/.

The FCC maps also overrepresent the level of broadband competition in urban areas of high poverty. Most households in Fresno's urban areas of high poverty have at best one wireline broadband provider and often 1 cellular carrier though the cellular signal is weak in these neighborhoods. The FCC maps indicate there are 3 or more fixed residential broadband providers in "Number of Fixed Residential Broadband Providers".

Broadband competition is necessary in urban areas of high poverty to increase adoption and reduce digital redlining. Many residential broadband providers have received financial incentives to improve deployment and adoption in these neighborhoods including the recent Emergency Broadband Benefit and the Emergency Connectivity Fund. However, without coupling funding with the necessary regulatory constraints, these funds will continue to fail at incentivizing sustainable improvements essential to deployment and adoption of adequate, affordable, accessible broadband.

More Accurate Mapping Using Better Technology

There are **ways of gathering more accurate and relevant data with greater scale**. The CPUC CalSPEED program provides layers of data with helpful visualizations. However, the collection methodology to determine resident adoption and residents' internet performance so far has only a small sample size and requires an expensive "blackbox" be placed in a house for two weeks. There are innovative ways of gathering data at larger scale based on peoples' actual experienced broadband.

1) Microsoft uses access to cloud services to determine internet performance based upon actual usage.

2) Similar data has been gathered wherein the broadband speed is determined by a speed test from the residents' device to an internet speed test sample from a service like Ookla.

3) Fresno Unified, in collaboration with the Fresno County Superintendent of Schools, developed an app that measures students' internet speeds from a district-issued laptop. This app is called *myQoI* and samples a student-device's quality of internet several times a day using speed test samples against the Ookla service. The *myQoI* app shows the internet speeds and other relevant information using students' district-issued laptops allowing sampling at large scale across geographic regions.

The myQoI map, generated using *myQoI* data, reveals the large number of **students experiencing less than 25/3 Mbps internet access**. The more complete data set indicates many students are *often* getting internet access below 25/3 Mbps and often 10/2 Mbps. **This data confirms the significant numbers of underserved within urban areas of poverty and the under-representation of these populations on CPUC and FCC maps**. We suggest that ***myQoI*** can be used to augment the CPUC data and should be used by more school districts across California.

In Summary

We ask that the State of California thru the CPUC and other agencies engaged in policy, rule-making, and decisions about broadband investments in last-mile, middle-mile, and local capacity consider the following:

- Acknowledge in rulemaking and regulatory action the hundreds of thousands of underserved residents in high poverty urban areas and rural areas of lower population density

- Support the use of new technology to collect internet access data that accurately captures the on-the-ground conditions
- Ensure that digital inclusion means adequate, affordable, accessible internet service throughout every resident's daily journey to enable access to digital services
- Define digital inclusion to mean internet access, devices, supports and digital literacy skills.
- Recognize that accurate data collection and digital inclusion require local capacity to sustain this work within Fresno County and the region as defined by the CPUC and California Forward.

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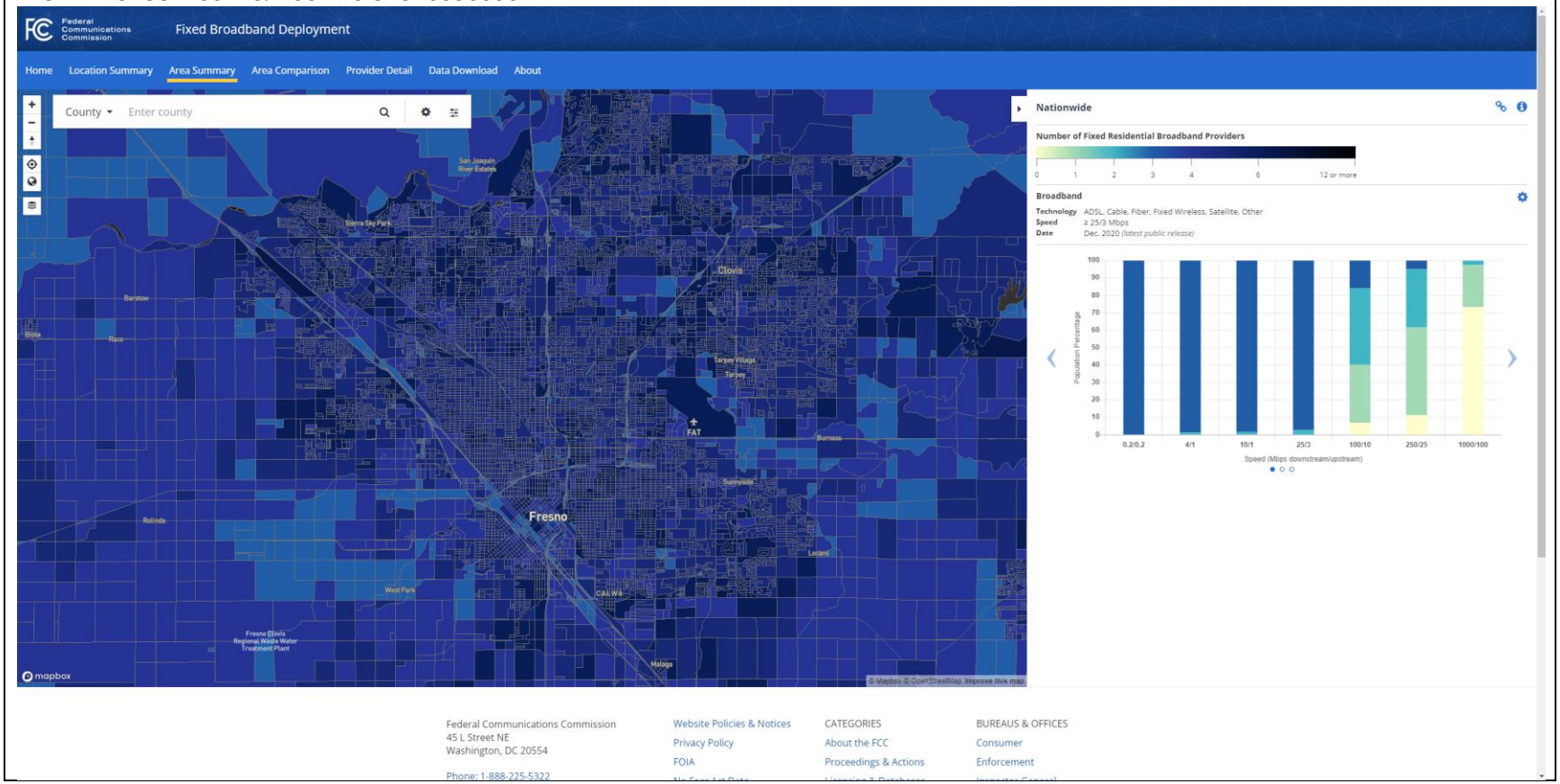
Exhibits

FCC Fixed Broadband Deployment for Fresno County

broadbandmap.fcc.gov/#/area-summary?version=dec2020&type=county&geoid=06039&tech=acfosw&speed=25_3&vlat=36.75520407671556&vlon=-119.74479158776614&vzoom=9.97376036606112



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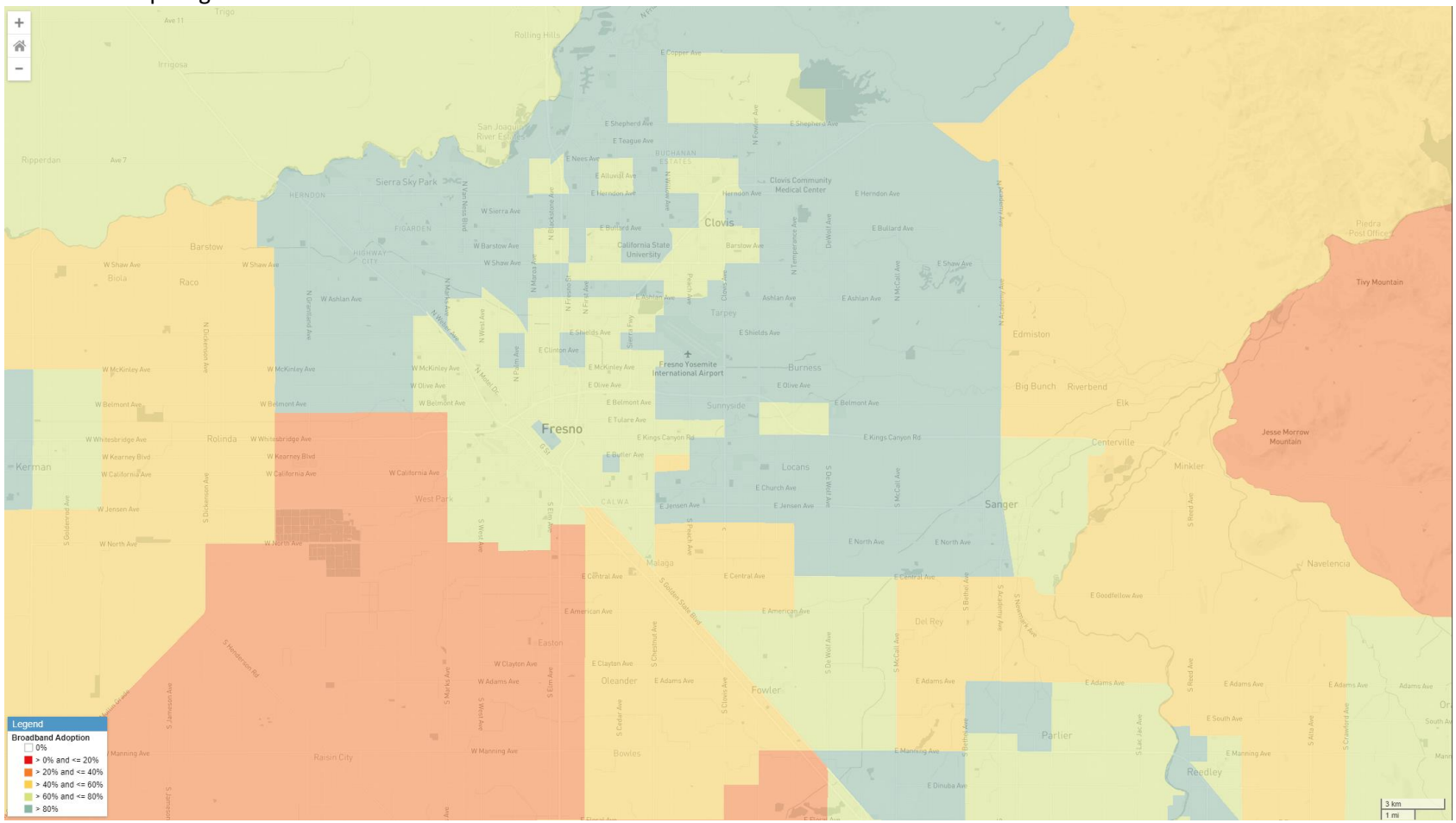
CPUC Map of Fresno

broadbandmap.ca.gov



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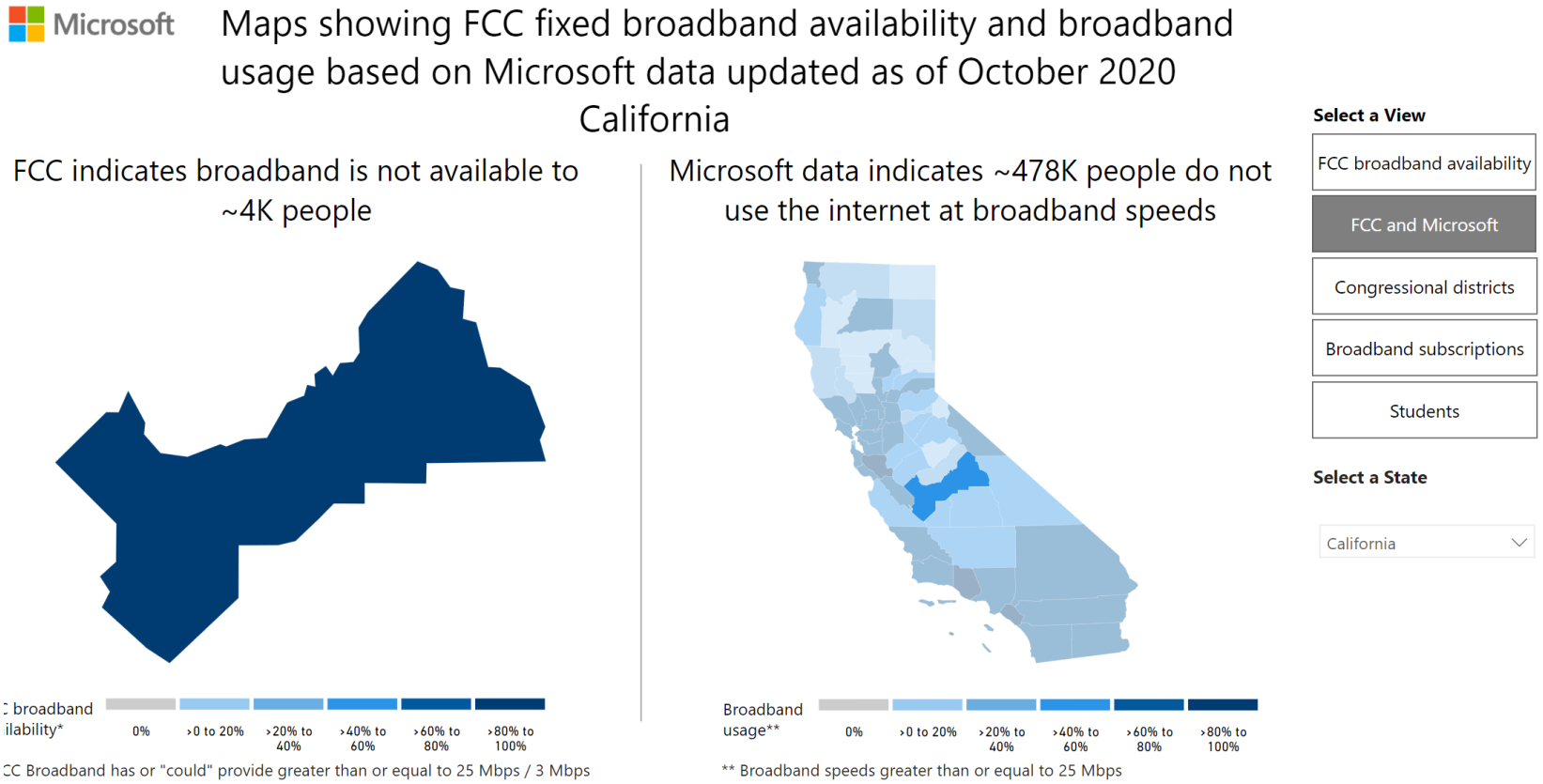
Microsoft

Maps of Fresno County

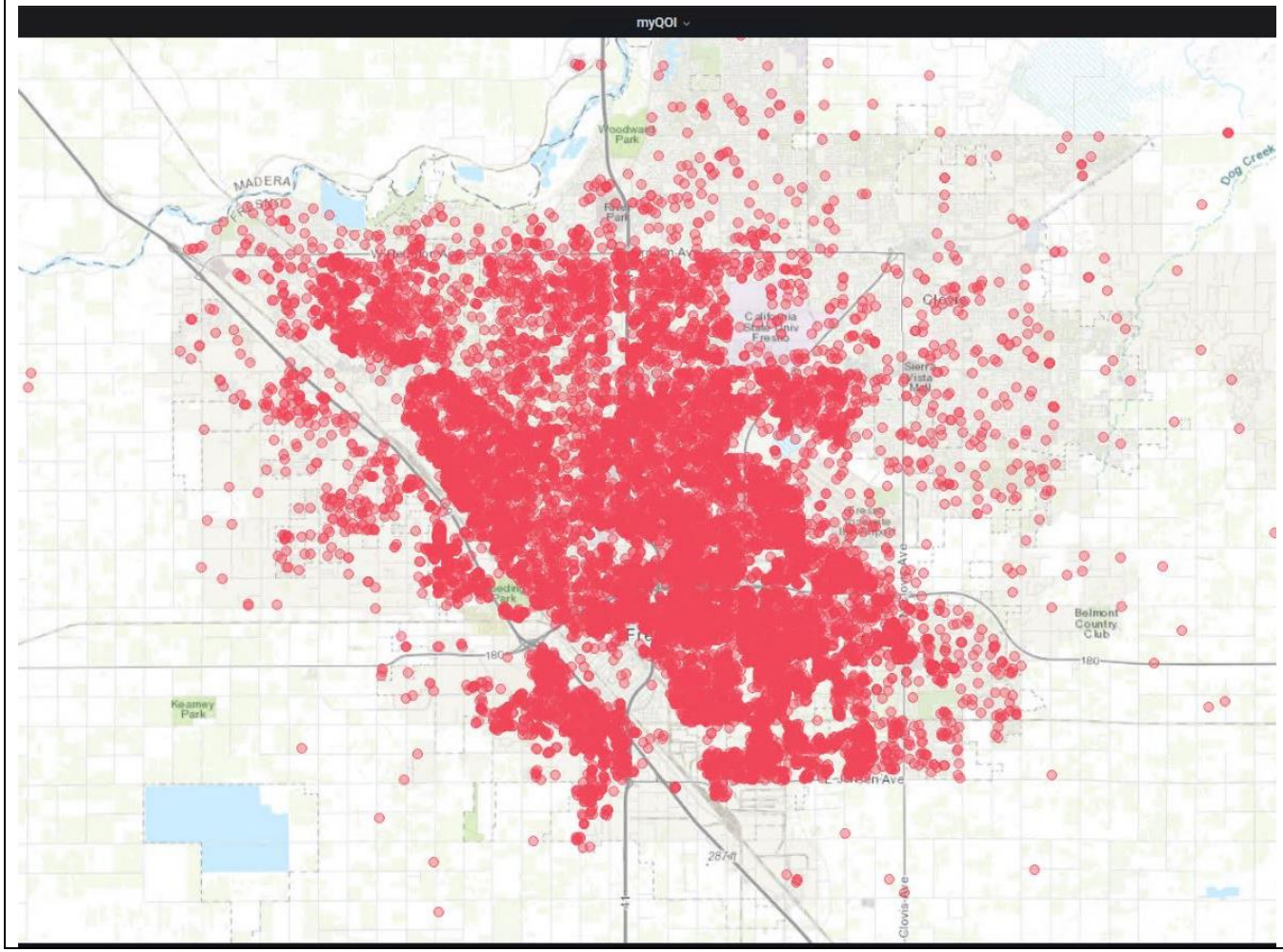
app.powerbi.com/view?r=eyJrIjoiYzlhZWIyNWEtMDlkOS00MWJkLWExZGYtOWQ3NTNjNzJiNDIwIiwidCI6ImMxMzZlZWMwLWZlOTItNDVlMC1iZWFlLTQ2OTg0OTczZTIzMiIsImMiOjF9



Fresno Unified School District – View at a District Level

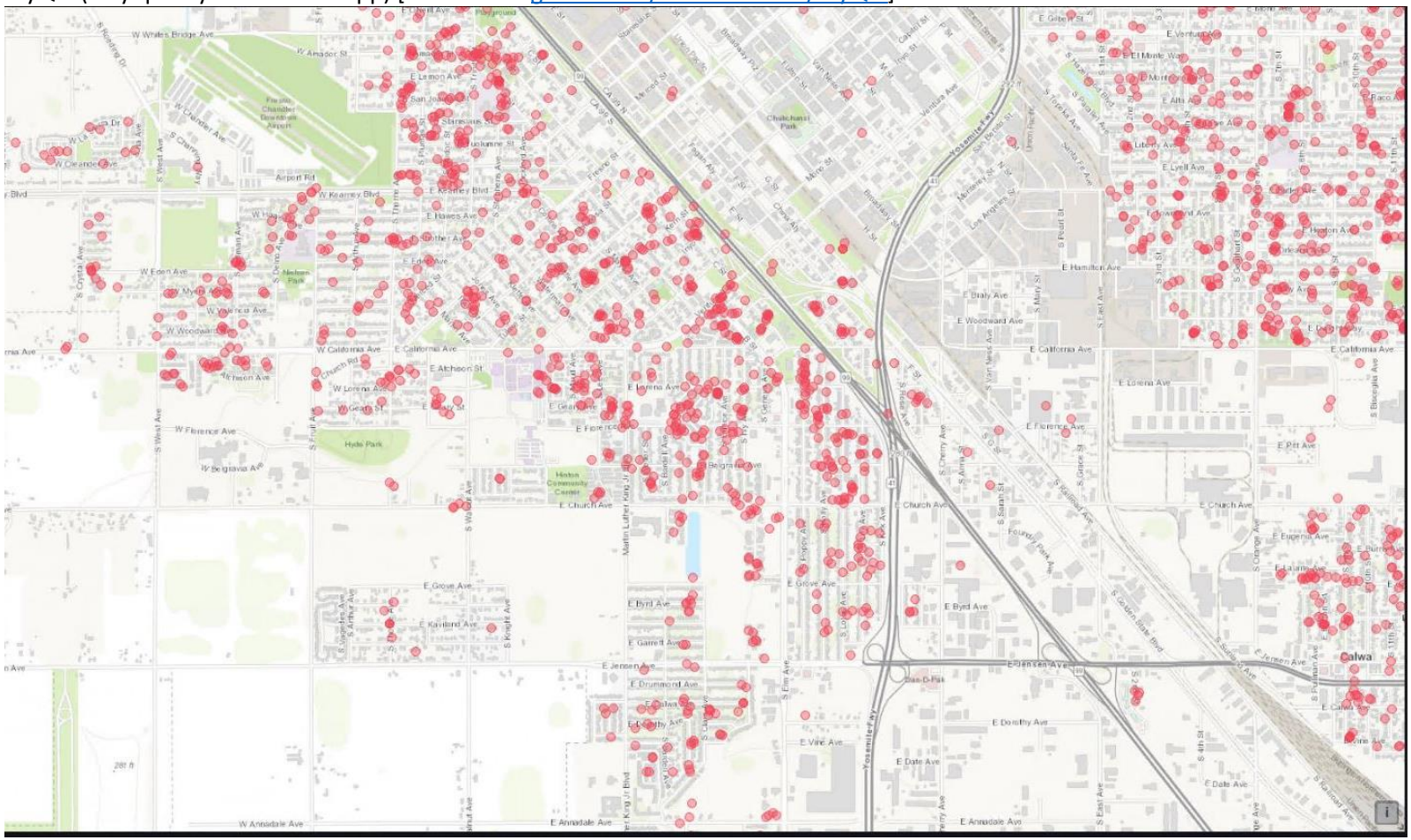
myQoI ("my quality of internet" app) [available at github.com/FresnoUnified/myQoI]

Data shows where 19,319 students' district-issued devices experienced internet access with less than 25 download or 3 upload after 2:59 P.M. at non-school locations. Visualization uses long/lat from 1 sample per distinct student.



Fresno Unified School District – View at a Neighborhood/Household Level

myQoI ("my quality of internet" app) [available at github.com/FresnoUnified/myQoI]



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CPUC Unserved Households

www.arcgis.com/home/webmap/viewer.html?webmap=e17e4e1c88b04792ab0a2c50aa1a19a3&extent=-124.9691,35.2796,-116.3064,39.6377