WASHINGTON STATE UNIVERSITY

BROADBAND DATA FOR ALL

Who am I?

- Assistant Director of the Digital Equity and Broadband program at Washington State University
- Recovering IT person, no I will not help you fix your printer
- Curler, yes like with the stones and ice

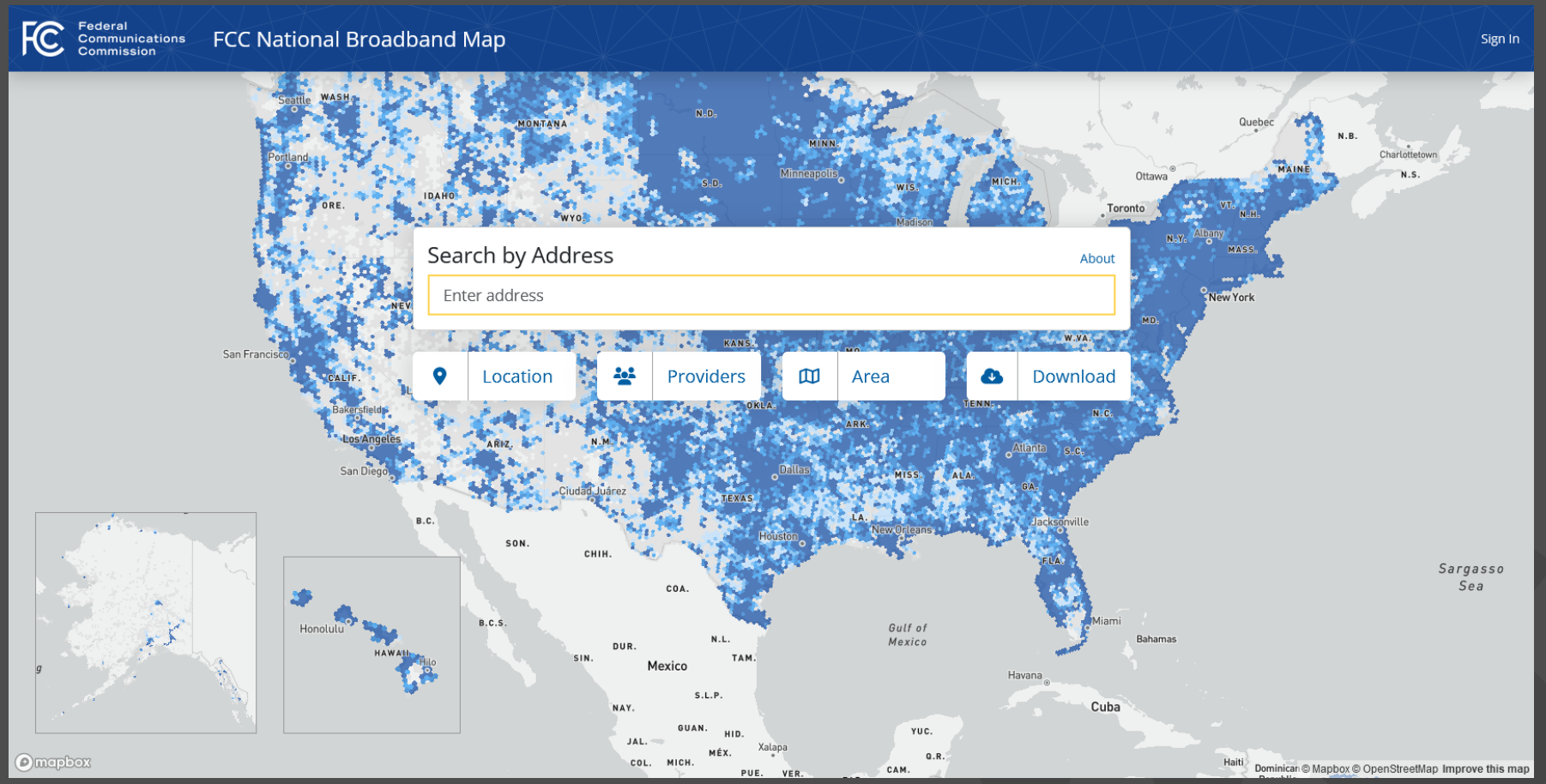
How did we get here?

Broadband DATA Act

- Fully known as the "Broadband Deployment Accuracy and Technological Availability Act"
- Required the FCC to collect data about the availability of broadband services at the individual **location** level
- Collect that data at least twice a year
- Be compatible with common GIS software – Literally in the text of the act!!!

- It's actually small enough to read: Text - S.1822 - 116th Congress (2019-2020): Broadband DATA Act | Congress.gov | Library of Congress

National Broadband Map



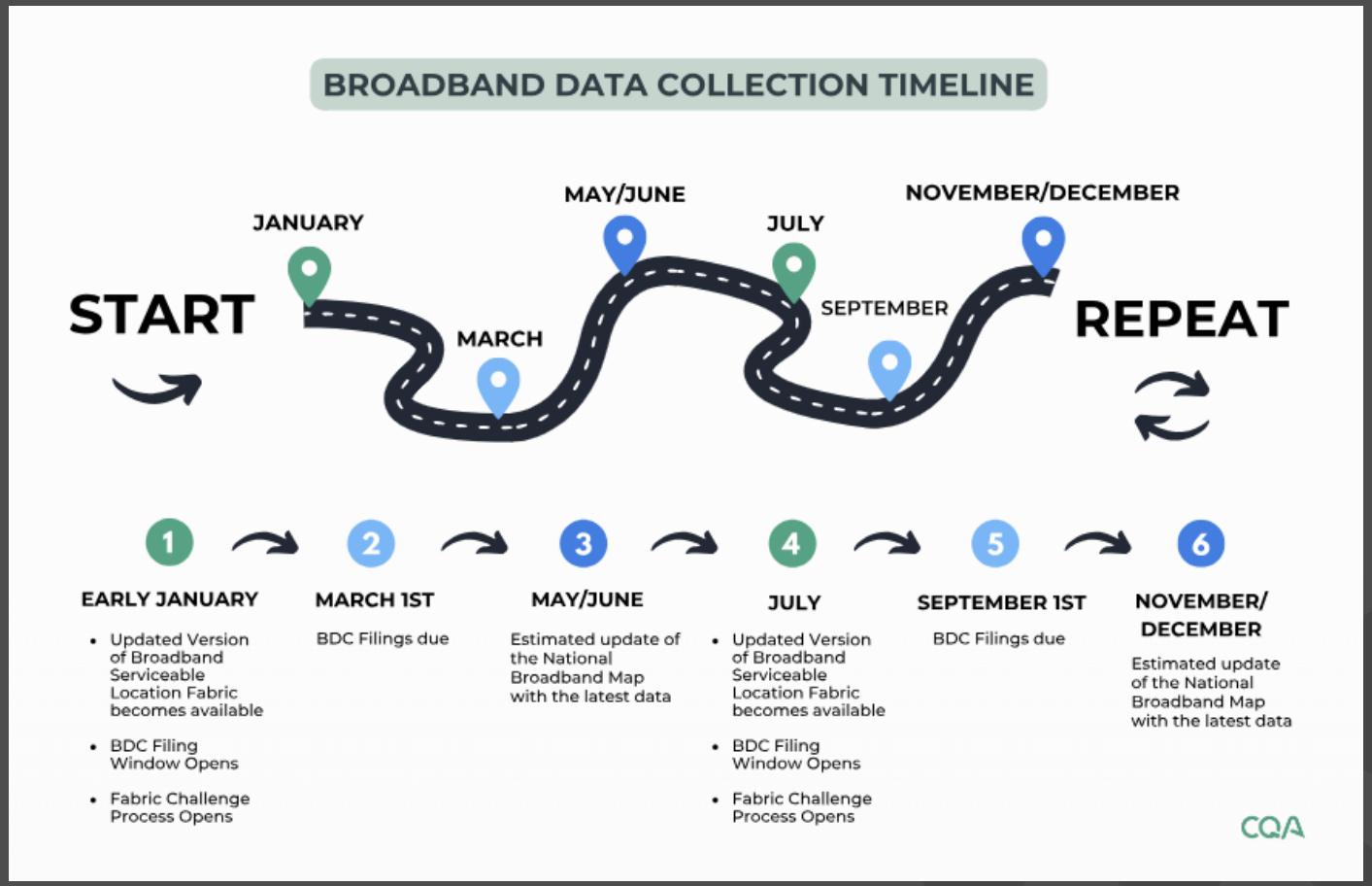
What is it?

Hint: It’s two things

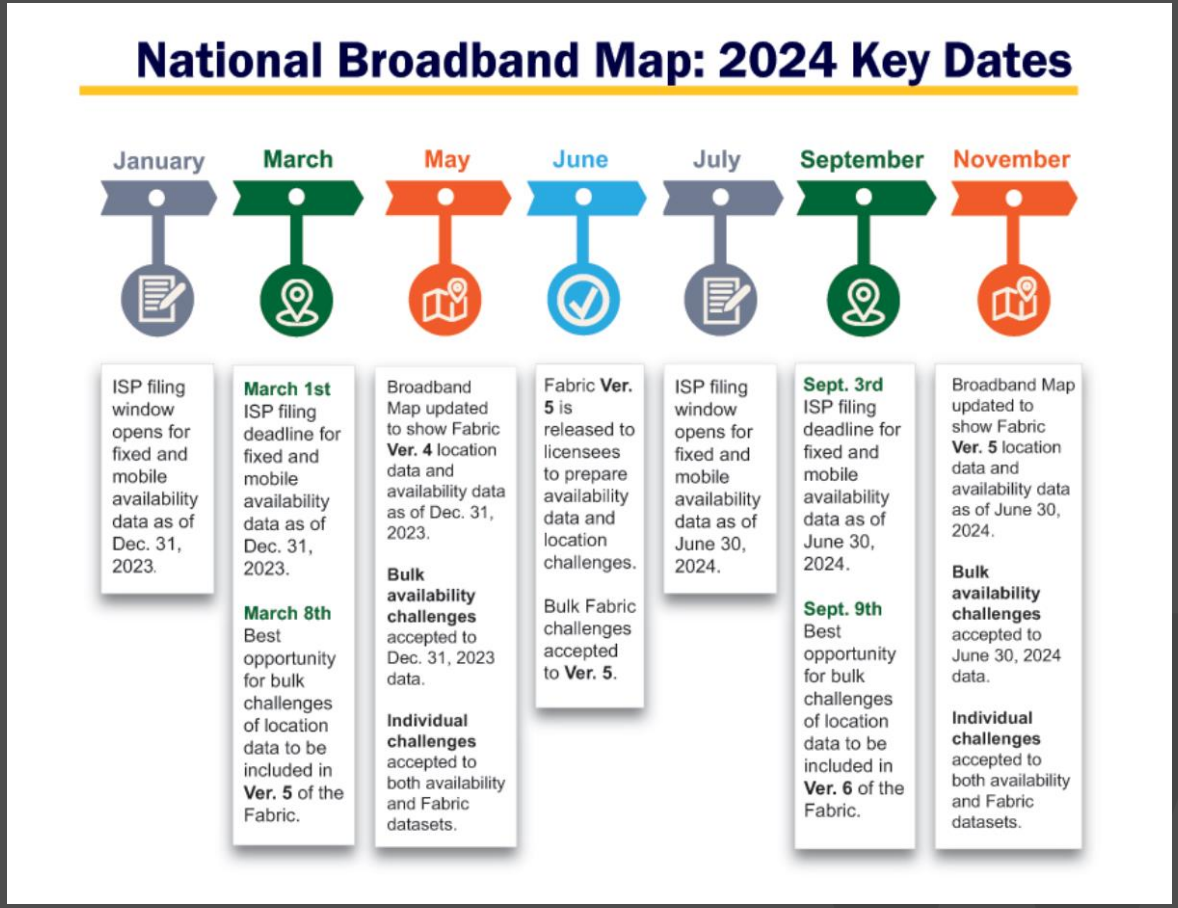
It’s two things

- Fabric – Released twice a year
  - It’s a super fancy point layer
  - What is in it?
    - Unique Location ID
    - Address
    - Unit Count
    - Is it a BSL
    - Building/Land Use Code
    - Confidence Score
    - Census Block
    - H3 Res 9 Hexagon ID
    - Lat/Long
- Availability – Released every 2 weeks
  - It’s an attribute table for Location IDs
  - What is in it?
    - Provider FRN and Unique Provider ID
    - Brand Name
    - Location ID
    - Technology providing service
    - Upload/Download Speed
    - Low latency
    - Residential/Business Service offering
    - USPS State Code
    - Census Block
    - H3 Res8 Hexagon ID

BDC Timeline



Key Dates 2024



What does it look like?

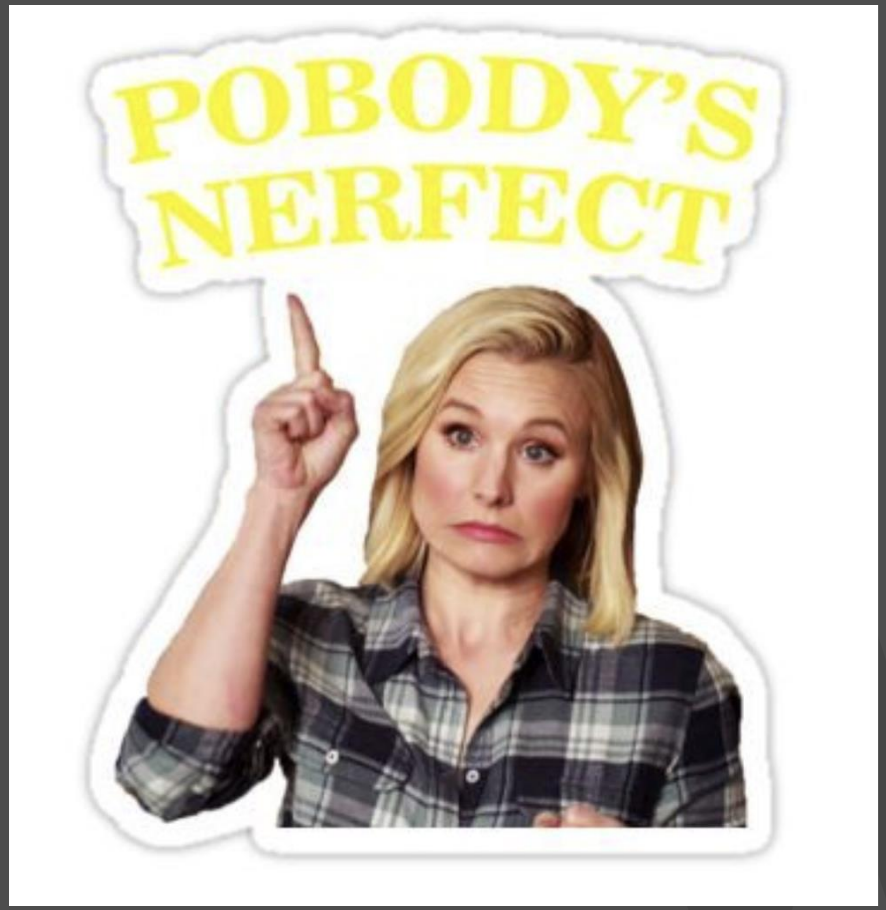
I heard it’s really bad

What does it look like? (December 22 edition)

This is a BSL

So are these

This too?


POBODY'S
NERFECT

What does it look like? (December 22 edition)

What does it look like? (December 23 edition)

What disappeared?

But what about on the south side?

But what about on the south side?

This is quite tough.

I want the Fabric, how do I get it?

Hint: It takes a few steps

How do I get it?

- Obtain an FCC Registration Number (FRN)
  - Mine is 0033104902
  - It isn't that hard to get one. It only takes about 15 minutes.

How do I get it?

- CostQuest Process
  - Fill out the form
  - Wait for them to get back to you (couple of days)
  - Work through your legal team (if you have one) to review the license
  - Download the CSV and process it
  - Do fun stuff!

How would I use it?

Hint: Pay attention to your license

FCC Licenses

- For ISPs – Tier 2
  - Use for filings
  - Correct BDC data
- For Government Entities – Tier 2 Government
  - Use for challenges
  - Correct BDC data
  - Designated Entity may use fabric for planning
- For Others – Tier 4
  - Standard Agreement – Generating challenges
  - Research Agreement – Public policy/Academic research

NTIA Licenses

- Tier C
  - State Broadband Office
- Tier D
  - ISP or public entity participation
- Tier E
  - Public use for Challenge process

Process

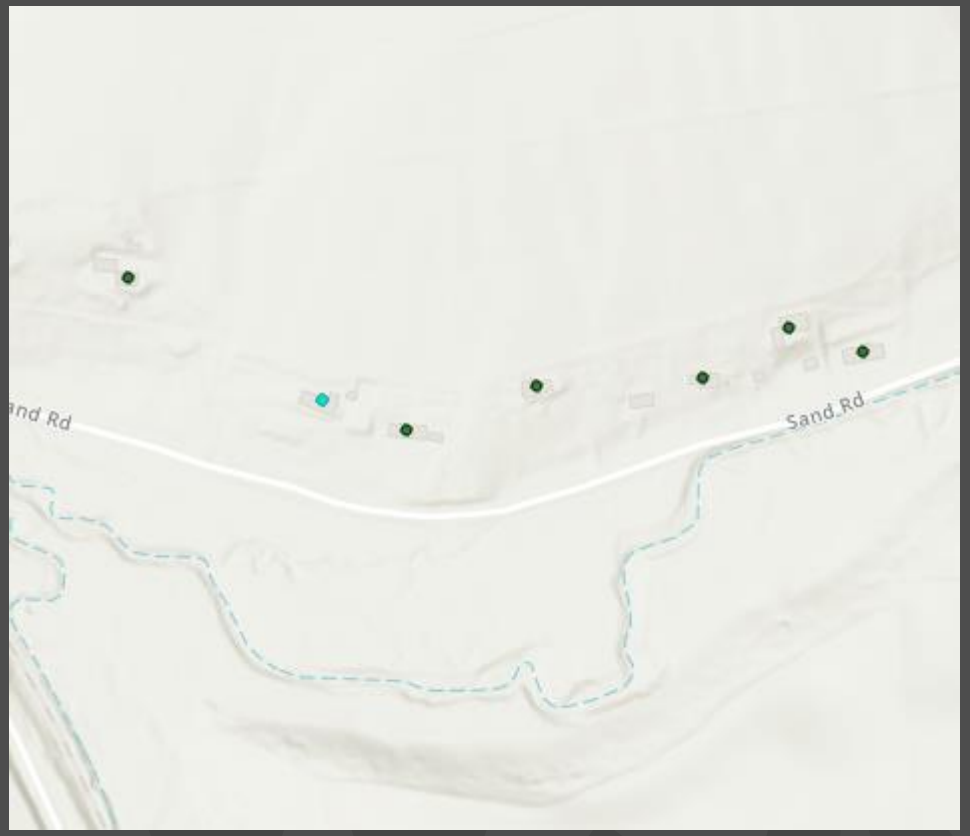
- Download and enrich the CSVs
- Relate public data from the FCC to the licensed data points
- Do the analysis that you are looking to do
  - Remember your license limitations

Fabric data

- 1122539846,"284 OLD BLACKS BEACH RD","REPUBLIC","WA","99166",""",1,"True","R",4,"3","53019","530199702002039","8912da8346fffff",48.72747683,-118.66760641,"12312023"
- 1122539848,"37 COEUR D ALENE DR","INCHELIUM","WA","99138","",1,"True","R",4,"3","53019","530199400002074","8912daa8aabffff",48.29576666,-118.36561721,"12312023"
- 1122539853,"","KETTLE FALLS","WA","99141","",1,"True","R",4,"3","53019","530199701001005","8912de258abffff",48.93043713,-118.23643439,"12312023"

Fabric data

OBJECTID	872453
location_id	1288943760
address_primary	204 SAND RD
city	PULLMAN
state	WA
zip	99163
zip_suffix	8823
unit_count	5
bsl_flag	True
building_type_code	X
land_use_code	2
address_confidence_code	2
county_geoid	53075
block_geoid	530750004003004
h3_9	89288ac5583ffff
latitude	46.691211
longitude	-117.146756
fcc_rel	7212023



Secondary Addresses

OBJECTID	1891289
location_id	1288943760
address_id	252055053
parcel_id	91819769
address_confidence_code	2
address_range	204
pre_direction	<Null>
street_name	Sand
suffix	Rd
post_direction	<Null>
primary_secondary	P
address	204 SAND RD
city	PULLMAN
state	WA
zip	99163
zip_suffix	8823
address_source	C
fcc_rel	12312023

OBJECTID	1891290
location_id	1288943760
address_id	252043485
parcel_id	91819769
address_confidence_code	1
address_range	1005
pre_direction	<Null>
street_name	Johnson
suffix	Rd
post_direction	<Null>
primary_secondary	S
address	1005 JOHNSON RD
city	PULLMAN
state	WA
zip	99163
zip_suffix	8825
address_source	C
fcc_rel	12312023

Availability data

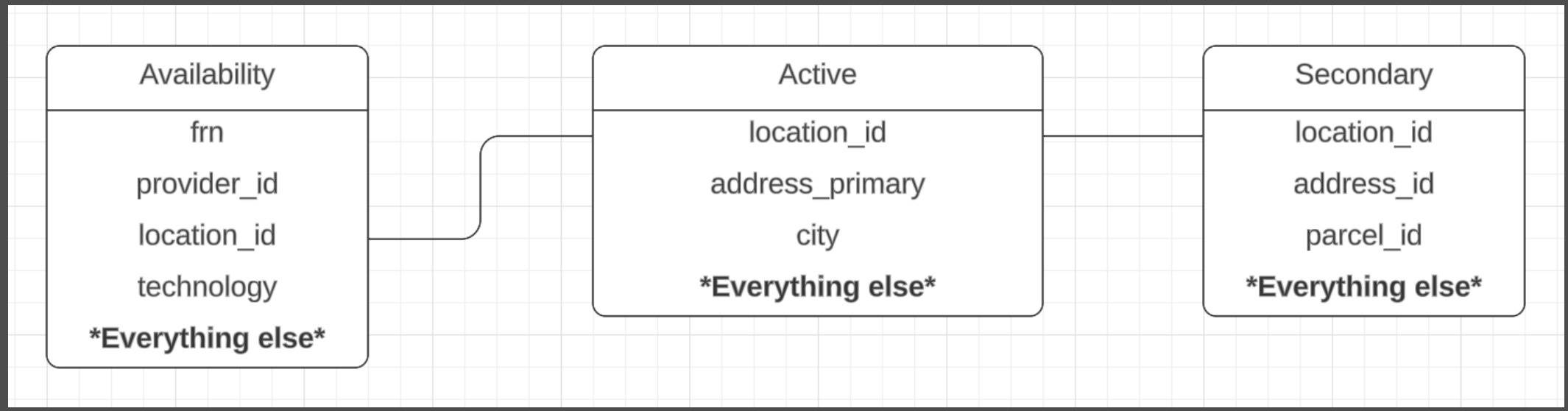
- 0003474327,130183,Sparklight,1145587130,40,1000,50,1,X,
  WA,530039602002007,88288e6899fffff
- 0003474327,130183,Sparklight,1145592004,40,1000,50,1,X,
  WA,530039606001008,88288e68b1fffff
- 0003474327,130183,Sparklight,1414826237,40,1000,50,1,X,
  WA,530039603001035,88288ad251fffff
- 0005061544,130786,Ranier Connect,1330138602,40,1000,12,0,X,
  WA,530539400051006,8828d5c337fffff
- 0005061544,130786,Ranier Connect,1330140101,40,1000,12,1,X,
  WA,530539400132011,8828d5da9bfffff
- 0005061544,130786,Ranier Connect,1330141873,40,1000,12,1,X,
  WA,530539400062006,8828d5c26dfffff

Availability Data

OBJECTID	501640
frn	29765211
provider_id	420173
brand_name	Ziply Fiber
location_id	1288946683
technology	50
max_advertised_download_speed	6000
max_advertised_upload_speed	6000
low_latency	1
business_residential_code	X
state_usps	WA
block_geoid	530750004001038
h3_res8_id	88288ac5cbfffff

OBJECTID	584436
frn	25646373
provider_id	130235
brand_name	Charter Communications Inc
location_id	1288946625
technology	40
max_advertised_download_speed	1000
max_advertised_upload_speed	35
low_latency	1
business_residential_code	R
state_usps	WA
block_geoid	530750004001038
h3_res8_id	88288ac5cbfffff

ERD Diagram

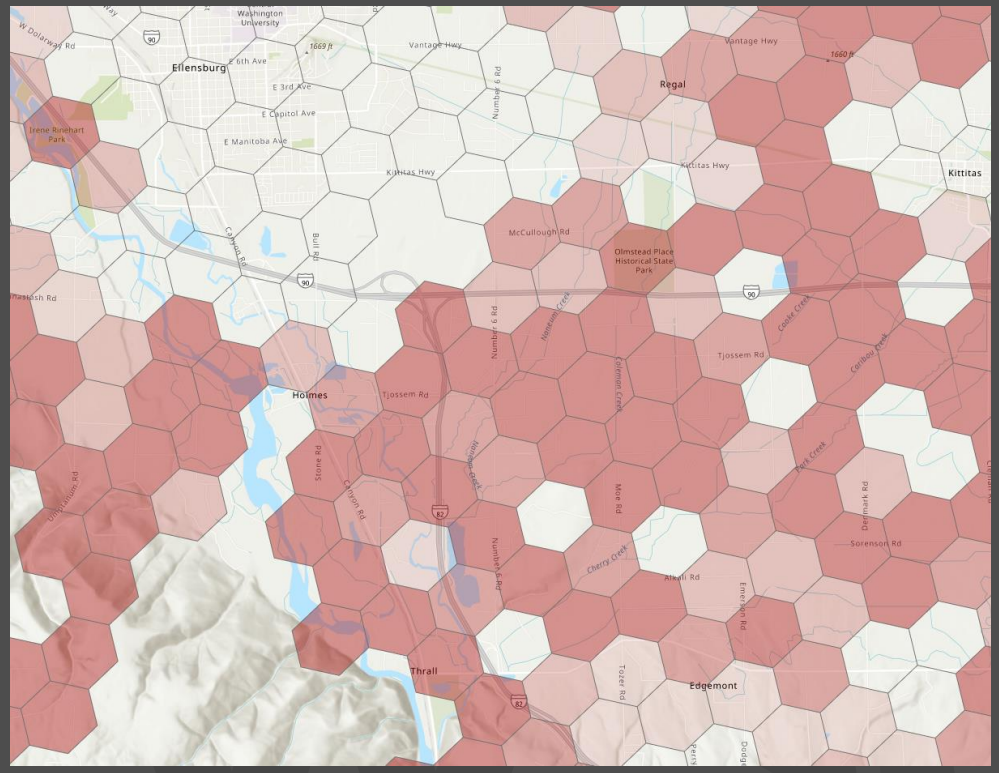

Availability
frn
provider_id
location_id
technology
Everything else
Active
location_id
address_primary
city
Everything else
Secondary
location_id
address_id
parcel_id
Everything else

What can I do without doing that?

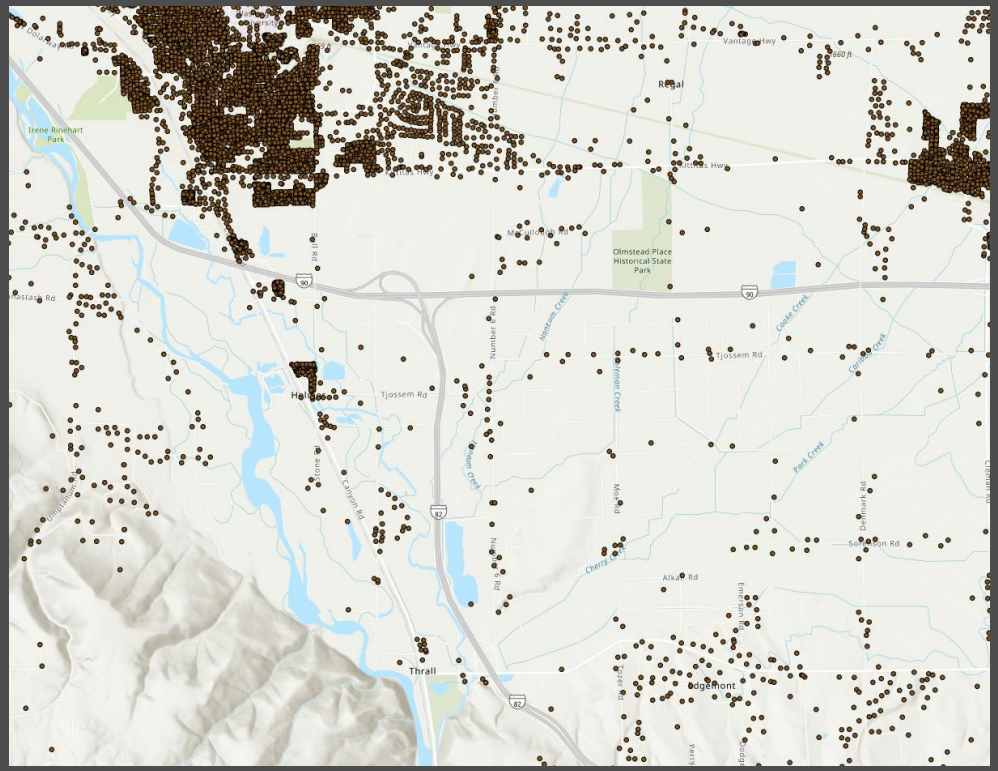
That sounds like a lot of work to get.

Pat Ryan's Living Atlas

- Fantastic data set from ESRI
- Has State, County, Tract, Block Group, Block, and H3R8 levels of geography
- The Broadband Data Collection and ArcGIS Living Atlas of the World
- FCC Broadband Data Collection December 2023



Site Address Point



- SAP Layer from the OCIO office
- State level dataset
- Pretty good
- Missing some counties
  - Looking at you Stevens, Lewis and Cowlitz
  - Shout out to Columbia

REMIX!

- Using the Site Address Point layer you can create a very accurate understanding of availability
- Great tool for creating service areas, more on this in a bit

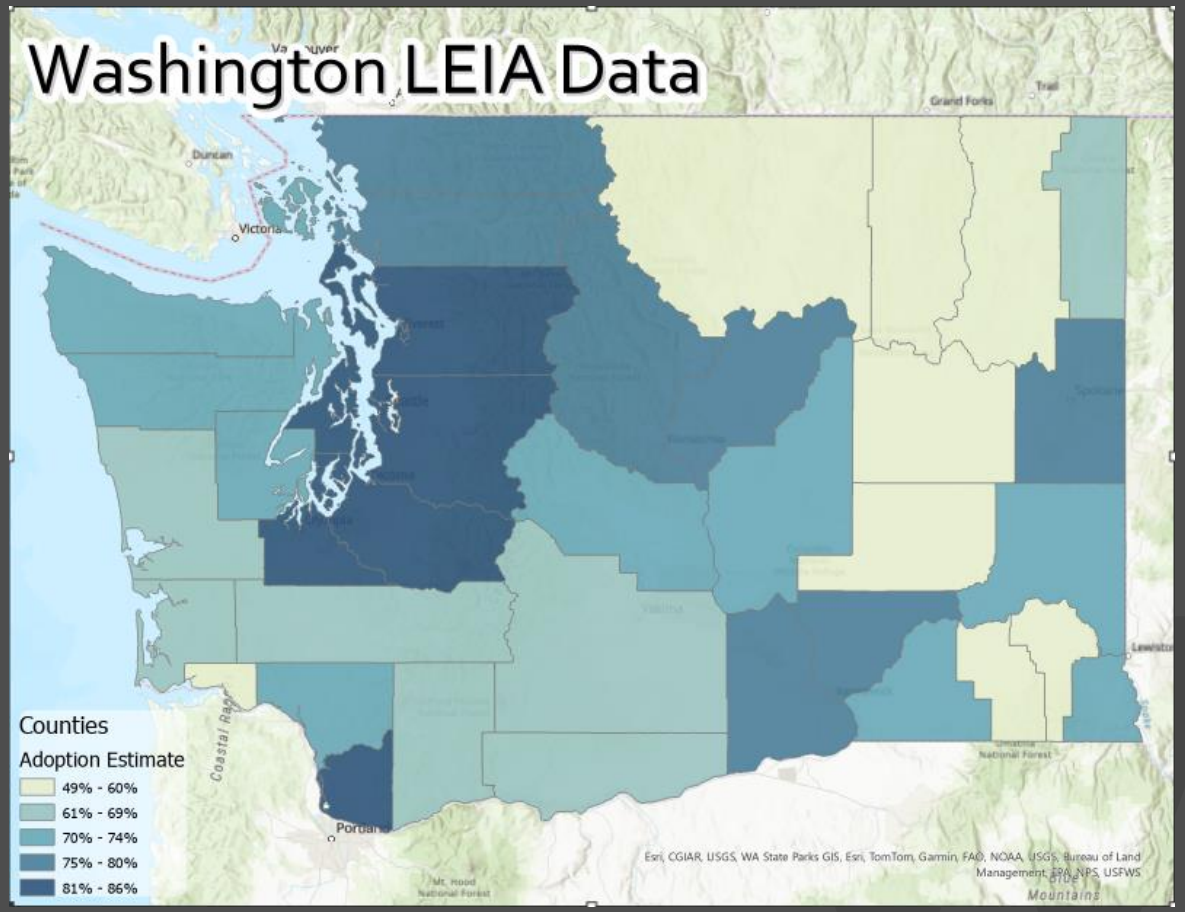
Other Datasets

Local Estimates of Internet Adoption (LEIA)

- Census Bureau Experimental Dataset

- 2022 Local Estimates of Internet Adoption (LEIA) (census.gov)

Local Estimates of Internet Adoption (LEIA)



Local Estimates of Internet Adoption (LEIA)

- US Census is currently seeking feedback on this data.

But what else could I do?

Lots of stuff!

But what else could I do?

- Provider footprint analysis
- Growth area analysis
- Public engagement

- Many other ideas!

But why should I care now?

I mean it is a cool dataset and all

BEAD

You have 1.23 Billion reasons to care

WSU

Definitions

- Unserved: Under 25mbit down/3mbit up
- Underserved: Under 100 down/20 up equal to or above 25 down/3 up
- Served: Equal to or faster than 100 down/20 up
- 95th percentile latency less that 100ms for all definitions
- Able to be installed within 10 days
- Technologies: Wireline or Licensed Fixed Wireless

- Washington specifics:
  - 25/3 for every resident by 2024
  - 1g/1g for every CAI by 2026
  - 150/150 for every resident by 2028

- What is a BSL?
  - A business or residential location in the United States at which mass-market fixed broadband Internet access service is, or can be, installed.

Washington Timeline

- Challenge Process: Mid April 2024
- Final project areas: Now?
- NOFO: Soon (Late October 2024)
- Round 1: November 2024
- Round 2: January 2025
- Round 3: March 2025
- Final Proposal: April 2025
- Projects Start: 2024 (Maybe)
- Projects Finish:2028

Correcting the Map

- Won't help with Federal allocations
- Will help with allocations of state funding
- Could help with making accurate Project Areas – More on this in a minute
- Will help with follow on programs

Community Anchor Institutions

What are they?

Community Anchor Institutions

- K-12 Schools public or private (FCC E-rate or National Center for Education Statistics [NCES] ID Required)
- Higher Education (NCES ID Required)
- Libraries (FCC E-rate or American Library Association [ALA] member libraries and their branches)
- Health care facilities that have a Centers for Medicare and Medicaid Services (CMS) identifier
  - Health clinic
  - Hospitals
  - Mental health facilities
  - In/Out-patient treatment centers

Community Anchor Institutions

- Government Organizations
  - Tribal government buildings (TBD after further conversations with tribes and further reviews of the Community Action Plans)
  - State
    - WorkSource
    - DSHS - Community Services Offices
    - Community corrections
  - County
    - County Courthouse
  - Local
    - City/town hall
- Public Housing Organizations
  - Public housing as determined by state Public Housing Agencies (PHA) and enumerated by the US Department of Housing and Urban Development (HUD).
  - Housing listed on the National Housing Preservation Database

Community Anchor Institutions

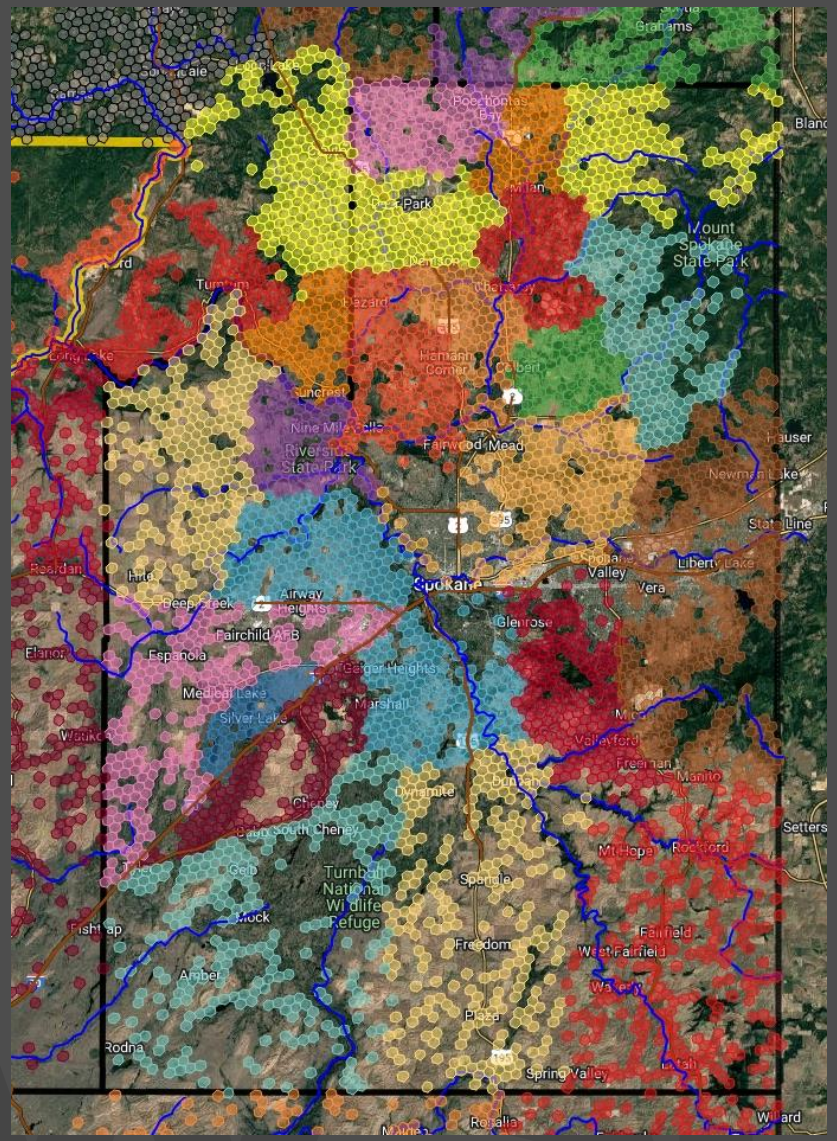
- Community Support Organizations that facilitate greater use of broadband service by vulnerable pop, including, but not limited to, low-income individuals, the unemployed, children, incarcerated and aged individuals.
  - Youth Centers
  - Senior Centers
  - Job Training Centers
- Public Safety
  - Fire houses
  - Emergency medical service stations
  - Police stations
  - 911 PSAPs
  - Detention centers and correctional facilities

WSU

Project Areas

Project Areas

- Are going to be developed as a part of BEAD Proposals
- Currently being worked on by WSBO
- Changes are likely



Projects

- Every area will need to be applied for individually.
- Cohorts
  - Municipality
  - Infrastructure
  - Community
  - Everyone else!
- Each of these groups have an interest in the outcome of BEAD.

Beyond BEAD

There will be another

There will be another

And this data will guide the investments.

Further Resources

- https://broadband.wsu.edu
  - Office Hours
  - Questions
- BDCToolbox – Toolbox for ArcGIS that I will be putting out by the end of Fall.
- Suggestions and questions are welcomed?

Thank you for your time today