OREGON | Office of the State

Chief Information Officer

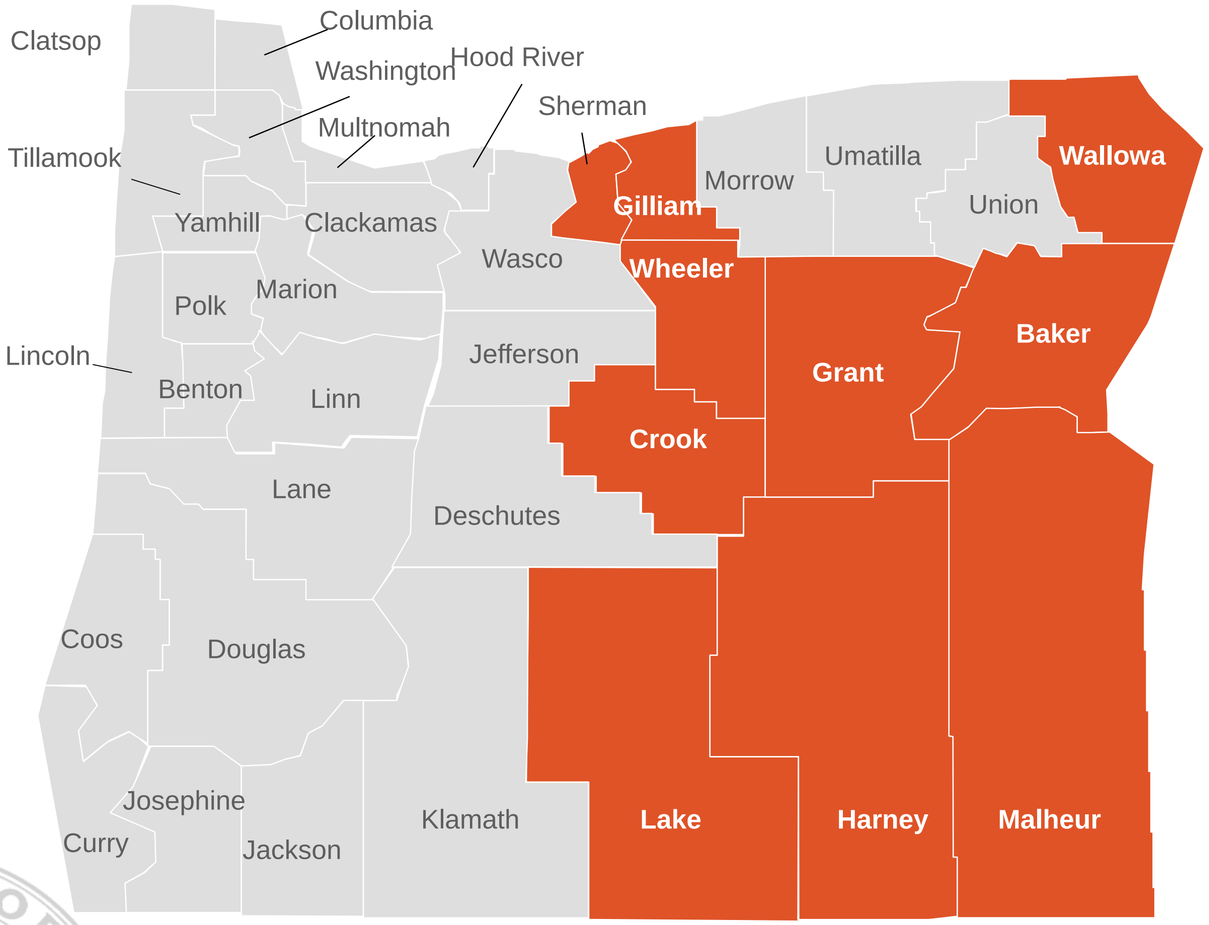
HB 4023 – Proposed Amendments (-3/-4)

House Economic Development & Trade Committee

7 February 2018

Oregon's Digital Divide

Oregon counties with the ***largest digital divide index (DDI)**** and the ***K-12 Connectivity gap***



County	*DDI	OMB Area Designation	Schools in Need**	# of State Offices	Population Rate (%)
Wheeler	90.17	Noncore	2	2	**-0.73**
Grant	68.27	Noncore	unreported	8	**-0.27**
Harney	65.72	Noncore	7	4	**-0.12**
Sherman	65.67	Noncore	unreported	3	**-0.46**
Malheur	65.08	Micropolitan	5	10	**-0.27**
Gilliam	63.52	Noncore	1	4	1.13
Wallowa	63.5	Noncore	1	6	1.13
Crook	63.31	Micropolitan	unreported	5	0.79
Lake	59.91	Noncore	unreported	7	0.1
Baker	54.99	Noncore	2	11	1.7

Schools in Need

- Minimum of ***100 kbps*** per user (Browsing & Online Testing)
- Media-Rich 1mbps per user (+Heavy Video Collaboration, Heavy Video Streaming, Online Educational Gaming, Remote Instruction)

Connectivity – 89% (***45th in nation***) 5% improvement

Fiber Needed – 94% (***42nd in nation***) 2% improvement

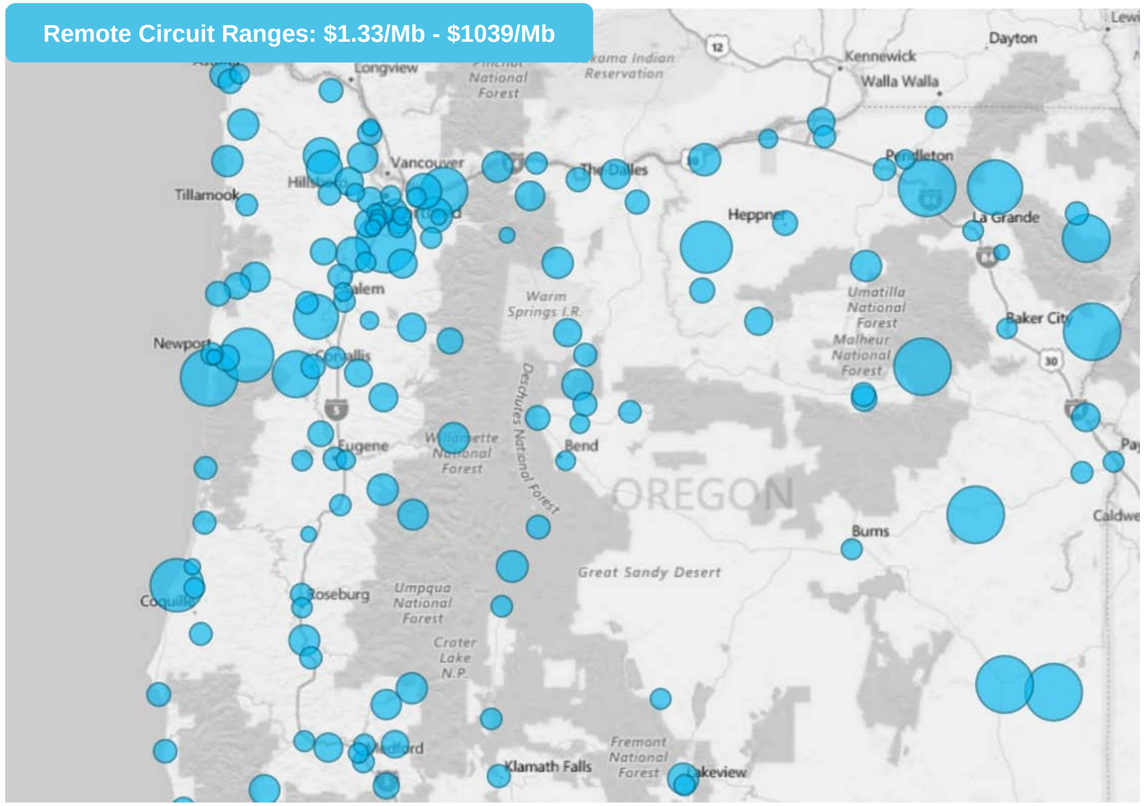
Affordability – 32% (***41st in nation***) 35% decline since 2016

** The DDI is a function of both a community's Infrastructure Adoption Characteristics (INFA) and Socioeconomic Characteristics (SE), including population, income, age, ethnicity and education. According to MSU's 2015-15 DDI index, there were ten counties in Oregon with a DDI that exceeded 50% and ranging from a low of 54.99% in Baker County to 90.1% in Wheeler County (Strategies for Broadband Infrastructure Deployment, Adoption and Utilization in Rural Cities and Counties, 2017)*

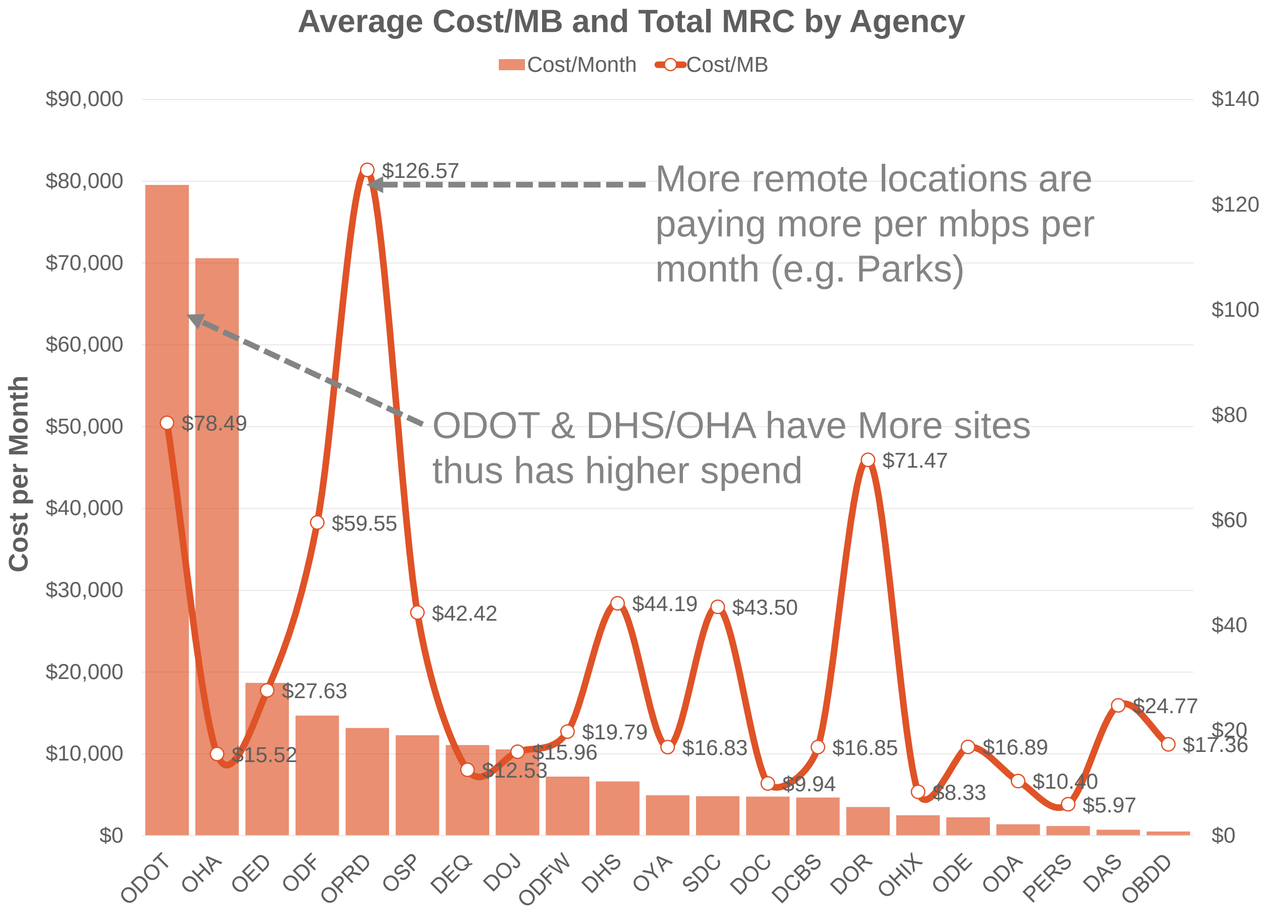
Education SUPERHIGHWAY http://stateofthestates.educationsuperhighway.org/?postalCd=OR

State of Oregon Network

current architecture and spend



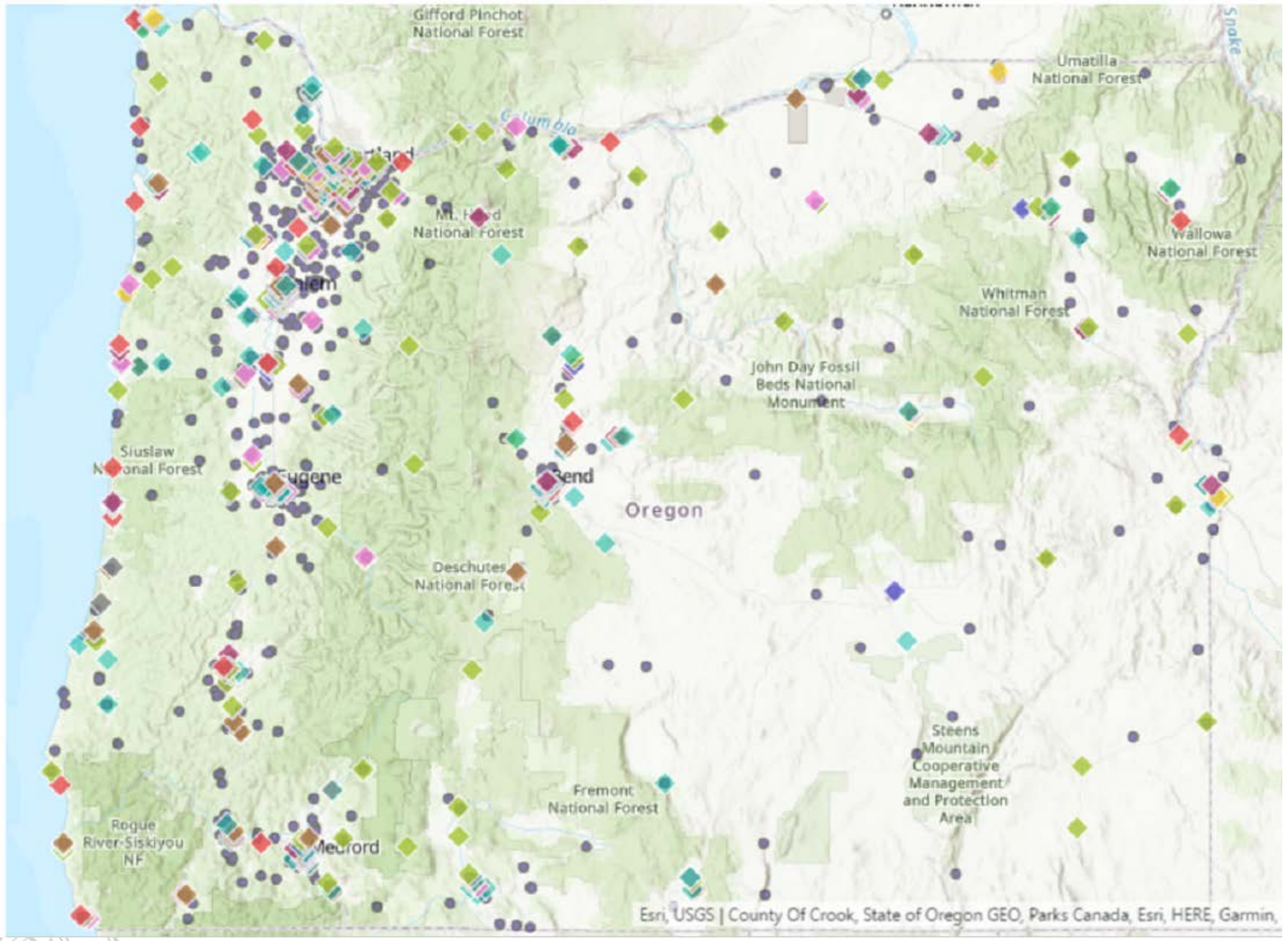
Average $ per Mb per location



Bandwidth | **Circuit-by-circuit** | **Cost variability** | **Long delays** | **Lack of resilience**

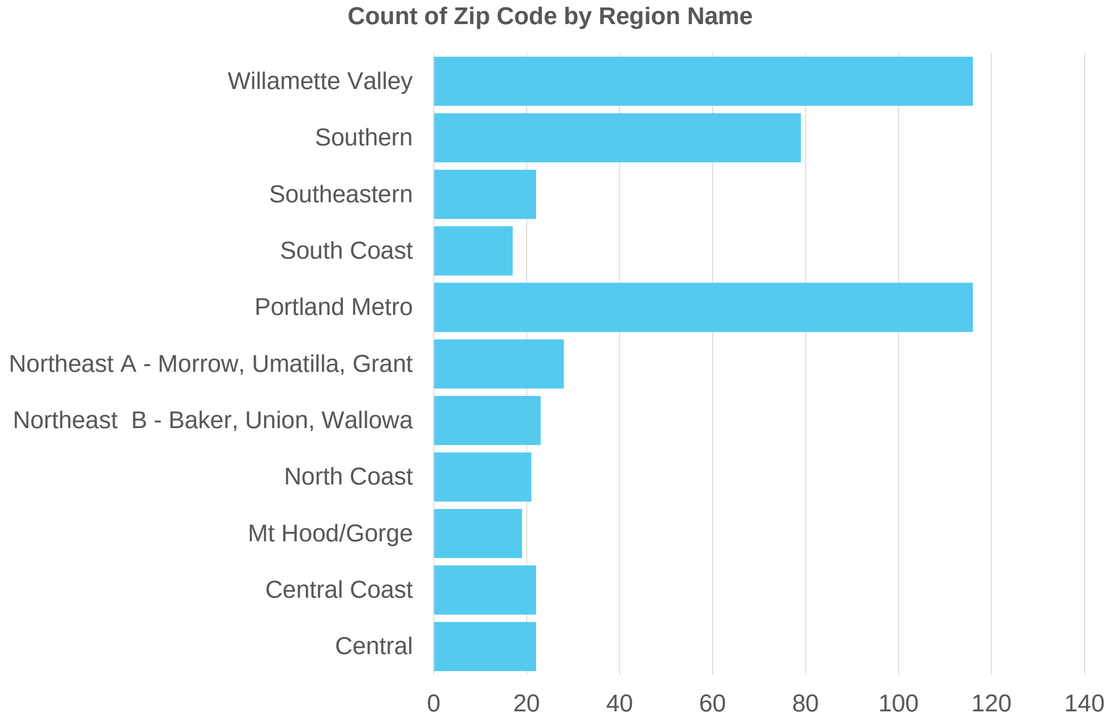
Shared Needs

Higher Education, State & School sites are located within the same communities

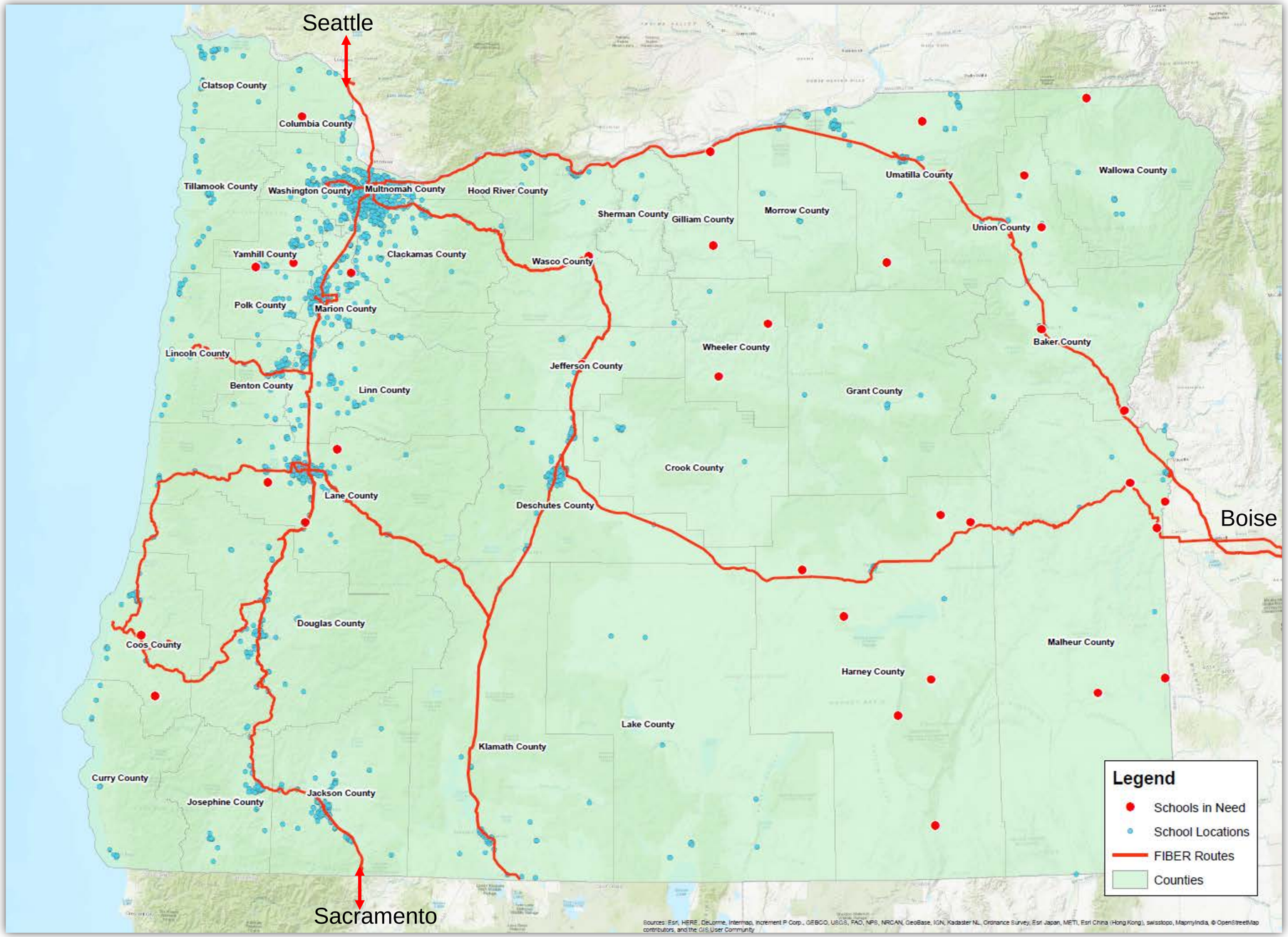


Higher Ed & State Circuits

Oregon School Locations



OregonFIBER
PARTNERSHIP



Broadband without HB 4023…

continuing challenges throughout Oregon

OregonFIBER PARTNERSHIP

Implementation

- ~2279 Miles with priority to higher number of circuits
- Over 3-5 years
- Initial State of Oregon Capital Investment of $2.5M
- ~29 Points of Presences

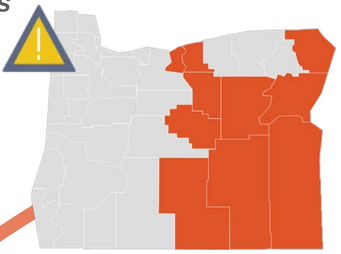
Oregon State University OSU

DHS Oregon Department of Human Services

Oregon Department of Transportation

POP

On DSL paying ***~$500/Mbps*** (range 1.5 Mbps to 8 Mbps)



No 2- year ROI – not economically viable for telcos to build fiber to area

OregonFIBER will ***leave schools behind***

No ***off-ramps*** – fiber just passes through

>$4 million requested across 28 applications for rural broadband with only $500 thousand available

Continued Challenges across Oregon…

- Lack of Mutual Awareness
- Lack a comprehensive strategy across the state
- Fragmented Approaches
- Duplication of efforts and efforts
- Slow response to connectivity needs in Oregon

Broadband Approach

core, ***middle***, and ***last-mile*** provisioning

Layer & Provisioning

Core

Purchased IRUs of existing dark fiber from vendors; and partnership colocations with Eugene, Portland and other ***regional internet exchanges***

Middle Mile

Last Mile

Private-sector provisioning via Broadband RFP/Master Price Agreement through incumbent- and competitive local exchange carriers (***CLECs + ILECs***)

OregonFIBER PARTNERSHIP

Planned Deployment *(no legislation required)*

High capacity fiber (***~2,279 miles*** with priority to higher number of circuits)

Oregon State University OSU

University of Oregon

Portland State University

Oregon Health & Science University OHSU

Anchor institutions (***~29 POPs***)

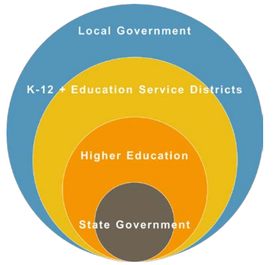
End-point locations
(>650 state & >58 higher ed)

-3 Amendment

Enables OSCIO to serve schools, local governments and tribes…

Influences priority to ***higher need areas*** based upon **planned fiber routes**

Additional POP locations may be added to meet collective needs. Ability to extend middle mile to ***schools***, ***local government*** and ***tribes***



Potential

- K-12 schools (~1,700)
- Libraries
- Local Government
- Tribes

-4 Amendment

Enables broadband public-private partnerships (P3s)

Opens up more opportunities to ***adding fiber assets*** for the benefit of the state as a whole. Competitive process to acquire additional fiber.

P3 investments and shared infrastructure can provide additional anchor tenants.

ILECs & CLECs still provide last mile

Summary

Action	Outcomes	Consequence
No Changes	OSCIO and Higher Education activates newly purchased fiber based upon state agency and Higher Education needs.	There would be missed opportunities in the design and ability to leverage public infrastructure to benefit other public entities.
HB 4023 - 3 Amendment	Schools, local government & tribes could also leverage the benefits and services from the OregonFIBER partnership.	The greater bandwidth needs areas would be prioritized first and the I-5 corridor may be delayed and state may cut over those circuits after higher need areas are addressed.
HB 4023 -4 Amendment	Ability to attain other fiber in partnership with public entities. Extended partnership could reinforce net neutrality.	Potentially in direct competition with middle mile providers. Fundamentally negates need for the Exec Order. Still assumes the ILECs & CLECs be needed for fiber builds & last mile.