



# Analyze Aids and Impediments

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## Summary

### The purpose of analyzing aids and impediments was to:

- Conduct a tactical analysis of the groups ability to achieve the stated vision through a SWOT analysis
- Examine the macro environmental challenges surrounding execution of the vision through the use of a PESTLE analysis

### Outcomes

Each workshop session:

- Executed and discussed a SWOT analysis
- Executed and discussed a PESTLE analysis

# Exercises used for analysis of the Vision and Use-Cases

## SWOT

	Helpful <i>to achieving the objective</i>	Harmful <i>to achieving the objective</i>
Internal origin <i>attributes of the organization</i>	Strengths	Weaknesses
External origin <i>attributes of the environment</i>	Opportunities	Threats

# Day 1 Morning Session - SWOT Exercise

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Momentum – Proof of Concept with EUGNet and WIX</li> <li>• SUB / EWEB</li> <li>• Telecom Legacy</li> <li>• Partnerships – Willing to have conversations</li> <li>• Successful collective impact partnerships</li> <li>• Universities could be utilized – strong partner</li> <li>• TAO</li> <li>• EWEB advantages to installation on poles</li> <li>• Forward thinking staff</li> <li>• 170 miles EWEB</li> <li>• WIX</li> <li>• Relatively few players</li> <li>• Regional Planning - LCOG</li> <li>• ISP options / competition</li> <li>• Deliberate efforts to retain YP</li> <li>• Attracting tech firms with highspeed fiber</li> <li>• Public backbone / private service provision (innovation)</li> </ul>	<ul style="list-style-type: none"> <li>• Political trepidation</li> <li>• Lack of vision</li> <li>• Fear of failure</li> <li>• Rent seeking behavior of corporations and incumbent</li> <li>• Lane County size (rural density)</li> <li>• Relative isolation</li> <li>• Loss of institutional knowledge / flexibility</li> <li>• Universities – missed opportunities for leveraging underutilized</li> <li>• Complicated historical collaboration</li> <li>• Losing graduates due to wages and housing</li> <li>• Resiliency / Resistance to change</li> <li>• Aging infrastructure</li> <li>• Network is focused on substations, not buildings / residences</li> </ul>	<b>Weaknesses</b>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Serve underserved communities</li> <li>• Appropriate franchise funds towards telecom construction</li> <li>• Examination of regional technology group</li> <li>• Revenue generation</li> <li>• Public money</li> <li>• Shared issues possible to leverage generational interests</li> <li>• Increased political clout from broadband growth</li> <li>• Educate public on potential</li> <li>• End boundaries for access</li> <li>• Seize opportunities for construction coordination</li> <li>• Create a training system to create personnel</li> <li>• World games (2021)</li> <li>• Provide offset for transportation / law enforcement</li> <li>• IOT for traditional industries creating demand</li> <li>• Engaging younger people in the process</li> <li>• Technologies are matured</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of knowledge about interconnected nature of system</li> <li>• Lack of funding</li> <li>• Decision makers not getting good information</li> <li>• Lack of trained personnel</li> <li>• Needing a business case for expansion</li> <li>• Technology moves much faster than government adapts</li> <li>• Perception of issues lack of access to info (public officials)</li> <li>• Capacity of underlying infrastructure</li> <li>• Misinformation</li> <li>• Creating new monopolies</li> <li>• Desire to offload problems – risk aversion for public officials</li> <li>• Renewal of IRU</li> <li>• Non-competitive pricing</li> <li>• Public ISP</li> </ul>	<b>Threats</b>

# Day 1 Afternoon Session - SWOT Exercise

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Regions willingness to come together</li> <li>• Public / Private partnerships</li> <li>• Existing infrastructure (IX, conduit)</li> <li>• Tech hub (knowledge / resources)</li> <li>• Demand from underserved communities</li> <li>• Large anchor customers (i.e. Universities)</li> <li>• Proof of concept completed – proof of viability</li> <li>• Momentum</li> <li>• Awareness of options (metro areas)</li> <li>• Multiple business models under test</li> </ul>	<ul style="list-style-type: none"> <li>• Cost – upfront and recurring</li> <li>• Tech obsolescence</li> <li>• Communication – buy-in and support</li> <li>• Lack of regional plan (localized, not holistic)</li> <li>• Leadership co-ordination and commitment</li> <li>• Time delay</li> <li>• Reliance on external parties (asset debt)</li> </ul>	<b>Weaknesses</b>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Highly educated students from local Universities</li> <li>• Investments in 5G</li> <li>• Expansion in Telehealth technologies</li> <li>• Increase in research innovation dollars</li> <li>• Fiber assets available across various industries</li> <li>• Leverage relationships with key players and industry experts</li> <li>• State wide fiber network</li> <li>• Large events (track and field championships)</li> <li>• Increased demand</li> <li>• Federal dollars available</li> <li>• Legislative advocacy</li> <li>• Expansion of WIX</li> <li>• University research dollars</li> <li>• Lane County Public Utility Services</li> </ul>	<ul style="list-style-type: none"> <li>• No national or state plan for broadband access</li> <li>• Geographic / Economic challenges (large area low density)</li> <li>• Business strategies that focus on profit and long term exclusivity</li> <li>• Lack of coordination among potential service providers</li> <li>• Lack of public awareness of potential uses / benefits of broadband</li> <li>• Lack of base knowledge on broadband by regulators and government officials</li> <li>• Assumption that 5G will suffice as last mile connection</li> <li>• Preference for private sector models to provide cost competitive quality services</li> <li>• Restricted access of high capacity broadband infrastructure within a select few entities</li> <li>• Competition for new infrastructure investments</li> </ul>	<b>Threats</b>

# Day 2 Morning Session - SWOT Exercise

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• A lot of tech knowledge in the community</li> <li>• Some infrastructure in place (backbone, people)</li> <li>• Public will and desire</li> <li>• Topology is good in the region (wireless)</li> <li>• Timely education to politicians can promote progress</li> <li>• Fiber is perceived as safe</li> <li>• Public agency partnerships for this are strong</li> <li>• Region has good private capital</li> <li>• Proven success to build on</li> <li>• Publicly owned utilities</li> <li>• Fiber successes did not attract resistance</li> <li>• Public private partnerships</li> <li>• WIX and middle mile contracts</li> <li>• Public / private model in proof of concept</li> <li>• Champions with influential government positions</li> <li>• Map of broadband access covering Oregon</li> </ul>	<ul style="list-style-type: none"> <li>• No clear map of all current fiber infra and how to access it</li> <li>• Confusion on how it all works together (regulations, assets)</li> <li>• Telecom tax is confusing and complex, keeps competition down</li> <li>• Lack of clearly articulated pay off for residents</li> <li>• Some public against progress</li> <li>• 5G and other tech advancement – fears / health concerns</li> <li>• Not properly educated the public (whose job is it?)</li> <li>• Lack of solid educational marketing plan</li> <li>• Lack of clear goals</li> <li>• Current activity not future oriented enough</li> <li>• Hard for consumers to figure out who can serve them</li> <li>• Funding gaps</li> <li>• Time to execute / pass regulatory hurdles</li> </ul>	<b>Weaknesses</b>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Faster cheaper internet creates hub</li> <li>• Leverage strength of existing relationships for support</li> <li>• 5G – data heavy networks</li> <li>• Success of investment to data creators opening more investment</li> <li>• Use mature partnerships to build additional funding</li> <li>• Telecom will enhance existing livability of community</li> <li>• Residential connectivity creates demand for greater choice</li> <li>• Help area move towards knowledge based economy</li> <li>• Infrastructure is basic to all areas of economy</li> <li>• Internet of things (IOT) raises demand for connectivity</li> <li>• Opportunities for oversight efficiencies</li> <li>• Promote success by leveraging current network for coming events</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent public leadership support for telecom projects</li> <li>• Consistent sustainable financing</li> <li>• Public agency reliance on public opinion combined with public fears of wireless</li> <li>• Difference of approach / model between local government financing and federal regulators</li> <li>• Danger that public investment will not be sustained creating a maintenance / replacement backlog like roads</li> <li>• Cost to bridge backbone to FTTH (Fiber to the home)</li> <li>• Litigation threat by incumbent</li> <li>• Unintended consequences</li> <li>• Complexity and lack of public understanding</li> </ul>	<b>Threats</b>

# Day 2 Afternoon Session - SWOT Exercise

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Successful track record of similar proof of concept (EUGNet)</li> <li>• Have a mandate of local officials to make data more open, accessible and available to the public</li> <li>• Solid technical knowledge and understanding</li> <li>• Broadband fiber “tribal knowledge”</li> <li>• More or less in agreement of “the problem” and general direction</li> <li>• Existence of mature efforts (eg. PAN, RFC)</li> <li>• There is some infrastructure in and through the metro area</li> <li>• No internal resistance to change or moving forward</li> <li>• Diversity of group participating in the discussion</li> <li>• Numerous agencies, companies and non-profits all working on similar efforts – potential to converge</li> <li>• Governor’s broadband executive order</li> <li>• Smart city initiatives (Eugene)</li> <li>• Congressional / state delegation pro broadband</li> </ul>	<ul style="list-style-type: none"> <li>• Useful applications have not kept up with popular applications</li> <li>• Incumbents still receiving subsidies</li> <li>• Public complacency</li> <li>• Local culture, community, climate restrictions</li> <li>• Pace of technology change at the edge</li> <li>• Whether demand is sufficient to support the network</li> <li>• Costs, easements, and regulations are ongoing challenges</li> <li>• Self supporting model on public side not well developed</li> <li>• Technological needs vary with application</li> <li>• Variability of political climate</li> <li>• Difficulty of getting common agreement especially regarding funding</li> <li>• The unknown (don’t know what we don’t know)</li> <li>• Insufficient security</li> <li>• Scaling the current architecture</li> </ul>	<b>Weaknesses</b>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Existing unused underground infrastructure</li> <li>• Government entities understand the economic value of fiber and can be champions</li> <li>• More opportunities to collaborate to address the rural divide</li> <li>• Creation of cyber-security programs in schools</li> <li>• Small ISPs collaborate and team up to not overbuild</li> <li>• Part of the national conversation / trend</li> <li>• Most cost effective way of building</li> <li>• Use existing fiber to backhaul to rural communities – public private partnerships</li> <li>• Climate change and keeping people rural</li> <li>• Fiber has a long plant life (better ROI)</li> <li>• Large visibility events need to be served and are funded</li> </ul>	<ul style="list-style-type: none"> <li>• Private public competition</li> <li>• Lack of funding / financial planning</li> <li>• Lack of legal framework to share existing municipal conduit</li> <li>• Political will is weak</li> <li>• Polarization (urban vs rural, public vs business)</li> <li>• Lack of coordination w/ non broadband seeking rural developments (agricultural, climatologists)</li> <li>• Unclear messaging leads to confusion and un realistic expectations</li> <li>• Private sector telecom and incumbents</li> <li>• Insufficient knowledge foresight and understanding of the value of broadband infrastructure</li> <li>• Extreme weather and resulting damage to infrastructure</li> <li>• Unequal population density across Lane County</li> <li>• Public private relationships and difference in culture and goals</li> <li>• Lack of urgency in messaging the need leads to confusion</li> <li>• Lane County topography</li> </ul>	<b>Threats</b>