A topographic map of Oregon, showing the state's outline and internal terrain features. The map is oriented vertically, with the coastline on the left side. The colors range from light green and yellow for lower elevations to brown and tan for higher elevations. The text is overlaid on the map.

# Oregon Resilience Plan Information and Communications Technology Workgroup

**Presentation for**  
***House Committee on Veterans' Services and Emergency  
Preparedness***  
**and**  
***Senate Veterans and Emergency Preparedness***

**Michael J. Mumaw, Commissioner**

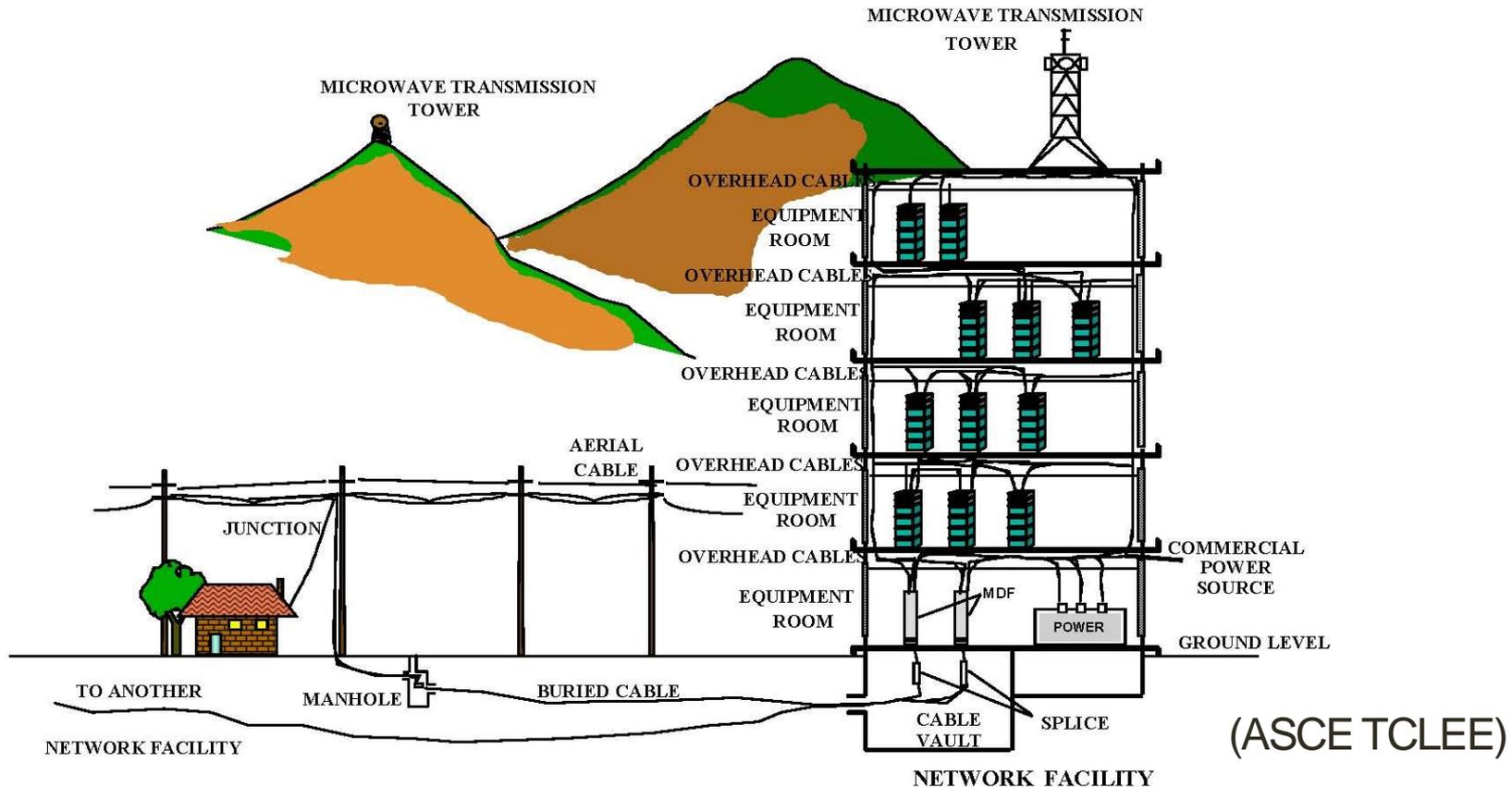
Oregon Seismic Safety Policy Advisory Commission

*June 20, 2013*

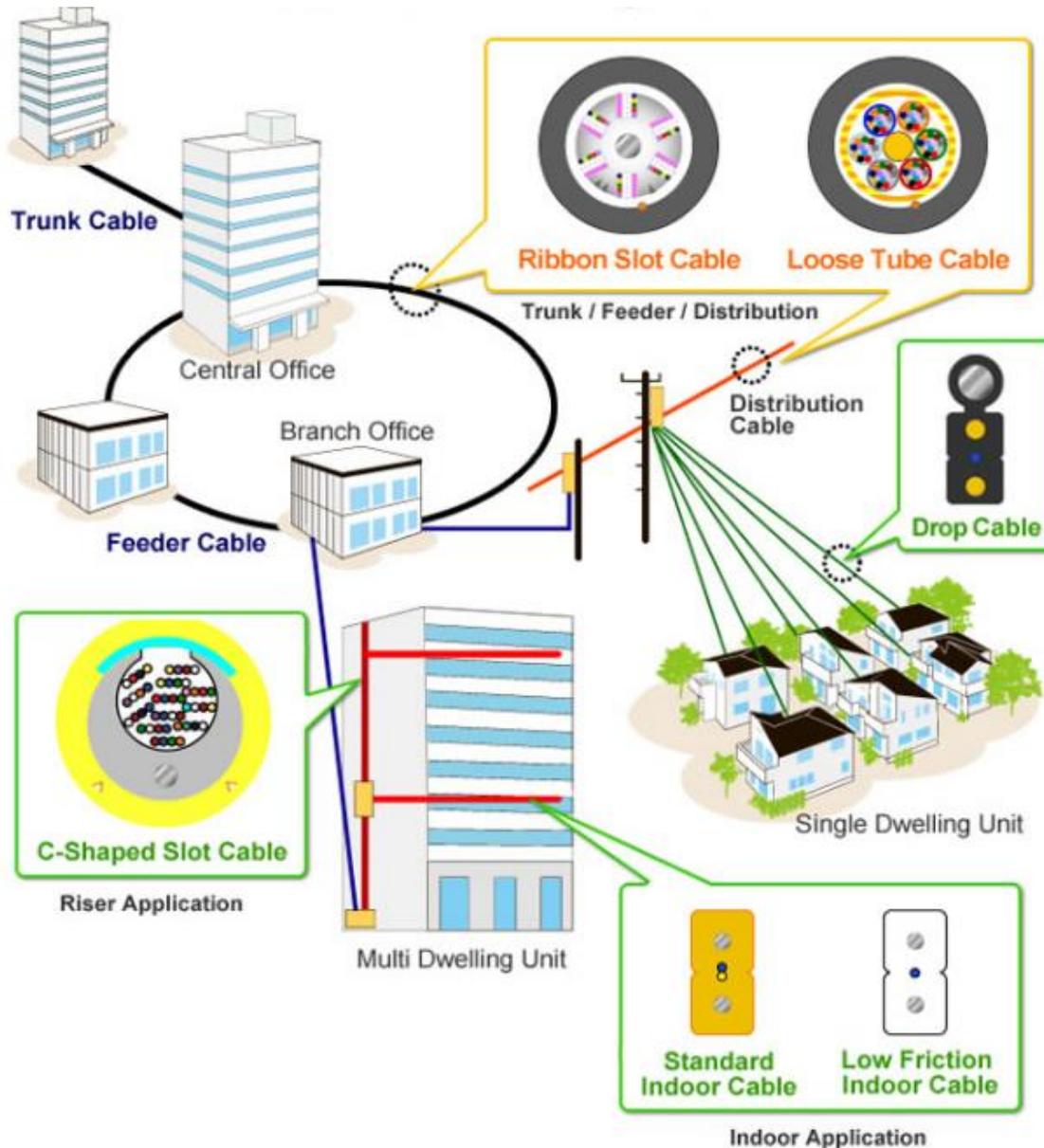
*Salem, Oregon*

# Focus

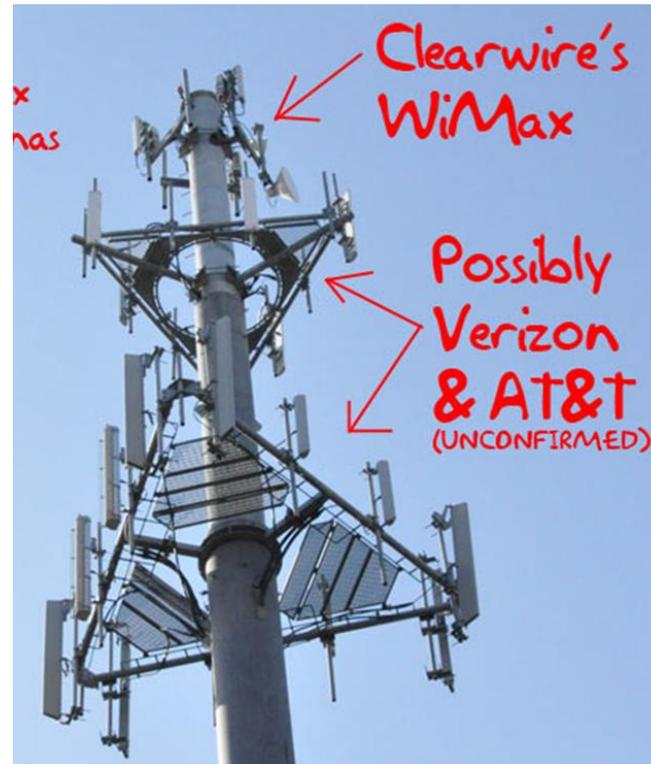
- The Information and Communication Technology Task Group focused on wireless and wired communications and information systems that provide services to businesses, municipalities, and individuals.



# Telecommunications System



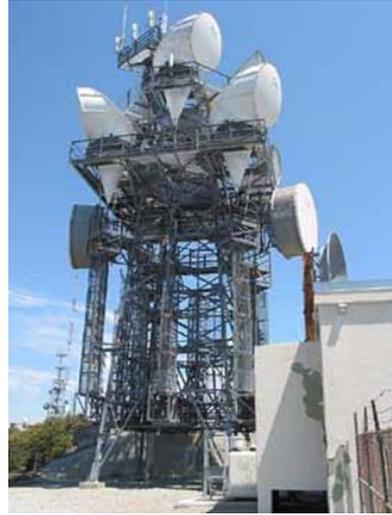
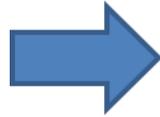
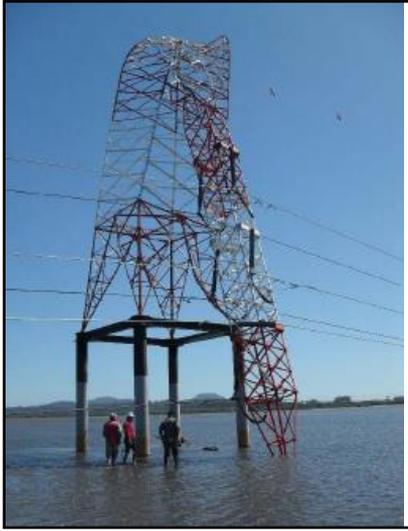
# Telecommunications System



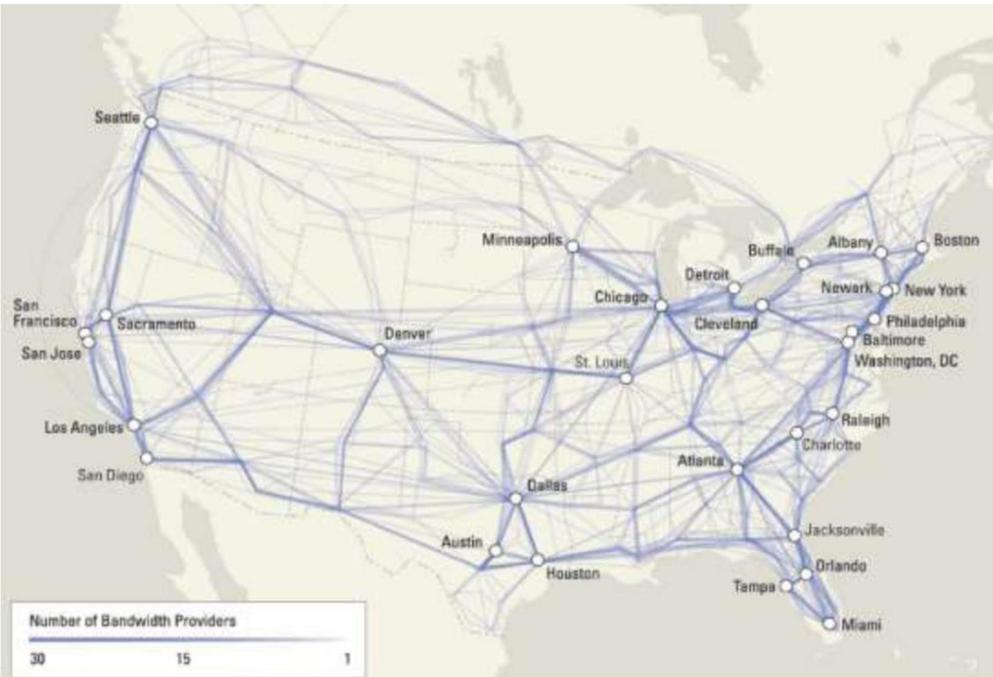
# Goal

- The resilience goal for the information and communication systems is to provide for immediate emergency communications followed by phased restoration, within specified time periods, for various areas of the state.
  - Resilience is achievable. As demonstrated in Chile (ASCE TCLEE, 2010), resilience can be achieved within a 50-year period without unrealistic amounts of new investment.
  - Resilience does not mean building a system that is 100 percent functional after an event, its building a system that can be restored in specified time frames to support response and recovery operations as well as the economy.

# Interdependency



# Seismic Vulnerabilities



*San Francisco - Oakland Bay Bridge after the 1989 Loma Prieta earthquake. An example of bridge failures that could impact utility conduits supported by or integrated into the bridge.*

# Seismic Vulnerabilities



*Cellular Base Station tower failure, this site is installed on roof of an apartment building, which is not designed for critical infrastructure facility. Pisco, Peru earthquake 2007*



*Cell site collapsed with the commercial building collapse. Chi Chi earthquake Taiwan, 1999.*

# Seismic Vulnerabilities



**Picture 2** – The overhead lighting fixtures in a Central Office failed during an earthquake. Note the equipment in the background was supported by “jiffy poles” after the earthquake. Mexico City, 1985.



# Seismic Vulnerabilities



A CO in Onagawa (Alexis Kwasinski ASCE TCLEE)



# Target Timeframes to Recovery

Targets were established for information and communications systems based on the needs of other sectors including businesses.

A comparison was made on the estimated time, under current conditions, for system wide recovery to be at or 90% of pre-event capacity with the targets, for the four geographical areas identified in the plan.

These targets for three levels to assist in establishing priorities for resilience and restoration activities and projects:

- Minimal
- Functional
- Operational

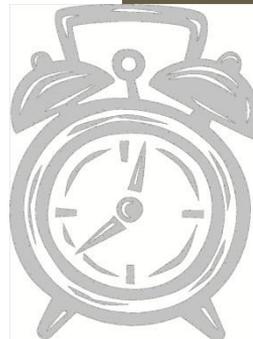
# Target Timeframes to Recovery

## Restoration Comparison at Functional Level

| Zone                  | Target      | Current        |
|-----------------------|-------------|----------------|
| Coastal – Tsunami     | N/A         | Up to 3 years  |
| Coastal – Non Tsunami | 1 – 2 weeks | 1 to 3 years   |
| Valley                | 3 – 7 days  | Up to 3 months |
| Eastern Oregon        | 1 – 3 days  | Up to 7 days   |

# Policy Recommendations

- Sector companies should conduct seismic vulnerability assessments (SVA) on all of their infrastructure facilities.
- Companies in this sector should institutionalize long-term seismic mitigation programs.



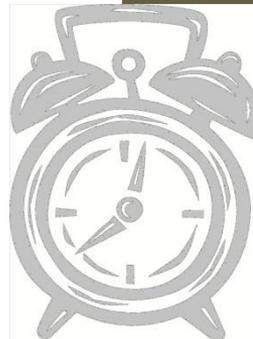
# Policy Recommendations

- The state should provide liability waiver language in statute for vulnerabilities identified in the seismic vulnerability assessments that are above operators' current normal operations.
- The Oregon Office of Emergency Management's public-private sector position should be utilized to help ensure coordinated planning, information sharing, and interoperability among critical organizations and agencies.



# Policy Recommendations

- The state of Oregon should provide statutory authority for a prescriptive waiver of routine permitting requirements and processes for the design, construction, and restoration of communication and information infrastructure.



# Closing

- In common with other sections of the Plan, increasing the resilience of Communications and Information Technology systems requires:
- New assessments of our infrastructure,
- New capital investments to improve the performance of critical structures and systems,
- Develop appropriate incentives to engage private sector partners,
- Consider the policy changes needed to fine-tune existing state policies.