Broadband Feasibility Study
Port of Walla Walla, WA
Joint Meeting – Regional Leadership
July 9, 2015

Magellan ADVISORS

Overview

- Broadband Trends
- State of Broadband in Walla Walla
- Local Government's Role in Broadband
- Business Models
- PPP Opportunity through Infrastructure Provider Model
- What's the Opportunity
- Next Steps

Broadband Trends

Consumer Driven Demand for Bandwidth

Devices

Converged Digital Life

Applications

Communities

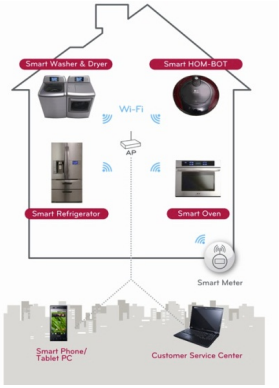
Broadband Trends

Smart Home = More Broadband

Large screen TVs beyond 100” will lead to higher resolution
- 4K UHD 3840 pixels x 2160 pixels
- 8K UHD 7680 pixels x4320

Interactive 3D
- 3D gaming
- 3D conferencing
- 3D virtual travel
- 3D e-learning

3D medical imaging



Smart Appliances

Multi-location HD and/ or 3D video conferencing

User Generated Content (UGC) uploading and downloading

Broadband Trends

Connected Communities = More Broadband

- Benefits to the Region itself
- Smart Grid
- Intelligent Traffic Control
- Autonomous Vehicles
- Smart Utilities
- Safety & Security
- Sensor Networks

State of Broadband

- Primary broadband services are provided over legacy copper infrastructure – Cable/DSL
- Dedicated fiber offerings are available
- Providers include:
  - Centurylink
  - Charter
  - Pocket iNet
  - Columbia REA
  - NoaNet
- One provider is deploying Fttx fiber distribution technology on demand
- City of Walla Walla and the Port have fiber assets

Survey Data – 56 Responses

- 84% experienced moderate, severe or total disruption
- 32% stated current Internet services were insufficient
  - 82%: Not fast enough
  - 12%: Unreliable
  - 6%: Lack of options
- Businesses have not upgraded because:
  - 53%: Services are not available
  - 33%: Price is too high

Local Government's Role

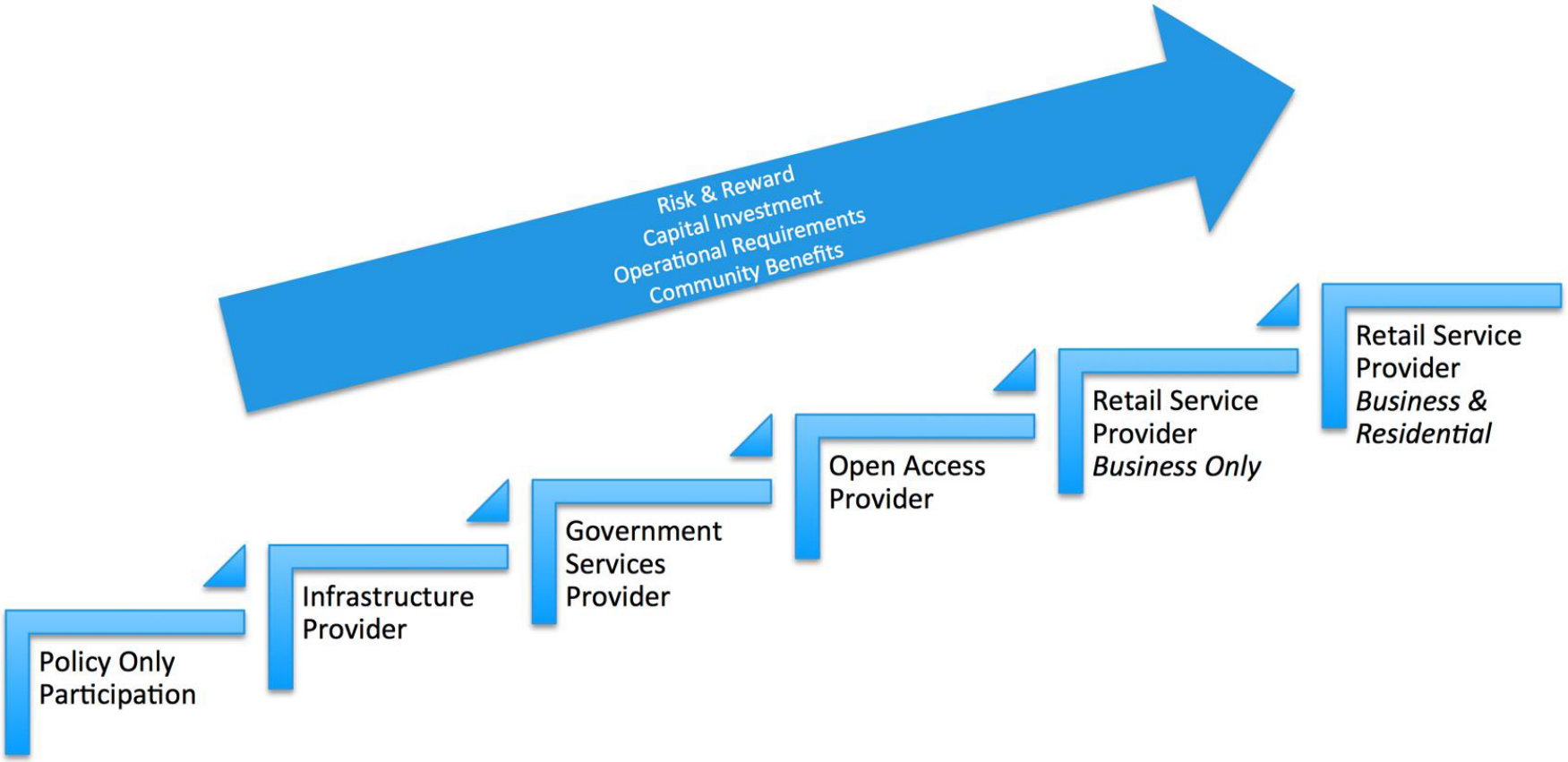
- What is local government's role?
  - Compete directly
  - Enable competition and adoption

- Local governments are taking charge
  - Broadband is becoming a "utility"
  - Implementing broadband-friendly policies
  - Leveraging existing fiber assets
  - Building new fiber assets
  - Partnering with providers
  - and even providing services directly

Defining the Port's Role

- What is the Port's mission?
- What is the Port good at?
  - Economic Development
  - Infrastructure
  - Real Estate
- The Port is a neutral entity working on behalf of the region

Business Models



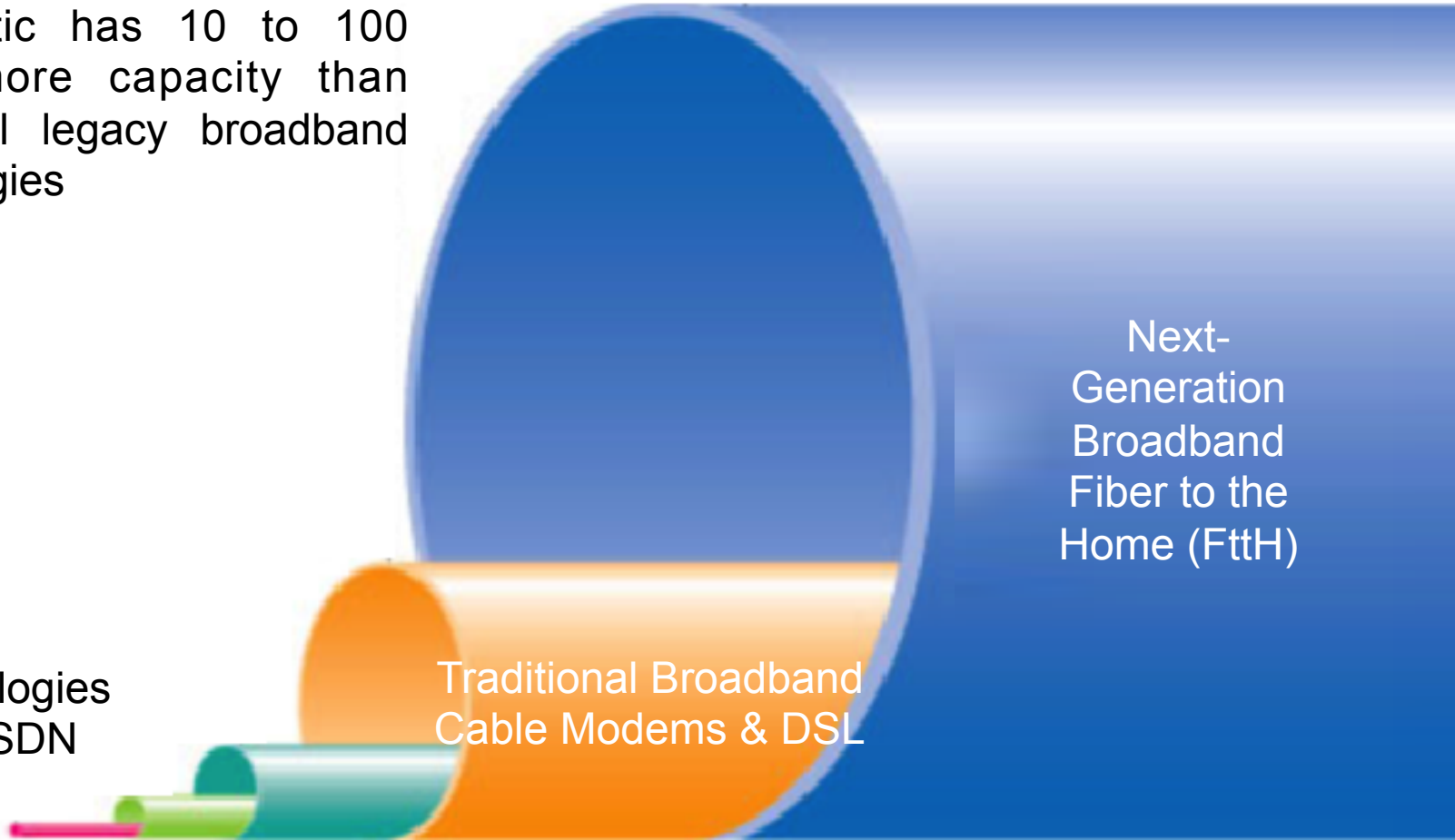
Feasible Options

- Infrastructure Provider
  - Adopt broadband-friendly public policies
  - Invest in broadband infrastructure
  - Consolidate public fiber assets under the Port
  - Develop lease and IRU rates for dark fiber assets
  - Develop Public Private Partnership
    - Invest in fiber assets throughout service areas

Why Fiber?

Bandwidth Compared – Next Generation vs. Other Technologies

Fiber-optic has 10 to 100 times more capacity than traditional legacy broadband technologies



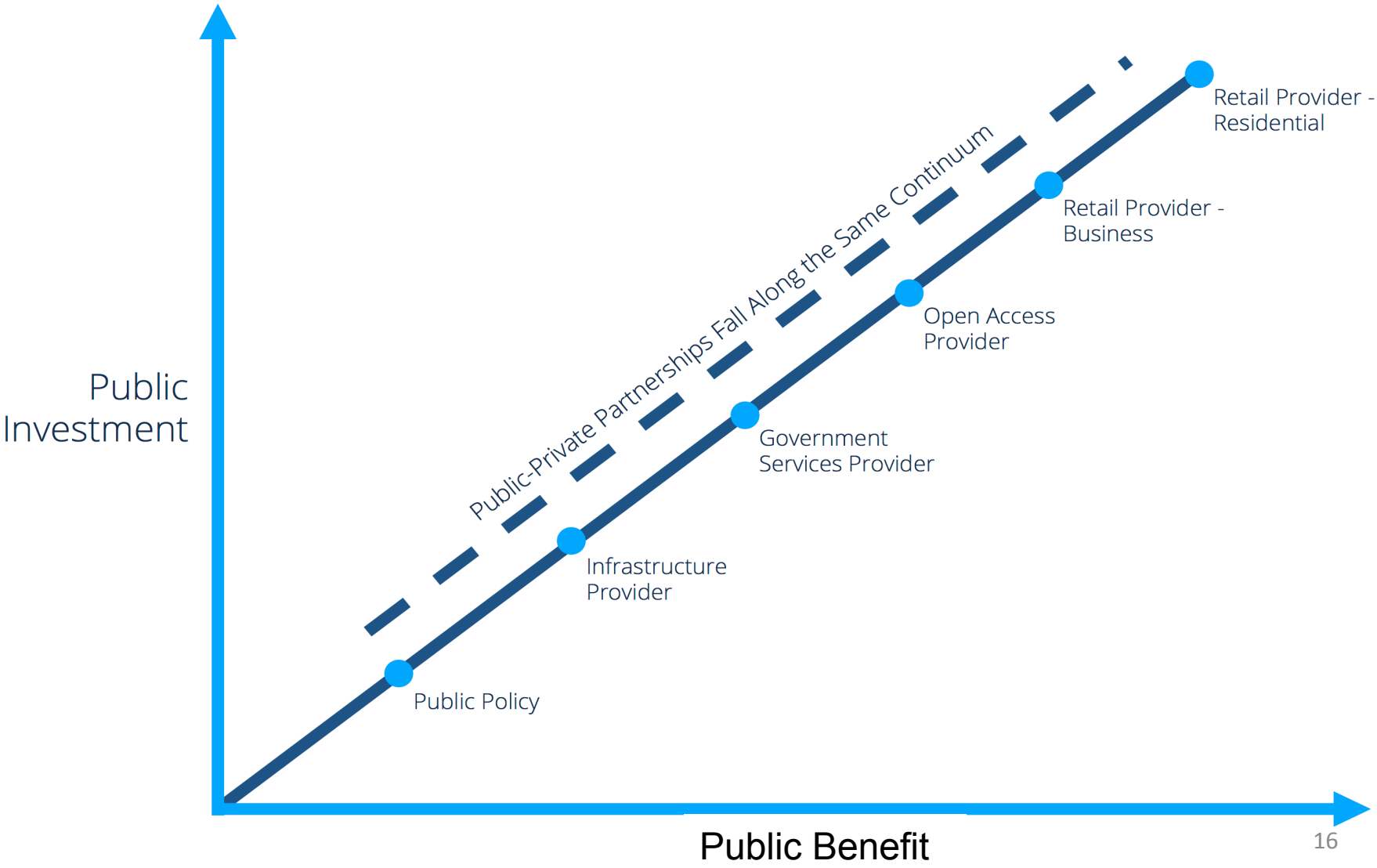
Benefits of Fiber

- Economic development
  - Attract and retain businesses
- Quality of life
  - State of the art amenities for residents
- Property values
  - Fiber has been shown to support higher values
- Education
  - Ensuring schools have access to all online technologies
- Government
  - Enabling smart city technologies that reduce cost and improve efficiencies

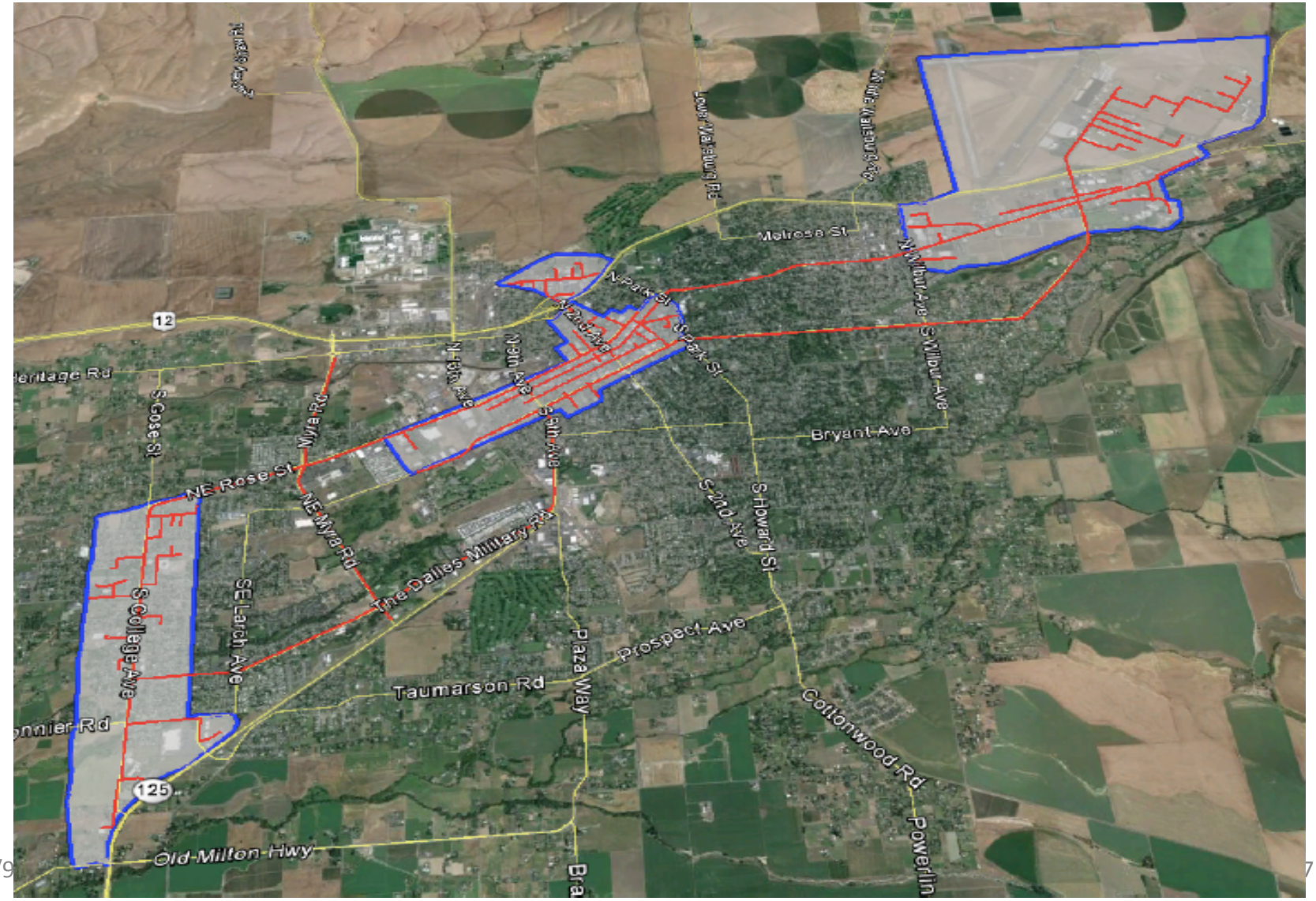
How would a PPP work?

- A PPP is a contractual agreement used to bring new fiber based services to a region
- Partnership Responsibilities
  - Port: make long-term investments in infrastructure - public maintains ownership
  - Provider: use assets to deliver services
  - Partners share in the Risk
- Revenue share is used to provide a return or payback to the Port

Models


Public Investment
Public Benefit
Public-Private Partnerships Fall Along the Same Continuum
Public Policy
Infrastructure Provider
Government Services Provider
Open Access Provider
Retail Provider - Business
Retail Provider - Residential

Proposed Service Areas



Capital Cost Estimates

Walla Walla Business Corridor Build Out Costs

Zone	1	2	3	4	Total
Area	Airport Park	Downtown Walla Walla	College Place Diverse Routes Myra Road	North of Hwy 12 Industrial	Overall Deployment
# of Commercial Properties	111	360	203	25	699
Fiber-Optic Network Costs	$835,306	$764,952	$1,460,789	$148,698	$3,209,745

*Costs do not include individual drops to each premise

Payback Metrics

Figure 7-9: Financial Analysis of Region Wide Deployment (10% Revenue Share, 3% Rate of Return)

Assumptions	Timeframe	10 Year	15 Year	20 Year	30 Year
ARPU: $150 per month	Annual Revenue to Port	$466,000	$359,333	$306,000	$252,667
Revenue Share: 10%	Ave. Revenue per Sub	$180	$180	$180	$180
Capital Investment: $3.2M	Average Annual Customers	2,589	1,996	1,700	1,404
Rate of Return: 3%					
Annual OPEX: $50,000	Total Return	$4.66M	$5.39M	$6.12M	$7.58M

Figure 7-10: Financial Analysis of Region Wide Deployment (10% Revenue Share, 0% Rate of Return)

Assumptions	Timeframe	10 Year	15 Year	20 Year	30 Year
ARPU: $150 per month	Annual Revenue to Port	$370,000	$263,333	$210,000	$156,667
Revenue Share: 10%	Ave. Revenue per Sub	$180	$180	$180	$180
Capital Investment: $3.2M	Average Annual Customers	2,056	1,463	1,167	870
Rate of Return: 0%					
Annual OPEX: $50,000	Total Return	$3.7M	$3.95M	$4.2M	$4.7M

*Payback does not include off-balance sheet returns including:

- Government efficiency/collaboration
- Business retention or growth – new jobs
- Quality of life
- Cost savings due to increased competition

Next Steps

- Begin discussions on Public Policy options
- Begin discussions on consolidation of fiber assets
- Move forward with PPP opportunity
  - Verify funding options
  - Develop RFI outlining goals, ask & offer
  - Release RFI in public procurement
  - Evaluate, short-list potential partners
  - Work toward development of MOU and definitive agreement
  - Develop a business plan for the Port of Walla Walla's fiber assets including lease and IRU rates

Questions?

Building Smarter Communities

Statistics from the US Fttx impact on home values

Better Broadband Boosts Home Value: Got Fiber?

The FTTH Council just released a study showing the positive correlation between home prices and fiber-delivered Internet, adding increased property value to the already long list of fiber's benefits.

Access to fiber adds **3.1%** to the value of a home.

The Fiber Effect
Access to fiber in your neighborhood raises the value of your home by
1.3%

+

The Speed Effect
Being able to get speeds up to one gigabit boosts the value another
1.8%

Put another way: that's an additional $5,437 for the sample median home price or like adding

A full fireplace.

Half of a bathroom.

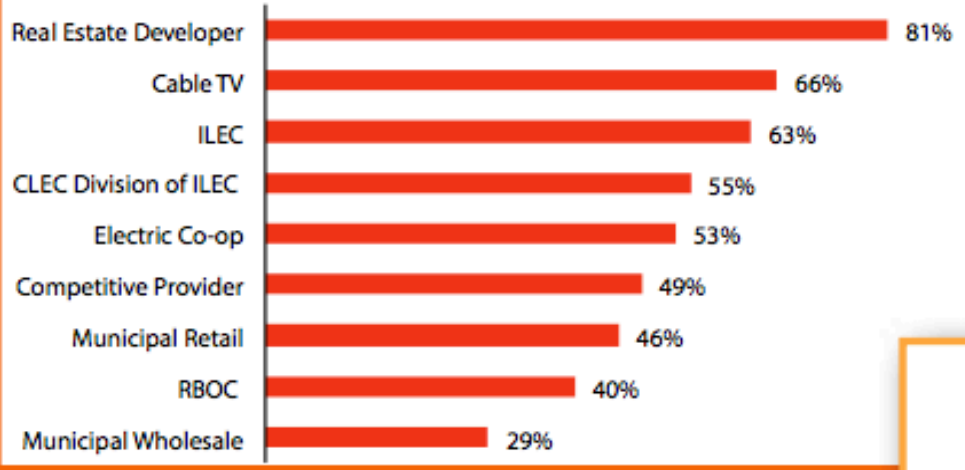
Or a quarter of a swimming pool!

The Gigabit Effect
Homes where one Gbps is available...

...have a transaction price over 7% more than similar homes where 25 Mbps or less is available.

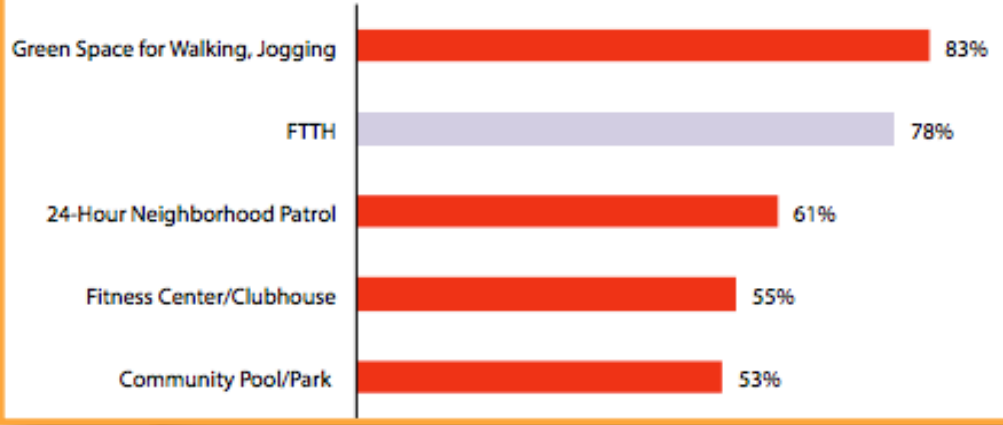
Source:
Molnar, G., Savage, S., & Sicker, D. (2015). Reevaluating the Broadband Bonus: Evidence from Neighborhood Access to Fiber and United States Housing Prices.

FTTH Take Rates by Provider Type



Real estate developers who install FTTH enjoy the highest take rates.

Non FTTH Users: Importance of Area Amenities if Shopping for New Home



Current FTTH Users: Importance of Area Amenities if Shopping for New Home

Source: RVA LLC

Availability of a fiber connection is among the most important amenities for buyers shopping for new homes. Among current FTTH users, it is the most important amenity.