



Port of Skagit

Vision Statement – The Port of Skagit leads efforts to build a strong economy in Skagit County while valuing the area's natural assets and quality of life.

December 4, 2017

3:00 PM

15400 Airport Drive, Burlington, WA

Mission Statement ~ Good Jobs for Our Community

Agenda

**Special Joint Work Session of the Port Commission and Public Utility
District No. 1 of Skagit County**

CALL TO ORDER

1. Introductions
2. Overview of Proposed Fiber Optic Network
3. Operating Agreement Discussion
4. Conclusion and Next Steps

ADJOURNMENT

Skagit Community Fiber Network System Architecture and Business Plan Requirements

Policy Paper

November 2017

Background

The Port of Skagit (Port) and partners have been engaged in collaborative planning for a countywide dark fiber network since the fall of 2016. The Port, Skagit County and EDASC produced a Strategic Plan for fiber optics in March 2017. That plan was adopted by Skagit County as the guiding document for fiber optic investments in Skagit County in July 2017 and the County designated the Port as the responsible party for implementation of the plan.

This summer, Skagit County granted \$1.2 million to fund essential fiber optic infrastructure in the county and asked the Port to take responsibility for dispersal of the funds for fiber optic work consistent with the Strategic Plan. The Port has issued a draft Interlocal Agreement to the cities of Mount Vernon, Anacortes, and Burlington to provide funding for fiber projects undertaken by those municipalities.

The Port has a preliminary Interlocal Agreement with the Skagit PUD for joint ownership and operation of a dark fiber backbone.

The objective of this work is to develop a successful framework for the provision of fiber optic infrastructure in Skagit County, such that public investments are managed effectively for the benefit of the community, with a focus on improving service to rural areas that currently lack adequate access to reliable, affordable, high speed internet.

Policy Goal

Regarding telecommunications services, the best future for Skagit County citizens and businesses is to provision a countywide fiber optic network that is open access, transparent, and non-discriminatory, where any retail service provider can serve any area or customer in the county.

Provision of an open access fiber optic backbone infrastructure will make it possible for many service providers to compete for retail services on the network with the goal of maintaining high service levels at reasonable prices across Skagit County.

The Challenge

The following challenges exist with respect to implementing this policy goal:

- Currently, fiber optic infrastructure in Skagit County is built in isolated networks, some privately owned, some municipally owned.
- Rural areas have little to no fiber infrastructure and many rural areas continue to be underserved with broadband access.
- The capital investment required to serve rural populations can't be returned on industry standard ROI timeframes.
- Revenue generating potential is greater in urban areas than rural.
- Retail providers with access to urban markets in Skagit County, will find it easier to serve rural markets on an open access system at wholesale prices.

Proposed Business Model

To address these challenges, the Port proposes implementing a dark fiber, open access network model. The model is a public-private partnership where a publicly owned fiber optic backbone is constructed and leased on a wholesale basis to internet service providers to deliver service to end users. Customers of the network would include telecommunications providers that are licensed by the Utilities and Transportation Commission (UTC), including competitive local exchange carriers (CLECs), community internet service providers (ISPs), and wireless ISPs. These customers would lease dark fiber for wholesale services and backhaul capacity.

Network Architecture

Proposed network architecture would include a dark fiber backbone running from Anacortes to Concrete, connecting Anacortes, Mount Vernon, La Conner, Burlington, Sedro-Woolley, Lyman, Hamilton, and Concrete. Eventually, the backbone would extend farther east to provide redundant service to the Seattle City Light hydropower facilities.

Essential system elements include:

- A high-capacity fiber optic backbone with interconnections to distribution networks.
- A central colocation hut and data center for primary access into the county from a primary fiber optic cable running north-south on the I-5 corridor to the Westin Exchange in Seattle.

- Smaller colocation huts or vaults in each community. These colocation facilities will form the interconnection points between the primary countywide fiber optic backbone network and distribution networks within communities. As much as possible, ingress/egress on the backbone network will be limited to designated colocation facilities to retain capacity in the system and limit splicing.
- Distribution networks may be hybrid systems. Small business and residential service would be provisioned through lit fiber services either directly from a municipal network, or indirectly through a dark fiber lease to a telecommunications provider.
- Dark fiber capacity must be sufficient to connect large data users directly to the backbone through colocation facilities. Additional capacity should be provisioned with fiber builds where insufficient capacity exists to offer dark fiber connections currently.
- Dark fiber is constructed to the premises, at which point the provider will connect electronics.

A map of this concept showing colocation huts is attached as Exhibit A.

Telecom Provider Needs

A single open access countywide business model for dark fiber leasing on the network will allow a competitive field of telecommunications providers to serve all areas of the county, making services viable in rural areas by aggregating need across urban and rural communities.

Essential business model elements for work with providers include:

- A common pricing structure for dark fiber.
- Access to dark fiber that extends to the premises to serve end users.
- Rack space in a data center in the county that connects to the countywide network.
- Streamlined leasing between communities and the ability to work with a single leasing entity countywide for access to the fiber optic backbone.
- Assurance that the network will be monitored, maintained, and repaired with a high level of reliability and responsiveness, consistent with the standards of the industry.

Cooperative Work

The proposed system requires that multiple organizations in Skagit County work together to provide all necessary system elements seamlessly countywide. Success also requires working with telecom providers in a way that meets their needs and makes the best use of their core competencies and capabilities.

The following elements are recommended for cooperative work:

- Sharing of infrastructure between entities through one of two mechanisms:
 1. Shared ownership within a single fiber optic cable with a specified strand count dedicated to dark fiber leasing.
 2. Dedication of backbone capacity through various individual ownerships using Indefeasible Right of Use (IRU) contracting instruments.
- Revenue distribution between entities based on a common pricing structure applied to the length of the run within each service area. These lengths would be defined by demarcation points established at colocation huts within each community.

Pricing Model Concept

We propose adopting a two-tier pricing structure with backbone and distribution elements.

Backbone Pricing

Backbone prices would apply to fiber strands between communities on the backbone. Backbone prices will be established to diminish with distance from urban areas to incentivize service to rural eastern Skagit County. We suggest a three-tier pricing structure for backbone segments to capture the variation in market potential across the county.

An example rate structure is provided below with prices ranging from \$15 to \$50 per strand per mile per month. A corresponding map of fiber segments is provided as Exhibit A.

Example Backbone Rate Structure

Run	Length (mile)	Rate (\$/strand/mile/month)	Monthly Fee per Strand	Annual Fee per Strand
Segment 1	12.73	\$50	\$637	\$7,638
Segment 2	6.12	\$50	\$306	\$3,672
Segment 3	6.14	\$30	\$184	\$2,210
Segment 4	8.74	\$30	\$262	\$3,146
Segment 5	10.90	\$15	\$164	\$1,962
Segment 6	11.13	\$15	\$167	\$2,003

Based on this rate structure, a telecom customer purchasing wholesale fiber from a centrally-located colocation facility on the I-5 corridor to a distribution meet-me hut located outside the Anacortes city limits, a run length of 12.73 miles, would pay \$637 per month for a strand of service.

A telecom provider wishing to serve the Town of Concrete from the central colocation facility would lease fiber through Segments 4, 5, and 6, a run length of approximately 31 miles, and would pay a wholesale dark fiber lease rate of \$593 per strand per month to access the local distribution hut on this run.

Distribution Pricing

To serve customers, telecommunication providers operating on the backbone would also need to access local distribution networks. Distribution prices would apply to segments within city or town boundaries that run from the colocation hut to the end user premises. These fees are in addition to the backbone lease fees. For example, a distribution charge of \$0.02 per foot with a one-mile minimum charge would add \$105 per strand per month to the backbone fees required to serve an end user.

In areas where there is an existing distribution network in place or under construction, including Mount Vernon, Burlington, and Anacortes, it is critical that managing entities work together cooperatively to determine a common distribution rate model that works in coordination with the backbone rate model, such that total retail service rates meet the needs of the community while providing a reasonable return to telecom providers.

Revenue Distribution Concept

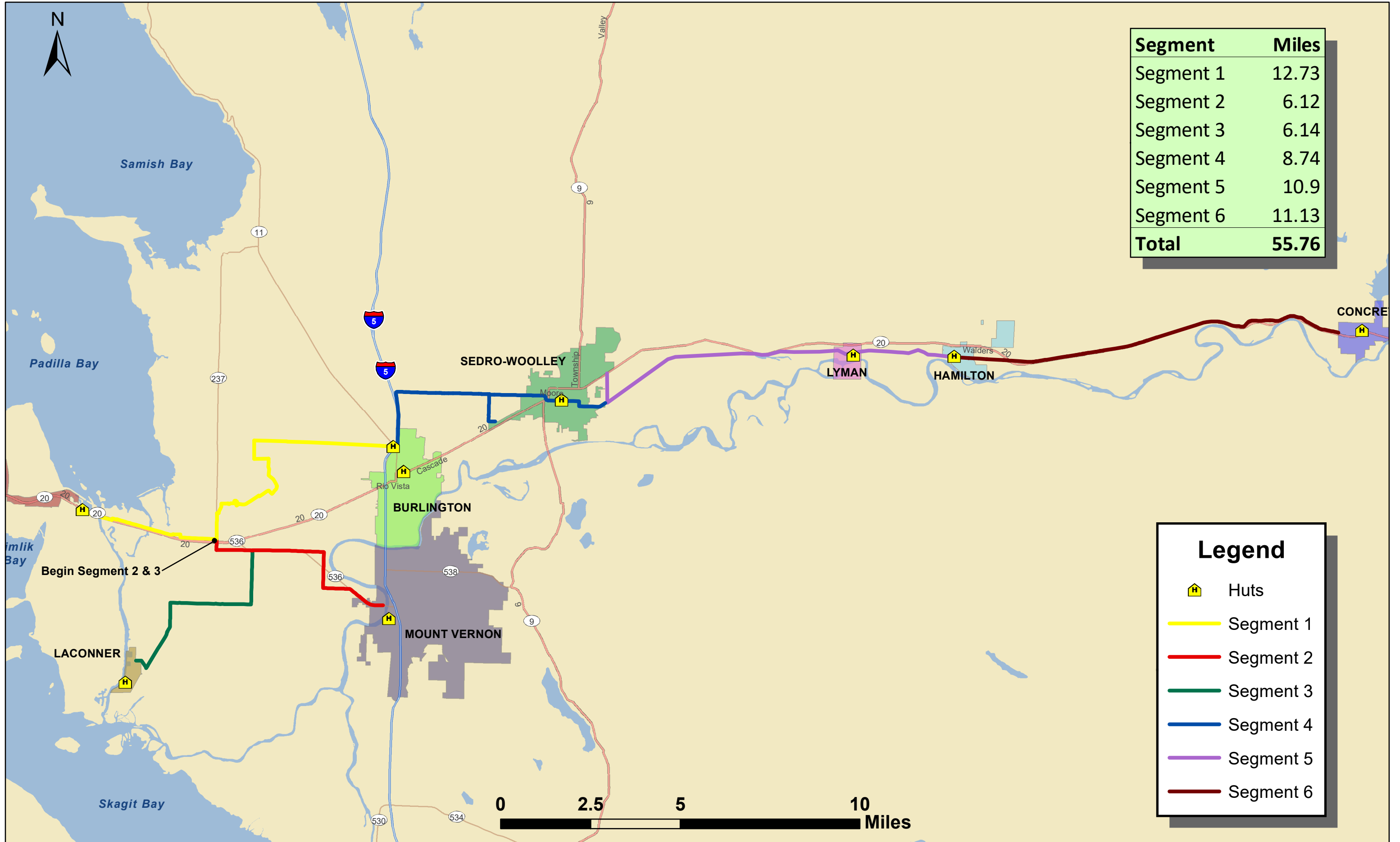
Revenue distribution between fiber owning partners is proposed with two primary goals:

1. Allow each fiber owning entity to support their own system with maintenance and new build costs; and
2. Support the extension of service beyond urban areas to serve Skagit County's underserved rural population.

Revenue distribution concepts include:

- Dark fiber lease fees on the backbone between communities, as defined by colocation hut placement, go to support the backbone.
- Where there is already a municipal fiber network in place currently, dark fiber lease fees within communities would go to the municipality managing the network.
- In rural communities, or where there is not a current municipal network in place, dark fiber lease fees would go to support the backbone.

Exhibit A



FURLONG  BUTLER
ATTORNEYS

MEMORANDUM

TO: Board of Commissioners, Patsy Martin, Executive Director and Sara Young, Director of Planning and Facilities, Port of Skagit

AND TO: Board of Commissioners, George Sidhu, General Manager and Gary Chrysler, IT Manager, Skagit County PUD No. 1

FROM: Brad Furlong, Port of Skagit Legal Counsel *BEF*

DATE: November 29, 2017

RE: Fiber Backbone Entity

Introduction. The Port of Skagit (“Port”) and the Public Utility District No. 1 of Skagit County (“PUD”), along with other entities, have participated in the development of a countywide Fiber Optic Network Strategic Plan that calls for construction of an open access fiber optic backbone running throughout the county that will provide the essential telecommunications infrastructure and connection to the internet necessary to support provision of affordable high speed internet to residents and businesses in the county.

The Port and PUD entered into an initial interlocal agreement committing to pursuit of a joint ownership and operating structure for the countywide fiber optic backbone. The Port and PUD are complementary partners in this effort, having similar statutory authority and district boundaries.

Now the Port and PUD are considering a second Interlocal Agreement that will refine issues left unaddressed in the first Interlocal and move the parties further down the path to the development of a countywide fiber optic telecommunications backbone. Plans are to develop a fiber optic network from the Swinomish and Guemes channels in the west through central Skagit County as far east as the Town of Concrete and possibly on to the Seattle City Light dams. The Port and the PUD plan to work together to jointly own and manage the backbone infrastructure, including portions of the communications components. The backbone network would be managed such that fiber optic capacity would be leased on a wholesale basis to Competitive Local Exchange Carriers (CLECs) and Internet Service Providers (ISPs), collectively referred to as “Telecom Providers,” for the provision of telecommunications services in the county. The Port and the PUD have held numerous discussions on how best to facilitate this cooperative venture.

Initial Agreement. The initial Interlocal Agreement committed the parties to working collaboratively on the development of a Joint Operating Agreement to address the system needs and for collaborative, joint management of the backbone system. The first Interlocal included a number of specific areas in which agreement would be needed to fully complete the details of the parties' relationship. The Agreement also foresaw that the parties may wish to form a separate management entity in the future. Based on recent discussions, Port Staff and PUD Staff have reached the conclusion, subject to review and approval of both Commissions that forming an entity for their joint efforts in the near future makes the most sense. The purpose of this Memorandum is to discuss some features of such an entity so that the Staff and the Commissioners of both the PUD and the Port may consider the best course moving forward.

Statutory Authority. Both the PUD and the Port are allowed to form agreements and engage in joint enterprises by the Washington Interlocal Cooperation Act, Chapter 39.34 RCW. The Act specifically allows that such agreements may include the formation of "a limited liability company organized under Chapter 25.15 RCW whose membership is limited solely to participating public agencies, and the funds of [which] any such corporation, partnership, or limited liability company shall be subject to audit in the manner provided by law for the auditing of public funds" RCW 34.34.030(3)(b). Such agreements are also required to specify their duration, the purposes, the manner of financing the cooperative undertakings and maintaining the budget, the methods for accomplishing partial or full termination of the agreement, and any other and necessary matters. The formation of such entities by local government entities is becoming more and more common.

Why an LLC? The advantages of the formation of a limited liability company are many. It allows:

- the two parties to agree to a governance structure;
- the entity to contract with third parties;
- the two parties to delegate to joint staff certain responsibilities for the operations of the entity;
- the two parties to delegate to staff the development of technical specifications and the oversight of projects and the management of accounts;
- the two parties to accurately contribute and account for assets including equipment and funds;
- the entity to own real and personal property;
- the entity to disperse funds back to the two parties;
- the entity to add members in future;
- the parties to create arrangements for the termination of the venture and the winding up of the business for the entity and/or the sale of the entity to one of the parties.

Formation. The creation of such an entity occurs by the filing of a Certificate of Formation with the Office of the Secretary of State and the agreement by the PUD and

the Port to an Operating Agreement setting forth the specific terms and conditions described above as well as others. I would recommend that such an Operating Agreement reserve to the two Boards of Commissioners certain basic fundamental (existential) powers such as the termination of the entity; the sale of substantially all its assets; the setting of a capital and operating budget; and possibly the letting of contracts over a certain threshold amount as well as other items. Otherwise, the Commission may delegate to an Operating Board (comprised of two (2) members from each party) the day-to-day management and control over the operations of the entity.

Specific Provisions.

Ownership of Infrastructure. The Agreement would set forth the manner by which the components of the fiber optic backbone network are owned. I anticipate that the Port and the PUD would own the basic infrastructure and communications strands dedicated to wholesale Telecom Provider use as “Tenants in Common” or that these components would be owned by the entity. I expect that for certain segments of the backbone, each party would own its own buffer tubes and/or fiber optic strands for its intra-agency use.¹

Wholesale Leasing of Fiber. The Operating Agreement would allow the entity to enter into dark fiber lease agreements with Telecom Providers to utilize the backbone to serve customers.

City-Owned Fiber Interconnections. In cases where the Telecom Provider will need to access a city-owned fiber optic network to serve a customer, the Port/PUD entity would need to have an agreement with the city to allow use of the city’s network and provide a revenue distribution model that is equitable to both the city network and the backbone network.

Budget and Capital Project Planning. The Agreement would allow the Operating Board to establish operating and capital budgets, as well as establishing a long-range capital improvement plan for the backbone network. Those plans and recommendations would come to both Boards of Commissioners for adoption.

Administration and Staffing. I expect that either or both the Port and the PUD could contribute the necessary clerical and office space such that the entity is not required to own or lease its own office space or employ its own employees. To the extent that the contribution of office space, office equipment, office supplies and employee labor is anything other than even, the parties should arrange to keep track of the costs, possibly a small administrative fee, and then make payment to the providing district.

¹ “Tenants in common” is a legal term of art describing the joint, undivided ownership of real or personal property by two or more persons or entities. To envision the parties’ overall ownership relationship, think of a condominium—the building is owned in common by the residents and each resident owns her/his own apartment. Here, the districts will both own in common the infrastructure and the buffer tubes/fibers leased to third parties and each district will own its own buffer tubes/fibbers in the cable.

Other matters. As the Agreement is drafted, those matters that are set forth in Appendix A of the initial Interlocal Agreement will need to be addressed and incorporated. Most of those issues should dovetail with or be supplemental to the terms and issues outlined above.

Application of Public Laws. Because the entity will be owned by two public entities, it is required (as noted above) that it be subject to audit by the State Auditor's Office. It is also likely that the entity will be subject to the Open Public Meetings Act and to the Washington Public Records Act. With respect to the Open Public Meetings Act, it may make sense to design the Operating Board in such a fashion that it does not become a "governing board" subject to the requirements of the Open Public Meetings Act.

Conclusion. I believe the formation of a limited liability company by the PUD and the Port would constitute a positive (if not necessary) step forward in the development of a countywide fiber optic backbone and will serve to create excellent ground rules by which the Port and the PUD can develop a trusting and predictable relationship. I look forward to answering any questions concerning this concept at your earliest convenience.