April 5, 2005
ILR 2005-C

President John L. Valentine
Speaker Greg J. Curtis
Audit Subcommittee Members
State Capitol Complex
Salt Lake City, UT 84114

Subject: Local Government Fiber Optic Networks

Dear Legislators:

Our office was asked to conduct a limited review of the funding and success of the community-based fiber optic network in Spanish Fork City. We were also asked to compare, where possible, the Spanish Fork system with the development and deployment of the Utah Telecommunication Open Infrastructure Agency (UTOPIA).

While the telecommunications systems in Spanish Fork City appear to be operating successfully and meeting strategic goals, questions about it's use of electrical funds need to be resolved. Specifically, the Spanish Fork City Council needs to decide how the $2.3 million borrowed from the city's electric department will be paid back in order to ensure that the city's electrical users are not subsidizing the cable and internet users.

The telecommunications systems in Spanish Fork was launched in July of 2001 and now delivers cable TV and/or internet to approximately 6,600 customers in the city. The Spanish Fork Community Network (SFCN) is unique because it is the only municipal owned and operated telecommunication system in Utah that delivers retail cable and high-speed internet services to residents and businesses in their city. In effect, Spanish Fork competes directly with private providers of cable and internet services.

While the Spanish Fork system is up and running, construction for the UTOPIA system is still under way. Construction for Phase I of UTOPIA has just recently begun and it is

anticipated that over 51,000 homes and businesses will be connected to the systems infrastructure with cable, internet and phone capabilities sometime in the fourth quarter of 2005. UTOPIA is an agency currently made up of 14 member cities and it's purpose is to build, maintain and operate a telecommunications infrastructure that gives each home and business the opportunity to have reasonably-priced access to a high-speed network offering a variety of private-sector services including internet, voice, television, video-on-demand, home security and other services. UTOPIA's goal is to enhance the economic development efforts of it's member cities and improve the quality of life for their customers.

The current 14-member cities of UTOPIA are: Brigham City, Cedar City, Cedar Hills, Centerville, Layton, Lindon, Midvale, Murray, Orem, Payson, Perry, Riverton, Tremonton, and West Valley. UTOPIA will not provide retail services like Spanish Fork, they will provide the network and service providers will then use the network to deliver services to homes and businesses for a fee. Spanish Fork is an example of the retail model and UTOPIA is an example of the wholesale model.

Other Utah cities have ventured into the telecommunications infrastructure business. For example:

1. Provo launched a wholesale model infrastructure very similar to UTOPIA.
2. American Fork deployed a wholesale model infrastructure to provide internet access to it's citizens through private retail service providers.
3. Levan operates a cable system that provides about 20 channels to their residents.
4. Eagle Mountain provides basic phone hook-ups and DSL services to their residents.

Utah Code 10-18, known as the Municipal Cable Television and Public Telecommunications Services Act, governs municipalities that venture into the cable and telecommunications business.

The Municipal Cable Television and Public Telecommunications Services Act was enacted to enhance the development and widespread use of technological advances in telecommunications, improve customer services and ensure fair competition in the market. The policy of the State of Utah, with regards to this act, is listed in Figure 1 below.

Figure 1. *Utah Code* 10-18-101 (2) (a-f). The Municipal Cable Television and Public Telecommunications Services Act assures among other things, that fair competition exists when municipalities enter the business of enhancing cable television or telecommunications services.

Utah Code 10-18-101 (2) reads, "The Legislature finds that it is the policy of this state to:

(a) ensure that cable television services and public telecommunications services are provided through fair competition consistent with the federal Telecommunications Act of 1996 in order to provide the widest possible diversity of information and news sources to the general public;
(b) advance the exercise of rights under the First Amendment of the Constitution of the United States;
(c) enhance the development and widespread use of technological advances in providing cable television services and public telecommunications services;
(d) encourage improved customer service of cable television services and public telecommunications services at competitive rates;
(e) ensure that cable television services and public telecommunications services are provided within a consistent, comprehensive, and nondiscriminatory federal, state, and local government framework; and
(f) ensure that when a municipality provides to its inhabitants cable television services, public telecommunications services, or both, and competes with private providers whose activities are regulated by the municipality, the municipality does not discriminate against the competing providers of the same services.

A number of cities that came together to form UTOPIA and Spanish Fork had already begun working on their networks when the Municipal Cable Television and Public Telecommunications Services Act was passed by the Legislature. Due to their prior commitments, these systems were exempted from some of the Act's restrictions. Although given exemptions, UTOPIA and Spanish Fork are still expected to adhere to the general provisions and policies of the Act. The initial funding of fiber optic networks is expensive and current restrictions placed by the Legislature in the Municipal Cable Television and Public Telecommunications Services Act ensure that due diligence is required before a public entity may proceed with any allowable undertaking.

Initial Funding of Fiber Optic Networks Is Expensive

Constructing fiber optic networks, used to deliver high quality cable and telecommunications services, is both expensive and risky. The high cost to build the initial network infrastructure forces cities to first obtain adequate funding. These systems have an

inherently high risk because once financing is secured there must be a significant number of users paying for services in order to retire the debt incurred and cover operation and maintenance expenses of the system.

UTOPIA's management stated that their business model is:

> ...based on typical consumer behavior. That is, it logically assumes that a portion of existing Internet users will take advantage of opportunities to buy significantly faster Internet access for the same price they are now paying for slower Internet access, or to buy a broadened and improved range of communications and video entertainment services for what they may now be paying for basic phone or cable TV. From the sales of these superior services, the private service providers will pay an access fee to UTOPIA, who will use those proceeds to run the network and retire the bonds.

Both UTOPIA and Spanish Fork City have incurred significant debt, in the form of bonds, to deploy their fiber optic networks to residents and businesses in their respective service areas.

Financing Necessary to Cover Initial Expenses of Fiber Optic Networks

Funding capital investments and the deployment of fiber optic networks is expensive. In August of 2000, Spanish Fork City used its electrical division to bond for $9.23 million. About $7.23 million from the bond proceeds was earmarked for the fiber optic network and $2 million was committed to a new electrical substation. Deployment of the fiber optic systems was completed in 2004 at a cost of approximately $8.3 million. With interest from bond proceeds, Spanish Fork City had about $7.5 million available for the fiber optic system. This was less than what was actually needed—so about $800,000 was borrowed from the city's electric budget. Listed below in Figure 2 is a summary of capital expenditures and costs incurred by Spanish Fork City in order to get the Spanish Fork Community Network (SFCN) up and running.

Figure 2. Capital Assets by Fiscal Year for the Spanish Fork Community Network (SFCN). Proceeds from the electrical revenue bond issued to construct and deploy SFCN in 2000 was $7,457,033. Spanish Fork borrowed $795,716 from the electrical budget to cover total expenses.

Fiscal Year	Asset	Amount	How Funded
2000	Communication Assets	$ 325,437	Electric Budget
2001	Head-End Building	799,251	Bond Proceeds
2001	HFC Plant and Equipment	3,325,933	Bond Proceeds
2002	HFC Plant and Equipment	2,294,043	Bond Proceeds
2003	HFC Plant and Equipment	1,037,806	Bond Proceeds
2003	HFC Plant and Equipment	119,749	Electric Budget
2004	HFC Plant and Equipment	350,530	Electric Budget
	TOTAL	**$ 8,252,749**	

The total amount listed in Figure 2 connected almost 100 percent of the homes and businesses in Spanish Fork City to the SFCN.

UTOPIA is a far more ambitious project than SFCN. UTOPIA estimates that it will cost approximately $340 million to construct and deploy the network in all eleven pledging cities. To minimize risk, UTOPIA is phasing construction and deployment of their network, waiting to see the success and viability of one phase before moving on to the next. For Phase I, Brigham City, Centerville, Layton, Lindon, Midvale, Murray, Orem, Payson, Perry, Tremonton, and West Valley combined to pledge approximately $7.9 million of sales and use taxes to support the $85 million bond issued in July of 2004. It is anticipated that about 33 percent of the total connections anticipated for the eleven city build will be completed in Phase 1.

UTOPIA's decision to complete the construction and deployment of it's network in phases has helped mitigate the risk of ever having to draw upon the city pledges. If Phase I does not work out to be financially viable, then subsequent construction will likely not be pursued. Member cities of UTOPIA run the risk of being financially responsible for any shortcomings if UTOPIA fails.

Sufficient Number of Subscribers Necessary to Cover Liabilities

A sufficient number of fiber optic network service subscribers is necessary for a system to be financially viable. The more potential customers connected to a network, the greater opportunity the system has for success. Connecting potential customers to the network is the first step, the next step is providing desirable services. These services need to be superior in quality and/or price to attract the volume of customers needed to make a system financially viable. Public entities looking to provide cable television or public telecommunications services are limited to customers residing within their geographic boundaries. ***Utah Code*** 10-18-303(7) states:

> A municipality may not offer to provide or provide cable television services or public telecommunications services to a subscriber that does not reside within the geographic boundaries of the municipality.

In Spanish Fork City, the SFCN is available to virtually all homes and businesses in the city. The SFCN reports that 55 percent of the potential customers in their market subscribe to SFCN cable services and 37 percent of the potential customers in their market subscribe to SFCN internet services. These percentages equate to over 4,000 cable subscribers and over 2,600 internet subscribers for SFCN. The SFCN also reports that they are averaging requests for thirty new installs a week.

UTOPIA also plans on 100 percent availability to the homes and businesses in their fourteen member cities. Figure 3 shows the estimate number of connections planned by UTOPIA during each phase of construction. These numbers are fluid in the sense that they change based on actual construction within each city.

Figure 3. Number of Units (Residential and Business) that UTOPIA is Planning on Connecting too. The number of units listed below represent 100 percent of the homes and businesses in each city as of January 31, 2005 that UTOPIA plans on connecting too.

City	Phase I Units	Phase II Units	Phase III Units	Subsequent Construction	TOTAL(s)
Brigham City	0	6,455	0	0	**6,455**
Cedar City	0	0	0	8,461	**8,461**
Cedar Hills	0	0	0	1,783	**1,783**
Centerville	0	1,881	3,175	0	**5,056**
Layton	0	9,476	11,712	0	**21,188**
Lindon	2,485	826	1,853	0	**5,164**
Midvale	9,104	0	2,824	0	**11,928**
Murray	14,962	0	4,159	0	**19,121**
Orem	8,833	0	17,219	0	**26,052**
Payson	1,547	3,020	929	0	**5,496**
Perry	0	786	0	0	**786**
Riverton	0	0	0	7,207	**7,207**
Tremonton	0	1,940	589	0	**2,529**
West Valley	14,659	1,875	20,654	0	**37,188**
TOTAL(s)	**51,590**	**26,259**	**63,114**	**17,451**	**158,414**

The number of planned connections does not necessarily mean that services will be delivered, nor does it mean people will subscribe. UTOPIA is relying on potential customers recognizing the service benefits of their network to sway customers and thus make the system financially viable. UTOPIA's feasibility study show that a 50,000 connection network is large enough to be self sufficient and retire the bond. Phase I is scheduled for at least 50,000 connections.

Spanish Fork Community Network Has Progressed Towards Strategic Goals

Spanish Fork City leaders state that they got into the cable TV and internet business because the existing providers were not providing quality services in their area. The existing service providers were only providing quality services as far south as Provo. Spanish Fork City officials also felt that when upgrades did occur they occurred with left-over equipment from bigger projects. As a result of the perceived lack of services and the city's inability to find anyone to build the type of system their community needed, they decided to provide it for themselves.

Initially, Spanish Fork City started installing fiber optic cables to meet the needs of the city government and the services it provides. They planned on looping fiber optic cables throughout the town to connect the city infrastructure. The broadband concept grew from the excess capability of the fiber optic cable. Spanish Fork City officials saw the development of high-speed internet capabilities for it's residents and businesses as a must. They reported that businesses were threatening to relocate outside of Spanish Fork City if they could not get high-speed internet.

Goals of the Spanish Fork Community Network Being Realized

The goals of developing the SFCN by Spanish Fork City officials are being realized. Spanish Fork City officials report that their strategy, from the beginning, was to have a program in place with the capability to:

- Develop community channels to involve all residents, both new and old, in the events occurring in the city.
- Provide access to a broadband connection to every business and residence.
- Create a municipally operated cable television system to instill competition into the de facto monopoly.
- Provide access to all local schools and connect requesting churches.
- Ensure system was ungradable to new technologies as they emerged.

Spanish Fork City officials reported that their system is a success according to these measurable results based on their intended strategies. As reported by city officials:

- The rural town of Spanish Fork now has the most broadband choices of any city in Utah.

- 100 percent of the homes and businesses have access to high speed internet.
- Spanish Fork is now well over the US national average for homes connected with high speed internet (26% vs. 37%).
- High speed internet pricing is 44 percent less than incumbent provider, helping to bridge the digital divide.
- Over 55 percent of city residents now have daily access to current government meetings, local sporting activities and special events through two local community channels.
- City officials report that their system is ungradable.
- System is paying for operations and debt service.

Spanish Fork City officials also reported that the development and deployment of SFCN has created competition in the internet and cable television services market in Spanish Fork. Since then, the previous sole provider has rebuilt their infrastructure in Spanish Fork City with improved services. City officials from Spanish Fork reported that the city's fiber optic system gave the incumbent service provider incentive to improve in Spanish Fork City and services offered are now less expensive for Spanish Fork residents than they are in neighboring smaller cities.

Spanish Fork Needs to Address Borrowed Financing

As of 2005, the SFCN budget shows the system will be self-sufficient in terms of covering all declared expenses and liabilities. This means that the SFCN now generates enough revenue to make the bond retirement payments and cover operations and maintenance expenses. In its first four years of operations, the SFCN did not generate enough revenue to cover all expenses and liabilities. As a result, about $1.5 million was transferred into the SFCN budget from the city's electric department to cover expenses and liabilities. This is in addition to the almost $800,000 borrowed from the city's electric department for initial construction. In total, the SFCN owes $2,307,666 to the city's electric department.

Under current provisions of the Municipal Cable Television and Public Telecommunications Services Act this borrowing of funds would not be allowed, but because Spanish Fork issued their bonds and started construction before the provisions were legislated, they are exempt. City officials from Spanish Fork said that in hindsight they could have bonded for more. Spanish Fork City has two options to pay back the borrowed funds; Raise rates and pay the loans back now or wait until the 15 year bond is retired to pay the loans back. If it is decided that the loans will be paid back when the bond is retired, then interest should be paid on the loans to ensure that the city's electrical users are not subsidizing the cable television and

internet users. We believe that the current city council should decide how the $2.3 million borrowed from the city's electric department will be paid back.

In summary, we hope this report addresses the concerns regarding local governments involvement and financing of fiber optic networks in Utah. If you have any further questions, please call our office at (801) 538-1033.

Sincerely,

John M. Schaff, CIA
Auditor General

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