
SALT LAKE CITY COUNCIL STAFF REPORT

DATE: February 27, 2004

SUBJECT: **Follow UP on UTOPIA Fact-Finding Meeting**

AFFECTED COUNCIL DISTRICTS: Citywide

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**ADMINISTRATIVE DEPT.
AND CONTACT PERSON:** Department of Management Services
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On February 5, 2004, the City Council and Mayor held a fact-finding meeting on the Utah Telecommunication Open Infrastructure Agency (UTOPIA). UTOPIA proposes to install a fiber optic network within 18 Utah cities to the boundary of every property in each member city. The network would be used by private companies to provide retail fiber optic services to homes and businesses. Seven invited guests spoke at the fact-finding meeting. Three guests represented organizations opposed to the project and three guests spoke in favor of the network. The City's financial advisor was also invited to speak.

Subsequent to the meeting Council Members requested that Council staff research some of the facts relating to the UTOPIA project and services provided by current providers. Council staff has summarized its research into the following major categories presented on the following pages:

- Structure of UTOPIA
- Wholesale model
- Fiber and other technologies
- Benefits of UTOPIA to Salt Lake City residents and businesses
- Take rates
- Cost of materials and installation
- Pledge amount and triggering event
- Current availability of broadband
- Dark fiber and insolvent ventures
- Cable broadband availability in Salt Lake City
- DSL broadband availability in Salt Lake City

KEY ELEMENTS:

The Council is being asked by UTOPIA to decide whether or not the City wants to move forward as a member of UTOPIA and participate in the construction and operation of a carrier class fiber optic network that will pass every property in the UTOPIA service area. The City must decide if it is willing to authorize the issuance of revenue bond debt for the construction of the network and whether or not the City will pledge future sales tax revenue as a guarantee on the debt service for the revenue bonds.

The documents that are before the Council would not be the final step in this process. If the City elects to move forward with an affirmative vote on these resolutions UTOPIA would come back to the City with firm numbers on the guarantee and the City would be asked to adopt final documents.

These documents:

- Authorize and approve the pledge of sales tax revenues;
- Authorize the execution by the City of a pledge and loan agreement and any other documents required in connection with this issue;
- Provide for publication of notice of pledge of Excise Tax Revenues;
- Provide for the running of a contest period (30 days);
- Authorize and approve the taking of all other actions necessary to consummate the transaction contemplated by the resolution;
- Provide a severability clause;
- Repeal resolutions and orders in conflict;
- Provide an effective date;
- Related matters.

The Legislative document before the Council is a resolution authorizing the City to take a number of actions as noted above. Under the Mayor-Council form of government the Mayor executes contracts and related documents. It is Council staff's understanding that the Council's affirmative action on this resolution would give the Mayor the authority to sign the documents but would not require him to sign them.

The Council will hold a public hearing on this issue during the formal City Council meeting on March 2, 2004.

The Council has three options:

1. Not to participate in UTOPIA
2. Participate in UTOPIA but not guarantee the funding. The risk is that other Cities may follow Salt Lake City's approach resulting in too few cities willing to guarantee funding. If the guaranteed funding becomes too small, the project will not be feasible.
3. Participate in UTOPIA and back the bonds by pledging the City's sales tax to backstop a portion of the total debt service to build the UTOPIA network.

The Legislature adjourns on Wednesday, March 3. There is legislation pending that may impact the Council's options.

OPTIONS AND MOTIONS:

The following are motions that the City Council may elect to use on March 2, 2004 at the conclusion of public comment on UTOPIA.

1. ["I move that the Council"] Continue the public hearing to a date certain and take no action on the proposed resolution at this time.
2. ["I move that the Council"] Close the public hearing and refer this matter to a later Council meeting. (Council Members have discussed referring this to March 4 or to April 6)
3. ["I move that the Council"] Close the public hearing and adopt the resolution as proposed.
4. ["I move that the Council"] Close the public hearing and adopt the resolution as proposed with the following revisions...
5. ["I move that the Council"] Close the public hearing and decline to adopt the resolution.

MATTERS AT ISSUE /POTENTIAL QUESTIONS FOR ADMINISTRATION:

Council Members may wish to discuss with the Administration in further detail the following issues identified through the public comments and review of the proposed UTOPIA project:

- Review the possible Economic and Social Benefits of community broadband network. (Fiber Optic or otherwise)
- Review the City's franchise agreements to ensure that all telecommunications providers are being treated fairly.
- Review the City's telecommunications service standards to ensure that the City is competitive in the services offered to residents and visitors.
- Review the City's plans and policies concerning economic development, growth, capital needs, housing, etc. with regard to emerging technologies and factors that enhance the livability and marketability of the City.

ANALYSIS AND RESPONSE TO COUNCIL MEMBER QUESTIONS:

Structure of UTOPIA

UTOPIA is an interlocal governmental agency formed in 2002 under Utah law by 18 cities: Brigham City, Cedar City, Cedar Hills, Centerville, Layton, Lindon, Midvale, Murray, Orem, Payson, Perry, Riverton, Roy, Salt Lake City, South Jordan, Taylorsville, Tremonton, and West Valley City. UTOPIA as a governmental agency must abide by open meetings laws and other applicable laws governing decision making.

The board of directors of UTOPIA is made up of one representative from each city. The board of directors are Rocky Fluhart, Salt Lake City; Wayne Pyle, West Valley City; Jim

Reams, Orem; Alex Jensen, Layton; Janice Auger, Taylorsville; Daniel Snarr, Murray; Christopher Davis, Roy; Matt Shipp, South Jordan; Lee King, Midvale; Mark Cram, Riverton; Jim Allan, Cedar City; LouAnn Christensen, Brigham City; David Gill, Centerville; Todd Wilson, Payson; Ott Dameron, Lindon; Richard Woodworth, Tremonton; Brad Sears, Cedar Hills; and Ed Skrobiszewski, Perry.

Officers and employees of UTOPIA are at-will appointees of the Board of Directors.

- Paul Morris – executive director (salaried by West Valley City with reimbursement contingent upon bonding)
- Roger Black – deputy executive director and chief operating officer (\$6,000 per month salary)
- Dave Shaw – general counsel (salaried by Murray City with reimbursement for actual UTOPIA time contingent upon bonding)
- Cindy Patterson – office manager (Paid by UTOPIA at same salary as when at WVC on loan from West Valley City at same salary)

The benefit to officers and employees, if UTOPIA is successful, is the possibility of an ongoing salaried relationship with UTOPIA. The board of directors has not offered bonuses or other financial incentives. Any future salary increases would be under the control of the board of directors. If the project is successful, the officers could realize some enhanced marketability in their professions or recognition as experts by their peers. UTOPIA's offices are located in Murray. The network will be owned by the citizens, through their local governments and interlocal government agencies.

UTOPIA's consultant, DynamicCity, conducted a preliminary assessment and a feasibility study. DynamicCity's offices are located in Lindon near where UTOPIA's command center is located. UTOPIA also contracted with DynamicCity to manage deployment of the network. If cities approve the guarantee of UTOPIA's bonds, DynamicCity will gain significantly because of its contract to manage the deployment of the network. If UTOPIA is successful, DynamicCity will have the potential for future business opportunities.

The feasibility study cannot be classified as an independent study due DynamicCity's ongoing consulting relationship. Therefore, the Board of Directors instructed UTOPIA to contract with an independent firm, Dean & Company, to verify the study. Dean & Company concluded: "While not without risk, the feasibility of UTOPIA is robust, and the plan is well-structured to create and capture value from the proposed investment." Dean & Company provides independent analysis of investment proposals. Documentation relating to their firm indicates that they recommend a very small percentage of the projects they analyze.

The consultants noted two key areas of additional leverage with regard to the implementation of the project: managing execution risks and strategic focus on several factors that are key to maximizing the economic value created by the project. The first key area noted such things as: starting with a small test cell, expanding to a stage two build-

out pace before ramping up to full-speed build and monitoring and adjusting efficiency and effectiveness metrics at each stage. The latter key area of leverage notes several factors to focus on such as: local/community advantage, unique fiber to the home -intensive applications and serving the business community.

It was noted in the Dean & Company report that the UTOPIA member cities should develop an integrated economic development plan around the benefits of a fiber infrastructure. The Council may wish to request that the Administration provide an analysis of possible benefits of a fiber infrastructure or community broadband network to the City and City residents and visitors in an economic development context.

Dean & Company does not have any future direct financial interest in the project.

Several other companies have been awarded contracts that are contingent upon bonding:

- Tetra Tech Construction Services, Inc. – fiber deployment to the boundary of every property
- Allied Telesyn – access portal boxes for inside of homes or businesses
- Communications Technology Services, Inc. – wiring from boundary to the portal device inside each home or business
- New Basis – provide approximately 12 huts or vaults - roughly one per community
- Pfannenberger/Hydal – neighborhood cabinets (one per 1000 homes/businesses)
- Riverstone – switches at central operations center & distribution switches in neighborhoods
- Tyco Electronics – fiber management devices (one on a pole for every four to six addresses or one in the ground for every two addresses)
- Amino Communications LTD – video gateway boxes (small box near TV)
- AT&T – first provider of services

It is Council staff's understanding that these contractors were selected based upon an open bidding process in the same manner a municipality would select contractors.

Wholesale model

Over 200 U.S. communities have created fiber optic networks. Many of these communities are also electric power providers and offer cable TV or Internet services on a retail basis. Under the retail model, the government markets and provides the services and bills the customers (usually on a combined municipal bill that includes electricity, water, etc.).

Under Utah law, the retail model is not available to government agencies for telecommunication services. Only the wholesale model is available.

UTOPIA's fiber optic telecommunications infrastructure will operate as an open service provider network after the first 9 months. UTOPIA will not provide retail service. Each service provider will market and bill its' own customers.

UTOPIA will charge a wholesale usage fee to service providers based on their use of the network. The actual fee amount will be based on the kind of connection. For example, the fee that AT&T will pay UTOPIA for each telephone connection is fixed whereas the fee for a 10 Mbps data connection includes a base fee and a fee based on the amount of usage. The fee schedule associated with the AT&T contract is proprietary. UTOPIA will use the fee revenue to pay for the operating expenses and debt service obligations associated with building and maintaining the network.

AT&T is the first service provider to commit to offering services over the network, and according to UTOPIA and the contract with AT&T, others service providers will be able to offer services after a period of 9 months.

Fiber and other technologies

The following table illustrates the differences in speed among various communications technologies. It shows how much time it would take to deliver the digital information contained in a typical DVD movie.

Time to Download a Typical DVD Movie (5 gigabytes)	
Industry Standards	Download Time
Dial-up Modem (56.6 Kbps)	8 days
DSL (256 Kbps)	43 hours
Satellite (400 Kbps) – service is one-way	28 hours
SDSL (1.5 Mbps)	7 hours
T-1 (1.54 Mbps)	7 hours
Wireless 802.16 (2 Mbps Kbps) – early testing stage	6 hours
Cable Modem (4 Mbps)	3 hours
Fiber T3 (44.736 Mbps)	15 minutes
Fiber OC-1 (51.84 Mbps)	13 minutes
Fiber OC-3 (155.52 Mbps)	4 minutes

Kbps = kilobits per second

Mbps = megabits per second

The Federal Communications Commission defines broadband as any connection that can either download or upload data at speeds exceeding 200 kilobits per second. In some markets (not currently in Utah), DSL speeds of 8 mbps are available. In some markets, coaxial cable allows speeds of up to 10 mbps. Fiber technology allows more than 1,000 mbps, but UTOPIA is proposing 100 Mbps to each home, with the option of purchasing higher throughput if needed. It is anticipated that in the UTOPIA service area, 93% of the subscribers will choose the 100Mbps service and 7% the 1,000Mbps service. Fiber is currently available to businesses by several private providers including Comcast and Qwest, but pricing generally precludes access by residents or small home businesses.

Benefits of UTOPIA to Salt Lake City residents and businesses

According to UTOPIA, the initial offerings by service providers will include broadcast video, telephone, and Internet access. In time, other services are likely to include high definition video, video on demand (renting movies to watch at you leisure without going to the video store), expanded home security, telemedicine (including always-on medical monitoring), interactive (real time video) distance learning, high quality graphics video gaming with competitors around the world, telework (real time collaboration with team members using video conferencing and instant file sharing capabilities), and full screen video phone service. Multiple competing and complementary services will provide residents and business owners with a variety of choices for their telephone, video, and internet service providers.

UTOPIA announced that all consumers will benefit from increased competition resulting in lower prices, multiple choices for service, faster data delivery and clearer phone conversations or TV reception.

A trend toward home-based business and telecommunicating is facilitated by higher speed computer access.

Take rates

According to UTOPIA's feasibility study, by the fourth year of operation 30% of households and businesses are expected to sign up for at least one service over the network (phone, TV, Internet, video, etc.). The break-even point is 30% after seven years.

The independent study by Dean & Company to verify the feasibility study included a comparison with the municipal networks of Cedar Falls, IA; Harlan, IA; Newman, GA; Scottsboro, AL; Ashland, OR; Tacoma, WA; and Glasgow, KY. The average take rates of these municipal networks were 45% after four years. Dean & Company concluded that given the experience of other municipalities, UTOPIA's predicted take-rates over time are feasible.

Most of other U.S. communities providing services over a fiber network are electric power providers. Some communities offer one or two services such as cable TV and Internet services, but do not have business plans similar to UTOPIA's plan. Therefore, it is difficult to have a true comparison. Representatives from Qwest and Comcast stated that the take rates are too high compared to their experience. Individuals who are critical of the UTOPIA approach have asserted that the take-rate estimates are high and they question whether the cities in the City are comparable to Salt Lake City's situation with an existing fiber backbone in the central business area.

Cost of materials and installation

UTOPIA asserts that construction costs are fixed because contracts are in place. These contracts include firm unit prices such as price per foot of aerial and price per foot of underground. The fixed costs include labor, fiber and electronics. The number of units may vary from the projections based on preliminary surveys, which would result in costs differences for UTOPIA. The contracts include some options for adjustment within limits. For example, a minor change in work may be agreed to without invalidating the contract. There are clauses in the contracts that make allowances for unforeseen contingencies. UTOPIA indicates they have included consideration of these contingencies in both the budget computations and contract language.

There was some disagreement at the fact-finding meeting regarding the cost of the network. UTOPIA's original cost estimates for fiber were less than what Comcast and Qwest pay for their fiber, but UTOPIA affirms that the cost for fiber is irrelevant now that a firm unit price contract is in place, which includes all materials including fiber.

Dean & Company stated that UTOPIA's planned fiber construction costs are consistent with their experience. The report also stated that UTOPIA's projections for total capital cost per subscriber are in the range of other fiber networks.

UTOPIA plans for aerial deployment in areas with other above ground utilities and buried deployment in areas with other underground utilities. Salt Lake City is estimated to have 80% of its current utilities above ground. The Qwest representative questioned this estimate and emphasized the trend to place more utilities in the ground.

City Council Members have consistently expressed interest in moving toward underground utilities. If the Council elects to support UTOPIA a policy discussion about whether to support the above ground approach or whether to request that it is revised to include an underground approach for Salt Lake City may be in order. Of course, this would result in a significant increase in the cost to build the network and would also increase the amount Salt Lake City is asked to pledge to guarantee the bonds.

Pledge amount and triggering event

Salt Lake City's estimated pledge amount is \$4,104,505 per year over the life of the 20-year bonds. Since interest is being borrowed for the first two years and since the bond proceeds will also include a reserve fund, the actual liability is for 17 years.

The pledge will be triggered if UTOPIA cannot make its entire bonded debt obligation. If this occurs the trustee will pay the annual debt payment from the reserve fund. Cities will then have one year to restore the reserve fund.

Cities are being asked to pledge sales tax revenue, but if a default occurs cities could pay the pledge by cutting services or raising revenue such as an increase to property taxes. If

Salt Lake City raised the pledge amount through a property tax increase, it would cost Salt Lake City taxpayers about \$31 per year on a \$175,000 home, and it would cost a one million dollar business \$322 per year for 17 years. UTOPIA has also expressed the pledge amount as a monthly cost per month for every household and business. There are 181,740 households and 13,890 businesses within Salt Lake City, which equates to \$3.76 per month for each household and business if UTOPIA fails with all money spent and no salvage value. The estimated cost to taxpayers assumes that the system is fully built-out and is not producing any revenue.

There is not a separate analysis from either UTOPIA or the Administration that details what possible benefits increased competition may bring to Salt Lake. It is possible that the installation of a carrier class fiber network will result in on-going expenditure savings for City departments, an increase in franchise fee revenue and economic and social benefits to the City. **The City Council may wish to request an analysis of these topic areas.**

Current availability of broadband

Salt Lake City is fortunate in that it has a fiber backbone that will allow almost any business to be connected at any speed. Fiber services are prevalent in the downtown area, International Center, Research Park, and at the University of Utah.

Comcast indicates they have a fiber infrastructure to most every neighborhood in Salt Lake City. When a business desires a fiber connection, the business pays the contractor's price for running the fiber after several bids are obtained. Business can pay Comcast over time if necessary. One-time installation costs will be different for each individual business. One recent example was 750 feet of underground fiber and 1573 feet of aerial fiber for a cost of \$2,090. Comcast's monthly costs are currently as follows:

- DS3 45 Mbps \$700-\$1500
- 100 Mbps \$2800-\$3500
- 1000 Mbps \$6000-\$8000

Qwest also provides fiber to businesses. The cost for each business depends on the circumstances. Each business enters into a contract – the length of which is designed to recover the costs of bringing in the fiber.

As of the completion of this report on Friday afternoon February 27, 2004 Council staff had not received requested information from Comcast. Qwest's information was delivered in the afternoon and so it is attached for your information but has not been reviewed by Council staff.

Dark fiber/Insolvent Ventures/Community Broadband

Over the past decade, many telecommunication companies have gone bankrupt. It has been noted in the comments to Council Members that because of the risky nature of telecommunications that municipalities should not be in the business of providing such services, yet during this time, a number of municipalities and county have entered the telecommunications arena. Many of the reasons given for providing such services is that there is not a cost effective alternative and that the incumbent providers will not provide services that meet minimum service standards that the community has enacted for economic and social reasons.

There are approximately 570 cities in the United States who provide their own telecommunications or community broadband services. Many of the cities follow the wholesale business model of providing the network infrastructure and allowing service providers operate on their system. Cities provide fiber leasing, internet access, local and long distance telephone, video and television content or a combination of all of these. There are cities in Utah that have installed and operate their own retail telecommunications services because they feel they were left without another cost effective alternative.

There are a variety of factors for companies who have entered the telecommunications field and not been successful. There are also companies and municipalities who have entered into the field as a provider of last resort and have been successful in their venture.

Cable broadband availability in Salt Lake City

At the fact-finding meeting, the Comcast representative stated that services are available to over 90% of the geographic area of Salt Lake City. Council staff randomly selected 20 addresses within each council district to determine the availability of high-speed cable internet services. **Comcast has agreed to provide a summary of those addresses that have broadband availability. This information has not been received by staff. If it is received late on Friday or on Monday the information will be summarized and the percentage breakdown of availability will be provided to the Council in advance of the March 2, 2004 briefing.**

The business arm of Comcast would like to partner with the City's economic development staff or with the Economic Development Corporation of Utah to help respond to potential businesses inquiring about the availability of fiber.

DSL broadband availability in Salt Lake City

At the fact-finding meeting, Qwest presented a map of its broadband available. However, actual DSL services on how many wire feet a customer is away from a central office or remote terminal. In addition sometimes wires need to be reconditioned even though the household is close to a central office or remote terminal. An unlimited number of customers within 18,000 feet of a central office can have access to DSL. There are four

central offices in Salt Lake City. A limited number of customers can have DSL services within 18,000 feet of a remote terminal. Additional remote terminals can be added in the same neighborhood if the number of customers exceeds the capability of one remote terminal. A remote terminal is a small cabinet (usually less than 4 feet high). Twenty-seven remote terminals will be operational within Salt Lake City by the end of the 2004 according to Qwest.

Council staff randomly selected 20 addresses within each council district to determine the availability of high-speed internet services. **Qwest has agreed to provide a summary of those addresses that have high-speed internet access availability. This information was received Friday afternoon and has not been summarized by staff but is attached. The information will be summarized and the percentage breakdown of availability will be provided to the Council in advance of the March 2, 2004 briefing.**

Qwest would like to partner with the City in identifying neighborhoods most needing DLS services. Qwest will also work with the City's development staff on any issues involving availability of fiber to existing or potential businesses