



Building a Digital Community

The Pioneering Story of iProvo

A Response to *Spinning its Wheels*
Setting the Record Straight

prepared by the iProvo Team

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Executive Summary

iProvo is the municipal fiber-to-the-premises project sponsored by and operating within the City of Provo, Utah. iProvo delivers broadband telecommunications services at the speed of light through fiber optic lines. Fiber optic lines and the broadband services available over those lines are available to over 33,000 residences and 4,100 business locations. As of December 2006, only five months following completion of the project construction, over 8,400 customers have subscribed to services offered over iProvo.

The iProvo project has been the subject of both enthusiastic support and strenuous criticism. Much of the criticism has come from individuals and organizations with a definite predisposition against municipal broadband deployment. Some of those organizations and individuals have represented incumbent telecommunications providers which oppose iProvo because of its competitive stance. Others are simply opposed based on philosophical grounds.

A recent report by the Reason Foundation entitled *Spinning Its Wheels: An Analysis of Lessons Learned from iProvo's First 18 Months of Municipal Broadband* falls into the latter category. Additionally, its author, Steven Titch, is a technology and public relations consultant with strong ties to Qwest Communications, an incumbent provider who has opposed the concept of iProvo from its infancy.

Unfortunately, the report was very poorly researched. In fact, not one representative of the City of Provo, the iProvo staff, nor the City's Telecommunication Board member was interviewed for the report. Lacking that perspective, Mr. Titch makes assumptions about a number of actions the City has taken, which led to erroneous and unsubstantiated conclusions.

The iProvo team has taken a careful look at the research and conclusions in the Reason Foundation report, and is offering herein the team's perspective and a more accurate representation of the facts. Among our conclusions:

- ▶ The iProvo project as envisioned by the Mayor and a community task force included community goals beyond simply providing a city-owned utility to compete with the private sector. In fact, the private sector was given an opportunity to build this infrastructure and refused to do so in a timely way. The City only entered this effort when the private sector would not.

- ▶ The wholesale model used by iProvo is a reasonable model based on a true partnership between the public and private sectors. It removes barriers to entry for entrepreneurial private sector telecommunications companies and offers an opportunity to bring broadband services to every residence and business location in Provo.
- ▶ Fiber to the home is the most future-proof technology available for broadband deployment. Other technologies such as wireless and hybrid coax-fiber will not meet the long term needs of subscribers.
- ▶ While iProvo's initial private partner, HomeNet, terminated its contract with the City and eventually declared bankruptcy, the City's due diligence process in selecting HomeNet was thorough and public in nature. iProvo's subsequent selection of two new retail partners has allowed the network to grow to its current level.
- ▶ State law and City policy do not allow a cross-subsidy of the City's telecommunications utility, and transactions between the telecommunications fund and other city funds has been based on market loans, not subsidies. No private sector provider has a requirement that their services in Provo not be subsidized from other company operations or markets.
- ▶ The Reason report's financial conclusions were made with data available at the end of the City's 2005 fiscal year, when the project was only partially constructed. Newer audited data is now available, which challenges Mr. Titch's conclusions.
- ▶ Mr. Titch's report offers a summary of rates available from competing providers and compares those to the offering of iProvo retailers. His analysis was a classic apples-to-oranges comparison; this report challenges the analysis and shows that iProvo retailers are clearly competitive with the costs of incumbent providers.

In short, we believe that it is important to set the record straight and tell the real story behind iProvo. And it is critical to recognize that the iProvo project is a pioneering effort. But as the descendants of those who pioneered America, the West and Utah, the residents of Provo understand, that although every pioneering effort has challenges, meeting those challenges with courage can bring great rewards to the pioneers as well as future generations.



Introduction

iProvo is the municipal fiber-to-the-premises project sponsored by and operating within the City of Provo, Utah. iProvo delivers broadband telecommunications services at the speed of light through fiber optic lines. Fiber optic lines and the broadband services available over those lines are available to over 33,000 residences and 4,100 business locations. As of December 2006, only five months following completion of the project construction, over 8,400 customers have subscribed to services offered over iProvo.

On December 5, 2006, the Reason Foundation issued a report entitled *Spinning Its Wheels: An Analysis of Lessons Learned from iProvo's First 18 Months of Municipal Broadband*, hereinafter referred to as "*Spinning*." The report's availability was announced by a press release which led with the line "iProvo's Financial Woes to Worsen: Taxpayers will likely never recoup the millions poured into municipal broadband system."¹

The report was authored by Steven Titch, a writer and media consultant who frequently writes and editorializes on telecommunications issues.

Following the release of the report, there was a flurry of activity among Utah newspapers and radio stations attempting to digest the report and seek comment from City officials. The report came as somewhat a surprise to the City, since no City representative had been contacted by Mr. Titch or the Foundation. However, those familiar with the telecommunications industry are well aware that the Reason Foundation and Mr. Titch have published material before that has been very critical of municipal broadband efforts.

Our initial review of the report was that it was not an objective, carefully researched document. In fact, given that the author had never interviewed any City staff members, public board members or elected officials involved with the project, and that all of his sources were either news reports or public documents available on the Internet, we were more than skeptical about the findings of the report. As our subsequent detailed review has shown, the research was fatally flawed and the conclusions of the report were not supported by facts. This white paper is an effort to suggest why Mr. Titch and the Reason Foundation might take the approach they did and to set the record straight in terms of the iProvo project, its status and potential for success.

The Reason Foundation: An Organization with a Predisposition

The Reason Foundation, headquartered in California, is a private foundation which conducts research on a wide variety of public policy issues with a decidedly libertarian bent. The following passage from the Foundation's website offers insight into its purpose and perspective.

Founded in 1968, Reason advances a free society by developing, applying, and promoting libertarian principles, including individual liberty, free markets, and the rule of law.

Reason produces respected public policy research on a variety of issues and publishes the critically acclaimed monthly magazine, Reason. Together, our top-tier think tank and political and cultural magazine reach a diverse, influential audience, advancing the values of individual freedom and choice, limited government, and market-friendly policies.

Reason Foundation's nonpartisan public policy research promotes choice, competition, and a dynamic market economy as the foundation for human dignity and progress. Reason produces rigorous, peer reviewed research and directly engages the policy process, seeking strategies that emphasize cooperation, flexibility, local knowledge, and results. Through practical and innovative approaches to complex problems, Reason seeks to change the way people think about issues, and promote policies that allow and encourage individuals and voluntary institutions to flourish.²

A quick review of various studies produced by the Reason Foundation gives the reader a general idea of its philosophical moorings. The following is a sample of titles of its research and reports over the last few years.³

- ▶ Why an Air Traffic Control Corporation Makes Sense
- ▶ Private Prisons: Quality Corrections at a Lower Cost
- ▶ Child-Welfare Reform and the Role of Privatization
- ▶ Eminent Domain, Private Property, and Redevelopment: An Economic Analysis
- ▶ Muni Power Grabs: Municipal Utilities, Tax-exempt Debt, and the Competitive Market
- ▶ How Government Building Codes and Construction Standards Discourage Recycling
- ▶ Great Rail Disasters: The Impact of Rail Transit on Urban Livability

- ▶ Why Rail Will Fail: An Analysis of the Los Angeles County Metropolitan Transportation Authority's Long Range Plan
- ▶ No Booze? You May Lose: Why Drinkers Earn More Money Than Nondrinkers
- ▶ Innovative Alternatives to Traditional Municipal/County Corrections
- ▶ Easing California's Transportation Crisis with Tolls and Public-Private Partnerships

The Reason Foundation does not readily disclose the sources of its funding. In fact, IRS reports prepared by Reason Foundation accountants that traditionally list major contributors to charitable foundations are silent on this issue.⁴ However, we have identified a number of sources that have researched contributors to the Reason Foundation. These include:

AT&T (\$100,000 in 2005)⁵
 Charles G. Koch Charitable Foundation
 Roe Foundation
 Ruth and Lovett Peters Foundation
 The Carthage Foundation
 The Gilder Foundation
 The Lynde and Harry Bradley Foundation, Inc.
 Castle Rock Foundation
 Sarah Scaife Foundation⁶
 Microsoft⁷

The Reason Foundation has also signed on to a document called the Municipal Broadband Compact,⁸ establishing policies and principles which the signatories believe should drive federal and state preemption of projects like iProvo. Some excerpts from the Compact include:

- ▶ Municipal interference in broadband displaces private investment, distorts prices and forces taxpayers to subsidize services they may not use.
- ▶ Municipalities and other local units of government should be prohibited from investing in, managing or operating broadband infrastructure and services.
- ▶ Congress should restrict the authority of states to regulate and tax broadband infrastructure and services in the interest of preserving interstate commerce.

Other participants in the Compact include the Pacific Research Institute, the Heartland Institute, the Maine Heritage Policy Center, the National Taxpayers Union, the Cascade Policy Union, the Center for Individual Freedom, the

Sutherland Institute, the Mackinac Center for Public Policy and other similar interest groups.

It is clear that the Reason Foundation, while it may try to give credence to its publications and research, is philosophically opposed to the concept of municipal broadband utilities like iProvo. A reader can be sure that any research or publication under the Reason Foundation banner will start from an anti-government slant and present the data which supports its philosophical position. One should not consider such publications objective or unbiased

Steven Titch: An Author with Conflicts

The author of the Reason Foundation report, Steven Titch, is a frequent author on telecommunications issues. He has written articles about municipal broadband and WiFi for the Reason Foundation, the Heartland Institute and other similar entities and was the editorial director of *Telephony Magazine*.

He is also a consultant and founder of Expert Editorial, Inc. Expert Editorial specializes in providing content for clients that appears objective and yet expresses the client's point of view. At the Expert Editorial website, Mr. Titch includes the following statement of his services:

Expert Editorial offers a critical "third-party" viewpoint for media and customer marketing campaigns. We can provide your target audience with the context, background and significance of your technology from an analytical perspective and detached from your own marketing and sales personnel.⁹

It appears that Mr. Titch's stock in trade is to pen reports like the one published by the Reason Foundation, and perhaps others, that appear independent and yet are not. Hardly the "rigorous, peer reviewed research" that the Reason Foundation touts on its website and *Spinning*.¹⁰

In addition, it is important to note that one of Expert Editorial's foremost clients is Qwest, an incumbent provider in the Utah market that has led the lobbying effort against iProvo and other similar ventures. Again, from the Expert Editorial website:

Expert Editorial worked with Qwest and its PR agency on creating and sharpening a new brand voice. Qwest, one of the four "Baby Bells," is in the process of turning itself around following a series

*of management and accounting scandals in 2000 and 2001. As Qwest faces a challenging time of new broadband and wireless technology, new business models and greater competition, Expert Editorial supported a large-scale brand voice audit and **now works on a day-to-day basis with Qwest and its agency** on ensuring its brand voice is reflected on its Web site, in customer letters, in executive speeches and presentations and in media and employee communications.¹¹*

Mr. Titch can hardly be considered an independent or unbiased source for objective information about iProvo, particularly in light of his business relationships, including a consulting role with Qwest.

The Development and Launch of iProvo

The concept of the iProvo network began in the later years of the 1990's. In the words of Mayor Lewis K. Billings,

When I ran for mayor, one of my platform planks was that I would seek to use technology to benefit the lives of our residents. After the election, I set out to do just that. It became clear that we needed a fiber optic network to control traffic lights and traffic cameras, to connect our city facilities, to enhance our public safety capabilities, to accomplish electrical SCADA control, and to provide other municipal services.

At the time, five private sector companies had franchise agreements in place to provide fiber connectivity, but none could or would provide what we needed. It seemed that the franchisees were mostly interested in simply creaming off the biggest and best customers for fiber connectivity.

Let me assure you that I am a champion of the private sector. I came out of the private sector. My background is business. I feel strongly that government should not do what the private sector can and will do. But we quickly learned that the private sector was not going to step up in our city, so we turned our attention toward meeting our own needs. As we built a backbone and began to develop and deploy internal applications, others, including businesses and residents, began to express similar needs for connectivity to a really big pipe.

At that point, we began to seriously investigate and explore the feasibility of a fiber-to-the-premises community broadband network. We went through a long and deliberative process; including, thorough study by a special task force of community leaders, numerous public hearings, city council debates and scrutiny, and a great deal of staff work.¹²

The community task force mentioned by Mayor Billings was asked to explore whether or not the city should build a telecommunication system. The purpose of the committee was three fold: to review the proposal that the Provo Energy Department enter the telecommunications business; to review the work of the technical and business consultants, UpTown Services and Peregrine Communications; and to make recommendations to the Administration regarding the City offering telecommunications services to its

residents and local business.

Following a number of months of study and review (June through August, 2000), the committee recommended that the city move forward with the development of a municipally owned telecommunication project. The committee developed goals for the telecommunication project that were later endorsed by the City Administration and the Municipal Council. The goals of the telecommunication project are as follows:

- ▶ To provide for the citizens of Provo a full range of choices, competition and open and equal access to necessary telecommunications services and applications.
- ▶ To ensure continued economic expansion in the high-tech sector that requires broadband services, and to ensure that existing businesses have services that will allow them to be competitive
- ▶ To provide the City itself with capabilities it needs for traffic control, law enforcement, network connectivity and a wide variety of other applications and services.
- ▶ To create neighborhood intranets that include schools and a wide variety of next-generation neighborhood services, including high-quality video services and home security.
- ▶ To make efficient use of the City's existing utility infrastructure and rights-of-way and to provide new revenues for the City.¹³

A Phased Approach to Municipal Broadband

From the outset of the telecom project, a phased approach to the telecommunication project was presented to the Municipal Council for funding of the initial stage of work. The proposed fiber optic telecommunication project was organized into three phases. Phase I was the construction of three fiber rings throughout the city for internal City purposes. Phase II was the Fiber-To-The-Home (FTTH) demonstration project area to be launched in one Provo neighborhood. And Phase III would be a City-wide deployment to every resident and business in Provo.

The 2001 City budget provided funding for Phase I in the building of the backbone network consisting of three concentric, self-healing fiber rings around the City. These rings provided in fiber connectivity to City facilities throughout the community, the electric substations, and traffic signals. In addition, every public school in the City received a high speed fiber connection.

The following year, the City Council funded Phase II for the building of the Fiber-to-the-Home (FTTH) neighborhood demonstration project as a prerequisite to a possible City-wide fiber telecommunications system build out. The Grandview neighborhood was selected for the demonstration area due to its access to the fiber rings, the combination of old and newly constructed homes and the number of City employees that live in the area. There were 275 homes that were part of the Grandview demonstration project. After an initial three month trial period, over 96% of the participants elected to pay for some level of service. The take rate during the trial period averaged about 50% of homes passed

With the successful development of Phase II, the staff began work to bring together all of the major partners necessary for a City-wide deployment. Lessons learned in the trial were critical in the development of specifications and standards to be applied in Phase III.

The Wholesale Model

At the outset, the recommendations of the citizen committee contemplated that the City would use what has come to be known as a “retail model.” In this model, which is the model used by most municipal utilities across the country, the City delivers services directly to the customer and has a direct relationship with the customer. This retail model is the model best known and understood by cities, so it was logical to assume that the initial recommendation would contemplate a retail relationship with customers.

As Mr. Titch has correctly pointed out¹⁴, the retail model was challenged by incumbent providers in public settings and in their attempts to eviscerate municipal telecommunications utilities at the Utah State Legislature. What has resulted is a model now known as the “wholesale model.” Under this scenario, the city builds the network infrastructure and then opens its network to retailers, who offers services across the network.

The wholesale model has been embraced by the City of Provo, and while it is a different model than that under which cities typically operate, there are some parallels in government. For example, cities build roads and bridges, but do not own the trucks and vehicles that drive over them to deliver service directly to consumers. Some cities build airports, but do not sell tickets or fly jetliners.

In fact, the airport model is a great analogy to the iProvo model. It is not economically feasible, nor advisable, for every airline to own its own airport. If that were the requirement, we would have only one regulated airline. By government building the infrastructure, more companies can compete for the air traveler’s business, effectively reducing price and improving service. In

the case of iProvo, the City builds the fiber network, thus eliminating a barrier to entry to non-incumbent telecommunications companies. These companies can “ride the network” with comparatively low capital costs.

It would seem to the City that the wholesale model would be embraced by a true private sector advocate. It provides options for young, entrepreneurial companies to compete head to head with gigantic monopolies like our incumbent providers. And in a free market society, removing governmental barriers to entry and stimulating effective competition should be an important role of government.

Why Fiber and Not Other Technologies

In his report, Mr. Titch suggests that a fiber to the premises technology often promises more than it can deliver.¹⁵ The City did actually consider a variety of other technology choices including wireless, broadband over power lines, and hybrid fiber-coax.

When the city first began to explore the building of a municipal telecommunication system city officials reviewed and visited other municipalities that had systems in place. The prevailing technology at the time was a hybrid-fiber coax system. This is the technology that preceded the fiber to the home generation. Originally a rough cost estimate of building a fiber system was estimated to be \$90 million. A sharp decline in costs during the years from when the city first began to study the technology encouraged the city to build a fiber to the home telecommunication system, one which clearly had advantages technologically, and would provide for a more future proof solution.

Fiber to the premises is a system that has been lacking in the United States particularly in the smaller metropolitan areas such as Utah County and specifically Provo. Fiber optics has many advantages over the traditional copper wire technology that has been used over the last hundred years. Fiber optics are thin pieces of glass that are made of extremely pure optical glass. Some to the key reasons that fiber optics are superior to older technology are as follows:

- ▶ Fiber optics are thinner, less expensive and co-exists with electrical wires.
- ▶ Fiber optics has higher carrying capacity than copper wires.
- ▶ Fiber optics provides less signal degradation than copper wires.
- ▶ Fiber optics are ideally suited for digital signals which are important for computer networks.

While the equipment on each end of the fiber would need to be changed out at regular intervals, the studies showed that the fiber technology would be able to carry the city into the future due to its carrying capacities and the ability to continue to expand those capacities by being able to divide the light by color. The decision to build a fiber network would ensure a long term future for the telecommunication project.

A fundamental mission of the city is to build infrastructure that is for the long term and is available to all residents of the community. The incumbent regulated carriers had communicated to the city that the Provo market was low on priority lists for receiving a fiber network. The size of the Provo market simply did not justify the building of fiber by national private companies that had larger markets to serve. The city felt confident that if a municipally owned network was not built that it would be a number of years before fiber technology would be available to Provo. In order to bridge the digital divide for both residents and businesses the fiber optic network needed to proceed.

Wireless Technologies

Dr. Robert Ridge, Ph.D., the City of Provo's Director of Information Services, has weighed in on the proper role of wireless offerings.

Wireless data connections are actually quite tenuous. Climatic conditions such as rain, snow, and wind can cause connection problems. Line of sight between antennas is required for good wireless connections but not always possible.

Security of wireless networks is considered to be inadequate by most Network Managers. While this may improve with enhanced encryption schemes, Wireless connections will never match the security that is possible with a fiber connection.

Virtually all wireless data traffic is passed on unlicensed frequencies. This uncontrolled environment allows anyone to light up new wireless radios anytime anywhere. Each new radio brings with it noise for any of the existing wireless networks. This noise results in loss of connections, reduced bandwidth speeds and a host of other problems. Wireless network managers have a never-ending challenge to find a way to transmit in an often crowded and ever-changing environment.

While new equipment boasts up to 54MB speeds, this is never the delivered speed. The best case actual bandwidth delivered is typically 18MB, and this would not be consistent. Video services, such as television, to multiple subscribers all watching different channels is not possible with wireless technology because each wireless access point can support only a few (five or less) television streams at a time. That could require 4,000 access points to support 20,000 subscribers. That would be impractical, costing more and being less reliable than fiber.¹⁶

The HomeNet Story

In *Spinning*, Mr. Titch of the Reason Foundation states that “in hindsight, in its choice of HomeNet, Provo also could have done its due diligence better.”¹⁷ This statement represents the danger associated with an outside “think tank” gleaned information from newspaper articles and internet sources without ever checking with City sources to verify facts. The danger, of course, is that Titch reaches incorrect conclusions and then skews the facts to support them. Concluding, as does *Spinning*, that HomeNet’s failure proves that the City “could have done its due diligence better” is akin to a casual fan who reads the score the next morning in the newspaper and blames the team’s loss on the coach’s lack of preparation. Just as preparing a team twenty-four hours a day, seven days a week is no guarantee of victory, an organization performing “due diligence” is no guarantee of success.

In April of 2003, Provo City issued a request for proposals (RFP) to qualified vendors to provide retail services over the iProvo Network to be constructed by the City. Seven different firms responded with a total of eight proposals.¹⁸ A committee was formed from representatives of various city departments to select one of the responsive firms to be the initial service provider on the iProvo Network. This committee was tasked with evaluating each firm’s credentials, experience, and ability to provide a “triple play” of retail telecommunications services (data, video and IP telephone). After a rigorous process during which references were checked, current experience with providing retail services was evaluated, and financial ability to provide a quality customer experience was verified, HomeNet was selected as the best firm available from those that responded to the City’s RFP. HomeNet was the only firm that was currently providing a “triple-play” of retail telecommunications services and possessed experience operating on a wholesale “open access” network in Grant County, Washington.

In May 2004, HomeNet, along with equipment vendor World Wide Packets and construction firm Atlantic Engineering Group, was recommended to the Provo Municipal Council in a public meeting as the Council considered the resolution that authorized the issuance of bonds to fund the construction and operation of the iProvo Network. Both the City Administration and Municipal Council were thoroughly informed about the ability of HomeNet to successfully provide retail telecommunications services. After the Council voted to approve the bond issuance, negotiations with HomeNet began and a contract was signed July 13, 2004—not in October of 2004 as stated in *Spinning*.

Spinning states that “as Grant County was dealing with its own revenue shortfalls in October 2004, VIB signed its deal with iProvo, moved its

headquarters to Provo and changed its name."¹⁹ This timeline is simply inaccurate and unfairly implies that the City should have known that Grant County was struggling in October of 2004.

Spinning offers only part of the story associated with the value of Provo Cable and the benefits derived from the purchase in 2001. Like others unwilling to look at the full benefit, the purchase of Provo Cable provided for two different purposes. From earlier public reports, it is clear that the City's intention was not solely to enter the cable TV business; it was to preserve a pathway for building out a community fiber optic network at a future time dependent on further studies and investigations. Provo Cable was a competitor to AT&T and provided a vital business role in the community. At the risk of losing a viable operation, the City elected to preserve a competitor of Cable TV services for the interim and obtain the valuable pole rights, space and hardware in a future overbuild of fiber cables.

Shortly after the purchase of Provo Cable, the City entered into an agreement for the operation of the system. This offered a revenue stream for the interim until a long term study could be conducted as to the future of the telecom project. The value of Provo Cable was realized during the construction of the fiber optic network several years later by using the same pole space already occupied by the older coaxial system. This alone is estimated to have saved the City between \$1.6 and \$2.4 million in make-ready costs for pole attachments and a defined pathway on the overhead system. The secondary benefits were the maintenance of competition for Cable TV services and the financial windfall by selling the cable subscribers to a future provider.

As noted in the Reason Foundation report, HomeNet was contracted to purchase these subscribers over time. Although the City may not have reaped all of the financial obligations from HomeNet as contracted due to its poor operation and management and subsequent bankruptcy, it was able to maintain these subscribers and convert them to the current providers. Also noted, this did provide for base subscriber numbers that greatly benefitted the early launch of the project. However, the real benefit of Provo Cable was the cost savings in building the fiber optic network and that piece of the story was clearly missed by Mr. Titch.

The iProvo Financial Analysis

One section of *Spinning* that appeared to provide helpful information to the reader dealt with iProvo's financial challenges. Unfortunately, Mr. Titch again allowed assumptions and philosophy to interfere with solid research and reasoned analysis.

The Cross Subsidy Issue

In *Spinning's* executive summary, Mr. Titch opines "iProvo can do what no private company can: cross-subsidize broadband operations from other utility funds."²⁰ We would argue just the contrary: that iProvo cannot under Utah law subsidize operations of its telecommunications utility from other sources. And there is no such prohibition against private companies engaging in this practice.

While the City fully acknowledges that cash shortfalls during FY 2005 and FY 2006 have occurred, the ways the City has managed those cash shortfalls have not been with a subsidy. The word subsidy, as defined in the *American Heritage Dictionary*, includes "monetary assistance granted by a government to a person or group in support of an enterprise regarded as being in the public interest."²¹ The approach taken by the City of Provo certainly does not rise to this level. Each transaction between the City's Telecom Fund and other funds in the City has been based on a market-rate loan. Whether the City loaned money from one fund to another fund or invested those idle funds, the return to the City is the same. Had the City simply transferred or granted money from one fund to another, the allegation of cross-subsidy might be in order.

For private sector telecommunications companies, there is no such limit on cross-subsidy. There is no statutory prohibition against using funds from one market or service-bundle to subsidize less profitable operations for a time. If Mr. Titch were really interested in the "level playing field" espoused by his consulting clients, he would have asked them to open their books to determine if they were living to the same standard to which he would hold the City.

The Telecom Fund

The Telecom fund was established by Provo City in 2001 to account for all telecom services of the City, whether internal to the City organization or external to customers. From 2001 to 2006 a number of different telecom services have been billed by the telecom fund. The following is a table that shows the revenues by year from FY 2001 to FY 2006.²² (FY 2006 audited

figures were not used in the Reason Foundation report).

	2001	2002	2003	2004	2005	2006
Transport fees		\$0	\$0	\$111,509	\$302,000	\$1,239,646
Programming	0	0	0	0	0	265,606
Cable TV retail services	384,225	535,597	0	0	0	0
Video head-end services	0	0	0	0	48,000	138,000
Lease income	0	19,365	76,588	0	109,735	97,526
Bulk bandwidth	0	15,141	94,691	297,620	200,114	30,323
Interdepartmental charges	0	0	0	462,490	0	0
Misc revenue	<u>0</u>	<u>63,054</u>	<u>63,864</u>	<u>31,937</u>	<u>193,354</u>	<u>322,960</u>
Total Revenues	<u>\$384,225</u>	<u>\$633,157</u>	<u>\$235,143</u>	<u>\$903,556</u>	<u>\$853,203</u>	<u>\$2,094,061</u>

With the acquisition of Provo Cable in 2001 the City was in the retail business for cable TV services in 2001 and 2002. The revenues in these years represent receipts from Provo Cable customers which the City acquired and to whom the City provided cable service as the successor to Provo Cable.

In 2001-2003 the City was focused on building the infrastructure for a fiber optic ring for its own internal purposes to provide communication for critical services such as traffic signals, electronic metering and a potential fiber optic network. It was determined by the City that it was needed regardless of whether the decision was made to go ahead with iProvo. Consequently, funds were transferred from other city operating departments to construct the fiber optic infrastructure and all costs were capitalized in the telecom fund.

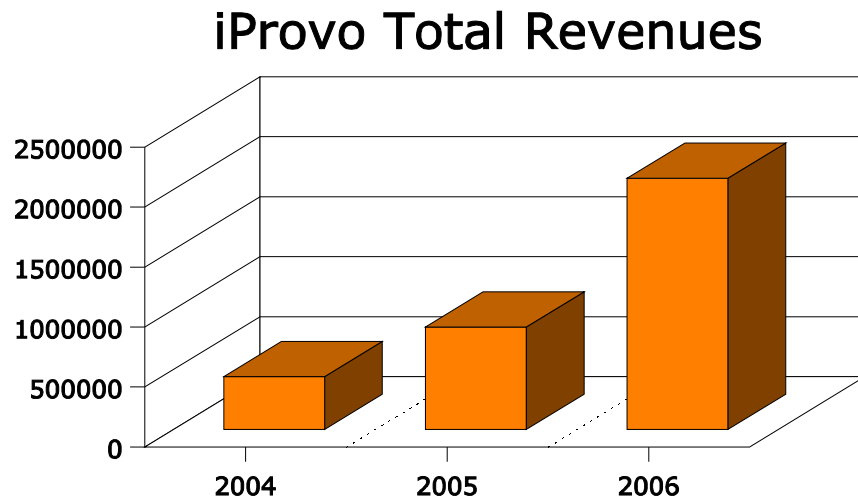
In 2004 the City decided to account for all City telecom services, including departmental phone bills, through the telecom fund which resulted in interdepartmental revenue of \$462,490. It was decided to not report interdepartmental revenues in the telecom fund in subsequent years in order to minimize confusion. Had Mr. Titch contacted the City for clarification, he would have known that a five year analysis of this fund would be meaningless. This is a classic attempt to compare apples to oranges. The only fair comparison would be after FY 2004, and then a reasoned analysis would suggest at least disclosure that the network was not fully built out until August 2006 (well after the end of FY 2005).

Total Revenue Comparison

In order to do a fair comparison of total revenues for the project the years that should be compared are 2004 to 2006.

The years 2001 to 2003 are before the start of iProvo and they represent other revenue sources. For the purposes of this analysis, we have

also removed the interdepartmental revenue of \$462,490 for 2004 since it does pertain to the iProvo project.



Burn Rate

On page 11 of *Spinning*, Mr. Titch states that during 2005 the burn rate of cash equaled \$325,000 per week. Mr. Titch does not seem to understand the difference between a cash loss due to operations and an investment in capital assets. When an investor looks at "burn rate," it is purely a cash measure; cash declines and with no offsetting increase in other assets. In the case of iProvo during FY 2005, the decrease in cash was offset by an increase in capital assets (the fiber-to-the-premises project). Approximately half of the construction for iProvo was completed during FY 2005, resulting in payments to contractors of approximately \$17 million, or about \$325,000 per week. It is incredible to suggest that conversion of cash to capital assets is an irresponsible project outcome. To suggest that the project was "burning through cash" while it was in fact paying the contractor for construction of the project reflects either playing fast and loose with the facts or an appalling lack of understanding of governmental accounting.

Interest Earnings

A similar assertion due to lack of understanding is made by Mr. Titch in *Spinning*. On page 9 of the report, the assertion is made that unexpected interest revenues shored up the Telecom fund during FY 2005. As a practical matter, interest revenues from the investment of bond proceeds were expected and included in the City's business model. The fact is that the bonds needed to be sold at one time, while construction was expected to

take two years. The City's investment of those bond proceeds until they were needed by the project was simply prudent financial management. Because of that investment strategy, additional funding in the construction account from higher than anticipated interest earnings were available for the project. The strategy was discussed with the Municipal Council and the public in several public meetings. The City never attempted to portray that the additional interest earned meant that the project was doing better operationally.

Decrease in Net Assets

From 2004 to 2005 the net assets of the City's Telecom fund decreased by approximately \$2.8 million, as cited in *Spinning* and in the City's Comprehensive Annual Financial Reports for these periods. All along the City anticipated in the iProvo business model that there would be losses during the planning, construction and build out phase of the project. During FY2005, construction began and a retail provider was selected. Thus, the retail provider had a customer base that during this construction phase generated less revenue than the system was consuming. What startup business does not face this challenge in their first partial year of operation?

Losses in 2004 and 2005 were larger than anticipated due to the following reasons:

- ▶ The time and effort needed to set up the processes, select a retail provider and successfully be ready to deliver services to customers was longer than anticipated in the business model
- ▶ Construction on the project began later than expected; while the delay in the start of construction was made up throughout the project, the earliest customers were delayed somewhat.
- ▶ Wholesale transport fees were slightly lower than originally forecast due to existing market conditions.
- ▶ The failure of HomeNet to live up to its contract as the initial retail provider caused a loss of opportunity and additional delays as the City repeated its selection process for new retail partners.
- ▶ While the City did initially meet its projection as to customers subscribing to services offered over the iProvo network, the mix of customers anticipated in the earliest stages of iProvo was different than expected. A higher number of multiple dwelling units (MDU) customers than projected subscribed first, and a lower number of

single family residential units were in the early subscriber counts. Because rates are different depending on the class of customer, revenues did not flow at the level projected in the business model.

Price Comparisons

Beginning on page 15 of *Spinning*, Mr. Titch attempts to analyze and draw conclusions from the rate structures of various telecom providers, including MSTAR and Veracity on the iProvo network and the incumbent providers, Qwest and Comcast. The information in this section of *Spinning* is poorly researched, insufficiently sourced, and in some cases simply wrong. A number of apples to oranges comparisons lead the reader to form inaccurate conclusions.

Qwest's Cheapest Triple Play

Mr. Titch claims Qwest's cheapest triple play is only \$89.97 per month.²³ Actually, the package referred to in the report is currently advertised at \$87.97 on the Qwest website²⁴. The report asserts that this package includes 5 Mb/s DSL, phone service, and 225 channels from DirecTV. A review of the facts regarding this service package yields the following:

- ▶ The phone service included in this service package is the least expensive package Qwest offers except for the local dial tone only service. The package includes local service and a choice of any 3 calling features—no long distance service (*Spinning* does point this out later in the analysis).
- ▶ The reference to the DSL data service is correct, however, Mr. Titch fails to point out that a DSL connection does not provide symmetrical upload and download speeds like fiber does. Thus, the comparison of DSL Internet service and Internet service delivered over fiber is misleading.
- ▶ Of the 225 DirecTV channels, only 106 are actually standard video channels. The remainder of the channels are either music, specialized pay-per-view channels, or premium lineups to which the customer does not have free access.
- ▶ It is important to note that the \$87.97 price is only a promotional price—something Mr. Titch neglects to mention at all. By the end of the first year, customers pay \$115.97 per month for the triple play package. Failure to disclose such a significant price increase is clearly misleading.
- ▶ Mr. Titch also did not discover in his research that there are still significant portions of Provo that are unable to be served by Qwest DSL. So not every resident of Provo has a choice of subscribing to data services with Qwest.

MSTAR's Triple Play

Mr. Titch then compares Qwest's offering to one of MSTAR's triple play packages, which he represents as having unlimited long distance, 122 cable channels, and 10Mb internet for \$124.95 per month.²⁵

A review of the facts regarding this service package shows that:

- ▶ This package is MSTAR's highest tier package, which creates an unfair apples-to-oranges comparison of Qwest's lowest-level package with MSTAR's highest-level package. There are actually two other lower-level cable lineups available for customers to choose from, with the mid-level one (at \$112.95 for the triple-play) being the most popular.
- ▶ Mr. Titch accurately noted that adding unlimited long-distance calling to Qwest's packages costs an extra \$20 per month, while it is included in MSTAR's pricing. He failed to point out, however, that MSTAR also includes several other calling features, which would cost the customer yet another \$10 to order from Qwest.
- ▶ If Mr. Titch would have used truly comparable packages (unlimited phone features and long distance, digital tier video, and the fastest internet speed possible) and been forthright about promotional pricing, he would have seen that while Qwest customers enjoy an initial year at \$109.97 per month, their prices rise to \$132.97 per month from year two onward, which is \$8 more expensive than MSTAR.²⁶

Veracity's Triple Play

The report states that Veracity's triple play package, which has features similar to MSTAR's is \$115.94 per month.²⁷ Also, Veracity is mentioned as the only service provider that does not offer Adult programming. As with the MSTAR comparison, accurate information regarding Veracity in the report is lacking. Specifically, the following facts apply to the Veracity offerings:

- ▶ The package Mr. Titch used was Veracity's mid-level offering. The digital tier video lineup is actually \$130.94 per month. While this price is more than the MSTAR price for a comparable package, it is still less expensive than the standard pricing for the Qwest comparable.²⁸
- ▶ If Mr. Titch had interviewed the service providers, he would have likely discovered that avoiding adult content is important for both iProvo service providers. And in fact, family friendly programming is actually more prominently advertised by MSTAR than Veracity.

Comcast's Offerings

According to the report, Comcast does not offer a triple play package. Instead, a customer can get over 200 channels for \$58.55 and a 4Mb data connection for \$42.95. Customers are then supposed to get phone service from Vonage for \$24.95 for a grand total of \$126.45. The last sentence in the paragraph about Comcast speculates that "once Comcast introduces its own VoIP, this package price likely will drop below MSTAR's."

In reality, some simple research and a phone call to Comcast lead to the following information:

- ▶ Not only does Comcast offer their own VoIP service in Provo now, but they have been advertising a full triple play package for at least two months on their website.²⁹
- ▶ Comcast, while having some attractive promotional rates, is the highest-priced provider in Provo once those promotion periods expire. Comcast's highest-level comparable triple-play offering retails at \$148.45 after a 6-month initial period at \$117.00. Comcast is the most expensive provider across the board.³⁰

A la Carte Pricing

The report claims that no service provider in Provo has an advantage with a la carte pricing: "Neither Comcast nor Veracity offers customers a la carte broadband Internet. Qwest offers 5 Mb/s "naked" DSL . . . for \$31.99 a month. MSTAR Metro offers 10 Mb/s access for \$39.95."³¹

The truth is that Mr. Titch makes an inaccurate argument and does so with inaccurate numbers. Both service providers on the iProvo network offer 10 Mb/s (symmetrical) Internet products for \$39.95. Qwest's 5 Mb/s DSL service is actually \$41.99, and unless the customer gives a two year commitment, it jumps to \$54.99 in 12 months. The \$31.99 price quoted in the report is actually for Qwest's 1.5 Mb/s DSL, and it too jumps \$13.00 in a year if the customer does not sign a two year contract.³²

The above facts dismantle Mr. Titch's argument in the next paragraph of the report that pairing Qwest's 5mb DSL and Vonage would be cheaper than a Phone/Data double play from one of iProvo's providers. The following points shed more light on the truth:

- ▶ First, by using the accurate Qwest pricing, the \$56.94 for the Qwest/Vonage combination stated in the report jumps to \$66.94 during the initial promotion and \$79.94 when the full retail prices take effect a year later. MSTAR and Veracity offer faster Internet speeds in double play packages priced at \$77.95 and \$75.59

respectively.

- ▶ Second, in another apple to oranges comparison, Mr. Titch suggests pairing a Vonage product with a Qwest product to compare to a true, bundled double play product from a single iProvo service provider. Taking services from two separate providers introduces separate bills from two providers and leads to inconsistencies in customer care, the primary reasons many customers prefer bundled services from one provider. Using the most comparable all-Qwest double play product, the customer would pay \$92.98, up to \$17.39 more than what a customer would pay on the iProvo network.

An Open Invitation

The City of Provo has extended an invitation to Mr. Titch to visit Provo and to learn more about the details of the iProvo project. Hopefully, he will accept that invitation to have his questions answered and perhaps offer a truer and more objective viewpoint about this important project.

Likewise, the City has always had its doors open to anyone interested in learning more about iProvo. Anyone who would like to know more about the history and operations of the iProvo network is welcome to visit us. We believe that you will come away with a much greater appreciation for the vision and implementation of iProvo.

Conclusion and Summary

Spinning does not accurately reflect reality of Provo's progress with the iProvo project. Certainly, as with any pioneering venture, the iProvo project has not been without its challenges. Many of those challenges have arisen as a result of false information recklessly, knowingly and repeatedly propounded by those who have a vested interest in the project's failure. But as the descendants of those who pioneered America, the West and Utah, the residents of Provo understand, that although every pioneering effort has challenges, meeting those challenges with courage can bring great rewards to the pioneers as well as future generations. Provo's energy system, that has provided reliable service and has not had a rate increase in over 18 years, is a testament that local residents can control their destiny and leave a great legacy for future generations.

The project is on track, is growing, and is now fully covering all of its operating costs and contributing significantly to its capital costs. As telecommunications technologies continue to evolve to broadband applications, as the need for more bandwidth capacity and services continues to grow, and as more and more of our residents and businesses subscribe to services offered over the iProvo network, the financial gap will close.

Efforts to evaluate the project at this stage of its development are simply premature. We are reminded of those who wanted to abort the American space program in its earliest years when costs were high and results were uncertain. And while there are naysayers yet today who are critical of America's investment in the space program, it is hard to argue the benefits to the nation, to science and to society brought by the visionaries who persisted. We believe that with the perspective of time, there will be a similar conclusion about the iProvo network. At some future day, it will be said that this project required vision, patience and perseverance, but in the end, the benefits of access and community will have proved the wisdom and vision of this endeavor.

APPENDICES

1. Rate Comparison Chart as of December 2006
2. Point by Point Rebuttal to *Spinning Its Wheels*
3. Endnotes

Appendix 1

Price Comparison of the Major Service Providers in Provo

as of December 6, 2006

Lowest Highest

True Prices

	MSTAR	Veracity	Qwest (DirecTV)	Comcast	Digis
Internet	39.95		54.99	57.95	49.95
Internet + Phone	77.95	75.59	92.98	97.90	
Internet + Basic Video	57.95	61.94		55.57	
Internet + Select Video	79.95	82.94	94.98	97.90	
Internet + Premium Video	89.95	98.94	99.98	108.50	
Phone + Basic Video				90.55	
Phone + Select Video			82.98	94.90	
Phone + Premium Video			87.98	105.50	
Triple - Basic Video	87.95	95.94		130.50	
Triple - Select Video	108.95	116.94	127.97	137.85	
Triple - Premium Video	119.95	130.94	132.97	148.45	

Promotional Prices

	MSTAR	Veracity*	Qwest (DirecTV)	Comcast	Digis
Internet	39.95		41.99	0.00	0
Internet + Phone	64.95	75.59	79.98		
Internet + Basic Video	57.95	61.94			
Internet + Select Video	79.95	82.94	71.98	0.00	
Internet + Premium Video	89.95	98.94	76.98	0.00	
Phone + Basic Video					
Phone + Select Video			72.98		
Phone + Premium Video			77.98		
Triple - Basic Video	84.95	95.94		99.00	
Triple - Select Video	108.95	116.94	104.97	113.00	
Triple - Premium Video	119.95	130.94	109.97	117.00	

* Veracity is included only for comparison. They do not have promotional pricing.

Product Features

	MSTAR	Veracity	Qwest (DirecTV)	Comcast	Digis
Promotion Length in months			12	6	1
Internet Download Speed	10 mbps	10 mbps	5 mbps	6 mbps	3 mbps
Internet Upload Speed	10 mbps	10 mbps	896 kbps	896 kbps	1.2 mbps
Bandwidth Limit (monthly)	100 GB	100 GB (?)			3 GB
Phone	Unlimited Domestic Long Distance + Extras				
Basic Video Channel Count	21	33		31	
Select Video Channel Count	81	72	106	95	
Premium Video Channel Count	123	135	123	122	

Note: Qwest is a reseller of DirecTV. It does not deliver video over its own network.

Equipment & One-time Fees					
	MSTAR	Veracity	Qwest (DirecTV)	Comcast	Digis
Normal Installation Fee	0	0	0	200	139
Additional Service Inst. Fee	15	0	0	0	
Installation Fee Promotions	Free w/12 mo. Contract	None	None	\$25/service if bundled	Free with rebates
Video Equipment Promotions	1st standard box free	1st std free, 1st HD \$1.95 1st DVR \$5.95	1st receiver free	1st standard box free	N/A
Std. Video Equipment Rental	HD: \$4.95, DVR: \$9.95	Std: 3.99, HD: \$5.94, DVR: \$9.90	Std: \$4.99, DVR service: \$5.99 extra	Std: \$4.95, HD: \$4.95, DVR: \$9.95	
Data Equipment Charge	0	0	Buy: \$99, Rent: 5.99/mo	Buy: \$150, Rent: \$3/mo	Buy: \$300, Rent: \$6.95/mo

Appendix 2

Rebuttal on Miscellaneous Issues Raised in *Spinning Its Wheels*

Most issues raised by Mr. Titch in *Spinning Its Wheels* have been addressed in detail in this report. There were a number of other inaccuracies or unsupported assumptions beyond those addressed in the text. This summary is an attempt to make sure these issues were addressed.

Page	<i>Spinning Quote</i>	Factual Response
2	<p>“The American Power Association, the trade group for municipal utilities, without criticizing past efforts, made Provo Mayor Lewis Billings a spokesman for sound municipal broadband planning. Billings spoke at the APA’s Community Broadband Conference in October 2004 on the need for cities to be involved in broadband projects.”</p>	<p>The group is actually the American Public Power Association (APPA).</p>
5	<p>“It is reasonable to assume that the city’s considerable discounts were aimed at giving HomeNet a ‘leg up’ against incumbent competitors. Yet because these assets were sold at a below-market price, HomeNet’s leg up came at the expense of Provo’s taxpayers who were denied full value for city-owned assets. It is an example of one of the indirect ways that municipal systems can indirectly subsidize competition against commercial service providers.”</p>	<p>See page 12 for additional information on the valuing of Provo Cable customers in the HomeNet transaction. It is important to note that HomeNet did not purchase any physical plant with the customers; only the opportunity to entice them to HomeNet’s service. The value figures stated by Mr. Titch are not applicable to this circumstance.</p>

5	<p>“The two ISPs split the HomeNet accounts and migrated approximately 2,000 to 2,500 of their own customers to the iProvo network, enabling Billings to meet his revised goal of 4,500 iProvo users by year-end 2005. Terms of the deals, however, were not disclosed, but given that Billings was politically vulnerable at the time, Veracity and MSTAR were negotiating from strength.”</p>	<p>The last sentence in this section is pure speculation on the part of the author. First, had the author interviewed either MSTAR or Veracity principals, he would have found that they felt the negotiations on the contracts were challenging; they certainly did not feel any leverage as the result of political pressures. Clearly there was interest by both parties to not have customers cut-off with no other options.</p>
9	<p>“For every dollar in operating [revenues] that iProvo took in fiscal 2005, just 35 cents came from the consumer broadband marketplace—the segment iProvo is spending \$39.5 million to serve. The rest came from taxpayers, one way or another.”</p>	<p>The City’s response to the financial issues is included in pages 14-18 of this report. However, it is important to note that the project was not yet half constructed during FY 2005; the FY 2006 figures included in this report are more telling.</p>
18	<p>“The collapse of the iProvo-HomeNet partnership illustrates the biggest risk for such municipal wholesale ventures—their success depends on the commitment of their retail partners to be aggressive players in a competitive market. Yet any private partner will know that since the municipality will not go bankrupt but will continue to funnel funds from other taxpayer resources, there is no inherent incentive to succeed.”</p>	<p>It is true that the success of a wholesale municipal broadband model is dependent on retail providers. However, we take issue with the assertion that private partners do not have an inherent incentive to succeed. That motivation exists regardless of which network over which the private company opts to provide service.</p>

19	<p>“...there remains the concern that if business does not go smoothly, it will attempt to use government mechanisms to hamper commercial competitors, such as by charging higher franchise fees, assessing special taxes and construction levies or placing restrictions on right of way.”</p>	<p>The City simply does not have options such as those outlined by Mr. Titch. First, commercial competitors in Provo are governed by franchise agreements, and fees are established by state law, not by the City. The City is as bound by these agreements as are the incumbent providers.</p>
19	<p>“So in its first 12 months of operation, it’s hard to make the case that iProvo was responsible for any net growth in Internet or cable TV connections in Provo—or any real bridging of the digital divide, despite an investment of some \$19 million.”</p>	<p>Mr. Titch offers no evidence, circumstantial or otherwise, to suggest that iProvo customers were simply “migrated” from other entities. We believe that there is a substantial number of Provo residents who were only served by dial-up before signing on with an iProvo provider.</p>
20	<p>“The hard reality is that municipal systems must compete with the private sector. Qwest and Comcast may have been politically unpopular, but at the end of the day, they proved better at providing local broadband service than the Provo city government, if iProvo’s low number of subscriber accounts is any gauge.”</p>	<p>A common theme throughout <i>Spinning</i> is trying to gauge the success of iProvo at a point only halfway through its construction phase. Mr. Titch’s conclusion is certainly premature and unsubstantiated.</p>

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