ATTACHMENT A

City of Palo Alto
City Manager's Report

TO: HONORABLE CITY COUNCIL
FROM: CITY MANAGER
DEPARTMENT: ADMINISTRATIVE SERVICES
DATE: DECEMBER 17, 2007
CMR: 464: 07
SUBJECT: STATUS REPORT ON THE ULTRA-HIGH-SPEED BROADBAND SYSTEM BUSINESS PLAN

This is an informational report and no Council action is required.

BACKGROUND
On July 9, 2007, the Council directed staff to proceed with the development of an Ultra-High-Speed Broadband System Business Plan with the 180 Connect Network Services, Inc. Consortium (180 Consortium). The purpose of this report is to provide the Council with information on the status of the Business Plan.

DISCUSSION
The first phase of the Business Plan involved the collection of data about the City. During this phase, staff gathered extensive information about City assets, infrastructure, and facilities. In addition, staff provided the 180 Consortium with existing business case studies, business plans and customer survey documentation. Staff also identified and started to estimate the value of City assets that could be contributed to the project. The data collection phase of the Business Plan, for which City staff is responsible, is complete.

The next phase involves market research and a constructability review to determine the most economical method of Broadband System construction. This phase was initiated in September 2007. Field surveys are underway, and site meetings will be held with Utilities and Public Works in the near future. A residential telephone survey will be conducted by the 180 Consortium in December 2007 to determine the level of interest in the Broadband System-based services.

The final phase of the Business Plan will focus on the economic feasibility of the project. Staff anticipates returning to Council during this phase to obtain direction on the level and type of contribution the City is willing to make to the project. It is expected that this phase will be initiated in early 2008.

The 180 Consortium originally anticipated it would take 6 months to complete the Business Plan. There have been several significant changes involving 180 Consortium members that have impacted progress on the Business Plan, as follows:
1) The original Consortium consisted of 180 Connect Network Services, Packet Front, and the Royal Bank of Canada (RBC). A new member, NorthStar Capital Partners (NorthStar), joined the Consortium as a representative of RBC, providing financial advisory services to the project. Jeffrey Mazer, a partner, represented NorthStar. In August 2007, Jeff Mazer was hired by Packet Front as its Head of Finance for the Americas. Mr. Mazer will continue his role of coordinating financing for the broadband project and NorthStar will no longer participate in the Consortium.

2) In August 2007, 180 Connect Network Services became a wholly-owned subsidiary of Ad. Venture Partners (AVP). AVP changed its name to 180 Connect Network Services. This merger provides the former 180 Connect Network Services with a cash infusion that gives it additional financial flexibility.

3) In July 2007, Packet Front acquired DynamicCity, the only other firm that had responded to the City’s Broadband Project Request for Proposals (RFP).

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ATTACHMENT B

Fiber to the Premise for the
City of Palo Alto

June 16, 2008

Overview
Overview

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OVERVIEW

Background, Goals and Objectives

The City of Palo Alto, California ("Palo Alto" or "City") intends to facilitate the creation and development of an ultra-high-speed broadband network (referred to as a Fiber to the Premise network (FTTP) in this document) offering advanced communications services to the community’s residents, businesses, schools, and government facilities. This proposed "last-mile" citywide active Ethernet fiber optic network will provide a platform for innovative broadband applications, as well as serve as essential infrastructure for ensuring the City’s long-term educational growth; further enhance the City’s status as the country’s premier center for leading-edge technology companies, and provide a practical means to reduce the City’s carbon footprint while conserving resources.

As stated in its September, 2006 Request for Proposal (RFP), primary goals of the City's broadband system:

1. Provide each customer with access to a minimum bandwidth of 100 megabits per second symmetrical service;
2. A network capable of delivering at least data, video, and telephony services; and
3. Eventual City ownership of the network

In addition to these primary goals, the City listed the following objectives:

- An open system (providing free market competition among multiple providers)
- Network neutrality, and
- Minimize financial risk to the City

This Overview outlines how all City goals will be achieved, and more.

The City, as the result of an RFP process, recognized 180 Connect and PacketFront as the most suitable entities (“Consortium” or “Consortium members” or “Consortium partners”) for developing and implementing Fiber to the Premise for Palo Alto. Recently, Axia NetMedia joined the Consortium for the purpose of not only providing the necessary capital to build the network, but also to apply its technical and management expertise to operate the network, effectively replacing RBC Capital Markets, which had previously expressed an interest in possibly financing this initiative.

180 Connect and PacketFront, in addition to their success and expertise in developing FTTP networks around the world, are major proponents of the City-requested open access operating model, and will, subject to negotiating and entering into separate agreements with the as-yet to be formed Special Purpose Entity (SPE), build the network and deploy proven open access technologies.
Axia NetMedia Corporation (Axia) is a Calgary, Alberta, Canada, fiber optic network management company with a global vision. Axia stock is listed on the Toronto Stock Exchange and trades under the symbol AXX. The company primarily operates fiber optic networks exclusively at the wholesale level, and currently provides guaranteed connectivity to ninety-four service providers on the Real BroadbandTM open access Alberta SuperNet. Axia also serves as the independent "operator of operators" exclusively at the wholesale level for a dozen open access fiber networks serving communities throughout France. Axia has reviewed in detail the Consortium’s Overview and concurs with its assumptions and conclusions.

The Consortium respectfully submits this Overview for the purpose of requesting that the City Council:

(a) accept in principle the Consortium’s overall conceptual model for achieving the City’s goals and objectives, and

(b) authorize and direct City staff to commence negotiations necessary to develop the agreements that, once negotiated to City staff’s and Consortium’s mutual satisfaction, will allow for the completion and submission to the City Council seeking approval.

The Consortium’s overall conceptual model consists of these essential elements:

- The formation by Axia NetMedia Corporation of a Special Purpose Entity (SPE) that will fund, own, build, and have sole management authority and responsibility for operating the proposed lit fiber optic network throughout the city of Palo Alto

- The SPE will operate the network on an open access, wholesale basis, which means any qualified service provider of broadband retail services will have competitively neutral, non-discriminatory access to the network for the purpose of selling its retail services to all residences and businesses

- The SPE will negotiate and enter into mutually satisfactory long-term agreements with the City relating to the SPE’s use of, and access to, those certain existing City network facilities, including, for example, existing dark fiber assets

- Based on the City’s commitment to negotiate and enter into such mutually satisfactory long-term agreements for use of the City’s existing facilities with the SPE, Axia will commit to make the capital investment necessary to become the 100% owner of the proposed SPE

- The City will research various ways to use the new SPE network and will commit to seek bids from service providers on the SPE network, each time, following a Request for Quotation (RFQ) process, that seeks competitive bids for services that could be delivered on or off the SPE network

- The City will not be required to fund any portion of the network’s deployment or operations, and will maintain a strictly commercial transactional relationship with the SPE
• The SPE will assume contractual responsibility and operational control over the City’s existing dark fiber customers

• The SPE will separately negotiate and enter into mutually satisfactory agreements with 180 Connect and PacketFront for the building of the network and purchase of hardware and software

• The City, subject to the terms and conditions of its various agreements with the SPE, will retain a reversionary interest in both its existing network facilities and any new facilities deployed and operated by the SPE

The goals earlier outlined by the Palo Alto City Council are completely in sync with the recent recommendations of the California Broadband Task Force (CBTF) contained in its final report released January 2008 (The State of Connectivity: Building Innovation Through Broadband). The CBTF made specific recommendations for more and greater access to bandwidth in order to allow its citizens to take greater advantage of the economic and educational opportunities that such access brings.

"Just as California has invested in other critical infrastructure such as roads, electricity, and water, the CBTF believes that the state must seize the opportunity to promote private-sector investment, leverage public/private partnerships, and lead the effort to increase broadband availability and adoption. But unlike roads, electricity, and water, California’s investment in broadband should not be limited to physical infrastructure, but instead should include policies to increase adoption of broadband technologies. Increasing both access to, and use of, broadband will build economic capital, strengthen public safety resources, improve living standards, expand educational and healthcare opportunities, and raise the levels of civic engagement and governmental transparency. In addition to growing consumer needs, business, research, government, education, library, healthcare, and community institutions require high-speed connectivity to:

• Share information
• Promote environmentally friendly technologies such as telecommuting, video conferencing, and high-quality video collaboration
• Provide distance-learning opportunities
• Enable remote analysis of medical information
• Foster a greater civic discourse"


The City, in cooperation with its selected Consortium members, proposes a network architecture and non-exclusive business model that eliminates high-cost barriers to entry for competitive service providers, as well as eliminates the existing incumbent operators’ bottle-neck control at the edge of the network where end users reside. The proposed active Ethernet fiber optic network will operate on an open access, non-discriminatory basis, meaning competitive service providers can easily obtain access to the network under competitively neutral terms and
conditions. As the operator of the lit network, the SPE (which would be a wholly owned subsidiary of Axia), will manage the network and work with retail service providers on a wholesale basis only; Axia itself will not provide any retail services. Retail service providers will consist of qualifying legal entities that offer voice, video, data, and/or other services such as distance learning, security, gaming, wireless communications, energy management, resource conservation, medical services, data backup and storage, hosted applications, and more to the businesses and residents of Palo Alto. The nearly unlimited capacity of the proposed active Ethernet fiber network can enable 100 Mbps dedicated, symmetrical (uplink and downlink speeds are the same) bandwidth services to those Palo Alto addresses who desire this service. Higher bandwidth services will also be available for residents and businesses which desire it.

One of the Consortium members, PacketFront, today has seventy-eight clients spread across more than twenty countries. Many of those leading municipalities are in the Scandinavian countries and are of a similar size and scale to Palo Alto with successfully deployed open access networks.

PacketFront recently secured a contract with the City of Vienna, Austria, to supply hardware and software technology to build one of the largest open access municipal networks in the world. Like the City of Vienna, the City of Palo Alto has determined that a FTTP open access network operated with an Internet Protocol-centric ("IP-centric") platform will provide the attributes most important for sustaining innovation and long-term community growth. Fiber optic technology ranks highest for networking reliability, includes massive capacity, and offers nearly infinite upgradeable potential, all of which will provide the community with a resilient future-proof infrastructure to support current and future growth. In a nutshell, the symmetrical IP-centric transport architecture proposed for Palo Alto will be superior to existing networks, not only in the community but at minimum throughout Silicon Valley, thereby ensuring that the City will enjoy a competitive advantage in the marketplace.

The proposed network for Palo Alto will be deployed in phases and will be completed on a citywide basis within three years, allowing all citizens and businesses the ability to leverage the network and thereby maximize their educational, economic, and resource conservation opportunities. One of the phases under review (known as Phase 4) includes the area west of Interstate 280. Service to these homes and associated costs will be negotiated in the Agreement, assuming the City Council endorses this approach at its July 14, 2008 meeting.

As is explained in more detail below in the Financial Overview and Assumptions section, the capital necessary for the development, construction, and operation of the network will come from funds external to the City. Moreover, it is anticipated that any agreements the City negotiates with the SPE for use of existing facilities such as agreements for the use of existing dark fibers, a sub-operating agreement for elements of the dark fiber network, or certain usage agreements of the SPE network itself, the City, as part of the overall consideration for entering
into such agreements, will reserve reversionary interest rights in both its own existing facilities and any new facilities deployed by the SPE. Reversionary interest rights may be triggered, and may be immediately exercised by the City, at anytime during the life of the agreements should certain circumstances arise.

To ensure that the network design achieves the maximum usefulness for carrier, retail, government, utility, medical, and academic applications, the development and implementation process will include the creation of focus groups that reflect and address the overall community’s needs and concerns.

Implementation of the proposed network will enable, among others, the following specific benefits:

- Offer residents in the city choice of economical ultra-high-speed Internet access, data transport, video, voice services, and much more
- Provide subscribers the freedom to choose from multiple service providers
- This “real” broadband network will truly enable work-from-home scenarios and the ability to effectively video conference, reducing or time-shifting commute traffic that has created congestion on some city streets
- Provide a clean, swift, robust network that can help meet the City’s goal to reduce its carbon footprint while conserving resources
- Provide ubiquitous lit fiber access throughout the city and a platform for future services and applications, including mobile services for Internet access, public safety, natural resource conservation, and other applications
- Service providers will operate on a level playing field with a low barrier of entry (they make no network infrastructure investment), enabling them to compete solely based on reliability, products, features, price, and customer service
- Enable more City departments to utilize the network and develop cost-effective and resource-saving applications for improving or implementing services such as advanced resource management, and real-time account information that will be of growing value to residents and businesses

For all residents and businesses, the standard of services and proposed pricing will be significant and beneficial. Our experiences have demonstrated that retail rates for various residential and business services on this network will not only be very competitive, but compelling by design. Ultimately, each retail service provider on the SPE managed infrastructure will set the rate for each service it offers. Some examples of these services are outlined in the Financial Overview and Assumptions section.

Finally, this proposed FTTP infrastructure asset will do much more than enable triple-play voice, video, and data services. It will function as a core asset and enabler for enhancing the City’s quality of life, improving and increasing community-offered services, attracting and maintaining quality businesses and professionals, and building stronger neighborhoods and community. This open access network, featuring the availability of abundant bandwidth at affordable rates, will
contribute toward the City’s goal of community engagement whereby the City itself can offer services directly on the network. Communities of interest on any subject can easily be formed on the network, sharing information or video broadcasts neighbor to neighbor over extremely high-speed intranet connections that will not have to go on the Internet for transport. The open access operating philosophy will ensure a level playing field for all service providers, as well as the deployment of a non-exclusive network that will, among other things, strongly encourage creativity and innovation, the lifeblood of Palo Alto and all of Silicon Valley.
Roles of the Parties

The participants of this endeavor include the City of Palo Alto, 180 Connect, Inc., PacketFront Inc., and Axia NetMedia Corporation.

City of Palo Alto

The City has provided the overall vision for the project and will continue to play a critical role in many facets of its implementation—particularly with respect to what the Consortium views as an essential requirement: that the City commit to negotiate and enter into a number of mutually satisfactory agreements with the SPE for both the use of certain existing City facilities and network usage. That is, to facilitate the creation of the network, and in consideration of the SPE’s committing to the City’s objectives as outlined in its RFP, which includes the City’s ultimate ownership of the network, the City would provide the SPE with access to key existing infrastructure on a contractual basis. Additionally, the City would commit to seek bids from service providers on the SPE network and each time issue a Request for Quotation (RFQ) seeking competitive bids for services that could be performed on or off the SPE network.

180 Connect, Inc.

The project requires a design, engineering, construction, and project management resource. 180 Connect is well-suited to provide these services, and is viewed as an FTTP industry leader. Responsibilities that will likely be assigned to 180 Connect include:

- Initial network planning, field design, and permitting
- Construction, system equipment installation
- Customer installation and activation
- Maintenance, repair, and trouble calls

PacketFront Inc.

PacketFront provides industry leading open access technology systems and advanced open access know-how and experience. PacketFront will supply access hardware, home gateway devices and required software applications to the SPE. Additionally, PacketFront has worldwide experience with multiple municipalities and community networks in all facets required to launch a successful open access FTTP network.

Axia NetMedia Corporation

Axia NetMedia Corporation (Axia) brings two critical elements to the FTTP initiative: (1) capability and willingness to make the capital investment necessary to build and manage the proposed Palo Alto broadband network (which provides a level of validation to the business model); and, (2) extensive professional experience as an independent open access fiber optic network operator at the wholesale level. Axia has studied the market opportunity, operational methodology, project participants, and financial models for this initiative. Owing to the vision provided by the City and the experience of Consortium members, Axia has indicated a
willingness to 100% fund the SPE—provided the City commits to negotiate and enter into
mutually satisfactory agreements with the SPE.

It is imperative that the Consortium members, including Axia, gain an understanding as soon as
possible regarding the City’s commitment to negotiate “right to use” agreements with the SPE.
These agreements, among other things, would provide the SPE with access to, and use of, the
City’s existing network facilities, including the dark fiber sub-operations contract with
commercial customers. From the Consortium’s perspective, such commitment is a crucial
prerequisite to moving the project forward.

Table 1-1
Roles of Parties - Summary

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<tr>
<th>Network Architecture</th>
<th>180 Connect</th>
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<td>Build-Out</td>
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<tr>
<td>Ownership</td>
<td>SPE – 100% funded, owned and managed by Axia; after 25 years the City has right of first refusal to acquire the network assets within the city for $1</td>
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<tr>
<td>Environment</td>
<td>Open Access – Wholesale</td>
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**Operations**

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<td>Customer Connections</td>
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<tr>
<td>OSP Maintenance</td>
<td>180 Connect</td>
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<tr>
<td>Content and Retail Services</td>
<td>Service Providers (SPs)</td>
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</tbody>
</table>

Customer Relationship  Wholesale

Allocation of Revenues  To the SPE

City involvement  Minimal – contracts to the SPE for the rights to use already existing assets such as the requested dark fiber strands
Structure and Governance – How is the City involved? What benefits might the City obtain?

The proposed structural and governance model is calculated, to the maximum extent practicable, to insulate the City from risks of loss that may arise in connection with funding, owning, building, or operating a FTTP network. To that end, it is proposed that the formation of a Special Purpose Entity (SPE) occur for the purpose of financing, building, owning, and operating the FTTP network on an open access wholesale basis. The City would simply enter into various contractual agreements with the SPE, including the rights to use some existing City assets that would benefit the SPE by offsetting some of the required total capital costs necessary to construct the network.

Additionally, the City may commit to use the Palo Alto network operated by the SPE among a specific number of City sites where IP services are needed. The actual rate the City would pay for this service would be determined by a Request for Quote (RFQ) process where multiple retailers on the SPE network provide service such as dedicated broadband service and voice over Internet Protocol (VoIP) services, and would compete for the City’s business.

Upon the City’s confirming its commitment to commence negotiating the various previously mentioned agreements with the SPE, Axia would then proceed to form and commit to privately fund the SPE, as well as commit to negotiating and entering into separate agreements with 180 Connect and PacketFront for the building and required solution purchase relating to the deployment of the FTTP network. The SPE would proceed to entering into these negotiated agreements with 180 Connect and PacketFront only in the event City Council subsequently approves the City’s entering into the various contractual agreements with the SPE. Upon obtaining City Council approval, the SPE would immediately execute its separate agreements with 180 Connect and PacketFront.

For its part, the City, through entering into negotiated agreements with the SPE, would, as part of its overall consideration for such agreements, achieve its underlying goals and objectives as stated in the original RFP, including ultimate ownership of the infrastructure at the end of twenty-five years. The estimated total construction costs are $44.2 million with the objective of the City providing value using the listed considerations below to arrive at approximately 30% of this total, or approximately $13 million in value. The exact value of the respective exchanges of consideration will be determined in the months ahead in conjunction with the specific agreements and proposed contracts between the City and SPE. The current considerations for the City include:

A. Granting the SPE a “right to use” agreement for at least 36 fibers with access to required facilities on the City’s existing dark fiber transport network. The estimated value to the SPE, to use these 36 fibers, at this time is approximately $4.4 million.

B. A commitment that the City will use its best efforts to use this network and take service from retailers on the SPE network, following a typical RFQ process. This will ensure the most competitive pricing for the City. This should initially include all Government/Administrative locations, and hopefully, would also include all facilities, such as libraries, with a specific data service requirement. Additionally, when the current
I-Net contracts with Comcast expire in 2010 that include school locations and the Media Center, these should be considered for service provision via a retailer on the open fiber network as well. Given that the proposed network will deliver advanced communications at affordable rates, we believe that the City, all schools in town, including Stanford University, and the Media Center, will view this network as a critical and competitive communications and data alternative. Some of the many benefits are listed below. The estimated value of City commitment to use the SPE network is currently unknown, and will require further research by both staff and Consortium members.

C. A sub-operations contract from the City to the SPE for the approximately forty-five commercial clients on the dark fiber network. Administration of dark fiber licenses, and the maintenance of those fibers underlying those licenses, could be performed by the SPE at a considerable cost saving to the City. Those commercial clients wishing to remain on dark fiber services would continue to be accommodated from an operational and pricing perspective by the SPE. The revenues that the City gains from the commercial clients of the dark fiber operations could be allocated to the SPE for performing the sub-operations contract. The estimated value to the SPE of this consideration cannot yet be determined and requires further research by staff and Consortium members.

D. The City grants the SPE a “right to use” agreement for the fiber that remains from the FTTH Trial that was discontinued in 2005. The estimated value to the SPE of this right to use at this time is approximately $100,000.

E. Provide access to electric conduit or secondary spare conduit where applicable to the SPE on a to-be-determined basis. Additionally, consideration could be given to the SPE regarding the fees associated with street cuts. These estimated values are unknown at this time and require further research by Staff and Consortium members.

F. Subject to the City providing value to the SPE, after twenty-five years, the entire network investment made by, or benefiting the SPE, within the city of Palo Alto may be acquired by the City by exercising its right of first refusal option for $1.

G. Provided the network operator has performed its role in an exemplary manner during its first twenty-five year agreement, it wishes to ensure it is extended the opportunity to continue to perform as the network operator under a ten-year renewable contract.

The Consortium members believe that if agreement can be arrived at on all, or most of the above points, including determining mutually agreed upon values, that contracts should be negotiated and prepared to reflect these considerations to the SPE. Again, the objective of these City considerations is to achieve the approximate 30% value (approximately $13 million) that the SPE seeks as a basic guarantee to provide its investment of more than $30 million into the fiber network infrastructure for the City of Palo Alto.

As noted earlier, we believe it is critical and beneficial that the City use this network to take advantage of the services it can offer, not only between its own City locations, but also in meeting some of the City’s stated goals of community involvement. By having one common fiber optic network to which all residents and businesses may connect, this provides the
opportunity to enjoy City services as if they were provided directly on the network. This could lead to a real sense of civic engagement. It could include video conferencing direct between a school teacher and a parent at home, or it could include a direct conversation between a staff person in a City department and a member of the Palo Alto community. Community events may be broadcast by the Media Center real time on the network or directly by any network user. Local health and educational facilities may provide direct services on the network to residences or businesses. Healthcare applications may run on the network, video conferencing and basic diagnostics is now a reality over networks like this and can occasionally eliminate the cost of transporting those in need across town to healthcare facilities. Real time information can be provided by the fire department, police and transport services, as well as future utility services, such as automated meter reading.

The City itself would also enjoy ultra-high-speed connections provided by a choice of Internet and voice over IP (VoIP) providers with no long term contracts required. Indeed, there is a significant opportunity for savings on voice alone. When the City is connected to the SPE network, telephone services and features should be significantly lower in cost than the City’s current $500,000 annual telephone expense. This network would also provide the City with real back-up and disaster recovery programs. Leveraging the network and ensuring security of all essential City information would be quite simple. Finally, besides the broader economic benefits of attracting and retaining residents and companies in Palo Alto, the network offers clean and powerful tools enabling everyone to create and implement ways we may reduce our carbon footprint.

**Project Timeline Forecast**

The entire citywide build-out is expected to take up to three years from the completion of funding. The project will proceed in construction phases of deployment, preceded by pre-construction planning and preparation phases. One of the phases (Phase 4) being considered would make fiber network services available to the majority of Palo Alto properties west of Interstate 280. This would add approximately $2 million to the SPE capital budget but nothing to the timeline. Detailed engineering for this area will occur in the event the City Council approves the overall Plan concept at its July 14 meeting, and how Phase 4 may be included will be part of the negotiation process.

Assuming the City Council, during its July 2008 meeting, directs staff to negotiate definitive agreements with the SPE formed by Axia, including specific language for proposed contracts as outlined in this Plan, the first residences and businesses could be marketed and demonstration locations connected to the fiber network before the end of the year. As is the case with all infrastructure-intensive projects, construction progress may be accelerated or delayed by a wide variety of known reasons and unforeseen factors.
Services on the Palo Alto Network

As an essential part of the design process, the parties identified network characteristics that are essential to providing today’s high quality services, as well as to positioning the network for future services and applications, and to make the network as “future proof” as possible. The design criteria require a network that is scalable to grow with demand, flexible enough to integrate multiple applications on the same data stream, and adaptable for “plug-and-play” future applications such as Wi-Fi/WiMax and automated meter reading services. The active Ethernet design offers qualities that are most complementary to those identified in the design process, and can be engineered to accommodate global standards that will provide a relatively easy interface for service providers. These qualities will accommodate services which can be identified today and provides an efficient and scalable transport layer for future applications.

The Palo Alto network, as designed, will accommodate:

- **Voice**
  - Local voice (POTS)
  - Long distance voice
  - Voice over Internet protocol (VoIP)

- **Internet and data services**
  - Ultra-high-speed Internet (up to 1 Gbps symmetrical, depending on the service provider)
  - Home automation
  - Automatic Meter Reading (AMR)
  - Security, residential and commercial
  - Gaming
  - Streaming audio
  - Data storage and web hosting
  - Remote personal computer backup
  - Tele-education
  - Tele-healthcare
  - Tele-medicine
  - and much more

- **Video**
  - Internet protocol television (IPTV)
  - Digital video
  - Video on demand (VOD)
  - High definition television (HDTV)
  - 3D high definition television (3D HD)

- **Wireless**
  - 2.4 MHz (Wi-Fi)
○ 2.5 MHz (WiMax)
○ 4.9 GHz (Public Safety)

Service providers (SPs) will provide retail services directly to residents and businesses over the FTTP network—regardless of their service or application. The service provider industry is represented by traditional telephone companies (or incumbent local exchange carriers (ILECs)), competitive local exchange carriers (CLECs), wireless service providers and cable television providers.

Axia and PacketFront plan to broaden the scope beyond the traditional service providers and actively recruit companies that are developing interactive gaming, distance learning, healthcare and medical applications, as well as other applications that drive the desire to be connected which, in turn, will tend to increase network take rate and usage. With the symmetrical bandwidth proposed, and the open access approach, this proposed community fiber network becomes a “production” environment for local service innovation, telecommuting, and economic development, rather than the current “consumption” model enforced by the incumbent service providers today where their services are the only option. This opportunity can enable services to be local to Palo Alto, local to the economy and enable local creativity. Additionally, there are multiple service providers connecting through the Palo Alto Internet Exchange (PAIX) that we believe will be interested in offering service to the residents and businesses of Palo Alto.

Indeed, it is expected that the network will host many innovative applications, community-oriented and otherwise, that are developed and utilized first by other residents and businesses within the community. The network will be an ideal test bed for innovative new products and services. We expect this to be attractive to new companies and individuals that may want to consider Palo Alto their home, but we also believe this network, and the services it will support will become a key reason that many companies and friends remain in Palo Alto. That will help build a stronger community and better neighborhoods. The “open” network approach will enable many application companies to test or run new services and applications that could be customized for the community, or certain communities or businesses of Palo Alto. Any business or resident that is connected will have the option to subscribe to any service provider or service on the network they desire.

A portal is an easy means by which residents and businesses can access their services and providers can host these community applications. Below is an example of this concept shown in the user portal for the City of Vasteras, Sweden. Users select their services and information by clicking on the various buildings.
URL: http://malarneicity.se/pages/City%2HomeAndDisplayWindow

Open Network Design and Functionality

The open network design is intended to remove traditional barriers to entry caused by infrastructure costs and incumbent local providers who operate closed networks where they are the only service provider option. The network design will provide common fiber interconnection points, such as the Palo Alto Internet Exchange (PAIX), for service providers to interconnect with the network. This will enable them to employ the FTTP network as a seamless extension of their own. The active Ethernet fiber design was selected due to its low operating cost, robust capacity, wide adoption as a preferred medium for transport, and the ease with which any network element can be upgraded.

The operating support system designed by PacketFront will enable the operator (Axia) to remotely manage, maintain, and electronically provision access to the network in real time. Furthermore, the software can isolate and identify individual application data streams and program them into an interactive customer portal that will allow the individual end user to make changes to their selected services and/or service provider with the click of a mouse. Tailored services will be available for specific users or businesses and, indeed, services can be launched that will be available for certain communities of interest.
Financial Overview and Assumptions

This FTTP project will require significant capital resources for the development, construction, and operation of the network. The overall capital investment in the community over the next three years is expected to be at least $44.2 million. The business model assumes approximately 30% of this amount will be based on the value of access to certain existing facilities, operational contracts, and support contracts with the City of Palo Alto granted through various agreements.

The proposed Special Purpose Entity (SPE), which will be formed as a wholly owned subsidiary of Axia, will finance, build, own, manage and operate the FTTP network. Axia will fund the SPE through a private investment of at least $30 million—with the actual amount of this initial investment subject to final confirmation by Axia based upon confirmation of the City's exact contractual commitments.

After carefully reviewing the capital expenses, operating expenses, expected take rates, the average revenue per user (ARPU), and in general, this conservative business model, Axia believes there is a strong business case for building a broadband network in Palo Alto. The economic fundamentals we have used as the baseline for this recommendation are expected take rates, revenue forecasts, cash flows, capital expenses, operating expenses, and financing structure. All of the results produced positive indicators to the strength of the business case.

A few highlights:

- Positive Operating Cash Flow in Year Two
- Positive Free Cash Flow in Year Four
- Estimated $44.2 million total cost to build
- Estimated minimum $30 million capital required from SPE, with ~$13 million value in various forms (facility use agreements, other sub-contracts, etc.) from the City
- Network Build-out within Three Years
- 45% Market Penetration in Year Five
- Annual Revenue of $13.8 million in Year Five

Given the results projected above, developed using reasonable market-based assumptions, we believe the business opportunity that this presents is highly attractive—to the point where Axia is willing to commit to fund the SPE 100% through its own private investment, subject to certain negotiated conditions being met by the City.

Customer Assumptions

The following data is a summary of the assumptions used for the first five years of network deployment in Palo Alto. All data was summarized based on the most current geographic information system ("GIS") data available, which was provided by the City. This data provided the Consortium with a basis for determining a total premise count for the City covering residential and business parcels. In this Overview, we have used a very conservative estimate of one marketable subscriber per parcel or premise.
**Palo Alto - Total Market**

The total Palo Alto residential parcel count consists of 16,920 fiber connections serving approximately 23,000 residences. The total Palo Alto market for businesses consists of 3,959 fiber connections that can serve approximately 5,000 businesses. It is estimated that the total number of marketable Palo Alto subscribers could exceed 28,000. The Consortium is currently studying those areas in Palo Alto that are less densely populated, primarily west of Interstate 280, with the goal of creating a cost-effective program to serve those prospective customers, referred to as Phase 4.

**Palo Alto – Premises Passed**

When construction of the network modeled in this Plan is completed by the end of Year Three, this business plan assumes 20,879 premises will be passed by the network. As noted earlier, it is estimated that the total number of marketable subscribers could exceed 28,000.

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Premises</td>
<td>7,614</td>
<td>12,182</td>
<td>16,920</td>
<td>16,920</td>
</tr>
<tr>
<td>Business Premises</td>
<td>1,782</td>
<td>2,850</td>
<td>3,959</td>
<td>3,959</td>
</tr>
<tr>
<td>Totals</td>
<td>9,396</td>
<td>15,033</td>
<td>20,879</td>
<td>20,879</td>
</tr>
<tr>
<td>% of total built</td>
<td>45%</td>
<td>72%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Anticipated Market Share**

The anticipated residential market share is based on four primary factors: historical market research data in Palo Alto, 2007 FTTH market research data provided by RVA Market Research & Consulting, a competitive response from existing service providers, and PacketFront's experience on similar open access community networks. Compiling those various data points, the projected residential subscriber premise take rate on the Palo Alto FTTP network is expected to reach 45% over a span of five years. The residential premise take rate of 45% is not expected to fluctuate significantly over Years Six through Nine.

Additional market data was considered in building the business premise take rate assumptions, such as comparable bandwidth services from existing providers and current market pricing. As a general guideline, the Palo Alto FTTP network, operating with the open access business model, will be capable of offering approximately five times the amount of bandwidth when compared to the incumbent providers, at equal to or below market rates. Conversely, equivalent bandwidth options would be available at a fraction of current market pricing. With the capacity available and pricing advantages, the Palo Alto FTTP network would hold a strong advantage over existing providers. Therefore, the Consortium has projected a very conservative business premise take rate assumption, starting at 25% in Year One and ramping up to 45% by Year Five.

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Business</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
</tr>
</tbody>
</table>
Figure 1 — Take rate forecast growing to 45% is reasonable compared to the performance of other networks.

This graph examines the performance of other FTTP projects, including FiOS and Orem, Utah (part of UTOPIA). Municipalities also represent a range of experiences and, for the purposes of this analysis, we excluded those cities which operate the network and also provide retail services.

**FTTP Connections**

By taking the number of available parcels passed by the network and combining that data with anticipated take rates, we can estimate the number of FTTP connections that will be available each year. This number is not expected to fluctuate significantly over Years Six through Nine.

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential Premises</th>
<th>Year</th>
<th>Residential Premises</th>
<th>Year</th>
<th>Residential Premises</th>
<th>Year</th>
<th>Residential Premises</th>
<th>Year</th>
<th>Residential Premises</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,904</td>
<td>2</td>
<td>3,655</td>
<td>3</td>
<td>5,922</td>
<td>4</td>
<td>6,768</td>
<td>5</td>
<td>7,614</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Premises</td>
<td>445</td>
<td>Year 2</td>
<td></td>
<td>5,922</td>
<td></td>
<td>6,768</td>
<td></td>
<td>7,614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,349</td>
<td>Year 3</td>
<td></td>
<td>1,386</td>
<td></td>
<td>1,584</td>
<td></td>
<td>1,782</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 4</td>
<td></td>
<td>4,510</td>
<td></td>
<td>8,352</td>
<td></td>
<td>9,396</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Services Assumptions**

*Residential Services*

It is assumed that the Palo Alto network will host the following services at a minimum:

- ISP (Data/Internet) services at various levels
- IP Telephony (Voice)
- IPTV (Video)
- Video on Demand
- Gaming
- Triple-Play (Voice, Video and Data)
This model assumes that all residential subscribers will take a data service at a minimum, because the data solution offered over the FTTP network will be our greatest differentiator against the incumbents. It also provides the highest financial return. Our current position today, depending on the service, the network owner's (SPE) share of revenue will be based either upon a percentage of the retail rate or upon a fixed share of the revenue. All data services, if purchased separately, will bring a 50% revenue share to the network owner. The rest of the services will provide a flat rate revenue share for the network owner. (These projections can, and likely will change.)

Retail rates for various residential and business services on this network will be not only competitive, but compelling by design. Ultimately, each retail service provider on the SPE-managed infrastructure will set the rate for each service it offers.

**Current residential service and price assumptions**, based on the forecast for take rates, the number of subscribers, and market conditions, are:

<table>
<thead>
<tr>
<th>ISP Services</th>
<th>Monthly Retail Fee</th>
<th>Fixed Revenue Share</th>
<th>SPE Revenue Share</th>
<th>% of Subscribers Taking Service</th>
<th>SPE Annual Revenue Per Subscriber</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ISP Light – 1 Mbps</td>
<td>$9</td>
<td>0</td>
<td>50%</td>
<td>20%</td>
<td>$11</td>
</tr>
<tr>
<td>- ISP Base – 5 Mbps</td>
<td>$29</td>
<td>0</td>
<td>50%</td>
<td>60%</td>
<td>$104</td>
</tr>
<tr>
<td>- ISP Adv – 20 Mbps</td>
<td>$39</td>
<td>0</td>
<td>50%</td>
<td>15%</td>
<td>$35</td>
</tr>
<tr>
<td>- ISP Pro – 50 Mbps</td>
<td>$49</td>
<td>0</td>
<td>50%</td>
<td>5%</td>
<td>$15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weighted Annual Revenue</th>
<th>$165</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>IP-Telephony (Voice)</th>
<th>$25</th>
<th>5</th>
<th>0%</th>
<th>$60</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPTV</td>
<td>$45</td>
<td>6</td>
<td>0%</td>
<td>$72</td>
</tr>
<tr>
<td>VoD</td>
<td>$30</td>
<td>5</td>
<td>0%</td>
<td>$60</td>
</tr>
<tr>
<td>Gaming</td>
<td>$30</td>
<td>5</td>
<td>0%</td>
<td>$60</td>
</tr>
<tr>
<td>Bundle 1 - Voice, Video, Data</td>
<td>$100</td>
<td>35</td>
<td>0%</td>
<td>$420</td>
</tr>
</tbody>
</table>
**Business Services**

Business services are priced somewhat differently. Initial installation (activation or start-up) fees for business service activation and a free base-level local transport service are in the model. The free base-level local transport service will allow schools, businesses, non-profits, and government facilities (after a one time start-up fee) to transport data within the network using a 1 Mbps connection for no monthly charge, improving connectedness for the public sector all over Palo Alto.

<table>
<thead>
<tr>
<th>Local Transport Access</th>
<th>Business Service Start-Up Fee</th>
<th>Monthly Retail Fee</th>
<th>SPE % Revenue Share</th>
<th>% of Customers Taking Service</th>
<th>SPE Share of Start Fee</th>
<th>SPE Annual Revenue Per Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mbps</td>
<td>$250</td>
<td>$0</td>
<td>100%</td>
<td>60%</td>
<td>$150</td>
<td>$0</td>
</tr>
<tr>
<td>25 Mbps</td>
<td>$250</td>
<td>$300</td>
<td>100%</td>
<td>20%</td>
<td>$50</td>
<td>$720</td>
</tr>
<tr>
<td>100 Mbps</td>
<td>$500</td>
<td>$1,000</td>
<td>100%</td>
<td>15%</td>
<td>$75</td>
<td>$1,800</td>
</tr>
<tr>
<td>1 Gbps</td>
<td>$500</td>
<td>$2,000</td>
<td>100%</td>
<td>5%</td>
<td>$25</td>
<td>$1,200</td>
</tr>
</tbody>
</table>

**Weighted Annual Revenue—Local Transport**

<table>
<thead>
<tr>
<th>ISP Services</th>
<th>$300</th>
<th>$3,720</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISP Light – 1 Mbps</td>
<td>$200</td>
<td>$110</td>
</tr>
<tr>
<td>ISP Base – 5 Mbps</td>
<td>$400</td>
<td>$300</td>
</tr>
<tr>
<td>ISP Adv – 25 Mbps</td>
<td>$400</td>
<td>$1,000</td>
</tr>
<tr>
<td>ISP Pro – 50 Mbps</td>
<td>$400</td>
<td>$1,500</td>
</tr>
</tbody>
</table>

**Weighted Annual Revenue—ISP Services**

| IP-Telephony (Voice)  | $200                          | $40               | 25%                | 4                           | $800                  | $480                           |
Revenue Assumptions

With the projected take rates, service and price assumptions in mind, the annual revenue forecast approaches $14 million by Year Five. Furthermore, based on the higher unit pricing per service, the annual revenues generated from business sales are significantly greater than those generated from residential customers.

Revenue by Sector

On an annual basis, business revenues are significantly higher than residential.
Average Revenue Per User (ARPU)

The average revenue per user (ARPU) is expected to be considerably greater for business users than for residential users. Based on anticipated take rates for specific services described in the Service Assumptions section, as well as on the anticipated retail rates for those services and the SPE’s revenue share, the network is estimated to collect approximately $500 in monthly revenue per business and approximately $35 in monthly revenue from residential services, per household. These revenues increase slightly over time but remain fairly consistent.

Capital Expenditure (CAPEX) Assumptions

The capital expenditures of the network are derived from the pre-engineered network designs by 180 Connect. These expenses include the cost of the fiber distribution ring, fiber-to-the-curb costs, and costs to connect each subscribing parcel or premise. These costs also include labor, electronics, and network software Operations Support Systems/Business Support Systems (OSS/BSS), network provisioning software, and customer portal. Detailed engineering has yet to occur, thus these estimates are likely to change. Again, the assumption used is a very conservative, one marketable subscriber per parcel or premise. (Due to rounding, the figures in the CAPEX table may not add exactly.)
Total capital expenditures for the project are estimated at $44.2M (assuming one subscriber per parcel)

There are approximately 16,920 residential premises, plus 3,959 business and government locations, totaling 20,879 potentially serviceable locations in Palo Alto. It is estimated that the total number of marketable subscribers could exceed 28,000.

Total capital expenditures required for this project based on our assumptions are estimated at $44.2 million, or approximately $2,457 per premise or parcel at 45% penetration. This includes $1,835 per premise passed (that is, the cost to get the fiber to the 'curb'), plus $622 to connect each premise that subscribes to service on the network. The 45% estimated penetration rate equals approximately 9,396 subscriber parcels. A large percentage of the capital expense is in labor and materials for the outside plant which has been designed to cover the majority of City parcels. Phase 4, as it is being engineered, will take into consideration the low density areas west of 280.
The amount of aerial versus buried construction factors into the overall build plan of the new fiber optic network. Aerial construction is significantly less expensive than buried construction, and the fact that the Palo Alto fiber network is designed to be 40% aerial construction is significant.

- **Palo Alto Network Construction:**
  - 209.3 miles distribution plan
  - 125.6 miles underground
  - 83.7 miles aerial

(In order to estimate capital costs, 180 Connect modeled the running line routes past every premise in the city using GIS software).

**Operational Expenditure (OPEX) Assumptions**

The total network operations expenditure is anticipated to decrease significantly after the first three years of build-out, at which point nearly all of the engineering, implementation, and material procurement expenses have been covered. Then, a very gradual increase is projected over time, due to the increased number of subscribers, and the efficient use of third parties to
provide additional operational support services. This operational model allows for agency costs, including the basic, essential staff.

Assumed staff in this model include:

- 1 Manager starting at $120,000/year.
- 1 OSP Manager starting at $75,000/year
- 2 Network Engineers starting at $65,000/year
- 1 Admin starting at $30,000/year

In the complete financial model, the salaries are adjusted annually for a 3% cost of living increase over the span of nine years, plus a 30% premium is added to salaries to represent "fully-loaded" employee expenses.

Also included in this model is Axia’s Network Operations service. This operational support service is comprised of first line customer support at their Network Operations Center (NOC), billing, order management, IT support, and GIS data administration. For the purpose of this Overview, the cost has been modeled at $26 per subscriber annually, plus an annual flat fee of $150,000 to cover fixed expenses; both amounts adjust for 3% annual inflation.
Included in the “External” costs category in the figure below are the consultancy costs for engineering, implementation, and material procurement. As noted previously, these costs are very significant in the first three years, as the services are most heavily used during the initial build phases. Other “External” costs that have been planned and budgeted for are field technicians, service provider management, and wholesale product management.

Other items included are office facilities, consulting fees, marketing, hardware/software support fees, outside plant service (OSP), and maintenance.

The marketing fees are most significant during Years One through Three, when early success is critical to the network and the biggest push is made in grassroots efforts, marketing campaigns, and media plans designed to create awareness in the marketplace and to educate the public. Marketing costs still exist after Year Three, but on a reduced basis.

Operational Costs

Operational Costs in the first three years reflect heavy investments in marketing, engineering, implementation, and material procurement.
# Pro-Forma Statements (Estimated)

## Income Statement

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Costs</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Gross profit margin</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>EBITD</strong></td>
<td>-1,731,825</td>
<td>2,138,042</td>
<td>5,671,081</td>
<td>9,717,121</td>
<td>11,528,528</td>
<td>12,063,577</td>
<td>12,020,854</td>
<td>11,971,646</td>
<td>11,944,777</td>
</tr>
<tr>
<td><strong>EBITD margin</strong></td>
<td>-85%</td>
<td>40%</td>
<td>62%</td>
<td>81%</td>
<td>84%</td>
<td>84%</td>
<td>84%</td>
<td>83%</td>
<td>83%</td>
</tr>
<tr>
<td><strong>Depreciation</strong></td>
<td>-1,112,579</td>
<td>-1,720,019</td>
<td>-2,391,175</td>
<td>-2,514,256</td>
<td>-2,637,336</td>
<td>-2,170,046</td>
<td>-1,859,940</td>
<td>-1,530,611</td>
<td>-1,417,130</td>
</tr>
<tr>
<td><strong>EBIT</strong></td>
<td>-2,844,404</td>
<td>418,024</td>
<td>3,279,905</td>
<td>7,202,865</td>
<td>8,891,192</td>
<td>9,893,531</td>
<td>10,160,914</td>
<td>10,441,036</td>
<td>10,527,647</td>
</tr>
<tr>
<td><strong>EBIT margin</strong></td>
<td>-139%</td>
<td>8%</td>
<td>36%</td>
<td>60%</td>
<td>65%</td>
<td>69%</td>
<td>71%</td>
<td>73%</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Financial net</strong></td>
<td>-2,038,400</td>
<td>-1,161,344</td>
<td>-1,880,279</td>
<td>-2,036,508</td>
<td>-1,702,545</td>
<td>-1,263,660</td>
<td>-775,491</td>
<td>-256,551</td>
<td>275,763</td>
</tr>
<tr>
<td><strong>Interest income</strong></td>
<td>0</td>
<td>793,856</td>
<td>305,321</td>
<td>53,092</td>
<td>291,055</td>
<td>633,940</td>
<td>1,026,109</td>
<td>1,449,049</td>
<td>1,885,363</td>
</tr>
<tr>
<td><strong>Interest expense</strong></td>
<td>-2,038,400</td>
<td>-1,555,200</td>
<td>-2,185,600</td>
<td>-2,089,500</td>
<td>-1,993,600</td>
<td>-1,897,600</td>
<td>-1,801,600</td>
<td>-1,705,600</td>
<td>-1,609,600</td>
</tr>
<tr>
<td><strong>EBT</strong></td>
<td>-4,882,804</td>
<td>-743,320</td>
<td>1,399,626</td>
<td>5,166,357</td>
<td>7,188,648</td>
<td>8,629,871</td>
<td>9,385,423</td>
<td>10,184,484</td>
<td>10,803,410</td>
</tr>
<tr>
<td><strong>Income Taxes</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Property Taxes</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Net Income</strong></td>
<td>-4,882,804</td>
<td>-743,320</td>
<td>1,399,626</td>
<td>5,166,357</td>
<td>7,188,648</td>
<td>8,629,871</td>
<td>9,385,423</td>
<td>10,184,484</td>
<td>10,803,410</td>
</tr>
<tr>
<td><strong>Program margin</strong></td>
<td>-239%</td>
<td>-14%</td>
<td>15%</td>
<td>43%</td>
<td>52%</td>
<td>60%</td>
<td>66%</td>
<td>71%</td>
<td>76%</td>
</tr>
</tbody>
</table>
# Statement of Cash Flows

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest income</td>
<td>0</td>
<td>793,856</td>
<td>305,321</td>
<td>53,092</td>
<td>291,055</td>
<td>633,940</td>
<td>1,026,109</td>
<td>1,449,049</td>
<td>1,885,363</td>
</tr>
<tr>
<td>Interest expense</td>
<td>-2,038,400</td>
<td>-1,955,200</td>
<td>-2,185,600</td>
<td>-2,089,600</td>
<td>-1,993,600</td>
<td>-1,697,600</td>
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<td>Cash flow after change in working capital</td>
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<td>654,210</td>
<td>3,496,382</td>
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<td>9,675,033</td>
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<td>Capital expenditures</td>
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<td>Free cash flow</td>
<td>-21,116,748</td>
<td>-9,816,339</td>
<td>-6,405,088</td>
<td>6,488,067</td>
<td>8,819,657</td>
<td>9,914,874</td>
<td>10,598,659</td>
<td>10,895,872</td>
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<td>Change in long-term debt</td>
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<td>2,800,000</td>
<td>-1,200,000</td>
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<td>0</td>
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<tr>
<td>Increase(+)/decrease(-) in cash and bank</td>
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<td>-5,605,088</td>
<td>5,288,067</td>
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<td>8,714,874</td>
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<td>Accumulated cash flow</td>
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# Balance Sheet

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<td>Fixed Assets</td>
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<td>Current Assets - Receivables</td>
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<td>Current Assets - Cash and bank deposit</td>
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<td>32,137,884</td>
<td>36,244,341</td>
<td>39,975,167</td>
<td>45,835,751</td>
<td>53,193,041</td>
<td>61,307,710</td>
<td>70,217,696</td>
<td>79,741,209</td>
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<tr>
<td>Shareholders' Equity and Liabilities</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td>Shareholders' Equity</td>
<td>8,812,196</td>
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<td>39,193,395</td>
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<td>Equity Investment</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
<td>13,800,000</td>
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<tr>
<td>Retained earnings</td>
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<td>-4,574,926</td>
<td>465,521</td>
<td>7,555,292</td>
<td>16,083,187</td>
<td>25,393,355</td>
<td>35,498,280</td>
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<tr>
<td>Net Income</td>
<td>-4,987,804</td>
<td>-863,676</td>
<td>1,276,554</td>
<td>5,040,447</td>
<td>7,059,771</td>
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<td>Long-term liabilities</td>
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<td>23,920,000</td>
<td>26,720,000</td>
<td>25,520,000</td>
<td>24,320,000</td>
<td>23,120,000</td>
<td>21,920,000</td>
<td>20,720,000</td>
<td>19,520,000</td>
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<td>Other liabilities - Accounts payable</td>
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<td>259,364</td>
<td>299,267</td>
<td>189,645</td>
<td>190,459</td>
<td>190,755</td>
<td>194,315</td>
<td>198,415</td>
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<tr>
<td>Total Shareholders' Equity and Liabilities</td>
<td>34,090,616</td>
<td>32,137,884</td>
<td>36,244,341</td>
<td>39,975,167</td>
<td>45,835,751</td>
<td>53,193,941</td>
<td>61,307,710</td>
<td>70,217,696</td>
<td>79,741,209</td>
</tr>
</tbody>
</table>
Network Operating Plan

In order to instill and ensure an open access operating model, the network owners must empower an operating partner that will not compete with the service providers by offering services to end-users. Due to their industry experience in developing and operating open access networks throughout the world, the consortium recommends that Axia be the network operating partner. The goals and objectives of the operating partner are:

- **Simplicity.** Establish processes and procedures that make it easy for service providers to utilize the FTTP network. From interconnections to provisioning, simplicity will positively differentiate the network.

- **Fairness.** Establish network protocols that treat all service providers equally, so they may freely compete on quality of service, product features, and price while avoiding the usual barriers to network access imposed by incumbent operators.

- **Quality of Service (QoS).** Focus on system management and operations management that surpass current market QoS levels.

- **Superior User Experiences.** Remarkably positive network end user experiences lead to a) increased word-of-mouth referrals, b) a reduction in new customer acquisition costs, c) reduced customer churn, d) enhanced customer loyalty, and e) improved take rate.

Marketing Plan

PacketFront has extensive experience in what it takes to successfully launch an open access municipal network. Additionally, Axia NetMedia adds further experience to PacketFront’s residential expertise, with their proven knowledge of building, marketing and operating open access fiber networks that support businesses and governments alike. This joint approach and experience will be collectively delivered within the city of Palo Alto with our focus on local businesses, residents, the education sector, the health sector, and the government sector including libraries.

Many of the best practices that both organizations have used over the years will be incorporated into our marketing plan. The plan will focus on the marketing of the network itself, making sure people understand the multiple benefits the network will provide. One focus will be on creating and maintaining a wholesale product strategy that allows service providers the ability to develop competitive retail products. The product strategy will be highly flexible to ensure service providers can create retail products that enable them to differentiate themselves from other service providers on the open access network, as well as compete effectively in the broader market that exists today. Service providers will market their own services that they provide on
the network. The SPE will ensure all residents are aware of the network, the various service categories it supports, the freedom of choice on which SP and service one may desire to use and the additional benefits of connecting, which over time, should support “free” community and other local services.

The product strategy for Palo Alto based services would follow these key steps:

a) Ideation - stimulation for new products, most of which come from a variety of inputs
b) Development and Testing
c) Business Analysis
d) Testing – prior to market launch
e) Technical Implementation
f) Launch

The Consortium strongly believes that the SPE needs to embark on a marketing campaign that alerts the community to the universal community benefits of this open network and how it is significantly different from the current basic broadband services available in Palo Alto today. Significant funds have been allocated within the capital budget for this purpose with plans to target the approximately thirty identified neighborhoods in Palo Alto.

1. Once agreements have been met regarding the launch of this initiative, the following steps would occur:
   a. Additional surveys and interviews with key segments of the business and residential markets
   b. A comprehensive and cohesive marketing campaign customized for the Palo Alto market led by an experienced external firm
   c. A specific brand and logo for the Palo Alto open access community network would be created and launched
   d. Marketing collateral and materials would be created to assist with the campaign that could be adapted and utilized by the service providers on the network
   e. A campaign website will be created that informs of latest news and how to ensure you can register interest in gaining service
   f. Local media events will be organized to advise on current progress and what can be expected
   g. Neighborhood ambassadors will be appointed and educational community seminars will be held to promote the benefits of the Palo Alto community network

This comprehensive approach leads to the intended results. Indeed, another PacketFront client, Affärsverken, Karlskrona, Sweden, followed a similar path. Additionally, they successfully leveraged the PacketFront portal, which is planned to be deployed in Palo Alto as well, as a successful way to differentiate the community network from the incumbent broadband services. Some snapshots as examples are provided below:
This is the welcome page for the Service Selection Portal; here, users can click any of the icons along the bottom to sign up for services or download content.

This is the broadband page; all the data service providers are listed along the bottom. Users click to see services and prices, and to subscribe instantly.
TV-DISTRIBUTORS
DISTRIBUTING TV-SIGNALS OVER THE CITY NETWORK

Viasat Digital-TV

Nu kan du få Viasat via ditt stadsät
Nu kan du nun ha en bredbandsanslutning i Karlshamn och få Viasat via ditt bredbandsuttag till Stadshuset. All underhållning du behöver, 44 kanaler med film, sport, dokumentärer, nyheter, barnmord och mycket mer. Klicka på ikonen eller ring Viasat Kundtjanst 0200-219219 eller www.viasat.se

This is the digital TV selection page, where subscribers can choose video providers and packages.

2006 IT AWARD
BY THE SWEDISH HEALTHCARE SECTOR
A Healthcare Channel over the network

These are screenshots from a specialized health care service on the network—Syster Gudrun—which is very popular on the Affärsvärken network. Specialized and niche services like this are only available on open access networks. This service utilizes the high-quality two-way video conferencing capabilities of the network to provide remote medical consultations.

180 Connect
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Next Steps and Proposed Dates

The Consortium recommends these next steps be taken:

- By City of Palo Alto Council:
  
  o Review this Consortium Overview
  
  o Accept the Consortium’s Overview as a framework for achieving the City Council’s stated goals and objectives in its original RFP and subsequent motions which prevailed
  
  o Direct staff to continue the cooperative efforts with the Consortium, including:
    - Immediately commence to identify and negotiate all agreements with the SPE relating to the SPE’s access and use of existing City network facilities, including possible network usage commitments, such that mutually agreeable draft agreements will be ready in final-draft form for presentation to the City Council for ratification during one of its public meetings in the September 2008 timeframe
    
    - Reserve a place-holder on the Council agenda during September 2008 for final Council consideration and approval of detailed FTTP agreements

What follows is a tentative list of suggested next steps:

- **June 16.** Consortium delivered this Overview to staff designed to be shared with the public and discussed with the City Council, tentatively during the July 14, 2008 City Council public meeting.

- **July 3.** Staff tentatively plans to deliver a City Manager’s Report (CMR) to City Council members accompanied by this Overview; all of which will be made publically available by staff.

- **July 14.** City Council consideration of this Overview. Council, during their July 2008 meeting, may direct staff to develop definitive agreements needed between the City and the SPE formed by Axia as outlined in this Plan. Full agreements are expected to be completed for consideration by Council during a Council meeting planned for September 2008.

- **July and August.** Suggested workshops with City staff, Consortium members, and Axia to develop definitive agreements between the City and the SPE. A series of public education meetings at various locations throughout the City will also occur.

- **August and thereafter.** Consortium members and Axia continue to drive out broader aspects of the Overview including, for example, identifying Service Providers.

- **September 2008.** A Council Action Item should be tentatively scheduled for a September, 2008, Council meeting with the intent that Council receives the definitive agreements and all parties ratify them on or soon after that date.
- **September to November.** Assuming Council approves the agreements during September, various activities will be implemented by the SPE and could include, among others, applications for various permits from the City that might not be part of the prior agreements. Other activities would include the SPE signing initial contracts with partners, service providers, and vendors to the project, and completing the required construction planning steps.

- **September.** Marketing of the initiative would start as soon as possible and include creating a community network awareness program, coupled with a citywide campaign to determine the specific interest levels of connecting within each neighborhood.

- **November to December.** Target timeframe to connect the first demonstration homes and first business customers to the lit network.
City of Palo Alto – Proposed Phased Build Out Map (Phase 1, 2 and 3)
City of Palo Alto – Proposed Phased Build Out Map (Phase 4)
Letter of Interest – Art Price, CEO, Axia NetMedia Corporation
May 12, 2008

Mr. Greg Pustelnik
Manager of Purchasing
Administrative Services Department
City of Palo Alto
Mezzanine
250 Hamilton Avenue
Palo Alto, CA 94301

Dear Mr. Pustelnik:

Re: Axia NetMedia Corporation ("Axia") Letter of Interest in the Broadband Business Plan for the City of Palo Alto Proposed by PacketFront, Inc. ("PacketFront") and 180 Connect ("180")

The purpose of this letter is to inform you of the strong interest of Axia in the "Broadband Business Plan for the City of Palo Alto" proposed by PacketFront and 180.

Axia, headquartered in Calgary, Alberta, Canada, is a public company incorporated under the laws of the Province of Alberta, Canada. Axia’s common shares trade on the Toronto Stock Exchange ("TSX") under the symbol "AXX". Axia has two material wholly owned subsidiaries: Axia SuperNet Ltd. ("ASL"), an Alberta private company and Axia Networks France ("ANF"), a French private company.

Axia is a specialized network services company that is expert in designing, building and operating ultra high-speed IP Networks to markets around the world. Axia has been operating for over ten years and has approximately 125 employees. The following success is proof of Axia’s capabilities and experience working with governments to achieve and exceed their expectations:

1. Canada: Axia, via ASL, operates the Alberta SuperNet, a Real Broadband™ Network serving 429 communities and directly connecting over 4,200 Government locations. The Alberta SuperNet consists of 10,900 kilometres of fibre optic network, 2,100 kilometres of wireless network over an area of 661,848 square kilometres. Axia’s team designed, implemented and now operates the Alberta SuperNet.

2. France: Axia conducts similar operations in France through Covage, a French private company jointly owned by ANF and VINCI Networks. Covage is involved in the acquisition, design, development, operation and ownership of public IP-based networks in France. To date, Covage has interests in 12 public networks that will provide network services to a population of over 5.2 million. All of these public networks were awarded through separate public tender processes.

Axia is also participating in competitive bid processes and strategy dialogue in other jurisdictions such as the Middle East, Europe, Asia and North America. Additional information can be found on Axia’s website at www.axia.com.
In February 2008, we entered into a strategic teaming agreement with PacketFront to jointly evaluate and potentially pursue and bid on opportunities in the high speed broadband market, specifically FTTP projects. It is through our relationship with PacketFront that we were apprised of this new and exciting opportunity in Palo Alto.

Axia is interested in this project for several reasons, including:

- The project is a strong fit for the joint capabilities of Axia and PacketFront.
- High speed fibre networks are in demand by leading businesses in Palo Alto and the FTTP model has received community support. The take up rates in the business model underlying the project will allow Axia to operate a profitable business.
- This project will be a reference case for other cities and regions considering FTTP. As Palo Alto is the centre of global internet leadership, successful roll out and operation will enhance Axia’s global brand and support our other FTTP opportunities.

Based on the information exchanged as of this date, Axia confirms its interest in this project and Axia’s ability to provide the required capital and operating expertise for this project. This confirmation is subject to change pending receipt of additional information and upon your performing complete due diligence.

We look forward to further discussion with representatives of the City of Palo Alto and, if successful, we will begin a detailed due diligence process and enter into negotiations.

Thank you in advance for considering Axia for this opportunity.

Sincerely yours,

AXIA NETMEDIA CORPORATION

Art Price
Chairman & Chief Executive Officer
Attachment C

Comparison of Municipal Broadband Projects in Selected Cities

Alameda
Established in 1998, Alameda Power and Telecom’s (APT) telecommunication (Internet and cable TV) operation is in financial distress. It has approximately $77 million in debt ($33 million in bonds and a $44 million loan from the electric operation) and faces a balloon payment of $33 million in June 2009. In addition to a somewhat outdated coaxial cable system, Alameda has faced “intense competition, high labor costs compared to non-municipal providers, high programming costs…and stagnant customer counts.” (Alameda Sun, February 28, 2008).

A salient point in APT’s experience is the immediate response to its project by the incumbent, Comcast. This provider cut prices on its services and reduced APT’s expected market share and revenues. APT is pursuing a sale of its telecommunications system and is in the process of soliciting bids.

Seattle
The City of Seattle is expected to issue a broadband RFP in September 2008. It is awaiting a determination by Seattle City Light (SCL), its electric utility, on how it can use broadband services. SCL, for example, is examining using fiber optic service to perform automated meter reading. SCL has built a dark fiber ring in parts of their city. The RFP may include requests for private sector interest in building a broadband project.

Seattle is considering having a closed system for the first 4-5 years. Apparently, service providers are reluctant to participate in an openly competitive system given their concerns about recouping their investment in an open network. Like Palo Alto, Seattle has incumbent providers such as Comcast, Verizon, Broadstripe (video and internet cable provider), and Qwest. While Verizon’s presence is limited to a small geographic area and Qwest is not interested in expansion of services, Comcast has a citywide system and has indicated it opposes the City’s broadband plans.

Seattle has conducted extensive research into municipal broadband efforts. A staff person working on the project indicated that a viable and successful municipal broadband model has yet to emerge. While feasibility studies show bases for success, outcomes in other cities have not been as positive as originally anticipated. Staff indicated that where broadband systems are run by utilities that have demonstrated need, there appears to be a higher success rate.

Currently, Seattle estimates that it would need $500 million in bond proceeds to build a Fiber to the Premises (FTTP) system. As in Palo Alto, Seattle has considerable infrastructure needs such as rebuilding a highway and bridge along Puget Sound and these priorities will compete with the broadband project.
Utopia System
One of the most prominent efforts to implement a municipal broadband system is the Utopia system in Utah. Formed in 2002 and designed to reach underserved communities, 18 Utah cities banded together to deliver high speed broadband services to homes and businesses. Unlike the City of Palo Alto’s current plan, Utopia issued municipal bonds backed by the revenues of the broadband system to construct the FTTP project. Member cities also pledged General Fund revenues in the event Utopia debt service and operating costs could not be covered. In addition to the bonds, Utopia expected a significant loan from a local utility to build out and operate the system.

Because of problems with the loan and other issues, Utopia has refinanced the original loan and increased their financing. Current take rates are at 28 percent, the national average, and customers have been loyal to the Utopia program despite initial service missteps. It appears that Utopia is re-examining its initial business model and business relationships in an effort to right its ship.