

Agenda Report

DATE: October 22, 2001

TO: CITY COUNCIL
THROUGH: ECONOMIC DEVELOPMENT & TECHNOLOGY COMMITTEE
FROM: CITY MANAGER
SUBJECT: TELECOMMUNICATIONS MARKET ASSESSMENT STUDY RESULTS

RECOMMENDATION

It is recommended that the City Council:

- 1) Receive the Telecommunications Market Assessment prepared by Uptown Services, LLC;
- 2) Direct staff to take the following actions to implement study recommendations 1, 2, 4, 5, and 6:
 - a. Collaborate with JPL and Caltech to develop a plan for their use of a portion of the City's fiber optic backbone to create a network that will draw new hi-tech firms to Pasadena;
 - b. Research the issues surrounding placement of a telecom hotel in Pasadena and determine if the City should provide any remedies for current roadblocks or incentives for telecom hotel development to proceed;
 - c. Work with Pacific Bell to target commercial areas of the city for expanded DSL coverage and to find creative solutions for siting of required above-ground facilities;
 - d. Build awareness of the third-party Neighborhood Link website to provide a common forum for sharing city and community information; and
 - e. Work with cellular providers to improve coverage in Pasadena and identify impediments to resolving coverage problems.
- 3) Concur with Uptown Services' recommendations 7 and 8 to not install additional fiber in the City's ring and to not build a full service network to provide telecommunications services to Pasadena residents and businesses.

BACKGROUND

On September 23, 2000, the City Council participated in a workshop in which telecommunications and cable TV trends and potential City roles in the local telecommunications market were discussed. At the conclusion of the workshop, the Council requested that staff conduct an assessment of the local telecommunications market. The assessment was to identify:

- current and future telecommunications needs of local residents and businesses,
- the types of services that telecommunications companies provide currently or intend to provide in the near future, and
- assets and opportunities for the City to fill identified gaps, up to and including becoming a full service network provider.

On February 5, 2001, the Council approved award of a contract to Uptown Services, LLC (Uptown) to conduct the telecommunications market assessment. Uptown has completed its work and has prepared the attached Telecommunications Market Assessment report for the Council's review.

The market assessment involved:

- identifying the current and future uses of telecommunications services by residents, businesses, city institutions (City, Pasadena Unified School District, and Pasadena City College), and community organizations;
- determining what services and capabilities telecommunications companies are currently offering in Pasadena;
- identifying any gaps between local needs for telecommunications services and available services;
- identifying strategy alternatives to fill those gaps; and
- recommending strategic directions for the City to adopt.

As requested by the City Council, the assessment considered a wide variety of potential City roles, ranging from encouraging existing providers to do more locally, to lease of public rights-of-way to telecom firms, construction of City infrastructure, and direct City provision of telecommunications services. Uptown's work also took into account anticipated changes in telecommunications technology and the telecommunications industry. Further, Uptown explicitly considered the economic development impacts in formulating alternatives and making its recommendations.

Staff from the Information Technology Services Division, Water and Power Department, and Pasadena Community Access Corporation reviewed the draft reports provided by Uptown.

Uptown concluded that the needs of local residents and businesses for telecommunications services are well met. Local consumers and businesses are generally satisfied with the quality and availability of telecommunications services.

Overall, current telecommunications providers offer a full complement of the latest telephone, video, Internet access, and other data services.

There are some specific areas, however for which Uptown identified gaps between market needs and current telecommunications capabilities. These are:

1. a low level of competition among fiber optic-based service providers;
2. the absence of a major telecommunications hub or hubs locally (often referred to as a telecom hotel);
3. spotty DSL coverage;
4. the lack of fiber capacity for future projects on the City's fiber optic backbone;
5. a desire by the Pasadena Unified School District for two-way broadband connections between schools, students' homes, and the District Education Center;
6. greater needs for sharing of community and city information;
7. the need by local non-profits for high speed connections to the Internet and more effective means of communicating their messages;
8. growing needs of city departments for high capacity services;
9. spotty cellular phone coverage; and
10. unmet needs for high-speed mobile data capabilities.

The Telecommunications Market Assessment identifies six recommendations for the City to help fill these gaps:

1. create a JPL/Caltech network using the City's existing fiber backbone to draw hi-tech business partners of these institutions to Pasadena
2. facilitate development of a telecom hotel in the city to encourage long distance providers, Internet service providers, competitive local phone companies and other telecom firms to expand services in Pasadena
3. develop a unified approach within the City for use of the portion of the fiber optic backbone that has been reserved for internal communications needs in order to conserve fiber on the ring and serve additional City needs
4. work with Pacific Bell to speed up its local network upgrade to provide greater DSL availability
5. build awareness of and leverage the third-party Neighborhood Link web site to provide a common forum for sharing city and community information
6. work with cellular providers to facilitate improvements to their coverage in Pasadena

In addition, Uptown made two recommendations about actions the City should not take. These were:

7. don't pursue installation of additional fiber for lease to the private sector
8. don't build a full service network to provide local telecommunications services

Staff concurs with Uptown's recommendations, each of which is described further below.

Recommendation 1: Develop a Plan for a JPL/Caltech Network

Over the past several years, the Jet Propulsion Laboratory (JPL) has increased the amount of work that it contracts out to the private sector. JPL requires high-speed network links to each of its private sector partners. It requires the same kind of connection to Caltech, which manages the Lab for NASA. JPL would like to make use of the City's fiber optic ring to create a network linking its campus, Caltech, and its 14 partners locally.

Use of the fiber would save JPL and its partners both time and money. The Lab could require that all its partners locate in Pasadena to make use of the fiber, ensuring that Pasadena continues to attract and retain these high tech firms. To make use of dark fiber economically feasible, JPL has requested that the City provide a discounted lease rate for the fiber, and that the City take into account the economic development benefits of creating this network. Those benefits include retention and attraction of hi-tech businesses and associated jobs, creation of a public relations tool for future economic development, and, as the number of businesses grow, increased identification of Pasadena as a choice location for technology-based enterprises.

The City has a limited amount of fiber available for City purposes and dark fiber leases. There are a number of options, however, that could allow earmarking of the fiber that JPL has requested. These options range from making more efficient use of existing fiber to installing additional fiber. Staff recommends that the City collaborate with JPL and Caltech to develop a plan for their use of the City's fiber optic backbone to create the desired network.

Recommendation 2: Research Telecom Hotel Development

Uptown identified several competitive fiber network service providers in Pasadena. They seem to be making very little use of their fiber to serve local businesses. One reason is that Pasadena lacks a "point of presence" – a network hub providing a link to regional and national telecommunications networks. Local businesses that want to use the services of a competitive provider must pay for high capacity links from Pasadena to Downtown Los Angeles.

It is recommended that the City explore development of a telecom hotel in Pasadena to serve as that network hub and stimulate competitive service offerings. Telecom hotels are facilities that provide infrastructure and house equipment for telecommunications, Internet, and data management companies, as well as offering a high-speed pipeline to regional networks and the Internet. From a telecommunications perspective, there are clear benefits in putting Pasadena on the map for long distance providers, Internet service providers, competitive fiber-based companies, and others. These benefits include facilitating competition among telecommunications companies, potential cost savings for local businesses, and attraction of telecom-dependent enterprises. Staff recommends that the City research key issues that may impede telecom hotel development, locate potential sites that can be evaluated further, and facilitate connections between interested telecom hotel developers and those offering sites.

Recommendation 3: Develop a Unified City Approach to Use of the Fiber Backbone

The City currently uses a variety of methods to link its many facilities for internal telephone and data communications. Using the City's fiber optic backbone would be the most efficient means of connecting many City sites. The fiber available is very limited, however. It is recommended that staff develop a unified approach to make efficient use of the fiber that the City manages.

Recommendation 4: Encourage Expanded DSL Coverage

Many of the various participants in the Telecommunications Market Assessment (businesses, residents, institutions, and community organizations) indicated that DSL coverage is lacking in Pasadena, and that there is a lack of information about where it is available. Pacific Bell is the primary provider of DSL service locally. The company has indicated that statewide 40 percent of its lines were DSL capable at the end of 2000. In a push to expand its DSL service significantly, Pacific Bell is implementing Project Pronto, with the goal of increasing its DSL capable lines to 80 percent by the end of 2002.

Pacific Bell is planning to install new facilities in several areas of Pasadena to support expanded local DSL coverage. Siting of the large above-ground facilities has been a challenge, however, especially in residential areas. Staff recommends continued dialogue with Pacific Bell to target commercial areas of the city for expanded coverage and to find creative solutions to siting of above-ground facilities. This could include development of siting and landscaping guidelines, and siting on public property.

Recommendation 5: Neighborhood Link Community Website

Uptown found that many of the community organizations it surveyed want more interactive sources of community information and higher speed connectivity to the Internet. To address the need for more interactive information-sharing for community groups, Uptown recommends that the City build awareness of the existing third-party Neighborhood Link website.

While there are a number of entities in Pasadena that already provide forums for sharing community information, Neighborhood Link provides a community website that would allow neighborhood associations, nonprofits, schools, and other organizations to create and share information in one location. Underwritten by corporate sponsors, the website is free. Staff recommends that the City build awareness of the Neighborhood Link website through its ongoing interactions with community organizations and neighborhood associations.

Grants from the recently approved Altrio Communications franchise should also help fill the needs voiced by community organizations for more interactive sources of community information and higher speed Internet connectivity. A portion of Altrio's PEG access contribution will be used to support the following:

- Provide audio broadcast of a variety of community information, such as bulletin board items and the In Focus newsletter, via the City's government access channel. This will increase visually impaired residents' access to the information.

- Support PCAC equipment purchases and a high-speed connection to the Internet that will allow the Community Access Corporation to develop its community-oriented website, including streaming of community video, Internet training, and possibly web-hosting for community organizations.
- Subsidize high-speed Internet access for community organizations that lack the resources to acquire them on their own.

Recommendation 6: Facilitate Improved Wireless Coverage

In its interviews with large businesses, Uptown heard many complaints about the lack of adequate coverage from wireless phone service providers in Pasadena. The primary cause of inadequate coverage is a lack of antennas to support the volume of calls now made using cellular phones. The push by cellular providers to add Internet access, fax, and paging features to cell phones is expected to place additional demands on the cellular networks.

Staff recommends that the City play a role in facilitating improved wireless coverage, while maintaining responsibility for local control of the visual impacts of the antennas. That role could include: working with the wireless industry to identify service gaps; offering incentives and faster processing times for firms that move to fill gaps quickly, and those that agree to co-locate their facilities with existing structures; educating the public about wireless antenna issues; and conducting an annual meeting with the wireless companies to identify future projects, and anticipate staff requirements to process wireless site applications.

Recommendation 7: Don't Pursue Installation of Additional Fiber for Lease

The Telecommunications Market Assessment found that installation of additional fiber for lease to the private sector presents significant risk to the City and uncertain returns. Private firms have already installed a significant amount of fiber locally, much of which is not yet being used. Pacific Bell is the only significant provider of fiber-based services at present, and has earned a high level of satisfaction from local businesses.

Fiber networks typically serve four purposes for competitive telecommunications carriers: connecting large customers directly to long distance providers; connecting large customers to their local phone switch; connecting large customers to the Internet backbone; and connecting multiple locations of a business or affiliated businesses together. Pasadena is relatively isolated as it relates to telecommunications. Having more fiber available locally doesn't make sense without a link to downtown Los Angeles, where most of the long distance providers, competitive local carriers and Internet providers are based. That link would be very costly to build or lease. (The Blue Line Authority anticipated leasing right-of-way along the rail line for installation of fiber between Pasadena and Downtown Los Angeles. However, there was a lack of interest by the telecommunications industry in such a lease, and no fiber is currently planned along the Blue Line route.) Staff recommends that the City not install additional fiber for lease at this time, except where there is a lessee that wishes to pay upfront for installation of more fiber.

Recommendation 8: Don't Build a Full Service Network

A variety of cities across the country have built telecommunications networks to provide businesses and residents with telephone, video, and Internet access services. These efforts have tended to be successful where the existing telecommunications service providers have been slow to introduce new services like digital cable, cable modems, and DSL. The Telecommunications Market Assessment found that the city's primary local providers, Charter and Pacific Bell, already make the latest services available. The level of satisfaction with both companies' services was relatively high. Competition is also expected soon in some areas of the city, as Altrio Communications constructs its network and begins offering video, telephone, and Internet access services.

Uptown ran a conservative business case for City development of a full service network to offer cable TV, voice, and Internet services. The case showed that the City would have to invest over \$35 million before the network began paying for itself in Year Four. Payback of the initial investment would occur in Year Eight. The return on investment over 15 years was just 12 percent for a project with considerable risk. These risks include: growing local competition as Altrio and possibly WINfirst build networks here; a price sensitive market, in which price wars are likely; and lack of City familiarity with the operational requirements of providing telecommunications services. Staff recommends that the City not build out a full service network to provide local telecommunications services at this time.

FISCAL IMPACT

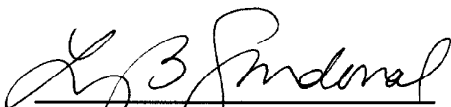
There is no fiscal impact from implementing the recommendations described above. The activities required to implement the recommendations are ongoing department responsibilities. Projects related to these recommendations (such as implementation of a plan for a JPL/Caltech network or a specific telecom hotel development proposal) may require additional staffing or funding. Staff will return to Council to request approval of any project-specific costs, necessary contract awards, and funding sources.

Respectfully submitted,




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