

Overview of the Project

The City of Northfield engaged CCG Consulting, LLC (“CCG”) to study issues associated with building and operating a fiber-to-the-premise (FTTP) network within the City. In its Request for Proposal the City detailed the scope of work for the project as follows.

Scope of Work

The study should provide an analysis for the provision “triple play” services, meaning competitive voice, video and data services over a citywide fiber network. At a minimum the study should provide:

- 1) Conduct a random sample, unbiased survey of residences and businesses to establish a likely market penetration rate and to clarify which benefits from a new city wide fiber optic network might be most important to the residents of Northfield. Items included, but not limited to:
 - a) Should the city be in the communications business
 1. own
 2. operate
 3. own and operate
 4. collaborate with private business but rely on their investment for services
 5. city should not be involved in the telecommunications business
 - b) If the city were to offer services, would there be interest in taking services from a city enterprise?
 - c) Identify users and market - who would use new communications system?
 1. telecommuting
 2. business (large/small)
 3. cottage industry
 4. home users
 5. schools (public, private, secondary)
 6. multi-dwelling units (apartments, retirement centers)
 7. industrial parks / marketing of
 8. identify each option (voice/data/video) that would be of interest
 - d) Identify the most important benefits from a new telecommunications service such as:
 1. more choice of service providers
 2. lower prices
 3. customer service
 4. city ownership of new service
- 2) Create relevant business cases for outputs of market study.
- 3) Evaluate relevant community uses of the network to include government, education, health care, business and home uses.

- 4) Provide an overview of the current providers: their services, marketing bundles, pricing strategies and coverage. Establish a competitive marketing and pricing strategy for an independent city supported voice, video and data service and bundles over the FTTP network.
- 5) Assessment of network architecture(s)
 - a) Pre-engineering study(s) at sufficient depth to estimate costs and approximate implementation timeframes for full fiber to the premise (FTTP)
 - b) Support services should include (but not limited to)
 1. Video
 2. IP TV
 3. VOD
 4. Telephone services
 5. Internet services (ISP, email, web hosting, etc.)
 6. Security and authentication requirement for business
 7. Bandwidth on demand
 8. High speed (in excess of symmetrical 100 megabits) service
- 6) Options of ownership and services provision to include:
 - a) Business Models
 1. Open network – city would finance and contract to build the network and then invite service provider to contract and deliver service on network.
 2. Single/special service provider - (one provider “over-build” network) either city owned or privately owned.
 3. City would finance the build of network and operate it as municipal enterprise.
 4. Others
 - b) Provision of projected profit and loss statements, balance sheets with a desired granularity of ten to fifteen percent of actual. Include investment rate of return calculation.
 - c) Options for financing to include, but not limited to general obligation bonds, revenue bond, public/private partnerships and USDA’s RUS funding (Rural Utility Service).
- 7) Probable project implementation schedule and phasing.

To meet these objectives CCG took the following steps:

- We conducted residential surveys for a statistically valid sample of residences in the City.
- We conducted interviews with key players in the City, and many businesses in the City.
- We conducted generic market research on the location and density of businesses and residences in the City.

- We used the results of the survey, interviews and market research to project residential and business penetration rates of services that can be sold over the network.
- We analyzed the products and prices of existing providers in the community.
- We discuss pricing strategies the City ought to consider for a FTTP business and recommend prices to use in the feasibility report.
- We discuss marketing strategies that can be used to accomplish the projected customer penetration rates.
- We include a discussion of how much broadband customers are going to need today and into the future. We further discuss the standing of the U.S. compared to the rest of the world in terms of broadband penetration.
- We discuss why broadband is important and look at the ways that broadband matters today, and in the future to various stakeholders in the City.
- We performed a high-level engineering design of a fiber-to-the-home system that can deliver the triple play (Cable TV, data and telephone) to the businesses and residences in the City.
- We developed several versions of financial business plans to determine if there is a viable economic model that would work for bringing broadband to the City.
- We discuss various ownership options for how the City might offer service directly or partner with others.
- We discuss ways the City can get the project financed.
- We prepared a time line showing the major steps required and one possible time path for implementing a FTP business in the City.