

ATTACHMENT A

**A RESOLUTION AUTHORIZING THE TOWN MANAGER TO PARTICIPATE IN THE
GIG.U-NCNGN REQUEST FOR PROPOSAL (RFP) RELEASE AND IN THE EVALUATION
OF RESPONSES RECEIVED FROM VENDORS.**

Draft Resolution No. 73/2012-13

WHEREAS, the Town of Carrboro has been participating in the regional Gig.U effort known as the North Carolina Next Generation Networks (NCNGN) to develop an RFP to solicit vendor responses that will accelerate the offering of next generation ultra-high speed communications network services in the regional communities; and,

WHEREAS, the Request for Proposal is tentatively scheduled to be released on February 1, 2013.

NOW, THEREFORE BE IT RESOLVED BY THE CARRBORO BOARD OF ALDERMEN
THAT:

The Town Manager is authorized to participate in the Gig.U-NCNGN Request for Proposal regional release and in the evaluation of any responses received from vendors.

This is the 15th day in January of 2013.

NOTICE TO PROPOSERS

Notice is hereby given that on April 2, 2013 at 9:00 A.M. (Eastern Standard Time) sealed proposals will start to be considered by the Triangle J Council of Governments and NC Next Generation Networks for:

THE PROVISION OF AN OPEN ACCESS NEXT GENERATION COMMUNICATIONS NETWORK(S)

Specifications and instructions for this Request for Proposals are attached to this Notice. Additional copies may be obtained at the offices of the Triangle J Council of Governments located at 4307 Emperor Boulevard, Suite 110, Durham, NC 27703, or viewed, downloaded and/or printed at the following website: <http://www.tjcog.org/nc-next-generation-network.aspx>. Office hours are 8:30 am to 5:00 pm, Monday through Friday.

POSTED: February 1, 2013

1. Glossary of Terms

NC Next Generation Network (NCNGN):	is the name for the following municipalities and their respective Chambers of Commerce seeking development of Network(s): Cary, Chapel Hill/Carrboro, Durham, Raleigh, and Winston-Salem with support of Duke University, NC State University, UNC Chapel Hill and Wake Forest University
Next generation:	schedule of plans beginning with 100 mbps wireless up to 1 gbps or higher wired symmetric service
Network(s):	next-generation communications network solutions
Open access:	reasonable and non-discriminatory access arrangements that (i) ensure equivalence of price and non-price terms and conditions for all retail services providers and (ii) permit such providers to differentiate their product offerings
Requesting Entities (REs):	participating municipalities
Service Area:	Cary, Carrboro, Chapel Hill, Durham, Raleigh, Winston-Salem
Vendor(s):	business entity or entities which respond(s) to this RFP

2. Introduction and Overview

The Triangle J Council of Governments and NC Next Generation Networks (NCNGN) are issuing this Request for Proposals pursuant to G.S. § 143.129.8, *et seq.* to develop the next-generation broadband infrastructure needed to meet the technological needs of current and future businesses, public institutions, educational institutions, and local residents. We are seeking network solutions and business models that are innovative, preparing our region for the future while serving the needs of today, and seek opportunities to best use existing public investments in currently underutilized government fiber and broadband assets to provide the maximum benefit to the public.

Vendors or coalitions of vendors are sought to achieve the following goals and objectives:

Goals

1. Create a gigabit, fiber network to foster innovation, drive job creation, stimulate economic growth, and serve new areas of development in the community;
 - a. covers those areas prioritized in each community's Schedule with a negotiated plan for building out the remainder of each community;
 - b. provides a comprehensive broadband infrastructure that can be expanded upon to serve other areas of the region; and
 - c. provides service for a minimum of five (5) years from the date of first operation.
2. Provide an open access architectural framework that maximizes wholesale and retail service delivery and competition;
 - a. provides non-discriminatory interconnects.
3. Provide a flexible menu of optional retail services
 - a. offers supported retail broadband services with a guaranteed sustained minimum schedule of service ranging from a preferred 1 gbps with other options such as high speed wireless for certain market areas as well as temporary solutions with a timeline for permanent installation of the preferred solution; supports high quality voice, data, and video services, and telehealth solutions.
4. Use public-private assets to reduce the digital divide, enhance workforce knowledge and skills, promote economic development, enhance access for anchor

institutions, and serve other targeted social purposes identified by the participating municipalities;

- a. provides free or heavily discounted services to specified low-income neighborhoods (see each community's Schedule for a list of neighborhoods within each RE jurisdiction) and anchor institutions;
 - b. creates a working relationship between local governmental units, vendors, and non-profit organizations to fund hardware and educational services for low-income residents, the elderly, and other underserved populations; and
 - c. establishes free wireless networks in parks and public spaces in areas adjacent to the wired network.
5. Provide high speed internet service over a wired or wireless network at a substantial discount from current market prices.
- a. enables low wholesale access prices that reflect underlying costs while allowing Vendor(s) to earn a return on investment commensurate with the risks involved.

These goals support longstanding regional efforts to sustain and enhance our role as one of the research and technology hubs of the nation. To further these goals, the participating municipalities and associated governmental agencies may offer a variety of supporting assets, including access to existing, municipally-owned fiber; state and municipal rights-of-way; coordination with planned construction; colocation spaces; and the potential migration of existing service contracts for municipalities and off-campus university and healthcare facilities.

1.1 Network(s) Background

The objective of this Request for Proposal ("RFP") is to enable the participating municipalities ("Requesting Entities" or "REs") to engage, either collectively or individually, with one or more Vendors ("a business entity or entities which respond(s) to this RFP") to design, build, operate, support, and manage one or more open access, next-generation communications network solutions (the "Network(s)") that will enhance coverage and capacity to businesses, homes, governments, and institutions within and between those areas shown on Schedule 1.1 (the "Service Area"). "Next generation" service is defined as a schedule of plans beginning with 100 mbps wireless up to 1 gbps or higher wired symmetric service. Preference will be given to Vendors offering higher network speeds.

The initial implementation(s) will incorporate those capabilities deemed appropriate through collaborative planning between the local government representatives and Vendor(s). The preferred solution is an open access/neutral hosting architecture that does

not restrict access to other providers. However, the REs will consider proposals that have some variance on this preferred solution.

By “open access,” the REs mean that the Network(s) will have reasonable and non-discriminatory access arrangements that (i) ensure equivalence of price and non-price terms and conditions for all retail service providers and (ii) permit such providers to differentiate their product offerings. In addition, the Vendor(s) must not limit the ability of retail service providers or their customers to run applications, use services, and connect devices of their choice to the Network(s). The selected Vendor(s) may build and operate the Network(s) on a wholesale basis. Under those conditions, the Vendor(s) will be expected to implement the open access requirement to ensure that retail services competitors will be given equal treatment.

The Vendor(s) chosen by the REs will bear all of the capital costs of the Network(s), including but not limited to design, engineering, construction, and equipment costs for the Network(s), up to the end user drop point or Network(s) interface device. In addition, the Vendor(s) will bear all the operating and maintenance costs, including insurance costs and relevant taxes, of the Network(s). Vendor(s) should also demonstrate a clear and continuous upgrade path for the Network(s) to meet future consumer demand and service developments.

In support of the public good that this network will provide and recognizing that current broadband markets do not support ultra-high-speed networks, the REs and supporting universities will, subject to applicable laws, make certain assets available at designated prices to the Vendor(s) including but not limited to dark fiber, co-location closets, and rights-of-way. REs will also consider entering into service contracts with prospective vendors. Further details are provided in section 1.4.

1.2 Nature of Entities Issuing RFP

North Carolina is organized into 16 regional councils, known as Councils of Government (COG). Each COG offers a broad range of services to local governments and addresses those regional issues that transcend political boundaries. Central North Carolina is served by two COGs, the Triangle J Council of Governments (TJCOG) and the Piedmont Triad Regional Council (PTRC).

The TJCOG and the REs are issuing this Request for Proposals to design, build, and, manage one or more ultra-high speed networks for the NC Next Generation Networks (NCNGN), composed of the following municipalities: Cary, Chapel Hill/Carrboro, Durham, Raleigh, and Winston-Salem (“Requesting Entities” or “REs”) with the support of Duke University, NC State University, UNC Chapel Hill and Wake Forest University along with the Chambers of Commerce for the RE communities.

This Request for Proposals (“RFP”) is issued jointly by TJCOG and NC Next Generation Networks. The Vendor(s) chosen will enter into a contract directly with one or more of the listed REs, not TJCOG.

The Research Triangle is a rapidly growing sunbelt metropolitan region that is home to three premier research universities – Duke, North Carolina State University, and UNC-Chapel Hill -- and centered around the Research Triangle Park, a 7,000-acre research and development campus that straddles Wake and Durham Counties and is home to over 170 firms with about 40,000 workers. Now home to 1.6 million people, the region is projected to add another million people over the next generation. With a stable economic base of universities, medical centers, state government, and private firms in strong economic sectors such as biotechnology and pharmaceuticals, the region has garnered numerous accolades, including the recent listing of the Durham-Chapel Hill Metropolitan Area as the top region in the United States for “creative class” employment.

Once a thriving manufacturing town, Winston-Salem has transformed itself into a community of arts, culture, and innovation with a knowledge-based economy that takes its intellectual capital, from its research at universities, by entrepreneurs, and in private companies, and transforms it into companies and jobs, creating a high-tech business base in bio-medicine, life sciences, nanotechnology, design, and advanced manufacturing. By 2030, Forsyth County is projected to have nearly 440,000 people – an almost 25% increase from today. Fortunately, through foresight and progressive planning, the community is already preparing to house, educate, employ, and transport these new residents.

1.3 Overview

This RFP seeks proposals for the deployment and operation by Vendor(s) of a high-speed fiber Network(s) for the citizens, institutions, and businesses in the Service Areas. The general objectives are to establish a Network(s) that:

- a. covers those areas prioritized in each community’s Schedule with a negotiated plan for building out the remainder of each community;
- b. provides a comprehensive broadband infrastructure that can be expanded upon to serve other areas of the region;
- c. provides service for a minimum of five (5) years from the date of first operation;
- d. provides non-discriminatory interconnects;
- e. enables low wholesale access prices that reflect underlying costs while allowing Vendor(s) to earn a return on investment commensurate with the risks involved;
- f. offers supported retail broadband services with a guaranteed sustained minimum schedule of service ranging from a preferred 1 gbps with other options such as

high speed wireless for certain market areas as well as temporary solutions with a timeline for permanent installation of the preferred solution; supports high quality voice, data, and video services, and telehealth solutions;

- g. provides free or heavily discounted services to specified low-income neighborhoods (see each communities Schedule for a list of neighborhoods within each RE jurisdiction) and anchor institutions;
- h. creates a working relationship between local governmental units, vendors, and non-profit organizations to fund hardware and educational services for low-income residents, the elderly, and other underserved populations; and
- i. establishes free wireless networks in parks and public spaces in areas adjacent to the wired network.

1.4 Assets, Facilities, Services to be Made Available by REs

REs will provide Vendor(s) with access to a common pool of the assets, services and infrastructure identified in Sections 1.4.1-1.5.3 below and listed in Schedule 1.3 to the extent available from the REs and needed by the Vendor(s) for deployment of the Network(s). Infrastructure may include, but will not be limited to, conduit, fiber, poles, substations, rack space, nodes, buildings, facilities, central office or switch locations, available land, and other assets and services identified below. Ownership of any and all such assets used by the Vendor(s) shall remain with the REs unless provided for otherwise by contract. Any network elements added by the Vendor(s) shall belong to the Vendor(s) but may be purchased at the end of the term by the REs at reasonable, depreciated market value. If such network elements are not so purchased and are no longer in use, the Vendor(s) shall remove such elements at REs' request. Individual REs may also offer access to additional assets, services, and infrastructure as identified in each communities Schedule.

The REs will charge Vendor(s) as may be authorized or required by law for access to REs' assets and infrastructure as set forth herein or as otherwise may be required by law. The REs will not provide funds for the design, construction, maintenance, or operation of the Network(s). Each REs' specific involvement is set forth in the Schedule section of this RFP.

The terms and conditions on which the assets, resources, and services in Sections 1.4 to 1.4.9 are made available by the REs are subject to contract negotiations between the parties as set forth in Section 3.9 below.

1.4.1 Fiber

REs (and/or their partner universities or other entities) may provide Vendor(s) with access to a negotiated number of strands of existing optical fibers owned or controlled by the REs and/or their university partners.

The intent of the REs is to make dark fiber available through a 10-year leasehold interest. Prospective Vendors may propose alternate property interests in the available dark fiber, but any provision of publicly owned fiber shall be subject to the disposition requirements of Article 12 of Chapter 160A of the North Carolina General Statutes, including potential upset bid requirements for any lease term in excess of 10 years. Vendor(s) will assume and bear all cost for operational maintenance responsibilities along segments covered by IRU to municipal fiber; this maintenance responsibility extends to all strands in a bundle including those retained by the RE. The Vendor(s) shall be responsible for emergency maintenance, and should the REs need to undertake any maintenance, the Vendor(s) shall reimburse the REs for such maintenance.

Vendor(s) will be responsible for activating/lighting the fiber for use. IRUs include access at handholds, manholes, and demarcation points, or for IRU transactions, the right of successful Vendor(s) to request their own access points to the fiber subject to engineering approval by and operational coordination with the RE to ensure no interruption in service to the strands used by the municipality. Approved access points will be billed to Vendor(s) at 110% of the cost to create the access. Vendor(s) will assume any net new costs to use existing RE assets, including any previously unlevied pole attachment/use fees or capital cost to expand poles.

REs may also contract with Vendor(s) to assist in the construction of new fiber in areas where RE or Vendor(s) need/demand exists but no current fiber is available. Such scenarios may include proportionately shared cost of construction over relevant segments with separate bundles for RE and Vendor(s) use.

The common pricing schedule for dark fiber and other municipal assets can be found in Schedule 1.3.

1.4.2 Conduit

REs may provide Vendor(s) with access to the existing conduit owned or controlled by the REs. The intent of the REs is to make conduit available through a 10-year leasehold interest. Prospective Vendors may propose alternate property interests in the available conduit, but any provision of publicly owned conduit shall be subject to the disposition requirements of Article 12 of Chapter 160A of the North Carolina General Statutes, including potential upset bid requirements for any lease term in excess of 10 years. Conduit use is subject to restrictions on access by RE, including presence of sufficient capacity within existing conduits; RE right to subdivide a conduit into multiple sleeves;

RE right to allow multiple Vendors to share a conduit; and RE right to establish a minimum strand/bundle level for a particular conduit segment. Pricing includes the right to access conduit through handholds, manhole points, and other access points under RE control at which Vendor(s) may need to repair or install cabling or interconnect with network elements and infrastructure. RE shall be responsible for locating services and other commercially common stewardship of conduit including repair of damaged conduit. The RE shall negotiate a service level agreement (SLA) with the Vendor(s) based on commercially prevailing standards.

The common pricing schedule for conduit and other municipal assets can be found in Schedule 1.3.

1.4.3 Existing Network(s)

In addition to fiber, REs may own, control, and/or operate communications Network(s) within the Service Area. Individual REs or their partners may be in the process of constructing new Network(s). The REs may negotiate with the Vendor(s) to provide access to all or part of the existing or future networks.

1.4.4 Rights of Way

Construction and the installation of equipment in RE rights-of-way will be subject to the applicable requirements and ordinances of the REs. Subject to existing rights-of way and easements, the REs will allow Vendor(s) to have access to necessary rights-of-way on property owned by the REs and property on which it has an easement and authority to allow such access. Access will be provided in accordance with the applicable requirements or ordinances, but generally access will be provided during regular business hours for non-emergency work and 24 hours a day, 7 days a week in the event of an emergency. Access includes permission to perform construction work on RE property, including construction in the streets as needed for the Network(s), subject to any permit requirements that the REs have. The REs will assist in obtaining on a timely basis the required approvals to allow such work in said rights-of-way.

If requested, the REs will also cooperate with Vendor(s) in efforts to allow Vendor(s) to gain access to rights-of-way owned or controlled by third parties within the Service Area.

Planned street maintenance could be utilized to coordinate any proposed work with preexisting construction schedules and these schedules may have certain flexibility to align with a potential network rollout.

1.4.5 Pole Attachment Rights

The REs may provide Vendor(s) with access to existing utility poles owned or controlled by the REs. The mechanisms by which the REs will provide such access to the poles, along with fees that will be charged, are listed in the Schedule 1.3 and the Schedules for each individual community.

If requested, RE will cooperate with Vendor(s) in its efforts to gain access to poles owned or controlled by third parties within the Service Area.

1.4.6 Co-location Space and Power

The REs may provide access to segregated, secured spaces for telecommunications and network equipment within facilities owned or leased by an RE; this space may exist in telecom closets or equipment huts at tower sites, fire stations, municipal buildings, or other locations. This space is typically not tiered data center space, and is generally unconditioned beyond standard building climate control. Some locations may contain generator/UPS backup for electrical utility service, although REs are open to proposals from Vendor(s) to add redundant services. Vendor(s) may be responsible for installing a cage to segregate RE equipment from existing equipment; in this event, Vendor(s) may also choose to segregate their equipment within the shared space. REs will provide reasonable 24x7 access to the space for equipment maintenance and repair. The intent of the REs is to make space available through a 10-year leasehold interest. Prospective Vendors may propose alternate property interests in the available co-location space, but any provision of publicly owned space shall be subject to the disposition requirements of Article 12 of Chapter 160A of the North Carolina General Statutes, including potential upset bid requirements for any lease term in excess of 10 years.

Access to a segregated, secured space within a data center facility or computer room owned or leased by an RE used for servers, telecommunications, and/or network equipment may also be made available. REs may provide access to the space through routine IT operations processes or through accompanied access to the space; alternatively, Vendor(s) may choose to segregate Vendor(s) and RE equipment from each other in order for the RE to provide full access by Vendor(s) into the RE facility without escort. REs will ensure data center is capable of receiving electrical service, computer room air conditioning, and customary facility monitoring services. REs will provide reasonable 24x7 access to the space for equipment maintenance and repair. Vendor(s) will be required to adhere to municipal security policies and practices for working in such a space.

The common pricing schedule for co-location space and other municipal assets can be found in Schedule 1.3.

1.4.7 RE Contracts for Services and Assistance in Identifying and Generating Institutional and Enterprise Demand

The REs may negotiate individual commitments to purchase Network(s) services needed for RE operations (e.g., transmission capacity, Internet access, voice, video, security monitoring, cloud computing and storage) through the Network(s).

If requested, REs will provide Vendor(s) with publicly available information as to entities in the Service Area that are candidates to enter into contracts for fiber or Network(s) services. Such potential end-users may include educational institutions, large employers, and governments. An initial list of such entities and contact information for key personnel may be listed in the Schedules for each individual community.

The participating universities and their associated health care systems currently contract with multiple vendors for metro Ethernet and/or Internet services at off-campus facilities located throughout the Service Area. This service ranges from 10 mbps to 100 mbps asymmetrical service through POTS or coaxial service and costs approximately \$2.6 million per year.

The universities and health care systems will consider moving some or all of these contracts, when they expire, to the new Network(s) created through this RFP, on the assumption that they would receive wired, next-generation symmetrical network service at speeds of 1 gbps or higher, or best-available equivalent and at prices commensurate with those that the successful Vendor(s) offers to other commercial customers in the Service Area. To this end, the universities are prepared to negotiate with the successful Vendor(s) on service at these locations, subject to all applicable procurement/bid practices and, for public institutions, all relevant laws and regulations.

1.4.8 Public Notifications

Triangle J, the Universities, and the REs may each publicize the proposed Network offerings in the same manner as other private economic development announcements within each RE's jurisdiction.

1.4.9 Other Assets, Facilities, Services

The REs may provide Vendor(s) with access to other assets and services that are owned or controlled by the REs and that will assist Vendor(s) in reducing the cost structure and shortening the design and construction schedule. Such assets are listed in the Schedules for each individual community.

1.5 Regulatory and Other Forms of Assistance to be Provided by REs

Each RE will provide Vendor(s) with a single point of contact ("SPOC"). The SPOC will be responsible for addressing all issues related to the Network(s), providing coordination

across RE departments, ensuring the cooperation of all RE departments with respect to the Network(s) (provided that the requested assistance fits within the regulatory and strategic framework of the RE), and serving as a communications and troubleshooting resource for Vendor(s).

1.5.1 Timely Permitting

The REs will provide Vendor(s) with timely review of all applications for permits, including permits necessary for construction work on the Network(s) within RE rights-of-way and in connection with RE assets or infrastructure as shown in Schedule 1.3.

1.5.2 Timely Inspection

The REs will provide Vendor(s) with timely inspection of all work performed on the Network(s) as shown in Schedule 1.4.

1.5.3 Other Information

The REs may provide Vendor(s) with information about funds, grants, and contracts that can be directed to this Network(s), and may be able to provide Vendor(s) with assistance in applying for available grants or loans to pay for Network(s) expenses.

1.6 Relationship between Vendor and REs

Each Vendor will be an independent contractor that provides all design, construction, and operation services for the Network(s). The REs will have no ownership in the Vendor(s) that owns and operates the Network(s). The REs' contract(s) with the Vendor(s) do not constitute franchise(s). The REs do not plan to regulate generally Vendor(s)' business activities, nor to grant Vendor(s) a franchise for its activities and operations. The REs expect that the contracts and property instruments associated with this effort shall establish terms and conditions governing the use of public assets that are utilized by Vendor(s) in its service delivery to its customers.

2. Services Sought

2.1 Description of Services Sought

The REs seek a Vendor or a coalition of Vendors to design, build, install, operate, support, and manage a complete turnkey ultra-high speed communications Network(s) within the Service Area. The Network(s) will use Internet protocol technology and allow end users access to and from the Internet and access to other services as required. The RFP does not require a specific technology, but the REs expect that most potential Vendors will propose fiber-to-the-premises, Active E, GPON, and/or WDM/PON technologies to provide services to households, businesses, governments, and institutions

throughout the Service Area. This Network(s) must include all active and passive infrastructure, including fiber cabling, active repeater equipment, uninterruptible power supplies, Network(s) cross-connections, software, and ancillary equipment.

The REs are looking for innovative solutions which may entail one or more Vendors collaborating together to create a turn key system.

Service descriptions must include complete system design, engineering, operations, monitoring, maintenance, customer support provisions, and enhancements. The Network(s) rollout will be based upon demonstrated demand by community residents, institutions, governments and businesses, and the availability of necessary infrastructure. The Network(s) design and operation should preferably provide an open access framework that maximizes wholesale and retail service delivery and competition.

2.2 Scope of Response

Vendor(s) shall design, build, install, operate, support, and manage the Network(s). Vendor(s) are encouraged to propose on all features with coverage over the full Service Area. If a Vendor chooses to propose on less than the whole, Vendor must provide details as to which features and Service Area(s) for which it is proposing, including the use of maps or other diagrams as necessary to sufficiently allow the REs to review Vendor's proposal. Vendor(s) should describe which, if any, of the turnkey services described below, it will provide. Vendor must explain or describe how it would allow for connection to other Service Areas in the event Vendor wishes to propose on less than the full Service Area.

The Network(s) shall have the following features and functionality which are identified in the Vendor(s)'s response to this RFP.

Service Area: A description of the geographic area within which the proposed network solution will be deployed.

- A map and build out schedule (GIS shape file). If less than the entire Service Area is being proposed on, Vendor's portion of the Network(s) must provide for interconnection at no cost with other portions of the Network(s). For full or partial coverage areas, no cost interconnect to the North Carolina Research and Educational Network (NCREN) is required. An explanation as to how Vendor(s) expects to accomplish all interconnections should be included in Vendors' response.
- An explanation as to how Vendor(s) expects to accomplish this interconnection should be included in Vendors' response.

- Detailed design for at least one multi-family dwelling (MDU), a downtown business district, a business park, a public housing development, and/or a residential neighborhood, if such feature is included in proposal; a
- A discussion of the anticipated deployment strategy, scope, and timing of the proposed rollout, including if there would be multiple phases of the deployment and availability of services and, if so, what services would be made available during each phase. The discussion should identify the levels of committed demand necessary to trigger rollout obligations and any factors likely to influence the scope or timing of the rollout and explain how those factors impact the strategy.

Service Offerings: A description of proposed wholesale or retail service offerings that the Vendor(s) anticipates offering to institutional, business, government, residential, and other potential customers. Response should address 1) pricing strategy, include anticipated rates for services and minimum time period those rates would remain in place without escalation, and limitations on increases in rates over time, and 2) an explanation of Vendor's willingness to work with the REs to develop unique pricing or packages for key community stakeholders and populations (e.g., government, university facilities, K-12 facilities and economically distressed areas), and 3) customer support model for each service.

Internet Services

- Residential
- Bulk internet to multi-dwelling units (MDUs)
- Dedicated business/institutional
- Wholesale Internet access service

Circuits

- Point to Point
- Multipoint

Optional Services

- VOIP services
- Wi-fi
- Video services

Vendors' response should include any other services that it will provide with its standard services or as optional services.

Technology Design: A description of the Network(s) technologies underlying the proposed Network(s) solution(s) included in the response. Each description should include the following information:

- Service Availability
 - Targets for uptime
 - Redundancy
- Design points for capacity
 - Capacity per customer
 - Number of fibers
- Maximum number of end point customers

Roles and Responsibilities: A description of the roles and responsibilities envisioned for Vendor, Vendor team members, REs, and subcontractors or third parties (if applicable) for each of the following:

- Network(s) design
- Network(s) construction
- Network(s) operations and management
- Customer support
- Publicly available information

Financial Projections: The business plan should include a pro forma financial statement, identifying projected capital outlays, ongoing operational costs, and expected revenues from wholesale and retail services for at least the first five years of construction and operation. The plan should identify and quantify all key assumptions underlying the calculations.

Material Tasks/Components: Vendor shall provide a breakdown or outline of the material tasks or components of the design, construction, operation and management of the Network(s) and its rollout.

2.3 Vendor Qualifications

Experience in High Speed Network(s) Design and Operation: Vendor should provide a statement of experience highlighting similar Network(s) systems that it has designed, constructed, and operated, including project name, location, size, technology used, and names and phone numbers for reference contacts. Also the proposal should indicate whether each system is owned by the Vendor(s) or another entity.

Financial Stability: Vendor(s) shall submit 1) 2011/2012 Dun & Bradstreet information supplement and 2) the two most recent annual audited financial statements to permit analysis of financial resources. If Vendor is part of a project group, the audits and Dun & Bradstreet report for each principal group member should be submitted. If the Vendor(s)'s response includes Vendor financing or committed bank or other financing, the audits and Dun & Bradstreet reports of such Vendors and financial institutions should be submitted. Security in the form of a letter of credit, bond or other security in the amount determined by the REs and Vendor(s) after negotiation will be required of the successful Vendor(s) to guarantee completion of the Network(s), and shall be held by the REs until completion of the Network(s).

Staff Technical and Managerial Experience: Vendor should include a statement of experience and resumes of the project team, including the project manager and other key personnel who will be assigned to this project. Also Vendor should include a list of any known or anticipated subcontractors along with their roles and responsibilities.

Insurance: At time of execution of a contract with the REs, the Vendor(s) will be required to provide a certificate of insurance in such amounts as are commercially reasonable, and shall indemnify the REs from any and all claims and losses associated with Vendor(s)'s Network(s) and operations, including use of REs' facilities.

Legal Capacity: Vendor's proposal shall include organizational documents filed with the applicable governmental agency (i.e., Articles of Incorporation or Articles of Organization) as well as a Certificate of Good Standing (or equivalent) from the applicable agency and any licenses to provide communications services that may be required by the North Carolina Utilities Commission, Federal Communications Commission, or any other applicable governmental agency. Additionally, Vendor shall provide a certificate that it is in good standing to do business in the State of North Carolina and that all of its business and regulatory registrations/filings/taxes are current, and all internal corporate documents, are up to date.

Regulatory and Legal Compliance: Vendor shall comply with all Federal, State, and local laws and regulations, including laws as to utility regulation.

Coalition: The above requirements shall apply to each member of a Vendor coalition.

3. Administrative Issues

3.1 Availability of the RFP and Amendments

Adobe Acrobat (PDF) and Microsoft Word versions of this RFP are available on the project website at: <http://www.tjcog.org/nc-next-generation-network.aspx>. Amendments to the RFP will be posted on the project website, and it is the sole responsibility of the Vendor(s) to be knowledgeable of all amendments related to this RFP. Each amendment shall supersede the prior provision or language being amended. No amendment will be made less than ten (10) days, prior to the time that proposals are due.

3.2 Questions about the RFP

The primary RFP contact for the RE project team is: John Hodges-Copple at TJ COG.

All general correspondence and any questions about this RFP should be submitted in writing through the project website at <http://www.tjcog.org/nc-next-generation-network.aspx>. The RE project team will not entertain any oral questions regarding this RFP. The last date for questions will be March 22, 2013 at 5:00 pm Eastern Time. All questions will be considered to be public and released with an answer through the project website as expeditiously as possible. The identity of the person responding to the question will not be disclosed. Vendors should not contact any RE directly for inquiries regarding this RFP.

3.3 Informational Session

There will be an informational session for potential Vendors on February 15, 2013 from 9:00 am to noon at Triangle J Council of Governments, 4307 Emperor Boulevard, Suite 110, Durham, NC 27703.

3.4 Proposal Format and Certification

Proposals should be organized in the same sequence as Part 2 of this RFP with responses referencing the appropriate corresponding RFP sections and items. Vendors should respond to each item at the level of detail at which each is presented or list a variance with a particular item and propose alternate terms and, as applicable, and supply any supportive detail. Proposals not conforming to the proper format or failure to respond to any required items may result in rejection of the proposal. Where the Vendor(s) is requested to supply information, include that information in the body of the proposal, or reference the attachment where it is included. It is recommended that the proposals be submitted in a binder with a table of contents and tabs for ease of review and reference by the evaluation team.

In the case where multiple Vendors team to present a proposal, the lead Vendor should be designated and will be the contracting Vendor. The lead Vendor will confirm that it will subcontract with its partner Vendors.

3.5 Project Calendar

RFP Advertised and issued: February 1, 2013

Proposals Due (60 days): April 1, 2013

Proposal Evaluation Completed by (30 days): May 1, 2013

Negotiation concluded with top proposers no later than (90 days): August 1, 2013

Contract approval by elected bodies: September 27, 2013

Contract finalized and signed with Vendor(s): October 11, 2013

These dates are the anticipated schedule which may be altered by the REs at their discretion.

In order to limit the expense from each Vendor in developing the design, the design will be titled "Preliminary" so it is expected that the Vendors will not expend a large amount of time and resources in responding to this RFP. Once a Vendor is selected by the evaluation team for negotiation, the selected Vendor(s) will need to expend a significant amount of engineering resources in developing the final design plan. If, in the evaluation teams' judgment, the final design deviates from the proposal in a manner that creates hardship or provides substantially fewer services than called for, the REs reserve the right to terminate contract negotiations without cost or further obligation to them.

3.6 Proposal Due Date and Submission

Sealed proposals are due by 5 p.m. EST on April 1, 2013. Proposals received after the deadline will not be considered. Proposals must be submitted electronically or via priority or certified mail. Two (2) hard copies and one (1) complete electronic version are required for any proposal submitted in hard copy format. Faxed proposals will not be accepted. Vendors assume the risk of the methods of dispatch or delivery chosen. Office hours for receipt of mailed or expressed proposals are: Monday through Friday, 8:00 am - 5:00 p.m. (EST).

Electronic proposals must be uploaded to the project website at <http://www.tjcog.org/nc-next-generation-network.aspx>. All electronic files must be submitted in editable format in order to facilitate evaluation and planning. Word, Excel, GIS, and PDF formats are acceptable.

3.7 Process and Criteria for Evaluation of Proposals

Proposals will be opened and reviewed by the evaluation team. All proposals will be evaluated and, at the teams' discretion, negotiations will ensue with two to four Vendors or coalition of Vendors who demonstrate the best ability to meet the overall goals of the project, with particular emphasis on the ability to fulfill the scope of work in a timely and efficient manner. The evaluation team, whose members will be chosen by the REs and their university partners, will initially assess the responsiveness of each Vendor's proposal based on the following criteria:

- Quality of response
- Extent of the Service Area
- Technical quality of design and support plan
- Experience of project team
- References
- Vendor(s) experience
- Financial strength of Vendor(s)
- Feasibility of Vendor(s) financial proposal

In addition to the above criteria, the evaluation team will examine the extent to which each proposal meets the criteria below, which are not listed in order of importance. The evaluation team will then undertake a comparative assessment of all proposals to make a decision as to which proposals should be selected for further analysis and negotiation. These criteria include:

- a. the extent to which the proposal meets the objectives for the Network(s) (as set out in Section 2);
- b. the capability of a single Vendor(s) or coalition of Vendors to design, construct, finance, maintain, support, upgrade, and operate the Network(s);
- c. the nature, scope, and impact of any legislative and/or regulatory changes (state or local) that are necessary to facilitate the proposal;
- d. the extent to which the proposal departs from the RFP and from the REs' proposed terms;
- e. the location and size of the Service Area that a Vendor is proposing.

The REs' decision on the most responsive proposer or proposers shall be final. Ultimately, each RE will be the final decision maker for Vendor selection within their own jurisdiction, which such decision shall be made in that RE's sole discretion.

3.8 Clarification And Acceptance of Proposals

The REs reserves the right to:

- Conduct discussions with any or all potential Vendors for the purpose of clarification of proposals;
- Waive, or decline to waive, defects in any proposal;
- Accept, reject, or negotiate any or all proposals or the terms of any proposal, or any parts thereof, for the purpose of obtaining the best and final offer;
- Cancel or amend this RFP or issue other requests for proposals;
- Make partial award(s) of the RFP to one or more Vendors.
- Select a Vendor or coalition of Vendors based on its analysis and evaluation of proposals submitted and request presentations on proposals if it believes further information is appropriate to the decision-making process;
- Select no proposals at all; or
- Use any and all concepts presented in any proposal to obtain the most beneficial and effective path to achieving its desired goals for the project.

3.9 Negotiation and Execution of Contracts

The selected Vendor or Vendors will be asked to negotiate a contract with one or more of the REs within ninety (90) days of the evaluation of the proposals.

3.10 Commencement of Work

The submission of a proposal in response to the RFP, and the subsequent evaluation of that response, does not constitute a contract or any type of agreement between the RE and any Vendor for the commencement of work or the performance of any obligation. Only a written contract with the REs will authorize the commencement of work or obligate any RE on this project.

3.11 Use of Subcontractors

Vendors may use subcontractors to fulfill any obligations in connection with the project. Use of subcontractors shall be subject to all applicable laws. A Vendor shall remain liable

for fulfilling all its obligations on the project, and for any claims or damages arising from the subcontractor's work.

3.12 Miscellaneous Provisions

3.12.1 Proposal Costs and Disclosure

Responding Vendors are responsible for all expenses they incur in preparing and submitting a proposal or in contract negotiations with the REs. If they elect to reject all proposals, the REs will not be liable for any costs or damages incurred by any Vendor in preparing and submitting a proposal.

3.12.2 Public Records Obligations of Participating Municipalities and Public Universities; Submission of Trade Secret Materials

The REs are public entities. As a result, this selection process and any materials submitted pursuant to it may be subject to a variety of public inspection requirements, including, but not limited to, federal and state records disclosure statutes. To promote maximum competition and to protect the public bidding procedure from being used to obtain information that would normally not be available otherwise, the REs agree to maintain the confidentiality of trade secrets to the extent allowed by North Carolina law. Confidential or trade secret materials must be submitted in response to this RFP in accord with the instructions set forth herein. The obligations of non-disclosure shall not apply to the following:

1. Information which, at the time of disclosure, is public knowledge;
2. Information which, after disclosure, becomes part of the public knowledge by publication or otherwise;
3. Information which was in the possession of one or more REs at the time of disclosure and which was not acquired, directly or indirectly by recipient from the disclosing party, and which prior possession can be proven by documentary evidence;
4. Information received from third parties, provided such information was not obtained to their knowledge by said third parties, directly or indirectly, on a confidential basis;
5. Information which is independently developed by the REs' personnel not privy to the information.
6. Any material that does not qualify as "confidential" or as a "trade secret" under the provisions of Chapter 132 of the North Carolina General Statutes.

Materials designated as trade secrets must be submitted in a separate, sealed envelope marked "Trade Secret Proposal - Confidential and Proprietary Information - Do Not Disclose Except for Purpose of Evaluating this Proposal" and the same trade secret/confidentiality designation should be stamped on each page of the materials for which trade secrets protection is sought. In submitting a proposal, each respondent to the RFP agrees that the REs, Triangle J, and the participating universities may reveal any trade secret materials contained in their response to all appropriate staff and officials involved in the selection process as well as any outside consultants or third parties hired or retained by the REs, Triangle J, or the participating universities to assist in the selection process.

By submitting a proposal, each respondent to the RFP agrees to indemnify and hold harmless the REs, Triangle J, and participating universities and each of their officers, employees, and agents from all costs, damages, and expenses incurred by any RE, Triangle J or participating university in connection with a public records or inspection request as to material that the proposer has designated as confidential. Any proposer that designates its entire response as a trade secret may be disqualified from the selection process.

If any RE, Triangle J, or public university receives a request to disclose materials that have been labeled as a trade secret or confidential by the proposer, the recipient of the request (the "Recipient") shall provide the proposer with notice of the request. Within five (5) calendar days of the receipt of this notice, the proposer must notify the Recipient of whether or not it instructs the Recipient to withhold the materials from public inspection and the proposer must seek, at its sole cost, appropriate judicial action to prevent the disclosure of the materials. If the proposer notifies the Recipient to withhold materials from public inspection, said notice must also include a legal justification for why the withheld materials qualify for exemption from the North Carolina public records act. If such justification is not provided with the notice to withhold materials, the proposer acknowledges that the notice shall be void and deemed of no effect and that the Recipient may release the information without penalty. Further, if the proposer does not take action to prevent the disclosure of the materials within this five (5) calendar day period, the Recipient may release the information pursuant to the public records request without any penalty from or liability to the proposer.

3.12.3 Errors and Omissions in a Proposal

The responding Vendor is responsible for all errors and omissions in its proposal. If it discovers an error and wishes to withdraw its proposal, the responding Vendor should notify the REs immediately in an e-mail or in writing which is signed by an authorized agent and which identifies the nature of the error or omission made.

3.12.4 Errors and Omissions in the RFP

If the REs become aware of an error or omission in this RFP, they will post a notice on the website. If the REs discover an error or omission after the proposals are submitted, they may at their discretion proceed or reissue the RFP. Even if they elect to reissue the RFP, the REs will not be liable for any costs or damages incurred by any Vendor in preparing and submitting the original proposal.

3.12.5 Objections to RFP Terms

Any objections to or questions about this RFP's terms must be conveyed in writing to the electronic mail address provided in Section 3.2 and must be submitted by the deadline for submission of questions about the RFP in Section 3.2 above.

3.12.6 Acceptance of RFP/Proposal Content

By submitting a proposal, a Vendor certifies that it has read, understood, and agreed to the requirements, terms, and conditions in this RFP, including any and all attachments, exhibits, and appendices.

3.12.7 Waiver of RFP Provisions

The REs may at their sole discretion, but are under no obligation to, waive any provision in this RFP at the written request of a Vendor. Any such waiver shall apply to all potential Vendors, and no waiver shall constitute a waiver of any provision not specifically referenced therein.

3.12.8 Disclosure and Confidentiality of Proposals

Proposals will not be returned and may be subject to disclosure pursuant to Federal and State laws. Under no circumstances shall the REs be held liable for any disclosure of any information submitted if such disclosure is inadvertent or required by any applicable law.

Schedule 1.1

NC Next Generation Network Service Area Map



Schedule 1.2

List of Requesting Entities (REs)

Cary NC: <http://www.townofcary.org/>

Carrboro NC: <http://www.townofcarrboro.org/>

Chapel Hill NC: <http://www.townofchapelhill.org/>

Durham NC: <http://durhamnc.gov/>

Raleigh NC: <http://www.raleighnc.gov/>

Winston Salem NC: <http://www.cityofws.org/>

Schedule 1.2.1

List of Supporting Universities

Duke University: <http://www.duke.edu>

North Carolina State University: <http://www.ncsu.edu>

University of North Carolina at Chapel Hill: <http://www.unc.edu>

Wake Forest University: <http://www.wfu.edu>

Schedule 1.3

Common Assets, Services and Infrastructure

Asset	Existing Resources
Dark fiber	Annual \$75 per fiber strand per mile for 9.9 year contract (maintenance to be provided by vendor, equivalent to \$300 per strand mile per year).
Conduit	One time \$1,000 per route mile, one half-mile minimum charge
Telecommunications closet (small/incidental use, e.g., interconnection point)	No fee or nominal-only fee
Telecommunications closet (full equipment rack)	\$750 per rack per month for space access plus twenty ampere service of electrical power
Municipally controlled rights of way	Negotiable

Data Center/Co-location Services (charged monthly per cabinet unless otherwise stated)	Price
Co-location hosting one-time setup fee, APC NetShelter cabinet and Koldloc	\$1,500
Co-location hosting one-time setup fee, Koldloc only (Customer has useable cabinet)	\$100
Basic co-location hosting service (One Rack Location Unit = 24" x 96" = 4 floor tiles)	\$325
Additional Gigabit Ethernet uplink connections, Copper (Fiber is extra)	\$60
20-A, 110-V power circuit (Install fee is extra)	\$120
20-A or 30-A, 208-V power circuit (single phase) (Install fee is extra)	\$165
20-A or 30-A, 208-V Three Phase power circuit (Install fee is extra)	\$200
60-A, 208-V Three Phase power circuit (Install fee is extra)	\$200
Firewall Context Services (Cisco FWSM)	\$100
Load Balancer Context Services (Cisco ACE)	\$300
1/4 Shared Cabinet 10U (Includes GigE Network & ten 110v receptacles (total 10a))	\$285
1/2 Shared Cabinet 20U (Includes GigE Network & twenty 110v receptacles (total 20a))	\$365

Schedule 2.1

Town of Cary

[NOT SUPPLIED]

Schedule 3.1

Towns of Chapel Hill and Carrboro Introduction

Chapel Hill and Carrboro, adjoining Towns, are the home to the University of North Carolina at Chapel Hill and UNC Healthcare. With more than 30,000 residences and 2,000 small businesses, Chapel Hill and Carrboro constitute a vibrant and growing community, dedicated to education, public service, the arts, medical and hi-tech research and services and entrepreneurship. This area is known for its diverse, youthful and culturally minded population. These towns are also within the state's Research Triangle, which boasts one of the highest numbers of Ph.D.s per capita in the U.S.

The Research Triangle Park, originally created through a partnership with UNC, Duke, and NC State, has the largest concentrations of high-tech workers in the country creating a strong and innovative business climate. This region is a center for life sciences and technology that reflects the research strengths of the region's renowned learning institutions. This association, as well as the rich history with the University of North Carolina, continues to position both towns for growth and technological innovation. Recent growth projections anticipate the addition of another 50,000 residents over the next 20 years.

UNC at Chapel Hill, with 29,000 students and 12,000 faculty and staff was chartered as the nation's first public university in 1789 and opened to students in 1795. The university's research budget is over \$700 million, 71% of which comes from federal sources, making UNC Chapel Hill 9th among leading private and public research universities for the level of federal funding. UNC Chapel Hill ranks third in the South and twentieth overall among university graduate entrepreneurship programs, according to Entrepreneur Magazine and the Princeton Review.

The UNC Health Care System is a not-for-profit integrated health care system, owned by the State of North Carolina and based in Chapel Hill. A distinguishing characteristic of UNC Health Care is its association with the UNC-Chapel Hill School of Medicine, a nationally eminent research institution. As an effect, more than 660 health care physicians live within the 28 square miles of Chapel Hill and Carrboro.

Chapel Hill and Carrboro are joining with other regional partners to build a region-wide ultra-high speed network that will promote economic competitiveness and access to online services that are now essential to the quality of life in the 21st century. Town leaders funded a 30-mile fiber ring with core fiber runs encompassing both Towns. This fiber-loop positions the Chapel Hill and Carrboro community to grow the commercial base, improve access to the Internet for all regardless of income level, and improve service to local businesses and residents, visitors, and the anchor institutions of UNC at Chapel Hill and UNC Healthcare. These fiber networks also benefit from having

geographically close access to high capacity Tier1 Points of Presence through MCNC's statewide research and education network, NCREN, located on the UNC campus. MCNC is a \$144 million Broadband Technology Opportunities Program (BTOP) middle mile recipient.

Few communities in North Carolina have had the foresight to create such an opportunity for themselves or have been fortunate enough to obtain a network of this size. Chapel Hill and Carrboro are known for their eclectic populations and for their strong interest in fostering the needs of their communities and citizens which includes participating in initiatives that are recognized on a national level.

COMMUNITY GOALS FOR GIG.U NETWORK DEPLOYMENT

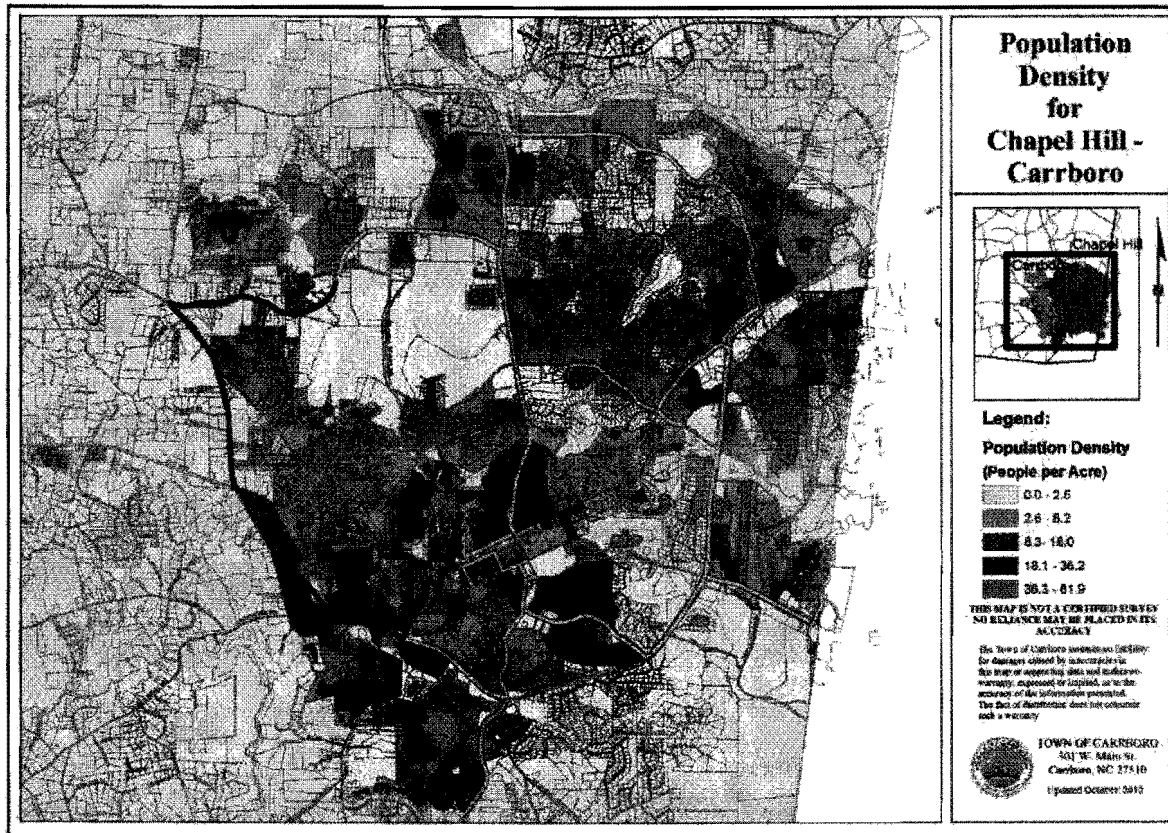
The UNC, Chapel Hill and Carrboro community are interested in gigabit broadband networking for research, education, and community use. Areas of focus include but are not limited to:

Serving our low-income citizens. The local school district has made a concerted effort to bridge the digital divide among school-age residents over the past 10 years; however, as new technologies emerge and as bandwidth becomes increasingly expensive, the challenge escalates. We are looking for cost-effective, creative solutions that will serve students and their families to ensure that all children have equal access to knowledge tools. We wish to serve public housing communities and low-income neighborhoods as part of our commitment to education and economic development. Schedule 3.4 identifies low-income neighborhoods and further underscores the importance of addressing the digital divide in the Chapel Hill and Carrboro Community.

Economic development. Chapel Hill and Carrboro have a long standing commitment to compact development leading to relatively concentrated commercial centers. The greatest interest from our business owner survey comes from the two downtown areas, but businesses in three other mixed use centers have also responded positively. This includes at least one business incubator (others planned), a multitude of retail and professional services offices, a growing number of technology-based businesses, as well as several national and international corporations. More rigorous outreach will need to be pursued before a final priority list can be developed. We are looking for cost-effective solutions that will meet the range of needs from our diverse business community.

Residential Neighborhoods and Multi-Unit Dwellings. The Chapel Hill and Carrboro community is characterized by higher per household densities. Carrboro's 2010 Census population density was 3,019 people per square mile including 9,258 housing units at an average density of 1,424 per square mile. Chapel Hill population density was 2,687 people per square mile. As a university community, we have an ever-growing number of home-based businesses as well as residents who would be better able to telecommute if they were able to access large data sets and/or graphic/video applications from home

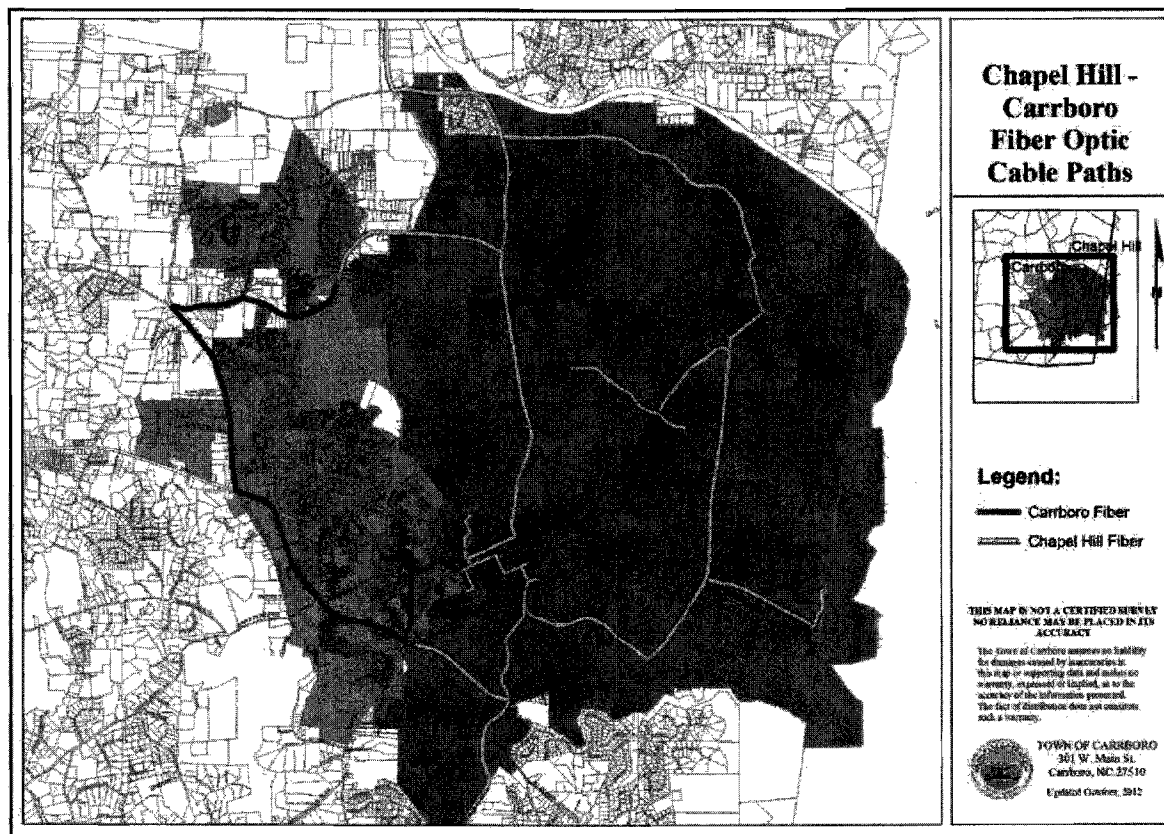
apartment complexes and condominium units. As schedule 3.4 illustrates, the Chapel Hill and Carrboro community include UNC and UNC Healthcare off-campus facilities, local businesses, public schools, UNC Healthcare physicians, multi-family complexes and apartment complexes and condominium units. We anticipate that the demand for ultra high-speed access to these facilities will be significant.



UNC Health Care System. UNC is actively engaged in telemedicine and facilitating wellness programs that reach out to individuals through a growing number of digital medical devices, such as diabetic testing equipment linked directly to an individual's electronic medical record. Access to Gigabit speeds will be valuable to the more than 660 physicians located through the Towns' borders, for off-site consultations and easy uploading and downloading of dense medical images and files. In addition, of special interest are services to the aging, such as home-monitoring systems, that will allow them to maintain their independence and ability to live at home longer.

Schedule 3.2

Chapel Hill and Carrboro Fiber Assets, Conduit, Additional Networks, Poles, and Facilities Available to the Vendor(s), including Fees and Mechanism for Availability



The Towns of Chapel Hill and Carrboro have approximately 46 miles of fiber-optic cabling assets as denoted on the above map. Both Towns intend to negotiate the lease price and term of dark fiber strands and the number of fiber strands available to a potential Vendor(s).

Backhaul

The University of North Carolina at Chapel Hill (UNC Chapel Hill) is a peering point for MCNC, an independent non-profit that manages the North Carolina Research and Education Network (NCREN), provides Internet services for education, health, and governmental customers; its extensive assets are also available to commercial customers at very competitive rates. UNC Chapel Hill maintains a point of presence for NCREN and is willing to facilitate a successful respondent's use of that POP if desired.

Other Community Fiber Assets

The Chapel Hill Carrboro School system has deployed some fiber assets in Chapel Hill in an area not currently covered by the town's fiber ring. The school system is willing to negotiate the lease/use of some strands of this fiber to respondents as part of the backbone of a proposed network. The Orange Water and Sewer Authority (OWASA) is also willing to negotiate a flat fee, 5 year lease of antenna space on one or more of their three (3) water tanks located within the Chapel Hill/Carrboro city limits.

Peering/Carrier Hotels

UNC Chapel Hill provides rack space and power for several commercial carriers in each of their three data centers. The University is willing to negotiate use of space in its data centers for a respondent's peering with commercial providers or other carriers who maintain POPs on campus. The Chapel Hill/Carrboro Chamber of Commerce will facilitate conversations between successful respondents and local data center owners as to use of facilities within the community for peering with other communications vendors.

Pole Attachments

Neither Chapel Hill nor Carrboro own or control any telecommunications or electrical utility services. Pole attachments may be negotiable with Duke Energy and in some areas of Carrboro, with Piedmont Electric Cooperative.

Schedule 3.3

Chapel Hill and Carrboro Low-income Neighborhoods Map

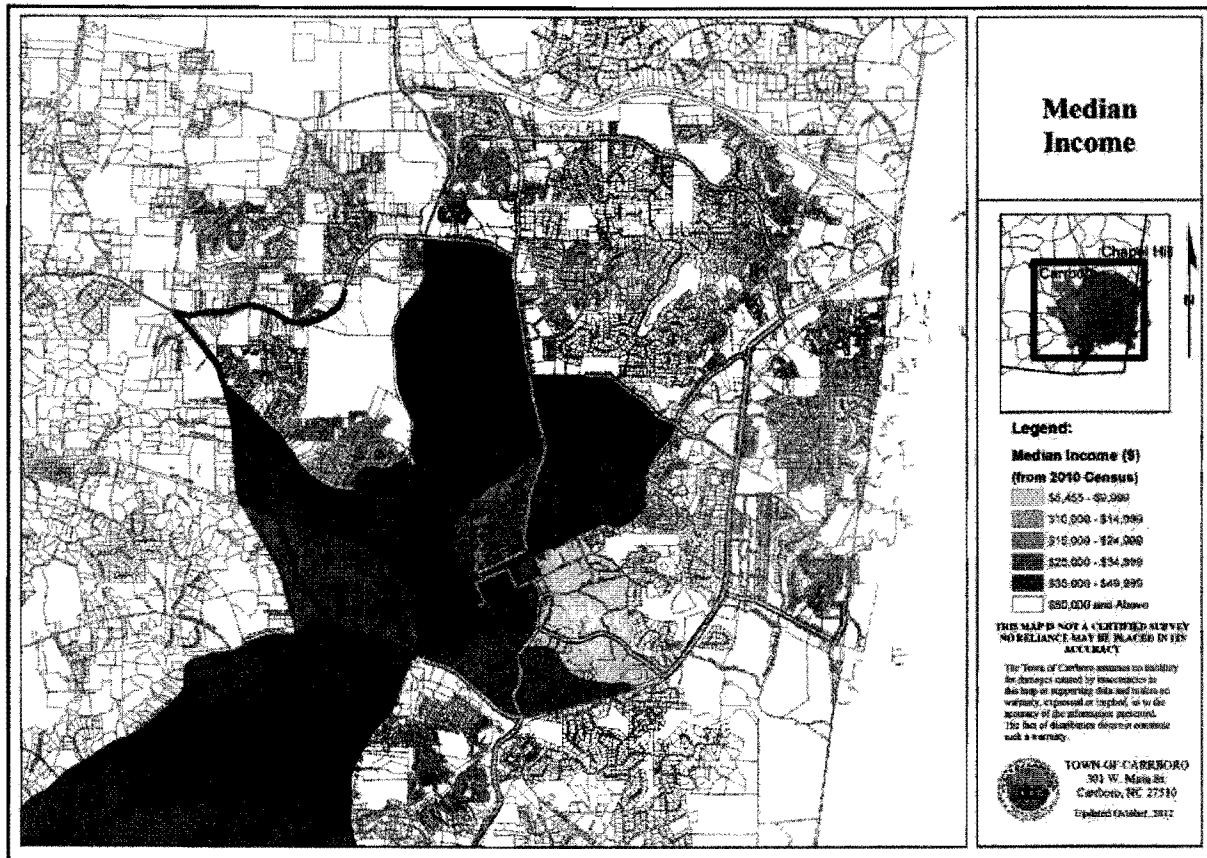
Access to modern broadband services is now essential to participate in modern life. Lack of online access limits educational opportunities, health care options, public safety coverage, economic choices and job availability (FCC Chairman Genachowski). Additionally, the level of a community's access to advanced broadband infrastructure is determining whether its businesses, students and residents will be able to compete in this global economy.

While a person or a community's place in society is being determined by whether they are a digital-have or have-not, there is a stark digital divide developing along income and demographic lines. In the Eighth Broadband Progress Report, the FCC reports that areas of the community that are not being served with the level of broadband necessary to participate in modern life (i.e., 4Mbps/1Mbps) tend to have lower median household incomes, a higher proportion of the population living in poverty, and less college-education than areas that are served. The National Telecommunications and Information Administration, in its October 2011 Digital Nation study, reported that demographic and geographic disparities demonstrate a persistent digital divide among certain groups: "Households with lower incomes and less education, as well as Blacks, Hispanics, people with disabilities, and rural residents were less likely to have home Internet access service." Less than half (43%) of all households with annual household incomes below \$25,000 in 2010 reported having broadband Internet access at home, compared with the vast majority (93%) of households with incomes exceeding \$100,000. Across all income levels, Hispanics were less likely than White non-Hispanics to have adopted broadband.

For Chapel Hill and Carrboro, broadband access for the economically disadvantaged is a central concern. Chapel Hill and Carrboro need to ensure that the use of the Town's existing fiber ring is leveraged to reduce the community's digital divide.

The provided Median Income map displays data taken from the 2010 U.S. Census and is income in the past 12 months (in 2010 inflation-adjusted dollars).

Table 3.1 – Median Income from 2010 U.S. Census Data



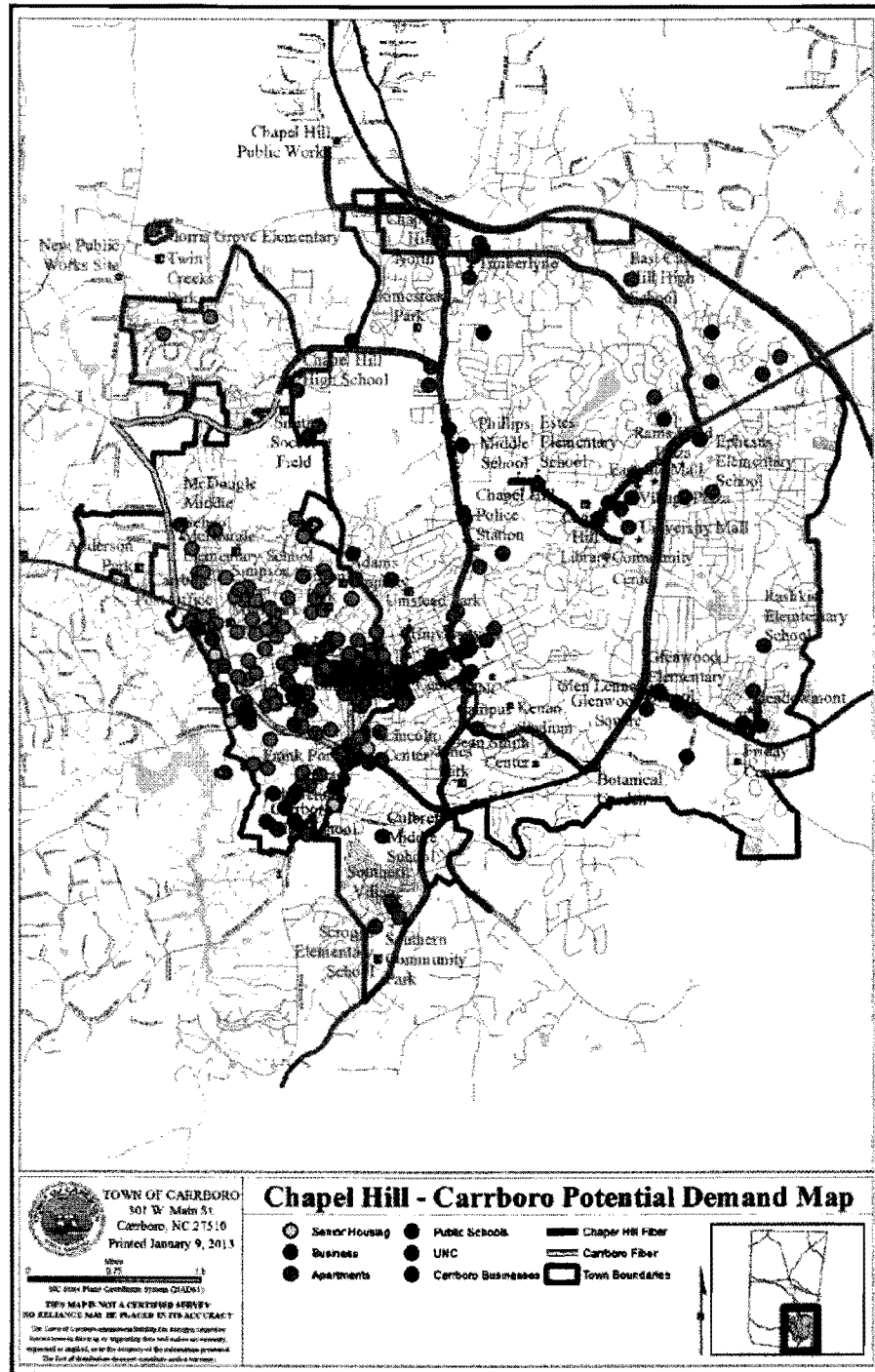
Schedule 3.4

Chapel Hill and Carrboro Demand Maps

A survey was created to gather information from local business owners about the type of Internet access they were currently purchasing and the level of access they would like to have. The survey was distributed to local businesses by the Chapel Hill/Carrboro Chamber of Commerce, property managers of three large mixed use communities and the Town of Carrboro's Economic and Community Development Department. Responses to the survey confirmed an interest in higher speed broadband access among businesses in the downtown Chapel Hill/Carrboro areas. Another area of potential demand is the cluster of multi-family housing along Hwy 54 between Chapel Hill and Carrboro.

We have determined that there are approximately 660 UNC Healthcare physicians living within the town limits of Chapel Hill and Carrboro. In this community, there is a great potential for use of telehealth applications. We expect that a substantial number of these individuals would become enthusiastic subscribers to a new service—if the monthly fee is realistic.

A mapping of the potential demand for next generation broadband for Chapel Hill and Carrboro included here identifies multi-family complexes, UNC and UNC Healthcare off-campus facilities, local businesses and public schools.



Schedule 4.1

City of Durham

[NOT SUPPLIED]

Schedule 5.1

City of Raleigh

[NOT SUPPLIED]

Schedule 6.1

City of Winston Salem

[NOT SUPPLIED]