		Year 1	Fed Q1	Fed Q2	Fed Q3	Fed Q4	Year 2	Year 3	Year 4	Year 5	TOTAL
Personnel											
	Project Director	63,295	15,824	15,824	15,824	15,824	63,295	63,295	63,295	63,295	$316,473
	GIS Personnel (3)	138,846	34,712	34,712	34,712	34,712	166,337	204,831	204,831	204,831	$919,676
	IT Infra. Specialist	45,820	11,455	11,455	11,455	11,455	70,380	70,380	70,380		$256,959
	App. Developer	51,685	12,921	12,921	12,921	12,921	67,264	68,547	68,547		$256,042
	Project Assistant	47,872	11,968	11,968	11,968	11,968	60,014	44,230	44,230	44,230	$240,575
	TOTAL	347,518	86,879	86,879	86,879	86,879	427,289	451,282	451,282	312,355	$1,989,725
Fringe Benefits											
	Project Director	31,647	7,912	7,912	7,912	7,912	31,647	31,647	31,647	31,647	$158,237
Travel		3,000	750	750	750	750	3,000	3,000	3,000	3,000	$15,000
Equipment											
	Servers, desktops, networking	245,000	245,000	0	0	0	24,500	24,500	24,500	24,500	$343,000
	Software	50,000	50,000	0	0	0	50,000	47,333	47,333	47,333	$242,000
	TOTAL	295,000	295,000	0	0	0	74,500	71,833	71,833	71,833	$585,000
Supplies		0	0	0	0	0	0	0	0	0	$0
Contractual											
	Project Manager	172,500	58,300	55,200	55,200	55,200	158,700	0	0	0	$331,200
	Public Outreach & Sampling Contract	40,000	10,000	10,000	10,000	10,000	0	20,000	20,000	20,000	$100,000
	Application Dev.	45,000	1,250	250	11,250	11,250	4,500	4,500	4,500	4,500	$63,000
	Space rental for new staff	16,200	4,050	4,050	4,050	4,050	21,600	21,600	21,600	21,600	$102,600
	TOTAL	273,700	68,425	68,425	68,425	68,425	184,800	46,100	46,100	46,100	$596,800
Other											
	Data Acquisition	12,000	3,000	3,000	3,000	3,000	12,000	15,247	15,247	15,247	$69,740
	TOTAL	12,000	3,000	3,000	3,000	3,000	12,000	15,247	15,247	15,247	$69,740
Total Direct		962,865	240,966	236,966	236,966	236,966	733,236	619,109	619,109	480,183	$3,414,501
Indirect Charges											
	10% Admin. Fee	76,000	19,000	19,000	19,000	19,000	76,000	76,000	76,000	76,000	$380,000
TOTALS		$1,038,865	$259,966	$255,966	$255,966	$255,966	$809,236	$695,109	$695,109	$556,183	**$3,800,000**

1) *Please provide any updates in the status of procurements, negotiations, estimates, etc. since the submission of NY's application.*

Potential procurement vehicles have been identified for the contractual services of the project manager and the application developers. CSCIC intends to maximize the use of existing State contracts to minimize the timeframes for these procurements while maximizing the value of the grant funds. We anticipate that with expedited approvals of the procurements we can engage the contractual services approximately 8 - 10 weeks from grant award. This assumes speedy approvals from control agencies, which are beyond the control of CSCIC.

CSCIC has continued discussions with broadband service providers on the terms of the non-disclosure agreement (NDA) pursuant to which necessary data will be provided to CSCIC. A second draft of the proposed NDA was circulated among key provider representatives on September 18, 2009, and will soon be shared with the broader provider community. We have made very good progress on the terms of the NDA and remain optimistic that a final version of the NDA will be completed soon. CSCIC will begin executing NDAs as soon as possible thereafter, beginning with the largest providers so that we can receive and process as much provider data as possible ahead of an initial data delivery to NTIA on March 1, 2010.

Initial discussions with the State's Division of Budget have occurred to seek permission to fill positions for the term of this project.

Internal staffing assignments have been adjusted to allow the Project Director to concentrate on this project in anticipation of the grant award.

2) *In describing that the initial delivery of data to NTIA will be at the Block Group level please define "initial data delivery." Is this the requested November 1 data?*

CSCIC did not propose a November 1, 2009 data delivery. Our proposal described a data delivery that CSCIC was prepared to make using our existing Block Group level predicted broadband availability mapping within 6 weeks of grant award. This early data delivery would be neither "substantially complete" nor compliant with the format and content as detailed in the NOFA. CSCIC proposed this delivery in the belief that it would be a useful short-term substitute for fully compliant data while we worked to create efficient data processing tools and began receiving provider data. However, based on discussions between Edward Smith and our team yesterday we now propose to forgo this initial delivery and instead focus our full energies on a more complete and technically compliant data delivery on March 1, 2010. Please see our response to question #16b for a more complete description of this data delivery.

3) *Please provide more details on the workflows for Wireless Service, Weighted Average Speeds and Community Anchor Institutions (no need to use as much detail as with Wireline, but we need a*

better understanding of how it will be done and the ways that you will address differences in the processes).

We felt that our proposal demonstrated, by describing in detail the workflows for mapping and validating broadband availability and middle-mile infrastructure, our solid understanding of the data and geospatial tools to be applied for other layers. Consequently we did not provide details on the workflows for wireless service, weighted average speeds, or community anchor institutions.

Our workflows for those mapping elements are summarized below:

Wireless

- Wireless Services data will be supplied as polygons in ESRI shapefile format containing attributes specified in Technical Appendix A.
- Service areas and attribute data will be collected from each provider of wireless services.
- 3G wireless polygon coverage areas are substantially complete from previous broadband mapping work conducted by CSCIC. Updates and additional attribute information will be collected and added.
- The combined attribute data for each polygon will be unique and non-overlapping.
- Metadata describing the polygon creation mythology and estimated accuracy will be included.
- 477 data, public survey and/or wiki map tool will be used for data validation.

Weighted Average Speeds

- Speed data will be collected using a combination of a wiki map tool containing a broadband speed testing tool as well as by telephone and Internet–based survey sampling.
- Speed data will be aggregated by county or collection of counties which most closely represent that provider's service area.
- Deliverable format will be tab-delimited text file.
- 477 data, public survey and/or wiki map tool will be used for data validation.

Community Anchor Institutions

- CSCIC has existing GIS data containing the name, address, and location for most community anchor institutions within multiple layers in our current critical infrastructure data repository.
- The records for these facilities will extracted from their respective layers and put into a single layer for the purposes of this project.
- Where possible, the additional required broadband service related attributes for each facility will be collected with the assistance of the NYS agencies with oversight responsible for these institutions (e.g. NYS Department of Health will contact hospitals, NYS Education Department will contact schools and colleges).

- Where state agencies do not have oversight responsibilities, CSCIC will conduct outreach directly.
- For facilities identified as Community Anchor Institutions for which CSCIC does not already have a record, Internet searches and direct outreach will be conducted to collect the required data.
- Provider data will be use as a validation source in this case.
- All data will be standardized and delivered as specified in Technical Appendix A.

4) *Please provide the expected added cost of mapping subscriber rate information at Block level.*

CSCIC expects to use FCC Form 477 data at the Census Tract level and CSCIC's existing predicted broadband availability mapping at the Block Group level to estimate subscriber rates at the Block level via an apportioning process. Since both of these data sources will be used in other aspects of the data preparation and validation steps, there is little additional processing required for Block level subscriber rate processing. Assuming that the FCC Form 477 data is made available with subscriber count information at the Tract level, we estimate 80 hours to perform this task in Year 1. Updating of subscriber rate information in Years 2 through 5 is estimated at 40 hours per year. This work would be done primarily by a GIS Analyst at a rate of $36/hour. The total estimated cost for Year 1 is $2,880 and $1,440 for Year 2.

If FCC Form 477 data is not made available for our use in a timely manner, is aggregated to a coarser level than Census Tracts or does not contain the subscriber count information needed for computing subscriber rates, CSCIC will need to pursue other methods such as the use of additional telephone survey sampling. Estimates have not been prepared for this alternative data collection method, which will need to be acquired contractually.

While CSCIC understands that subscriber rate information at the Block level is not a requirement of the NOFA, it is necessary for the definition of underserved areas for BTOP project evaluation and is also needed for state use in broadband policy formulation.

5) *Please be more specific about "other methods" that may be used for validation. Does NY intend to use phone surveys and generally how will such surveys be designed and conducted?*

Our budget estimate for Year 1 includes $40,000 to contract with a firm that specializes in conducting telephone and Internet-based surveys and statistically valid sampling activities. Year 2 provides an additional $15,000 for this activity. We will be looking to this contractor to identify, design, and conduct appropriate surveys. CSCIC has not yet obtained bids for this work and, depending on final contractual cost, we may conduct some of the data validation sampling activities under the contractor's guidance or request that the vendor design and conduct all aspects of the data validation sampling (see the response to question #12 for further details regarding outreach and sampling efforts).

6) *Please be more specific about the "variety of data sources and techniques" that you intend to use to in-fill census blocks for availability.*

We anticipate that providers will supply information on existing customers and will not provide information indicating where service is available but not subscribed. When customer data is aggregated to Census Blocks we anticipate that there will be some Blocks that can be identified by a series of spatial queries that are candidates for "in-fill". These queries would include, for example, a search for any Block bounded on all sides by Blocks served by a given provider at the same speed and technology. Candidate in-fill Blocks will then be subjected to further checks such as our existing predicted broadband availability, overlay with provider footprint polygon, distance from DSL switch, or other relevant information depending on the broadband technology. Blocks that satisfy all of these logic checks will then be queued for final review and acceptance by a GIS analyst. The GIS analyst may use orthoimagery or other layers to assist in final determination. The location of physical barriers such as rivers, limited access highways or rail lines will be considered. An attribute flag will be added to identify Blocks considered to have broadband service available as a result of the in-fill process.

CSCIC will be developing and testing specific GIS procedures for each type of broadband service to identify appropriate in-fill candidates. Cable-Modem will use network connectivity tests using our streets data to ensure that candidate blocks are connected by streets. Wireless service will use terrain data to test for terrain conditions that are likely to block wireless signals. In all cases, Blocks will initially be screened to ensure that there are households present and that they are within the operating footprint of at least one broadband provider.

7) *Please describe some of the data quality issues that you anticipate encountering and some of your expected methods of addressing them.*

CSCIC will be receiving data from over 100 different providers with significantly varied information technology proficiencies. In addition to disparate data formats and schemas, we expect to encounter data quality problems such as incomplete information, missing or mis-coded information, inaccurate information, faulty address information, improperly geocoded information, corrupt files, unreadable files, electronic transmission problems, misalignment problems, unconvertible special characters, spatially inaccurate data, incorrect or undocumented spatial references (datum and coordinate system), and poor or non-existent metadata.

CSCIC's goal is to build highly automated and efficient tools for processing the high volume of data anticipated in New York. To do this, we will be acquiring and customizing commercially available Extract, Transform, Load (ETL) and address standardization tools that contain extensive capabilities for identifying and correcting a wide variety of data errors. CSCIC is currently researching these tools and interviewing the vendors who supply them to determine the best fit for our requirements. The use of these tools will enable the creation of specific profiles appropriate for the data from each

provider. These profiles will make it very efficient to ingest updates after the initial tuning of a profile. We will also be sharing error results back to the providers so that their data is improved and the likelihood of better data in the future is enhanced.

CSCIC will also develop GIS procedures to identify spatial problems with data records, primarily through the use of automated queries for logic and consistency checks, as well as the use of other GIS layers.

8) *Please clarify how many GIS Techs are being employed (3?) and at what individual rates.*

CSCIC proposes to fill three GIS-related positions in Years 1 and 2. The rates listed below include salary and fringe benefits.

Position	**Hourly Rate**
Data Technician	$30
GIS Analyst	$36
Sr. GIS Analyst	$52

9) *The expense for the Project Manager seems extremely high, especially considering 75% initial involvement from the Project Director. Please explain the need for such a role and at such an expense. CSCIC has extensive experience in mapping in New York, please explain why this new project manager role is critical to the success of the project.*

The roles and tasks for the Project Director and Project Manager are distinctly different.

Project Director tasks:

- Lead for outreach activities. Develop "partnership level" relations with providers. CSCIC places high importance on having senior staff represent the office in interacting with all external customers. The success of the project hinges on a high level of provider cooperation, as well as collaboration with state agencies and local authorities in connection with additional data gathering and external data validation efforts.
- Coordinate development and deployment of State broadband map and data sharing tools
- Supervise all project staff including PM
- Final review and approval of all security procedures; periodic spot checks to confirm compliance
- Manage data gathering and transformation efforts
- Manage GIS activities
- Lead for data quality and validation reviews
- Final review and approval on all deliverables
- 1512 Quarterly Reporting / Agency Reviewer
- Monthly status report to CSCIC executives

Project Manager tasks (Senior PM with significant experience with secure data collection/ conversion/ management projects):

- Develop and maintain detailed project plan and schedule
- Assist with development final work flows and data management solutions
- Manage project contracts and change orders
- Conduct monthly security reviews
- Track and document all hardware, software, and data procurements
- Track and document status of all NDAs, data receipts and project deliverables
- Provide weekly status reports to Project Director
- Initial review of project deliverables
- 1512 Quarterly Reporting / Agency Preparer

In response to the discussion yesterday between Mr. Smith and our project team, we have reviewed and revised out budget estimates for both the Project Director and Project Manager. Significantly, we have reviewed the available State contracts in greater detail and have revised our hourly estimates for a contracted Project Manager to $115/hour, down from $150/hour in our initial budget proposal. We are also reducing the length of the Project Manager contract period from 2 years to 18 months. This is reflected with the revised budget on the following page. Please note, we are still requesting the full $500,000 Planning grant but have removed it from the budget table for clarity. Please also note, since there will be some unavoidable lag in hiring staff after the grant award, our Year 1 personnel costs do not cover a full year.

10) The IT expenses are also very high. Please provide an itemized breakdown of each proposed component of your IT costs (provide a detailed description of all equipment or software to be purchased, when it will be purchased in the first two years, and the basis for the figures used).

The strategy underlying the IT expenditures are based on developing a secure data repository and a series of automated tools that will support New York State in this project. Web-based tools will be developed that provide address cleansing and standardization as well as geocoding to efficiently and accurately manipulate the project data to meet all deliverable requirements. We believe developing these tools is the most efficient way for NYS to achieve the goals of this project. The tools will be built in such a way that they can be adapted to meet the needs of other BB mapping organizations. CSCIC will gladly make these tools available to NTIA for that purpose.

The data repository will be designed in accordance with best practices for security in order to protect the confidentiality, integrity and availability of the confidential data received from the providers.

Quotes have been obtained for most items specified below. State contracts were used to both obtain the lowest price and expedite the procurement process. All items are required in the first year of the project (at project initiation).

Discussions are ongoing with 6 vendors of ETL and Data Quality tools. Quotes have been obtained from 2 vendors and range from $50,000 (data quality only) to $350,000. Our objective, as mentioned above, is to invest in a technology that will allow us to develop and support a service that can serve the needs of New York State for this project and may also be leveraged by other organizations within and outside of New York. The budget item of $50,000 for software purchases may be low. While looking at "Build vs. Buy" options, we may find a COTS product at higher cost that will replace the need to develop custom tools. If so, we will reassign dollars from the application development budget to this item.

Server Room Infrastructure		
Additional Power for Servers & Switches	$10,000	New electrical panel in server room
Switch for rack (Cisco 3750)	$10,000	Network connectivity for additional servers
Firewall (Cisco ASA 5540)	$14,000	Additional firewall to support secure infrastructure
Extend Network		
Network Switch (Cisco 3750)	$10,000	
Run Fibre (estimated)	$5,000	
SAN Storage		
iSCSI SAN (Dell	$80,000	Provides isolated storage for DMZ to support secure storage of confidential data
Switches ((2) Cisco 3750)	$20,000	
Application		
ArcGIS Server - Dell R710 (Qty 2)	$25,000	
Oracle DB Server	$25,000	
Miscellaneous:		
Additional tape drive for backups (Dell)	$10,000	
Rails for SAN & Servers (Dell)	$2,500	
Various Agents (Backup, Management, AV)	$3,000	
Workstations for 7 new staff (Dell)	$21,000	
Total Equipment	**$235,500**	
Software		
ETL & Data Quality	$50,000	

11) *Your application development costs are very high. Please clarify the difference between your budgeted "App. Developer" and the "Application Development." Please explain your basis for this cost and why it is appropriate to allocate so much to this single item.*

The highly automated and efficient data processing environment that CSCIC needs for this project will incur significant up-front development costs. Commercial ETL tools will be used, but will need to be configured and customized. The web-based geocoding and aggregating capabilities will be created using commercial GIS software components but a substantial amount of custom programming will be required.

Specific application development task identifies thus far include:

- Customize of COTS ETL tool(s)
- Design, develop, test geocoding web service(s) application programming interface
- Design, develop, test stand-alone version of geocoding web service(s)
- Automate GIS routines for data validation
- Design, develop, test online survey tools
- Design, develop, test online speed tester for capturing broadband speed, IP address and potentially physical address
- Conduct application vulnerability scans and mitigate as necessary
- Perform bug fixes, enhancements and maintenance for all project related application code

CSCIC envisions that these tasks will be accomplished with a combination of in-house development and contracted services. CSCIC currently has in-house development capabilities and proposes to augment those with one new in-house application developer. Vendor capabilities, deliverable dates and price quotes will be factored into the decisions needed to determine which tasks will be accomplished in-house and which will be contracted for and fulfilled externally. The aggressive project schedule will likely require a majority of the work to be outsourced. Short timeframes typically increase costs. We anticipate billable hourly rates for experienced application developers to range from $85-125/hour. The cost budgeted for the in-house programmer is $38/hour including benefits. This budgeted position is for a junior level programmer.

Given the current workload of our existing in-house application development resources, including the proposed addition of a junior level programmer, it is highly likely that most of the above listed tasks will be contracted out. At an average of $105 /hr, our $240,000 Year 1 budget provides for only 2,286 hours of contracted development services; slightly more than one person/year. The $284,000 combined Year 1 and Year 2 budget provides for 2,705 contracted hours (@ $105/hr). We believe these estimates are justified and conservative.

12) Conversely, your outreach and sampling costs seem somewhat low. Please explain the expected methods you will employ and how this amount was determined.

As indicated in our response to question #5, our plan includes contracting with a firm that specializes in conducting surveys and statistically significant sampling activities. These contracted services will be substantially supplemented with in-house efforts provided by staff identified on other budget line items. Therefore, the two year contracted outreach budget of $55,000 will be supplemented with a substantial in-house staff effort. If our budget for the sampling contractor still proves to be too low, CSCIC proposes to adjust that budget item by reducing other budgeted items as needed.

13) Please clarify what is expected to contribute to the 10% admin fee?

CSCIC applies a 10% administrative fee to all federal contracts. This fee covers all other aspects of CSCIC support for the contracted activity not specifically itemized in the budget, including:

- Legal work including primary role in development and execution of NDAs the drafting and negotiation of contracts
- Support from CSCIC's finance unit for procurements
- 1512 Quarterly Reporting / financial and executive reviews
- In-house security services, primarily assistance with development of procedures and review processes
- In-house database administration (DBA) services
- In-house application development services (beyond contracted services and the addition of one junior application developer)
- In-house IT services (beyond the addition of one IT technician)
- In-house GIS services (beyond the addition of GIS analyst and Sr. GIS analyst)
- Miscellaneous supplies, mailing costs and resources

14) Please clarify what is entailed in "GIS Data Dev for BB work" that will not be handled by your GIS Techs.

This was an item that captured a collection of relatively minor GIS activities that did not warrant individual line items within our detailed budget. In reconsidering this, we have now removed the "GIS Data Development for BB work" line item and redistributed the hours within other existing GIS Tech tasks that rollup as the "GIS Techs" line item in the budget summary.

15) *Your budget does not address costs of negotiating NDA's. How do you contemplate addressing such costs?*

The negotiation of the requisite NDAs with the broadband service providers will be undertaken by CSCIC's Counsel's Office and the cost of these negotiations represents a portion of the 10% administrative fee.

16) *We understand the difficulty in achieving a March data delivery, and are seriously considering adjustments to the schedule, however, even with adjustments; we do not believe that we can accommodate a September 1, 2010 delivery date. Please provide additional explanation of the major impediments to a more expeditious delivery of data.*
    a. *In particular, you note the slow procurement and RFP process; however, most of your work is being done in-house. What particular procurements will delay you?*

As noted above, CSCIC will contract for the services of the Project Manager, application developers, and a contractor to design telephone and Internet–based survey sampling tools. CSCIC is doing as much as possible to expedite these procurements through the use of existing State contracts. However, it is anticipated that under the most favorable conditions and speedy approval by control agencies, contract procurements will take a minimum of 8 - 10 weeks from grant award.

    b. *What do you think you will be able to deliver by March 1, 2010?*

In consideration of the October 7th conversation between Mr. Smith and our team, CSCIC's goal is now to deliver fully compliant submissions for the Block Level Availability and Community Anchor Institutions deliverables by March 1, 2010. We will focus our efforts on activities that will result in the most compliant data being delivered within the shortest time frame. Our approach for executing this revised plan is described below.

As mentioned in our answer to question #1, CSCIC will begin contacting providers as soon as possible after we receive notification of an award. While negotiating the execution of NDAs, CSCIC will also determine which vendors will be providing their customer data directly to CSCIC; which providers will be aggregating customer address data to census block without any assistance from CSCIC; and which providers will require the use of our web services geocoding tools in order to supply aggregated customer data to CSCIC (see vendor participation options on pg. 5 of our original proposal for more detail). CSCIC will also seek to establish initial delivery dates in all three cases.

Based on the information received, CSCIC will focus its efforts on the vendor data submissions that will allow us to make a March 1, 2010 partial delivery of Block Level Availability Data that fully meets the Appendix A specifications. These will be provider data submissions that do not require our web services tools to submit and can be provided within a timeframe that allow CSCIC to process the data and perform initial data validation in time to make a March 1, 2010 delivery. Vendor data that

does not meet these conditions will be added to subsequent submissions as soon as possible after we receive it. A supplementary delivery schedule for updated submissions between the initial March 1, 2010 submission and the September 1, 2010 submission will be worked out with NTIA as delivery dates from these vendors and CSCIC processing times are established.

Additionally, CSCIC will begin work on the Community Anchor Institutions delivery immediately after we receive notification of an award. This work does not require data from vendors, use of to-be-developed tools or new staff. CSCIC will use a portion of the budgeted 10% administrative fee to fund work performed by existing CSCIC GIS staff in order to provide a substantial complete Community Anchor Institutions deliverable (per Appendix A specifications) by March 1, 2010.