

# IT/Telecom Working Group Final Report

21<sup>st</sup> Century Demonstration Project Grant

Spring 2012



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## Contents

|  |    |
|--|----|
| Summary and Background .....                             | 3  |
| Working Group and Initiative History .....               | 3  |
| Historical Initiative Spending .....                     | 6  |
| Current Services Forecast .....                          | 8  |
| 2010-11 IT/Telecom Costs & Savings .....                 | 10 |
| Methodology and Data Notes.....                          | 11 |
| Lessons Learned.....                                     | 13 |
| Prototype Modifications .....                            | 14 |
| Appendix A: IT/Telecom Working Group Meeting Notes ..... | 15 |

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## Summary and Background

In 2008, Nassau BOCES and Nassau County agreed to explore various Information Technology opportunities that could reduce costs, enhance services and allow for mutually beneficial long-range planning. Both organizations were in an ideal position to satisfy the needs of their constituencies while providing the taxpayers of Nassau County the cost efficiencies that would be realized from this cooperation.

Compressed into 287 square miles, Nassau County contains 56 school districts and Nassau BOCES, a public educational shared services agency that serves school districts comprising over 300 separate schools and over 200,000 students.

In addition to services being rendered directly to students, Nassau BOCES provides many technical support services directly to local public school administrators, teachers and staff members. Among these services are telephone, data and internet support services as well as a variety of automated data processing services including budgetary accounting, secondary school scheduling, grade reporting and averaging, attendance accounting, school census reporting, payroll preparation and standardized test scoring.

## Working Group and Initiative History

A working group of experienced Nassau County public school and municipal officials explored various cooperative approaches toward cost savings and increased functionality. This effort focused upon four non-instructional shared services functions. One of the shared services that emerged as an ideal candidate for consolidation was Telecommunications Services. A Request for Proposal (RFP) was published, with the concept that Nassau County government, Nassau BOCES, at least 44 school districts, and the Nassau County Comptroller would share common telecommunications services and infrastructure in order to reduce expenditures associated with data, and Internet costs. Additionally, the working group mapped existing telecommunications assets, provided technical analysis, and provided recommendations for effectiveness and cost savings.

The initial projected savings from a cooperative purchase of these telecommunications services was expected to be \$1.4 million or more over an initial three year period. These savings would be accrued from economies of scale when these services are collectively bid by Nassau BOCES, Nassau County and up to 56 Nassau school districts. There were several areas of interest to explore:

- **Broadband and Telecom Connectivity:** It was clear that both the County and BOCES had locations dispersed throughout the county. In addition, both organizations either have established connectivity to these locations or wished to do so. By understanding



each organizations mutual needs, we thought we should be able to capitalize on the inherent economies of scale and create fiber optic backbones throughout the county that could be shared, therefore reducing costs while increasing the scope of our networks.

- **Cellular Services:** Both organizations had a large deployment of cellular telephones or other wireless devices. By understanding the types of services and number of devices a consortium rate could be established with a common cellular provider that would reduce costs while increasing performance.
- **Shared Expertise:** Both the County and BOCES are similar in many respects. Collaborating on their experiences with similar providers, offerings, technologies and processes was critical. By learning from each other, the County and BOCES could save time, avoid project delays and, therefore, further decrease costs.
- **Cooperative Bids or RFPs:** Both organizations publish public bids and Requests for Proposals throughout the year. By combining the needs of the County and BOCES into cooperative bids or joint RFPs a more competitive market was created and participating entities gained from the economies inherent in having potential providers respond to larger business opportunities.
- **Influence:** By forming a technology alliance we knew we would be able to bring a considerable amount of authority and control to situations as they arise. This would include, but not be limited to, influence that could be brought to bear on various carriers and other service providers regarding initial purchase, implementation and ongoing maintenance.

The IT/Telecom activities were led by a working group of eight members, which consisted of school superintendents, school board members, business officials, and County officials. Table 1 details working group membership and affiliations:

**Table 1: 21<sup>st</sup> Century Demonstration IT/Telecom Working Group**

| Name                 | Affiliation                              |
|----------------------|--|
| Dr. Jack Bierwirth   | Herricks School District                 |
| Mr. Tony Carfora     | Nassau BOCES                             |
| Mr. Chris Reinertsen | Nassau BOCES                             |
| Mr. Ed Eisenstein    | Nassau County                            |
| Dr. Melissa Burak    | Lynbrook School District                 |
| Ms. Susan Bergtraum  | Nassau Suffolk School Boards Association |
| Mr. Patrick Manley   | Franklin Square School District          |
| Dr. Edward Melnick   | North Shore School District              |



Over the past two years, the working group conducted business in monthly meetings, or as often as needed as they investigated, researched and analyzed IT/telecommunications shared services opportunities. Minutes of these meetings can be found in the Appendix of this document. The main tasks undertaken by the working group included:

#### *General Project Management*

- ✓ Solicited working group members from a broad base of stakeholders, including: School board members (individual districts and BOCES), school business officials, and technical consultants
- ✓ Organized meeting schedules and coordinated with working group members to maximize attendance and participation
- ✓ Developed a work plan which outlined: An overview of group objectives; group members; and point-by-point activity categories with corresponding deliverables and timeline milestones

#### *Technical Activities*

- ✓ Conducted meetings with NYS Office of General Services approved cellular carriers to negotiate discounted rates for Nassau County and Nassau BOCES.
- ✓ Developed in conjunction with Sprint Wireless "Co-Bo", a new pricing matrix being used by numerous organizations within the County, resulting in savings.
- ✓ Published bid for fiber optic connectivity services, telephone services and internet services.
- ✓ Used grant funding to purchase advanced telephone systems to support task of converting existing telephone lines to a digital service to further reduce costs.

#### *Cost Savings Documentation and Analysis*

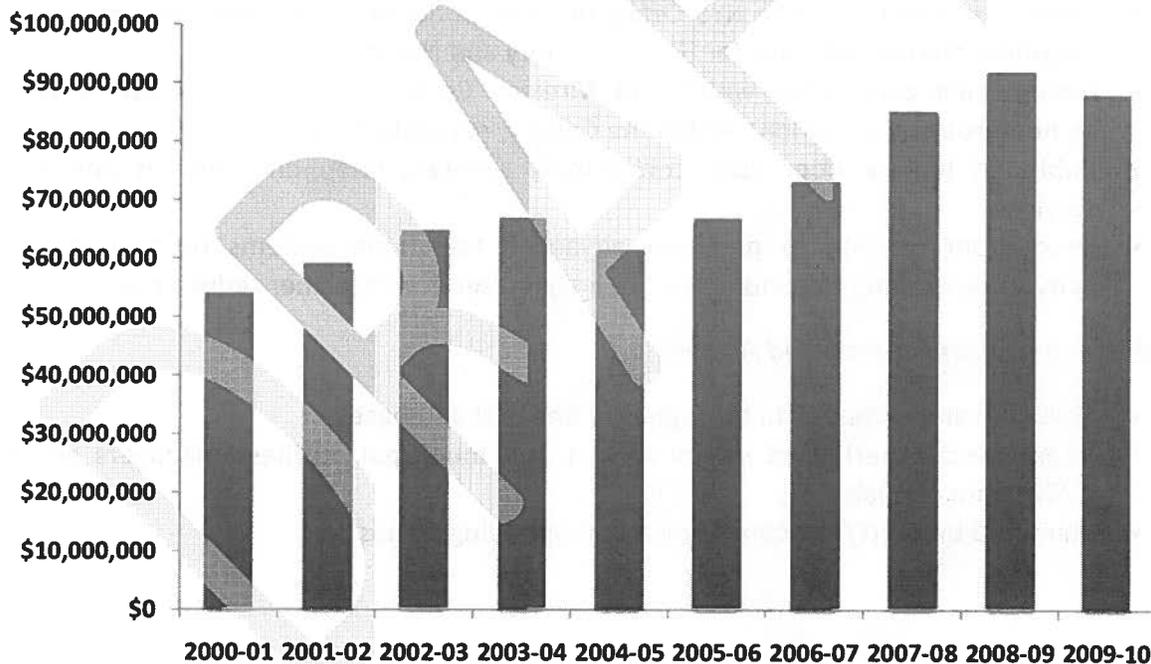
- ✓ Collected and review data through OSC and SED databases
- ✓ Interviewed experienced school district and municipal business managers and other IT/Telecom officials
- ✓ Identified broad IT/Telecommunications spending trends

## Historical Initiative Spending

The working group collected and requested data from both the Office of the State Comptroller and the State Education Department (SED) to determine estimated total IT/Telecom costs for the school districts, Nassau County, and Nassau BOCES. School districts submit annual financial reports to SED that detail annual spending by the district, from instructional spending to transportation and other non-instructional spending. Generally, districts utilize two main accounts to report on annual IT/Telecommunications spending, as defined by the New York State Accounting and Reporting Manual.<sup>1</sup>

Between the 2000-01 and 2009-10 school year, the ten most recent years of data available from the New York State Education Department, spending for IT/Telecom related expenditures increased by 62.6 percent, from an estimated \$54.2 million to an estimated \$88.2 million. Over this time period these expenditures grew at a compound annual growth rate of 5.5 percent.

**Figure 1: Estimated IT/Telecom Spending, All Nassau School Districts 2000-01 to 2009-10**

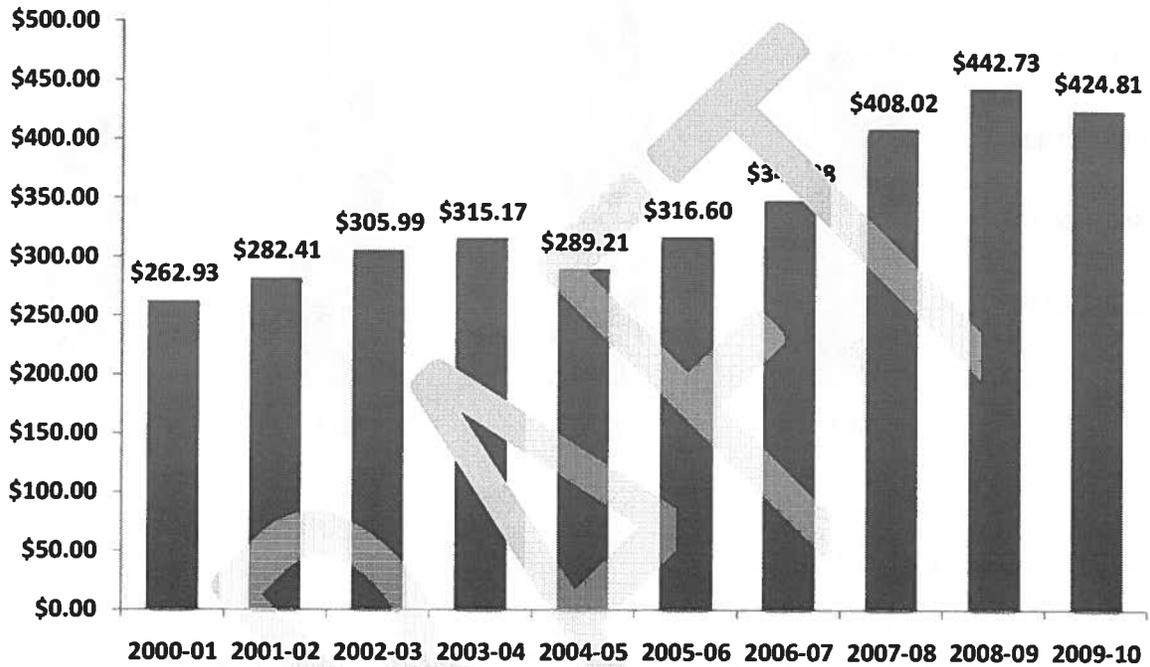


<sup>1</sup> Data limitations are described later in this report.



As Figure 2 illustrates, IT/Telecommunications expense per pupil has grown in line with estimated aggregate spending from 2000-01 to 2009-10.

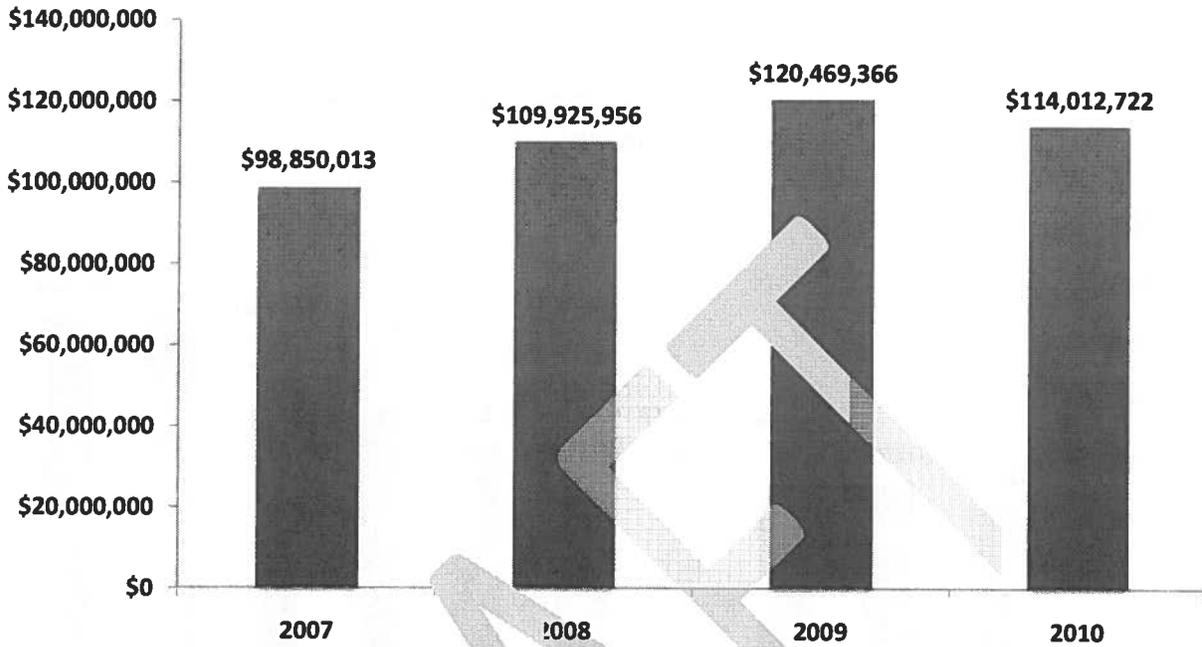
**Figure 2: Estimated Average IT/Telecom Expense Per Pupil,  
All Nassau County School Districts**



IT/Telecom expenditures are also major cost centers for the County and BOCES. When including their IT/Telecom spending with school districts the 2010 total estimated IT/Telecom spending is \$114 million.



**Figure 3: Estimated IT/Telecom Spending for Nassau County School Districts, Nassau BOCES, and Nassau County<sup>2</sup>**



### Current Services Forecast

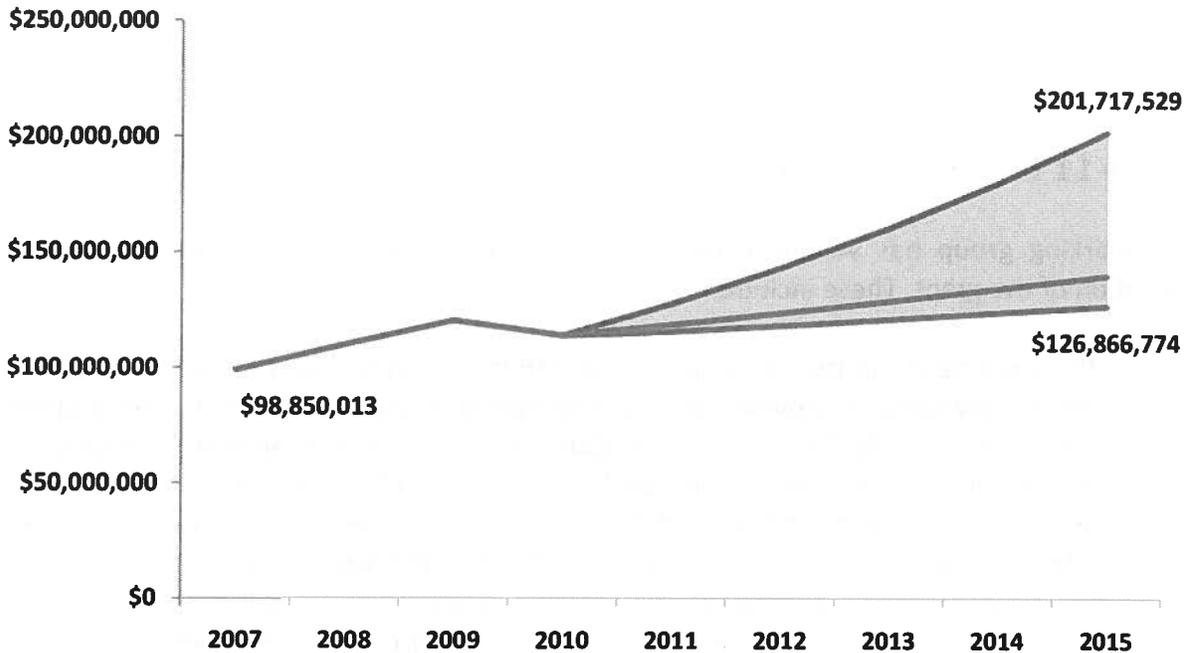
Baseline County, BOCES, and School District data indicates that IT/Telecom expenditures continue to increase at a compound annual growth rate of 4.2%. In order to capture a reasonable range to determine future costs, the working group has created high end and low end projections. An annual rate of change plus or minus up to the regional forecasted CPI-U for each year, as determined by the New York City Independent Budget Office (IBO) has been estimated to forecast low-end total school district, County, and BOCES IT/telecom spending through 2015. For high end projections, the average annual growth rate of 12.1% was used.<sup>3</sup> Based on this methodology, total IT/Telecom spending for Nassau County school districts, Nassau BOCES, and Nassau County may range between \$126.9 million and \$201.7 million by 2014-15.

<sup>2</sup> School districts and BOCES fiscal years' end June 30<sup>th</sup> while the County's fiscal year ends December 31<sup>st</sup>. The data shown in the chart details each governmental unit's respective fiscal year.

<sup>3</sup> The high end projection rate was determined by taking the average growth in IT/Telecom spending for the three largest growth years over the historical period.



**Figure 4: Estimated Total IT/Telecom Spending (School Districts, BOCES, County), Estimates and Forecast Range**



As with any projection, numerous events and factors may affect the forecast. The projected annual change and the confidence range in the graph above acknowledge these risks and uncertainties.

**IT/Telecom Forecast Confidence Range High-End Scenarios:** The following scenarios are possible under certain parameters, as described below, and may result in higher than estimated costs:

- Districts entering into new multi-year contracts may be forced to agree to higher fees
- New technologies require significant up-front expenditure but provide long-term savings not captured in the forecast range
- New state mandates require new IT/Telecom investments by municipalities and school districts
- Increased personnel costs both 3<sup>rd</sup> party and internal increase overall IT/Telecom spending
- Other

**IT/Telecom Forecast Confidence Range Low-End Scenarios:** These scenarios would have a positive effect on school district, BOCES, and County spending by reducing those costs associated with IT/Telecom services:

- Shared services agreements and cooperative bidding for these services results in lower flat rates or hourly rates for all participating districts



- Lower personnel costs result in reduced fees for services and internal IT/Telecom expenditure
- Changes to state law and or regulation provides for increased cooperation and sharing between schools and municipalities resulting in lower spending
- Other

## 2010-11 IT/Telecom Costs & Savings

The working group has advanced multiple IT/Telecom shared services initiatives since the inception of the grant. These include:

- The working group issued a cooperative RFP for cell phone services and data plans. The responding vendors provided very competitive rates and it is estimated the County and BOCES saved \$160,000 in year one alone. All of the Nassau underlying municipalities and school districts were permitted to use the RFP pricing and in fact, the rates negotiated by Nassau BOCES and Nassau County later became the new state contract rates that can be used by municipalities and school districts statewide.
- As of January 2012, by utilizing the Advance 2000 Alcatel Lucent Telephone system at the Nassau BOCES location in Westbury, NY a total of 670 telephone lines have been converted in three school districts (14 school buildings). The working group estimates savings of \$10 per line per month or \$120 per line per year. The working group projects to convert approximately 550 school lines by the end of the 2011-12 School Year<sup>4</sup>. Preliminary projections for the 2012-13 school year are that 1,200 lines will be converted at similar savings. This is an estimated total of 2,420 lines over two years and at a savings of \$120 per year or roughly \$290,400 annually going forward. Additionally the County has estimated that this initiative has provided \$240,000 in annual recurring savings.
- Nassau BOCES has been working to advance their Bo-TIE initiative, a centralized IT model for BOCES and school districts and with the support of the grant the working group completed a comprehensive mapping of all education IT assets. Through March 2012, it is estimated that this effort has generated \$96,000 in recurring savings and savings will increase over the multi-year period in which new school districts join the initiative. Over the long-term, the goal is to incorporate municipalities into this initiative for increased efficiencies and enhanced savings.

<sup>4</sup> School Year is July 1 to June 30



## Methodology and Data Notes

The working group collected various IT/Telecom data via survey instruments and publicly available data sources. Total IT/Telecom costs, as illustrated in [Figure 1](#), were estimated by reviewing and analyzing school district data provided to the New York State Education Department (SED) through the State Aid Management System (SAMS) and segregated using the hierarchy of accounting and object codes, school districts self-report. The following codes are provided to school districts to report on IT/Telecom function spending:

**Table 2: State Education IT/Telecom Account Codes**

| Account Number | Expenditure Level 1             | Expenditure Level 2   | Expenditure Level 3           | Description                   |
|----------------|---------------------------------|-----------------------|-------------------------------|-------------------------------|
| A1680.16       | General Government <sup>5</sup> | Operations            | Central Data Processing       | Non-instructional Salaries    |
| A1680.2        | General Government              | Operations            | Central Data Processing       | Equipment                     |
| A1680.4        | General Government              | Operations            | Central Data Processing       | Contractual and Other         |
| A1680.45       | General Government              | Operations            | Central Data Processing       | Materials and Supplies        |
| A1680.49       | General Government              | Operations            | Central Data Processing       | BOCES Services                |
| A1680.0        | General Government              | Operations            | Central Data Processing       | Total Expenditures            |
| A2630.15       | Education                       | Instructional Support | Computer Assisted Instruction | Instructional Salaries        |
| A2630.16       | Education                       | Instructional Support | Computer Assisted Instruction | Non-instructional Salaries    |
| A2630.2        | Education                       | Instructional Support | Computer Assisted Instruction | Equipment                     |
| A2630.22       | Education                       | Instructional Support | Computer Assisted Instruction | Computer Hardware Purchase    |
| A2630.4        | Education                       | Instructional Support | Computer Assisted Instruction | Contractual and Other         |
| A2630.45       | Education                       | Instructional Support | Computer Assisted Instruction | Materials and Supplies        |
| A2630.46       | Education                       | Instructional Support | Computer Assisted Instruction | State Aided Computer Software |
| A2630.49       | Education                       | Instructional Support | Computer Assisted Instruction | BOCES Services                |
| A2630.0        | Education                       | Instructional Support | Computer Assisted Instruction | Total Expenditures            |

In some instances not all school districts utilized the Central Data Processing function accounting codes as displayed in [Table 2](#) when reporting related costs to SED (e.g., a school district may report expenditures through business office codes or other central administration expenditure codes). In order to estimate total costs, the working group derived a methodology using a factor based on school district enrollment.

This methodology involved dividing total IT/Telecom costs, as reported by school districts under accounts 1680.0 and 2630.0, by the percentage of total enrollment in Nassau County those school districts that provided data represent. The following table details that methodology:

<sup>5</sup> Per the OSC Accounting and Reporting Manual, General Government Support is defined as services provided by the governmental entity for the benefit of the public or governmental body as a whole.



**Table 3: Total IT/Telecom Costs Methodology**

| A1680.0                              | 2005-06             | 2006-07             | 2007-08              | 2008-09              | 2009-10              |
|--------------------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Actual Spending, Data Submitted      | \$11,083,793        | \$12,088,438        | \$14,666,867         | \$16,308,225         | \$15,208,787         |
| Enrollment, Districts Providing Data | 153,383             | 156,245             | 156,630              | 155,865              | 155,990              |
| %                                    | 72.48%              | 74.26%              | 74.90%               | 75.03%               | 75.17%               |
| <b>Pro-Rated Total</b>               | <b>\$15,291,404</b> | <b>\$16,279,334</b> | <b>\$19,581,574</b>  | <b>\$21,736,976</b>  | <b>\$20,232,006</b>  |
| A2630.0                              | 2005-06             | 2006-07             | 2007-08              | 2008-09              | 2009-10              |
| Actual Spending, Data Submitted      | \$66,995,092        | \$73,282,751        | \$85,322,691         | \$91,976,214         | \$88,153,022         |
| Enrollment, Districts Providing Data | 211,610             | 210,413             | 209,115              | 207,750              | 207,511              |
| %                                    | 100.00%             | 100.00%             | 100.00%              | 100.00%              | 100.00%              |
| <b>Pro-Rated Total</b>               | <b>\$66,995,092</b> | <b>\$73,282,751</b> | <b>\$85,322,691</b>  | <b>\$91,976,214</b>  | <b>\$88,153,022</b>  |
| <b>Combined Total</b>                | <b>\$82,286,496</b> | <b>\$89,562,085</b> | <b>\$104,904,264</b> | <b>\$113,713,190</b> | <b>\$108,385,028</b> |

Note: The historical annual IT/Telecom costs reflected in [Figure 1](#) and [Table 3](#) are estimated and the data is subject to limitations including the interpretation of expenditures and their respective codes by administrative staff and business officials when they are reporting and other validity issues of self-reported data. School districts which categorize certain IT/Telecom expenditures as capital improvements may recognize those in other capital-related account codes. However, since no data is available on which school districts adhere to that methodology, the working group only focused on Central Data Processing (A1630.0) and Computer Assisted Instruction (A2630.0)



## Lessons Learned

Throughout the multi-year process to implement IT/Telecom shared services initiatives the working group has adapted and overcome various implementation obstacles. Key lessons learned and recommendations include:

***Be prepared for legislative and other implementation barriers.*** Early on, the working group identified state legislative impediments to maximizing cost savings to be achieved through the sharing of IT/Telecom services. Specifically, the working group believes changes are needed to Education Law 1950 to fully maximize the ability to cooperatively purchase IT/Telecom services and products across schools and municipalities. While the working group in concert with the steering committee and other stakeholders actively pursued changes to the state law, to date, these efforts have been unsuccessful. While the group continues to pursue the needed legislative changes they have also continued to advance the initiative and going forward will pursue the legislative changes necessary to fully maximize this initiative. Other similar efforts throughout the state should carefully research any potential legislative or regulatory impediments to implementation and develop a plan for overcoming these impediments, possibly in a gradual manner.

***Initiative buy-in and expansion.*** Like the other shared services initiatives the working group learned the importance of communicating with potential participants (both school districts and municipalities) regarding the initiative implementation, how a participant can join the initiative, and what savings could be realized if they participate. The working group utilized district wide communications to communicate about the cellular services RFP and eventually the grant website was used regularly to share information about IT/Telecom initiatives. The working group initiatives advanced generally required a change from current processes and clear and effective communication has proved to be helpful in attracting participants to the various IT/Telecom initiatives.

***Substantial investments and time commitments.*** The Bo-TIE initiative is a complex and significant shared services endeavor that has been under development/implementation for many years by BOCES. The grant funding has supported this initiative by providing funding for the mapping of education IT assets. Given the complexity of this initiative and the fact it is predicated on school districts changing IT services providers, it has required thoughtfulness and careful planning by BOCES so that school districts can be added as their IT contracts expire and will be implemented over a multi-year period. Other IT/Telecom consortia pursuing similar efforts should be sure to strategically plan the implementation phases, taking into account contract and other issues that could affect the project timeline.



## Prototype Modifications

Many of the above-described implementation steps and challenges will be common to all IT/Telecom consortiums. However, modifications may be made to accommodate for unique school district considerations that are not present in Nassau County:

***Spanning a Multi-County Geographic Area.*** The working group involved participants only from Nassau County school districts, County officials and Nassau BOCES. The combined enrollment of districts and the availability of service providers to respond to the RFP presented enough of a cumulative effect to only involve school districts in the county boundaries. However, areas with low populations and rural counties may not be able to involve enough school districts to effectively capitalize on combined purchasing power. In these instances, school districts may form consortiums that span a multi-county area or otherwise wide geographic territory. Many IT/Telecom contractual services that are bid or solicited for proposals are common to all state school districts.

***Without the involvement of a regional BOCES.*** An Inter-municipal Agreement among participating school districts and or municipalities may be setup, with an ad-hoc Working Group or Steering Committee guiding the RFP selection, vendor administration processes, and other collaboration efforts. Also, another governmental unit, such as a county purchasing office, may serve as the host to receive any IT/Telecom proposals.

***With multiple BOCES.*** Districts in areas served by two or more BOCES may enter into shared services agreements to be facilitated by just one of the BOCES. Alternatively, shared services initiatives and other projects may be collaborations between the multiple BOCES, in which the resources and expertise of the multiple BOCES are combined. Joint BOCES boards may operate via Inter-municipal Agreement.

***In coordination with municipalities.*** IT/Telecommunication services are utilized by all levels of government, including schools, BOCES, the County, and other underlying municipalities. While the initiative was originally largely focused on BOCES and the schools, its ultimate goal is to also include any municipality that is interested. The work that has and is currently being performed is foundational and will greatly assist the process of incorporating other municipalities. Other consortia pursuing similar efforts should include all potential stakeholders (schools and municipalities) in the planning and feasibility phases. Given the magnitude and prevalence of IT/Telecom spending, developing initiatives that incorporate the largest participants will lead to the greatest cost savings.



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## Appendix A: IT/Telecom Working Group Meeting Notes

TO BE ADDED

