Ms. Barbara Donnellan   Dr. Patrick Murphy
County Manager   Superintendent, Arlington Public Schools
2100 Clarendon Blvd.   N. Quincy Street
Arlington, Va. 22201   Arlington, Va. 222

Dear Ms. Donnellan and Dr. Murphy:

Since its inception some seven years ago, The IT Advisory Commission has sought to make governmental and educational services in Arlington more efficient, higher quality and more cost effective. We feel that improved Information and Communications Technology (ICT) could improve the quality of education and county services and also reduce cost. At times, we have been frustrated in finding ways for County and Arlington Public Schools to integrate program, services, and particularly IT based offerings to achieve economies of scale, eliminate overlapping capabilities, or simply combine efforts to embrace new ways to offer modernized programs that can save costs while improving services.

As I step down as chair of the Commission and new leadership assumes control of the commission, we would like to again offer new avenues to achieve reduced capital and operating expenditures that could actually improve the quality of services. The "magic" of these proposed changes is a greater reliance on digital and virtual services, and elimination of overlap. We again suggest that a broad-based Community Task Force—similar to that convened for the Community Energy Plan – be convened to study these propositions and see if these opportunities for expanded broadband digital services or consolidation of facilities and services could improve the quality and timeliness of services while reducing costs. The following four areas we have tried to address during the current and past years have had very limited success. We commend these areas again to you as well as to the Arlington County Board and the Arlington County School Board. We feel that with the assistance of IT industry expertise, the Civic Federation, Virginia Hospital, educators, and consultants, new pathways to savings could be found while actually enhancing services.

1.   Digital High School/Middle School classrooms to reduce facility/space needs while enhancing Educational Offerings to Arlington Students Including courses for college credit.

December, 2013 -- The Chair of ITAC reviewed the several items discussed at the monthly meeting to include: virtual high schools to save tax dollars, more advanced programs for high school students through local and national higher education resources, allowing more on-line courses and courses throughout the day, intern programs with industry, and on-line college courses.(See attached report about Virtual High School program)

2.   Strengthening citizen participation in a joint Arlington Public Schools and Arlington County Working Group to increase bi-lateral communications regarding technology strategies for high dollar costing/saving initiatives/ and reduced licensing fees for software.

 December, 2011 (see the attached report of the Joint Working Group for areas of concerns –Note: - Dr. Saleh Khelfaoui was replaced by Raj Adusumilli)

3.   Removing redundancies in Voice, Video, Data Communications systems

Arlington County Government and the Arlington Public Schools currently run separate network systems for voice, video and data communications. ConnectArlington offers the opportunity to combine forces in financial, technical, and personnel resources to achieve a lower cost per capita cost in equipment, software and staffing. (See also 2011 report below)

4.   Detailed analysis of Public Access, Educational and Governmental (PEG) needs, expenditures, and facilities to remove redundancies, duplicative effort or resources.

The Comcast and Verizon franchises currently provide funding supporting Public, Education, and Government video activities for internal and broadcast activities conducted by three separate organizations, Public (AIM), Schools (AETV) and County Government (ATV). In some cases, the Public AIM station broadcasts high school games for APS, and offers summer video training programs for school students. AIM and the APS stations both broadcast George Mason distance learning courses. The County ATV and APS TV stations both broadcast Board meetings. The County and APS should consider conducting an in depth study for opportunities to reduce redundant systems and duplicate activities to reduce capital and operational costs and take advantage of the benefits of sharing high quality equipment, etc. Thus, there is possible overlaps to review in terms of types of activities as well as program content.

There may be other programs to consider, but pursuit of these areas could result in very substantial savings. This might most notably eliminate the need for additional Middle School or High School facilities. Year after year there has been limited action in these potentially promising areas where services could be enhanced and cost savings achieved.

Signed,   Signed,

Joseph N. Pelton   Frank Jazzo
Chair, IT Advisory Commission   Vice Chair, IT Advisory Commission

CC: Arlington County Board members
           Arlington County School Board members

A World Class Broadband-Based Virtual High School, Pre-College and Adult Educational Network
December, 2013

By Joseph N. Pelton, Chairman of the IT Advisory Commission, Arlington, Virginia and member of the Arlington County Joint County-Schools Working Group on Information Technology Systems (JCSWG-ITS)

Introduction

Arlington County and the Arlington Public Schools (APS), in particular, are faced with a burgeoning population of students that is currently creating a challenge for accommodating students in the primary and middle school population, but soon this swell of students will be creating accommodation needs at the high school level. Rather than seeing this as problem of perhaps building a new $120 million plus high school, perhaps this can be seen as an opportunity to substitute broadband links (and especially the new Connect Arlington IT infrastructure) to enrich the educational experience of Arlington high school population. Such a capability could also support Arlington Adult Education needs and expand capabilities here as well. In short can Arlington make lemonade out of lemons by using its new fiber optic network to enhance Arlington's public school educational opportunities.

Finally this might not only serve to respond to a burgeoning student population, but actually improve the quality of education for all types of students in Arlington. By integrating in-class offerings with new virtual educational offerings, can we expand the opportunity of students to obtain college class credits and new types of off-site educational experiences. In short can innovative use of Connect Arlington, on-line college course offerings, and new types of educational partnerships with Virginia Hospital, internships with high-tech businesses actually expand educational opportunities and perhaps provide a very real economic bonus to the parents of Arlington students.

A serious examination of new ways of providing supplementary educational experiences to Arlington high school students actually provide a true win-win-win opportunity for the community, i.e. more college credits, exposure to world class instructors, less expenditures on bricks and mortar but higher quality education. One might assume that use of virtual-education techniques will deny students the possibility of social interaction, participation in sports or other forms of socialization. Good planning and scheduling can overcome such concerns. Possibilities might include half days in class rooms and half days with virtual education offerings—for selected students. Perhaps off-loading of only 25% of class-room desk days might eliminate the need for the construction of a new High School. The "formula" for meeting this type of space accommodation formula might include taking of college credit virtual education courses, for credit "internship" courses at Virginia Hospital, high-tech companies, research labs and governmental agencies, as well as on-line laboratory courses in such areas as in foreign languages, and yet other alternatives.

There are many possibilities here to be considered and the availability of the new fiber optic broadband network known as Connect Arlington could be a new tool that could help allow the community to realize the potential of this tool for expanded education and health care as well. The prime focus of this student would be for APS students, but adult education options could clearly be identified for the future as well.

The concept would be to use the existing physical and intellectual capabilities of local universities and colleges, hospitals, other Arlington County facilities, and tele-educational networks across the State, the national and even the world in order to offer high quality tele-education programs as well as "off-site" educational offerings such as for credit advanced educational and training internships. Some of these courses could be college-level credit offerings in partnership with Northern Virginia Community College, George Mason, George Washington University, Virginia Tech, University of Virginia, Marymount, as well as on line offerings from many other universities and tele-education resources as well. These might include the Kahn Academy, K12, the New York State Virtual Learning System (VLS), the Minnesota State blue-sky system, and many other possibilities. Other offerings might not only be traditional K-12 educational courses, but also training in trade education as well. All types of innovative offerings should be examined such as use of suitably equipped Arlington County facilities or at other premises such as the Virginia Hospital Center, the National Science Foundation or other Federal Agencies, corporate-based auditoriums, computer and simulation facilities, etc. The objective would be to find a way to offer quality courses led by outstanding high school, college or university instructors that would be able to use existing facilities in Arlington or other suitable locations that can be reached via Connect Arlington or inter-linked broad-band communications networks beyond that can take us to the on-line courses of MIT, Stanford University, and so on (i.e. broadband networks such as Lambda rail, the Virginia State network, DC Net GINI, etc.)

Proposal

The concept is to set up a study team of 10 to 15 people involving Arlington County and School officials as well as other relevant personnel from pertinent universities, Virginia Hospital, the Arlington trade center, pertinent corporations, as well as telecommunications and tele-education experts to see if a suitable concept could be devised so as expand existing pilot virtual learning and e-textbook programs so as to accelerate these options and offer new tele-educational courses to thousands rather than hundreds of APS students as well as possibly developing new options for adult education enrollees. Specific objectives for the study team that would complete its initial studies within 3 months' time from the start of their efforts.

a.   Enrich Arlington high school students' education offerings and perhaps extend their ability to earn college credits or useful trade skills, or for-credit "high tech" internships;
b.   Devise tele-education course delivery schedule concepts that allows all students the chance for significant actual in-class and sports participation
c.   Improve and expand adult educational offerings in Arlington;
d.   Allow suitable existing facilities to be re-purposed for educational purposes;

e.   Eliminate the need to create new APS facilities that may not be needed in future years particularly after peak population levels of students have subsided

f.   Achieve cost savings while actually increasing educational opportunities (including college-credit courses.)

The study team would be charged with examining:

(i)   How difficult might it be to establish a complete Virtual Learning Environment within the APS?

(ii)   What are the proven approaches and best practices now in used? One might study the experience of the Kahn Academy, K12, Blue-sky in Minnesota, the VLS of New York State, The Open Mind University in Denver Colorado, PBS, the Knowledge University, local universities, and local virtual high schools?

(iii)   What guidelines should be used for selecting or allowing students within the APS system to participate? (Rather than "enforced participation", a program that is voluntary and perhaps limits eligibility to competitive testing or selected after active application.

(Iv)   What challenges need to be overcome to implement such educational and training programs for APS students as well as APS teachers, administrators, and school transportation systems? Can students be enabled to take such courses on a flexible time basis and outside of normal school hours (i.e. on a 24/7 basis as long as enrolled under APS procedures and with an assigned advisor)? Can courses for college credit be equated to grades for advanced placement credit? Likewise, what challenges need to be overcome to implement such educational and training programs for adult educational programs provided both by APS as well as Arlington County? And if these challenges are less complex and involve minor costs could or should these programs proceed independently of each other.

(v)   What potential partners could assist (and should be recruited) for implementing such programs?

(vii)   How might the specific issue of "coaching" of parents, volunteers and professionals be best addressed for all such programs?

(viii) How can one best estimate the start-up costs and benefits of such a virtual educational program, either for the Arlington Public School and for Arlington County, and does the special resource of Connect Arlington truly provide best value and economic gain to such a program?

Report of the Arlington County Joint County-Schools Working Group (JWG)
on Information and Communications Technology (ICT) Systems

December 2011

The concept of a joint coordinative group to discuss cooperative relationships and opportunities for new efficiencies between the County Government and the Arlington Public Schools has been under discussion for at least three years. In late 2010, then Arlington County Chair Jay Fisette urged that a terms of reference for such a joint coordinative group be devised and agreed by year-end 2010. This idea, however, took a bit longer to gel and it was not until May 28, 2011 that terms of reference for this ad hoc coordinative group were agreed. Since that time there have been five meetings: June 13, July 12, Sept. 21, Nov. 8th and Dec. 12th in 2011. Participants have included Jack Belcher and Rob Billingsley of the Dept. of Technology Services, Joseph N. Pelton and Frank Jazzo of ITAC, Salah Khelfaoui and Matt Smith of APS and David Presson and Laura Young of the APS Advisory Committee on ICT Systems

On the positive side we can report progress on several fronts in terms of County-Schools cooperation in the IT arena. The following results can be reported.

a.   Joint Network Operations Center (NOC) for Arlington County and the Arlington Public Schools (APS). This facility is now operational and both the County and the APS are populating this secure facility, i.e. the NOC, with telecommunications switching and IP routing equipment. The creation of this joint facility has proceeded smoothly and there have been no major problems in completing and starting up this new operation. Cost savings over time are expected. An MOU still remains to be signed between the County and the Arlington Public School system. Once this is in place the implementation should proceed more quickly.

b.   The APS-Arlington Wireless System. This newly branded system "APS-Arlington Wireless-Filtered for Arlington's youth" is now fully operational. This new capability in joint County-School facilities started from the first meeting of the JWG. Computers and a wireless system to provide new access to students and visitors to joint County-School facilities are now fully operational at five sites. These sites are: Carver, Drew, Gunston, Langston-Brown and Thomas Jefferson. Usage has been immediate. The staff at all the affected sites appears to be very pleased with this innovation. Staff report modest incremental costs and expanded use of existing facilities. The use has been sufficient enough that additional computers may be installed at several of the sites in coming months.

c.   Better Understanding of the Limitations to Consolidation of County and School Computer and IT Systems, Networking and Software. Initial discussions indicate that because educational institutions are able to receive substantial discounts and "deals" from computer and software suppliers, that consolidation and integration of procurement for either computer hardware or software is really not a cost effective strategy. County operations, because they are not educational applications, are not able to qualify for these discounts and thus the reciprocal approach to procurements also would not work. In short, it is now clearer what the limits are in terms of consolidation of procurements.

d.   E-Waste and Computer "Re-Purposing", Recycling, Renewal and Disposal.   This area has been discussed and it is clear that both the County and Schools have active and well-conceived programs for the re-purposing, renewal, disposal and recycling of computer and related equipment. There are some limited opportunities for transfer of "used computers" between the County and the APS that are being explored with regard to programs that seek to make sure that all Arlington students have computer and network access. In short, such opportunities are being explored but there do not appear to be any significant changes of policies and processes in this area.

Overall Conclusion and Recommendations: There are many other key issues where discussions of joint cooperation between the Schools and the County are still needed. The Joint Working Group, as presently constituted, is not really the ideal forum for this to occur. Instead a series of direct and periodic meetings between the County (i.e. Jack Belcher and the DTS staff) and the School's IT unit (i.e. Saleh Khelfaoui and his staff) could meet and address key issues of mutual importance. These issues would include such items as the future of I-Net and C-Net, continuity of services for the county and school IT and telecommunications systems, emergency communications and disaster recovery issues, and possible cost sharing and cost reductions through new technological innovations or shared capabilities. We thus advise that the JWG suspend meetings for several months or perhaps for a year. This would allow time to see if direct, scheduled and frequent interchanges between the APS and the County staff in the IT and telecommunications areas can produce the expected results and dividends. No later than January 2013, there would be reconsideration as to whether the JWG should be reconvened or if the direct talks and cooperative actions have served the desired purpose.

In summary the areas that we feel should be slated for these direct ongoing cooperative meetings could productively include the following:
i.   Emergency Communications and Disaster Recovery Capabilities
ii.   Future Telecommunications Goals (Broadband and Wireless) (I-Net, C-Net and beyond)
iii.   Lambda Rail (Internet 2) and University Collaboration Opportunities
iv.   Cyber Security and Continuity of Operations
v.   Future areas of standardization, and consolidation to increase capacity of both the County and Schools
vi.   Potential areas of consideration to realize economy, efficiency and sustainability of ICT operations.