

**EDU2011 Pilot Program Application**  
**RE: WC Docket No. 10-222**  
**Vancouver Public Schools**  
**P.O. Box 8937, Vancouver, WA 98668 USA**

**Section #1 – Required Information for All Applicants:**

1. Vancouver Public Schools is a K-12 public school district in Vancouver, Washington currently in the midst of a pilot program (the “Jason Lee 1:1 Computing Pilot”) that utilizes small wireless laptops at Jason Lee Middle School at the sixth grade level.

a. The description of the pilot as contained in the pilot implementation/evaluation model (included in this application packet as Attachment #1) is as follows:

“Description: Pilot the use of a 1:1 computer to student model with laptops and education/productivity software to include Cognite, Expert 21, Open Office and Smart Synch in order to explore the measureable and observable impact on student achievement and engagement within the technology enabled classroom. The pilot will also consider the impact of 1:1 computing on teacher productivity, instructional strategies, and communication. In addition, in order to fully explore the benefits of technology-enabled extended learning in Vancouver Public Schools, different solutions for providing at-home wireless access will be identified and evaluated through the pilot.”

The pilot is centered around use of a web based content management system (what we call a online learning space) that allows teachers to manage and deliver rich interactive instructional content to students. The system includes integration of web 2.0 collaborative technologies, and allows teachers to target learning at the class, group, and individual level. Students can access lessons, resources, and assignments via this web based interface, and can turn in assignments and participate in interactive lessons like discussion groups within the online learning space. This model, therefore, requires greater access to computer resources than is normally available in a typical classroom environment without 1:1 computing.

Concurrent to the introduction of online learning space software and the 1:1 mobile learning devices, Jason Lee middle school also received a new on-campus 802.11 N wireless network with the capacity to support robust use of the laptops with a variety of educational resources, including video.

In an effort to extend the learning day and make these on-line assignments and interactive resources available to students when they leave school, we have planned to incorporate an at-home Internet access model into the pilot. Not all of our students have, or can afford, home Internet connectivity, or have parents with the technical ability to connect the school laptop to their existing home connections. We therefore purchased the laptops with dual

WiFi/WiMax wireless cards to facilitate future WiMax connectivity to the internet, and thus the online learning space, when off-campus.

It should be noted that the intent of the pilot, as well as others currently in progress in the district, is to investigate technologies and solutions that can scale toward a district wide deployment model. In this context, our main challenge has been to identify a connectivity solution for off-campus use that could be cost effective in a wide scale deployment. The funding being evaluated by the EDU2011 Pilot program, therefore, could provide a cost effective vehicle to purchase these services moving forward.

b. Specific planning for the Jason Lee 1:1 Computing Pilot began in April of 2010 with the selection of the school and grade level to receive laptops and upgraded wireless capabilities. The district had been researching mobile learning platforms and on and off campus wireless systems for quite some time before initiation of this specific pilot. Additional timelines are as follows:

- July 2010 – Wireless System testing & selection
- August 2010 – Laptops Ordered
- September 2010 - Teacher training on the Cognite online learning space software and other associated software and hardware
- October 4<sup>th</sup> 2010 – Laptops deployed to Students
- Fall 2010 – Ongoing monitoring of curricular and logistics impacts in the classroom
- Winter/Spring 2011 – Phase II – Take home of laptops allowed with WiMax connectivity support

The mobile learning devices in use by the sixth grade students at Jason Lee Middle School are:

- Lenovo x100e 11” laptops equipped with dual mode WiFi/WiMax wireless cards

c. WiMax has been selected as the most likely and affordable resource available for off-campus connectivity for Vancouver Public Schools for the following reasons:

- As part of the Portland (Oregon) metro area, we are one of the first cities in the country to receive comprehensive city wide WiMax coverage. The entire service area for Jason Lee Middle School currently has WiMax coverage available.
- As stated above, not all students have access to the Internet at home. The installation of wired connectivity in students’ homes would be extremely costly
- Troubleshooting of a WiMax wireless connection can be accomplished on campus during school hours. Providing assistance to students connecting to wired or WiFi based solutions at home would likely require some level of after hours customer support.
- A Metro-wide WiMax solution provides anywhere anytime connectivity, so students can be productive on the bus or anywhere they have time, not just at home.
- The existing one to one laptops include a WiMax adapter, which can easily be enabled and configured remotely with existing workstation management tools. It is anticipated that the transition from campus WiFi connectivity to off-campus WiMax connectivity will be seamless for the end users and require no action on their part.

d. Teachers and students have already received training on the use, care, and handling of the mobile learning devices and the online learning space tool. Parents have been introduced to the program at parent night activities during the fall semester. The “Take Home” phase of our pilot would include one or more parent orientation events that will cover expectations on the use and care of the laptops. Because use of the WiMax card will be transparent to the student users, there will be no special training required for the off-campus wireless aspect of the take home program beyond an orientation during regular class hours.

e. The “Jason Lee 1:1 Computing Pilot” is not currently integrated with initiatives from agencies outside of Vancouver Public Schools

2. The current poverty levels (and accompanying E-Rate discount levels), as measured by eligibility for the free or reduced price lunch program, for both the school and district are as follows:

- Jason Lee Middle School – 65.21% eligible for NSLP (80% Discount)
- Vancouver School District – 50.74% eligible for NSLP (73% Discount)

3. Both the School and District have insufficient funds available to support an off-campus wireless initiative at this time. The current economic downturn has caused the Governor of the State of Washington to direct all State agencies to reduce spending in the middle of the fiscal year. Currently, Vancouver Public Schools is facing an unprecedented mid year budget cut of \$1.2 million dollars that has stalled plans for implementing the off-campus access component of the phase II take-home program.

4. To date, the following funds have been committed to the existing “Jason Lee 1:1 Computing Pilot”:

- \$80,000.00 128 Lenovo x100e laptops and associated hardware
- \$35,000.00 Jason lee MS 802.11N Wireless network
- \$4,500.00 Student Portal Platform Server
- \$1000.00 Classroom Management Software
- \$4,500.00 Staff Development & Training

The additional costs necessary to implement off-campus wireless access in support of the phase II laptop take home program for 128 laptops are estimated to be:

- \$12,800.00 per year (based on \$10.00 per month for 10 months each)

Based on the district’s 73% E-Rate discount rate, this cost will be reduced to \$3,465.00 if we were to receive funding through the EDU2011 pilot program, a savings of \$9,335.00 per year.

6. If, based on positive results from the EDU2011 pilot, the FCC were to add off-campus wireless connectivity to the standard eligible services list in future funding years, and Vancouver Public Schools were to move forward with a comprehensive mobile learning rollout at the secondary level (a project that would require new local voter approved levy funding being considered in the future),

the discounted cost to provide off-campus wireless connectivity for our 11,465 secondary students (grades 6-12) would be \$309,000.00 as compared to \$1,146,500.00 without the discount, for an annual savings of \$836,945.00. The availability of this savings would greatly impact the district's decision to move forward with such a project.

7. The projected costs above are based on a \$10.00 per month "Clear" WiMax unlimited bandwidth access package currently available to education and non-profit entities through "Mobile Citizen" ([www.mobilecitizen.com](http://www.mobilecitizen.com)). Mobile Citizen has discounted access available as they are one of the original Educational Broadband Service (EBS) licensees for the electromagnetic spectrum used by Clear Wireless.

Other options for providing off-campus or at home internet connectivity in support of a take home mobile computing program are:

- Cable - Typical cost of \$42.95 per month for base Internet plan after introductory period (current rates from Comcast website 12/2/2010)
- DSL - Typical cost of \$40.00 per month without bundled home phone service after introductory period (current rate from Qwest website 12/2/2010)
- 3G Cellular Service – Typical Cost of \$20.00 per MB per month (current rate from Verizon website 12/2/2010)

8. Vancouver Public Schools "Jason Lee 1:1 Computing Pilot" is part of a comprehensive "Design II Strategic Plan" initiated in 2008, which includes a goal focused on investigating and implementing Flexible Learning Environments in support of education in the 21<sup>st</sup> Century. Vancouver Public Schools currently has eight individual technology pilots in process to explore the use of 21<sup>st</sup> century learning tools that engage students, positively impact student learning, and prepare students with skills they will need within and beyond their K-12 experience. Foundational pieces of this plan are an online learning space, wireless access, and one-to-one mobile solutions.

- A chart outlining the eight Flexible Learning Environments pilots is included with this application as Attachment #2.
- A Flexible Learning Environments "Plan on a Page" is included as Attachment #3
- A Flexible Learning Environments "Work Plan" is included as Attachment #4
- An Executive Summary of Vancouver Public Schools "Design II Strategic Plan" is included as Attachment #5

9. Vancouver Public Schools has a comprehensive workstation management infrastructure used to set security and other settings on all district workstations. We would use this capability to force proxy settings on all mobile learning devices that will cause Internet traffic to route through our existing CIPA compliant Internet filtering systems, even when connected through public Internet networks. Student laptop users would not have the workstation access rights necessary to circumvent these proxy settings.

10. Vancouver Public Schools has existing technology ethics policies and regulations that govern students' use of VPS computers and networks. These policies would apply to use of VPS owned laptops whether used on or off campus. Additionally, as all Internet access activities are logged by the filtering systems described in section 9, above, Vancouver Public Schools would make use of

existing reporting and review processes to identify and mitigate potential abuses of these policies and regulations.

## **Section #2 – Required Information for Schools Only**

1. Jason Lee Middle School is located at 8500 NW 9th Ave., Vancouver, WA 98665
2. Vancouver Public Schools (FCC Entity#: 145370) is filing this application on behalf of Jason Lee Middle School (FCC Entity#: 116378)
3. Vancouver Public Schools is a public K-12 School District in the Portland/Vancouver metro area serving approximately 23,000 students in 37 traditional and specialized school facilities. Some additional facts include (based on 08-09 school year unless otherwise noted):

- Minority students as percentage of total enrollment 27%
- Students enrolled in English Language Learner program 8%
- Students with a home language other than English 18%
- Number of different languages spoken by students 81
- Students eligible for free- or reduced-price lunch 50%
- Student enrollment stability (percent in district for the entire year) 89%
- Students receiving special education services 13%
- Gifted students enrolled in Challenge Program 4%
- Students participating in summer programs 2,000
- Schools that offer extended day activities 100%
- Students enrolled in magnets and programs of choice 1,647

Jason Lee Middle School serves approximately 775 sixth through eighth graders. In early 2010, Jason Lee was designated as a Tier II school, defined under federal “No Child Left Behind” guidelines as “persistently lowest-achieving secondary schools that are eligible for, but do not receive Title 1, Part A funds”. In response to this designation, Jason Lee Middle School has been included in the school district designed “Opportunity Zone Schools” initiative, which aims to increase parent and community involvement, ensure high-quality instruction, and extend the school day and year for students in schools highly impacted by poverty. Jason Lee was selected as the site for the 1:1 mobile learning pilot partly in response to this designation.

4. The 1:1 mobile learning pilot is currently deployed in three sixth grade classrooms at Jason Lee MS (three teachers and 92 students). There is a fourth set of 30 laptops in a check out cart configuration for use by other sixth grade classrooms at the school (there are 7 total sixth grade classrooms). As utilization of the mobile cart has been low, we intend to permanently deploy this cart to a fourth classroom as the pilot continues into the next school year, so the funding effected by this pilot will directly impact 4 teachers and approximately 120 students.

The curriculum objectives for the 1:1 mobile learning pilot are detailed in the pilot implementation/evaluation model document submitted as Attachment #1, summarized here:

- Increased integration of technology in teaching and learning
- Increased access to learning plans and resources through the student portal
- Increased opportunities for personalized learning using 1:1 devices
- Increased student engagement and responsibility for learning

5. The “Jason Lee 1:1 Computing Pilot” pilot implementation/evaluation model (Attachment #1) also includes the data collection plan in support of determining pilot outcomes. Specific data collection activities will include:

- Instruction: Anecdotal collection of records relating integration of individualized instruction; student survey
- Communication: Teacher/Student/Parent survey and focus group
- Learning: Scholastic Reading inventory (SRI) and Measures of Academic Progress (MAP) Reading Assessments; GPA; 6 trait writing scores for district writing prompts; Teacher/student survey
- Student Performance: Attendance; Curriculum Based Assessment (CBA) - Percent completed (Social Studies); Teacher/Student/Parent Survey

### **Section #3 – Current E-Rate Status and Plan**

Vancouver Public Schools has not yet entered into an agreement for future off-campus wireless service associated with the Jason Lee 1:1 Computing Pilot. For this reason, we are submitting an E-Rate form 470 with the SLD for the 2011 funding year seeking solicitations for this service. We will subsequently be filing a corresponding E-Rate form 471 following all normal requirements and procedures as if this EDU2011 related service were an application for a standard eligible service.

### **Section #4 – Description of Additional Funding Guidance Sought of the FCC/SLC**

Vancouver Public Schools is interested in investigating an innovative funding model to help defray the costs for providing off-campus wireless service to student 1:1 mobile learning devices. Please note that the above application to participate in the EDU2011 pilot program in no way depends on the funding model proposed below. However, we do believe that this proposal has merit as a vehicle to maximize available funding. An opinion and additional feedback regarding this proposal from the FCC would be appreciated.

The discounted WiMax service available to Vancouver Public Schools as an education entity (through Mobile Citizen), when combined with the potential E-Rate discount (if this program were to gain standard adoption) could give us access to the service at a truly remarkable rate in the neighborhood of \$3.00 per device per month. Even at a rate this low, however, the school district may only be able to afford to provide this service to those families most in need. We would like to use our buying power, however, to insure that every family who needs the service has access to it at this same discounted rate. In effect, we would like to procure the service on behalf of all families who would like access to it, then recover that cost in the form of an access or activity fee from those families not subsidized by the district.

The proposed model is as follows:

- VPS would enter into an agreement to provide off-campus WiMax wireless service for district provided 1:1 mobile learning devices for students in the district who opt to participate and receive the service.
- VPS would apply for E-Rate funding for the service (if off-campus wireless were to be added as a standard eligible service)
- VPS would provide this Service free of charge (at the district's expense) to all participating students who are eligible for the NSLP school lunch program.
- For those participating students who do not qualify for the NSLP program, we would assess an (estimated) \$30 annual fee to cover their portion of the overall WiMax service.

This fee would be charged much like any other athletic or club activity fee, and would not be required of any student who did not want or need it. Without access to the WiMax service, all district provided 1:1 mobile learning devices would still be able to connect to existing home networks via either a wired or WiFi connection, and to public WiFi hotspots.

This plan would allow the district to provide off-campus connectivity to all students who need it in a way that maximizes available district resources. The goal is to allow families not receiving the service at the district's expense to take advantage of our buying power and educational discounts to access a rate significantly lower than available to them on the open market.

We believe that this plan is fair and equitable for all district patrons, but understand that a 'charge back' to families who can afford it may be an issue of concern for a service receiving E-Rate assistance. The district would therefore appreciate it if an opinion on this plan could be offered as a separate issue from your consideration of our EDU2011 pilot application.

We appreciate any feedback or guidance you can offer on this matter.