REPORT TO THE LIBRARY BOARD

MEETING DATE: DECEMBER 15, 2011

Session:	Public Session
Subject:	Internet Bandwidth and Wireless Network Report: Additional Information
Prepared By:	Susanna Hubbard Krimmer, Tom Travers, Margaret Mitchell
Presented By:	Susanna Hubbard Krimmer
Purpose of Report:	For Receipt ☑

Recommendation:

It is recommended that the Library Board receive this report.

Issue/Opportunity

The *Internet Bandwidth and Wireless Network Report* were received by the Library Board at its meeting of November 24, 2011. See Appendix 1 for this report. The Board requested, by motion, that:

> *Administration provide additional information on the wireless network, patron authentication and how the service will be managed for early 2012.* (L11/89)

The purpose of this report is to supplement the information provided in the previous staff report by giving additional background information pertaining to:

- Patron authentication in general and on the wireless network;
- Wireless network management; and
- Patron privacy as it relates to authentication.

Background & Review

Patron authentication on the wireless network and bandwidth management software are tools which will be used in combination to manage the wireless network and bandwidth resources and to ensure ongoing equitable access to these resources by patrons and staff.

Patron Authentication

Patron authentication is currently required on Library public computer workstations. With the Library's current solution, users provide a valid patron registration identification number (library card barcode number) and PIN. Patron authentication is a tool which:

- Gives patrons equitable access to the Library's limited number of computer workstations by providing access to reservable blocks of time;
- Gives users the convenience of making on-line computer reservations;
- Holds a user accountable for his/her use of library computer hardware, software and related equipment and for adherence to the LPL *Computer Use Policy*;
- Holds a user responsible for appropriate use of LPL's Internet Service and for adherence to the LPL *Internet Service Policy*, e.g. not using the Internet for illegal purposes; and
- Enables the Library to take action on inappropriate use of LPL resources and violations of Library policy, within the context of privacy legislation and LPL policy and protocols.

Wireless Network

As shown by the statistics presented in the *Internet Services Policy Review Report* in November 2011, it is estimated that by the end of 2011, patron activity on the wireless network will account for almost 20 % of annual Library computer uses by the public.

Increased use of the wireless resource has highlighted the need for a comprehensive managed solution. For example, patrons who consume substantial amounts of bandwidth on the wireless network, at a branch location over a particular period of time to down load electronic content/files, software or view streaming video can significantly impact the performance of this Internet resource and network connectivity for a branch or system as a whole. This impacts the overall quality of service to all patrons as well as staff operations on library internal systems (applications/ VOIP phones).

Currently there are no patron restrictions on bandwidth usage, types of Internet-based applications or length of session.

The Library is in the process of installing bandwidth management software to monitor network (bandwidth) traffic. This software will provide detailed metrics on bandwidth consumption and in-depth real-time view of network traffic. This information is required to deal with projected exponential growth in the use of the wireless service from both customer service and budgetary/resource allocation perspectives.

The *Internet Service Policy* and the *Computer Use Policy* govern the use of the wireless network. The ability to see and understand network activity, applications, content and users is also critical in order to apply these Library acceptable use policies.

Patron Authentication and Wireless Network

Applying a patron authentication technology solution to wireless users, along with the bandwidth management solutions, will help to ensure that all computer network access and Internet use provided by the Library will be managed as consistently as possible in terms of patron and Library accountabilities and access.

Patron Privacy

The London Public Library is governed by the *Municipal Freedom of Information and Protection of Privacy Act, (*MFIPPA) (R.S.O. 1990, CHAPTER M.56) which sets out clear directives in term of the collection, use and retention of personal information in the custody and control of the Library. Furthermore, it details the limited conditions under which personal information can be disclosed. The Library's *Access to Information and Protection of Privacy Policy* (M-05) is aligned with the privacy practices required by MFIPPA. The LPL policy outlines specific details of the application of the Act in terms of services and operations of the Library.

Protocols for the collection, use and retention of personal records acquired through the patron authentication process for the wireless will be established in order to assure adherence to the legislated requirements.

REPORT TO THE LIBRARY BOARD

MEETING DATE: NOVEMBER 24, 2011

Session:	Public Session
Subject:	Internet Bandwidth and Wireless Network Report
Prepared By:	Susanna Hubbard Krimmer, Tom Travers, Margaret Mitchell
Presented By:	Susanna Hubbard Krimmer
Purpose of Report:	For Receipt ☑

RECOMMENDATION:

It is recommended that the Library Board receive this report.

ISSUE/OPPORTUNITY

The purpose of this report is to provide information to the Library Board regarding:

- Allocation of London Public Library (LPL) Internet bandwidth resources; and
- Administrative decision to introduce "patron authentication" on the LPL wireless network and timelines for the implementation process.

The provision of public access to the Internet and to wireless capability supports LPL in achieving its mission to connect people to information, collections and technology though relevant, accessible and high quality services. The importance of Library Internet Service to people in the community is demonstrated by the fact that use of LPL's Internet bandwidth is in great demand and has increased exponentially over the past few years. This is a result of increased demand for and use of on-line library resources, such as full-text magazine, ebook and other database subscriptions, and patron use of the wireless network. The public's use of the Library's wireless network has also grown exponentially since it was introduced in 2006.

From a customer service perspective, the heavy use of both the Internet bandwidth and the wireless network needs to be monitored and managed in order to ensure that LPL:

- Provides equitable access to finite library resources for all library users; and
- Facilitates responsible use of library resources by the public.

From an organizational and financial perspective, the recent exponential growth in use requires that LPL develop and implement service solutions, implement effective processes, and optimize resource allocation to manage resources within the funding envelope.

BACKGROUND & REVIEW

Monitoring and Management

Internet bandwidth is a valuable resource of LPL as it is the backbone that supports LPL on-line services as well as patrons' use of the Internet. The Library acquires resources for use by the public which are accessed through the Internet bandwidth. This includes in-house and remote use of:

- LPL's catalogue to locate materials and place holds;
- LPL's website to find information about library services and links to information resources including resources on the web;
- LPL's interactive services, such as online renewal of borrowed items and program registration;
- Subscription databases, e.g. full text magazine databases;
- Downloadable books;
- ebooks; and
- Learning software.

In addition, the public utilizes Internet bandwidth, through library workstations and the wireless network for activities such as social networking, downloading files and email.

Current Opportunity/Challenge

This combined usage of Library computers and wireless connectivity has put pressure on available Internet bandwidth. If the current trend of exponential increase in the use of these services continues, and LPL does not increase its bandwidth, high use may result in a degradation of the quality of service in the near future.

The London Public Library's Internet bandwidth is purchased from LARG*net, a non-profit organization, housed at the University of Western Ontario, which manages a communications network serving a number of non-profit and public sector Internet service providers in the City of London. LPL has been a member for over sixteen years. Through membership, the LPL enjoys competitive rates for Internet bandwidth.

LPL has increased its Internet bandwidth over the years to keep pace with requirements.

In 2010/2011, LPL increased its Internet bandwidth to 45mb at an annual cost of $37,000. It is anticipated that the LPL's current Internet bandwidth connection will need to be increased in 2012/2013 to accommodate the volume of traffic.

It is critical that the Library maximizes the efficiency of the Internet connectivity to ensure equitable access for all users of the Internet bandwidth in order to be able to ensure the continued access to valuable Library resources. IT Services will continue to monitor the Internet bandwidth usage to ensure its efficiency.

Patron Authentication on the Wireless Network

Usage of LPL Wireless Service

Wireless access through personal devices is available throughout the library system and has become part of LPL's mainstream computer access/usage.

The public wireless network was introduced as a service in the new Central Library in 2006 in anticipation of a growing demand for Internet based information and services. Since that time the wireless network has been extended to all branch library locations, except for Glanworth and Lambeth. Within the Central Library the network has been expanded to accommodate volume of use.

Table 1: Wireless Use 2008-2011

Year	Uses
2008	34,731
2009	45,943
2010	118,370
2011 (3rd Quarter actual to date)	116,674
2011 (Projected year-end total)	150,000

Wireless Internet access is only available within library hours of operation. Wireless devices, such as laptops and smart devices, currently have no restrictions on the length of session or type of applications that can be used to access the Internet.

Research and Analysis

Staff have been exploring ways in which to ensure that all users will continue to have equitable access to finite resources. Requiring patron authentication in order to access LPL's wireless services is the solution which best meets service and operational criteria. The use of authentication for the wireless service is consistent with the requirement to authenticate in order to access the Internet using library computers.

LPL has surveyed other medium and large library systems in Canada to ascertain the extent of use of authentication on wireless systems.   Of those libraries contacted, about 50% of them required some form of authentication.

For the past year, LPL Information Technology Services has been identifying and evaluating new technological solutions to meet the requirements of authentication including:

- Required acceptance of an "I agree statement"; and
- Patron identification authentication linked to the patron registration record in the Library patron database.

The Library currently uses an application called "Sign Up" to authenticate users on Library workstations. Users provide a valid library patron identification number and PIN. The system verifies that the patron is in good standing and access to the workstation and Internet is provided. Signup also provides for on-line computer reservation. The Library is able to generate statistics to monitor/evaluate usage.

The wireless network will work the same way but require different software which will work with the Library's Innovative Interfaces Inc. Millennium integrated library system software.

Policy Context

Public computer workstations using LPL's wired network are governed by the *Computer Use Policy* and the *Internet Services Policy*. Access to specific content on the wireless network is addressed therefore in the *Internet Service Policy* Review. The LPL wireless service is also subject to all relevant Library policies such as the *Charter of Library Use*, *Rules of Conduct*, etc.

In addition, the Library has legislated responsibilities as an Internet service provider (ISP), under Statutes of Canada 2011, Chapter 4: *An Act respecting the mandatory reporting of Internet child pornography by persons who provide an Internet service*.

LPL administrative staff met with an officer from London Police Services, Cyber Crime Unit, to provide information about and receive comment on the authentication process being considered and to ensure that protocols are in place, current and documented so that immediate and effective action can be taken in the event of alleged criminal activity in library space.

Sources of Funding

Acquisition of the technical hardware/software that will meet both the need to manage the Internet bandwidth as a resource and the need to implement the patron authentication process will take place in December 2011/January 2012. The source of funding for these initiatives is within the current 2011-2012 capital and operating budgets. Additional funding would be required in the 2013 operating budget for ongoing operational sustainability.

NEXT STEPS

The following are the implementation timelines with a target to "go live' on March 1, 2012:

- December-January 2012:

  - o Purchase, install and test upgrade to wireless network and connection with the III Integrated Library System;
  - o Develop and launch communication with the public regarding change in procedures; and
  - o Ensure monitoring processes are in place to assess impact of changes;

- January-March 2012:

  - o Update policy and procedure documentation; complete staff training; and
  - o Introduce authentication on public wireless network, system-wide;

- September 2012:

  - o Report to the Library Board on the impact of patron authentication with regards to the use of the wireless network.