



Hamilton

# INFORMATION REPORT

<b>TO:</b> Chair and Members Audit, Finance and Administration Committee	<b>WARD(S) AFFECTED:</b> CITY WIDE
<b>COMMITTEE DATE:</b> August 14, 2013	
<b>SUBJECT/REPORT NO:</b> Citizen Committee for Wireless Mesh Network (FCS13049) (City Wide) (Outstanding Business List Item)	
<b>SUBMITTED BY:</b> Mike Zegarac Acting General Manager Finance & Corporate Services	<b>PREPARED BY:</b> Filipe Janicas – (905) 546-2424 ext.5705 Fred Snelling – (905) 546-2424 ext.6059
<b>SIGNATURE:</b>	

## Council Direction:

Report FCS13033, Wi-Fi in Municipal Buildings and City Wide Parks presented to Council on April 24, 2013, resulted in the following recommendation from the Audit, Finance and Administration Committee being approved:

*“That staff be directed to investigate the feasibility of establishing a citizen committee to build a mesh (wireless) network and report back to the Audit, Finance and Administration Committee.”*

## Information:

The term Wi-Fi is used extensively throughout this report. Wi-Fi is the name of the popular wireless network technology that provides wireless high speed internet connectivity. The availability of Wi-Fi makes high speed access to the internet possible for anyone with a Wi-Fi enabled laptop, tablet, iPad, e-reader, game console and/or smartphone.

At the December 12, 2012, Council meeting, Report FCS09028(a) resulted in the approval of the recommendation to dismantle the Wireless Hamilton infrastructure which was providing free Wi-Fi outdoors in the downtown core and in 5 community parks. Report FCS13033 resulted in the approval to install public facing Wi-Fi in all Municipal

Service Centres and to submit a proposal to the 2014 budget for Wi-Fi in 26 Recreation Centres, Arenas and Community Centres.

The outcome from reports FCS09028(a) and FCS13033 changed the strategic direction for the implementation of public facing Wi-Fi from outdoor locations to inside City owned facilities.

Report FCS13033 also resulted in the approval of the following recommendation from the Audit, Finance and Administration Committee:

*“That staff be directed to investigate the feasibility of establishing a citizen committee to build a mesh (wireless) network and report back to the Audit, Finance and Administration Committee.”*

Staff has completed the necessary review to respond to the request from the Audit, Finance and Administration Committee.

Taking into consideration that Council approved:

- the dismantling of public facing Wi-Fi in outdoor locations;
- a change in the strategic direction for the implementation of publicly available Wi-Fi at the April 24, 2013, Council meeting through report FCS13033;
- approved the implementation of publicly available Wi-Fi in all Municipal Service Centres; and
- approved staff bringing forward to the 2014 budget process, a 3 year plan for the implementation of publicly available Wi-Fi in 26 Recreation Centres, Community Centres and Arenas,

staff determined, from this review, that it is not feasible to establish a citizen committee, at this time, to discuss the creation of a wireless mesh network with the intent of providing public facing Wi-Fi in outdoor locations.

In addition to the above, staff are recommending against the formation of a citizen committee, at this time, for the following reasons:

1. The Information Technology Division of the Corporate Services Department is working with limited staff resources. Based on the change in strategic direction requiring staff to focus on implementing Wi-Fi in City owned facilities, staff resources with Wi-Fi expertise will be focusing on the implementation of publicly facing Wi-Fi in all Municipal Service Centres in 2013. Staff will also be focusing on developing the proposal for the 2014 budget submission to accommodate the plan to implement public facing Wi-Fi in 26 Recreation Centres, Arenas and Community Centres over a 3 year period. If this proposal is approved through the budget process, staff resources will then be assigned to the implementation of this infrastructure over the next 3 years.

2. The development of a Wi-Fi network for outdoor use could require the City to provide the infrastructure for data backhaul. This would put the City in direct competition with for profit businesses operating in the City of Hamilton. The City would, by nature of the implementation, become an Internet Service Provider which is a service currently offered by a number of for profit companies.
3. The request from the public, that resulted in the recommendation precipitating this report, could require the City to cover the cost of data backhaul. This cost was a major consideration in the decision by Council to decommission the existing Wireless Hamilton infrastructure. Wireless Hamilton was incurring an annual expense of \$90,000. Of this \$90,000, the City was paying \$57,000 for data backhaul and \$33,000 for support and maintenance.

If the City were to pursue public facing outdoor Wi-Fi, developed through a citizen committee, both additional staff required for in-house support and the backhaul cost would have to be approved as part of the 2014 budget process as an operating expense.

Appendix A of report FCS13049 was included in report FCS09028(a) as Appendix B. This Appendix provides both the one-time cost and the on-going cost of a number of alternatives that were proposed to Council through Report FCS09028(a). Council did not approve an alternative outdoor location to provide a public facing Wi-Fi solution. Instead, Council approved the decommissioning of outdoor Wi-Fi and staff were asked to provide information on the implementation of Wi-Fi inside City owned facilities.

4. As discussed, during Council deliberations of report FCS09028(a), the landscape for wireless technology has changed significantly since the implementation of Wireless Hamilton in 2007. In 2012, it was estimated that 74.1% of the Canadian population now have a cell phone, smartphone, Epad etc., the majority with data plans providing access to the internet for immediate incidental data access and social networking. As proven through the Wireless Hamilton pilot, in an outdoor environment, cellular technology provides a much stronger, more reliable signal when compared to Wi-Fi with each Wi-Fi access point having a limited coverage area. Also, the Wireless Hamilton pilot indicated that use of outdoor Wi-Fi is very seasonal, with significant use taking place only 3 months of the year.

Through the City Manager's Office, the City of Hamilton will be working on two citizen engagement activities that may provide additional information on this topic. First, the City will be conducting a survey and face-to-face discussions with the public related to all City services this fall. Analysis of these results may further inform the need for public facing Wi-Fi. Secondly, the City will be establishing a committee made up of staff,

residents and other stakeholders to develop a public participation policy for the City of Hamilton. This process may also shape how we provide access to information throughout the City including access to Wi-Fi services and the importance of wireless technology for information sharing.

In summary, due to staff resources, financial implications, the citizen engagement activities and the need to focus on Council's strategic direction for Wi-Fi, staff are suggesting the City continue with the implementation of public facing Wi-Fi inside City owned facilities. Staff will continue to monitor both municipal and technology trends with regards to wireless internet services offered to the public.

# Detail Cost for Outdoor Public Facing Alternatives provided through Report FCS09028(a)

<b>Alternative 1 – Downtown Hotspots</b>					
<b>Location</b>	<b># of Access Points</b>	<b>Hardware Cost</b>	<b>Installation Cost</b>	<b>One Time Cost</b>	<b>Annual Operating Cost</b>
City Hall Forecourt	2	\$8,000	\$2,000	\$10,000	\$4,200
Jackson Square Plaza	3	\$12,000	\$3,000	\$15,000	\$4,200
Gore Park	6	\$24,000	\$6,000	\$30,000	\$4,200
Hunter GO Station	2	\$8,000	\$2,000	\$10,000	\$4,200
Pier 7 & Pier 8	3	\$12,000	\$3,000	\$15,000	\$4,200
Pier 4 Expanded	1	\$4,000	\$1,000	\$5,000	\$4,200
<b>Total</b>	<b>17</b>	<b>\$68,000</b>	<b>\$17,000</b>	<b>\$85,000</b>	<b>\$25,200</b>

<b>Alternative 2 – Downtown Hotspots and Existing Outlying Parks</b>					
<b>Location</b>	<b># of Access Points</b>	<b>Hardware Cost</b>	<b>Installation Cost</b>	<b>One Time Cost</b>	<b>Annual Operating Cost</b>
City Hall Forecourt	2	\$8,000	\$2,000	\$10,000	\$4,200
Jackson Square Plaza	3	\$12,000	\$3,000	\$15,000	\$4,200
Gore Park	6	\$24,000	\$6,000	\$30,000	\$4,200
Hunter GO Station	2	\$8,000	\$2,000	\$10,000	\$4,200
Pier 7 & Pier 8	3	\$12,000	\$3,000	\$15,000	\$4,200
Pier 4 Expanded	1	\$4,000	\$1,000	\$5,000	\$4,200
Turner Park	1	\$4,000	\$1,000	\$5,000	\$4,200
Pier 4 Park	1	\$4,000	\$1,000	\$5,000	\$4,200
Waterdown Memorial Park	1	\$4,000	\$1,000	\$5,000	\$4,200
Valley Park	1	\$4,000	\$1,000	\$5,000	\$4,200
Morgan Firestone Arena	1	\$4,000	\$1,000	\$5,000	\$4,200
<b>Totals</b>	<b>22</b>	<b>\$88,000.00</b>	<b>\$22,000.00</b>	<b>\$110,000.00</b>	<b>\$46,200.00</b>

<b>Alternative 3 – Downtown Hotspots including James Street North</b>					
<b>Location</b>	<b># of Access Points</b>	<b>Hardware Cost</b>	<b>Installation Cost</b>	<b>One Time Cost</b>	<b>Annual Operating Cost</b>
City Hall	2	\$8,000	\$2,000	\$10,000	\$4,200

# Detail Cost for Outdoor Public Facing Alternatives provided through Report FCS09028(a)

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Forecourt					
Jackson Square Plaza	3	\$12,000	\$3,000	\$15,000	\$4,200
Gore Park	6	\$24,000	\$6,000	\$30,000	\$4,200
Hunter GO Station	2	\$8,000	\$2,000	\$10,000	\$4,200
Pier 7 & Pier 8	3	\$12,000	\$3,000	\$15,000	\$4,200
Pier 4 Expanded	1	\$4,000	\$1,000	\$5,000	\$4,200
James Street North	15	\$60,000	\$15,000	\$75,000	\$16,800
<b>Totals</b>		<b>\$128,000.00</b>	<b>\$32,000.00</b>	<b>\$160,000.00</b>	<b>\$42,000.00</b>

Alternative 4 – Appropriate Coverage for Phase 1 geographic area					
Location	# of Access Points	Hardware Cost	Installation Cost	One Time Cost	Annual Operating Cost
Downtown Core	100	\$400,000	\$100,000	\$500,000	\$102,000
<b>Total</b>	<b>100</b>	<b>\$400,000</b>	<b>\$100,000</b>	<b>\$500,000</b>	<b>\$102,000</b>