



**City of Richmond**

**Report to Committee**

**To:** Community Safety Committee

**Date:** June 3, 2009

**From:** John McGowan  
Fire Chief

**File:** 09-5140-01/2009-Vol 01

**Re:** Automatic External Defibrillators in Public Places

**Staff Recommendations**

1. That the City implement a Public Access Automatic External Defibrillator (AED) program at major City public buildings.
2. That Richmond Fire-Rescue send letters to privately-owned publicly-used facilities encouraging the implementation of an Automatic External Defibrillator (AED) program.

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Fire Chief  
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<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b> 	
Budgets .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Human Resources .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Facility Management .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Law .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Recreation & Culture .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
<b>REVIEWED BY TAG</b>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<b>REVIEWED BY CAO</b>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## Staff Report

### Origin

At its November 15, 2005 meeting, the Community Safety Committee requested *that staff examine the feasibility, and ramifications, of placing defibrillators in public facilities, including schools.*

### Findings of Fact

An Automated External Defibrillator (AED) is a small, portable machine that can monitor the heart rhythms of a person in cardiac arrest and deliver a shock that can restart the heart or return it to normal rhythms. Combined with cardiopulmonary resuscitation (CPR), the use of an AED may increase the likelihood of saving a person's life by 75% or more over CPR alone.

An AED will indicate if the heart has stopped beating effectively or if the person has a shockable rhythm. If a shockable rhythm is detected, the machine can then deliver an electric shock or series of shocks to the heart. The majority of the time, this will restart the heart or return it to normal rhythms. However, if there is no shockable rhythm, the AED cannot be used; only CPR can be administered until emergency response arrives.

The Heart & Stroke Foundation recommends that AEDs may be appropriate in places where:

- People gather for work or leisure;
- Large numbers of people gather, such as workplaces, large shopping centers, or sport and recreation facilities;
- Emergency Medical Services (EMS) cannot gain access quickly (i.e. within 5 minutes) because of long distances, heavy traffic, or building layout (e.g. a high rise or a large venue);
- There are people at high risk for cardiac arrest, such as at a seniors' centre; and,
- The health of workers, clients, or community members is an organizational priority.

Recent advances with AEDs have made them safe and easy to use by lay people as long as the required training is received. The training is relatively brief and the Heart & Stroke Foundation has integrated AED training in all CPR programs. The supplier may provide the initial training; in addition, other agencies and private companies provide the training.

Community and workplace AED programs have the potential to save lives. When considering the implementation of an AED program, agencies should review the costs to introduce and sustain a program as well as the funding sources. In determining the budget to implement and sustain a viable AED program, the costs for the initial acquisition of the required number of AEDs, annual training, maintenance, insurance, equipment, annual administration and operations should be identified. The unit cost for an AED device and storage cabinet, depending on the model, is approximately \$3,000. The cost for the initial four-hour training is \$95.00 per person and thereafter an annual two-hour recertification is required at a cost of \$55.00 per person.

Many community organizations and workplaces have looked to funding sources to support their AED initiatives such as:

- Private foundations
- Local civic organizations (e.g. Lions, Kiwanis, Legion)
- Public charities
- Local corporations or industries

In December 2008, the City implemented a pilot AED program at the Richmond Ice Centre and Minoru Arenas. Although the equipment has not yet been needed, the availability of the AEDs has been widely supported by arena patrons and user groups. AEDs have also been recently installed at the Richmond Oval.

During the past few years, several major Richmond businesses have implemented their own AED programs including Richmond Centre Mall, River Rock Casino as well as YVR.

### **Analysis**

Staff recommends the implementation of a Public Access AED program in the City's major public buildings as this supports quicker critical response to victims of sudden cardiac arrest and increase the likelihood of survival and subsequent quality of life. The proposed AED program would involve the purchase and installation of 27 AED units for publicly accessible areas of the City's major Recreation and Cultural Services facilities, Libraries, Gateway Theatre, City Hall, City Hall West, and the City Operations Yard. The proposed 'Public Access' model would have AED equipment located in wall mounted storage cabinets in open locations, which would be available for use by either trained staff or trained public in an emergency. Training is specific to the AEDs and does not require CPR or First Aid certification as a pre-requisite. Similar Public Access AED programs have been successfully implemented in other B.C. communities. The Richmond Olympic Oval has a public access AED program currently in place. As part of an awareness and public education plan, the City would also encourage staff, community groups and the general public to obtain CPR and AED training and certification.

In privately owned facilities, the City only has the ability to encourage and influence the implementation of an AED program. Therefore, Fire-Rescue recommends sending letters to all appropriate facility owners, operators or occupiers to explain the benefits, direct them to the resources available and encourage the implementation of a program. Appropriate privately owned facilities that align with the Heart & Stroke recommendations include:

- Fitness centres
- Senior housing complexes
- Large high-rise hotels with banquet facilities
- Large shopping malls

In consideration of the Heart & Stroke Foundation's recommendations, Fire-Rescue does not recommend locating AED devices in public schools. The improbability of incidents requiring AED intervention during normal operating hours and the absence of staff during evening

activities does not make them viable locations for AED programs. The Richmond School District will be advised of any program that the City adopts so that they can assess the appropriateness of a similar program for their operations.

As City staff will be encouraged to participate in this program through voluntary training and response to a cardiac event all union locals will be advised of the potential staff involvement if approved.

The cost of implementing a Public Access AED program at major City public buildings is estimated at \$130,000 as follows:

Purchase & install of 27 AED units and storage cabinets	\$ 81,000
Medical oversight of the program	\$ 3,200
Staff Certification	\$ 27,000
Staff Training Costs	<u>\$ 18,800</u>
	\$130,000

The funding is proposed to come from a one-time additional expenditure request to be allocated from 2008 surplus or to be included in the 2010 Capital budget process. Annual re-certification costs for staff are estimated at \$15,000 and can be funded through Human Resources' training budget. It is also possible to spread out the costs by phasing in the implementation over 2 or more years.

The AED units have a projected lifespan of 10 years. The units require a specialized battery that has an estimated lifespan of 3 years with a replacement cost of \$300. Based on 27 units, this would involve an additional operational cost of \$8,100 every 3 years, with a budget impact of \$2,700 per year. The total cost to sustain this program would be \$17,700 annually (\$15,000 for recertification costs and \$2,700 for battery replacement).

With respect to privately-owned publicly used facilities, there would be no financial impact on the City of Richmond since private facilities that choose to implement an AED program will bear their own program costs.

#### **Financial Impact**

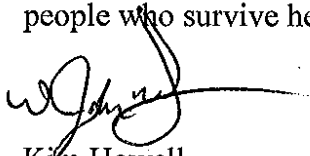
This program has an initial cost of \$130,000 and annual sustaining costs of \$2,700 both of which are unfunded.

#### **Conclusion**

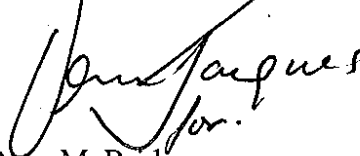
The research indicates that the use of AEDs greatly improves the survivability of a heart attack in certain patients. The importance of early intervention, including the use of an AED in combination with CPR, makes it advisable to install these devices in appropriate facilities as

recommended by the Heart & Stroke Foundation. Having AED equipment available on site for use by trained staff and public is a highly desirable, proactive step in reducing the likelihood of accidental death due to heart attack in such facilities.

As first responders to many medical calls, Richmond Fire-Rescue recognizes the benefits of AEDs. The emergency response system includes those citizens who are first on the scene before Fire-Rescue and BC Ambulance. With training and the use of CPR and AEDs, the number of people who survive heart attacks can increase.



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