

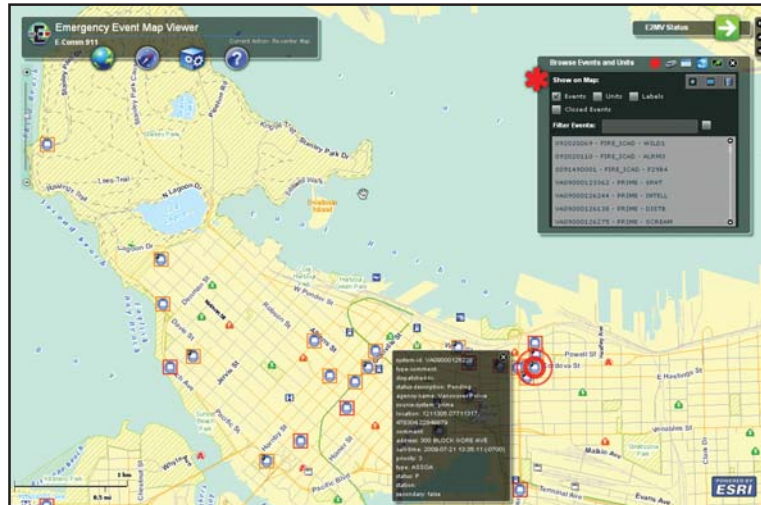
E²MV Unites Southwest British Columbia

On June 13, 1994, the Vancouver Canucks lost to the New York Rangers, leading to the infamous Stanley Cup Riot in Vancouver. While 50,000 – 70,000 sad hockey fans crowded into the downtown core to lament their team’s loss, multiple groups of out-of-control trouble-makers caused over 1.1 million dollars in damage and more than 200 injuries. This major event revealed a fundamental flaw in Vancouver’s emergency communication systems as police, fire and ambulance responders were unable to communicate effectively and respond quickly enough to the unfolding events. The identification of this inherent weakness led to the creation of E-Comm.

“Our main goal is situational awareness and consistent data sharing. Namely, the ability to provide responders with the agility and vigilance to effectively collaborate and respond to any incident despite its escalation, extent and impact.”

**Dave Hamilton,
E-Comm**

As the emergency communications centre for southwest BC, E-Comm provides 9-1-1 service to Metro Vancouver, the Sunshine Coast Regional District and Whistler/Howe Sound, while managing the region’s interoperable radio system (developed and implemented after the riot) and providing dispatch to 24 police and fire departments. E-Comm’s wide-area radio system allows police, fire and ambulance personnel from multiple jurisdictions to talk to each other. Two years ago, E-Comm’s GIS department initiated a brainstorming session to conceptualize an application that could further improve emergency services across BC’s lower mainland. After securing GeoConnections and BC Ambulance funding, E-Comm began to build a powerful Web application called Emergency Event Map Viewer (E²MV) that is capable of uniting emergency services across the entire southwest region of the province.



Emergency incidents can be viewed across the region, at the touch of a button.

E²MV leverages ESRI’s latest server technology to create a common operational picture (COP) so that current unit and incident data from a range of computer-aided dispatch systems (CAD) can be viewed from a single interface. It displays spatial data from disparate sources on a digital map that is accessed by users through a secured URL. This facilitates information sharing across multiple dispatch centres including fire, police and ambulance to support a coordinated response to incidents. The application also serves as an effective back-up tool that can be used to locate incidents and available units when main CAD systems are down for maintenance.

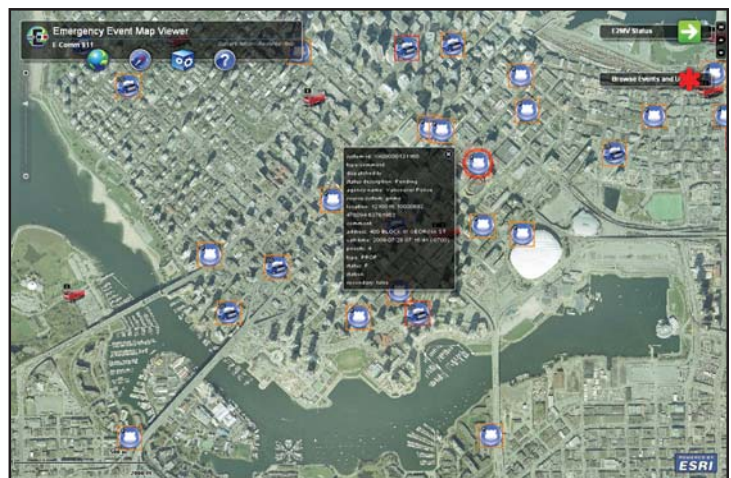
In addition to providing situational awareness and CAD back-up capabilities, E²MV also supplies an intuitive address verification process loaded with the most current street data available. The application offers cross-jurisdictional support so that if an emergency were to

take place on the border of two cities, the police, fire and ambulance dispatch centres of both cities would be alerted to the incident and able to draw from the same data to coordinate response efforts.

“In the past, dispatch centres often had a difficult time keeping up with new subdivisions and address information could quickly become out of date – a very dangerous situation,” said Dave Hamilton, Manager of Public Safety and GIS, E-Comm.

“E²MV automatically geocodes addresses and determines the responsible agency so that 9-1-1 calls can be immediately downstreamed to that agency.”

E-Comm conducted a thorough needs assessment to customize E²MV for four key user groups. Viewers include 9-1-1 queue agents whose primary task is to answer and then downstream (transfer) 9-1-1 calls to appropriate dispatch centres. These agents can now leverage E²MV as a demand mitigation tool to effectively manage capacity issues during periods of high call volume. For example, if a large number of calls are received about a car



The Emergency Event Map Viewer uses intuitive symbology to mark the location of fire and police vehicles during an emergency incident.



accident on a highway, the agent will be able to check E²MV, see if the incident has already been logged by the agency and then decide whether to downstream further calls.

Call-takers are the second point of contact for 9-1-1 callers and are responsible for gathering information from the caller and then entering it into the CAD system. In the past, when CAD systems were unavailable, call-takers used to put pen to paper to create and update incidents. E²MV replaces the pen and paper process by enabling call-takers to geocode and verify locations for the creation of new incidents. By leveraging ESRI's server technology to display incidents in near real-time, E²MV lets call-takers determine where incidents are already happening in relation to new calls coming in.

A dispatcher's main function is to manage emergency situations and to ensure that proper units are assigned. Like call-takers, they used to rely on pen and paper to manage incidents when the CAD system was down. However, through E²MV, dispatchers can now complete their core tasks through the Web application so that information is viewed in near real-time and resources are managed more effectively.

Finally, team managers that are in charge of entire dispatch teams have access to all functions available through the CAD user interface of E²MV. The Web application is leveraged by team managers as a status-keeping/overview tool that is designed to aid in overall incident management during CAD downtime.

As a result, key emergency management stakeholders can react and make critical decisions based on a set of circumstances that are presented in a geographic context. They are provided with the right information about the right place at the right time. Emergency responders also benefit from being able to view, at a glance, the location of essential resources, assets and infrastructure such as fire hydrants, water and sewer lines, power lines, communication towers, hospitals, schools and nursing homes. This data, when combined with planning and assessment data, results in relevant and actionable information.

“Our main goal is situational awareness and consistent data sharing,” explains Mr. Hamilton. “Namely, the ability to provide responders with the agility and vigilance to effectively collaborate and respond to any incident despite the escalation, extent and impact.”

Valuable data contained within E²MV can also be manipulated and pushed out to support external applications. For example, E²MV powers EmerGeo's FusionPoint solution – a Web portal that is implemented by the City of Vancouver and will be leveraged to help manage the 2010 Winter Olympic and Paralympic Games. Looking forward, E-Comm plans to continue to promote the use of E²MV through partnerships and data-sharing initiatives with other dispatch centres across British Columbia and beyond. ■