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ADMINISTRATIVE REPORT

Report Date: May 13, 2011
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RTS No.: 9198
VanRIMS No.: 08-2000-20
Meeting Date: May 31, 2011

TO: Vancouver City Council

FROM: Chief Constable and General Manager of Engineering Services

SUBJECT: Vancouver Police Department - Multi-Purpose Command Vehicle Addition

RECOMMENDATION

- A. THAT Council approve the addition of one (1) multi-purpose command vehicle to the Vancouver Police Department fleet at a total cost of \$500,000;

FURTHER THAT Council approve funding of the initial vehicle purchase by an acceptance of a donation of up to \$500,000 from the Vancouver Police Foundation.

- B. THAT the annual capital and operating costs of the vehicle be repaid to the Truck and Equipment Plant Account through annual charges of \$8,000 (reduced from \$58,900 with the donated funding applied to the capital cost of the unit), funding to be reviewed as part of the 2012 operating budget approval process.

COUNCIL POLICY

Council approves expenditures from Reserves, including the Truck and Equipment Plant Account.

Council approves all increases in service levels, including the addition of vehicles and equipment to the fleet.

Council received for information the VPD Management Process Flowchart for Vehicle and Equipment Additions (City & Donated) as part of RTS No. 06433 Vancouver Police Department Vehicles Pending Review on November 6, 2007.

PURPOSE

The purpose of this report is to add one (1) multi-purpose command vehicle to the Vancouver Police Department (VPD) fleet.

BACKGROUND

In 2007 the VPD, Engineering Services and Corporate Budgets revised the joint Vehicle and Equipment Additions Process to include donated vehicles. A copy of this process is attached in Appendix A and was submitted to Council for information as part of RTS No. 06433 Vancouver Police Department Vehicles Pending Review on November 6, 2007. When an operational review indicates that fleet additions are appropriate, staff seek approval from Council for these additions with initial capital funding provided from the Truck and Equipment Plant Account reduced by the amount of any available donated funds. Donated funds for a fleet addition are only accepted if an ongoing operational need can be demonstrated. Only if Council approves the addition of the vehicle to the VPD fleet can the donation be accepted. The VPD has an operational need for a multi-purpose command vehicle that can function as a mobile command centre at critical incidents, complex investigations, and large-scale community and special events. This need has long been under consideration, but was deferred due to perceived limitations for its use, and significant capital cost. The VPD have reviewed operations and see an on-going need for this type of vehicle to support current deployment requirements. To mitigate the financial impact of purchasing such a vehicle the Vancouver Police Foundation is donating up to \$500,000 towards the initial purchase.

DISCUSSION

A command centre is a centralized location that provides for the assembly of command staff and key logistics people and planners to coordinate and lead a response to a critical incident, major investigation or a natural disaster. It is complete with radio and telecommunications equipment, audio and video monitoring capability, computers and internet, an independent power source and other requisite supplies. A mobile command vehicle provides this capability on a vehicle platform, enabling a rapid response to events, complete control over its location, and privacy and security for the command operations.

Current Practice and Experience

Currently, when the VPD require a command centre in the field, efforts are made to establish a makeshift command room within an available public facility, such as a school, fire hall, or community centre, in close proximity to the event or incident. This solution does not meet the operational needs of the VPD, and it poses a number of logistical, operational, and security concerns.

From a logistical standpoint it is time and labour intensive to find a nearby public facility, determine its availability and then commandeer the site. Then, once a facility is secured it takes additional time to coordinate the acquisition, transportation and installation of a minimum level of required resources.

Operationally, public facilities also pose a number of challenges. Firstly the location of the facility in relation to the event can make it difficult for the command team to utilize

operational advantages such as on-scene, real-time, first-hand observations, and clear and direct communication. Secondly, the resources and amenities available at public facilities vary dramatically with varying room sizes and quantity, limited communication and data capabilities and, as stated above, a minimum level of equipment and other resources must be transported to the site. As a result the command team is generally operating with limited equipment and resources thus making on-scene, real-time command of an event more difficult. Additionally, varied equipment and resources at events makes the quick and efficient establishment of a command response more challenging as team members need to adjust to new resources and surroundings at each event.

Events that require command capability can be highly sensitive in nature, such as critical incidents (e.g. hostage taking), searches, and major crime scenes, therefore protecting tactical info and details about the event is critical to maintain the privacy and security of those involved. Further, a makeshift command centre at a public facility also increases the impact on the public who are not involved in the event, as all or a portion of the facility is closed for the command team, which may reduce services available to the public. Additionally the public in the area surrounding the facility will likely be aware of the increased police presence, potentially causing undue concern in the community.

The challenges above have become more apparent in recent years with the increase in the type, number, complexity and size of the events managed by the VPD. These events are summarized in the Utilization section below and represent significant logistical challenges to the VPD. A mobile multi-purpose command vehicle will provide a significant improvement in capabilities for the VPD by allowing ready access to the required resources, on-site situation of those resources, and instant workspace to organize and coordinate complex operations.

Utilization

The VPD has a number of events where the availability to deploy a multi-purpose command vehicle would be beneficial. Examples of deployment plans for the vehicle include, but are not limited to:

- As a remote command centre within the downtown District One. The vehicle will be used to coordinate effective deployment and policing of the entertainment district on Friday and Saturday nights, New Year's Eve, St. Patrick's Day, Canada Day, Halloween, etc.
- As a command centre for the Crowd Control Unit and the Emergency and Operational Planning Section (EOPS). The vehicle will be used to coordinate events such as parades, festivals, large sporting events, the Celebration of Light, protests, concerts, and rallies.
- As a tactical support vehicle for the Emergency Response Team. The vehicle will provide a command centre, scene lighting, camera surveillance, communications and media feeds, planning and briefing facilities, and a negotiator work space.
- As a search coordination vehicle and investigation centre for the Major Crime Section, Forensic Identification Unit, Search and Canvass Team, Missing Persons Unit, Sex Crime Unit and General Investigation Unit. The vehicle will provide a coordinator's office, filing facilities, communication centre, search lighting, mapping area, secure evidence

storage, interview room, and support materials. The vehicle will contain supplies such as ladders, tarps, and tents that can be used to preserve deteriorating crime scenes and the 30' mast camera will allow rooftop searches that previously would have been very difficult and hazardous.

- The vehicle will serve all four Patrol districts as a remote sub-station, or temporary Community Policing Centre. It can be delivered to any neighbourhood requiring enhanced crime control measures, or other serious problem that requires an enhanced police presence.
- As a mutual aid vehicle, it will augment the City's emergency management response capabilities. In the event of a civil emergency requiring multi-agency response, the multi-purpose command vehicle can assist in coordinating police efforts with other City agencies and provide direct communications with the Emergency Operations Centre. Through satellite communications capabilities, the vehicle will provide telecommunications in the event of local telephone, cellular or internet failures.
- As a flagship vehicle for the VPD the multi-purpose command vehicle will also serve a public relations purpose at community events to attract the public and open dialogue opportunities related to crime prevention, recruiting, public safety, etc.

The VPD estimates that they will use the multi-purpose command vehicle 250 times per year. An annual vehicle usage of approximately 3,000 km is expected.

Operational Requirements

The following specifications were developed for a multi-purpose command vehicle:

- **Command Room:** A command room equipped with three workstations and a slide out conference area that has planning equipment such as maps, whiteboards, and interactive Smart-boards. Additionally a communications hub, a data rack, and storage and shelving for equipment will be located in the command room.
- **Negotiator Room:** A negotiator room that is separated from the main command compartment and that has two doors; one to the vehicle exterior and one to the command compartment to allow ingress and egress to the outside and to the command compartment respectively.
- **Audio/Video and Communications Package:** Radio base station with capability for Police, Fire and Marine signals, television and data satellite receivers, television monitors, computer workstations, 30' mast camera, digital video recorder, HDTV/VHF/UHF antenna, secure wireless network, computer aided dispatch system, specialized communications equipment for negotiators, and various other equipment. Furthermore, the telecommunications equipment will be designed to connect into the new Van Phone+ system.
- **Support Equipment:** Field lighting, ladders, tents, various evidence handling equipment, and an on-board generator to minimize engine use when deployed. Vehicle to be outfitted with storage compartments to accommodate support equipment.

- ***Exterior Command Area:*** A small exterior command area with awning and external monitor. This will allow communication from the command room to the staff on the vehicle exterior in order to minimize the number of staff entering and exiting the vehicle.
- ***Ease of Use and Urban Manoeuvrability:*** Vehicle must be easily transported, located, and setup for command use. Vehicle width, length, and wheelbase should allow for easy manoeuvring on City streets, including the downtown core.
- ***Minimal Operator Licensing:*** Vehicle preferred to be operated with minimum operator licensing requirements to allow for multiple drivers, and to remove the need for additional operator training.
- ***Original Equipment Manufacturer Chassis (OEM):*** a vehicle built on an OEM chassis is beneficial as Equipment Services would be able to perform engine and chassis maintenance and repairs to minimize downtime and costs. OEMs also have a larger network of parts distribution centres compared to custom vehicle manufacturers.

Developing Practices by Other Agencies

The recognized benefits of a multi-purpose command vehicle has resulted in an ever-increasing demand for these units in police agencies, both locally and across North America, as these units support a variety of deployment requirements. The neighbouring Royal Canadian Mounted Police detachments in Richmond, Surrey, Coquitlam, and Burnaby, along with the municipal police departments in Delta, New Westminster, and West Vancouver all have command vehicles. Larger city police departments such as Seattle, Portland, Calgary, Edmonton and Toronto also have such vehicles. These vehicles range from custom truck chassis to truck and trailer combinations and each option is discussed in the Alternatives/Options section below.

Donation Opportunity

The Vancouver Police Foundation is donating up to \$500,000 for the purchase of a multi-purpose command vehicle. Though this funding is available the VPD/City Vehicle Donation Policy (outlined in Appendix A) requires that donated vehicles can only be accepted if need can be demonstrated. Only if Council approves the addition of the multi-purpose command vehicle to the VPD fleet can this donation be accepted.

ALTERNATIVES/OPTIONS

A variety of command vehicle alternatives were reviewed in the process of selecting a solution to meet the VPD's operational requirements described above. These alternatives are detailed below.

Commercial Truck Chassis

Commercial truck chassis generally result in vehicles with a longer wheelbase, as they are built for a range of weight distributions. Additionally commercial truck chassis are made in larger production runs than custom chassis; therefore, they are generally less expensive due to production efficiencies. The cost for a command vehicle of this type ranges from \$320,000

to \$500,000. Commercial chassis also generally have better parts and service availability, as there are usually a larger number of dealers available in the area. This option meets all of the operational requirements of the VPD.

Custom Truck Chassis

Custom truck chassis allow for shorter wheelbase designs as they are custom designed for the specific mounting design and associated weight distribution. This generally results in a more manoeuvrable vehicle, however, the smaller quantities produced compared to commercial chassis generally results in custom chassis being substantially more expensive than commercial chassis. The cost for a command vehicle designed on a custom truck chassis ranges from \$470,000 to \$700,000. This option meets all of the operational requirements of the VPD.

Truck and Trailer

Truck and trailer combination units allow the trailer to be transported to a site and left at the site. The truck portion is then able to perform other tasks. This option generally results in longer transport and setup times as there are fewer trailer operators and once the vehicle arrives on the scene there is additional time to decouple from the truck and stabilize the trailer. This option also has the largest physical size and does not meet the VPD operational need for ease of use and urban manoeuvrability. The cost for a truck and trailer configured command vehicle is expected to range from \$350,000 to \$500,000.

Sharing of Command Vehicles

Sharing a command vehicle or vehicles between other City of Vancouver agencies or among Metro Vancouver police organizations was also investigated. A meeting held with the VPD, Engineering, Vancouver Fire and Rescue Services (VFRS) and the Vancouver Emergency Operations Centre (EOC) to explore the option of sharing command vehicles, highlighted the high number of incidents requiring command capability and the potential difficulty in securing a command vehicle on short notice and for long durations. However, for multi agencies responses, the vehicle could be used as an on site unified command post. Further, in a true disaster scenario, the EOC would ultimately be the unified command centre, with VPD and VFRS command vehicles serving the respective departments as field command post, as defined in the Incident Command Systems used by both departments.

RECOMMENDED OPTION

Based on the analysis of the vehicle options listed above, a dedicated truck mounted multi-purpose command vehicle is the best vehicle selection for the VPD. The figure below shows a likely configuration of the VPD multi-purpose command vehicle.

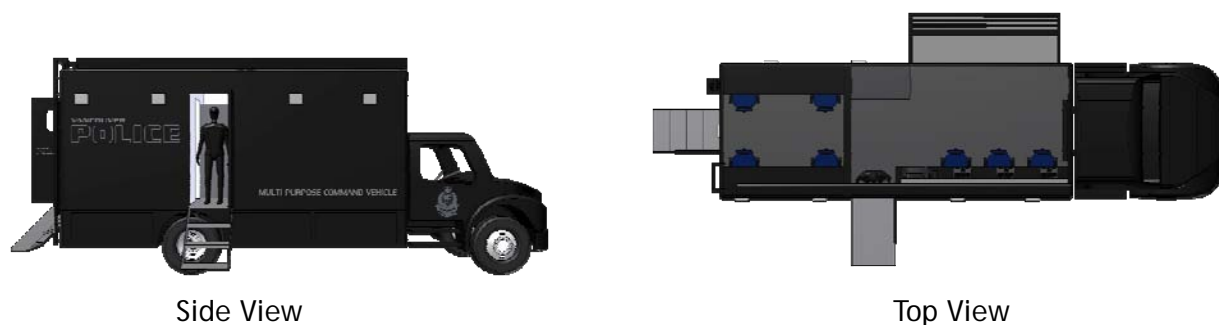


Figure 1. Recommended configuration for the VPD multi-purpose command vehicle.

FINANCIAL IMPLICATIONS

A multi-purpose command room mounted on a commercial truck chassis provides the best technical and financial solution to meet the VPD's command requirements. The vehicle, therefore, is being recommended as an addition to the VPD fleet on the basis of technical fit and operational need. The one-time capital costs and operating budget requirements based on a 15 year economic life are listed in Table 1 below.

Table 1. Capital and operating costs based on a 15 year life.

Vehicle Description	One-Time Capital Costs	Annual Operating Budget Requirements		
		Capital	Operating	Total
Multi-Purpose Command Vehicle	\$500,000	\$50,900	\$8,000	\$58,900

The estimated capital cost for the multi-purpose command vehicle is \$500,000. This includes the estimated cost of truck chassis itself, combined with the technical equipment, and radio and telecommunications included within it. The Vancouver Police Foundation is donating up to \$500,000 to fund the initial purchase. The donation was made in accordance with the VPD Management Process Flowchart for Vehicle and Equipment Additions (City & Donated) that was approved by Council on November 6, 2007 (RTS No. 06433). This process is outlined in Appendix A.

The total annual operating budget requirement for the multi-purpose command vehicle is estimated to be \$58,900 and includes capital, maintenance, fuel and insurance. As the Vancouver Police Foundation donation will fully fund the initial capital cost of the vehicle, the \$50,900 in annual capital charges will be eliminated until the unit is replaced at the end of the 15 year economic life. Therefore for the first 15 years the VPD will only be responsible for the remaining \$8,000 in annual operating costs. This obligation will be addressed as part of the 2012 budget process.

If no donation is received for future vehicle purchases capital funding for the replacement vehicle will be provided from the Truck and Equipment Plant Account and will be repaid over the 15 year economic life of the unit through the usual capital amortization contribution. The full operating budget, including capital, maintenance, fuel and insurance will therefore be required as outlined above, subject to annual budget review.

PERSONNEL IMPLICATIONS

There are no personnel implications.

ENVIRONMENTAL IMPLICATIONS

All new and replacement equipment in the City fleet go through an environmental and right-sizing review process. This is to ensure that the equipment will meet the user's operational needs and that the selected equipment has the best combination of fuel efficiency and cost effectiveness.

Multiple powertrain options were evaluated to determine what option would best meet the operational needs of the VPD while still ensuring that emissions were minimized. This unit will be used for emergency purposes; therefore it is very important that the vehicle operate on a fuel that has emergency availability and use technology that is proven and reliable. Due

to the widespread availability and reliability of diesel engines it is therefore recommended that the multi-purpose command vehicle be specified with a diesel engine that is able to operate on a minimum of B5 bio-diesel, with a preference toward higher bio blends. This was selected as opposed to alternative fuels primarily due to the emergency functionality of the vehicle. Additionally this vehicle can be re-fuelled at City fuelling stations in the event of a large scale emergency, where other fuelling and power supply options may be unavailable.

To minimize the amount of bio-diesel used during operation, the vehicle will be outfitted with shore power and auxiliary batteries so that the unit can operate without the engine running. In instances where battery power is depleted and shore power is not available, the unit will also be equipped with an onboard diesel generator so that the vehicle can still be operated without the engine running when on scene at an incident. This is beneficial since the power requirements for the onboard generator would be substantially less than that generated by the truck chassis engine. The City will also pursue the option of solar panels mounted on the roof to keep the batteries in a ready state and to minimize the use of either the generator or engine for power. The multi-purpose command vehicle will produce approximately 3.3 tonnes of GHGs per year and represents 0.1% of the 2010 VPD fleet GHG emissions.

CONCLUSION

The VPD serves a large metropolitan city and is faced with diverse and complex challenges relating to public safety, major crimes and large-scale public events. The VPD is additionally responsible to respond to disasters that may be natural, accidental or criminal in nature. The VPD requires one (1) multi-purpose command vehicle to be added to the VPD fleet to effectively plan for and respond to such large scale events. The addition of this vehicle to the VPD fleet would require a funding allocation of \$500,000 from the Truck and Equipment Plant account. The Vancouver Police Foundation has agreed to donate up to \$500,000 to cover the capital cost for the initial vehicle purchase. The total annual capital and operating costs of \$8,000 (reduced from \$58,900 with the donated funding applied to the initial unit) will be reviewed as part of the 2012 operating budget approval process.

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APPENDIX A: VEHICLE AND EQUIPMENT ADDITION PROCESS (CITY & DONATED)

