



CITY OF HAMILTON

HAMILTON EMERGENCY SERVICES *Emergency Medical Services*

TO: Chair and Members Emergency & Community Services Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: September 10, 2012	
SUBJECT/REPORT NO: Standardization of Ambulance Fleet Purchases (HES12015) (City Wide)	
SUBMITTED BY: Brent Browett EMS Chief Hamilton Emergency Services	PREPARED BY: Doug Waugh (905) 546-2424, Ext. 7742
SIGNATURE:	

RECOMMENDATION

- (a) That the purchase and conversion of ambulance vehicles be standardized and single sourced to Demers Ambulance Manufacturer Inc.
- (b) That Staff be authorized to negotiate a "house account" for the supply of and replacement parts with the original equipment manufacturers of the approved standardized product.

EXECUTIVE SUMMARY

As per the corporate Purchasing Policy, Section 4.14, "Policy # 14 –Standardization" it is recommended that Hamilton Emergency Medical Services (EMS) standardize the purchase of stock ambulances from Demers Ambulance Manufacturer Inc. and reassess the market conditions every three years. During this period, if EMS has cause to purchase one (1) or more special purpose ambulances for large patients, the Division may purchase such a unit from another vendor in the event that Demers does not have a suitable product, and procured in accordance with the City Of Hamilton (City) Purchasing Policy.

SUBJECT: Standardization of Ambulance Fleet Purchases (HES12015) (City Wide)
- Page 2 of 8

Currently Demers Ambulance Manufacturer Inc, Crestline Coach Ltd. and Tristar Ambulance are the three manufacturers and vendors of record certified by

Previously the Ministry of Health and Long-Term Care (MOHLTC) set the standard for ambulances to be used by municipal services; determined the vendors that were certified to manufacture the ambulances; and, through a provincial competitive process established the basic cost. As of 2012 the Province continues to set the basic standards and certifies ambulance manufactures, however more options are available and the prices are no longer established by the Province. Currently there are three vendors of record certified to supply ambulances and that offer a variation in features. EMS staff did a review of each of the approved vendors to assess the availability of the features the Division deems necessary and with the guidance of the City's procurement Division completed a cost comparison.

As it applies to cost, the difference in base pricing for the ambulance between the vendors is less than \$1000 (<1%), however Demers ambulance includes some of the necessary features in their base price that the other vendors charge for as options. Based on this assessment it was determined that the Demers ambulance is the lowest cost of the three (3) vendors. As it applies to features, the Demers ambulance has an extensive list of safety, security, electrical system, patient comfort, and patient care delivery features that are provided in the basic model the EMS is seeking which are not available from the other vendors except at added cost and in some cases the feature is exclusive to Demers Ambulance (see Table 1).

Table 1 Distinct Standard Features offered by Demers Ambulance

1	Specifically designed storage space for paramedic personal safety gear and lunches, which resolves related health and safety issues
2	More head room and wider patient compartment for patient care
3	Intersection clear/Red LED lights with turning priority
4	Four corner emergency lights activate when the vehicle is reversing
5	Two electric door lock/unlock switch located near side/rear right door
6	Zero to 15 minute programmable timer on LCD display for halogen dome lights
7	Flip up window frame on medical cabinet that allows for more thorough cleaning of the cabinets and ease restocking
8	Improved lighting in the patient compartment to better assess the patient's overall condition
9	Rear air conditioning/heating speed and temperature control with automatic mode
10	Innovative Multiplex electrical system that will improve the speed and accuracy of mechanics diagnosing vehicle electrical problems
11	Digital chassis voltmeter, radio voltmeter, conversion amp meter and voltmeter
12	Parts and warranty services are located within 45 minutes of Hamilton - crucial for EMS operations (Crestline is located in Saskatoon, Tristar in Nova Scotia)

In addition to above, standardizing the ambulance contains ongoing training demands for mechanics and paramedics and limits the risk of paramedics not being intimately

familiar with a vehicle that they have to operate emergency driving controls and locate equipment. Considering all factors, staff recommends standardizing to Demers.

Alternatives for Consideration – See Page 7

FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial:

The funding for the vehicles is available from the approved Capital Budget.

Staffing:

The standardization process is expected to:

1. Reduce staff time for the EMS Division and the Procurement Section in purchasing ambulances.
2. Reduce or at minimum, contain some of the paramedic health and safety vehicle concerns.
3. Contain mechanical staff training requirements of multiple vehicle types.
4. Contain paramedic staff training requirement on multiple vehicle types.

Legal:

With Demers Ambulance Manufacturer Inc. being a vendor of record with the MOHLTC, the Municipality will be assured it complies with MOHLTC regulations and standards pertaining to Ambulance conversions

HISTORICAL BACKGROUND

In the 2012 Capital Budget process EMS was approved to purchase five (5) replacement ambulances in 2012 and has capital budget approval for these acquisitions some of which are beyond their expected life cycle.

When purchasing ambulances and paramedic response units for use in Ontario by a municipal land ambulance program, they must be designed and built to the MOHLTC Ontario Provincial Land Ambulance and Emergency Response Vehicle Standard Version 3.1.

Currently there are three (3) ambulance conversion contractors certified to provide ambulances in the Province of Ontario, Crestline Ambulance operating out of Saskatoon, Saskatchewan, Tristar in Nova Scotia, and Demers Ambulance Manufacturer Inc. operating out of Beloeil Quebec. There are no ambulance manufacturers currently in Ontario.

In prior years both Demers and Crestline vehicles were built similar in nature. Tristar is a new vendor with some similarities to the Demers and Crestline vehicles. All use the same chassis (Ford E350) and provided options at a similar cost. The design of the patient care compartment for all three meet the basic standards, however the patient compartment is taller and wider on the Demers vehicle, which makes it easier for the Paramedics to work. Historically the cost of the ambulances from these three (3) vendors has usually been within \$1000 of each other and based on a vendor of record process with the MOHLTC their prices were listed and non-negotiable with each municipality.

The MOHLTC vendor of record process has changed. The three (3) ambulance manufacturers are now offering different basic models and they are allowed to negotiate the price. Although the market continues to be restricted to the three (3) vendors; the competitive process has resulted in a variation available to the municipality in price and added features.

In response to these conditions, Demers Ambulance Manufacturer Inc. has redesigned their basic ambulance to incorporate several safety features and other enhancements that improve the operating reliability of the vehicle and ease the delivering patient care. Crestline and Tristar Ambulance do not have a comparable basic ambulance and some of the features cannot be purchased as options. EMS staff has also determined that the Demers vehicle is lower in cost than the Crestline and Tristar vehicles when considering the same features deemed necessary by the Division, whether the vendor offers the features in their basic price or it has to be added as an option. Based on the staff analysis, EMS is seeking to standardize the Demers Ambulance and then reassess the market conditions every three years. This will ensure that EMS is purchasing the vehicle that currently best meets its needs, but it will also reduce the work demands for EMS mechanical and procurement staff.

Key Features of Benefit of the Demers Ambulance

Electrical System Safety and Efficiency Innovation

One of the new features included in the basic Demers Ambulance is an electrical Multiplex power distribution and control system which is not currently available from Crestline. In the past the ambulances supplied by both vendors have had complicated wiring systems, which consumes a great deal of the HES mechanics' time to trouble shoot when there is a failure. With the Multiplex system, the issue with complicated wiring systems is virtually eliminated. The mechanic is able to trouble shoot vehicle systems using a computer and with the aid of a satellite hook-up the mechanic could, in some cases, make minor electrical repairs remotely. Not only does this system add to the reliability of the emergency vehicle but the HES Chief Mechanical Officer anticipates that this feature will reduce the staff time diagnosing electrical problems in the ambulances and avoid unwarranted repairs. In addition the Demers Ambulance has features that will better equip the paramedic to continuously assess the operating status

of the vehicle i.e. digital chassis voltmeter, radio voltmeter, conversion amp meter and voltmeter.

Paramedic Storage Space of Personal Issue and Safety Gear

Paramedics typically spend a large portion of their shift in the ambulance and, by necessity they have to bring their personal issue safety gear, personal items with them in the vehicle. Storage space for these items has been identified as a Health and Safety concern by the paramedics' Joint Health and Safety Committee representatives. While the management team has identified ad hoc solutions. Demers Ambulance added two (2) 12-cubic foot personal lockers with separate access for the paramedics. This addition resolves this health and safety concern. Crestline has added storage compartments in their 2012 models however they are poorly placed and not easily accessible by the Paramedics. Tristar currently does not offer this storage space.

Other safety and patient care and comfort features

Demers Ambulance has also made the following adjustments to their vehicles intended to enhance the relative safety and comfort of the patient and the paramedic as follows;

- Increased headroom in the patient compartment making this area more ergonomically friendly.
- ABS plastic material within the patient care compartment which is prone to retain contamination has been replaced with powder coated Aluminium which is easier to clean providing more of a contaminant free area.
- To improve visibility in the patient care area Demers is using a type of fluorescent lighting developed by NASA that has high and low intensity lighting that allows the paramedics to accurately determine patients' skin tone.
- Intersection clear/Red LED lights with turning priority.
- Four corner emergency lights activate when the vehicle is reversing and a high mount rear LED brake light for better visibility.
- Two (2) electric door lock/unlock switch located near side/rear right door.
- Zero-15 minute programmable timer on LCD display for halogen dome lights.
- Two recessed radio speakers in patient compartment reducing protruding objects.
- Flip-up window frame on medical cabinet that allow for more thorough cleaning of the cabinets and easy restocking.
- Rear air conditioning/heating speed and temperature control with automatic mode.
- The 2012 Demers vehicle which address a current health and safety concern provides hospital grade vinyl driver and passenger seat covering, that otherwise exists with cloth seats.

The Demers vehicle more closely matches the current needs of Hamilton EMS and staff anticipates a reduction in time to maintain and repair the ambulance electrical systems.

Warranty Repairs and Vehicle Supplies

Demers Ambulance is based in Quebec with a full repair facility in Toronto serving the southern Ontario customers whereas Crestline Ambulance parts come from their Saskatoon location. Tristar does not have a repair facility in Ontario with parts having to be shipped from Nova Scotia. Having parts and conversion warranty service available within 45 minutes of Hamilton is an important consideration as downtime for vehicle repairs in EMS can be a risk management issue if response capacity is affected.

POLICY IMPLICATIONS

Procurement Policy for the City of Hamilton, Policy #14 – Standardization

RELEVANT CONSULTATION

Finance Services Division, Procurement Section – Consulted with procurement staff who were supportive of the recommendations regarding 2012 ambulance purchases, including standardizing to the Demers Ambulance.

Hamilton Emergency Services, Finance Section – Consulted with Finance section in regards to available council approved vehicle reserves for ambulance procurement for 2012.

Hamilton Emergency Services, Mechanical Section – Consulted with the Chief Mechanical officer who was supportive of the recommendations in regards to standardization to Demers Ambulance Manufacturer Inc, including the benefits of the Multiplex electrical system, parts and service availability and standardization from the mechanics perspective.

ANALYSIS / RATIONALE FOR RECOMMENDATION

The rationale to standardize to the ambulances manufactured by Demers Ambulance is based on the following.

- a) The design and function of this vehicle meets the needs of EMS in relation to health and safety concerns of staff including a Ministry of Labor investigation with regards to storage of personal bags and lunches. The personal storage lockers within the ambulance address this concern.
- b) A new electrical Multiplex system included on the Demers Vehicle will assist Mechanics to quickly diagnose problems and reduce the time and cost to repair these vehicles. As of 2012 a multiplex system is available on the Crestline vehicle; however this is a system which Crestline purchases from overseas. Demers Ambulance supplies its own multiplex system. The Multiplex system is not available on the Tristar vehicle.

- c) Parts and warranty services are located within 45 minutes of Hamilton.
- d) The Demers Ambulance is less expensive when the same features are considered.

ALTERNATIVES FOR CONSIDERATION

The alternative to standardizing to the Demers Ambulance is to purchase ambulances from Crestline, Tristar or Demers Ambulance following the Purchasing Policy and using a tender process. Tendering of ambulances is not recommended until all vendors are able to provide the basic safety features that address the core needs of the EMS Division that are now available by Demers.

Purchasing from Crestline or Tristar may lead to increased repair costs; increased inventory costs (due to having to keep additional parts in inventory); increased training costs; increased maintenance training and software upgrades; end user dissatisfaction; compatibility issues and health and safety concerns.

CORPORATE STRATEGIC PLAN

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

Skilled, Innovative & Respectful Organization

- ◆ A culture of excellence
- ◆ A skilled, adaptive and diverse workforce, i.e. more flexible staff
- ◆ More innovation, greater teamwork, better client focus
- ◆ An enabling work environment - respectful culture, well-being and safety, effective communication
- ◆ Opportunity for employee input in management decision making

Financial Sustainability

- ◆ Financially Sustainable City by 2020
- ◆ Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative and cost effective manner
- ◆ Full life-cycle costing for capital

Growing Our Economy

- ◆ Competitive business environment

- ◆ An improved customer service

Social Development

- ◆ Residents in need have access to adequate support services

Environmental Stewardship

- ◆ Reduced impact of City activities on the environment

APPENDICES / SCHEDULES

None