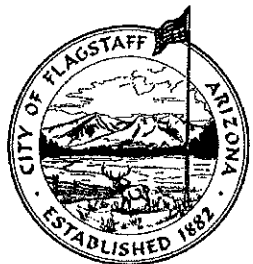


**CITY OF FLAGSTAFF  
STAFF SUMMARY REPORT**



**To:** The Honorable Mayor and Council  
**From:** Ann Marie Fisher, Sr. Procurement Specialist, x7301  
Management Services, Purchasing  
**Date:** December 2, 2008  
**Meeting Date:** December 16, 2008

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**TITLE:** Approval to reject all bids for the purchase of an Aerial Truck

**RECOMMENDED ACTION:**

Reject all bids received for the Purchase of an Aerial Truck, Bid Number 29017

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**ACTION SUMMARY:**

Three bids were received and evaluated for the purchase of an Aerial Truck for the Streets Section. Utility Crane & Equipment was determined to be the low responsive bidder. Staff is requesting approval to reject all bids.

**DISCUSSION:**

**Background/History:**

In September of 2008, bids were accepted for the purchase of an aerial truck for the Streets Section. The Streets Section requested and the Fleet Committee approved a new Aerial truck for this fiscal year due to the fact the existing aerial truck (1999 Ford) is not capable of reaching heights for aerial work needed on new traffic controls located throughout the City.

Due to budget constraints, the Streets Section has chosen to modify their existing Aerial Truck with an upgraded aerial lift instead of purchasing a new truck. It is estimated, that this will cost approximately \$40,000.

**Key Considerations:**

N/A

**Community Benefits and Considerations:**

N/A

**Community Involvement:**

N/A

**Financial Implications:**


Streets Section has \$196,000 budgeted (040-3211-601-4401) in their capital rolling stock account for the purchase of an Aerial Truck. For approximately \$40,000, the Streets Section will modify the existing aerial truck. This will save the City over \$150,000.

**Options and Alternatives:**

1. Purchase the new Aerial Truck at a cost of \$177,506.95
2. Contract for aerial lift equipment response from local companies. This would result in traffic controls being down for an extended amount of time. Contractors have to obtain permits from Community Development (per project) which takes at least a day. In addition, the cost of service starts at approximately \$100/per hour.

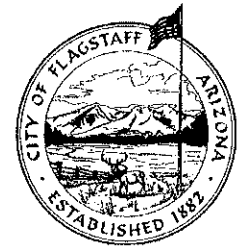
**Attachments/Exhibits:**

Memorandum dated 12/4/08 – Scheduled Aerial Lift Replacement Considerations

  
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 Department Head (Acknowledgment that all reviews have been completed and required approvals initialed below.)

INITIALS	RESPONSIBILITY	DATE	INITIALS	RESPONSIBILITY	DATE
<i>af</i>	BIDS/PURCHASES	<i>12/10/08</i>	<i>af</i>	FINANCE/BUDGET	_____
_____	GRANTS	_____	_____	CONTRACTS	_____
<i>SPS</i>	LEGAL	<i>12/11/08</i>	_____	IGAS	_____
<i>ES</i>	Public Works	_____	_____		_____

DATE OF COUNCIL APPROVAL: \_\_\_\_\_



# MEMORANDUM

TO: The Honorable Mayor and Council

THROUGH: Ben Fisk, Deputy City Manager, Interim  
Erik Solberg, Public Works Director, Interim  
Kevin Mullaney, Streets Superintendent

FROM: Steven Hill, Traffic Signal Technician

DATE: 12/4/2008

RE: Scheduled Aerial Lift Replacement Considerations

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## Background:

The purpose of this memo is to review alternatives to the replacement of the Streets Section 1999 aerial lift truck. The current truck is scheduled for replacement due to the age of the aerial lift. It is important to note that the scope of the traffic signal maintenance program has been expanded since the current vehicle was purchased. The current truck was not designed to address all of the present operational requirements of the program.

One major shortcoming of the existing vehicle is that the current lift will not reach the sixty-four video detection cameras currently in service at twenty of the forty-one signalized city intersections. By the end of FY2009, it is projected that 92 cameras will be in service at forty-three intersections. It is necessary to access video cameras to repair malfunctioning units, for camera realignment when necessary, and to perform manufacturer recommended preventative maintenance, including annual cleaning of the camera lenses. This preventative maintenance has been deferred, due to the limited reach of the present aerial truck.

There are several reasons that the city and other agencies now utilize video detection at traffic signals. Previously, the detection of vehicles was accomplished by using inductive loop detectors installed in the pavement. Pavement cracking caused by expansion and contraction eventually destroys detection loops. Loops installed in new pavement typically have a service life of up to ten years. Loops installed, or replaced, in existing pavement, often experience rapid premature failure as the pavement condition continues to deteriorate. It is prohibitively expensive to repave roadways to maximize the

usable life of detection loops. Video detection cameras have proven to be more cost effective than loops for two reasons. Initially, the installation cost for video equipment is now equal to or less than loop based detection at most intersections. The installation also is far less disruptive to traffic. Secondly, the usable life of video detection, whether a new or replacement installation, is not dependant upon pavement conditions.

Video detection systems have several other advantages that loops do not. In the event of construction detours, or incident management situations, video detection zones can quickly be relocated, unlike detection loops. Video detection systems can be used to perform vehicle counts, which are used by Traffic Engineering to evaluate signal timing. The use of video detection has proven to be beneficial during snowstorms. When painted pavement markings are obscured by snow, it is difficult for drivers to position their vehicle directly over a loop which is typically centered in a vehicle lane. During almost every snow event, the city receives complaints about the traffic signal not changing at the intersection of Butler and Enterprise. Repeated technician response and investigation reveals that cars are in the wrong place on the roadway to be detected by the existing loops. Because video detection zones have a wider area of detection, they are more likely to detect vehicles than pavement detection loops.

The first video detection cameras were installed by the city in January 2005. New video detection equipment includes a one-year warranty and has an estimated service life of ten years. To date, the city has experienced a failure rate of approximately ten percent of installed cameras. This rate will increase with the age of the installed cameras. The failure of a detection camera results in the signal remaining green longer than necessary for the affected approach, as well as, the signal remaining red longer for conflicting approaches. This results in significant traffic delays.

#### Alternative A

The Streets Section has recommended the replacement of current lift truck. The replacement truck was specified with equipment that would allow the signal maintenance technicians to perform work currently outside the capabilities of the current vehicle. This includes a small jib with winch capable of lifting and installing signal poles and arms, as well as, an onboard generator capable of providing power for an intersection when necessary. The 1999 lift truck to be replaced will take the place of a 1988 lift truck in poor condition, which is used by other divisions for occasional use.

The lowest responsive bid for the replacement vehicle was received from Utility Crane and equipment, of Phoenix, in the amount of \$177,506.95. This bid will be invalid after the twenty-third of December 2008. Additionally, a cost increase for the vehicle chassis is likely as of the end of December 2008.

#### Alternative B

As an alternative to the aerial truck replacement, it is possible to contract for aerial lift equipment response from local contractors. Verbal estimates were received of \$100 per hour, with a two-hour minimum requirement. This contract service could be addressed in the city street lighting contract, which is being prepared for bidding.

The disadvantage of this option is the response time between the discovery of a camera malfunction and arrival of contracted lift equipment. City statues require a

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contractor to obtain a permit for traffic control from Community Development. This will impose a delay of one or more days. Additionally, the normal business operations of a contracted company could add significant delays to repair work. For example, during the entire week of December 1, the city's current street lighting contractor was unavailable due to all equipment and personnel committed to work in Kayenta. In this instance, the permit process would likely not begin until the second week of an equipment failure. While it is possible to include a specific response time in the contract terms, typically short response times result in increased contract costs.

A suggested scope of contracted work would include:

- 1) Procedure for notification of contractor
- 2) Contractor obtains necessary traffic control permit
- 3) Contractor and city schedule repair work
- 4) Contractor and city signal technician complete work

Assumptions used in estimating the annual cost of contracted lift service include;

- 1) An annual failure rate of ten percent requiring ten repairs, or 20 hours per year.
- 2) Two camera realignments requiring four hours per year.
- 3) Preventative maintenance of 92 cameras, requiring at least two hours each, or 184 hours annually. These assumptions allow time for traffic control setup and removal.

It is estimated that this alternative would cost the Streets Section approximately \$20,000 per year.

#### Alternative C

A cost effective alternative is the modification of the existing city aerial lift truck. A written estimate has been obtained to install a new aerial lift on the current vehicle chassis, which is in good repair. The weight rating of the current vehicle chassis would limit the size and rating of the replacement lift. However, it would give the city a vehicle capable of providing immediate service response to all traffic signal malfunctions, including video equipment. The combination of the replacement lift and the current vehicle chassis would result in a vehicle with an estimated service life of another five to seven years.

Another benefit of modifying the existing vehicle is that it would allow the city traffic signal technicians to perform installation work of new video cameras. Installation of new video equipment is necessary as existing detection loops are destroyed by pavement failure. Previously, installation work has been completed by preparing construction plans and specifications and awarding a contract. With a vehicle able to reach video cameras, the city could save funds by purchasing the equipment without contractor mark-up, as well as saving the contract preparation costs.

It is estimated that this alternative would cost the Streets Section \$40,000. Over five years, this alternative offers the opportunity to save \$60,000 compared to Alternative B, and over \$137,000 compared to Alternative A. Alternative C is cost effective, and the timely response to all signal malfunctions will provide a reasonable level of service to the motoring public.