

Transit Bus Wash Upgrade

Executive Summary

The bus wash was manufactured and installed at the Transit garage by Westmatic in 2014. The Transit Services Division has 59 buses that are run through the bus wash daily, 364 days a year. This high volume of use paired with our winter climate, where additional debris and salt accumulates on the buses, contribute to significant wear and tear on this unit. Over the last two years the bus wash has seen several breakdowns affecting the cleanliness of the buses and improvements have been identified to increase its performance and reliability.

This report will summarize the current service level of the bus wash, identify the issues and propose a solution that seeks approval for sole sourcing an upgrade to the bus wash by the Original Equipment Manufacturer (OEM), Westmatic using funds approved under the Public Transit Infrastructure Fund (PTIF).

Background

Below is a brief summary of the bus wash operation:

The bus enters the wash controlled by a signal light system and sensors trigger the application of soap, water and spinning of the 6 brushes.

- As the bus approaches the first set of 2 spinning brushes, soap is applied to the brushes, which then make direct contact with each side of the dry bus.
- As the bus moves forward, a second set of 2 smaller spinning brushes contact the upper part of the bus scrubbing the dirt and debris while water is sprayed so that it falls to the lower part of the bus.
- The bus continues forward to a third set of 2 even smaller spinning brushes and light spraying water is applied to the lower section of the bus.
- The bus exits the wash receiving a light misting to the undercarriage and rest of the bus from an arch.

The following issues have been identified:

- The process of applying soap to the dry surface of the bus is inefficient in getting maximum cleanliness. The soap needs to be applied directly to the bus to increase soap dwell time for a more thorough clean.

- There is no high pressure spray to remove deeper, penetrating dirt and grime, particularly in the wheel wells where brushes are unable to reach and there is no contact.
- The lower half of the bus, particularly the wheels and wheel wells, are coming through the bus wash with a significant amount of dirt and build-up remaining on the bus that is then brought into the garage. This additional debris in the garage requires cleanup by Staff with a power sweeper creating a significant amount of dust, causing air quality issues thereby creating more frequent filter replacement.
- Buses are coming through the wash not completely rinsed of soap. This leaves a soapy film which dulls the white finish on the bus.
- The third set of brushes has failed and has been disabled due to an estimated \$15-\$20,000 repair. This has exacerbated these last three points. As well, this third set of brushes does not interact well with the driver's side mirrors, and annually causes damage to them.

In consultation with the OEM, Westmatic to address the above issues, the following upgrades are being recommended to the bus wash:

- At the start of the wash, install a pre-soak arch that will apply soap directly onto the bus just before entering the brush system. This will apply soap directly to the bus, rather than on the brush and then on the bus. This will allow for greater soap dwell time, lubrication and activation to improve wash results.
- At the end of the wash, remove the third set of disabled brushes and use this space and connections to install a high pressure rinse at the end of the program with wheel wash and rocker panel spray bars. This will provide a deeper, more penetrating clean, particularly on the wheels, wheel wells and rocker panels, which will remove more dirt and grime from these areas of the bus, which therefore will bring much less debris into the garage. It will also ensure a more thorough rinse at the end of the wash. This final step will be very effective in removing the additional debris and salt accumulations on the buses in Winter months.
- The control panel will be upgraded allowing greater ease of use and flexibility for different wash programs. This will allow the bus wash to be programmed to wash other vehicles as well as creating wash settings that can be adjusted based on soil levels (e.g. In Summer months, when busses are less dirty, to save on resources, a less thorough program could be used).

Recommendation

As the original installers of this unit at the Transit Garage, performing regular service calls over the years, Westmatic has the history and an in depth understanding of this bus wash. The upgrade necessary to the bus wash is specialized work and the parts that will be installed are proprietary to Westmatic and unavailable elsewhere. Proceeding with a sole source as opposed to going to market will ensure that this upgrade will seamlessly interact with the rest of the unit.

A quote and project scope has been received by Westmatic and the cost is \$131,314.00 not including taxes. The upgrade would be funded with remaining Public Transit Infrastructure Funds, as well as Provincial Gas Tax and the Municipal tax levy under the Transit Garage Upgrades and Rehabilitation project stream and does not have any additional financial implication.

Next Steps

Should Council direct Staff to proceed with the sole source procurement which will see an upgrade to the bus wash, Westmatic will be authorized to proceed immediately. Parts and equipment manufacturing will take approximately 14-16 weeks to complete and installation will follow over a 2 week period.