

### Transportation Committee

For the Metropolitan Council meeting of March 27, 2019

**Subject:** Type 2 Light Rail Vehicle Motor Trucks and Axle Sets

#### **Proposed Action**

That the Metropolitan Council authorizes the purchase of four motor trucks and four axles sets for the Type 2 Light Rail Vehicles (LRV's) in an amount not to exceed \$2,500,000.

#### **Summary of Committee Discussion/Questions**

Metro Transit LRV Overhaul Manager Chris Royston presented this item. Committee Member Zeran asked for more information on the process. Royston explained about the day-to-day process versus the overhaul program.

Committee Member Cummings asked if the Type 2 is anticipated to be used for the Green Line or if there is a Type 3. Royston said there is a Type 3 that will be received. Gonzalez said Bombardier is Canadian and Siemens is German, he asked if there are any American companies we could use. Royston said the motors that go with the trains are proprietary, so the motor cannot be changed out.

Motion by Ferguson, seconded by Cummings. Motion carried, consent to Council.

## Transportation Committee

Meeting date: March 11, 2019

For the Metropolitan Council meeting of March 27, 2019

**Subject:** Type 2 Light Rail Vehicle Motor Trucks and Axle Sets

**District(s), Member(s):** All

**Policy/Legal Reference:** Council Expenditure Policy 3-3

**Staff Prepared/Presented:** Chris Royston, Manager Light Rail Vehicle Overhaul (612) 341-5698

**Division/Department:** Metro Transit / Rail Vehicle Maintenance

### Proposed Action

That the Metropolitan Council authorizes the purchase of four motor trucks and four axles sets for the Type 2 Light Rail Vehicles (LRV's) in an amount not to exceed \$2,500,000.

### Background

Metro Transit runs two Light Rail Vehicle lines, the Green Line, which opened in 2014, and the Blue Line, which opened in 2004. These lines have been very popular, and ridership has been higher than originally projected. As a result, the lines and the rail cars have experienced higher than average wear and tear.

Metro Transit currently operates two types of LRV's; Bombardier (Type 1) and Siemens (Type 2.) Both LRVs have a 30-year life expectancy. A scheduled maintenance program based on the Original Equipment Manufacturers (OEM) recommendations along with ongoing equipment assessment and evaluation will keep these LRVs in good repair, so these critical assets can remain in service. A big part of that maintenance program is vehicle overhaul. We are currently getting started on the first overhaul of the newer Type 2 vehicles.

Each LRV has two motor trucks, which are the steel frames under the LRV's that contain the primary suspension system, braking system and two axles each. Each axle consists of a gear box, traction motor and two tires.

During the three-year overhaul program, four motor trucks and eight axles will be serviced and conditioned each month for the next three years. This business item requests authorization for the purchase of four new motor trucks and eight new axles, which will allow for the overhaul of those components while maintaining the needed spares in case of a maintenance issue with one of the LRV's in service.

### Rationale

To maintain fleet reliability, a set number of LRV spare parts is kept in stock. This helps to limit the amount of time a vehicle is out of service for repairs. As the overhaul program takes four motor trucks and eight axles out of service each month, these additional trucks and axles are needed to have the necessary spares in stock.

### **Thrive Lens Analysis**

The LRV Type 2, Overhaul 1 rebuild program supports Thrive Outcomes by maintaining the LRV fleet and providing reliable, affordable, environmental friendly and safe mass transportation to our customers.

### **Funding**

The purchase is fully funded with federal and local funds via projects 64401 and 65703.

### **Known Support / Opposition**

No known opposition.

# Type 2 Light Rail Vehicle (LRV)

Motor Truck and Axle Sets Purchase, Contract 19P014

27 - Bombardier LF70 (Type 1)



64 - Siemens S70 (Type 2)



Christopher Royston  
Manager, LRV Overhaul & Special Projects

## LRV Facts

### Type 1 LRV's

- In service date 2004
- Surpassing 1M miles

### Type 2 LRV's

- In service date 2014
- Surpassing 350K miles

### Fleet

- Avg. annual LRV mileage – 68K
- Annual fleet mileage – 6.1M
- Avg. weekday riders – 72K

### Overhauls

- Mileage based
- 300K
- 600K
- 1M



Type 2

Type 1



# Questions?



## Light Rail Vehicle Overhaul & Special Projects

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