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Vance Gilless, left, and Bobby Hupp lead a team of 22 full-time technicians who maintain 124 escalators and 129 elevators. *Photo by Ned Racine*

## Transportation Machines Lead an Up and Down Life

- Each day Metro's elevators and escalators give riders a lift

By NED RACINE, Editor

(June 18, 2008) Bobby Hupp, Vance Gilless and their troop of technicians repair and maintain more than 250 sophisticated machines that move thousands of passengers every day. Yet these machines never use rail or tires.

Robert Hupp is project manager for Vertical Transportation Facilities-Operation. Vance Gilless serves as maintenance supervisor. They and their 22 full-time contracted technicians watch over 124 escalators (excluding the Gateway Building) and 129 elevators.

Hupp emphasizes that elevators and escalators are "just as important as a bus or a train for getting people where they want to go," but realizes the machines are taken for granted. "[People are] used to riding escalators in department stores or at ball games. Those escalators do not get the abuse ours do."

Nor are private escalators near the size of the Metro escalators. Hupp cites the escalator at the Metro Rail Wilshire/Vermont station as an example. That escalator lifts riders 72 feet, which makes it the tallest escalator west of Chicago.

### Five-Year, \$30-million budget

To maintain and repair these transporters, Hupp and Gilless have a five-

year budget of \$30 million. Complicating maintenance are the coins, flash drives, keys, nails and piercings found in the escalators. Vandalism also eats away at Hupp's budget. More about that later.

"Escalators are far more expensive to maintain than elevators," Gilles explains. And escalators are more expensive to purchase. A new escalator that carries riders up one level costs from \$350,000 to \$400,000, without installation expenses.

"They are more complex machines than people realize," Hupp says.

In comparison, a top-of-the-line heavy-duty elevator runs \$175,000 to \$200,000, not including electronic components and installation.

"An escalator requires 10 times the amount of maintenance that an elevator does," Hupp says, explaining that an elevator is really a simple device. It's basically a hydraulic jack, much like the machine that lifts cars at service stations.



Under the familiar steps (or treads) of an escalator, beats the heart of a sophisticated, safety-conscious machine. Below, curving arm is the underside of the handrail. *Photos by Vance Gilles*



The perception that Metro escalators are always broken nags at Gilles and Hupp. Their statistics show that the escalators run 99 percent of the time. Escalators are built, however, with several safety features that will shut down the machines.

#### **Escalators shut down for safety**

An escalator might shut down if someone kicks its side plate or if the combs at the machine's top or bottom sense someone's shoe is caught. "The escalator is actually doing what it is supposed to do," Hupp says.

The shutdown might result from someone simply hitting the stop button. Via station security cameras, Hupp has seen children shut down every escalator in a station, leaving Hupp and Gilles to devote time and money to restarting escalators felled by someone's idea of a joke.

For some escalators, Hupp and Gilles receive 12 to 15 service calls a day, pulling technicians from regular maintenance and repair.

Vandals also cut the black handrails. Earrings or screws dropped down the steps shorten the life of these aluminum parts. This year Metro will spend approximately \$650,000 to repair steps damaged this way. Each step (or "tread") costs approximately \$160 to replace.

The age of some Metro escalators makes maintenance especially tricky. For multiple Green Line escalators, for example, their manufacturers no longer make replacement parts. For two escalators in Union Station, replacement pieces have to be hand made. So Vertical Transportation Facilities-Operation has begun hiring machine shops to fabricate parts unavailable for purchase.

What can the conscientious escalator rider do to preserve these useful machines? Gilless asks riders to call maintenance if they see something dropped on an escalator step—a white decal on each escalator contains the number to call. Gilless and Hupp appreciate quick notice because over time those objects grind away the steps.

**Escalators not a staircase**

Hupp asks riders to use escalators as they were intended. “They are not a staircase,” he emphasizes. “They are to be ridden—not climbed up.” Hupp says when people run up and down an escalator, they overload some of the steps, straining the drive gears and the step mechanism. Bicycles can damage the treads with their crank gear, one reason bicycles are not allowed on Metro escalators.

“It’s a great device for moving people quickly,” Hupp says of escalators. “We take it for granted because we use it every day. It’s a piece of equipment that can hurt you if you’re not paying attention. So take it seriously.”

- [Continued on Part II](#): Gilless and Hupp look for new weapons in fighting the battle against vandalism.