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Bus Simulator Gives Trainees a High-Tech Driving Experience

By KIM SIM

(April 15, 2004) Bus operator training is about to get high-tech.

That's because with Metro's new bus simulator, operators will soon be able to polish their defensive driving skills without ever leaving the classroom — embarking instead for a practice drive in virtual reality.

The machine, housed in the Simulator Room at Operations Central Instruction, creates a virtual world for the person operating it.

It is similar to a video game, but much more realistic. Instead of a joystick, there are full controls, brake and gas pedals, a driver's seat and a steering wheel. There are also five connecting video screens that wrap around the driver, creating a panoramic, almost 360-degree view of the world "outside."

"It's a little bit disorienting when you're first starting out because the whole world is moving around you," says Mark Anderson, director of Operations Training.

Anderson expects the bus simulator to be in full use by next month.

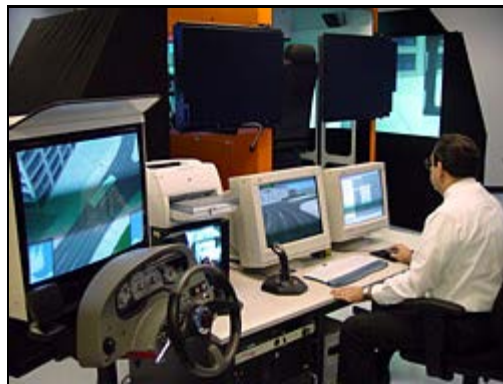
Reinforce driving skills

The device will be used more for reinforcing defensive driving skills taught in the classroom than for teaching a new bus operator how to drive a bus.

"There's really no substitute for

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PHOTOS BY BILL HEARD



TOS Carlos Baez controls the interactive program for the bus driving simulator. Using the steering wheel console at left, an instructor can replicate the actions of a bus or other vehicle on the trainee's simulator screen.



From the driver's seat, Operator Trainee Reggie Russell has a near 360-degree view of roadways, traffic and passing buildings.



Russell can even look back into the simulated bus he's driving.

getting on a real bus and going out on the street," Anderson says. "It's a simulator. It's never a bus. We were never interested in this to take the place of what we do on the bus."

Instead, he envisions that operators in the future, "once they learn a concept, they'll go over to the simulator and actually practice those things."

Software called the Scenario Toolbox can create different weather conditions, such as rain, snow and fog, as well as different lighting conditions. The program can also add in traffic and people to produce a variety of bus driving scenarios.

The simulator will also be used for creating emergency-type situations for operators to handle.

"Through the operating system, we can create fire on the bus ... tires that blow up, (things) that, frankly, we don't do on a bus," Anderson says. "Here we can actually safely do that (and) see how our operator actually responds."

Reports of violations

One of the gems of the simulator is that it has the capacity to do "exercise scoring." After a session, it can provide detailed reports of traffic violations committed, speed traveled and other useful information.

It can also recreate real accidents, allowing operators to see their errors and giving them an opportunity to react in the virtual world.

To maximize its benefits, Anderson says there are plans to install auditorium-like seats behind and two large monitors above the simulator, so that students can watch and learn from others' driving experience.

Also on the horizon is the creation of a new virtual world setting for the driving scenarios — downtown Los Angeles. The software currently depicts Washington, D.C.

Metro has options to buy three more of the \$420,000 machines. But for now, Anderson says, the focus is on seamless integration of the one simulator into the curriculum.

"We're still training ourselves, trying to get everything to work the way we want it to," he says. "We're trying to figure out how to get the most out of it."



Russell has a clear view of the road ahead, which can include traffic signals, railroad crossings and other vehicles on the road