

# Light Rail Vehicle



The Valley Metro light rail vehicle was customized for the desert climate and operating environment. Some of its unique, climate-inspired features include oversized air conditioning units, insulation to reduce cooling loss and solar reflective windows. In addition, each vehicle has interior and exterior security cameras, emergency intercoms, audible and visual station announcements and lighted message boards. Door entries are level with station platforms for easy, no-step boarding.

Fifty light rail vehicles were purchased from the manufacturer, Kinkisharyo International of Osaka, Japan. Sixty percent of the vehicle's parts and labor are U.S.-based. Final assembly occurred at the Valley Metro Operations and Maintenance Center in Phoenix, AZ.

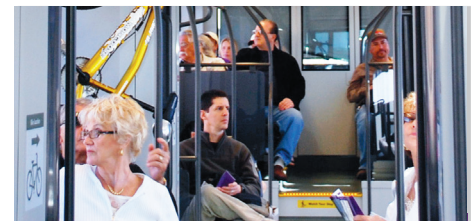
Each vehicle took approximately three weeks to assemble and was tested to ensure it met performance and safety standards. As Valley Metro grows to meet ridership demand, other vehicles will be added to the fleet.

## A day in the life of a light rail vehicle

Light rail vehicles access the Operations and Maintenance Center from the east, entering from and exiting to Washington Street via a Loop 202 right-of-way. At the beginning of the day, operators receive their orders, visually inspect their trains and enter the alignment for service. At the end of each day, vehicles return to the center for maintenance.

Maintenance staff ensures the vehicles are maintained and repaired as needed. The train's interior and windows are cleaned daily and the exterior is washed at least every three days through the automated vehicle wash.

After maintenance and cleaning, vehicles are kept on a storage track and coupled into trains in preparation for the next day's operations.



## Environmentally Friendly Vehicle Features

- Clean, electric propulsion
- Regenerative braking that puts energy back into the system on braking
- CFC-free refrigerant in high efficiency air conditioning systems
- Asbestos-free brake pads
- Insulated car bodies to reduce cooling loss
- Solar reflective windows
- Bio-degradable flange lubricant with computer-controlled mist application
- Wide use of energy efficient LED/fluorescent lighting
- Incorporation of bicycle racks into design

## Vehicle Facts

- Weighs 101,000 pounds
- 90 feet long, 12 feet high and 8.5 feet wide
- 66 seats with a comfort capacity of 175 passengers
- Four wheelchair positions and four bike racks in each vehicle
- Up to three vehicles can be linked together into one train

- Electrically powered using a 750-volt DC traction power system
- Operating speed is the posted speed limit
- At least 30-year vehicle lifespan

