

**MegaRail<sup>®</sup> Commuter Rail Technical Data** 5/20/05

<b>Data Category</b>	<b>MegaRail<sup>®</sup> Commuter Rail</b>
<b>General Operation</b>	
Initial Operating Mode	Coupled train In-train operator Manual operator control
Final Operating Mode	Coupled train or separate cars Automated control (No in-train operators)
Signaling	In cab/digital
Signal Communications	Digital/rf, inside rails
Maximum Speed	85-mph
<b>Guideway</b>	
Type	Elevated, open-center Enclosed rail tubes Enclosed wheels Enclosed power rails Open-mesh center walkway
Material	Stainless-steel
Class	Factory-built (On-site assembly)
Size	126-inches wide 36-inches high
Minimum turn radius (Radius must be greater as speed increases.)	50-feet
Typical pier location	Street center or park lane
<b>Guideway switches</b>	
Class	Passive (no moving parts) (Car-based switching)
Operate time	Not applicable (zero)

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<b>Data Category</b>	<b>MegaRail®</b>
<b>Support Piers</b>	
Pier type	Reinforced concrete (On-site construction) 30-inch diameter (larger diam. for high wind or earthquake areas) Min. height - 48-inches (higher for high wind areas)
Support Spacing	50-feet (25-feet in turns)
<b>Support Columns</b>	
Type	Welded tubular
Material	Stainless-steel
<b>Propulsion (electric)</b>	
Motor type	Brushless Permanent magnet
Motor location	Inside wheels (Wheel motors)
Propulsion	Individual car
<b>Braking</b>	
Type	Motor & friction (regenerative)
Friction brake actuation	Electric (battery back-up)
<b>Electical Power</b>	
Power type	Electric grid power 480-vac, 3 phase
Power distribution (Hi-voltage)	Inside guideway
Step-down transformers	On guideway
Power feed to cars	Electrified rails Power shoes on cars Individual car feeds

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Electrified rails location	Inside guideway rail tubes
<b>Cars</b>	
Wheel type	Motor-wheels
Traction	Rubber tires
Tire types	High-pressure/flat free
Suspension	Air cushion
Structure & exterior	Stainless-steel
Capacity (passengers/car)	12 - standard 16 - crush conditions (all seated - no standing)
Lead tram car capacity (pass./car)	10 - standard 14 - crush conditions (all seated - no standing)
Seat Type	Four-person bench (center section folds up)
Number of seats & arrangement	Four - Face to face (facing center aisles)
Fast entry features	Step-in-and-sit
Fast exit features	Stand-and-step-out
Wheelchair capacity	Up to two/car
Car floors	Platform level
Doors/car	Two
Door width	42-inches
Door style	Split (upper & lower) – Power (Lower part is entry walkway)
Emergency doors/car	One at each end
Emergency door type	Fold-down (walkway to mesh walk)
Emerg. door width	36-inches

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Maximum gross weight	6,000-pounds
Empty weight	2,800-pounds
Length (body) (also automated car length)	16-feet
Length (with train couplings)	20-feet (also automated car length)
Width	90-inches
Height (body)	76-inches
<b>Train Consist &amp; Passengers</b>	
Cars/train ( <i>200-ft platforms</i> )	Up to ten
Train capacity ( <i>200-ft plat.</i> )	Up to 160 passengers
Cars/train ( <i>300-ft platforms</i> )	Up to 15
Train capacity ( <i>300-ft plat.</i> )	Up to 240 passengers
<b>Train Operation</b>	
Max. acceleration rate	0.25g
Standard braking rate	0.25g
Maximum braking rate	0.33g
Stopping distance @ 0.33g braking	
30-mph speed	90-feet
65-mph speed	550-feet
Maximum full-speed grade	10%
Station dwell time	22-seconds
Minimum interval (Includes dwell time) (Automated trains) – Interval increased for manual operation	32-seconds (34-sec for 300-ft platform)
Trains per hour (Reduced for manual operation)	105 to 112 (automated) (less for 300-ft platform)

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<b>Passenger Capacity</b> (maximum - crush load)	
Passengers/hr/direction (pphpd) (automated trains) (Capacities reduced for manual)	
(200-ft. platforms)	16,896
(300-ft. platforms)	24,000
<b>Emergency Escape</b>	
Rescue category	Unaided - passenger initiated
Car provisions - seats	Fold-up seats (for center walkway)
Escape doors	Fold-down end doors (ramp to center walkway)
Guideway	Center mesh walkway (Between side rails)
<b>Stations</b>	
Location	Elevated over street
Construction	Factory-built
Exterior Material	Stainless-steel/glass
Access from street	Escalators & elevators
<b>Train Storage</b>	
Storage location	Elevated storage rails
<b>Maintenance Facilities</b>	
Routine maintenance	Special guideway section
Major maintenance	Off-guideway building (Car lift on guideway) (Cars trucked to site)