

Self-funding Commuter Rail That Really Works



A plan that really takes cars off the roads!

- Low Cost
- Low Tech
- Low Risk

MegaRail® Transportation Systems, Inc.
Fort Worth, Texas

U.S. PATS. 6,039,135, 6,401,625, 6,435,100, 6,615,740, 6,742,458, 6,834,595 & 6,837,167
OTHER U.S. & INTERNATIONAL PATENTS PENDING

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Users & Taxpayers Want

USERS WANT

- **Get in my own car and go non-stop to destination!**
- **Avoid traffic delays and accidents**

TAXPAYERS WANT

- **Don't raise my taxes!**
- **Fix the problem ASAP & reduce pollution**

Current systems can't do it!

Typical Commuter Rail Plans

Use existent railroad lines

Routes limited to existent railways

Railways rarely follow real commuter routes

- Hence - Trains carry small portion of commuters
- **Result** – Systems provide negligible traffic reduction

Systems involve very high costs!

Taxpayers pick up the tab

Current Rail Lines are a Problem

Most railroad lines used for freight

Railroads reluctant to accept passenger trains

- Most lines **far below** passenger standards – **High upgrade cost**
- **Liability issues** – Railroad attitude – **“Freight never sues”**

Typical Commuter Rail Plan Flaws

- Based on **available rail routes**
- **Not based on user trip start and end points!**
- **CAN'T SOLVE "LAST MILE" PROBLEM!**
 - Move **less than 2%** of people – **Most continue driving!**
- **Result – Roads remain totally congested!**

Must have lower cost, more effective plan!

Conventional Rail Cost & Time Problems

High cost – \$40 M / mi (Single track) – Includes rail line cost

Typically 25% Federal – 75% local funds

Old freight lines – Very costly to upgrade for passengers

High O&M costs – 15 - 20% from fare box – Balance from taxes

Example – 35-mi D/W TRE 2006 subsidy – \$6.45 per passenger

Must negotiate train time slots with railroads*

Difficult to impossible task – (Railroads congested with freight)

Long wait for Federal funds – Often 6 to 12 years

* Even if you own the lines you **can't actually** prohibit freight use

MegaRail – Self-funding Alternate that Works

- **Elevated steel guideway over any public right of way**
 - Electrically-powered – **Low pollution**
 - Rubber-tired wheels in enclosed rail tubes
 - **Silent service**
 - **All-weather service**
 - **Up and down hills**
 - **Low-cost guideway**
 - Small, separated rail tubes for **low visual obstruction**
- **Little new right of way – Minimum land use**
- **Serves ALL users – TAKES TRAFFIC OFF ROADS!**



Minimum sky blockage – No wide elevated conventional train shadows



View looking upward through guideway U.S. Patent 6,837,167

Low risk – Current, proven technology!

High Performance

High-speed – 85-mph – For short trip times!

- People travel in their cars – Few in train coaches!
- High line capacity – With full dual-track system
 - Up to 3,570 automobiles pphpd (400-ft stations & 16-car trains)
Plus up to 2,856 pphpd in train coaches
- Off-line stations for both local and express trains

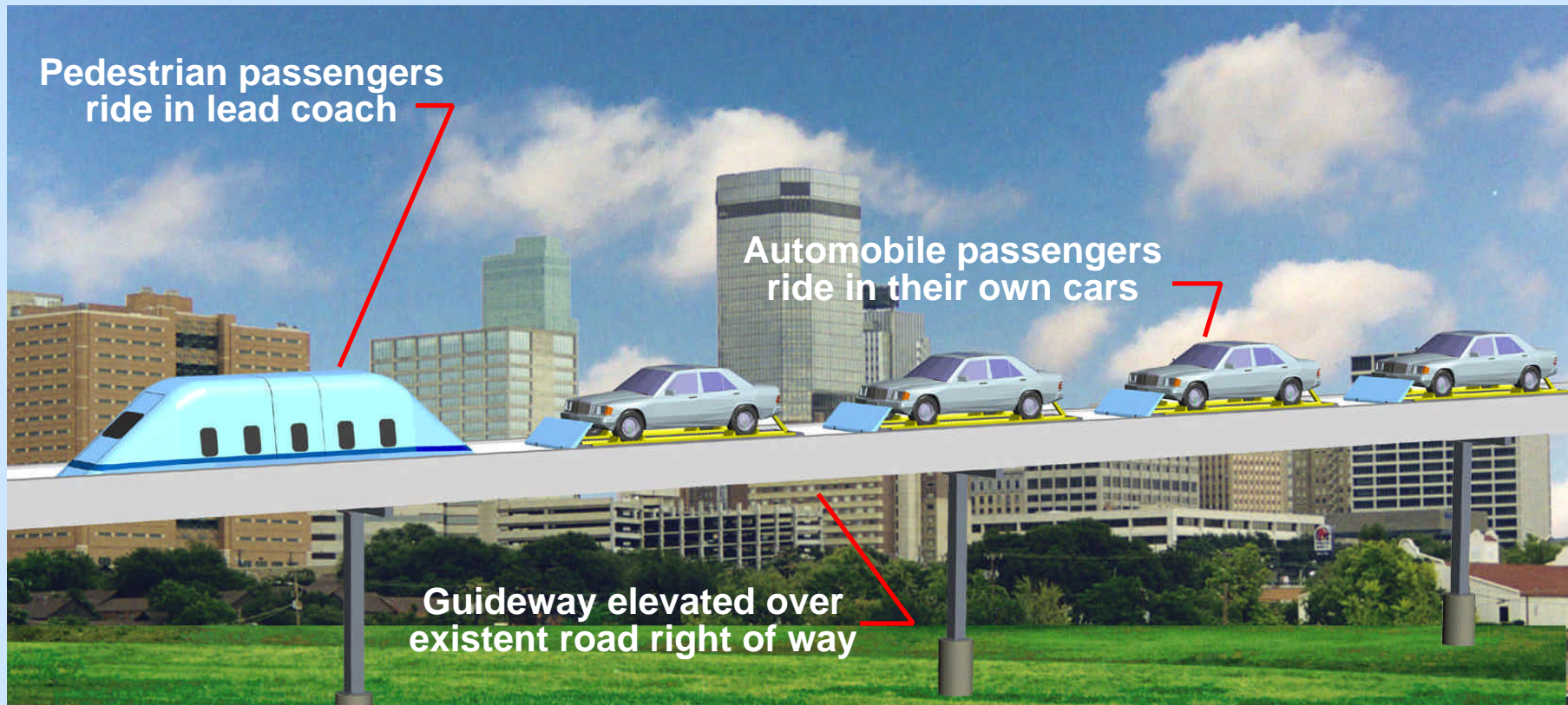
Grade-separated – Small, factory-built steel guideways

Go-anywhere (Including up hills) – Cars use rubber tires

Cost less than driving the same distance!

Ultralight Commuter *MegaRail CarTrain™*

Fast service in your car or in train coach at low cost



Ultralight *MegaRail* commuter *CarTrain* on elevated guideway

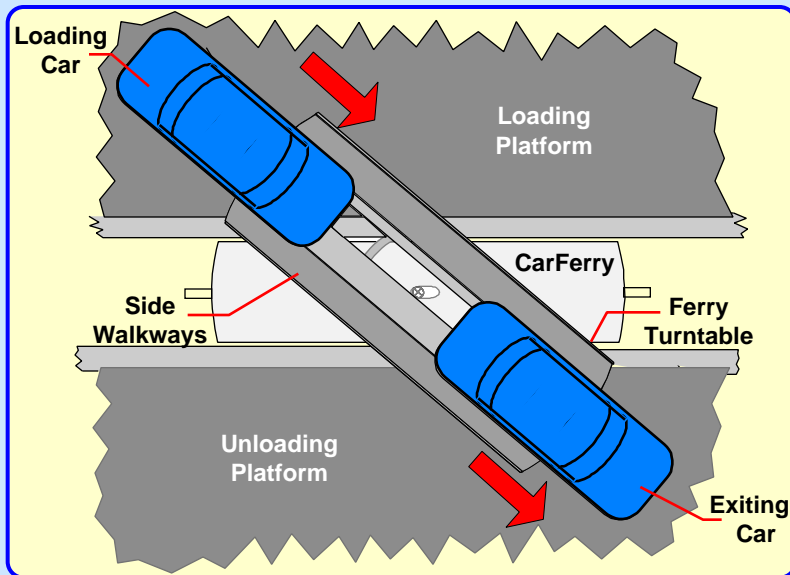
Skycoach™ & *CarFerries™* in single train

Automobile passengers never leave their car for entire commute!

CarFerries[™] allow people to take their cars

Rapid loading and unloading by car drivers at stations

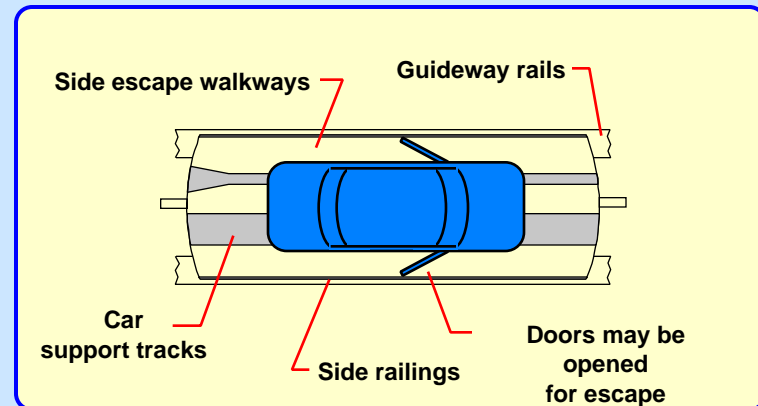
CarFerries provide fast Load & Unload



Car drivers drive their cars onto and off of ferries at stations

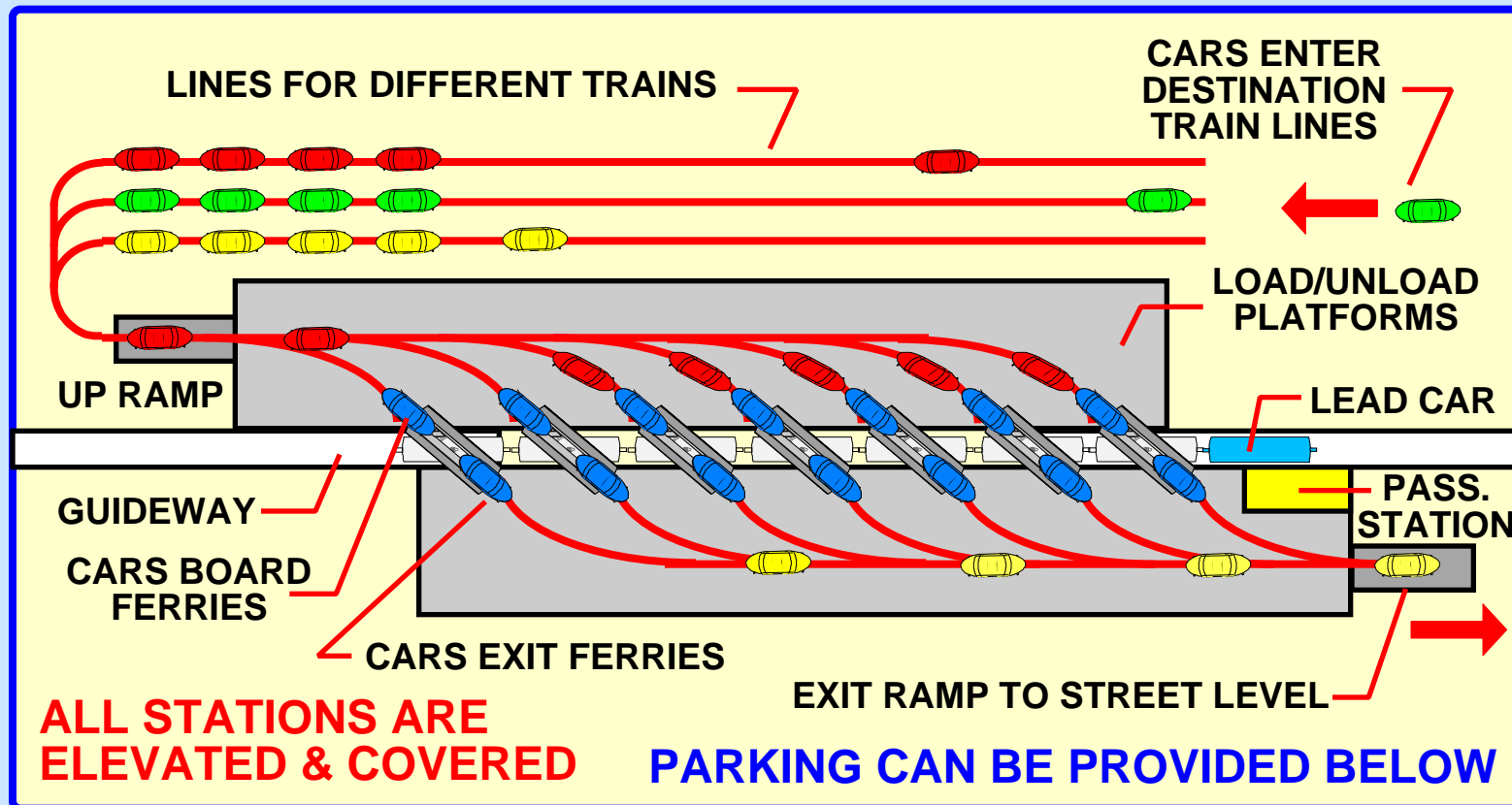
- People in cars that need their cars
- People in *Skycoaches* who don't need cars

Individual *CarFerry* Safety Features



Ferry walkways enable passengers to access guideway center emergency walkways

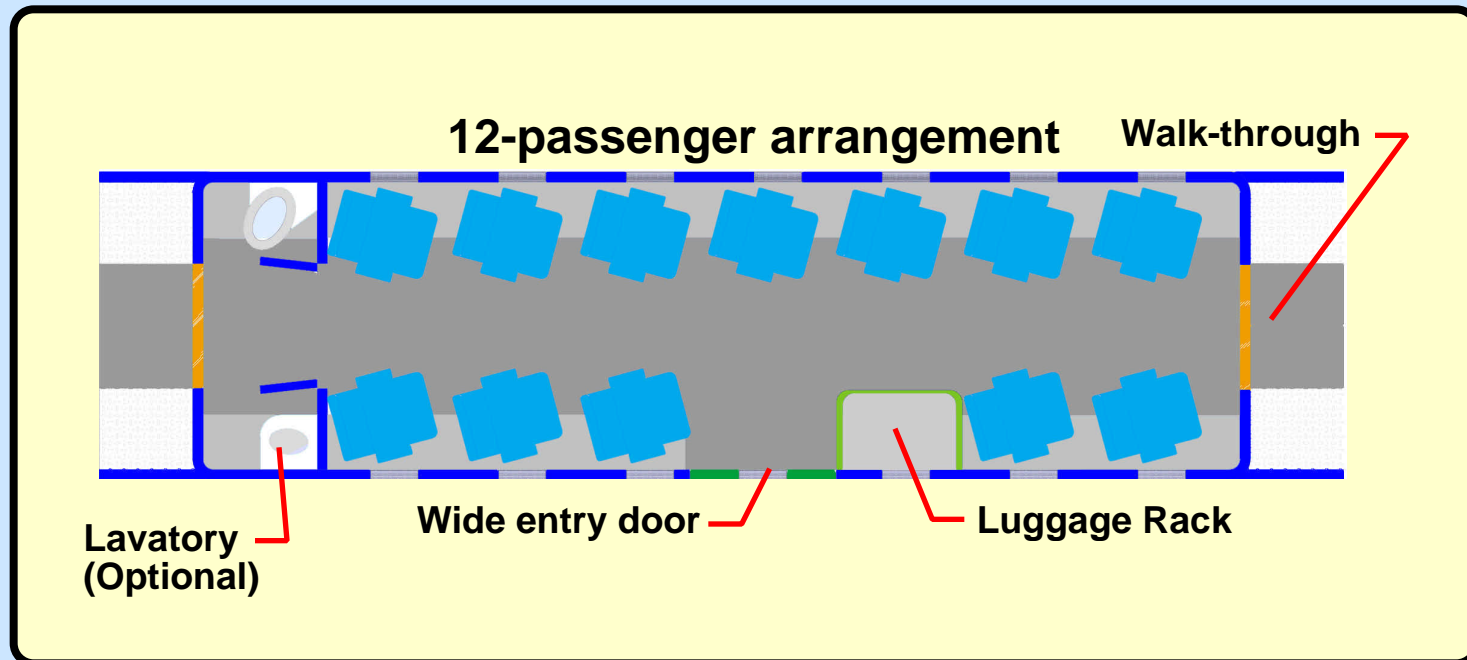
Typical *CarTrain*[™] Station Arrangement



Drivers enter line for desired route or destination
(Trains may take different guideway routes)

SkyCoaches have Spacious Interiors

Large, comfortable seats – Wide center aisle



For traditional train passenger use

MegaRail – Low Cost, Self-funding System

Example – 260-mile, dual-track system

- Elevated **dual** guideway @ \$8.5 M/mile – \$4.4 B (Installed)
 - Stations at each 5-mi – @ \$1.0M – \$1.0B
 - 131 16-car *CarTrains* @ \$2.6M – \$0.4B
 - Maintenance facilities & support equipment – \$0.05B

Total MegaRail cost for 260-mile dual-track system – \$5.85B

Dual-track system cost is only \$11.25M/mi!

Commuter *MegaRail* is **Available NOW!**

Guideway installation

- Guideway engineering – Immediate start
- First production guideway sections deliver in 12 months

Train production – (Prototype now operating)

- Production start within 12 months
- Deliveries within 18 months

First service within 36 months – (Manual control)

No wait for extensive new development!

Routes based on trip origin and end points!

260-mi *MegaRail* System Summary

- *MegaRail* – \$585M / yr (10 yrs) – Without taxes!
 - Revenue covers all bond & O&M costs
- *MegaRail* guideway provides guideway for:
 - 85-mph automobile & passenger *CarTrains*
- *MegaRail* – Attractive & **SELF-FUNDING** commuter system
 - 28% of heavy rail cost
 - Use any public right of way
 - Environment friendly
 - Increased service area

***MegaRail* service unloads freeways!**

No conflicts with freight railroad line uses

**Commuter *MegaRail*®
Ultralight Rail Transport (URT)

Advanced Design
with
Off-the-shelf Technology
for Low Risk**

Skycoaches offer Safe Escape

Unaided escape for all (including wheelchairs) without rescue personnel

U.S. Patent 6,837,167



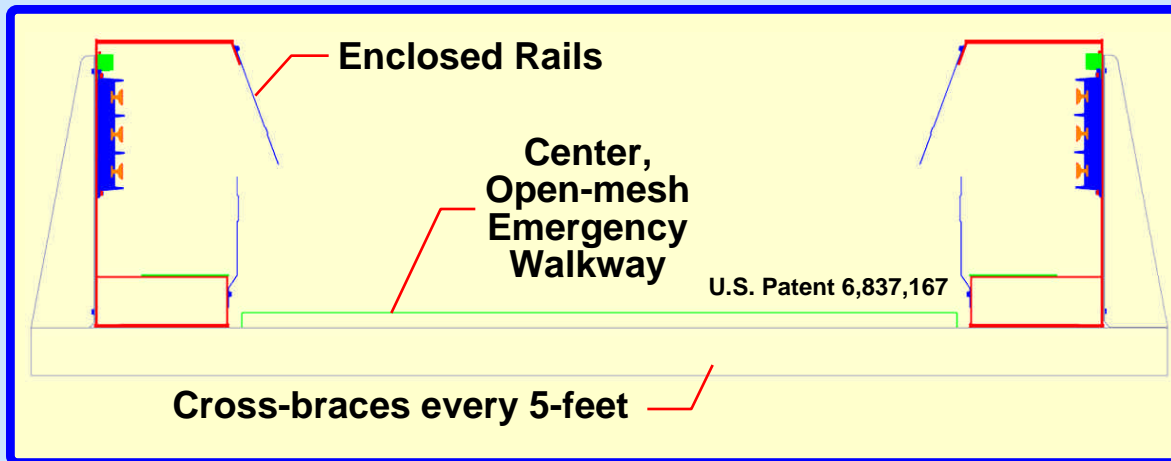
- Full-height escape doors in ends of coaches
- Open-mesh escape walkway between rails
- Covered electric rails



Upward view through walkway

Small, **Low Cost**, Factory-built Guideway

Fast, bolt in place installation



10.5-ft
wide by
36-inch
high
MegaRail
guideway

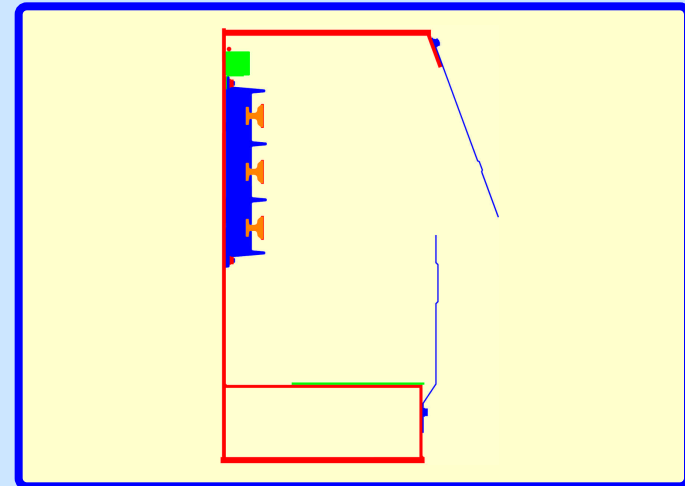
Guideway cross-section

Cost – 20% of heavy elevated mass transit guideway

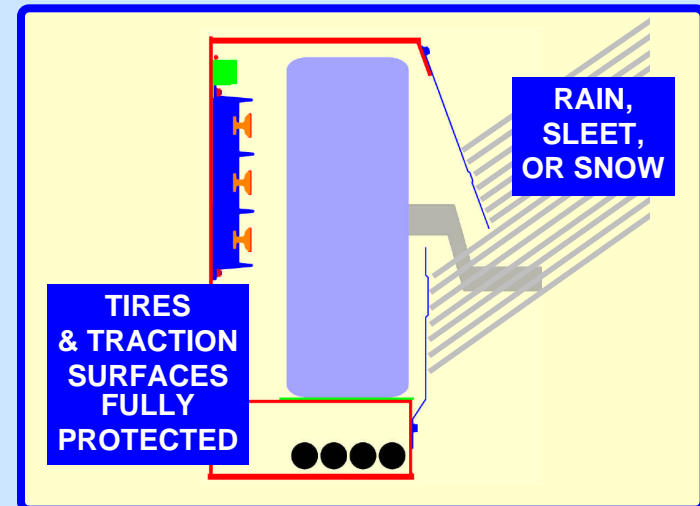
- Existent highway/street rights-of-way
- Mass-produced, factory-built sections – **fast on-site assembly**
- **No more land use & earth moving projects**

Low-cost, All-weather, Enclosed Rails

- **Low-cost guideway rails**
 - Formed from flat stainless-steel
 - Machine-welded construction
 - Low material & labor costs
 - Bolt-in electric power rails
 - Trucked to installation site
- **All-weather, enclosed rails**
 - Wheels & power collectors inside
 - Protected electric power rails
 - Dry & ice-free traction surfaces
 - **Safe operation in any weather**



Single guideway rail cross-sections



Technology Summary

Unique **new** combination of **off-the-shelf, proven technology**

Enclosed stainless-steel guideway rails - US Pat. 6,039,135

- Simple welded steel factory fabrication
- Standard electrical power rails

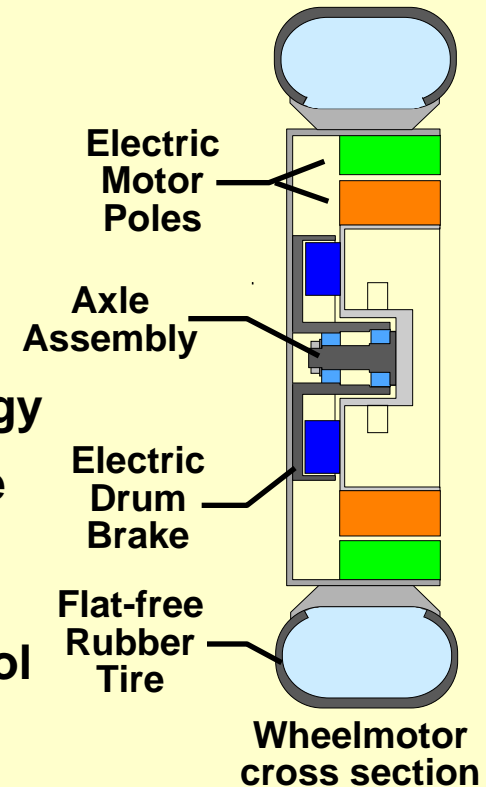
Flat-free tires – Current car tire technology

Permanent-magnet electric motors

- Current commercial brushless-motor technology
- Electric motor wheels – current electric car use

Car-based steering & switching

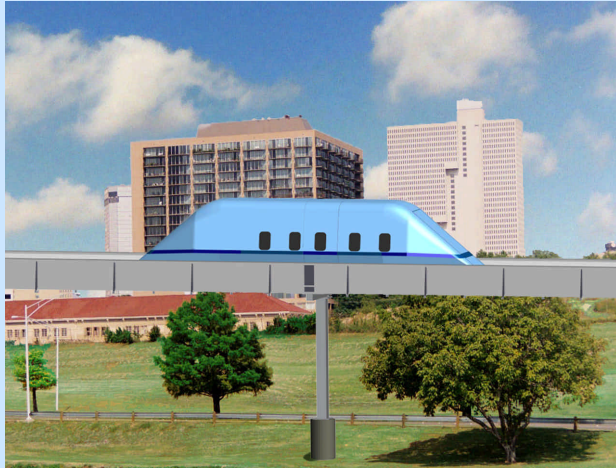
- Automobile-type steering with electronic control
- Switching – **No moving rails** – Done by cars!



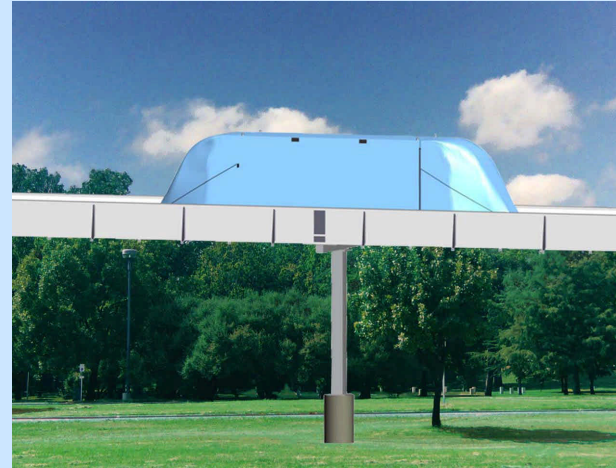
Only the combination & guideway are new!

Future Automated Single Cars

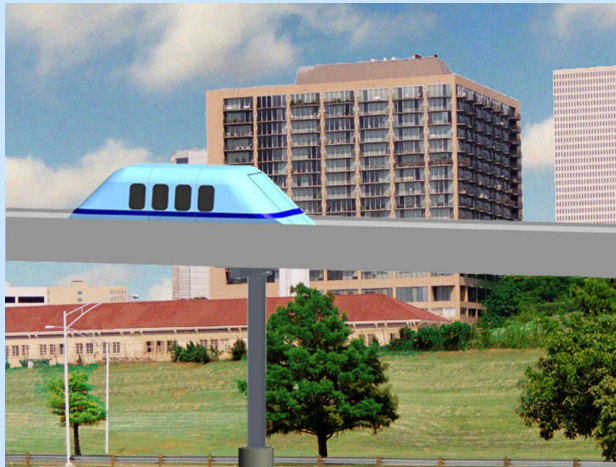
Available within 48 months



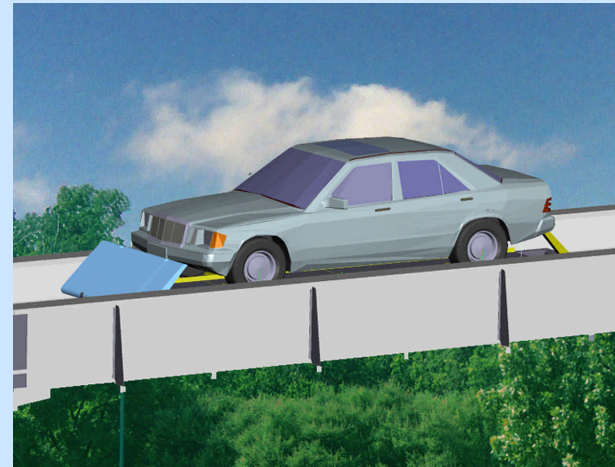
Automated *MegaLiner*[™]
for 24-hr, 7-day & increased
service



Automated *CargoContainer*[™]
for direct terminal to terminal
container shipment



Automated *PrivateLiner*[™]
24-hr, 7-day high-speed rail
private car service



Automated *CarFerry*[™]
high-speed rail service in
personal automobile

Commuter *MegaRail CarTrain* Summary

Performance – Far superior to any other system

- **Seamless commute for automobile users** – No last mile problem
- **Major reduction in road traffic** • **Bus-type** hill capability

Start first service – Within 36 months!

- Shorter time than for any other system - **No funding delays**

Total system cost – Far less than other rail plans

- Local **revenue bond** funding and control • **No tax subsidies**

Environment friendly – Noise free operation

- No construction impacts to business or street traffic
- No earth moving • **Removes cars from freeways!**

MegaRail - The 21st Century Commuter Rail Available NOW

**• Low Cost
• Low Tech
• Low Risk**



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