

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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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”**

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

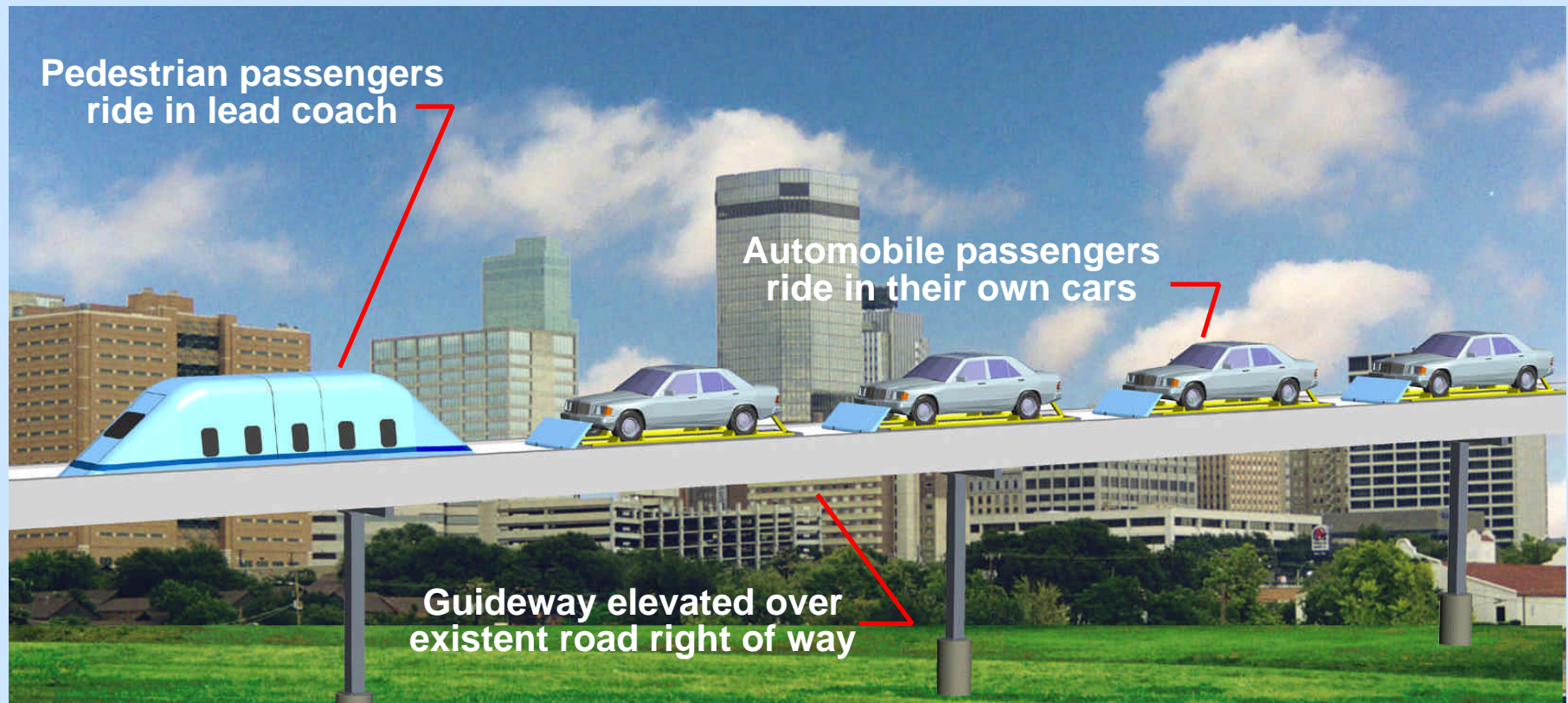


View looking upward through guideway U.S. Patent 6,837,167

Low risk – Current, proven technology!

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!

High Performance

High-speed – 85-mph – 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!

MegaRail – Low Cost, Self-funding System

Example – 200-mile, dual-track system

- **Elevated dual guideway @ \$6.1 M/mile – \$2.4 B (Installed)**
 - **Stations at each 5-mi – @ \$1.0M – \$0.8B**
 - **100 16-car CarTrains @ \$4.0M – \$0.4B**
 - **Maintenance facilities & support equipment – \$0.05B**

Total MegaRail cost for 200-mile dual-track system – \$3.7B

Complete dual-track system in 10 years!

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 30 months – (Manual control)

No wait for extensive new development!

Routes based on trip origin and end points!

200-mi *MegaRail* System Summary

- *MegaRail* – \$370M / 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
 - 45% of heavy rail cost
 - Use any public right of way
 - Environment friendly
 - Increased service area

***MegaRail* service unloads freeways!**

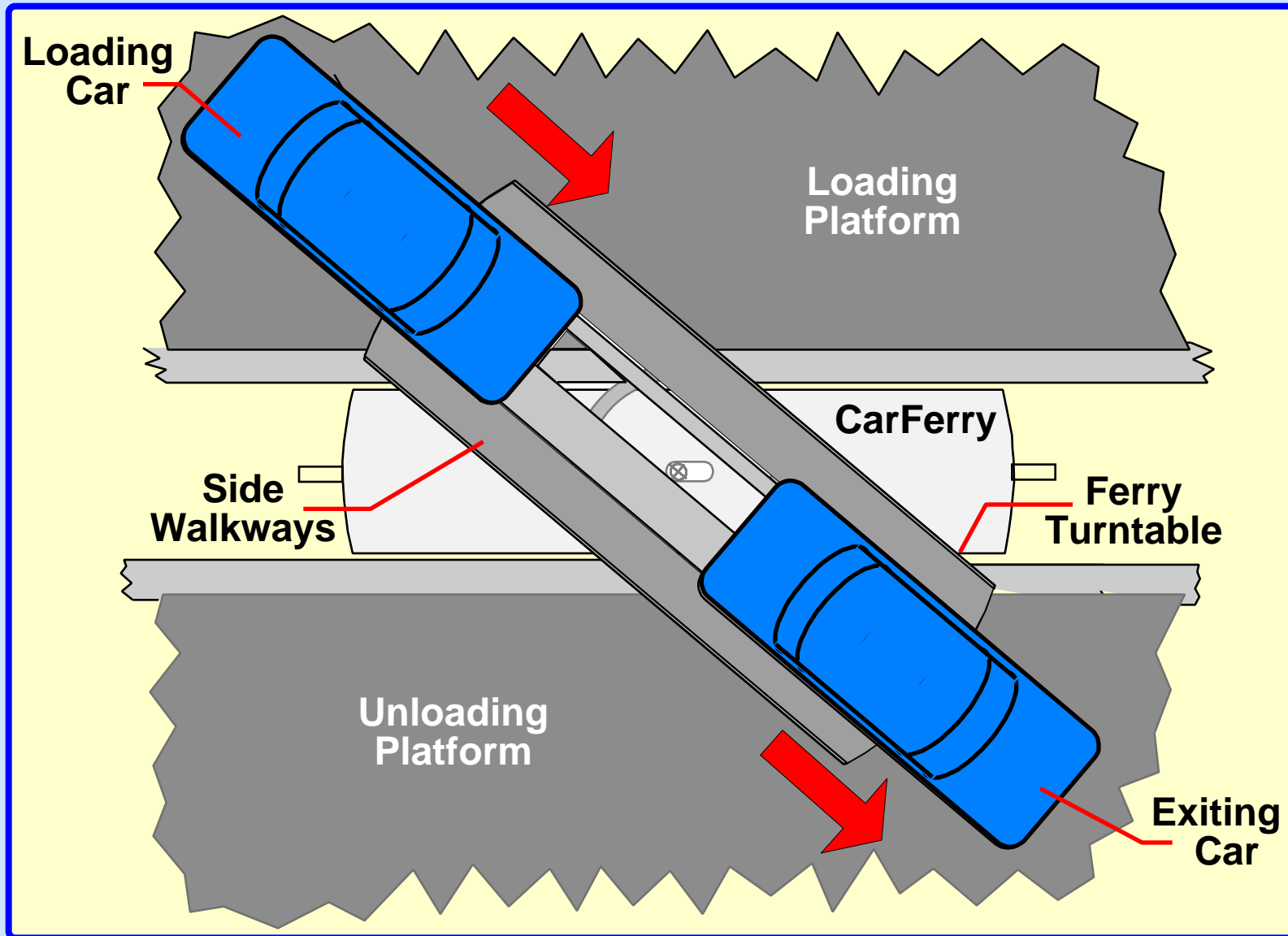
No conflicts with freight railroad line uses

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

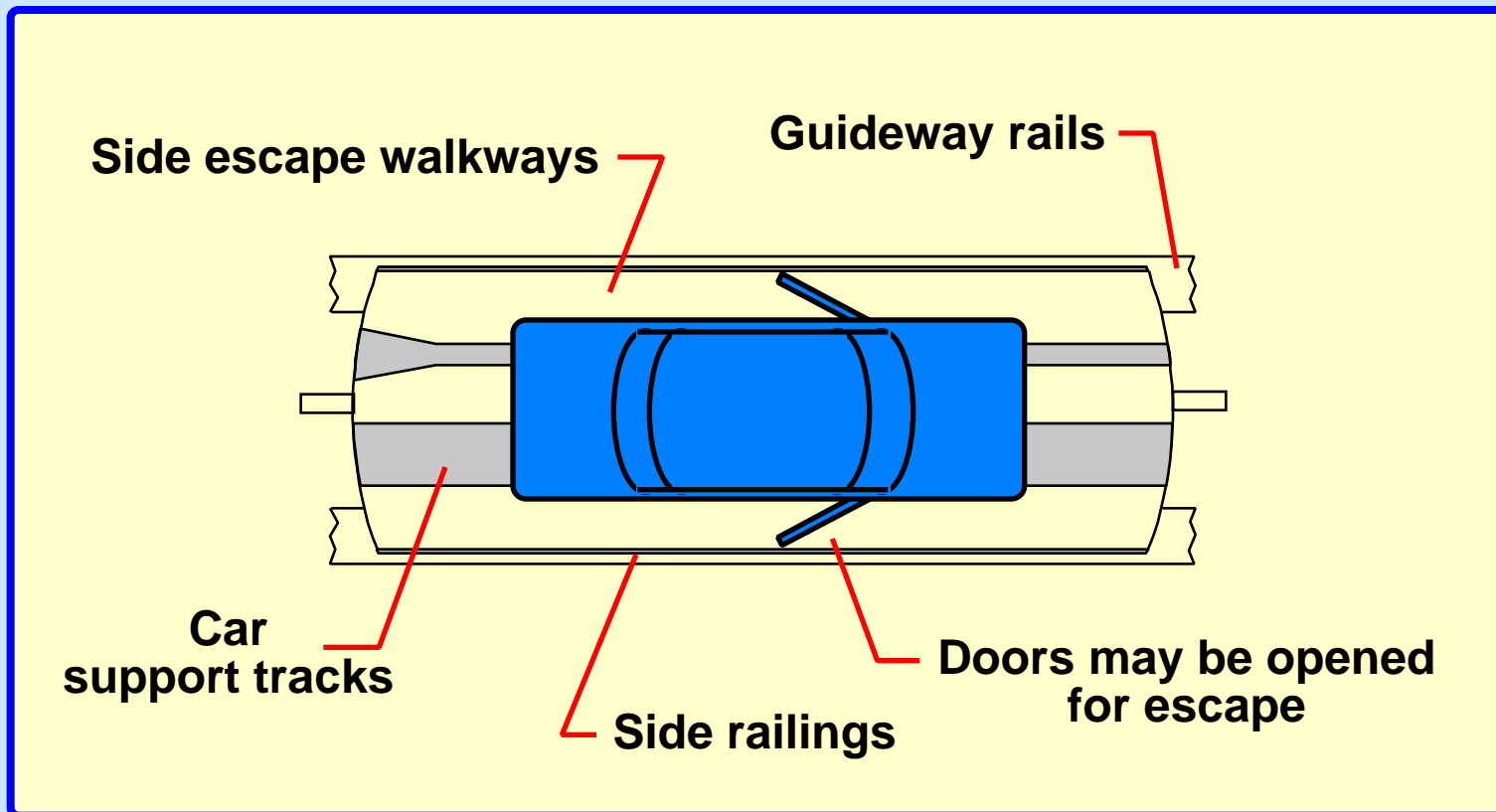
**Advanced Design
with**

**Off-the-shelf Technology
for Low Risk**

CarFerry provide fast Load & Unload



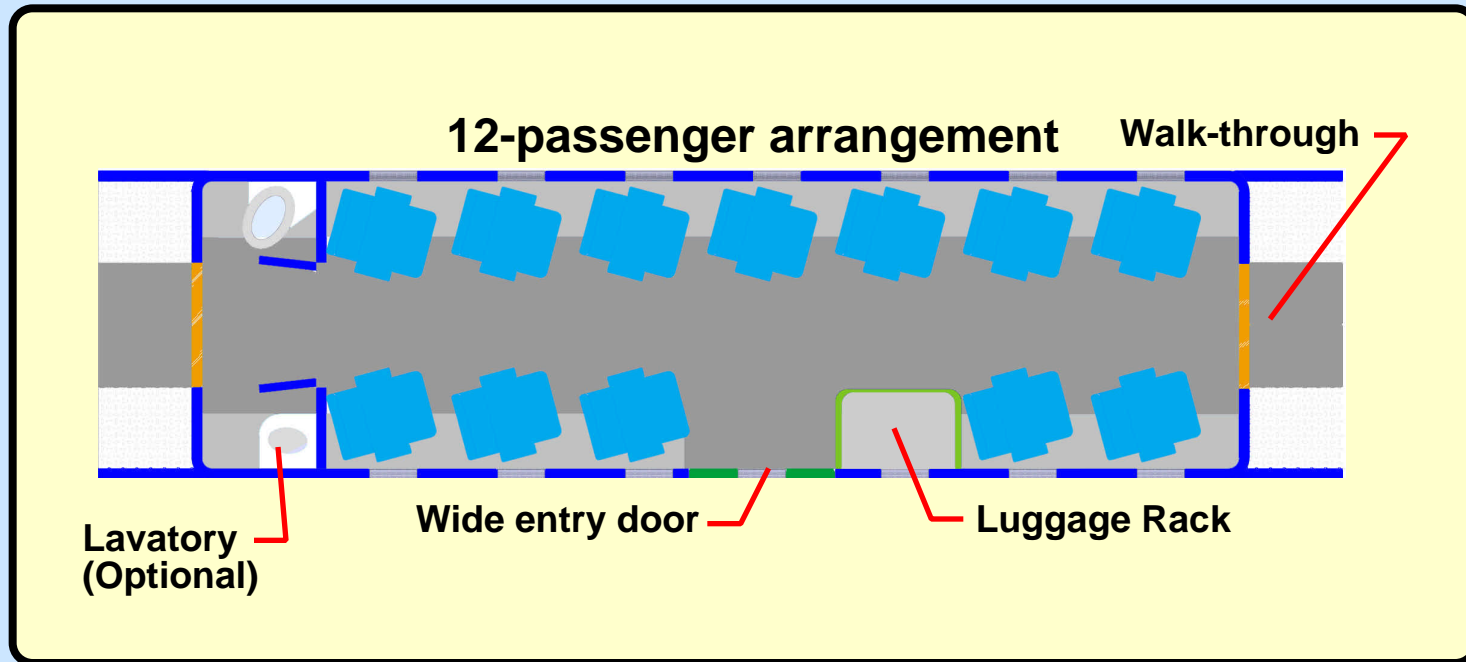
Individual *CarFerry* Safety Features



Ferry walkways enable passengers to access guideway center emergency walkways

SkyCoaches have Spacious Interiors

Large, comfortable seats – Wide center aisle



For traditional transit passenger use

Skycoaches offer Safe Escape

Unaided escape for all (including wheelchairs) without rescue personnel

U.S. Patent 6,837,167



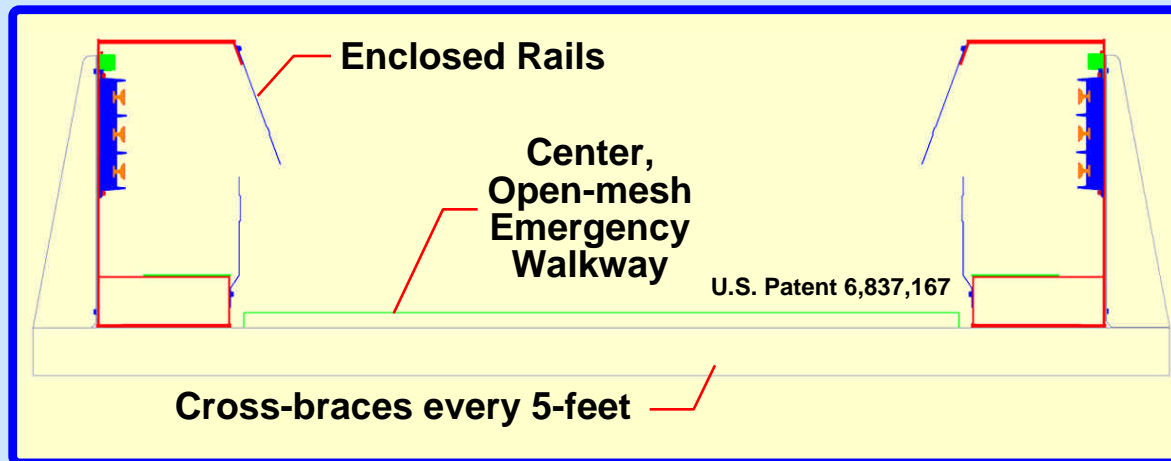
- Full-height escape doors in ends of coaches
- Open-mesh escape walkway between rails
- Covered electric rails



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

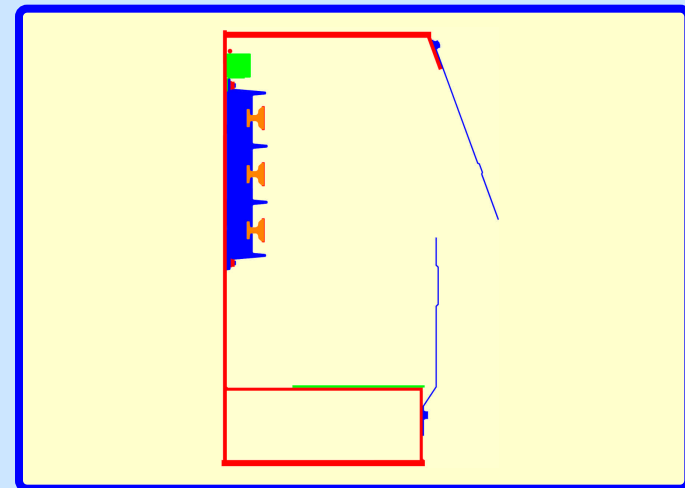
Guideway cross-section

Cost – 20% of heavy elevated mass transit guideway

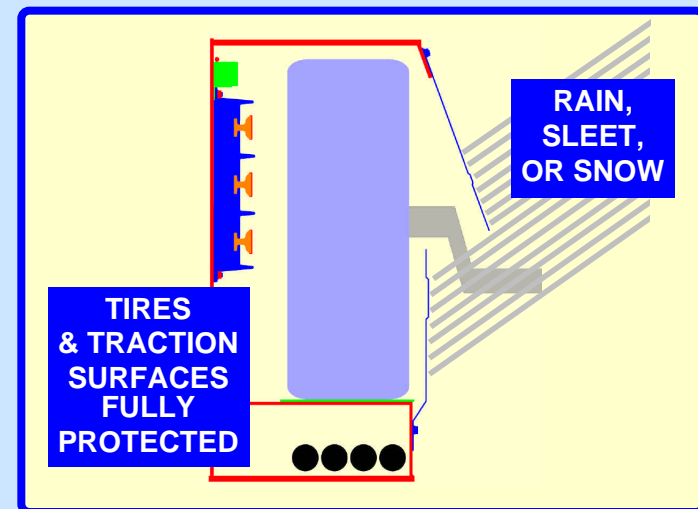
- Existent highway/street rights-of-way
- Mass-produced, factory-built sections – **fast on-site assembly**
- **No more land use & earth moving projects**

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

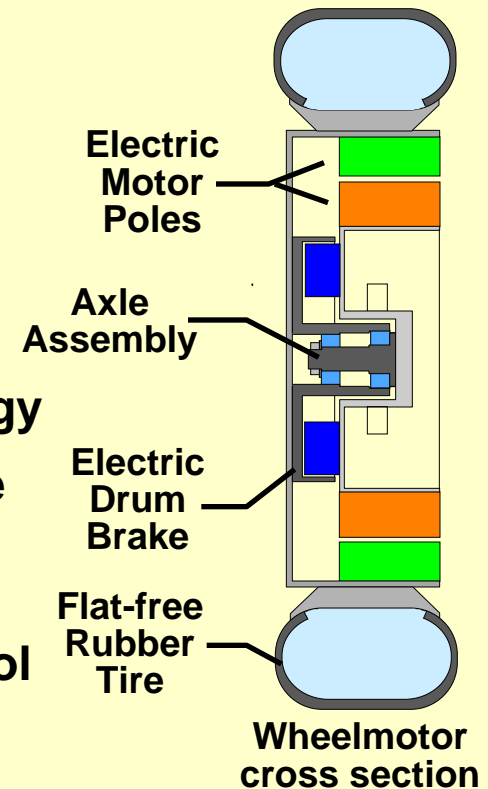
Flat-free tires – Current car tire technology

Permanent-magnet electric motors

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

Car-based steering & switching

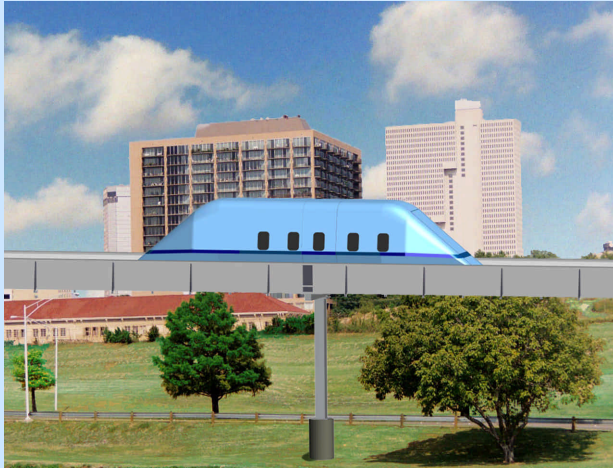
- Automobile-type steering with electronic control
- Switching – **No moving rails** – Done by cars!



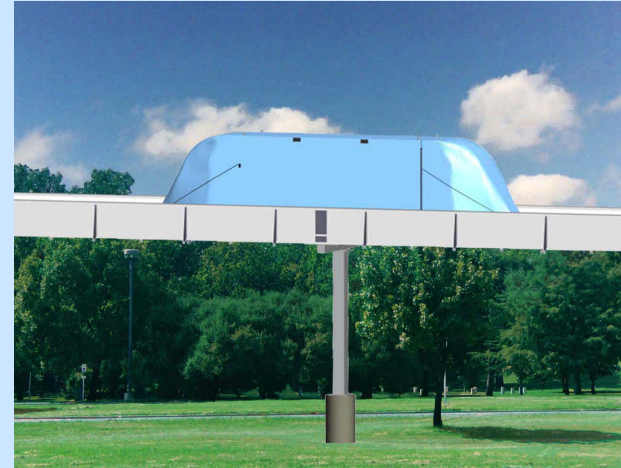
Only the combination & guideway are new!

Future Automated Single Cars

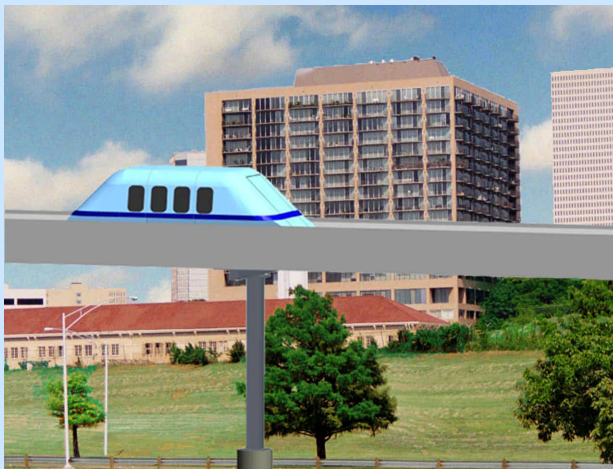
Available within 48 months



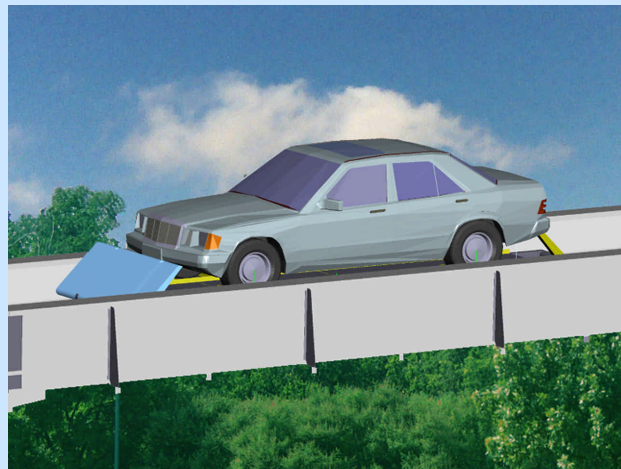
Automated *MegaLiner*™
for 24-hr, 7-day & increased
service



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 30 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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