

# 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

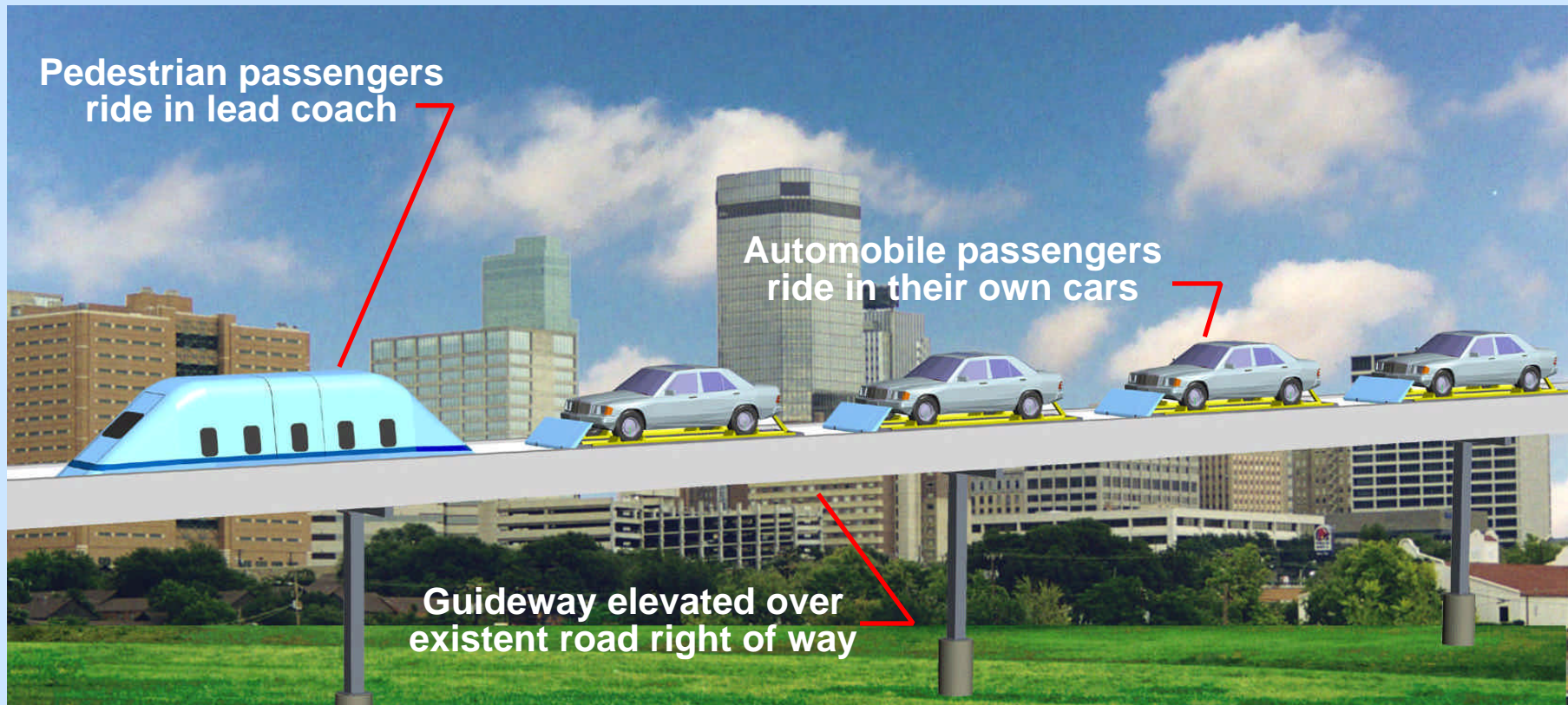
**Grade-separated – Small, factory-built steel guideways**

**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

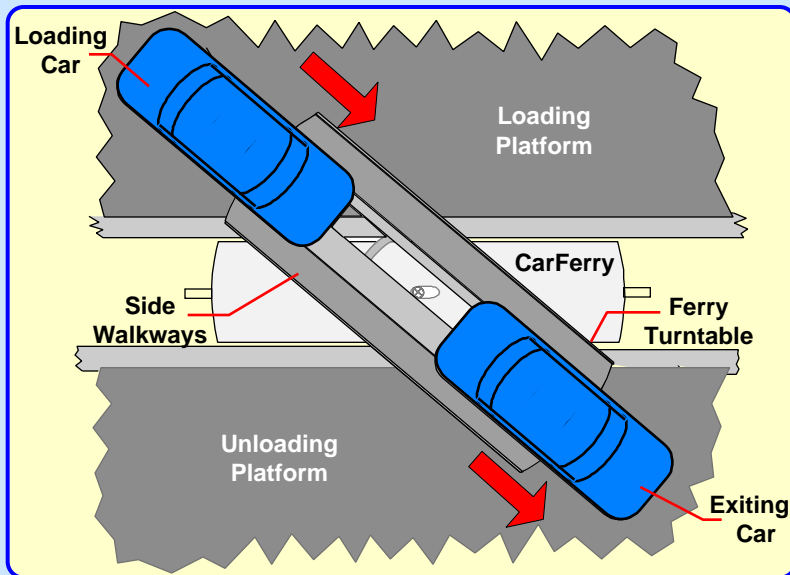
**Skycoach™** & **CarFerries™** in single train

**Automobile passengers never leave their car for entire commute!**

# CarFerries<sup>™</sup> allow people to take their cars

Rapid loading and unloading by car drivers at stations

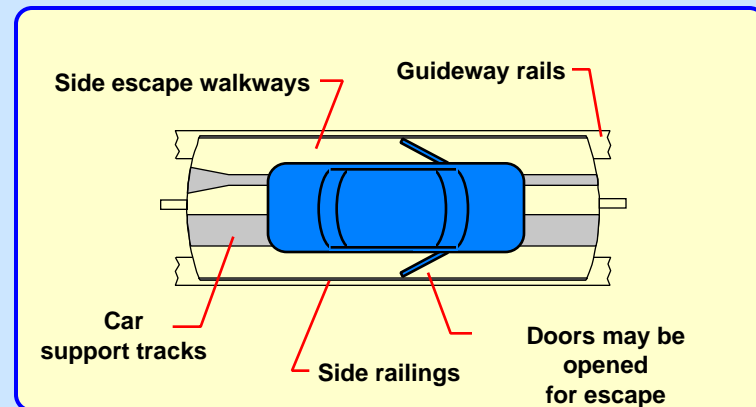
**CarFerries** provide fast Load & Unload



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

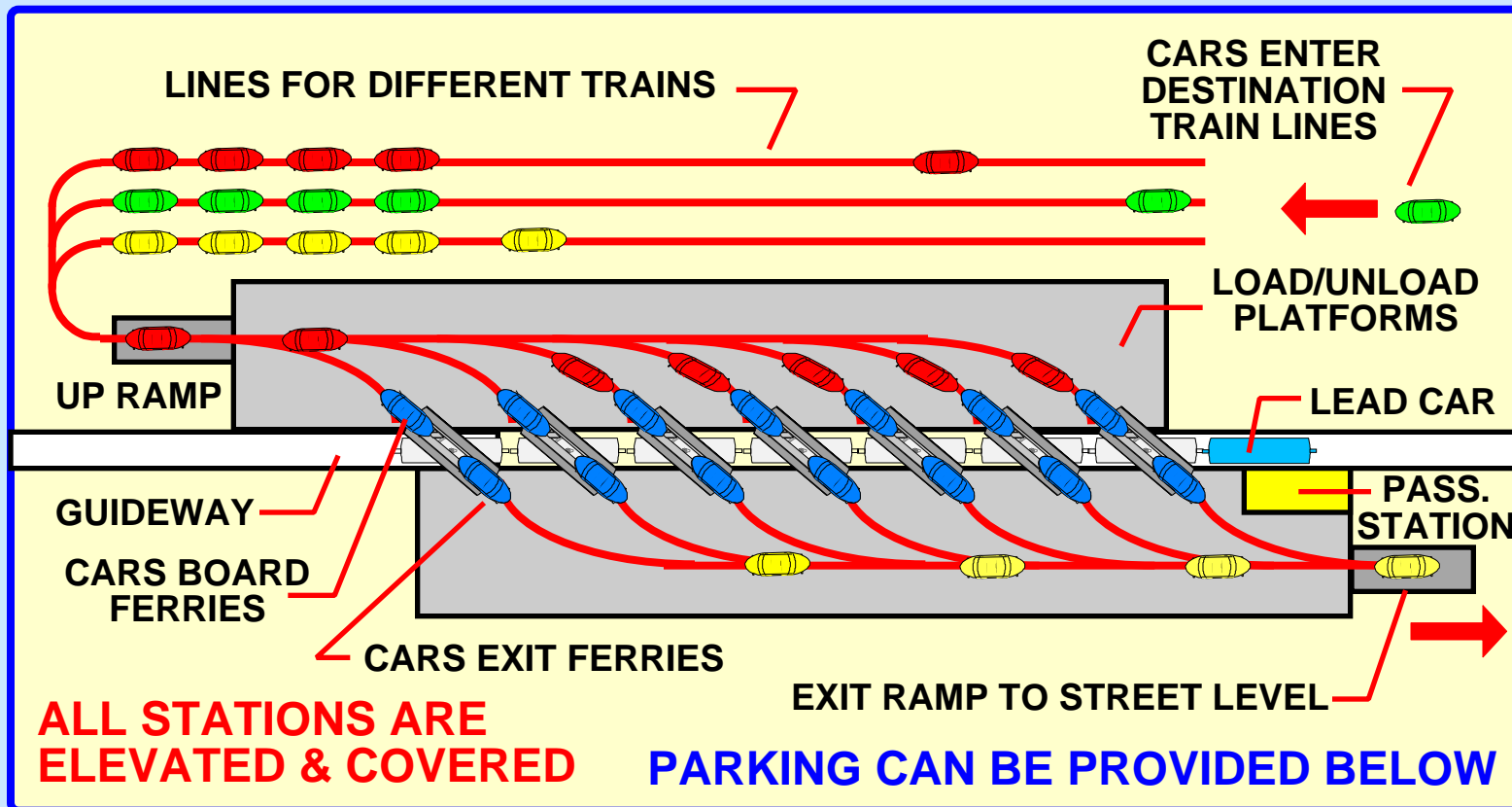
- People in cars that need their cars
- People in *Skycoaches* who don't need cars

Individual *CarFerry* Safety Features



**Ferry walkways enable passengers to access guideway center emergency walkways**

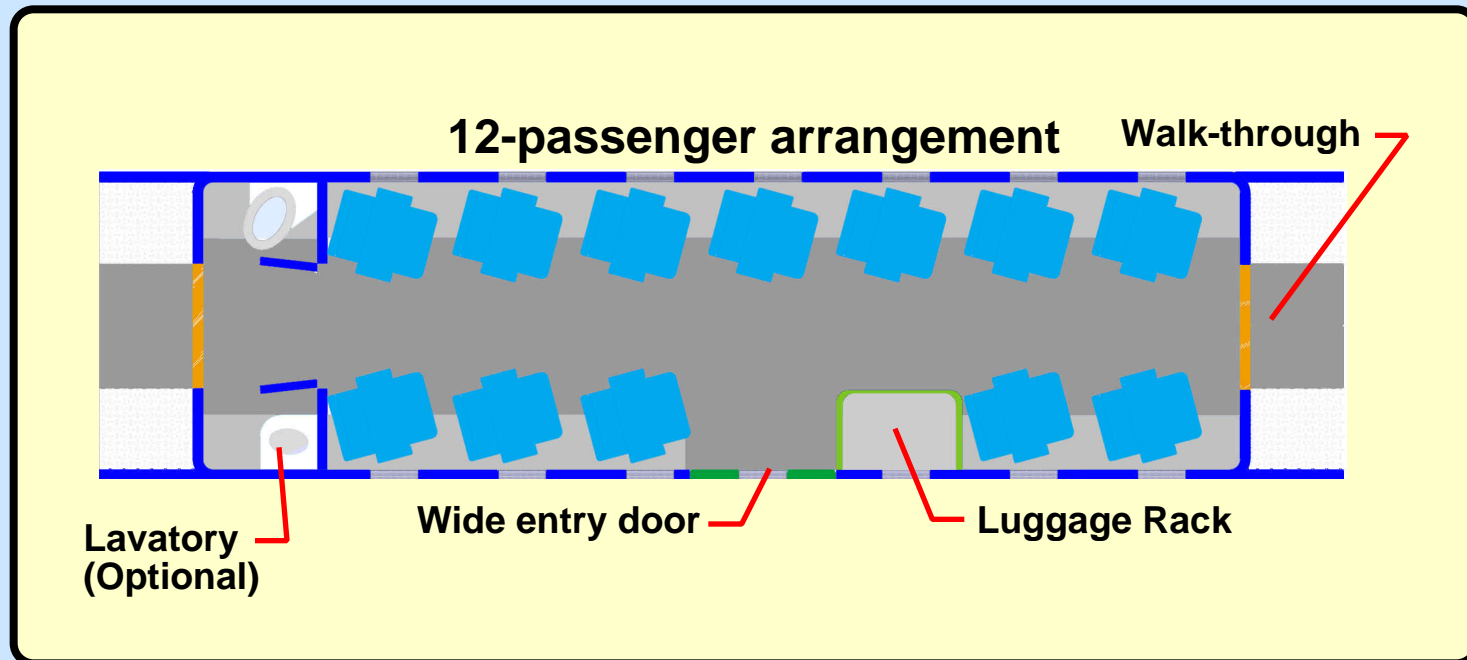
# Typical *CarTrain*<sup>™</sup> Station Arrangement



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)**

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**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



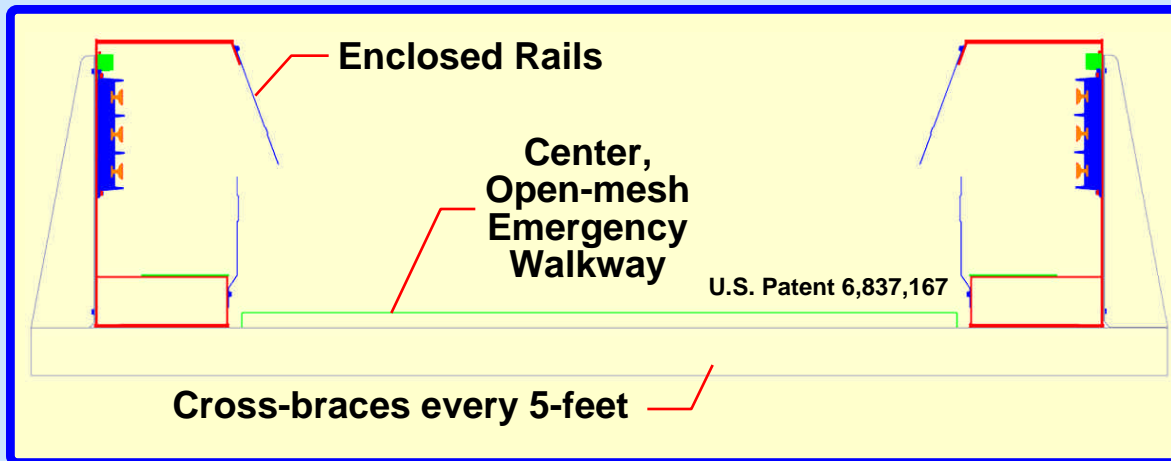
- Full-height escape doors in ends of coaches
- Open-mesh escape walkway between rails
- Covered electric rails



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

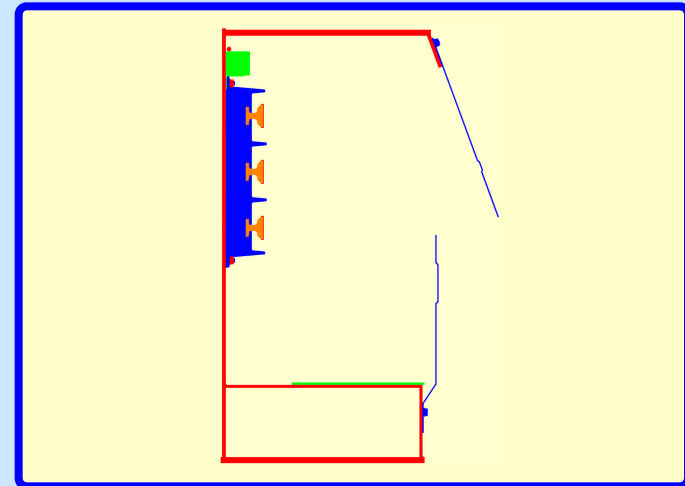
Guideway cross-section

**Cost** – 20% of heavy elevated mass transit guideway

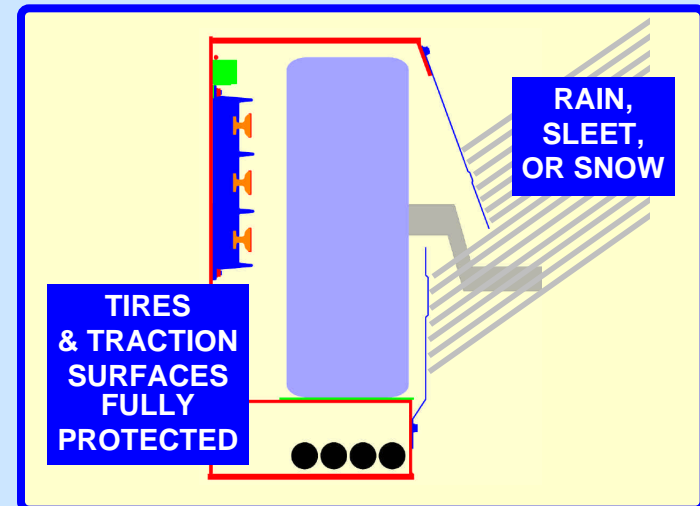
- Existent highway/street rights-of-way
- Mass-produced, factory-built sections – **fast on-site assembly**
- **No more land use & earth moving projects**

# 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

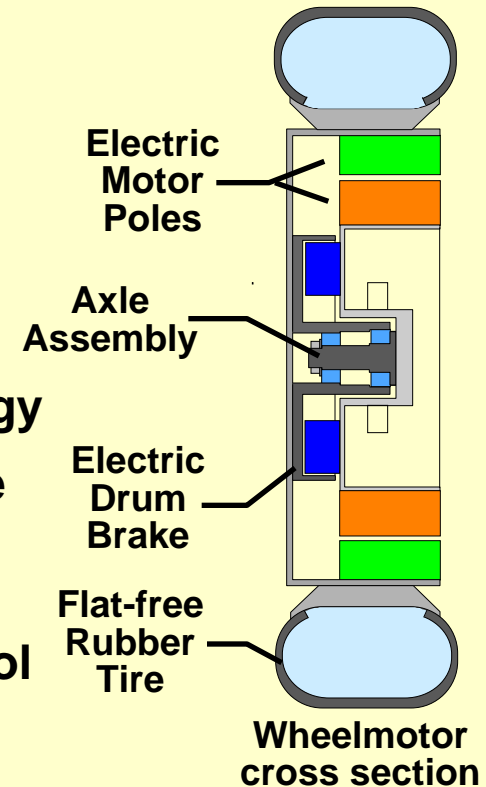
## Flat-free tires – Current car tire technology

## Permanent-magnet electric motors

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

## Car-based steering & switching

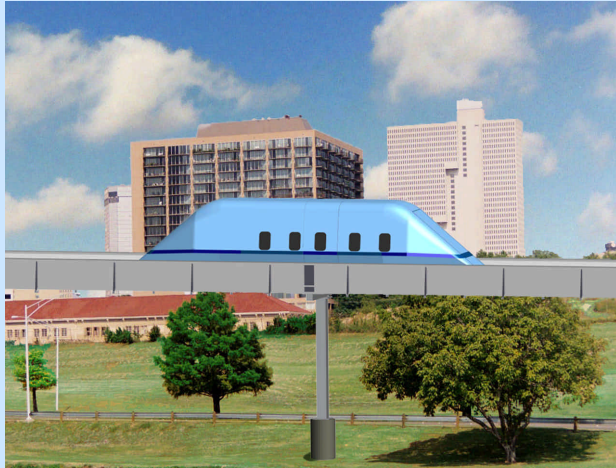
- Automobile-type steering with electronic control
- Switching – **No moving rails** – Done by cars!



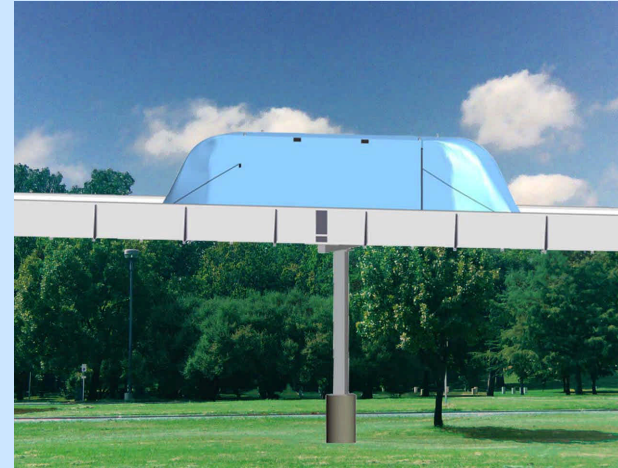
***Only the combination & guideway are new!***

# Future Automated Single Cars

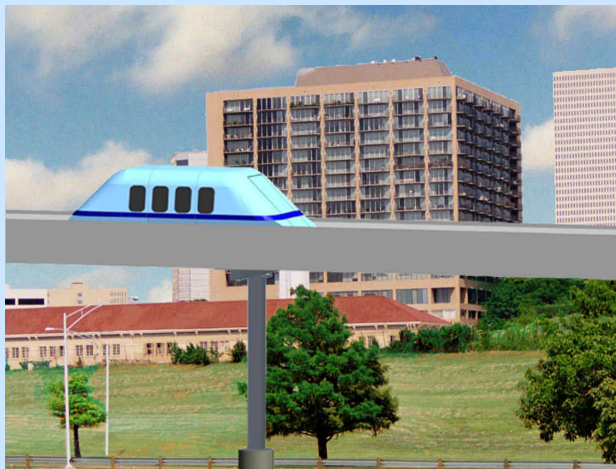
Available within 48 months



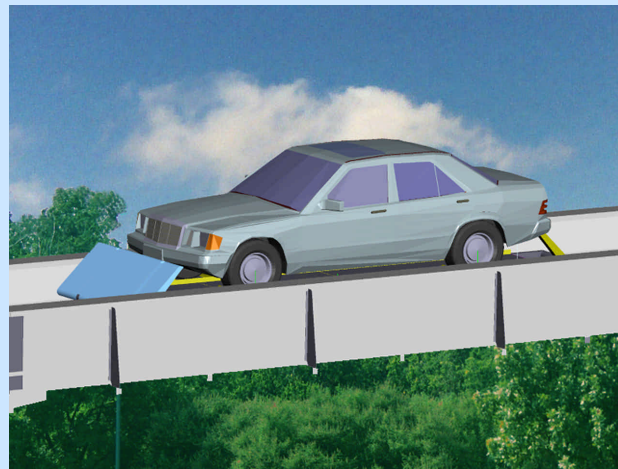
**Automated *MegaLiner***<sup>™</sup>  
for 24-hr, 7-day & increased  
service



**Automated *CargoContainer***<sup>™</sup>  
for direct terminal to terminal  
container shipment



**Automated *PrivateLiner***<sup>™</sup>  
24-hr, 7-day high-speed rail  
private car service



**Automated *CarFerry***<sup>™</sup>  
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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