Self-funding Commuter Rail
That Really Works

MegaRail® Transportation Systems, Inc.
Fort Worth, Texas

A plan that really takes cars off the roads!

• Low Cost
• Low Tech
• Low Risk

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!

Ultralight, stainless-steel structure
Long-life, no rusting
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 phpd** (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

Pedestrian passengers ride in lead coach
Automobile passengers ride in their own cars
Guideway elevated over existent road right of way

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

- 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

Car drivers drive their cars onto and off of ferries at stations
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
  - Environment friendly
  - Use any public right of way
  - 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

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

Upward view through walkway

U.S. Patent 6,837,167
Small, **Low Cost**, Factory-built Guideway

Fast, bolt in place installation

**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
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
Revolutionary, High-speed, Multi-user 21st Century Transport!

offers -

- Unprecedented level of service
- Low transportation user costs

Near-term & affordable solution to traffic & air pollution problems