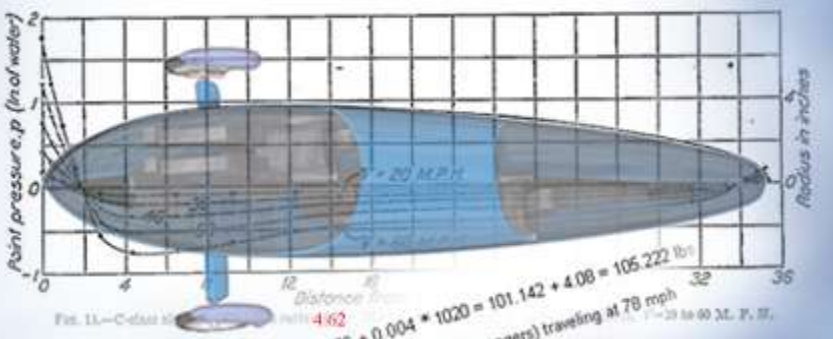
TriTrack

FINENESS RATIO OF 4.62 (NACA-TR291)

DRAG OF C-CLASS AIRSHIP HULLS OF VARIOUS FINENESS RATIOS

257



*** 4 passengers ***

T (case 1) = ½ * 0.0023769 * 264.006² * 1.221019676 * 0.004 * 1020 = 101.142 + 4.08 = 105.222 lb

209.997 lb of thrust is required to keep the Mercury Sable (with 4 passengers) traveling at 78 mph

Compute tra… ce required for g-load

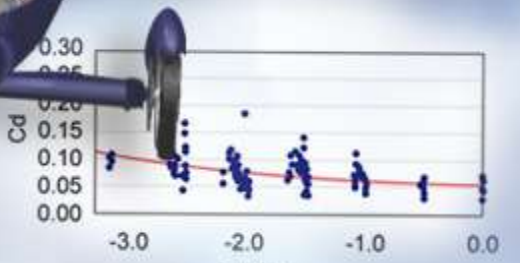
Assumption: constant acceleration

GLOAD = 1/(2g)[$v_2^2 - v_1^2$]/($x_2 - x_1$)

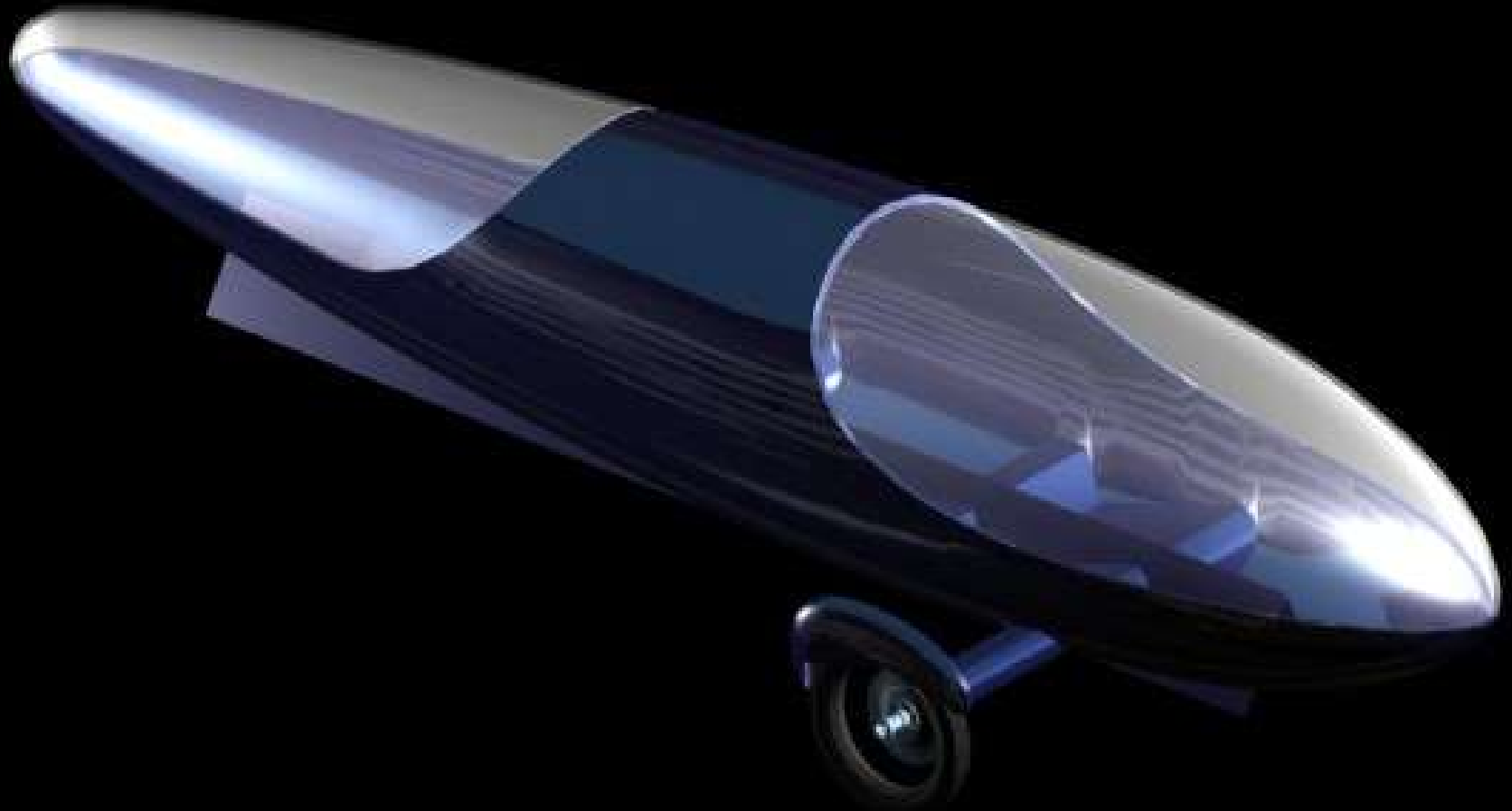
$x_2 - x_1$ = 1/(2g)[$v_2^2 - v_1^2$]/GLOAD

$x_2 - x_1$ = 1029.667245/GLOAD (ft)

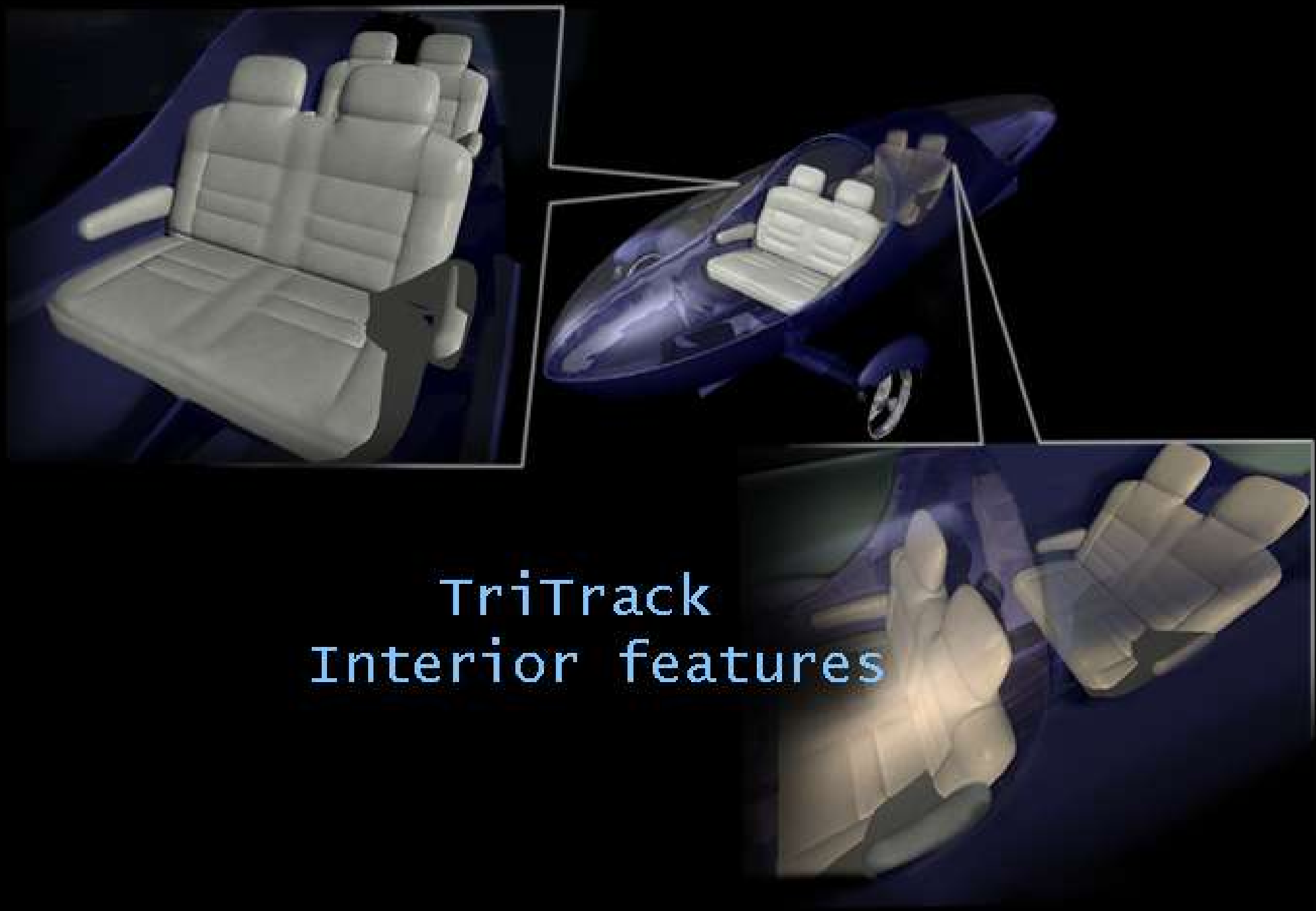
For GLOAD = 0.9 $x_2 - x_1$ = 1029.667245/0.9 = 1144.1 feet
For GLOAD = 1.0 $x_2 - x_1$ = 1029.667245/1.0 = 1029.7 feet
For GLOAD = 1.1 $x_2 - x_1$ = 1029.667245/1.1 = 936.1 feet
For GLOAD = 1.2 $x_2 - x_1$ = 1029.667245/1.2 = 858.1 feet
For GLOAD = 1.3 $x_2 - x_1$ = 1029.667245/1.3 = 792.1 feet
For GLOAD = 1.4 $x_2 - x_1$ = 1029.667245/1.4 = 735.5 feet
For GLOAD = 1.5 $x_2 - x_1$ = 1029.667245/1.5 = 686.4 feet
For GLOAD = 1.6 $x_2 - x_1$ = 1029.667245/1.6 = 643.5 feet
For GLOAD = 1.7 $x_2 - x_1$ = 1029.667245/1.7 = 605.7 feet
For GLOAD = 1.8 $x_2 - x_1$ = 1029.667245/1.8 = 572.0 feet
For GLOAD = 1.9 $x_2 - x_1$ = 1029.667245/1.9 = 541.9 feet
For GLOAD = 2.0 $x_2 - x_1$ = 1029.667245/2.0 = 514.8 feet
For GLOAD = 2.05933449 $x_2 - x_1$ = 1029.667245/2.0 = 500 feet



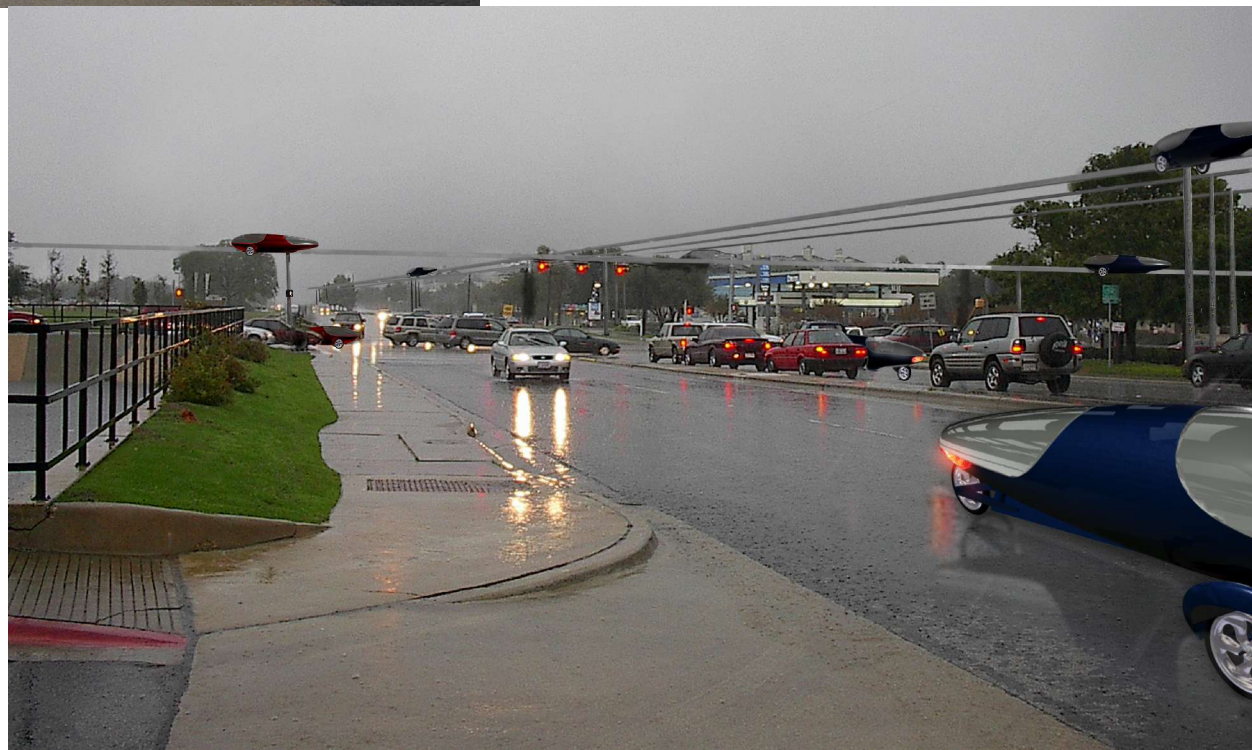
The track will have to be 1,029.7 feet long to maintain a 1-g acceleration

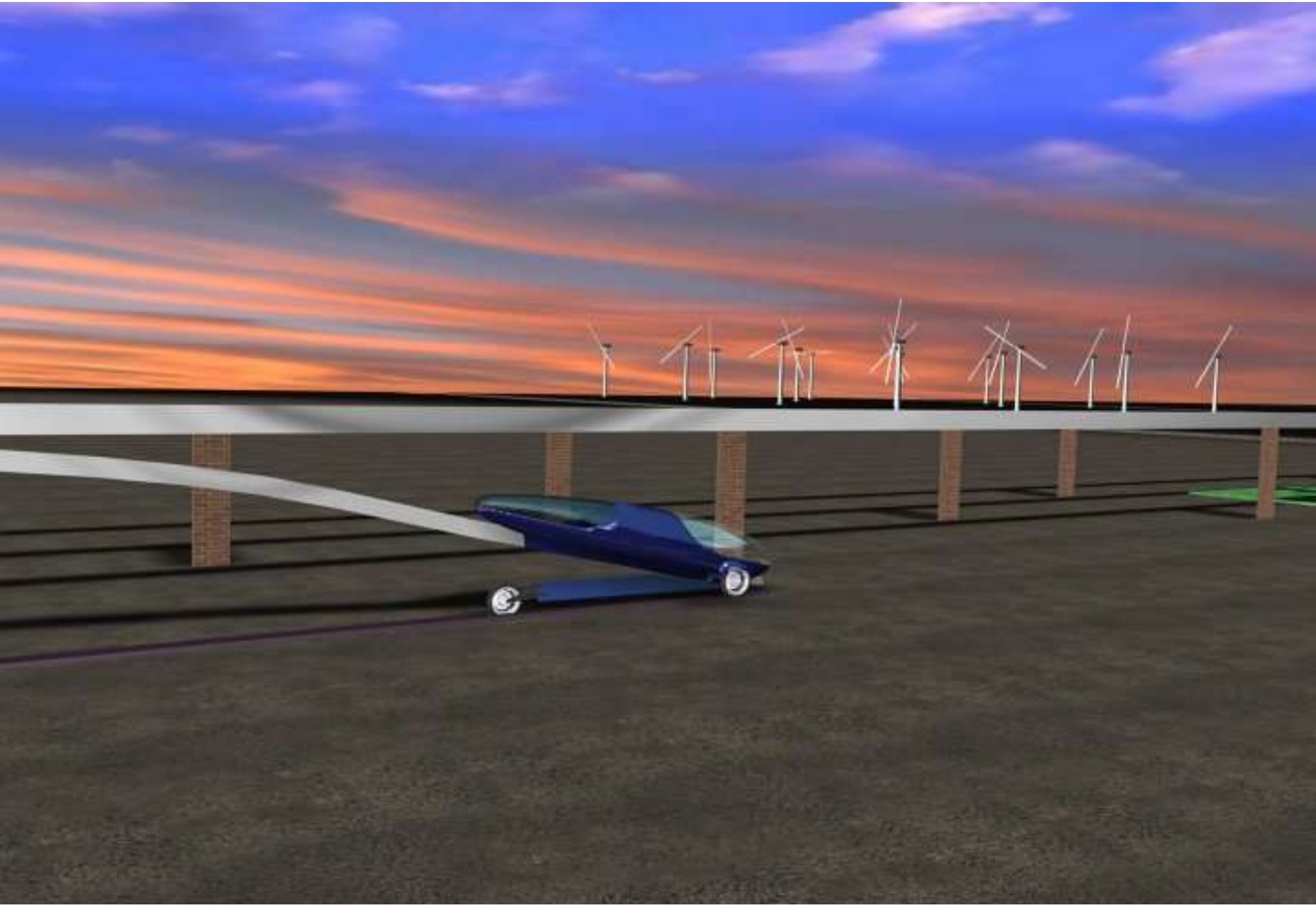


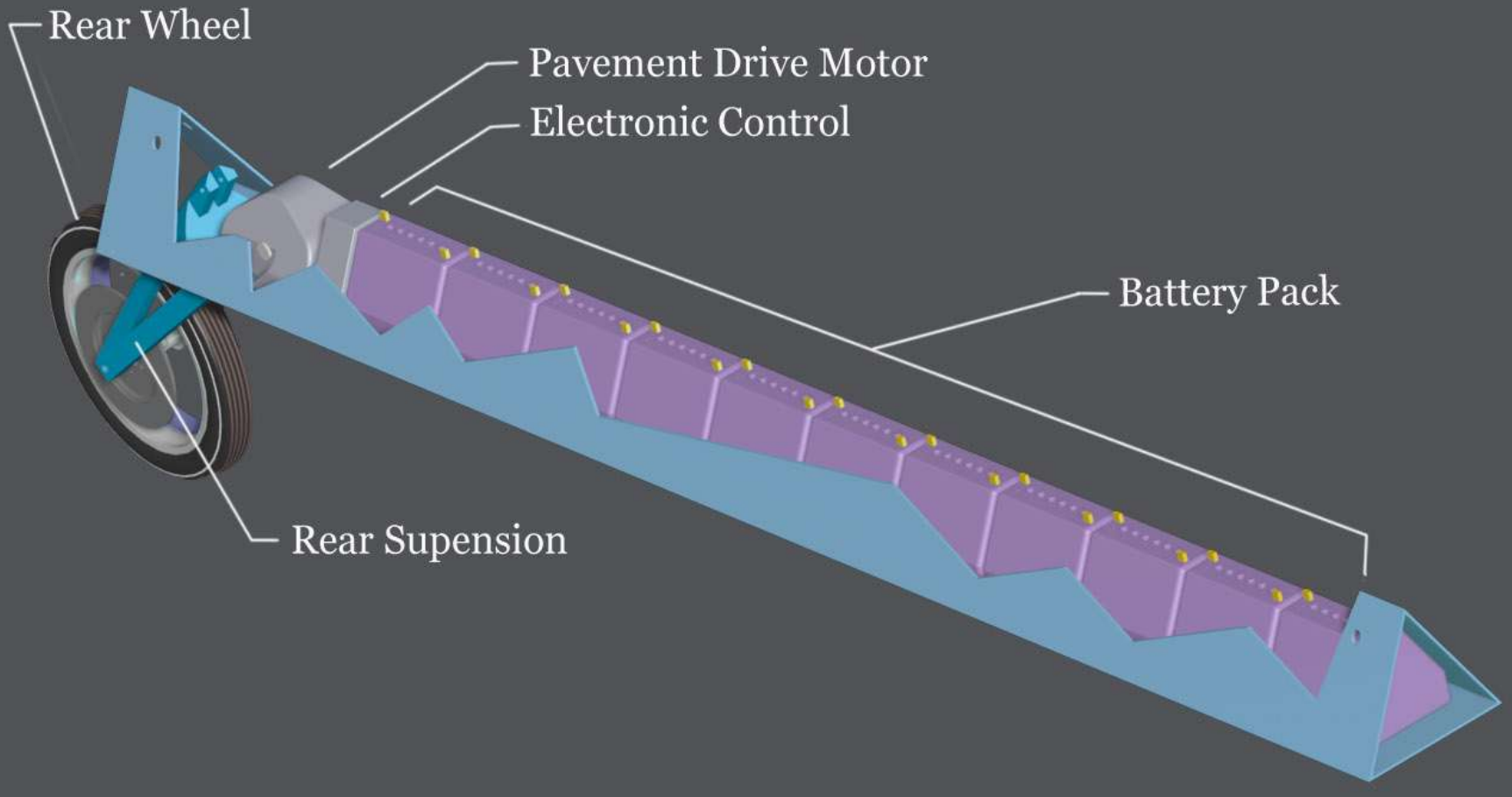

Ford Excursion
TriTrack



TriTrack
Interior features



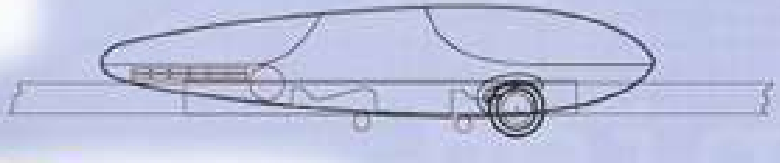



Rear Wheel
Pavement Drive Motor
Electronic Control
Battery Pack
Rear Supension

Power Modes

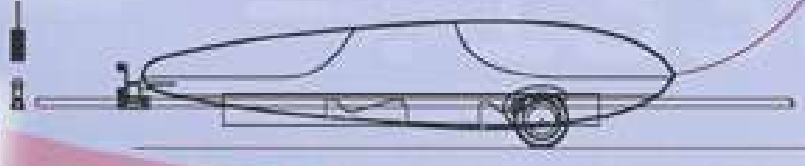
On the Ground:
A battery mule powers an electric motor. The batteries will likely be lead-acid, but can be anything that fits into the mule (NiMH, fuel cells, etc).

Up Ramp:
The battery mule is left on the ground and a linear motor built into the track speeds the car up to 180mph and is powered directly from the power grid.



On the Guideway:
A smaller battery built into the car powers a 60-90 hp motor that maintains the cars speed. This battery is recharged by the battery mule when the car is on the ground.

Down Ramp:
A linear generator recaptures some of the car's energy and puts it back into the power grid. At the end of the guideway, it picks up a new, fully charged battery mule.



Automated Valet Parking:
Passengers are let out at a portico while a small trolley interfaces with the TriTrack body and automatically parks the car on the roof. The battery mule stays on the ground.

TriTrack

Automated Valet Parking Trolley

Environmentally Responsible

Preserve
Natural
Resources

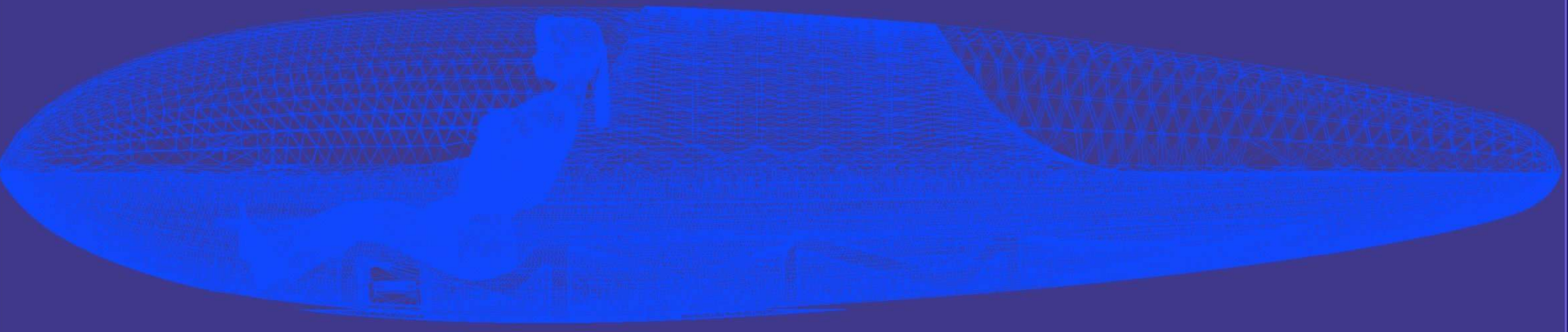
TriTrack.net

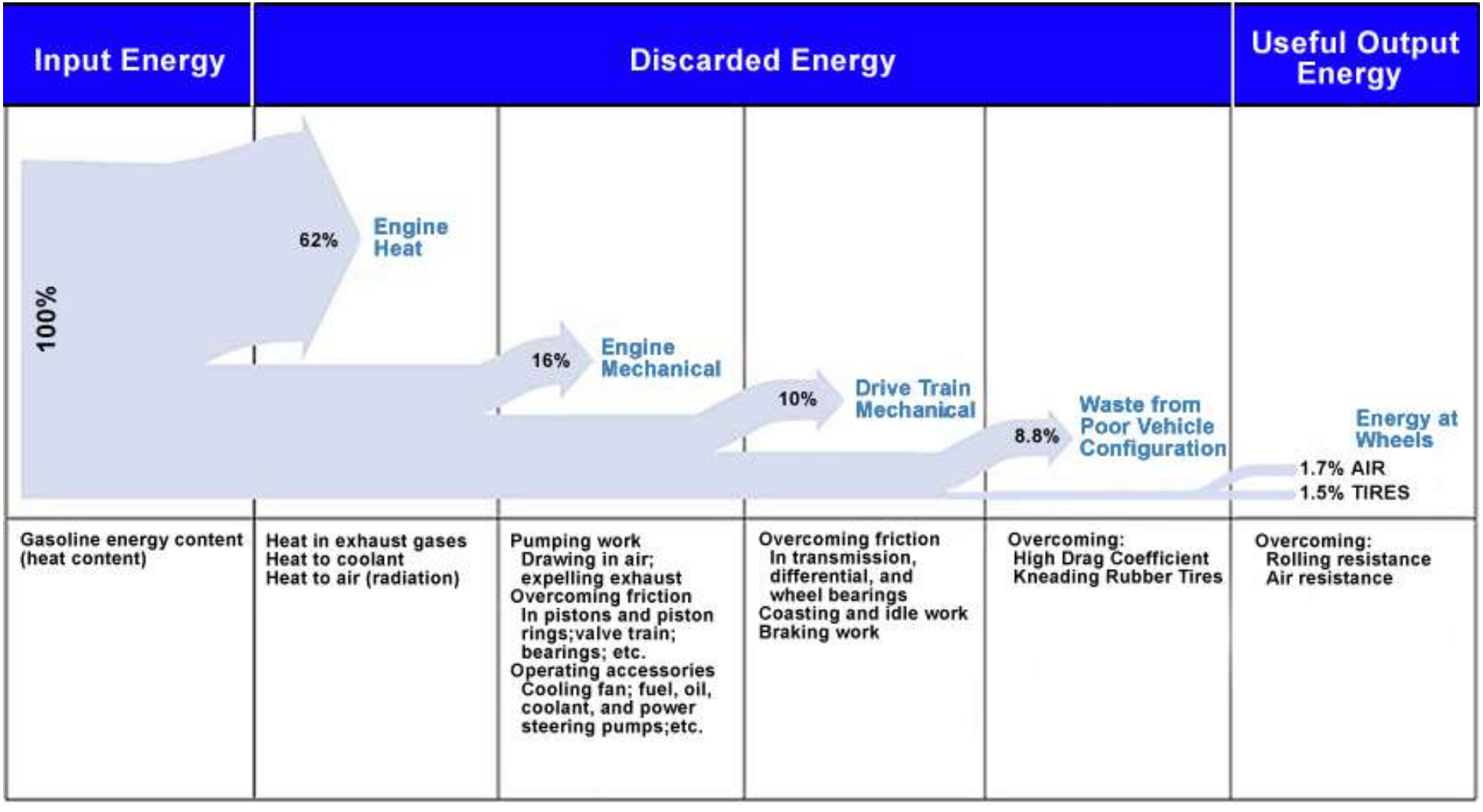
Greener & Cleaner

- 180 MPH design speed
- Automated crash avoidance
- 10 to 1 reduction in nitrous oxide emissions
- Dramatically lower levels of pollutants in our air.
- No stop signs No merges No gasoline stations No skids
- Handicapped access
- Energy savings and reduced dependence on foreign oil
- Tremendous travel cost reduction
- Quantum leap in the speed of railway construction
- Aerodynamic drag coefficient improvement
- Vehicle frontal area size reduction
- Ride enhancing counteraction to accelerations and track imperfections (inverse flight-simulator proactive suspension)
- TriTracker monster machine builds track at 3 miles per hour
- Parks on one-tenth the space
- Roadway material use, a small fraction of current road construction
- Personal car that seats four
- Takes you from your garage to the door of your destination

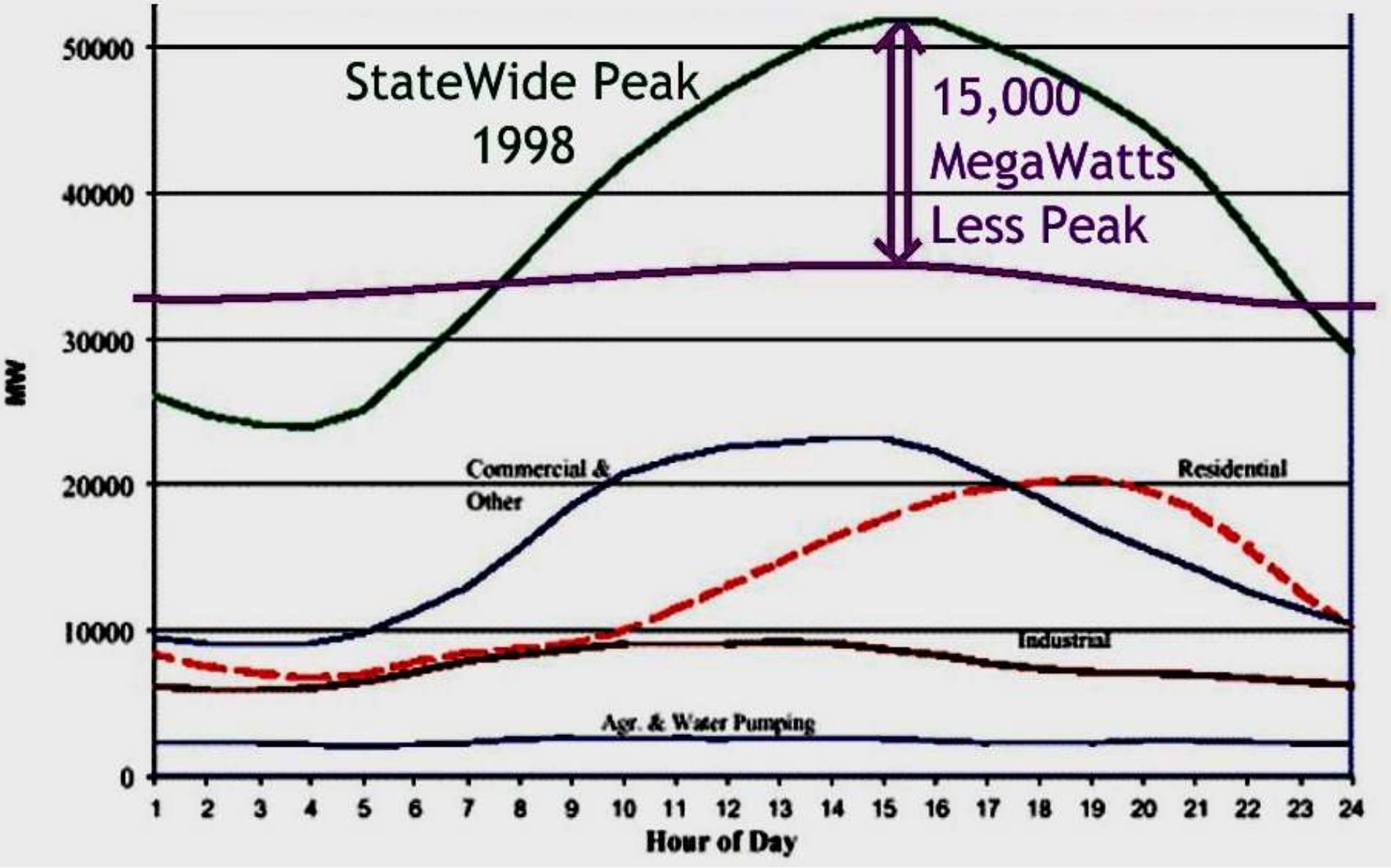
.31 Aero Drag Coefficient

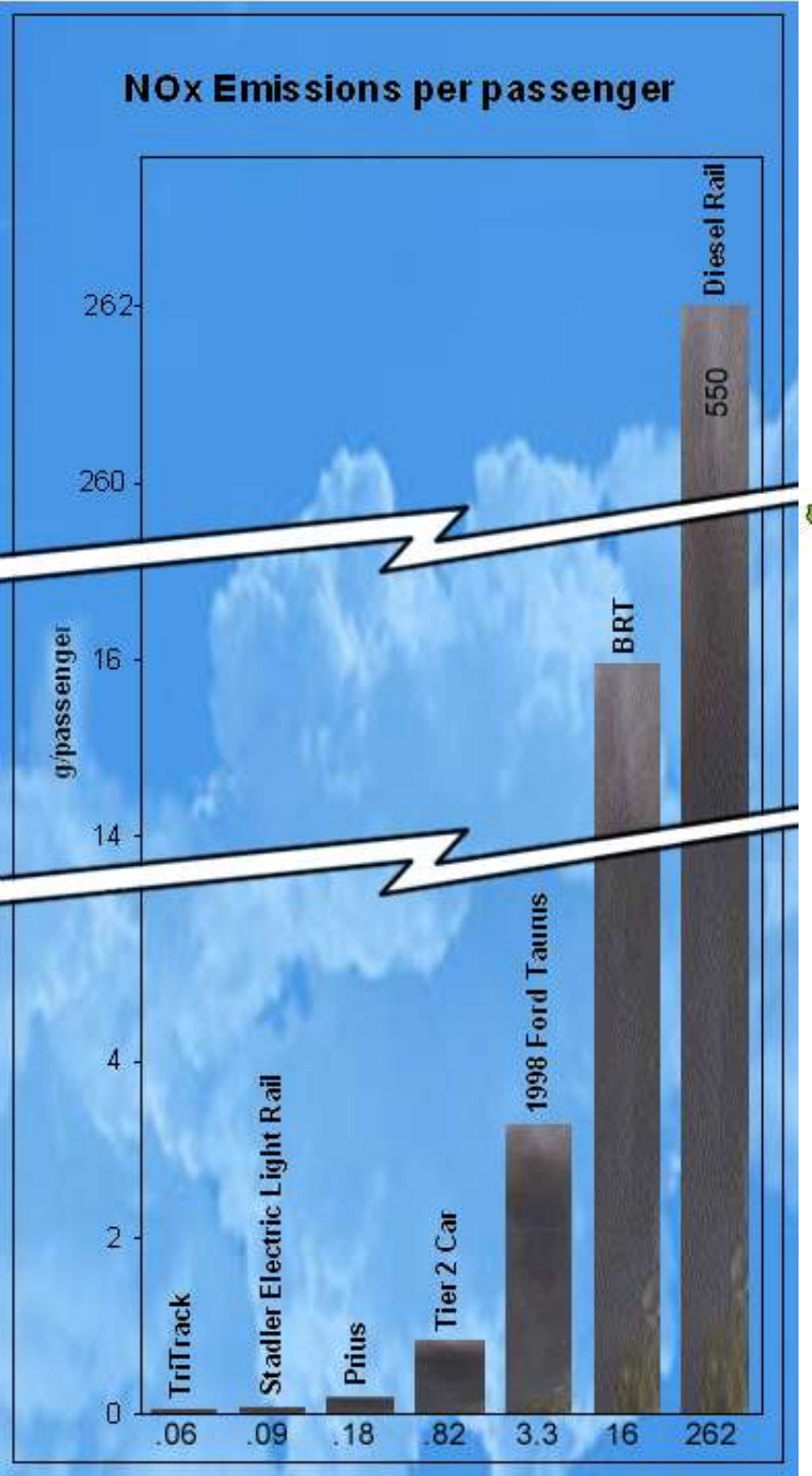
.15 Aero Drag Coefficient

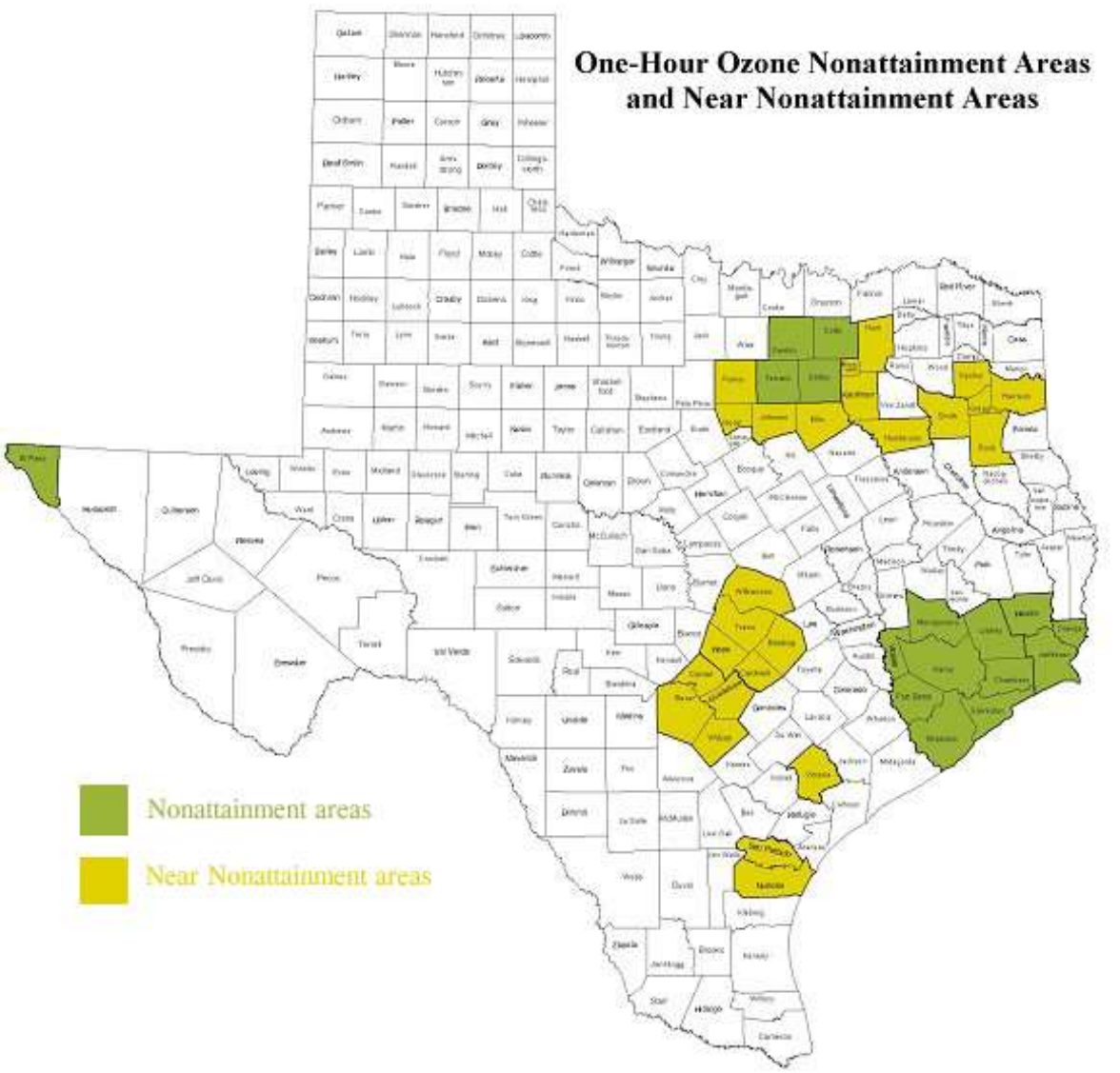



Input Energy
Discarded Energy
Useful Output Energy
100%
62%
Engine Heat
16%
Engine Mechanical
10%
Drive Train Mechanical
8.8%
Waste from Poor Vehicle Configuration
Energy at Wheels
1.7% AIR
1.5% TIRES
Gasoline energy content (heat content)
Heat in exhaust gases
Heat to coolant
Heat to air (radiation)
Pumping work
Drawing in air; expelling exhaust
Overcoming friction
In pistons and piston rings;valve train; bearings; etc.
Operating accessories
Cooling fan; fuel, oil, coolant, and power steering pumps;etc.
Overcoming friction
In transmission, differential, and wheel bearings
Coasting and idle work
Braking work
Overcoming:
High Drag Coefficient
Kneading Rubber Tires
Overcoming:
Rolling resistance
Air resistance

Electric Power Plant Peak Reduction



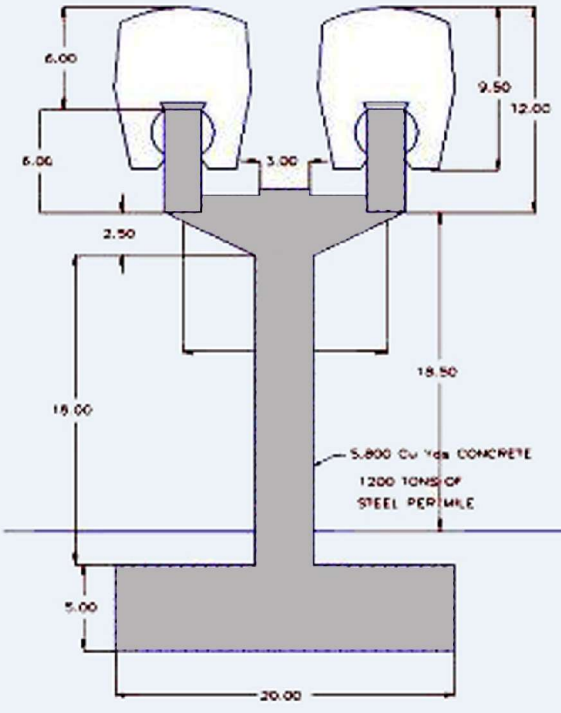




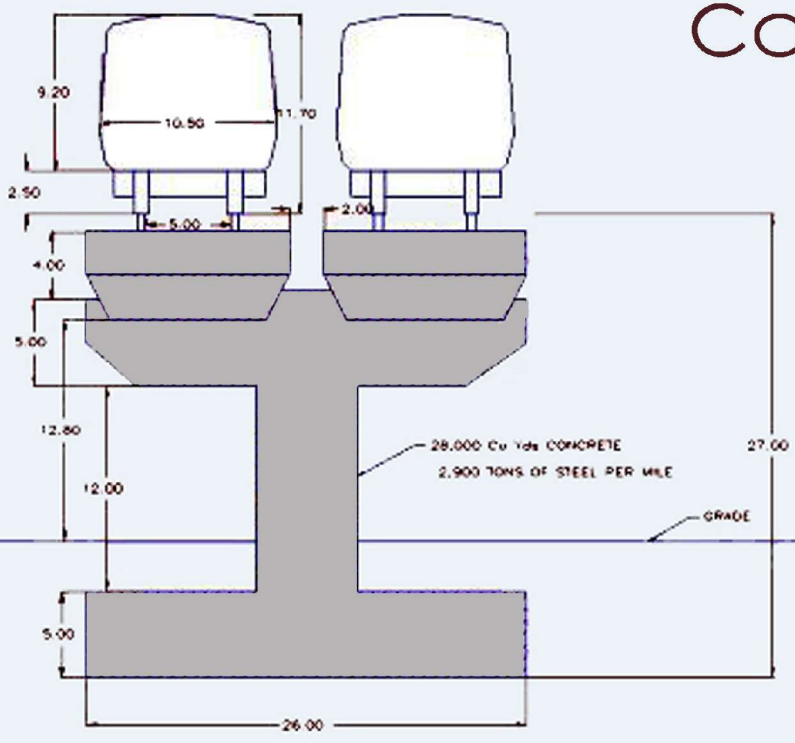
NOx + VOC + Sunlight = Ozone

Comparison

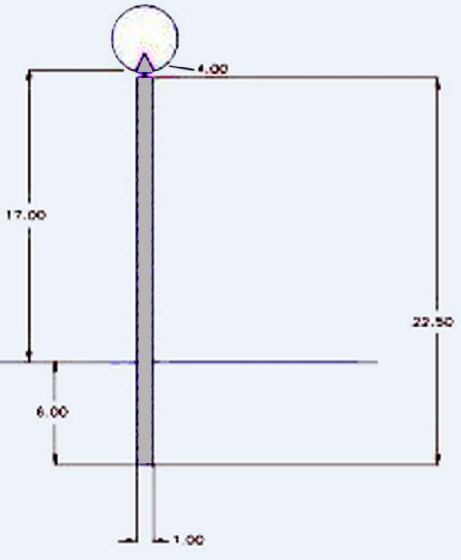
1 Disney Monorail



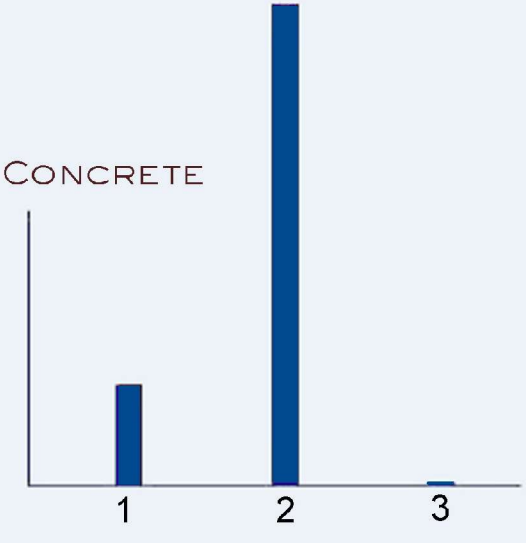
2 Light Rail



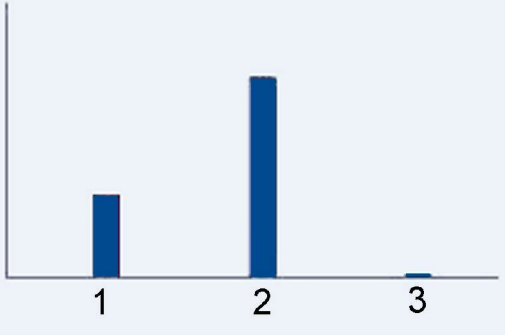
3 TriTrack



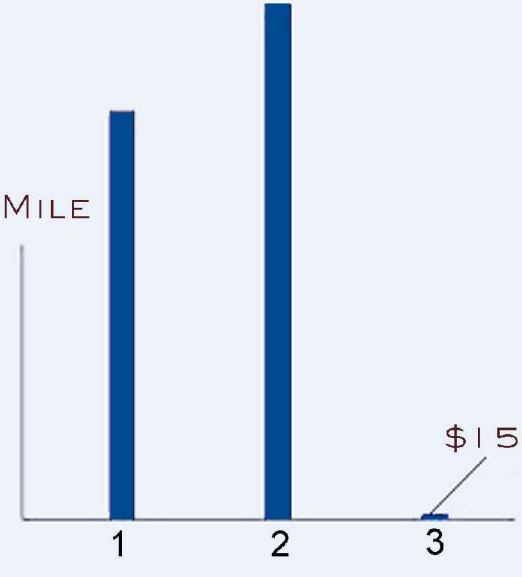
Concrete

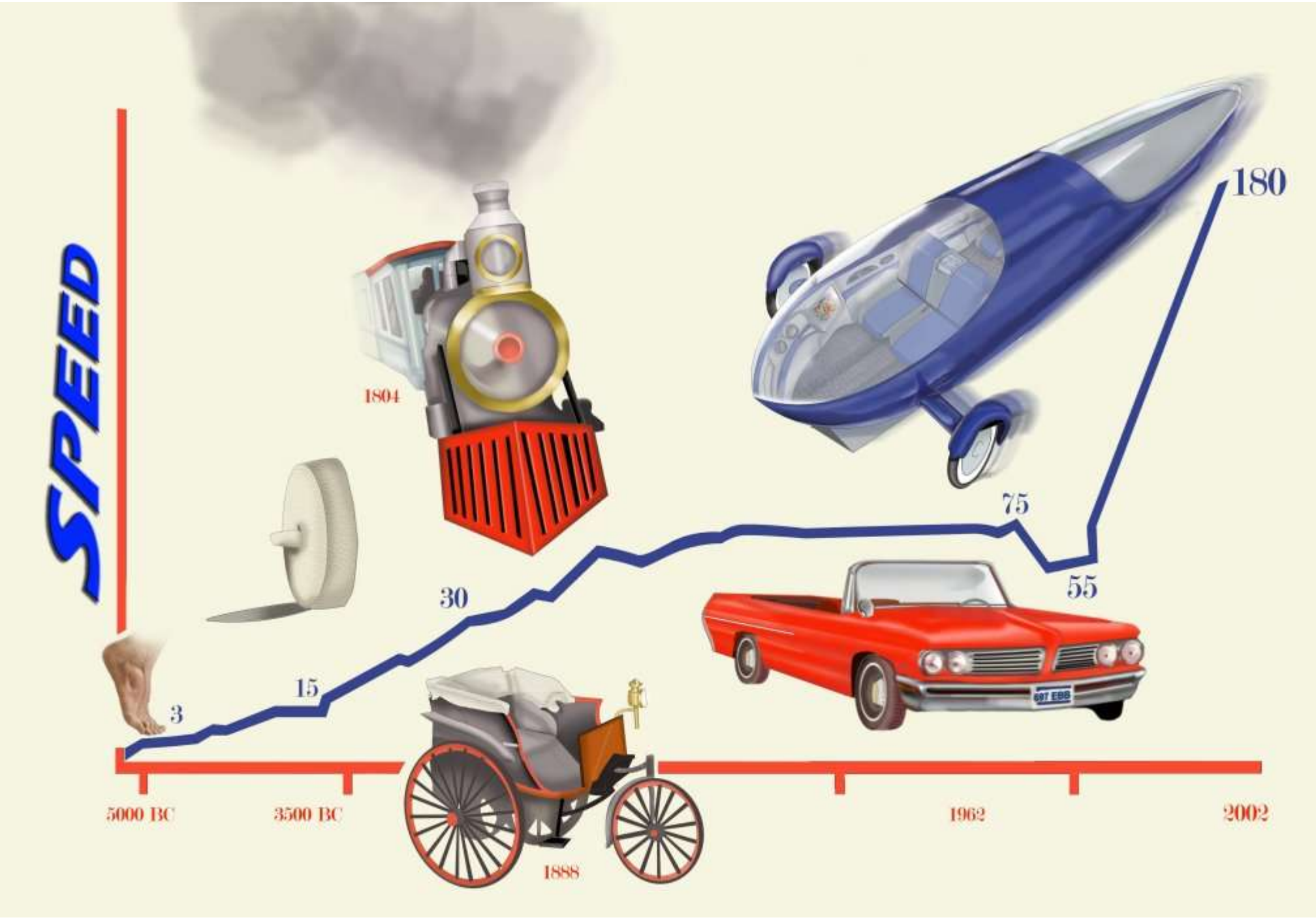


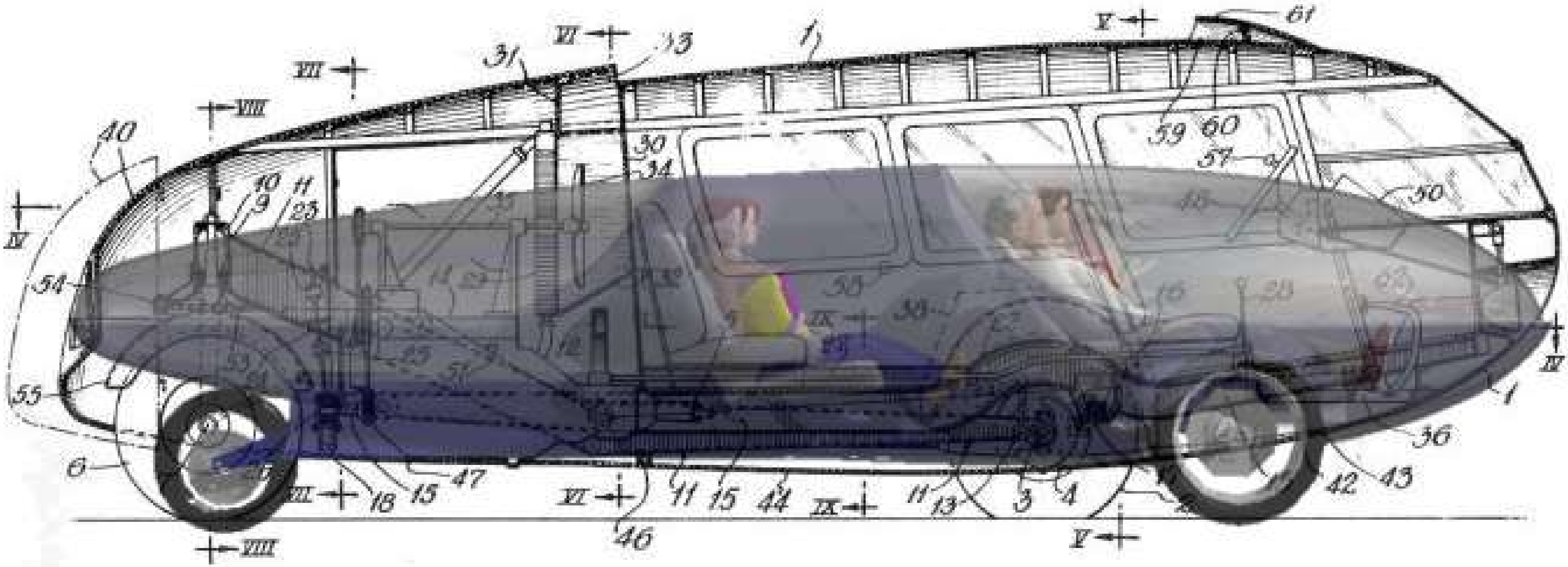
Steel



Cost Per Mile




SPEED
3
15
30
75
55
180
1804
1888
5000 BC
3500 BC
1962
2002

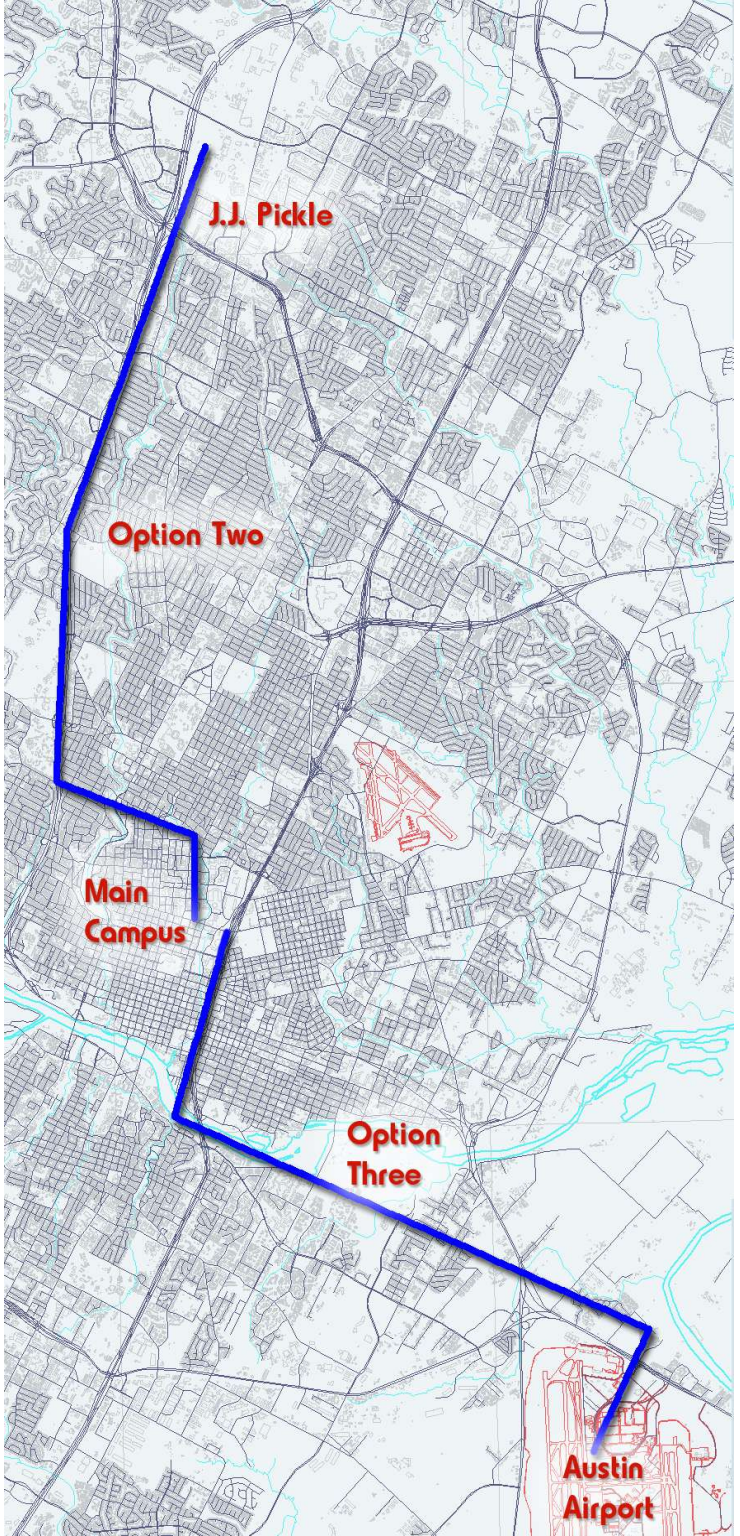


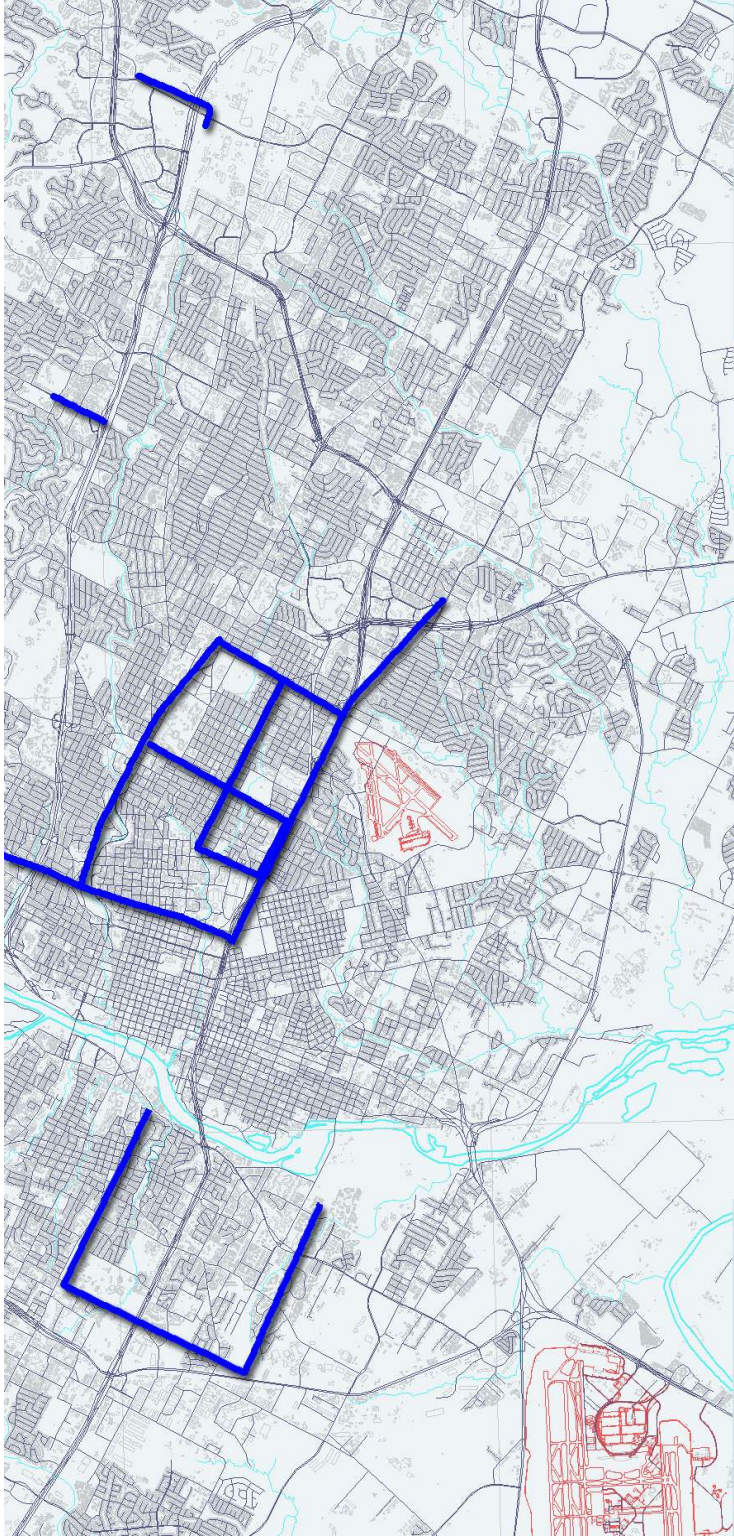
61
V
1
VI
31
VII
VIII
40
59
60
30
57
34
10
11
9
25
50
IV
54
58
IX
55
6
VIII
18
15
47
VI
11
15
44
46
IX
11
13
3
4
V
36
42
43


0870 600

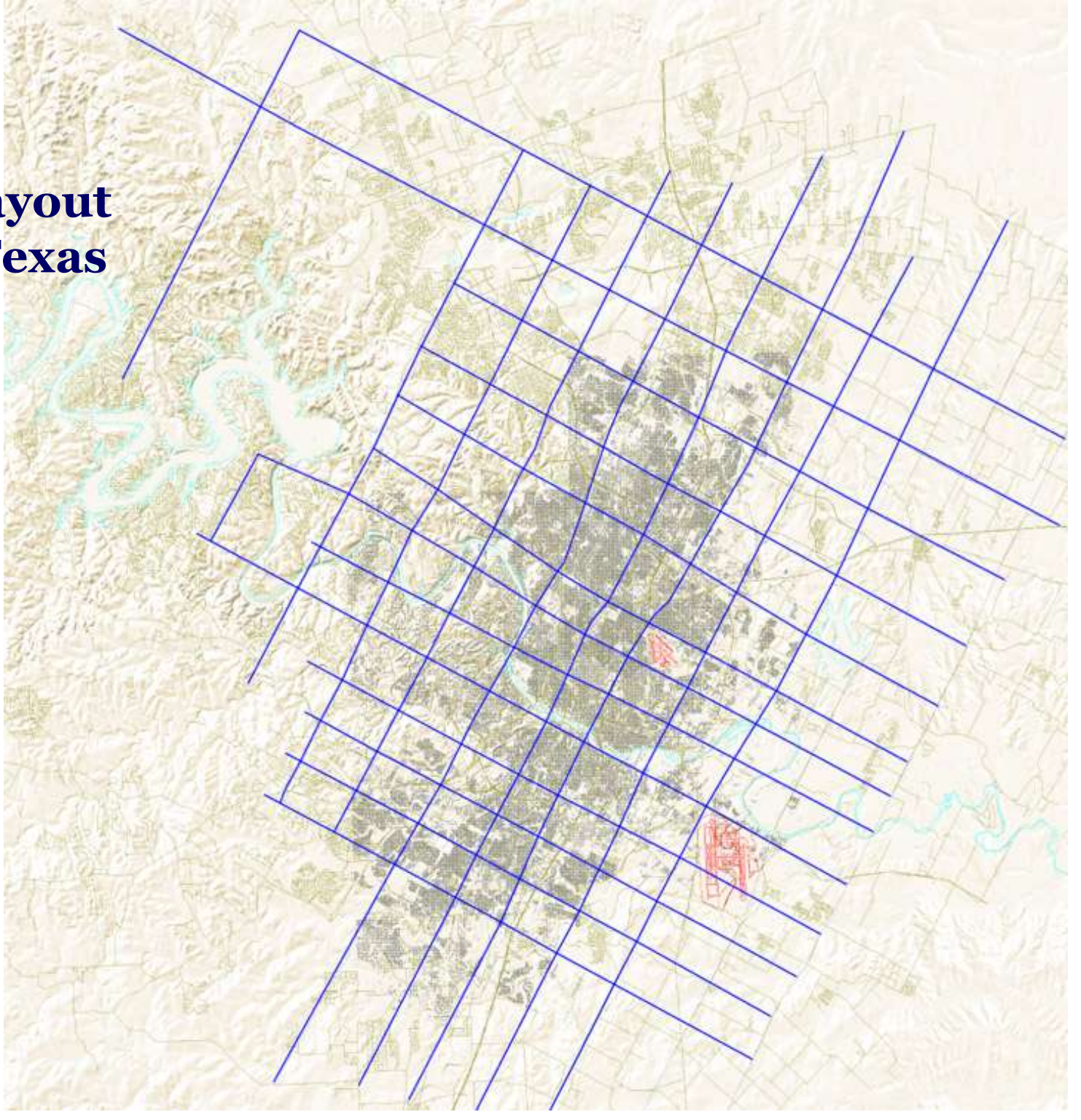

SD
TODAY
congested
degrading
expensive &
inefficient
SD
TOMORROW
0870 600

Funding options for a University of Texas shuttle system

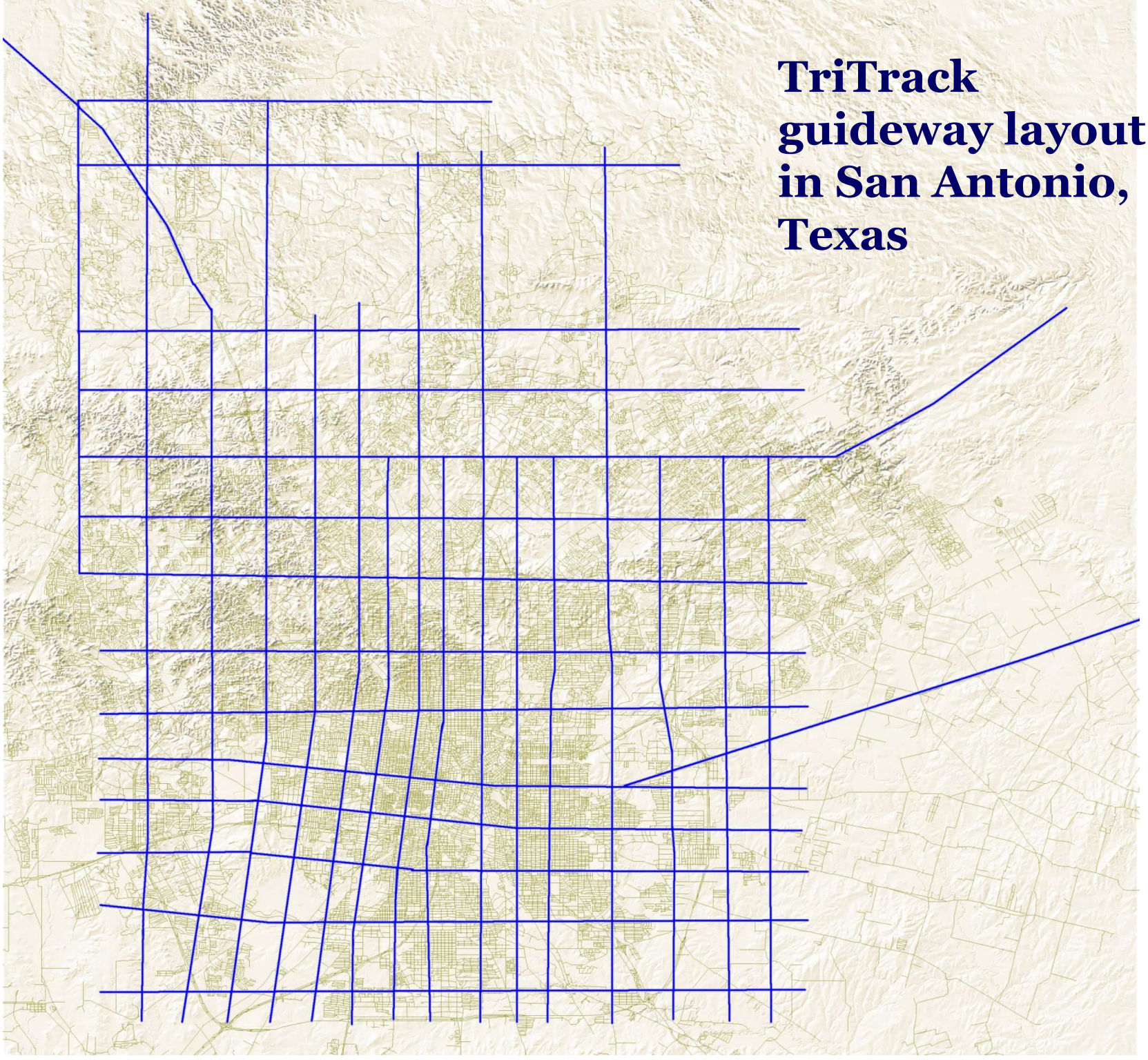




TriTrack guideway layout in Austin, Texas

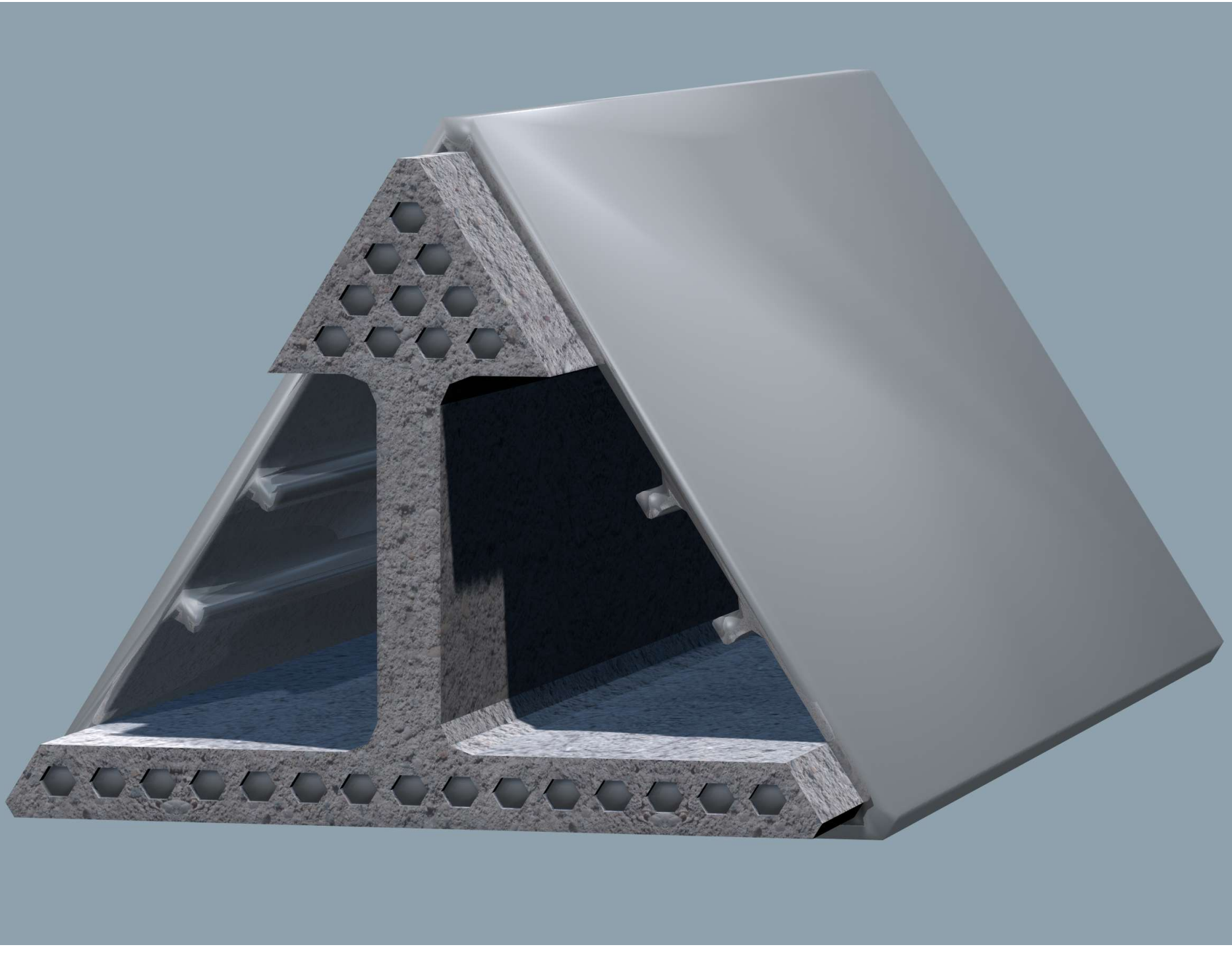


TriTrack guideway layout in San Antonio, Texas

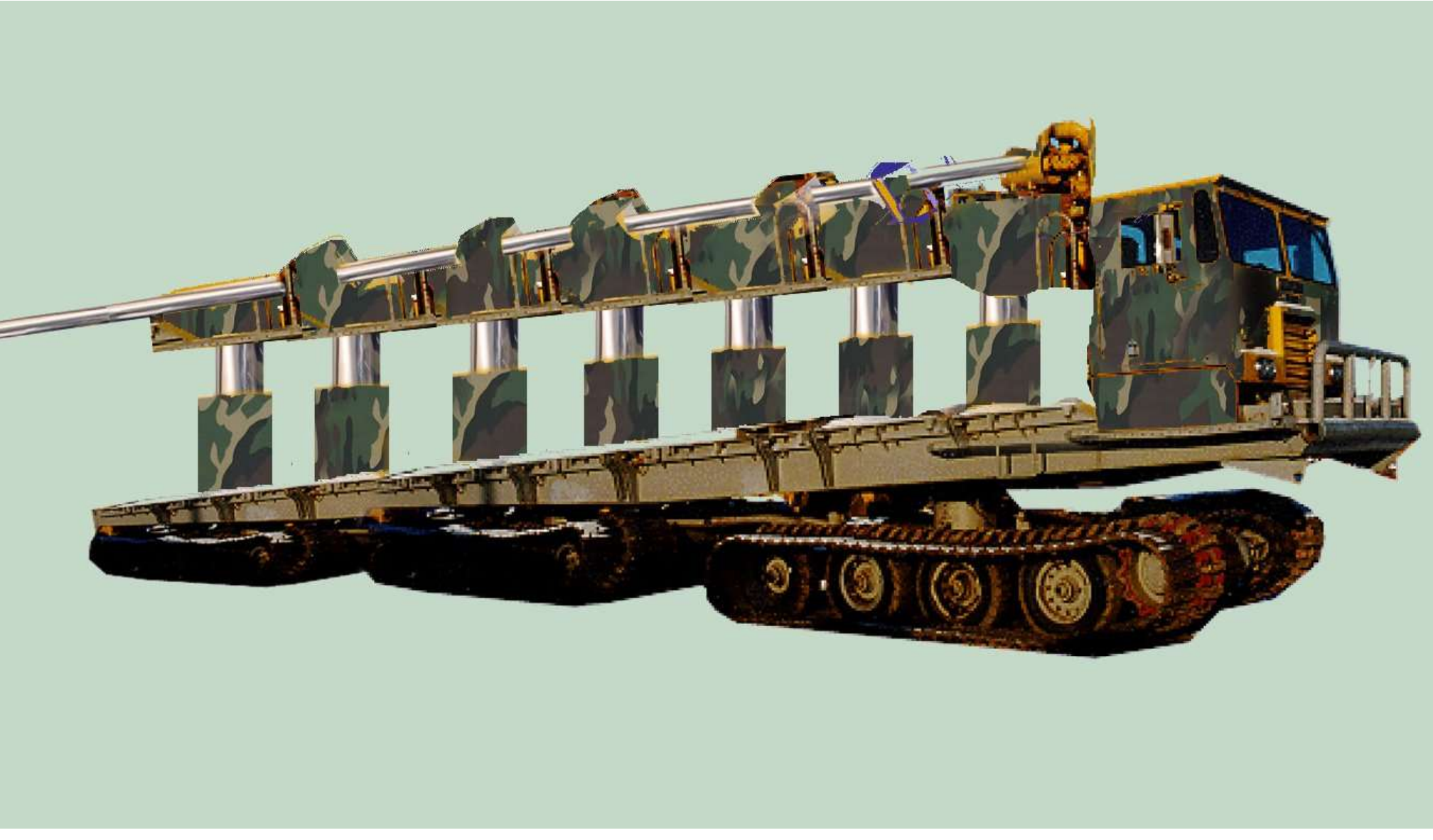


Intercity TriTrack guideway in blue;

Trans-Texas Corridor routes in green



The TriTracker



Automatically builds guideway at 3 mph

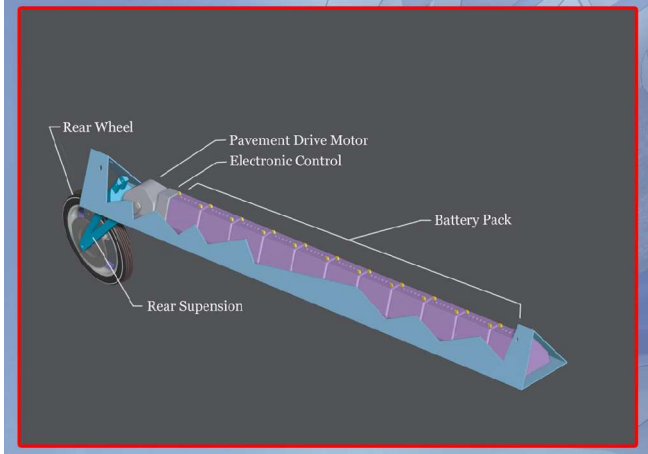
As governed electric cars, TriTrack are safe enough to be driven indoors

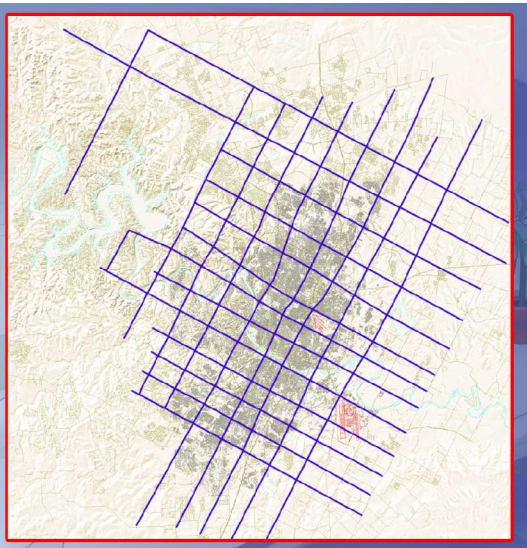
Girl Day at the University of Texas

TriTrack

Four Parallel Tracks Move 36,000 People per Hour @ 1.3 Average Persons per Vehicle. This is Due to the High Speed of the TriTrack and Computer Control of Cars on the Guideway.

Infinite Battery Range via Battery Mule Concept

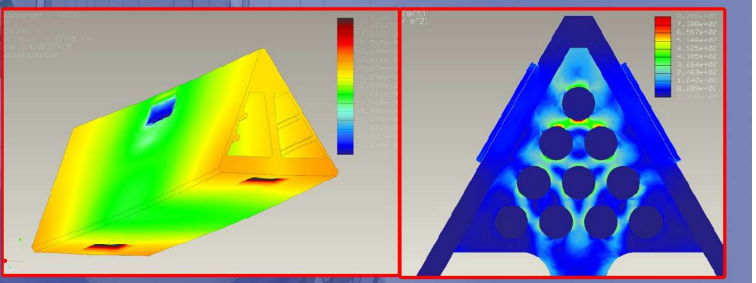




Congestion as We Know It Solved by a Grid Pattern of Binary Length Tracks Where Each Intersection is an Overpass at the Cost of At-grade Roads.

Patent Pending Manufacturing Process Builds Track at 3 MPH at Approximately $150,000.00 per Mile. This Low Cost is in Stark Contrast to other Monorail Systems and to Adding Lanes to Existing Highways. Elevated Monorail has the Possibility to be Many Times Greener Than Surface Roadways.

Simple Beam Non-Powered Track in the Middle with Linear Motor Launch and Catch on the Ends. This Regenerative Braking Saves Energy.



Battery Mules are Exchanged at 40 MPH Meaning That You Never Have to Visit a Gas Station Again. Car Operates in Four Distinct Propulsion Modes.

1. Ground Travel Traditional Electric Car
2. Up-Ramp 300 hp Linear motor with Magnetic Linkage to the Car.
3. 70 hp Motor While on Guideway
4. Linear Generator to Recover 300 hp on Down-Ramp

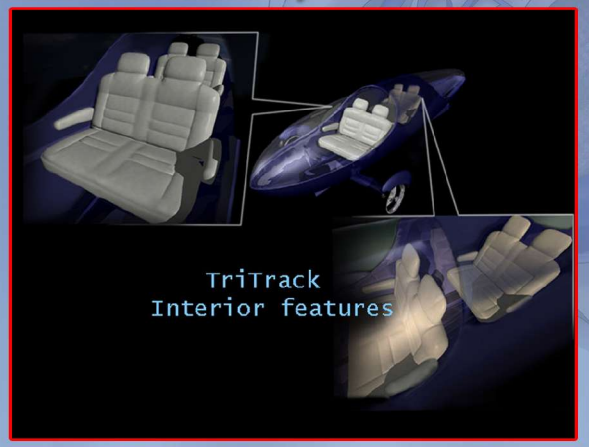
ROANE INVENTIONS
101 S. Laurelwood ▪ Austin, Texas 78733 ▪ 512-263-5344 ▪ JRoane@Austin.rr.com

TriTrack

10:1 Reduction in NOX Without the Expense of Reformulated Gas

10:1 NOX

Seats 4 Comfortably



- Monorail Advantages:
- The Safety Record of Monorails Worldwide is Unsurpassed by Any Other Mode.
- Elevated Transportation can be Added to Existing Infrastructure Without Much Disruption.
- Elevated Guideway Eliminates Many Road Hazards and Dangers to Young Children
- Commute Times Will Plummet
- Very Quiet Operation Due To Electric Propulsion
- Emergency services in the County Will be Faster
- This is a Personal Car and will be Purchased by the Consumer.
- The Power Company May Sponsor the Linear Motors.
- The State Will Only Buy the Guideway, the Least Expensive Portion of the Concept, to be Built on Currently Unused Higher Right-of-Way.
- No More Dependence on OPEC Oil
- Energy Conversion 7 times More Efficient Than Internal Combustion Vehicle Design.
- 10:1 Reduction in Rolling Friction
- 4:1 Reduction in Air Drag Due to Smaller Frontal Area and a Greatly Reduced Drag Coefficient
- Battery Mules Constantly Charging Will Flatten the Daily Energy Generation Power Cycle, Lowering the Cost per Kilowatt for Everyone.
- Vehicle is Constrained to the Track and Can Only Come Off at the End.
- Triangular Guideway Allows Air to Escape from the Intersection of the Body and the Guideway
- 2:1 Reduction in Vehicle Manufacture Cost by Simplifying Machine Complexity.
- Guideway Configuration Spreads Traffic Density
- Parking in 30 Square Feet of Space, a 10:1 Reduction
- Parking Garages Moved Outside Central Business District
- No Merging, No Stopping, Automatic Valet Parking
- Two Years From Funding Cars Can Be On The Road

Tested in the UT Wind Tunnel with a measured drag coefficient of .15 *Cd*

1/8th Scale Model Now Touring Texas

Patent Pending

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