

JPods

Solar-powered Mobility Workbook



10X



Choice 1: 10X Innovation

Choice 2: More of what is failing

10X

Driving a paradigm shift requires a 10 times benefit, 10X.

JPods solar-powered mobility networks build on well-established facts to provide multiple 10X benefits:

Fact #1: By grade-separating, Morgantown's PRT and theme park trill rides are 10,000X safer than roads (.9 injuries per million versus 11,200 for roads). JPods are grade-separated.

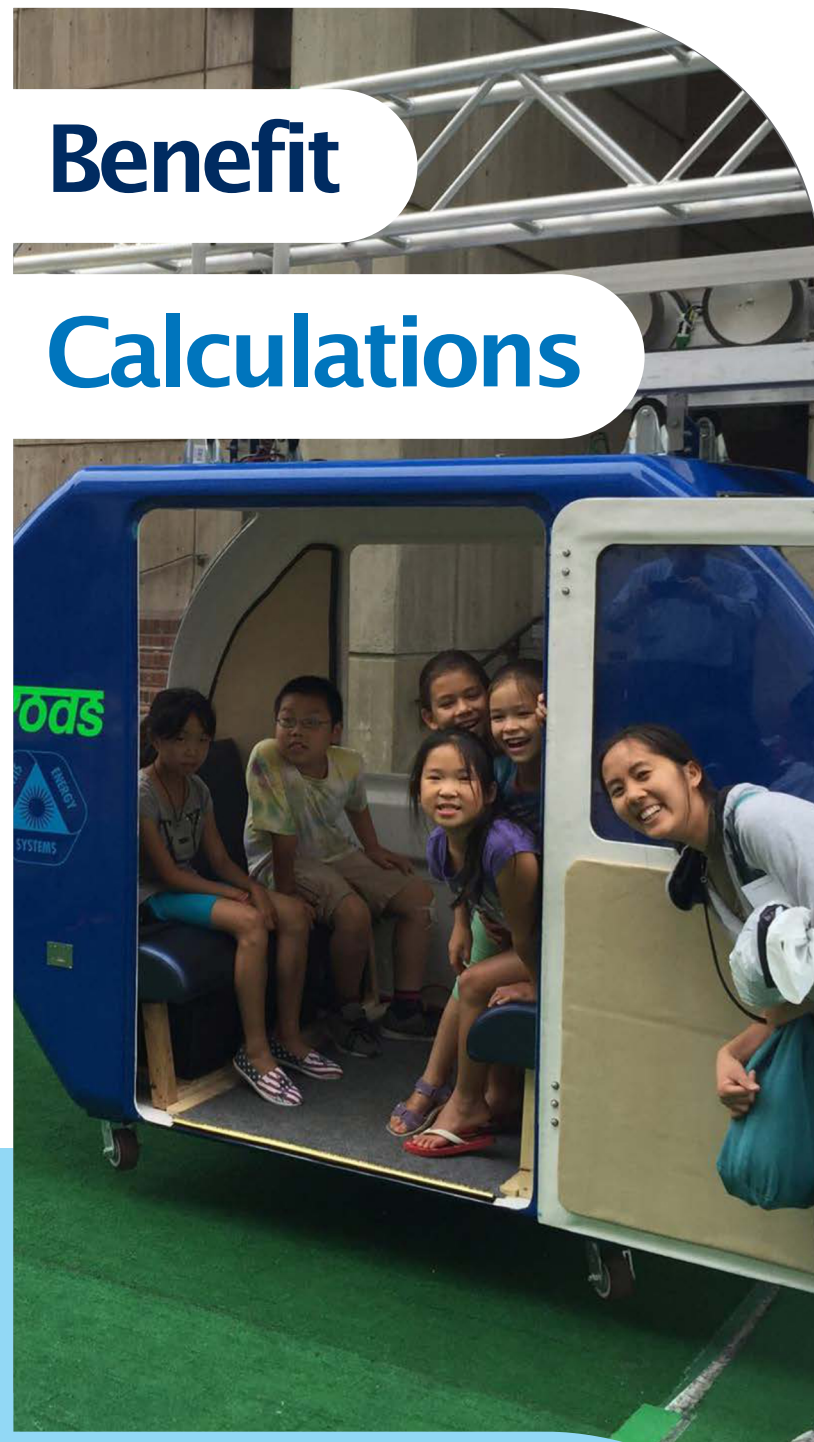
Fact #2: By controlling the grade, freight railroads average 400+ ton-mpg, 140X the efficiency of roads. JPods grade-separation approaches railroad efficiencies.

Fact #3: Self-driving cars are well-proven and valuable. Tesla is the highest valued car company in the world. JPods are self-driving.

Fact #4: Life requires energy. JPods guideway structures deploy enough solar collection to be energy self-reliant.

JPods Networks build on these facts creating multiple 10X benefits:

- No congestion on the guideways, non-stop to destination.
- Lower operating costs and capital costs.
- Better service, personal and on-demand 24x7.
- Better freight options.
- Less land use.
- Greater capacity.
- Lower energy and no CO2.
- Greater energy security.
- More stations and access points.
- Greater safety.



Benefit

Calculations

Background:

- [TEDx Atlanta](#)
 - https://youtu.be/PgXHMHw_r4A
- [Red Bull TV Documentary](#)
 - <https://www.redbull.com/int-en/episodes/transportation-liquid-science-s01-e06>
- [Metrics](#)
 - <https://www.JPods.com/metrics>
- [ROI Engine](#)
 - https://www.JPods.com/why_JPods

Cars are expensive

- \$8,643/year/car with 1.8 cars/family.
- \$.82/mile to operate.
- 6 parking spaces per car.

JPods are affordable:

- No debt, Mobility As a Service.
- \$.04/mile to operate.
- No parking required.

Start in niches, capital will fund

- Airports, hotels, car rental, and parking.
- Between malls with many accidents.
- City centers to hospitals to universities.

Prime Law of Networks

“Network value expands exponentially based on the number of interconnected nodes”.

Seed networks will spread across whole cities.

Capabilities

- Move people and cargo, on-demand, 24x7.
- Solar-powered, no pollution.
- Non-stop from origin to destination.
- No riding with strangers.



Why Choose JPods Solution

GRADE-SEPARATION: Having the guideways elevated with JPods preempts safety risks and simplifies the complexity of mixing existing traffic with self-driving vehicles.

CLEAN ENERGY: JPods guideways provide a mounting system for the solar collectors that gather 40,000 vehicle-miles of power per mile of guideway per day. JPods increase energy security by powering your city’s mobility with your city’s sunshine.

MOBILITY IS PERSONAL: You are not forced to ride with others, eliminating crime and contagion risks of mass transit. The family-size packet of JPods vehicles provides the same on-demand service of the family car without the capital costs of owning a car or the land consumption of cars.

CONTAGION SUPPRESSION: MIT Study, “Subways Seeded the Massive Coronavirus Epidemic in New York City” documents the contagion risks of queuing and transfers. Dr. Gosce’s similar London Tube study documents queuing and transfers amplifying flu contagion by 6 times. JPods eliminate queuing with on-demand entry. Additionally between uses, JPods vehicles can be disinfected with UV and other means before being used again. If needed, vehicles move to a cleaning center between uses.

ACCESS: Family-size pods enable stations to be as tiny as a single parking space. Small, inexpensive stations makes it possible to have many more access points. In contrast, buses and trains require large stations, reducing the number of access points and quality of service.

FLEXIBILITY: Analogous to the internet packet-switching data, JPods packet-switch people, cargo, garbage, etc.

TIME AND ENERGY: JPods travel non-stop from origin to destination to eliminate the energy wasted by repetitive start-stops of cars, trains, and buses. This also reduces travel time.

PEDESTRIANS: Reducing car traffic will make walking and biking safer. As networks expand, stations will be within walking distance.

TOURISM: People will come from around the world to experience JPods. Time and money saved will be spent on more shopping, dining, and entertainment.

OPERATING COSTS: JPods are 10X less expensive to operate than cars, 25X less than trains, and 50X less than buses.

CAPITAL COSTS: JPods typically cost about \$15 million per mile versus \$100 million per mile to \$1 billion per mile for light rail. JPods construction is privately funded.

SAFETY: Using JPods Insurance and Safety Fire, the ASTM F24, provides a 10,000 times better safety record.

NOISE: Removes the engine and road noise associated with cars and trucks on roads.

NO WAITING: No waiting at bus stops. JPods wait for people.

Scorecard of alternatives.

	More Personal Cars	More Rental Cars	More Ride Services	Light Rail	Buses	Gondola	JPods
Safety (Grade-Separated)	●	●	●	●	●	●	●
Energy Efficiency	●	●	●	●	●	●	●
Solar Powered	●	●	●	●	●	●	●
Privacy /Security	●	●	●	●	●	●	●
Contagion Suppression	●	●	●	●	●	●	●
Access (Frequent Stations)	●	●	●	●	●	●	●
Travel Time (Wait +Travel)	●	●	●	●	●	●	●
Congestion	●	●	●	●	●	●	●
Boarding Ease	●	●	●	●	●	●	●
Station Cost	●	●	●	●	●	●	●
System Cost	●	●	●	●	●	●	●
Land Use	●	●	●	●	●	●	●
Overall (Scale of 10)	5.0	5.0	4.2	3.3	3.3	6.3	10.0



Traveling In Your JPods

Your time is your own while you travel:

- You select the heating and air conditioning choices.
- You select if you wish to connect to the on-board WiFi.
- You select if you wish to use your phone, voice, and/or the on-board computer during your ride.
- Unlike being forced to watch advertising on buses and trains, unless you request it, there is no advertising. It is your choice with credits being apply directly to your account.

During your trip you can ask the JPods team for information about your trip, or other interests.

You can speak to JPods in your language.

If a you want to change your destination in route, wants to get off, or have any emergency, you can use voice command, App, or Emergency Call Button on the computer screen to make adjustments or connect a system operator.

In an emergency, our team will keep you company via the on-board computer screen until the issue is resolved.

You may not notice at first, but riding in a JPods vehicle is quite. The grade-separated steel guideway and specially designed wheel minimize noise. Gone are road noises of riding in a car. Gone are potholes in the road and horns of stressed drivers.

You are alerted as you approach your destination. You might note that the trip was much quicker than a car, bus, or train.

As your JPods vehicle stops at your station, there is no loud speaker blaring "mind the gap". There is no gap. The opening of the vehicle is aligned within 1/2 of an inch of the floor of the station. This facilitates safety and easy access by wheel chairs and baby strollers.



Your Ride

Your ticket is your JPods App on your phone, a prepaid card, or your finger-recognition.

The JPods App lets you know the travel and arrival times for trips.

When you walk into a station, JPods are waiting for you. As you approach a JPods your phone is chatting with the vehicle. Its opens for you. As soon as your are settled in, you ride non-stop ride to your destination.

There is lots of headroom and foot room. You can bring your bike. If you are in a wheelchair, the vehicle will lock your wheels for you.

JPods stations are radically different from bus and train stations. Bus and train stations force people to wait for machines. JPods networks adapt to demand so machines are waiting for people. As a vehicle leaves, it is replaced by a vehicle waiting for the next person or family.



The System Elements

JPods are personal, just like your private car.

You get in JPods at a station where one is waiting for you. Once in, the JPods vehicle merges onto the traveling guideways to take you non-stop to your destination. It knows how to get there.

Approaching your destination, your JPods exits the traveling guideway to the Station guideway, just like an automobile on a freeway.

The offline Stations can be built into a building or free-standing depending on the best fit with a business or municipal need.

Illustrated below is a free-standing station with elevator, stairs, guardrails and other security and support features.

<https://vimeo.com/99893372>

Stations have multiple berths so passengers can more easily load and unload without lines or queuing.

Because JPods are like a chauffeured car, stations are small. It is highly likely in the future, many businesses and living complexes will have stations build directly into their buildings.

Temporary stations can be added to increase capacity during special events. Everything is tailored to provide immediate and on-demand mobility from origin to destination.



JPods

There are as many types of pods as there are types of vehicles on roads. JPods tailors the pod to meet different needs around 1200 pound payloads. Pods will be open source, so if you have ideas for how to design pods, join in the effort. Example JPods:

PASSENGER JPods are capable of carrying the same as the family car, one to six people and their luggage. At JPods, we think bicycles are 70% of the solution to personal mobility in a sustainable city, so with rare exception, JPods are equipped to accommodate someone's bike or scooters. The same mechanisms that secure bikes, secure wheelchairs.

CARGO JPods stream palletized payloads to feed and supply a city. We expect many more local grocery stores to be built within walking distance of where people live as JPods reduce the cost of supplying them.

MEDICAL JPods are capable of carrying a gurney, EMS people, and their supplies. As the system expands, the benefits of routing a person directly from a station to a medical facility without any hindrance from traffic will save lives.

SOCIAL AND SCENIC JPods add to the fun and tourism.

PRIVATE JPods are the same as owning your car. It simply stores itself when you are not using it and meets you when you call it.

DETACHABLE JPods are lowered from the guideway and clamp onto a chassis so they can travel off-guideway. You can have your things in your pod and drive it into your garage just as you do your car.



Guideway

JPods are suspended from the guideway. Traveling on an overhead guideway removes the safety, security, and traffic risks of traveling on roads. The guideway also provides the structure for deploying the solar collection system that powers the network.

Support Center

JPods' patent is for self-driving cars on grade-separated guideways. Like bees in a hive, JPods are autonomous. If there is a communications failure or a power failure, your JPods still carries you to your destination.

This self-driving capability of JPods vehicles is supported by the Monitoring Center. From a secure location, the automated capabilities of the vehicles and networks are reinforced by human oversight.

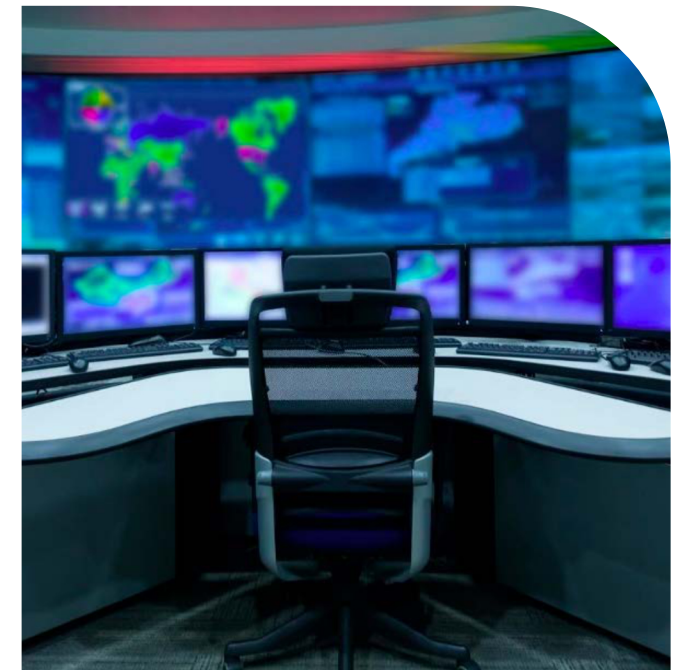
Combining human empathy and judgment with robot accuracy improves service, preempts accidents, and reduces energy consumption to within a solar budget.

People in the Center monitor every aspect of what is happening everywhere on the network. If you have a question, you can ask the people in the Center to come on your phone or computer screen to answer your question.

If anything unusual happens or if someone needs emergency services, the people in the Center can see what is happening, dispatch emergency crews, assist people, and coordinate the response.

If you are traveling in a foreign country, you can ask for support in your native language and the people in the Center will communicate in your native language.

The JPods team believes in the Lifeboat Paradox: "If you are self-disciplined to have a lifeboat and are skilled in its use, you are unlikely to need one." To be prepared, we drill many contingencies, even highly unlikely ones.



Maintenance

A Maintenance Facility provides the trained people and equipment for diagnosing, cleaning, and repairing every aspect of vehicles, stations, guideways, and their environments.

Durability and maintenance risks are minimized by the simplicity of the pods, their multiple motors, redundant sensors, redundant processors.

JPods mitigate contagion risks by disinfecting themselves between uses when necessary. The air in the vehicle is replaced in the vehicle and the inside irradiated with ultraviolet lights.

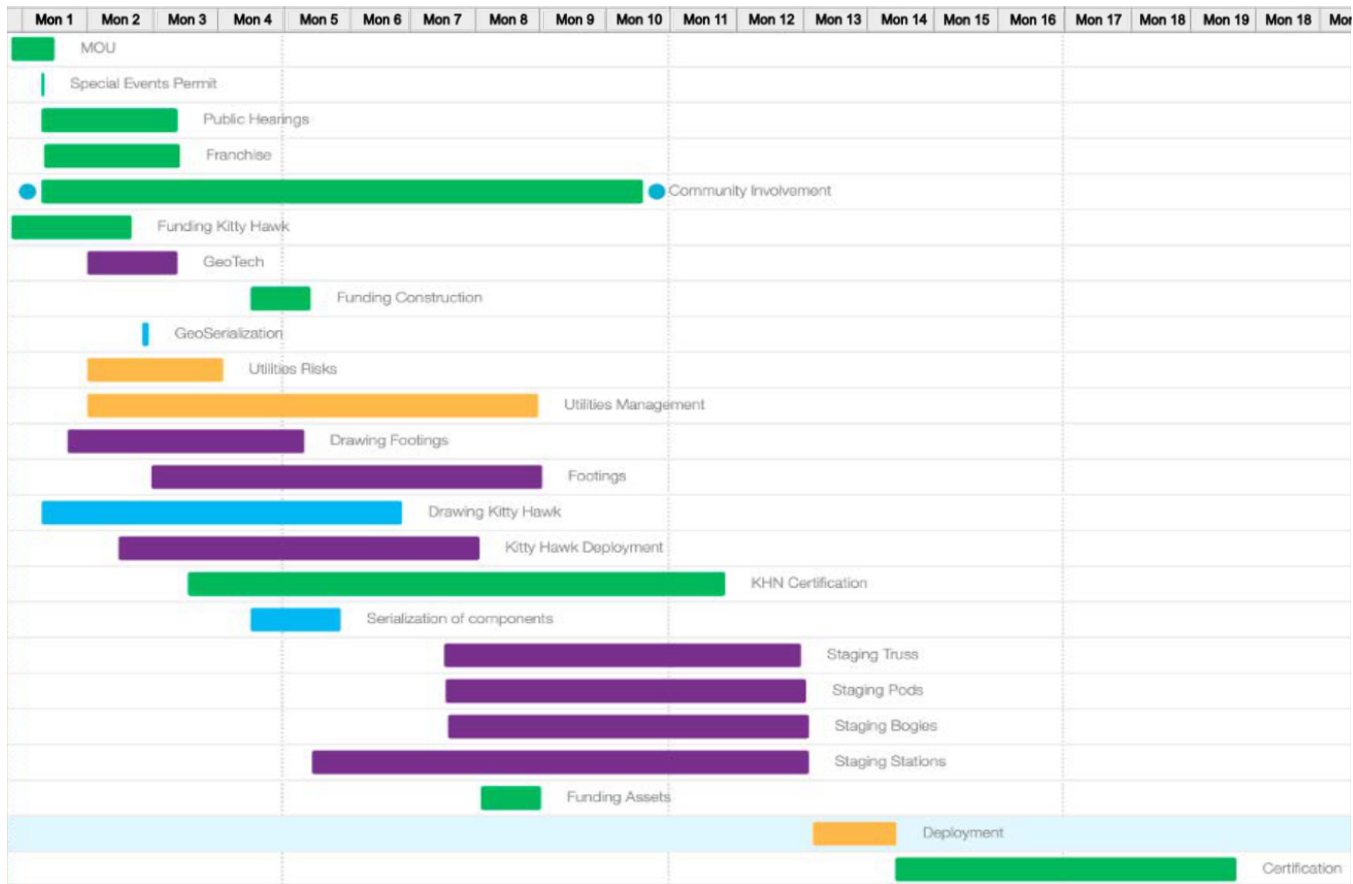
Power to sustain the network is gathered from the solar-collectors over the guideways. This distributed energy system powers the network and the ability to adapt in emergencies.



Timeline

Congressional Study PB-244854, “Automated Guideway Transit,” documents that deployment depends on known cost and delay of regulations. The Texas Department of Insurance (ASTM F24) provides such regulation stability with an injury rate 10,000 times better than roads (0.9 per million). Roads have an injury-rate of 11,200 per million.

The following schedule is estimated based on building under Texas Department of Insurance regulations.



Private Funding

Costs and Funding Model

JPods funding of projects is very similar to houses and hotels. Construction funds are used by construction companies to build. The certified guideways are then sold to operating companies to service customers. There are four basic steps in this funding cycle:

1. Define a project and the Franchise Agreement for Rights of Way and safety certification.
2. The construction company, JPods Mobility Company, builds the network.
3. JPods LLC certifies the operational networks complying with defined regulations.
4. The Local Mobility Company® buys and operates the certified networks (local ownership).

Goldman Sachs provided a Letter of Interest for funding JPods networks.

Essential to funding projects is the ability to define the cost of regulation. Congressional Study PB-244854, “Automated Guideway Transit” documents innovation has been delayed “four to six decades” because of regulatory barriers (page 41).

Texas Department of Insurance (ASTM F24) has a known cost of regulating theme park thrill rides and a safety record 10,000 times better than roads. Regulating safety using this standard is fundable.

Rights of Way regulations for cell towers and other networks that serve the public good are used.

As with communications networks, Networks pays 5% of gross revenues for non-exclusive use of Rights of Ways granted. As 50% car traffic is replaced by JPods, for every 100,000 cars a new source of local government revenues of \$12-22 million/year is expected to evolve.

Summary

Mobility is physical liberty, the ability to go where you want, when you want regardless of age, ability or wealth.

Mobility must be sustainable and equitable.

10X Benefits are multiple:

- Cleaner, faster, safer, affordable..
- 24x7 Service.
- Personal, on-demand.
- Energy security.

5X5 Standard provides a multi-million per year new source of government revenue:

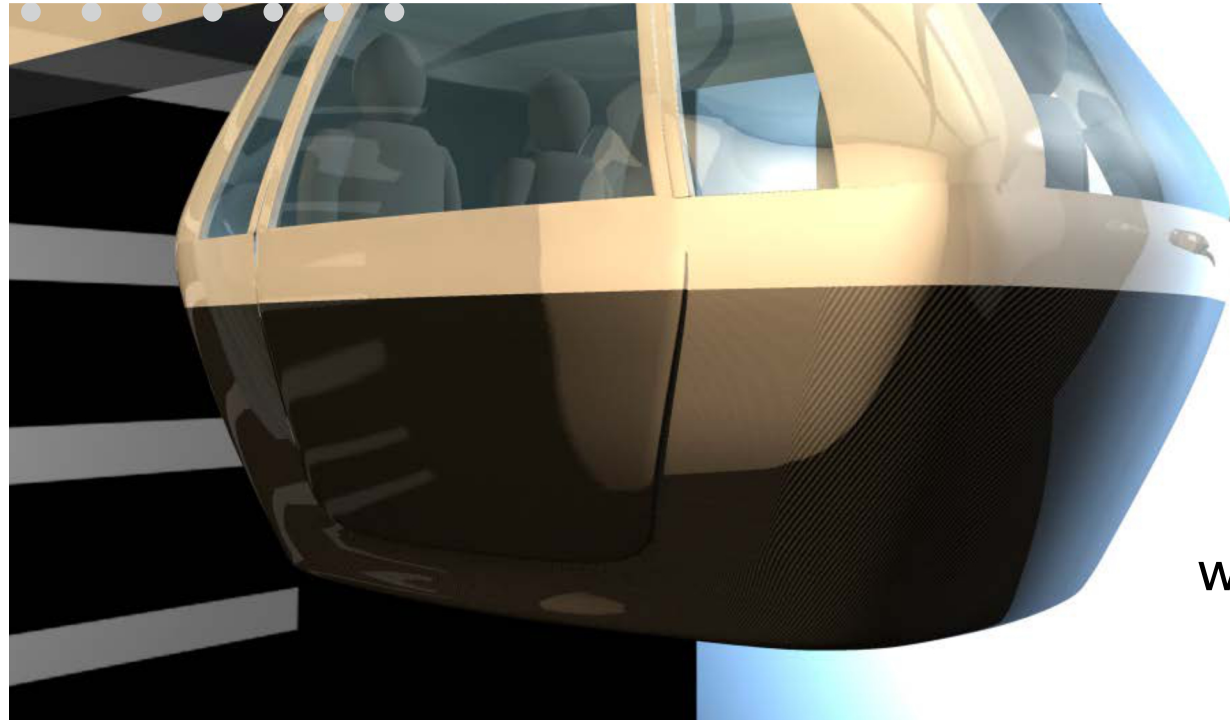
- For each 100,000 cars.
- 50% Reduction in car driving.
- 5% fee ~\$12-22 million/year of new revenue.



3rd grader drawing after JPods team worked with the school's STEAM program.

JPods Mobility Company LLC

JPods Mobility Team



The team has worked together for years to restore free markets and change economic lifeblood from oil to ingenuity.

Charlie Fletcher, Chairman

Retired Major General. Former Commanding General of the Army's Transportation and Logistics during the invasion and rebuilding of Iraq.



Bill James, CEO

Inventor of solar-powered mobility networks (US Patent 6,810,817). Wrote enterprise software recognized as the "Best New High Tech Product of the Year" in Minnesota, Infantry veteran.

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Mike Evans, Co-Founder

Managed multiple manufacturing facilities in North America up to \$300 MM in sales. Owner of a multi-million, professional cleaning company in the Southeast US. Corps of Engineers veteran.

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Auta Lopes, Co-Founder

Managed a \$22 billion pension fund, Managing Partner for a capital company helping businesses and high net worth people manage risks and access capital in JPods

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JT Williams, Co-Founder

CPA and CGMA. Developed 16,000 acres of land in Florida and in Georgia. Chairman of Land Sales and Condominium Board in Florida for 16 years, Chairman of State Board of Education in Georgia for 9 years, Chairman of Transportation Projects – Georgia Governor's GRTA Board for 19 years.

