

JPODS FACT SHEET

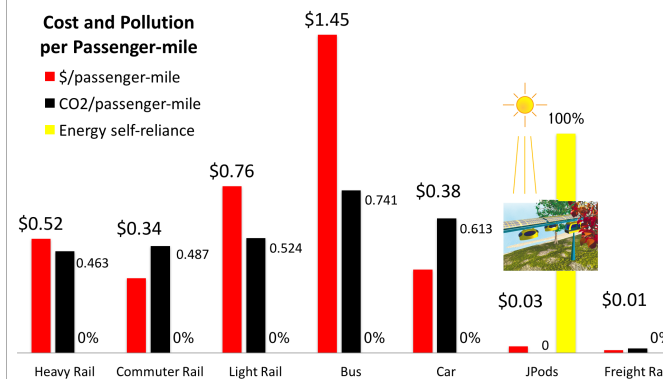
10x

It requires a ten times benefit (10x) to drive a paradigm shift. JPods networks are overhead rails from which ultra-light vehicles move people and cargo using 1/10th the energy of cars, passenger trains and buses.

In the niche of highly repetitive urban transport JPods networks *stream resources to need* on-demand while solar collectors over the rails gather 40,000 vehicle-miles of power per mile of rail per day. The result is 90 cents of every dollar currently spent on traffic is recovered as profits, customer savings, jobs and materials to build the networks. JPods are ribbons of power and mobility.

PROBLEMS SOLVED

- **Oil Dependency:** Eliminates dependency on oil energy to move people and cargo in cities.
- **Congestion:** Grade separates to preempt traffic defects.
- **Pollution:** Eliminates CO2 production.
- **Safety:** Decreases from 106 deaths per million on roads to 0.2 injuries per million.
- **Time Saving:** Increases travel speed to 30 miles per hour for JPods compared to 24 for cars, 18 for trains, and 8-12 for buses.
- **Cost Saving:** Cuts costs per passenger-mile to \$0.03 versus cars at \$0.38 (10x), trains at \$0.76 (25x), and buses at \$1.45 (50x) ([link](#)).



- **Freight:** Moves freight as well as people.
- **Construction & Operating Costs:** Construction costs average \$10 million per mile versus \$100 million per mile for light rail (10x).

MARKET SIZE

- Transportation is the economy's circulatory system.
- Railroads will increasingly be the logistical arteries for freight as oil prices increase. The 140,000 miles of freight rail in the US average 476 ton-miles per gallon versus 25 mpg for cars.
- qqqJPods, tiny railroads, will be the logistical capillaries. This will require about 4 times the freight rail miles or 1/4th of the 2 million lane-miles of urban roads. This is 500,000 miles in the US and 6 times that in the world.

- The Personal Rapid Transit (PRT or podcar) network in Morgantown, WV has delivered 110 million injury-free passenger-miles. Such networks are applicable in all cities ([link](#)).

BARRIER – LACK OF REGULATORY FRAMEWORK

- Morgantown's PRT is self-regulated. So it fails to establish a repeatable regulatory framework.
- JPods created the *Solar Mobility Act* ([link](#)) to create a known cost of regulation based on theme park thrill ride standards, ASTM F24.
- The contract in Shaxian contract expands this framework into a detail framework ([link](#)).
- This framework is also applicable to Hyperloops, etc...

COMPANY DETAILS

- Bill James launched JPods in 1998.
- Patent #6,810,817 was issued in 2004 for the use of distributed computer networks to move physical packets, the Physical Internet®.
- Company founders are mostly West Point graduates working to end America's foreign oil dependence.
- JPods has an A-level management team ([link](#)).
- Ownership: private.
- Self funded to date.
- Debts: Zero external debt.

VALUE PROPOSITION TO CUSTOMERS

- Cleaner: Zero emissions.
- Faster: Mobility of a chauffeured car without traffic.
- Safer: 80,000 times safer than roads.
- More Affordable: At least 10x less costly than all modes except walking and biking.

BUSINESS MODEL

- JPods modernizes PRT into the urban component of the Physical-Internet®. Hyperloop, ET3, self-driving cars, etc... fill other niches. Hyperloop publicity has greatly aided market awareness.
- JPods combine the efficiency of freight railroads with the on-demand service of the Internet.
- JPods' niche is highly repetitive urban transport of people and cargo in payloads less than 1,200 pounds.
- Early deployments focus on niches where there are a large number of shuttle vans. An example is networking airport terminals, hotels, parking, and car rentals into an economic community.
- JPods builds, then sells networks to Local Mobility Companies (LMC's) to own and operate ([link](#)). This model repeats the success in building the Transcontinental Railroads. **Nothing Like It in the World** ([link](#)).

JPODS FACT SHEET

EXECUTION

- Start small, execute well, iterate relentlessly.
- Delight customers, the fare box payers.
- Leverage theme park regulatory practices.
- Focus on niche solutions. Do not solve the world's problem, solve someone's problem. Build dense networks in niches with paybacks of 1-5 years.
- Start each network with a *Kitty Hawk Network™*, a 100-meter commercial grade network ([link](#)).
- Strive for at least a 31% network density (the density of NYC subways). This density saves families a car payment per month ([link](#)).
- Focus on revenues from customer versus government subsidies.
- Provide a superior technology platform.
- Enlist strong local partners and alliances. Use ex-military networks. Leverage open source practices.
- Build with readily available components to minimize strategic supplier risks.
- Operate Local Mobility Companies (LMCs) with local ownership that focuses on local needs.
- Coordinate capital for LMCs to buy operational networks.

SALES

- Contract signed January 17, 2018 to build a network in Shaxian, China ([link](#)).
- Purchase Order for \$5 million Technology Transfer expected on March 1, 2018.

PRODUCT DEVELOPMENT MILESTONES

- 1999 Established baseline technology – completed in 1999 and patent issued in 2004.
- 2006, completed 20 foot "garage quality" demo. Thousands of people have ridden in these demos.
- 2009 Developed a legal framework for deploying networks. Law in Secaucus, NJ in 2014. Pending as Massachusetts Senate Bill #1970.
- 2014 completed 100 meters of "laboratory quality" demo ([link](#)).
- 2015 completed Route-Time™ software that models networks and estimates travel times ([link](#)).
- 2015 completed JPods3D that provides 3D modeling into GoogleEarth ([link](#)).
- 2017 completed robotics for SkyRide ([link](#)).
- 2018 signed contract to build network in Shaxian, China. This institutionalized the regulatory framework and opens the market ([link](#)).
- By Dec 2018 JPods will complete 9.7 kms of commercial grade network ([link](#)).

COMPETITIVE ADVANTAGES

- **Exceed 10,000-Hour Rule:** Gladwell's book, *Outliers* documents that 10,000 hour are required to master a subject. The people in JPods 20,000 hours of what is required to drive this paradigm shift. A measurement of this understanding is the Shaxian

contract and pending laws in the US, India, and Nigeria.

- **Management Track Record:** Members have proven records running manufacturing, logistics, process controls, power generation and high-tech companies ([link](#)).
- **Product Design:** Vehicles hanging from overhead rails (as opposed to riding on tracks) employ superior physics, solve congestion issues in cities, reduce energy consumption, and increase ride stability and safety ([link](#)).
- **Patents:** Patent #6,810,817 was issued in 2004 for using distributed computer networks to move physical packets, the Physical Internet®. About 50 more patents have been researched and identified for filing. During initial deployment it is expected that even more patents will be identified and filed.
- **Scalability:** JPods demos have been setup and taken down hundreds of times. Thousands of people have ridden in the JPods demos. These experiences provide deep insights into what customers want and how to scale those wants into commercial grade networks.
- **Market Readiness:** With publicity from Hyperloop, markets have suddenly become aware there are alternative networks.
- **Hedgehog Concept** (Book *Good to Great*): **Passion** is for on-demand mobility as the physical manifestation of liberty; **Best in the World** at on-demand urban transport of payloads less than 1,200 pounds; **Measurement** is profits per passenger/freight mile.

COMPETITION

- **ULTraPRT** (UK) Heathrow network opened in 2010 and has delivered 500,000 injury-free trips.
- **VectusPRT** (Sweden) is building in Korea.
- **SkyTran** (US) regularly generates some publicity.
- **Other small competitors** are Mitrono (Poland), Taxi2000 (US) and several other small companies. ULTra is the only company with significant contracts including Heathrow Airport (UK) and Masdar (Abu Dhabi).
- **Large company** competition from Amazon, Siemens, GE, etc. should be expected because of the large margins, large scale of the opportunity, and government interface.
- **Self-driving cars** will have an impact. There will be niches where they will both augment and compete with JPods. JPods use less energy and self-driving cars can use existing roads.
- **Hyperloop** fits in a different niche and is an ally in opening the market.