

Intelligent Transportation

Howard Roberts, Jr. – CEO. USMA'61
MS Princeton, COO of SEPTA (Pennsylvania) 4th largest regional transportation system in US, COO NYC Transit Authority

Gordon Israelson - Chief Technology Officer. USMA'72
MS U. of MN. Physics, Registered Professional Engineer, 6 patents

Michael Schneider - Chief Legal Counsel. USNA'64
JD William Mitchell, Retired Chief Legal Officer of Rosemount Engineering, managed 800 patents and their legal/commercial defences world-wide.

Bill James – Sales & Founder. USMA'72
Founder and President of JIT Corp, Author Desktop Hosting and patent holder Intelligent Transport

Chuck Mahan – Advisor. USMA'68
Retired Lieutenant General, G4 (head of US Army Logistics). Expert in large scale logistics.

Economic Necessity: Personal Mobility

Jobs

Jobs require attendance
11 mile typical commute
Economy requires inexpensive or efficient use of energy

Congestion

Lose work-week per year per worker
35W / 62 Rebuild

Growth

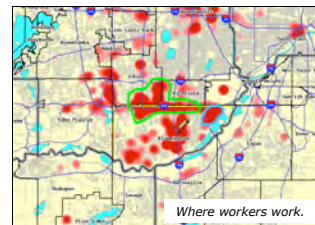
Carver, 46.5%; Dakota, 29.3 (80k);
Scott, 54.5%

Security/Oil Dependence

Funding extremists, two wars, national tragedy in last 15 years.
Next 15 years very uncertain
"Oil Addiction"



Necessity: Workers affordably to and from work.



Problem

In Repetitive Travel we are creating congestion, wasting energy

**moving a ton
to move a person**



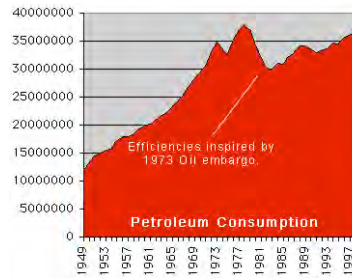
Costly to operate
\$.57 per passenger mile for cars

Congestion
4 billion of 8 billion miles per day
Lose work-week per year

Consuming Finite Resource
308 million gallons of gas/day

"Oil Addiction"

Limits mobility
Old, young, disabled, not wealthy



Solution

Move only the person.

Drive Parasitic Mass towards Zero
JPods weigh less than 450 pounds
1-4 people

Replace Parasitic Mass with
communications, a Physical Internet.

Applies to
4 of the 8 billion miles driven daily

Speed
30 mph, 50 longer term

Drive-out sources of variation



Operational JPod at Edina City Hall.
Controlled by touching screen on left.

Savings & Value

Savings come from

- Driving Parasitic Mass towards zero
 - Mass that is not cargo or passenger
- Travel point-to-point travel without stopping
 - JPod Travel
 - Load at ground level
 - Touch screen, to set destination
 - Computer controlled travel
 - Non-stop origin to destination
 - Unload at ground level



400 pound JPod verse
one ton automobile



Value

- Focused on quality of trip for the traveler
- Caters to needs of the traveler
- Available 24 x 7
- Low energy consumption
- No waiting, JPods wait for travelers
- Mobility regardless of capabilities and wealth

Personal Mobility

Regardless of Age

- Young
- Old

Regardless of Wealth

- Affordable to everyone

Regardless of Ability

- Does not require driving capacity

Personal

- On-demand



Operational JPod at
Edina City Hall

Safety

Auto Deaths in MN

- 11.12 per 100k
- 557 deaths in 2004
- Economic cost \$3.065 billion

Wuppertal, Germany

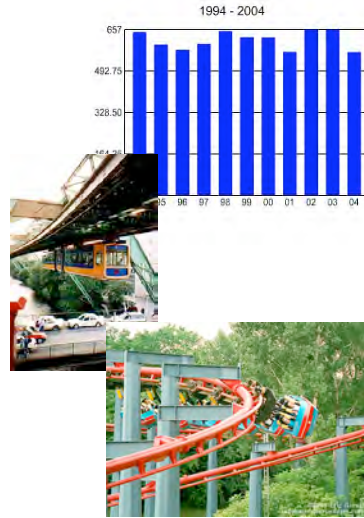
- 105 years
- 1.5 billion passengers
- 4 deaths

Roller coaster (9,000 times safer than cars)

- One death per 90 million
- 34 deaths in last 26 years (most from suicidal or intentionally unsafe behavior).

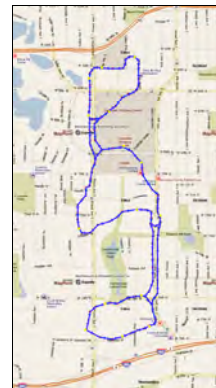
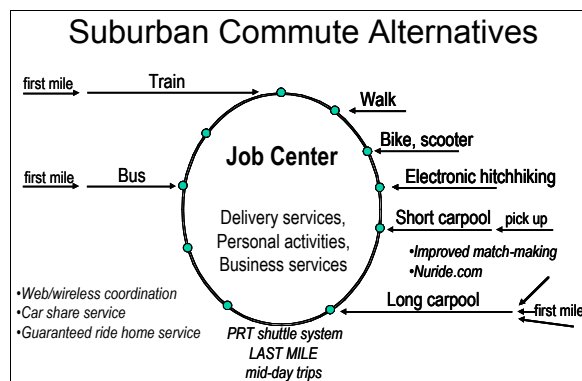
JPods

- Slow, low G-Force roller coaster



Synergy

Based on Palo Alto study, PRT last-mile capability resonates with other mode capabilities



Graphic provided by Cities21.org

Capacity

Enhance other transit
 Small Capacity Dominates
 Private

- 95%+ trips is US
- Cars

Non-Private

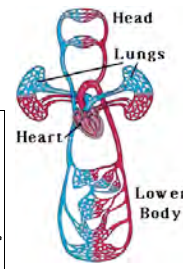
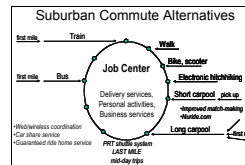
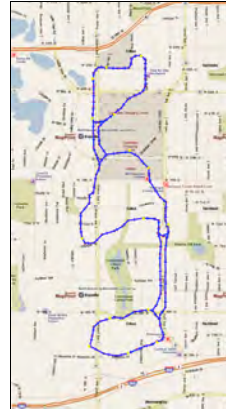
- Elevators (riders per day)

Streaming Resource to Need

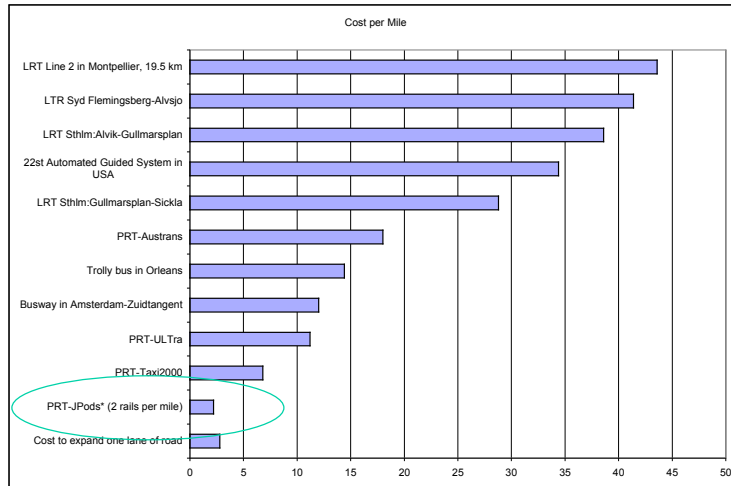
- Just-in-Time vs Mass Production

	Seats	Frequency	Seats per hour
Bus	50	5 mins	600
Light Railo	200	10 mins	1200
JPods	4	3 secs	4800

Cargo and Trash

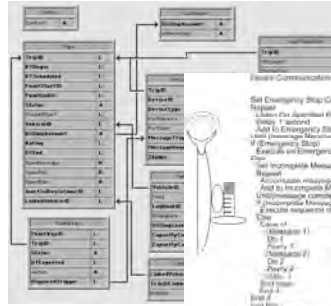


Cost in per track-mile



Construction

- BAA and Ultra (competitor)
 - Announced for Heathrow airport
- WOA to MOA, Richfield, MN
 - Pending Funding
- Korea-Sweden, Coaster

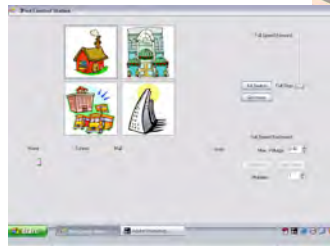


Proof of Concept

- On 3 meters of rail
- Computer interface
- Electric motor

Controller Screen held by official
Touching a button moved JPod to
location on the rail:

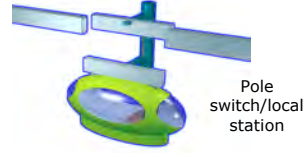
- Home
- Work
- Mall
- School



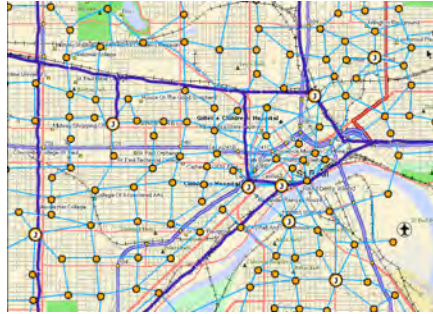
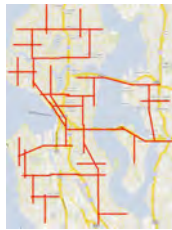
JPod vehicle in front
of Edina City Hall

Network Progression

- Small point-to-point networks
- Special purpose small networks
- Cargo networks
- Airports
- Urban

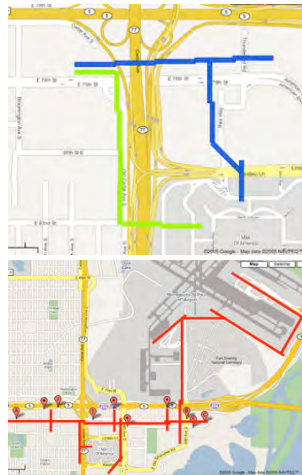


Eventually to the density of city water



Patent 6,810,817

Small Networks

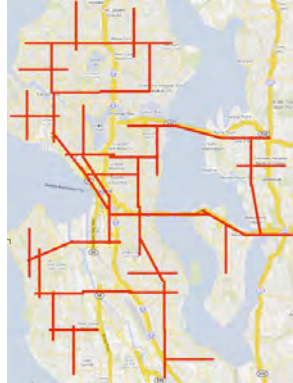


	Green Point to Point	Blue Six Node Network	Red Airport Network
Trips per day	1,000	3,000	10,000
Average trip length (mi.)	0.6	0.6	4.0
Guideway Length (mi)	1	1	10
Cost per Mile	2,000,000	2,000,000	3,000,000
Stations per Mile of Rail			2.4
Number of Stations	2	5	24
Cost per Station	250,000	250,000	250,000
Number of Vehicles Required	11	32	510
Cost per vehicle	7,500	7,500	7,500
Number of Switches	0	4	20
Cost per Switch	300,000	300,000	300,000
Maintenance Float @2% & 6%	0.60	1.80	10.00
Deadhead Factor	1.00	1.00	1.00
Average Speed	12	12	20
Max trips per vehicle per hour	15	15	3
Average Passenger Load	1.50	1.50	1.20
Peak Hour Percentage	15	15	15
Fare paying Vehicle Trips/day	667	2,000	8,333
Fare Vehicle Miles traveled/day	400	1,200	33,333
Fare per Vehicle Mile	6.00	7.00	0.85
Average Fare	\$4	\$4	\$3
Average daily fare receipts (\$)	\$2,400	\$8,400	\$28,333
Fare days per year	320	320	320
Capital	\$1,979,500	\$4,388,500	\$45,825,000
Yearly Finance Cost @ 6%	\$143,809	\$318,820	\$3,329,136
Maintenance @ 7% of capital	\$138,565	\$307,195	\$3,207,750
Power @ .05/KWh - .200KWh/Pass. Mi	\$1,920	\$5,760	\$128,000
Fare Receipts/year (320 day year)	\$768,000	\$2,688,000	\$9,066,667
Capital and Operating Costs	\$284,294	\$631,775	\$6,664,886
Profit	\$483,706	\$2,056,225	\$2,401,780
costs per year	\$284,294	\$631,775	\$6,664,886
fare miles per year	128,000	384,000	10,666,667
cost per fare mile	\$2.2210	\$1.6452	\$0.6248

Patent 6,810,817

Network of Networks

- Profit saving people time and money



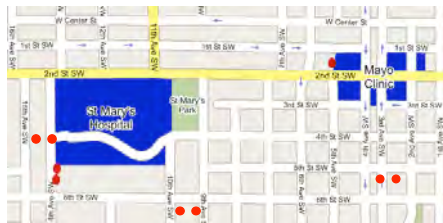
Trips per day	400,000
Average trip length (mi.)	9.0
Guideway Length (mi)	100
Cost per Mile	4,000,000
Stations per Mile of Rail	3.0
Number of Stations	300
Cost per Station	250,000
Number of Vehicles Required	91,800
Cost per vehicle	7,500
Number of Switches	624
Cost per Switch	300,000
Maintenance Float @2% & 6%	1,800.00
Deadhead Factor	3.00
Average Speed	20
Max trips per vehicle per hour	1
Average Passenger Load	1.20
Peak Hour Percentage	15
Fare paying Vehicle Trips/day	333,333
Fare Vehicle Miles traveled/day	3,000,000
Fare per Vehicle Mile	0.65
Average Fare	\$5.85
Average daily fare receipts (\$)	\$1,950,000
Fare days per year	322
Capital	\$1,350,700,000
Yearly Finance Cost @ 6%	\$98,126,885
Maintenance @ 7% of capital	\$94,549,000
Power @ .05/KWh - .200KWh/Pass. †	\$46,368,000
Fare Receipts/year (320 day year)	\$627,900,000
Capital and Operating Costs	\$239,043,885
Profit	\$388,856,115
costs per year	\$239,043,885
fare miles per year	966,000,000
cost per fare mile	\$0.2475

Patent 6,810,817

Multiple Solutions

Pool Rental Cars

- Traditional Automobile
- Electronics and GPS
- Locate via cell phone
- Account and operation managed via cell phone and WebClerk software



Rescue-Rail

- Temporary Needs

Cell-Flow Support

Multi-Modal

- Traveler centric



Patent 6,810,817

Leadership

- Mike Clasper, CEO of BAA

"Two key goals for BAA are the improvement of the local environment and better service quality for our passengers. (200 million passengers yearly, first deployment is Heathrow)

- Barbara Johnson, President Minneapolis City Council

"Physical Internet will increase personal mobility for our school kids, the economically challenged, our senior citizens, the disabled community and those stuck in rush-hour(s) traffic

.As a City Council Member in our state's largest city, I firmly believe that strong leadership in a public/private alliance can quickly implement break through technologies such as yours."

- Mark Stenglein, Vice-Chair, Hennepin County

"I appreciate that your networks do not limit personal mobility when someone is too young, too old, too poor, or too incapacitated to operate a car. Personal mobility gives access to economic, social and educational opportunities....

- Recently Release European Union Planning Documents

"PRT contributes significantly to transport policy and all related policy objectives. This innovative transport concept allows affordable mobility for all groups in society and represents opportunities for achieving equity... at a lower cost than any other transport system.

PRT is the personalisation of public transport, the first public transport system which can really attract car users and which can cover its operating cost and even capital cost at a wider market penetration. PRT complements existing public transport networks. PRT is characterised through attractive transport services and high safety.

Alliance

- Private Capital Risk to Innovate

- Convert operational networks to public loan guarantee
- Cycles private capital to expand networks
- LMC (Local Mobility Companies), ISP of Physical Internet™

- Public Guarantee Achieving Public Policy Objectives

- Clean air
- Equitable Access to Mobility (economic, age, wealth,)
- Sustainable Infrastructure
- Energy Independence

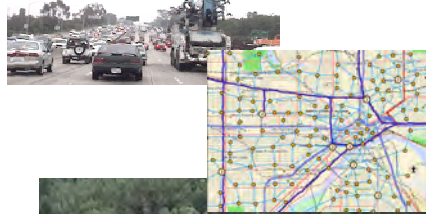
- Public Guarantee

- Mirror Policies for pass successes
 - Transcontinental Railroads
 - Internet
- Convert operational networks to public loan guarantees
- Cycle private capital to expand networks more quickly

Summary

Problem

Moving a ton to move a person



Solution

Move only the person

Public Policy

- Personal mobility
- Small ecological footprint
- Sustainable infrastructure
- End "oil addiction"

Profit by moving less

- Private Funding for Deployment
- Profit of \$.27 per passenger mile
- Public/Private guarantee when achieving public policy





BOARD OF HENNEPIN COUNTY COMMISSIONERS
A-2400 GOVERNMENT CENTER
MINNEAPOLIS, MINNESOTA 55487-0240

November 15, 2005

Mr. Bill James
Intelligent Transportation Corp., President
15632 Alpine Circle
Burnsville, MN 55306

Dear Mr. James,

Intelligent Transportation's approach to the energy and transportation needs of our community is one whose time has come. Computerized networks can automate repetitive travel such as transporting children to and from school, shoppers to and from retail centers, and commuters to and from work.

I appreciate that your networks do not limit personal mobility when someone is too young, too old, too poor, or incapacitated to operate a car. Personal mobility gives access to economic, social and educational opportunities. Your cost projections mean that private capital, profiting by preempting current costs of foreign oil, will drive creativity and adoption. The scale of these networks indicates millions of jobs may be created, revitalizing our infrastructure while shifting trade balances.

As a Minnesota political leader in the state's largest county, I take it to heart your observation that in the last two great networking opportunities, Minnesota failed to exercise its leadership position and lost jobs and revenue. In the 1980's the computer industry was significantly centered here. We failed to exercise the leadership needed to capture the explosive network growth of jobs and revenue.

Intelligent Transportation and *Taxi 2000*, both Minnesota companies, seem to be leading the world in automating transportation networks. Until I rode in the *Taxi 2000* vehicle I did not understand the power and simplicity of automating personal transit. It would be a shame for Minnesota to not leverage its lead position again as a "Physical Internet" is built.

I look forward to hearing from you regarding the progress of these projects.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Stenglein", written over a large, light-colored oval shape.

Mark Stenglein, Vice-Chair
Hennepin County Board of Commissioners

BARBARA A. JOHNSON
Council Member, Fourth Ward
350 South 5th Street - Room 307
Minneapolis MN 55415-1383

Office (612) 673-2204
Fax 673-3940
TTY 673-2157



December 7, 2005

Mr. Bill James
JIT Corp.
15632 Alpine Circle
Burnsville, MN 55306

Dear Mr. James:

The need is real in Minneapolis for efficient, clean and sustainable transportation. Not since the 1970's has it been more vividly clear that our city's economic survival depends on being energy independent.

Your presentation on Intelligent Transportation is timely and appreciated. I especially like your definition of the problem, "That we are consuming energy and creating congestion moving a ton to move a person"; that there is a solution in "moving only the person."

I also like that it does not conflict with our current efforts to help people with buses and make our communities more environmentally sound.

I have been a long time supporter of the TAXI 2000 concept. We share the belief that Intelligent Transportation and TAXI 2000 both have niches in today's market place.

Computerized transit networks or "Physical Internet" will increase personal mobility for our school kids, the economically challenged, our senior citizens, the disabled community and those stuck in rush-hour(s) traffic. It will give more people greater access to the facilities that makes Minneapolis a great city. And in the long run, besides being energy and ecologically efficient, a new job market will be created that enhances the attractiveness of living and working within our city.

As a City Council Member in our state's largest city, I firmly believe that strong leadership in a public/private alliance can quickly implement break through technologies such as yours. Our community can ill afford to wait for another war or another natural disaster to take action. Minneapolis will step up as a leader and support technologies that keeps our air cleaner, our streets less cluttered and creates long-term jobs.

Please keep me informed of your progress and let me know if I can be of any assistance.

A handwritten signature in dark ink that reads "Barbara A. Johnson".

Barbara Johnson
Council Member 4th Ward
City of Minneapolis