



FREEWHEELER NEWS

Newsletter of the Morris Area Freewheelers Bicycle Club

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Another Monumental Event

By John Tetz

Birth of the IHPVA

INTERNATIONAL HUMAN POWERED VEHICLE ASSOCIATION was born in 1975 with several objectives.

The first objective was not to be restricted by man made rules (UCI) but see what Nature allows. A few inquisitive minds did a calculation that showed that with streamlining, speeds of 50 mph were possible. Yet, at the time, no such vehicle existed.

The second objective was to organize competitions and gatherings where individuals could freely exchange ideas. This brought individuals together who would normally be working in isolation. Individuals with wide ranging backgrounds were encouraged, including some top universities.

The third objective was to produce a technical magazine called Human Power and HPV News. This was all directed at providing organized forums for sharing information and development.

Vehicle types:

**HPV Human Powered Vehicles
(land – examples to follow later).**

HPA (Aircraft)



HPB (Boats)

**Here is a example of a
Hydrofoil wing under
the hull. This is a
very fast boat.**



Comments made by early individuals:

“We are here at the most wonderful creative stage.”
“Important to allow the maximum freedom of imagination.”
“We are privileged to be around now and to share in this interest.”
“The bicycle is the best and most conservationist transportation device ever invented by human kind.
It takes less energy per pound per mile than any other transportation device.”
“Enthusiasm and curiosity on the possibilities of human power propulsion.”

- ◆ **The first of their kind**
- ◆ **Sharing ideas**
- ◆ **Learning from observation**
- ◆ **Exploring concepts**
- ◆ **Enthusiasm**
- ◆ **Curiosity**
- ◆ **Possibilities**
- ◆ **Ordinary riders, not 1st class riders**

Here are some photos of early HPVs

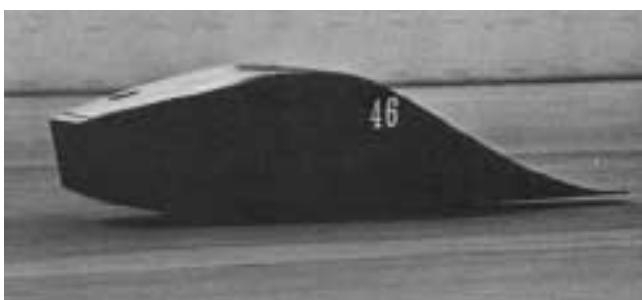


1915 streamliner (banned by the UCI)

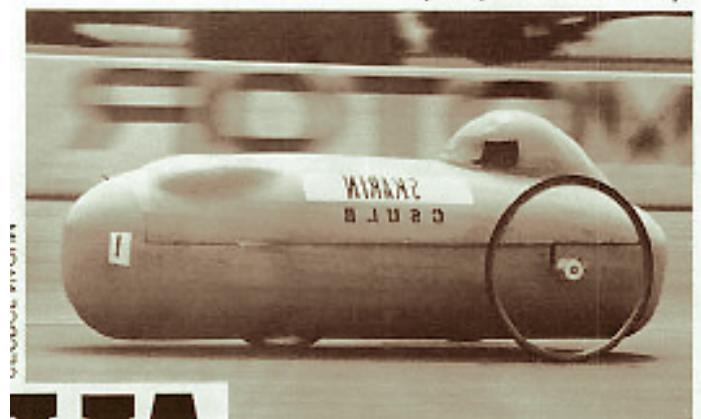


1976 Up-right cycle inside

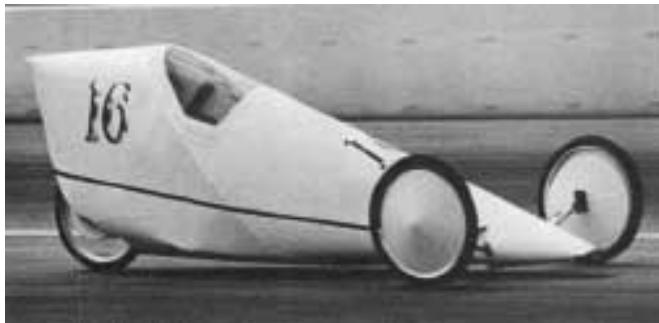
There were quite a few Up-Right bikes in the beginning. But large frontal area and crosswind problems did them in.



This sweeper may look fast but the air flow didn't like it.



Trike



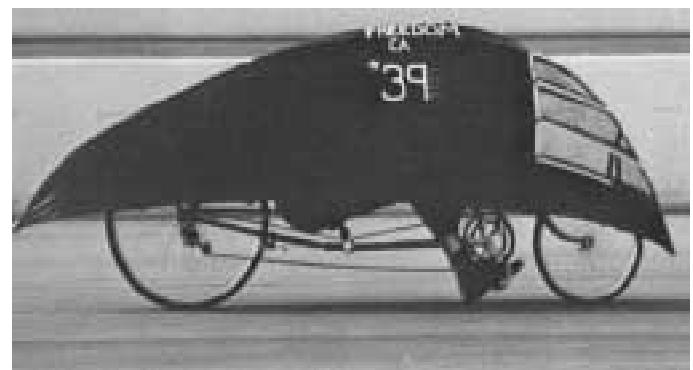
Trike



This streamliner proved to be fast.

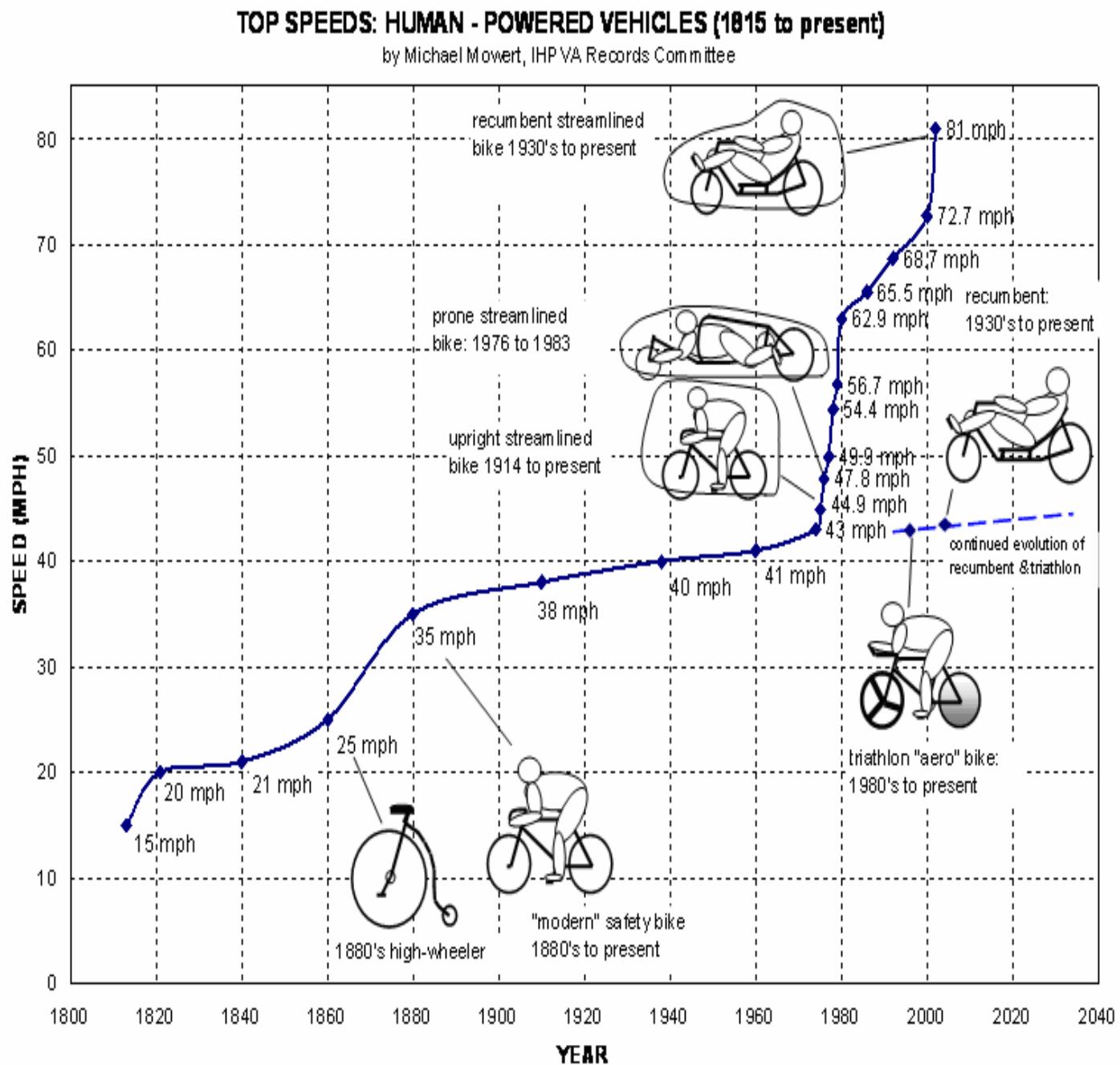


Streamliner



Stock Recumbent with open bottom shell.

Speed accomplishments for all types of bikes were recorded from the late 1800s and tell an interesting story. Vehicles were allowed a substantial run up distance and speeds are clocked over a 200 meter distance.



The main plot shows speeds increasing then essentially leveling off in the low 40 mph range (the bike designs remained the same, and humans were not getting any stronger). **Then comes the IHPVA in 1975 and the speeds dramatically head up eventually to 81 mph on this plot (since this plot the speed is now at 82.8 mph).** These higher speeds may also level off.

This clearly shows the difference in restricted man made rules vs Nature based invention.
Higher efficiency.

Triumph of combining engineering with muscle power.

HEADY HEYDAYS

The 1980s became the heyday of HPV development, mostly done by individuals in their home shops and by college students using the development of HPVs for term papers. The results were outstanding. At practically each event records were broken. The recumbent position became the preferred rider position and was very conducive to aerodynamic shells. There were practically no commercial recumbent bikes at the time so building one was the way to get a recumbent. The creative community became wide spread around the globe.

Exciting.

Even the cycling magazines got interested for a short time but they couldn't see any commercialization so they dropped out.