



Introducing SANE Transportation to ASES

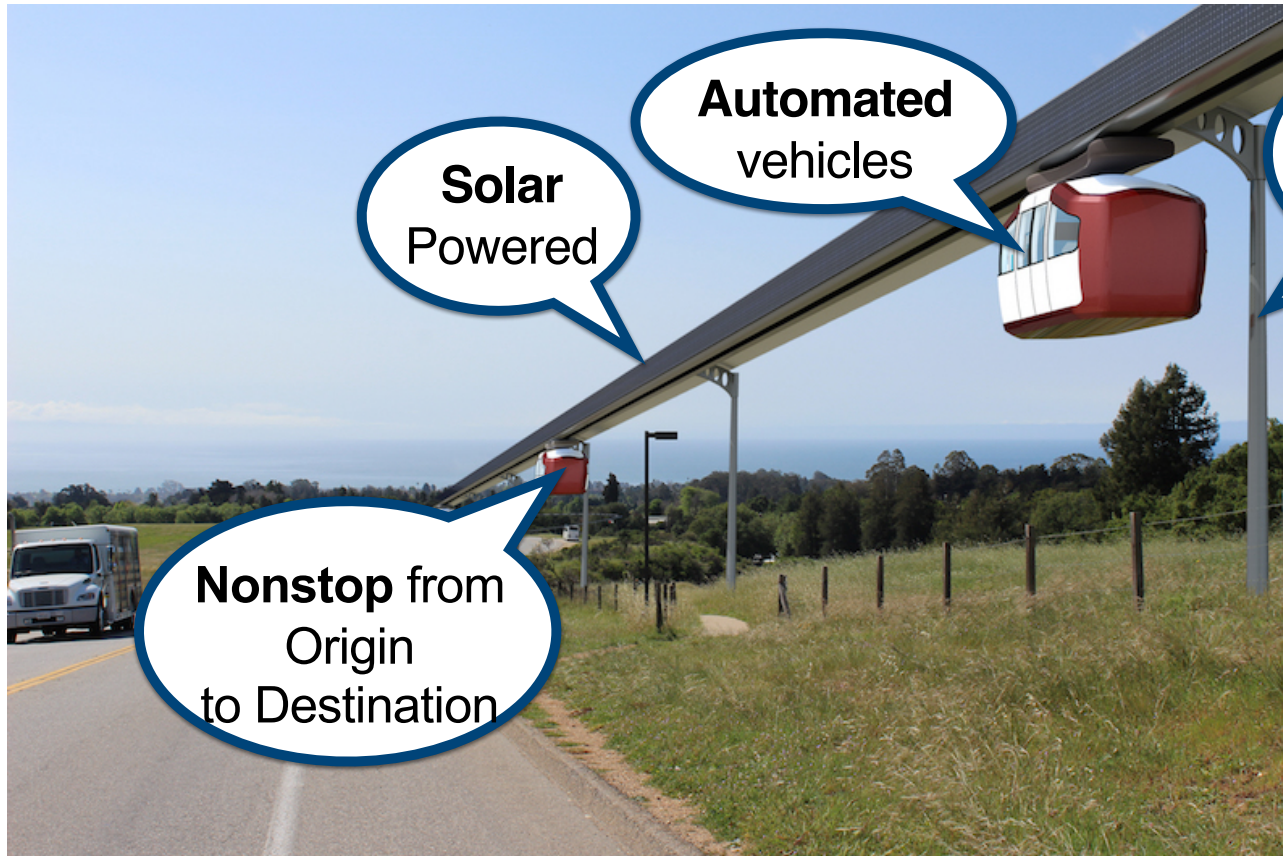
Ron Swenson, INIST
July 12, 2016



International Institute of Sustainable Transportation

www.inist.org

Solar Automated Nonstop Elevated Transportation Networks (“Podcars”) are unique & robust



**Solar
Powered**

**Automated
vehicles**

Elevated

Nonstop from
Origin
to Destination

S A N E

**San José State is leading the way to SANE transportation
... and creating a whole new industry**

We would like you to join us!



Five podcar systems have been implemented and have met key performance metrics



Masdar 2010



Morgantown 1975

- 73 vehicles
- 15.5' L x 8.75' H x 6.7' W
- 8,760 pounds
- 52 kW motor
- 30 miles per hour
- 5 off-line stations



Heathrow 2011

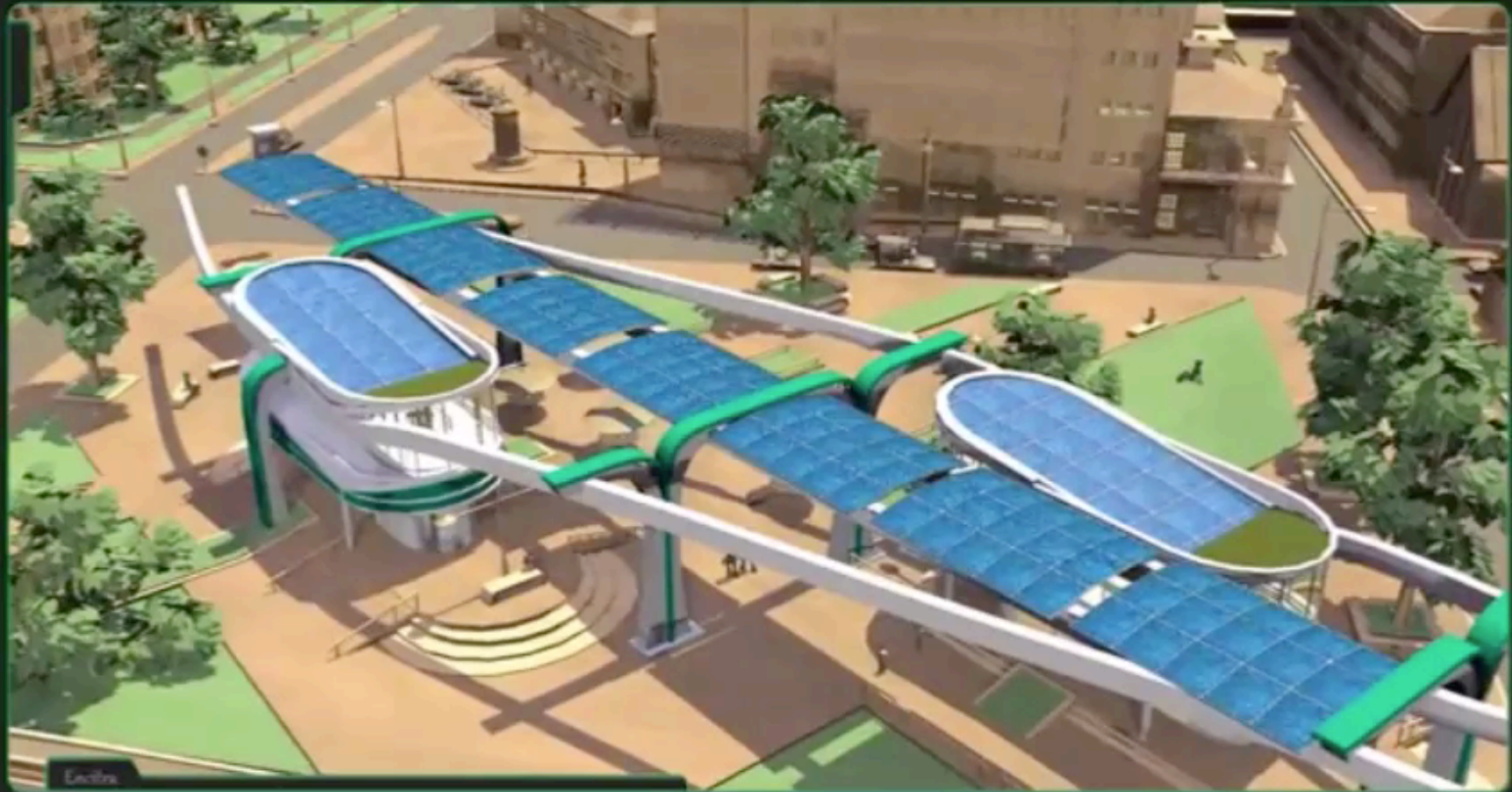


Suncheon Bay 2014



Cuernavaca ~2015~

The key to SANE transportation is *solar energy*!



Excite

Nerds'n Squares

Podcar Transportation System

INIST is coordinating a three sector program

Universities

Cities

Industry



INIST is coordinating a three sector program

Universities

Cities

Industry



Universities are working together – around the country and around the world

	San José		Sweden
	Fresno		Sweden
	Illinois		Sweden
	Santa Cruz		Mexico
	Santa Clara		Poland
	San Francisco		Netherlands
	Merced		France
	South Carolina		France

**San José State is raising
the bar in technology**

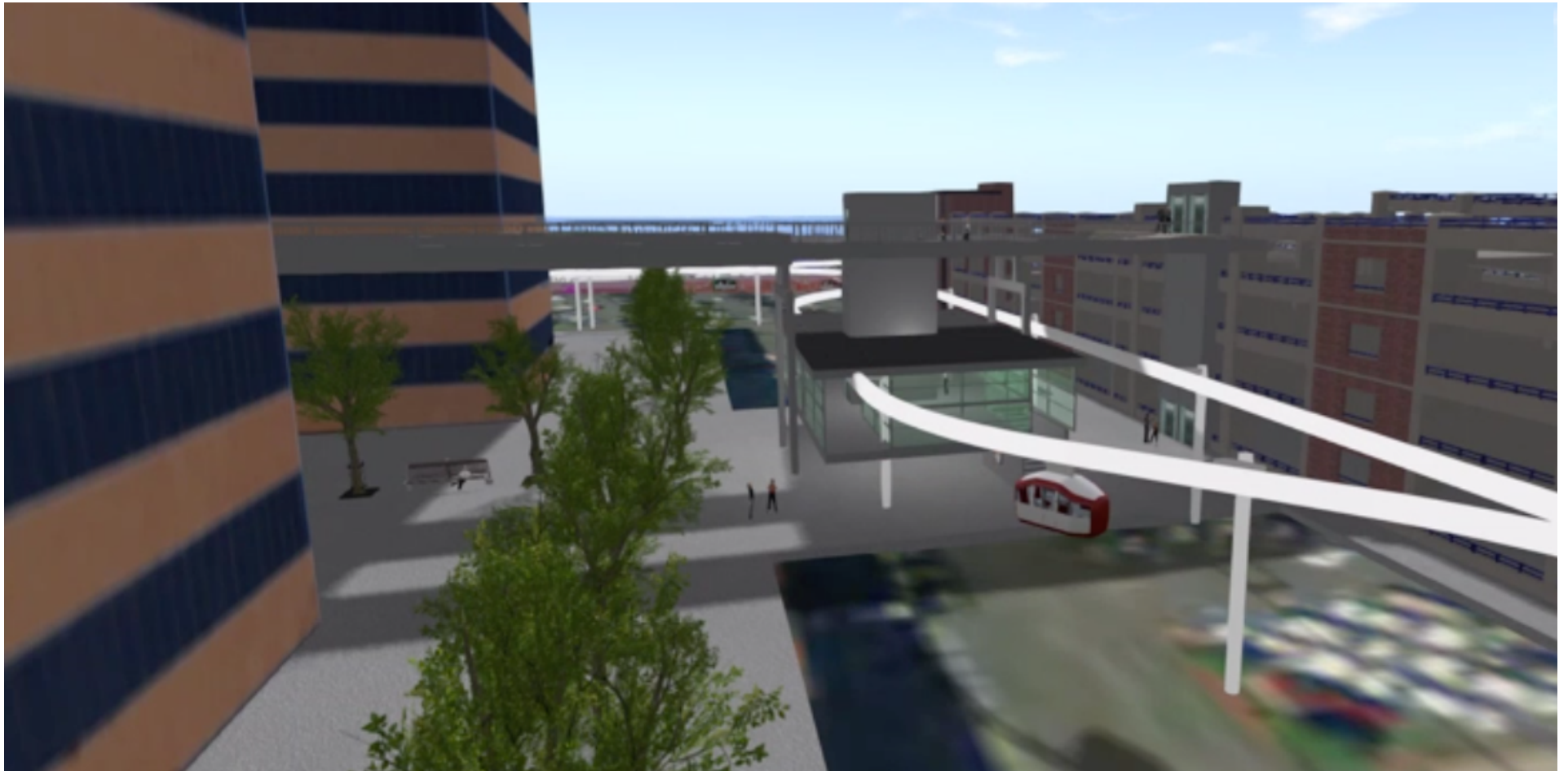
Universities

Cities

Industry



INIST helped San José envision an urban village



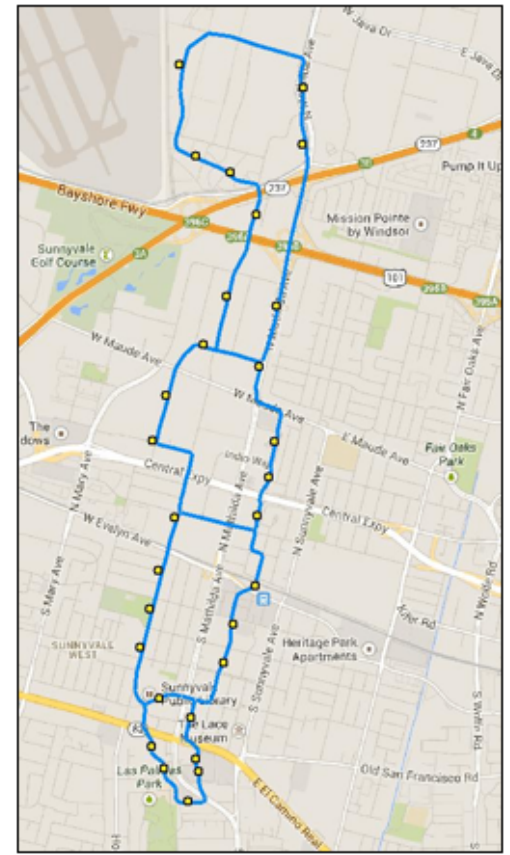
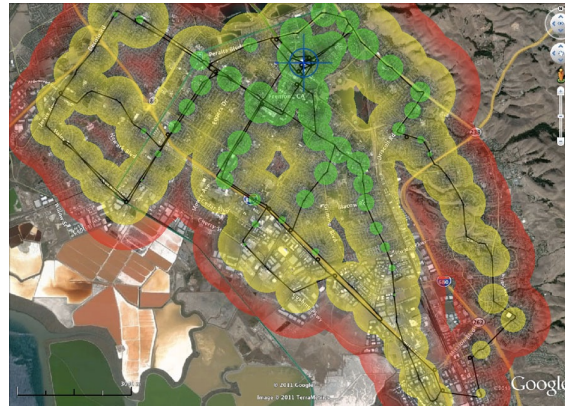
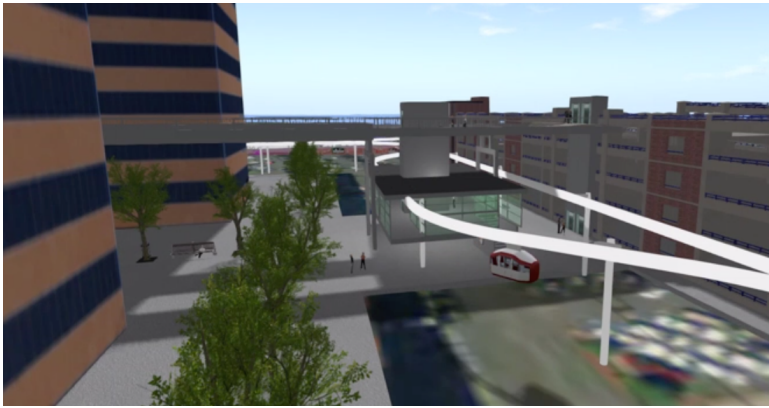
INIST also helped Santa Cruz envision ATN



Our US network of cities and counties is growing



With a small grant from MTI, San José State and INIST are planning routes for cities in Silicon Valley



**Will your city be the first
to have SANE transit?**

INIST is coordinating a three sector program

Universities

Cities

Industry



Solar Industry Perspective

There is a huge market in the USA

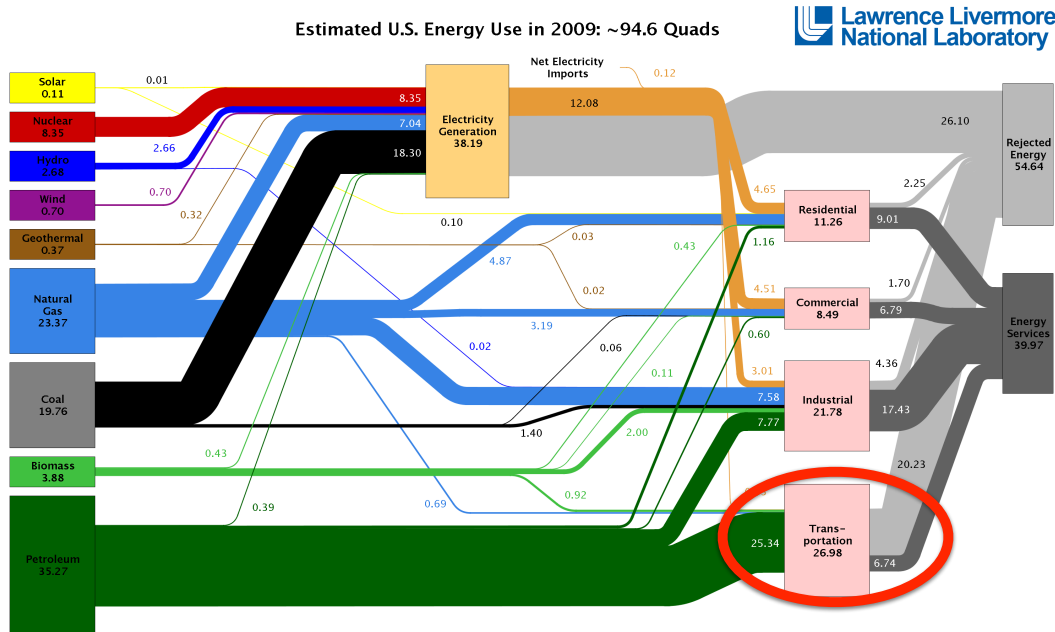
Country	Road length (km)	Expressway length
World	34,235,000	
 United States	6,586,610	76,788
 India	4,865,000	1,324
 China	4,460,000	111,950
 Brazil	1,751,868	11,000
 Russia	1,396,000	960

Other arterial ^b	530,579
Collector ^c	1,358,968
Local	4,004,799

With a MegaWatt a mile over a million miles of roadway in the USA, we are talking about a TeraWatt of solar



One TeraWatt of solar is enough for transportation








Source: LLNL 2010. Data is based on DOE/EIA-0384(2009), August 2010. If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports flows for non-thermal resources (i.e., hydro, wind and solar) in BTU-equivalent values by assuming a typical fossil plant "heat rate." The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 80% for the residential, commercial and industrial sectors, and as 25% for the transportation sector. Totals may not equal sum of components due to independent rounding. LLNL-MI-410527

1 tw x 5 hours/day =
6.25 Quad/year =
net useful energy for
transportation. With
efficiency gain of 5X,
there will be surplus
energy for the grid.



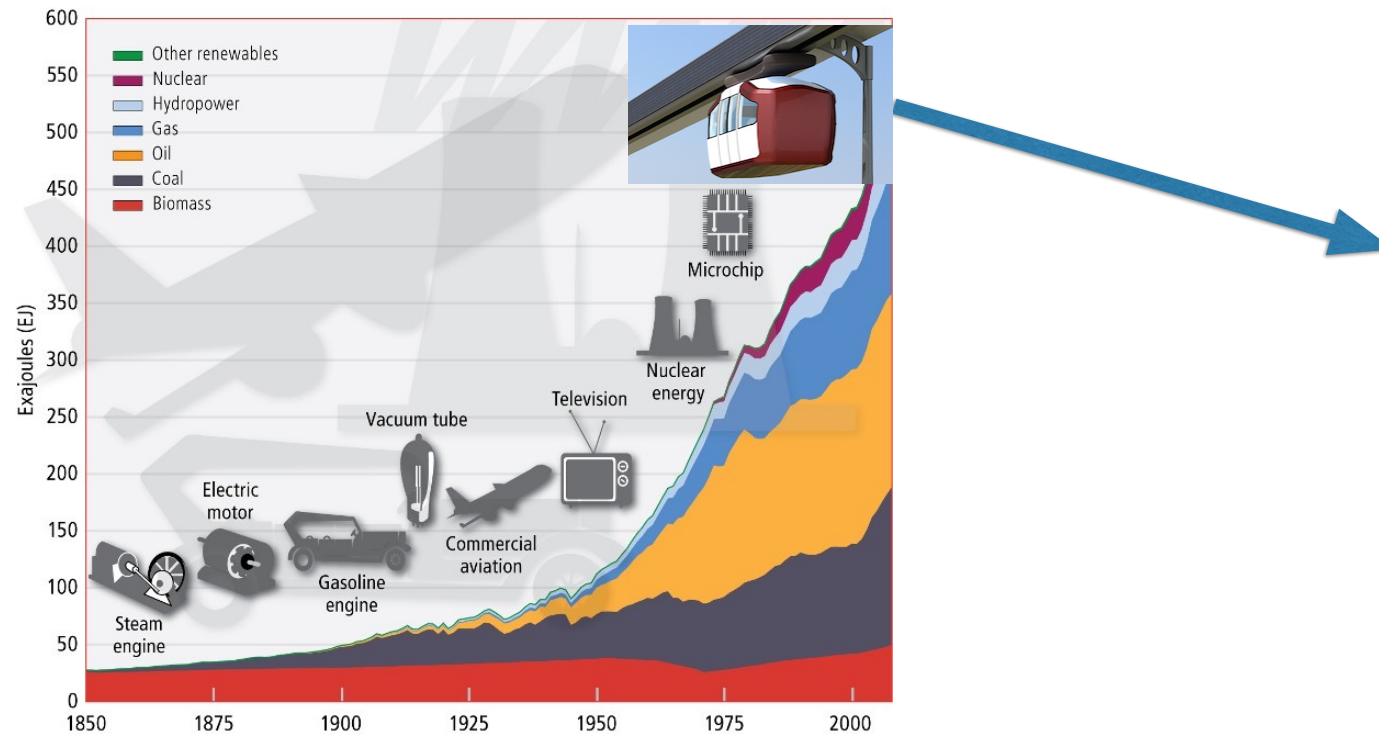
There is a huge market in China

Country	Road length (km)	Expressway length
<i>World</i>	64,285,009	
 United States	6,586,610	76,788
 India	4,835,000	1,324
 China	4,460,000	111,950
 Brazil	1,751,000	11,000
 Russia	1,396,000	960

**With a MegaWatt a mile
over a million miles of
roadway in China,
we are talking about
a TeraWatt of solar**



Solar Skyways will slam the brakes on fossil fuels



Strategic Alliances

in 2010, the US and Sweden formed a Memorandum of Cooperation on Innovation in transportation



We are building collaboration between US & Sweden



Opportunities to participate with the Spartan Superway

We encourage industry sponsors and mentors to join as strategic industry partners

	<i>Real Estate & Entitlements</i>	 BEAMWAYS <small>PERSONAL RAPID TRANSIT</small>	<i>Vendor ATN Technology</i>
	<i>Solar Systems</i>	 ENCITRA™	<i>4D Urban Modeling</i>
	<i>Engineering</i>		<i>Vendor ATN Technology</i>
	<i>Solar Equipment</i>	 Microsoft	<i>Computer Technology</i>
	<i>Equipment Rental</i>		<i>Steel Fabrication</i>
	<i>Engineering Education</i>	Join us! <i>You'll be in good company</i>	

**We invite you to join us.
Thank you for your attention!**



www.inist.org/library

www.podcarcity.org



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SUPERWAY

SpartanSuperway.blogspot.com



www.superway.us

Join us and...

*RISE
ABOVE!!*



Thank you!