EcoPRT

Revolutionary Transportation

Marshall Brain & Seth Hollar
Disruption...
$2 Trillion...
Benefits...
Introducing EcoPRT...
Key Differentiators for EcoPRT...
1

Lightweight, low cost guideway

Target: $1 million/mile
2 Lightweight, inexpensive 1 or 2 person vehicles
Target: $10,000
3

Small footprint guideway
- Use existing rights of way
- Fits anywhere
Comparing Footprint and Weight

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Footprint</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ecoPRT</td>
<td>3 x 5.5 ft</td>
<td>1,000 lbs</td>
</tr>
<tr>
<td>Toyota Camry</td>
<td>6 x 5 ft</td>
<td>3,600 lbs</td>
</tr>
<tr>
<td>Bus</td>
<td>8.5 x 9.5 ft</td>
<td>32,000 lbs</td>
</tr>
<tr>
<td>Light Rail</td>
<td>9 x 11 ft</td>
<td>100,000 lbs</td>
</tr>
</tbody>
</table>
Convenience:
- Point to point, no stops
- Vehicles always ready
- 24x7
Entrepreneurial

Fare can be covered by per-mile charge
Fare reimburses cost of infrastructure over time
Incubate at NCSU

- Fill the "Future Rapid Transit Corridor"
- Significant traffic
- Easier right of way acquisition
- Receptive audience
Civil Engineering Senior Design: ecoPRT at NCSU

Credited to CE400, Spring 2014. Michael Corwin, Rob Pattillo, Briana Phillips, Andy Wagner, NCSU
Prototype

GPS - monitors vehicle position
Accelerometer, Gyroscope, Compass, Pressure, Altitude, and Temperature Sensors
Hall Effect Sensors - detects magnets in road surface
Tires: High Speed Standard Rim Trailer Tires

ecoPRT Initial Design Model

Doug Henry, Travis Hill and MAE 496 Team
NCSU as a seed

- Market forces drive expansion
- Many sites need circulators
Meetings:

- Executive Director of Regional Transportation Alliance
- Transportation Manager, City of Raleigh
- Transportation Manager, City of LA
- Director of Transportation, NCSU
- CEO of Kane Realty (North Hills)
- Division Director, Transportation Initiatives, Advanced Energy
- ATN San Jose Workshop
- Kimley-Horn and Associates
- Director, planning of NC CAMPO
- Wake County Planning
- Vice President of RTP
- University Architects and Capital Management at NCSU
- Engineering and Design at NCSU
- Podcar City Conference
Ready for Lift Off

- NCSU needs system like this and has already allocated a route on its Master Plan

- Greater community involvement

- Corporate Partnerships