Innovative Pavement Systems

Hosin "David" Lee, Ph. D., P.E.
Public Policy Center, Civil & Env. Engineering, University of Iowa

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Ideal Sustainable Pavement (ACPA)

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- Pavement: Aggregates glued together with binders such as asphalt, cement and polymer

Innovative Pavement Systems

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Pavement Systems other than

- Pavement Recycling
- Warm Mix Asphalt
- Bio-Binders
- Rubber Recycling
- Recycling of Industrial Byproducts
- Prefabricated Pavement System

Iowa City in Summer 2008

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Unsustainable Concrete Pavement

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Unsustainable Asphalt Pavement

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Porous/pervious Pavement

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Porous Pavement Design for Flood Mitigation

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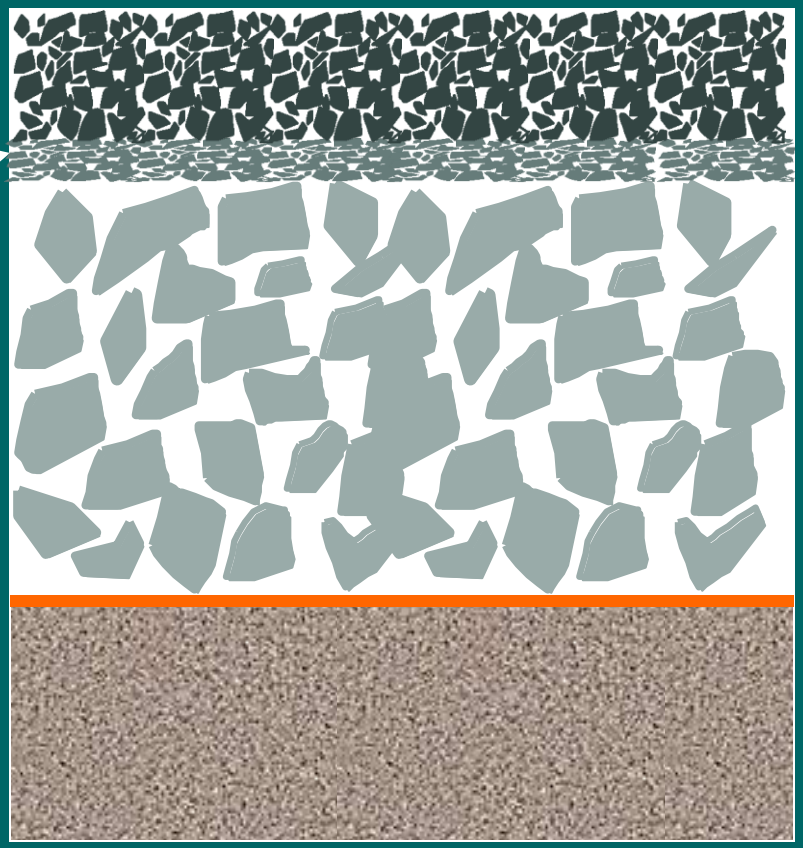
Open-Graded HMA/WMA ~ 2 ½”

½” Agg. (#57) ~ 1” – 2” Thick

Clean Uniformly Graded 2”-3”
Crushed Agg. (#2) – 40% Voids

Non-Woven Geotextile

Uncompacted Subgrade



Geothermally Heated Pavement

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Malmo, Sweden

Klamath Falls
Oregon

Heat draining pavement to protect Permafrost

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Melting Permafrost in the Alaska Highway in the Yukon

Color Pavements for Sustainable Community

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- Improvement of street appearance
- Harmony with the surroundings
- Sense of liveliness and peace of mind
- Improvement of visibility, driving safety and comfort
- Good for Traffic Management

Energy Generating Pavement

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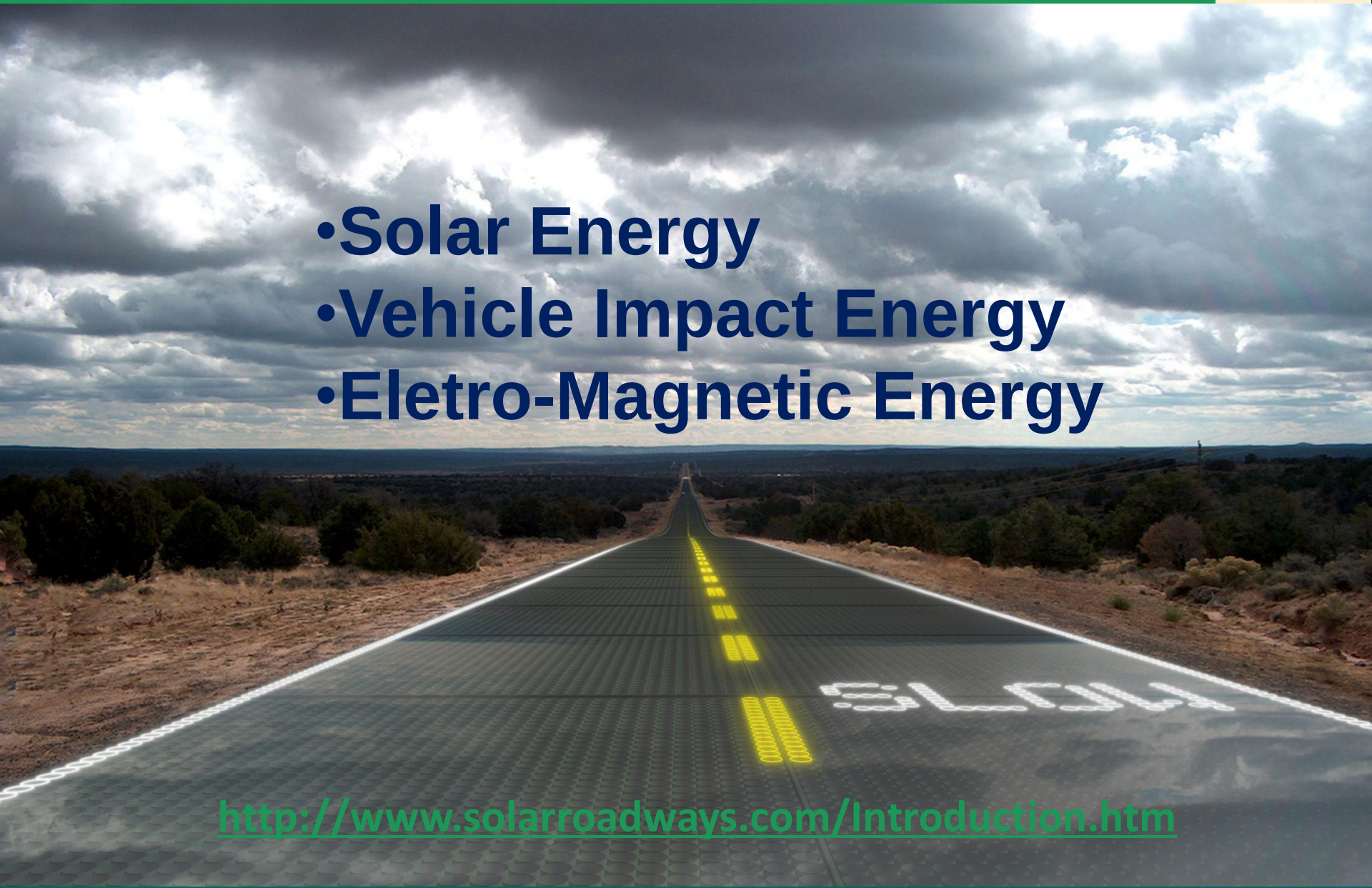

Challenges and Solutions

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- Innovative pavement system (IPS) costs more than the non-IPS → IPS costs less if environmental and health costs are considered in the bid price.
- Government employees are reluctant to trying IPS → There should be a government-run facility where IPS can be built and tested at a minimal cost.
- Government has a limited fund → More funding should be allocated to building pavements because IPS can serve multiple functions such as carrying traffic, mitigating flood, serving as landfill and generating energy.

Top 10 National Ranking in Football in 2009
Won Orange Bowl against Georgia Tech by 24-14

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