

# Alternative Uses of Right of Way Solar Highways

Brent L. Green

Chief, Division of Right of Way and  
Land Surveys

California Department of  
Transportation (Caltrans)

2012 AASHTO Subcommittee on Right of Way and Utilities Conference

Marriott Waterfront Hotel – Portland, Oregon  
April 29 to May 3, 2012



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# Alternative Uses of R/W

- Airspace Leases (\$24M Annually)
- Cell Towers (\$6M Annually)
- Investigating Alternative Energy
  - Current focus is Solar Highway research
  - Pilot Projects

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# State of California

## Alternative Energy Efforts

- 33% Renewable by 2020
- All State Agencies asked to identify Renewable Energy Opportunities
  - Caltrans Participating in 2 ways
    - CREB (Clean Renewable Energy Bond) Program
    - Solar Highways Research

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# Solar Highways Research

- Looked very promising - \$\$\$\$ Bonanza!
  - Need financial advice
- New concept in highway use
  - Need solar industry expertise

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# Solar Highways – DOT Concerns

- Safety
  - Clear Recovery Zone
  - Glint and Glare
  - Access
  - Preference for grade separated sites
- Compatible with highway use? 20 yr. plan?

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# Solar Highways – Developer Concerns

- Financial Viability
  - Cost of Panels
  - Sale Price of Power
  - Power Purchase Agreements (PPA)
  - Incentives
- Long-Term Stable Landlord

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# Solar Highways Agreements

## DOT

- Safety
- Fair market return on use of public right of way
- Timely use of land for highway use if needed (Vacate Clause)

## Solar Developer

- Safety
- Profit
- Need for long term stable lease

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# Solar Highways - Technical

- Longitudinal Installations Not Viable
  - DC short transmission distance
  - Additional AC Inverters
  - N-S Highways costlier install
- Interconnection
  - Fees plus \$1,000,000/mile; keep within 1 mile
  - Grid not always able to take more power

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# Solar Highways - Financial

- Obtained Financial Model from Consultant
- Initial results not favorable
- Results depend upon
  - Cost of Development
  - Sale Price of Power
- These factors change

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# Ongoing Efforts

- Potential for worthwhile projects
- Trial sites out in Request for Information (RFI)
  - Small number of most promising sites
  - Obtain market feedback
- Each site should be evaluated separately



# Conclusion

- Income generating alternative uses for right of way exist
- Alternative energy is an important and exciting new use
- Study economics carefully
- Apply technical and safety criteria
- DOTs and Developers – Perspectives
- Don't Give Up! – Changing Situation

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# Questions

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