

Alternative Fuels and CO₂ Emissions Which Path?



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- A catalyst for socially, financially, and environmentally sound solutions to the problems of urban mobility





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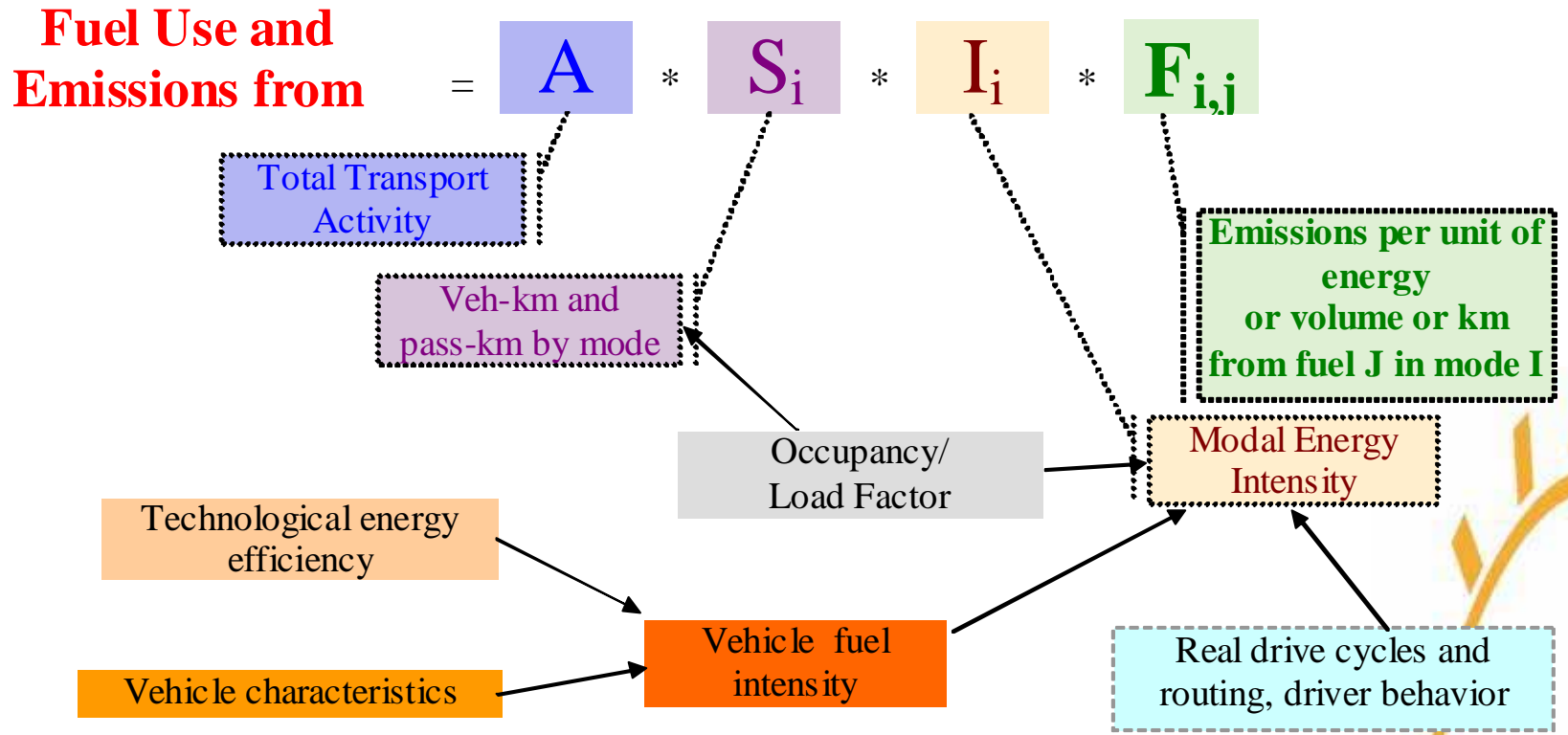
- Established as a unique center within World Resources Institute in 2002, *EMBARQ* is now the hub of a network of centers for sustainable transport in developing countries.
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Integrated View of Transport Problems

The ASIF Decomposition for Fuel and Emissions

<http://www.iea.org/textbase/nppdf/free/2000/flex2000.pdf>



Lesson : Attack All Components of the Problem



Alternative Fuels or Fuels: Basic Rules of Engagement

- **Tax CO₂, Pollution, Vehicle use**
 - Quantify externalities (admittedly difficult) – Nordic approach
 - Encourage all solutions to compete
 - Achieves maximum market efficiency
- **Don't Subsidize (earmark, hypothecate) Alternative Fuels**
 - Encourages energy and CO₂ waste (US ethanol)
 - Skews playing field away from other low carbon options (efficiency, modal shifts, fewer trips)
 - Leads to formation of powerful lobbies
- **Specific Problems of Flexifuel**
 - Vehicle not always optimized for fuel efficiency, local emissions
 - No guarantee alternative fuel will be used
 - In US, flex-fuel efficiency credits very counterproductive



We Can't All be Brazilian: Broader Issues for CO₂ Restraint

- **Need Honest Fuel Cycle Assessment**
 - Define global rules for measuring carbon and energy inputs
 - Use long-term vision – what new processes/sources on horizon?
 - Allows maximum efficiency of markets to work
- **For Sources –What Impact Short/Long Term**
 - How much available over what term?
 - What is real carbon and/or oil savings?
 - What are hidden impacts (land, water, food, etc)
- **Broader Issues**
 - How does source fit with long-term development and food goals
 - Do costs give (dis)-economies of scale?
 - What are roles of hidden agricultural, energy, or earmark subsidies



Development and Low Carbon Transport Put Transport First

- **Choose Alternatives Now**

- Car intensive life not a necessity – root out hidden biases, subsidies
- Transparent analysis of trends, alternatives, outcomes
- Careful attention to long-term impacts

- **Changing Later More Difficult**

- Redoing physical infrastructure and land use for low-carbon
- Changing the car-company and car-user mentality
- Replacing hundreds of billions of \$\$ in fuel infrastructure

- **Make Transport Serve, not Sever Development**

- How can transport help long-term urban, rural goals?
- How can efficient vehicles and systems serve transport?
- Embed fuel and vehicle issues in larger transport context

Thank You/Muito Obrigado

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