

Managing Mobility to Create Sustainable Cities

CSD-18 Thematic Debate on Transport

Allison Davis, Senior Transportation Planner, Arup

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ARUP

Who We Are

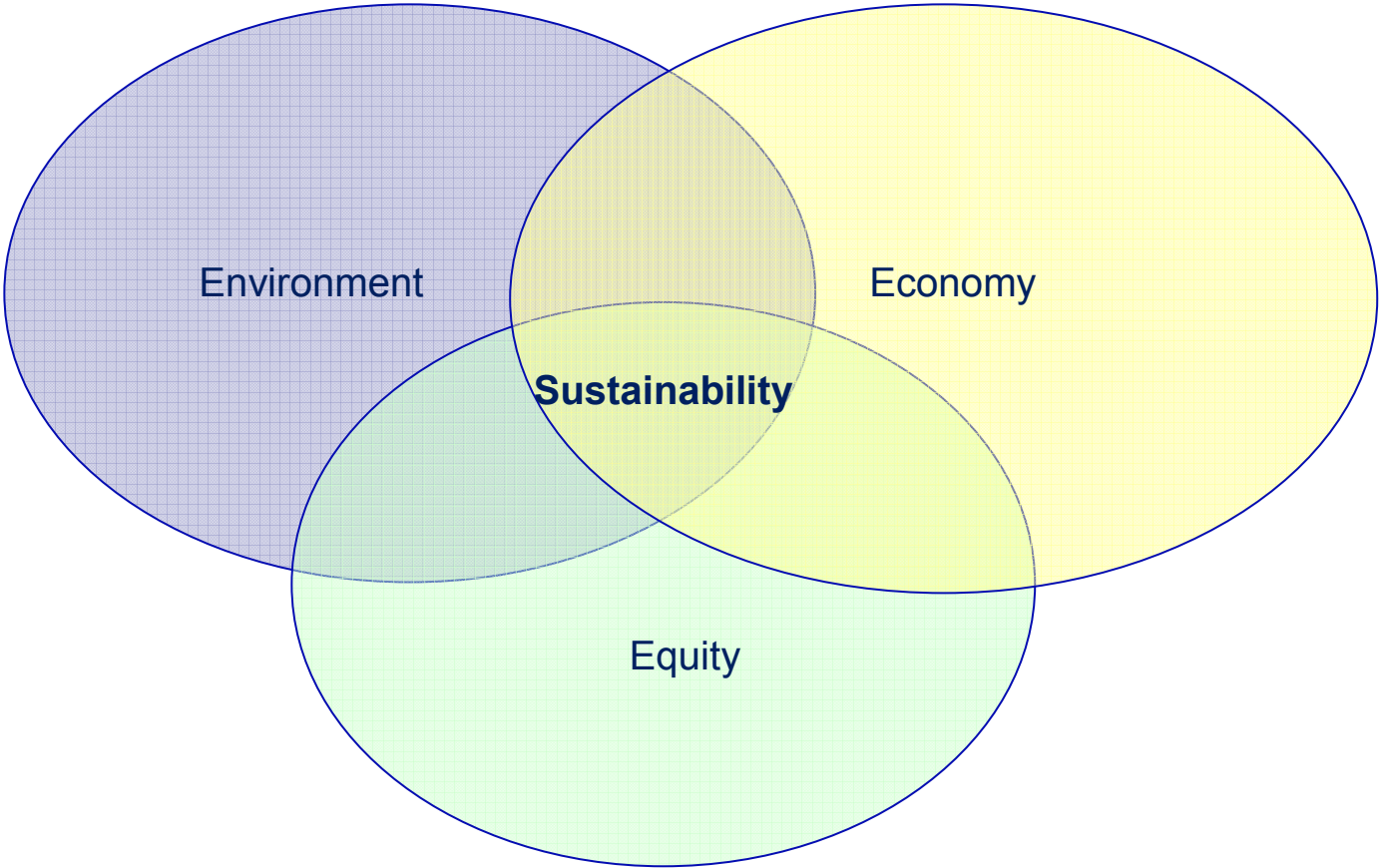
A global, integrated, multidisciplinary firm of professionals working together to tackle complex building, design and systems issues.



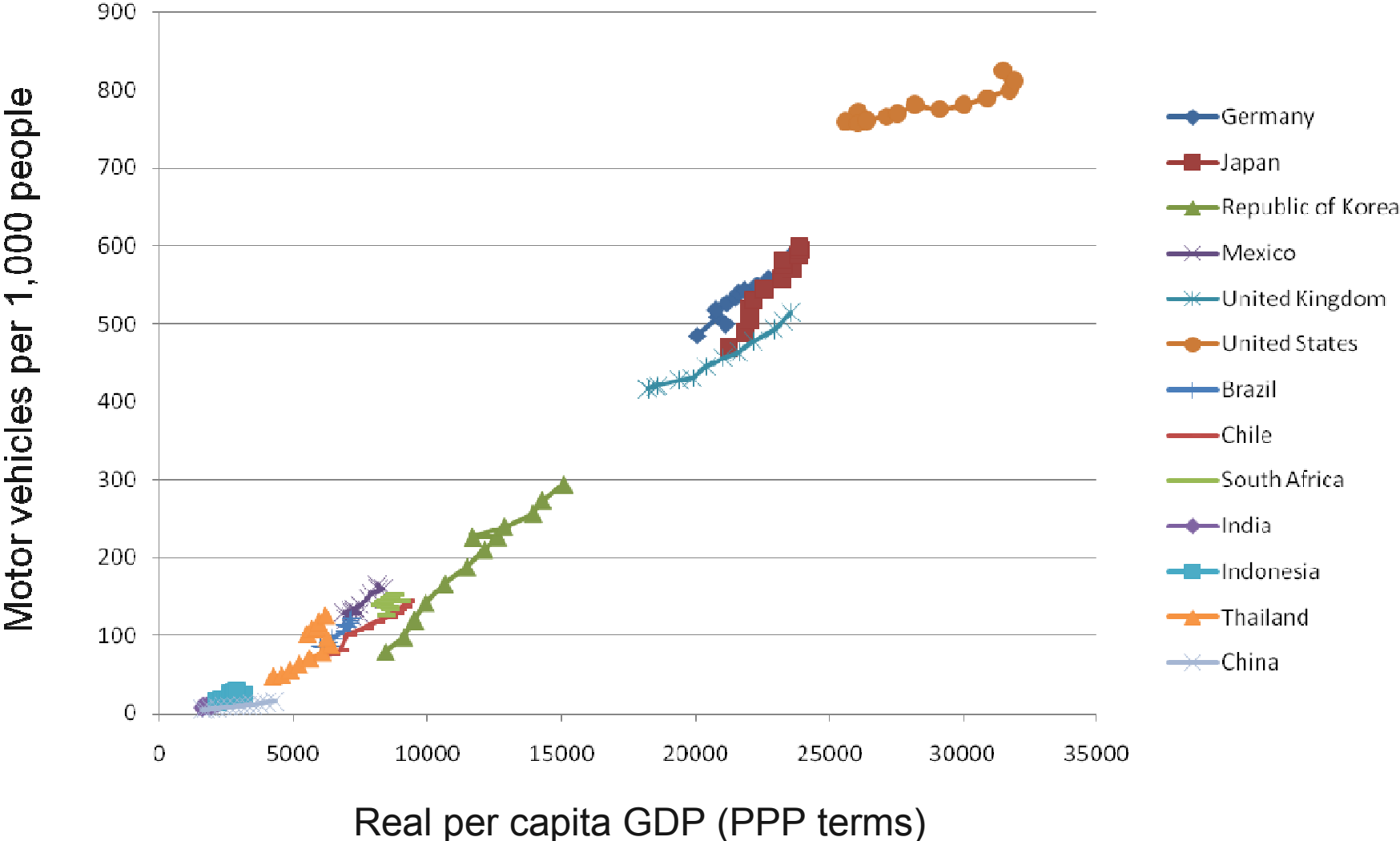
Total Architecture implies that all relevant design decisions have been considered together and have been integrated into a whole by a well organized team empowered to fix priorities. --Sir Ove Arup



Transport Sector Sustainability

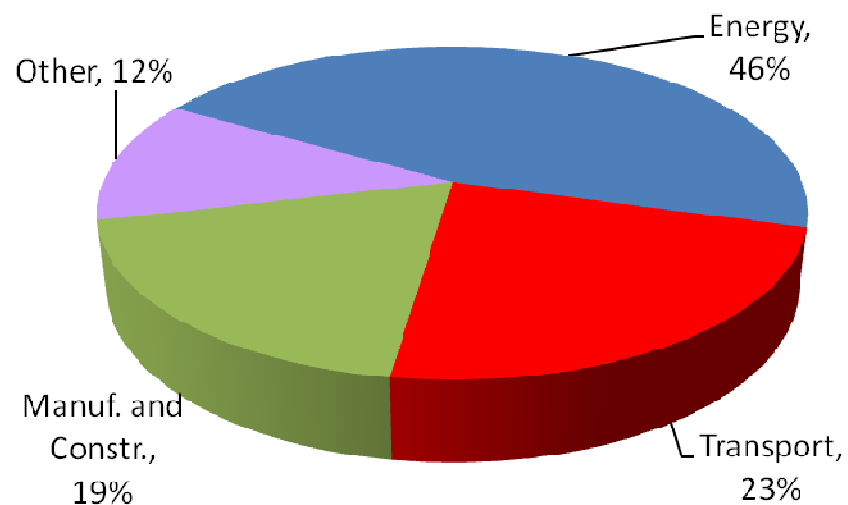


Motorization Trends (1990 – 2002)

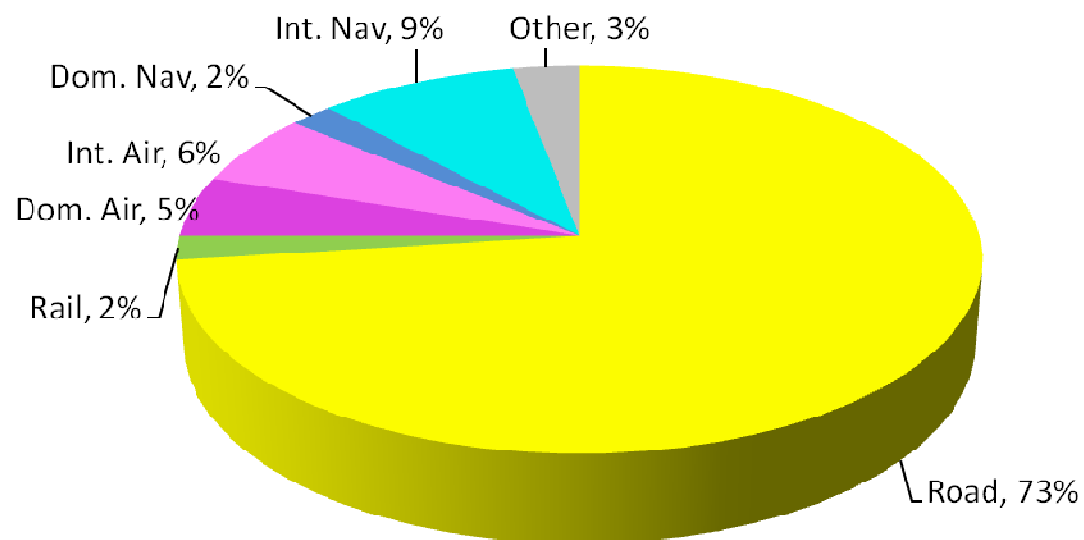


IMF, World Economic Outlook, 2005

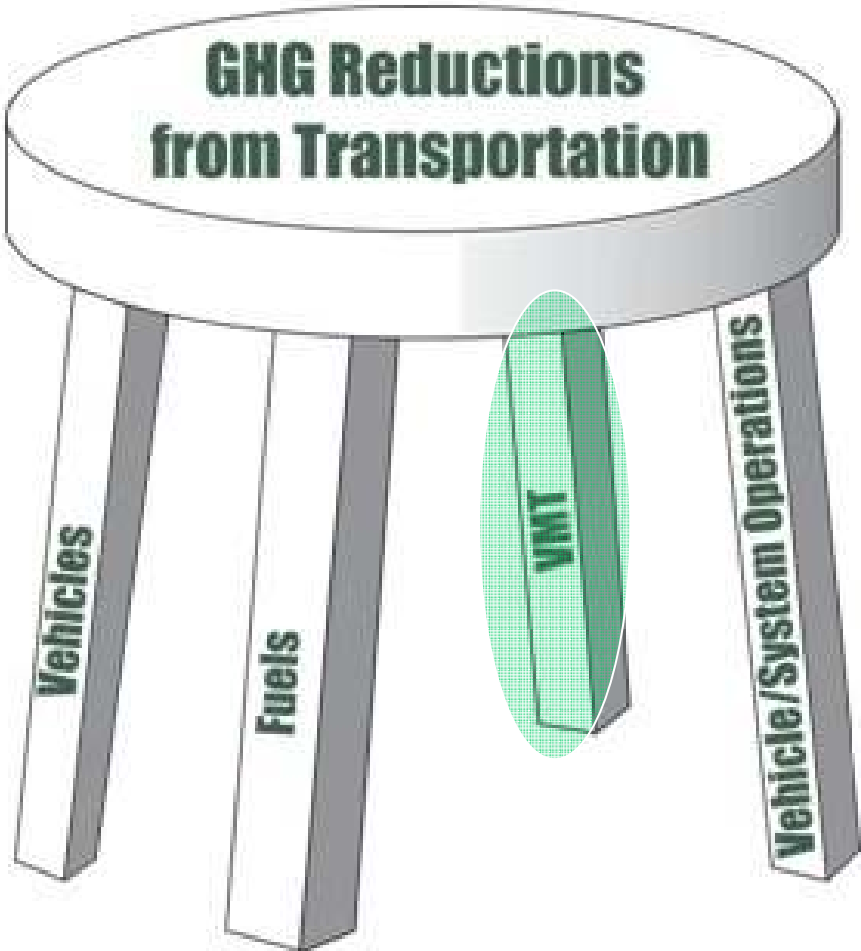
World CO₂ Emissions



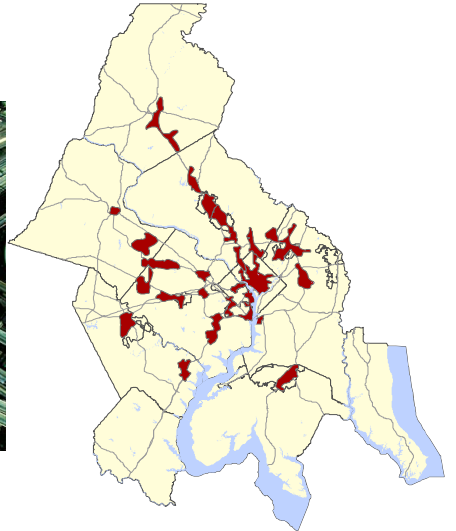
World Transport CO₂ Emissions



Components of Transport Emissions



Why does VMT Continue to Increase?



Regional and Local Challenges

- Poor pedestrian environment
- Fragmented transit provision
- Disconnect between land use and transport planning
- Auto-supportive policies
- Weak institutions
- Lack of data



Improve Public Transit



Improve Public Transit: TransJakarta

- Travel Time Reduction: 1 hr (peak, Line 1)
- Fuel: CNG and diesel
- CO₂ Reduction: -120,000T annually (est.)
- Implementation: 10 months (Line 1)



Incentivize Alternative Modes: London

- **Scheme: Congestion Charge**
- **Trips: 50-60% diverted to transit**
- **Traffic Reduction: -30% (2006)**
- **Travel Speeds: +10% (2006)**
- **VKmT Reduction: -15% (2006)**
- **CO₂ Reduction: -16% (2006)**



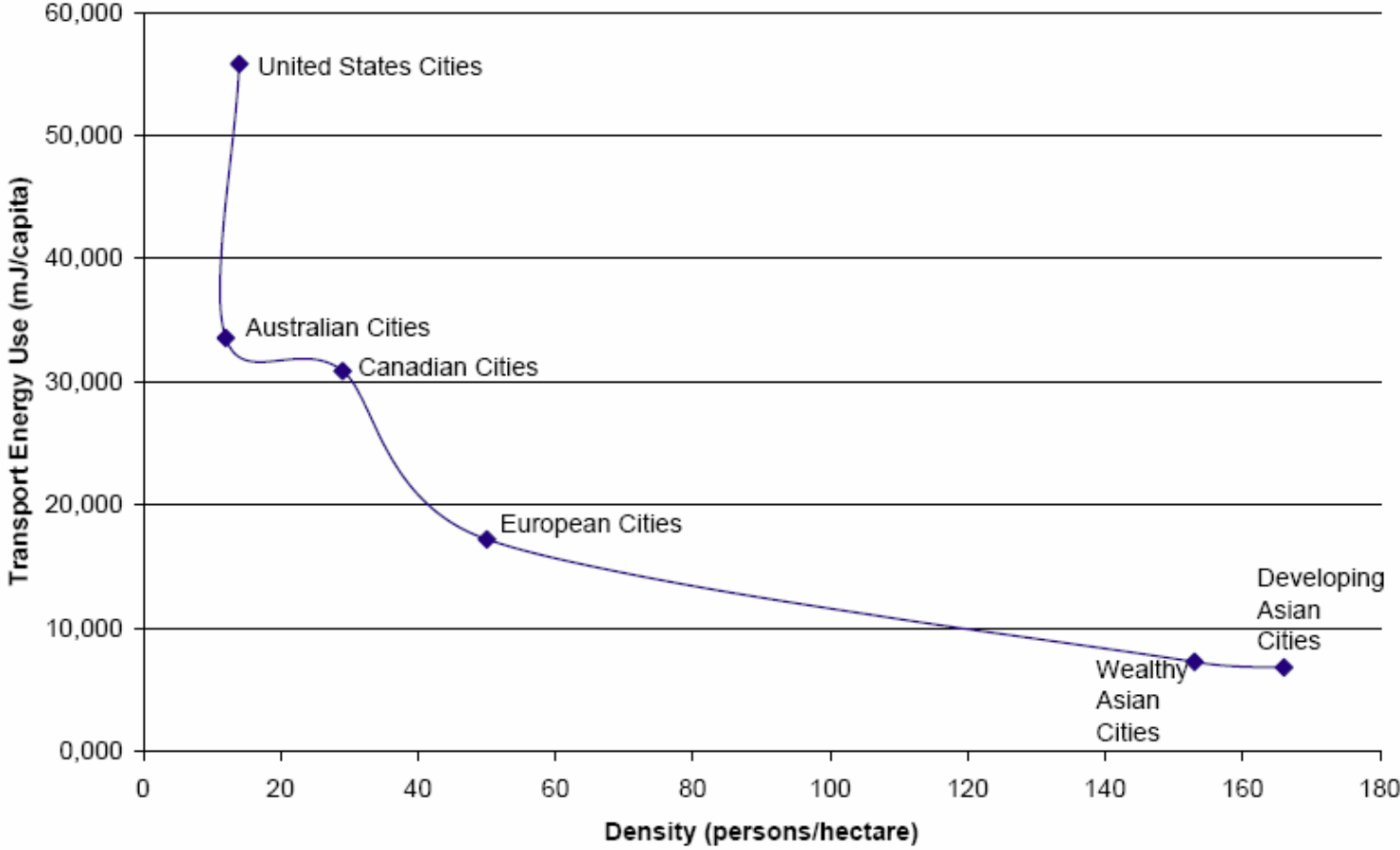
Incentivize Alternative Modes: Parking

- Parking pricing
- Financial incentives
- Parking maximums
- Unbundle parking
- Parking regulations
- Shared parking



Change Urban Form

Transport Energy Use Per Capita



Kenworthy and Laubre, Transportation Quarterly, Vol. 53, No. 4, Fall 1999

Change Urban Form: Arlington, Virginia

- Focused on $\frac{1}{4}$ and $\frac{1}{2}$ mile (400-800m) radius of station
- VMT per capita Reduction = -20-30%
- Transit Mode Share = 40%



Key Messages

- **Mode shift to transit is possible**
- **Smart decisions as part of an overarching regional plan can change travel habits and reduce emissions**
- **Land use is part of the solution and will reap benefits in the long-term.**

Urban transport is a political and not a technical issue. The technical aspects are very simple. The difficult decisions relate to who is going to benefit from the models adopted.
-- Enrique Penalosa, Former Mayor of Bogota

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