SHIFTING INTO GEAR: A NEW PARADIGM FOR TOMORROW’S CITIES

Shell: Powering Progress Together
Case Studies on Resilience for Cities - Feb. 26, 2015

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STOCK OF MOTORCARS

1970: 250 million
2010: 1 billion
2050: 3 billion?
BRIDGING THE GAP TO A 2 DEGREE SCENARIO

Reference: UNEP 2013 Gap Report
THE CHALLENGE – 23% REDUCTION FOR 2°AND $20T

Source: IEA (2012) Energy Technology Perspectives
LOST ACCESSIBILITY
LOST TIME
LOST PUBLIC SPACE
LOST HEALTH

“BUSINESS AS USUAL” IS BREAKING DOWN
CITIES OF THE FUTURE SHOULD BE...

CONNECTED

COMPACT

COORDINATED
HOUSTON VS. COPENHAGEN

- Contrast shows the economic benefits and cost savings from mass transit and compactness

Houston
- Population density: 3,500 per sq/mi
- ~4% of people use public transport, 95% of trips are by car
- 14% of local GDP spent on transportation
- Emissions per capita (tCO₂e/capita): 14.1

Copenhagen
- Population density: 17,000 per sq/mi
- ~46% of people use public transport, cycling also common
- 4% of local GDP spent on transportation
- Emissions per capita (tCO₂e/capita): 4.7

Source: Laconte, P., Urban and Transport Management - International Trends and Practices, in International Symposium
*Sustainable Urban Transport and City, 2005, Tongji University and Nagoya University: Shanghai, carfreeinbigd.com, chron.com/
the highwayman, ec.Europa.eu for emissions for Copenhagen, World Bank for emissions for Houston
$3 trillion

Savings in global infrastructure spending to 2030 from more compact, connected urban development

Source: New Climate Economy analysis.
SO, HOW DO WE GO FROM HERE...
AVOID-SHIFT-IMPROVE (ASI) APPROACH

- **AVOID**
  - Urban Development & Transport Integration

- **SHIFT**
  - Non-Motorized Transport
  - Public Transport

- **IMPROVE**
  - Technology Improvements

Emissions Reductions & Co-Benefits
PARADIGM SHIFT: SEOUL

STRATEGY:
AVOID-SHIFT-IMPROVE
NAYA RAIPUR: A NEW URBAN VISION
PARADIGM SHIFT IN GUADALAJARA

STRATEGY: AVOID-SHIFT-IMPROVE
PARADIGM SHIFT: BEIJING TO GUANGZHOU

STRATEGY:
AVOID-SHIFT-IMPROVE
WHAT WOULD A PARADIGM SHIFT LOOK LIKE?
NEW TRENDS ON THE RISE

Number of cities


- Carsharing - 1,000+ (1987, Zurich, Switzerland)
- Complete Streets - 455 (1971, Portland, US)
- Carfree zones - 360+ (1953, Rotterdam, NL)
- Bike sharing - 500+ (1998, Rennes, France)
- Low emission zone - 210+ (2003, Tokyo, Japan)
- Bus Rapid Transit - 160 (1974, Curitiba, Brazil)
- Smart card - 250+ (1992, Oulu, Finland)
- Metro - 188 (1863, London, UK)

HANGZHOU BIKESHARE: 78,000 BIKES
CONVENTIONAL SOLUTIONS & INNOVATIVE DISRUPTIONS

- Biking
- Metro
- Buses
- Open Data
- Car Sharing
- Bike Sharing
- Walking

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