THE FUTURE WE WANT

CLAYTON LANE
CEO
INSTITUTE FOR TRANSPORTATION & DEVELOPMENT POLICY
@ClaytonHLane
THE URBANIZATION CHALLENGE

Cities will add 1.5 to 2.0 billion people by 2050.

SOURCE: UN Population Estimates
RAPID MOTORIZATION

STOCK OF MOTOR VEHICLES

- 250 million (1970)
- 1 billion (2010)
- 3 billion? (2050)
Goal: 23% VKT reduction to limit warming to 2° C
Electric cars will not solve all problems

- Climate
- Energy Access
- Urban Sprawl
  - Infrastructure Cost
  - Energy
  - Social Inequity
- Public Health
  - Traffic Fatalities
  - Physical Inactivity
- Congestion
Co-benefits of 23% less VKT

Save $Trillions; 1.3 million lives...Better accessibility, equity, health

Source: Duduta and Hidalgo (2013)
2050 EMISSIONS FROM URBAN TRANSPORT

We could avoid ~2100 megatons of global CO2 emissions, a 7% reduction in urban transport emissions over BAU due to cycling, as part of a 47% total reduction in the comprehensive HSC scenario.

2015-2050 CUMULATIVE COSTS OF TRANSPORT

And save cities $130 trillion over the next 35 years with $25 trillion due to cycling.
FROM HERE...
...AND HERE

Photo: Clayton Lane
HOW DO WE GET THE FUTURE WE WANT?

CHANGE

HOW WE THINK
You can’t cure obesity with bigger pants.
How most traffic engineers see your city
Cars don’t own our streets!

How cities should be designed
Turn the pyramid upside down!

Prioritize walking, cycling, and public transport
Our Sustainable Transport Vision

- Transit Oriented Dev't
- Compact
- Connect
- Coordinate
- Public Transit 2.0
- Travel Demand Mgmt
- Walk & Bike
- Mobility Planning & Data
- New Mobility
- Our Sustainable Transport Vision
WHAT WILL MAKE OR BREAK OUR VISION?

THREE ISSUES TO WATCH
1. Policy bias: cars over people
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Subsidy per trip (Rs) in Tamil Nadu, India (2015)
2. Land development magnifies emissions and unequal opportunity
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Shorter life expectancy
Less education
Less accessibility
Less voice
Cyclical poverty
3. Driverless cars usher in more driving, sprawl – false utopia
MASSIVE PROGRESS IS WITHIN REACH
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Chennai’s typical footpaths
Chennai’s safe & continuous footpaths

Traffic lane

Tree cover

Organised vending

Parking

Furniture zone

Pedestrian zone

Frontage zone
2015 COP 21
Highlighting best practice
Prioritizing Walking & Cycling

Rio, Sao Paulo, Belo
600 km cycle tracks

Nairobi
Footpaths to transit

Chennai
60% budget for NMT
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Ownership → Service

20th Century Model:
One vehicle for all trips.

21st Century Model:
Spectrum of options to fit any trip type.

VS.

Once you invest in a car, you use it.

No sunk costs. No depreciation.
Integrated Ecosystem
Three Generations of Sharing

1. Vehicle sharing
   - Classic
   - One-way
   - Peer-to-peer
   - Fractional ownership

2. Ride sourcing
   - Taxi / rickshaw
   - Carpool
   - Microtransit
   - Inter-city

3. Automated Sharing
   - [TBD]
Leapfrog car ownership

1. Complement transit + replace owning cars
2. Automation $\rightarrow$ massively scale up sharing
3. Transform microtransit
Leapfrog car ownership

**Bill Ford:** Auto sales to decline from “disruptive future” of carsharing and automated cars. – May 2015

**ABI:** 400 million people may rely on shared driverless cars by 2030

**Barclays:** Ford U.S. auto sales to decline 46% by 2040

**PWC:** Global sharing economy to grow from $15 billion to $365 billion by 2025

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New Mobility
London: Growth With Fewer Cars

Source: Tfl Group Planning, Strategic Analysis.
Delhi: 4% traveler restriction...
96% of Travelers Benefitted

Delhi mode share (2014)

- Walk: 34%
- Bus/IPT: 21%
- Cycle: 4%
- Rail: 8%
- Auto/Taxi: 5%
- 2-Wheeler: 16%
- Cars permitted: 8%
- Cars restricted: 4%
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**Population Near Transit (PNT)**

**Rio de Janeiro:** Social housing would marginalize & segregate the poor to slums on urban edge.
Population Near Transit (PNT)

PNT: 23%
Population Near Transit (PNT)

- **Rio**: Adopted 90% PNT target

- **Brazil**: *Minha Casa Minha Vida* final regulations feature PNT for new social housing affecting 6 million people

- **International**: SDG Goal 11 considering PNT
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TOD Standard

The 8 Principles

WALK | CYCLE | CONNECT | TRANSIT | MIX | DENSIFY | COMPACT | SHIFT
Equitable TOD

- **Equity & Economy**
  - Diversity of people
  - Diversity of jobs & services
  - Minimized displacement

- **Environment**
  - Dense
  - Design: walk, cycle, transit
  - Diverse
Equitable TOD: Tangxia, Guangzhou

350,000 people in 0.3 km²
Upgraded with BRT, walkways, public space, urban design, services, community institutions
Equitable TOD: Tangxia, Guangzhou

350,000 people in 0.3 km², in Guangzhou, China
Upgraded with BRT, walkways, public space, urban design, services, community institutions
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Co-benefits of 23% less VKT

Save $Trillions; 1.3 million lives...Better accessibility, equity, health

Source: Duduta and Hidalgo (2013)
Hong Kong

Photo: Andreas/Flickr
Shanghai
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