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emergingtransport.com

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Since the invention of the wheel, civilizations have relied on transport

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Transportation cuts across all aspects of life
It's role is to connect us to the moments in our lives

Transportation: Networks



Moving People

Road, Rail, Air, Sea



Moving Things

Road, Sea, Rail, Air



Doing Things

Agriculture, Mining, Construction
Municipal Services



Transportation networks provide key functions for our society

Transportation: Business models



Own

(Car, Bike, Truck)



Ride

(Public Transit, Ridehail, Pool)



Rent

(Bike, Scooter, Moped, Car, Truck)



There are three main ways we provide transportation in cities



The individual ownership, fossil fuel powered and manually operated model dominates, markets the myth of freedom and status



But when everyone buys in to this model-we get major side effects



People spending on average 10 days of their lives stuck in traffic, wasting \$ billions in lost economic productivity



Generating harmful air pollution and GHGs while straining our economy, environment and society



Causing over 1.2 Million preventable fatalities each year



Creating employment barriers for those who are not able to operate them



Before Highways

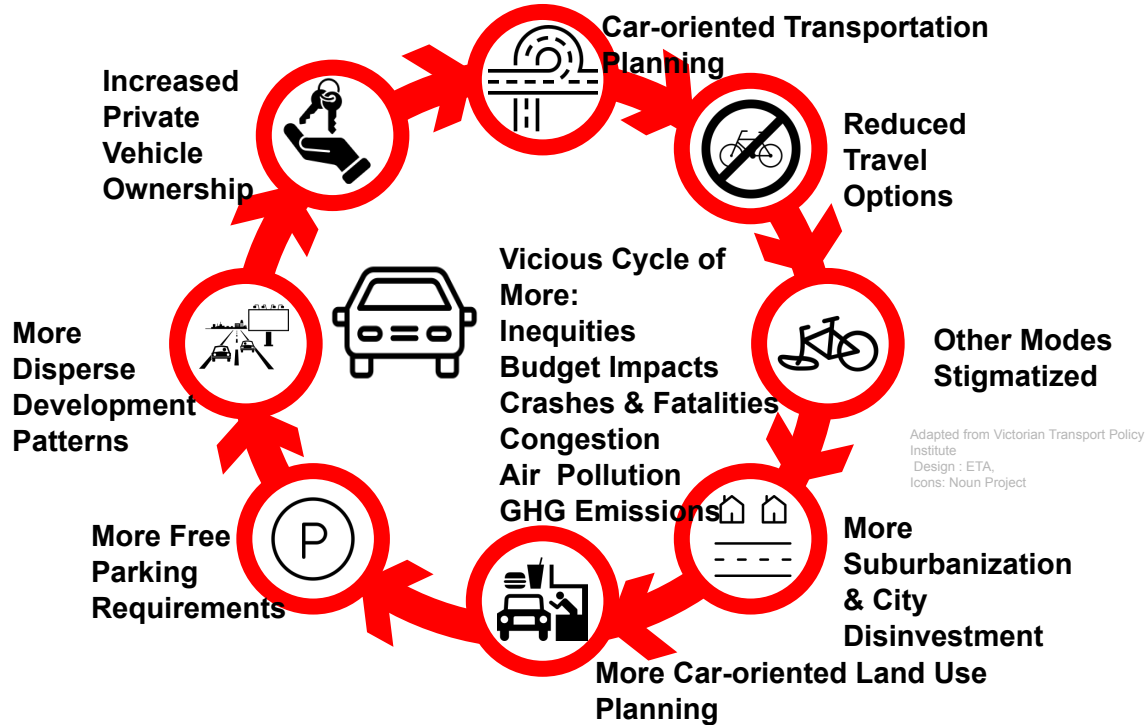


After Highways

Requiring expensive and physically disruptive infrastructure exacerbating social, economic and physical barriers to vulnerable communities

Transportation: Cycle of Private Vehicle Dependency

Not a Smart City!



Perpetuating a vicious cycle of auto dependency, GHGs & inequity

Transportation: Major Disruption Trends



Digitization



Mobility as a Service



Electrification



Automation

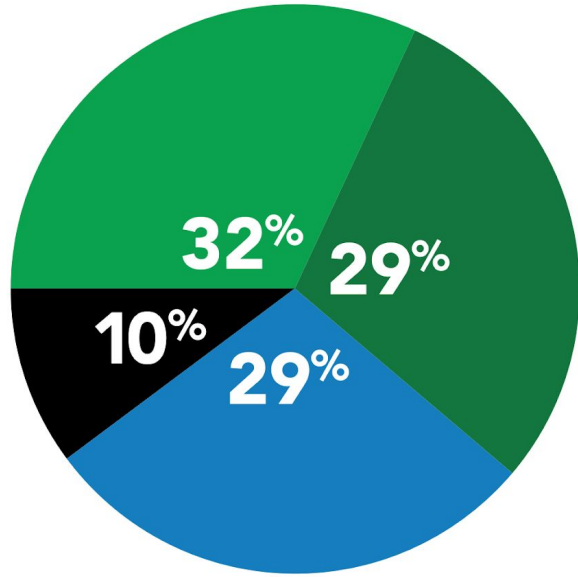
But the world is changing and disrupting the owned, fossil fuel powered and manually operated dominant transportation system



Pandemic has disrupted our way of life exacerbating existing vulnerabilities in our communities



The pandemic is a warning signal for the need for more resilient cities with

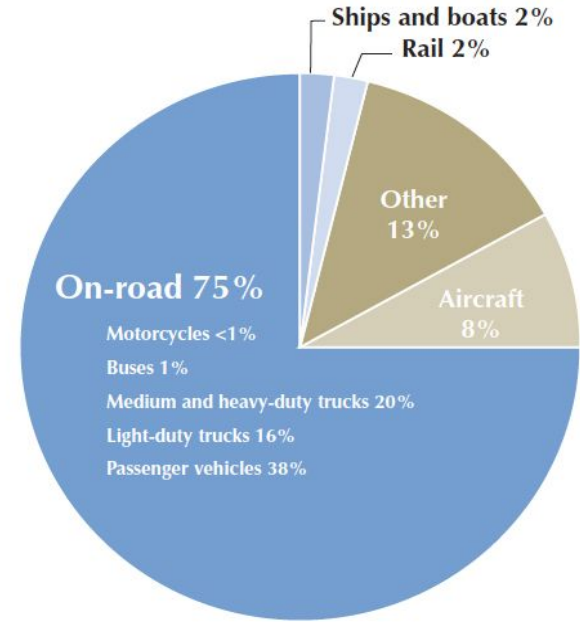


Total US GHGs

TOTAL U.S. GREENHOUSE GAS EMISSIONS BY SECTOR WITH ELECTRICITY DISTRIBUTED

- BUILDINGS: 32%
- TRANSPORTATION: 29%
- INDUSTRY: 29%
- AGRICULTURE: 10%

U.S. Environmental Protection Agency (2018). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016

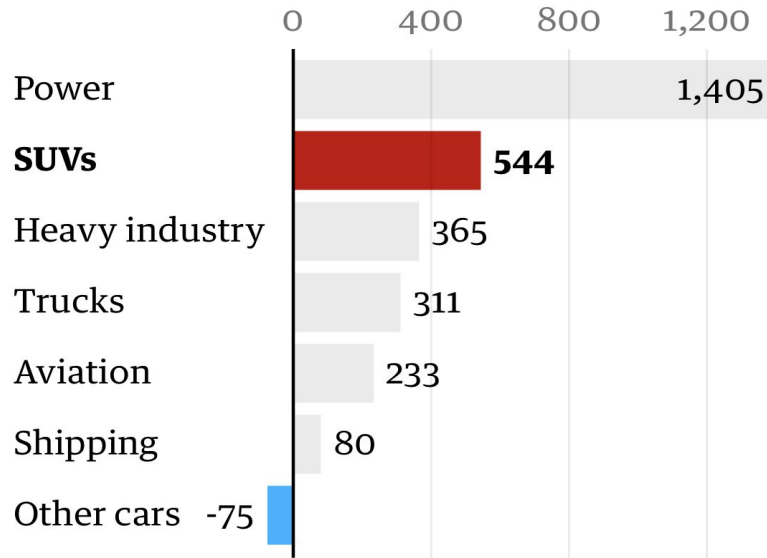


Within Transport Sector

Growing GHGs from transportation is primarily caused by private SUVs and trucks

SUVs were the second largest contributor to the increase in global carbon emissions from 2010 to 2018

Change in global emissions by sector (in MtCO₂)



Source: IEA

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Growing GHGs from transportation is primarily caused by private SUVs and trucks

The most
dangerous phrase
in the language is "we've
always done it this way."

Rear Admiral Grace Hopper



GOSFORD ANGLICAN CHURCH

**LET'S NOT GET
BACK TO NORMAL**

NORMAL

WASN'T WORKING

Shift in Management Mindset

**THINK
BIG**



Experiment



Empathize



Generate



Prototype



Test



**GO
BIG**

REDUCE HARM

Governance goals,
objectives and
performance
outcomes for fair
resilient communities

Governance Policies

AVOID

The need for car trips
by integrating smart
land use, parking &
street designs that
focus on all people's
needs

Network Efficiency

SHIFT

The need for
personally owned car
trips to space & cost
efficient modes like
walking, cycling &
public transit

Trip Efficiency

IMPROVE

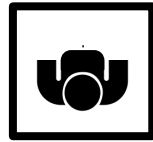
Equity, efficiency,
effectiveness
& viability of modes
while addressing
public health, safety
and environmental
impacts

Resiliency



Private Car

Used 5% of the Day
Parked 95%



Walking

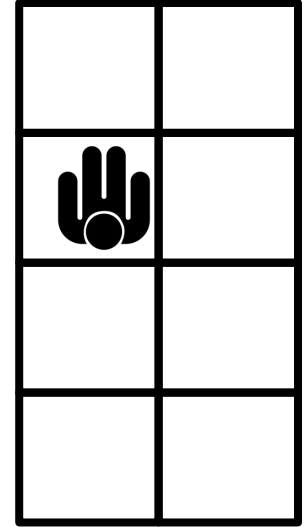
1 sq.m space



Bicycle

2 sq.m space

Concept: Timothy Papandreou
Icons: The Noun Project
various artists



Car

8 sq.m space
16 sq.m parking
64 sq.m moving

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Paradigm shift of how much city street space and resources we need to move one person or a thing

Key Phases Of Restorative Transformation



Act



Triage



Pivot



Restore



Transform

Concept: Timothy Papandreu | ETA 2019
Icons: The Noun Project various artists

Sejong Smart City Mobility Strategy Example



Mixed-Use Land Use Plans
Travel Demand Management
Parking & Traffic Management
Goods Delivery Management



Walkable
Streets &
Spaces



Local &
Regional
Transit Network



Bicycle
Network &
Facilities



Vehicle Sharing
& Shuttle
Partners



City Governance Paradigm Shift



Not
Smart!

Smart!

Cities are re-examining policies and priorities to undo the mistakes of the past by focusing on connecting people not moving vehicles

Road & Parking Pricing
Speed Restrictions
Car Free Zones
Walking, Bicycle &
Public Transport Priority

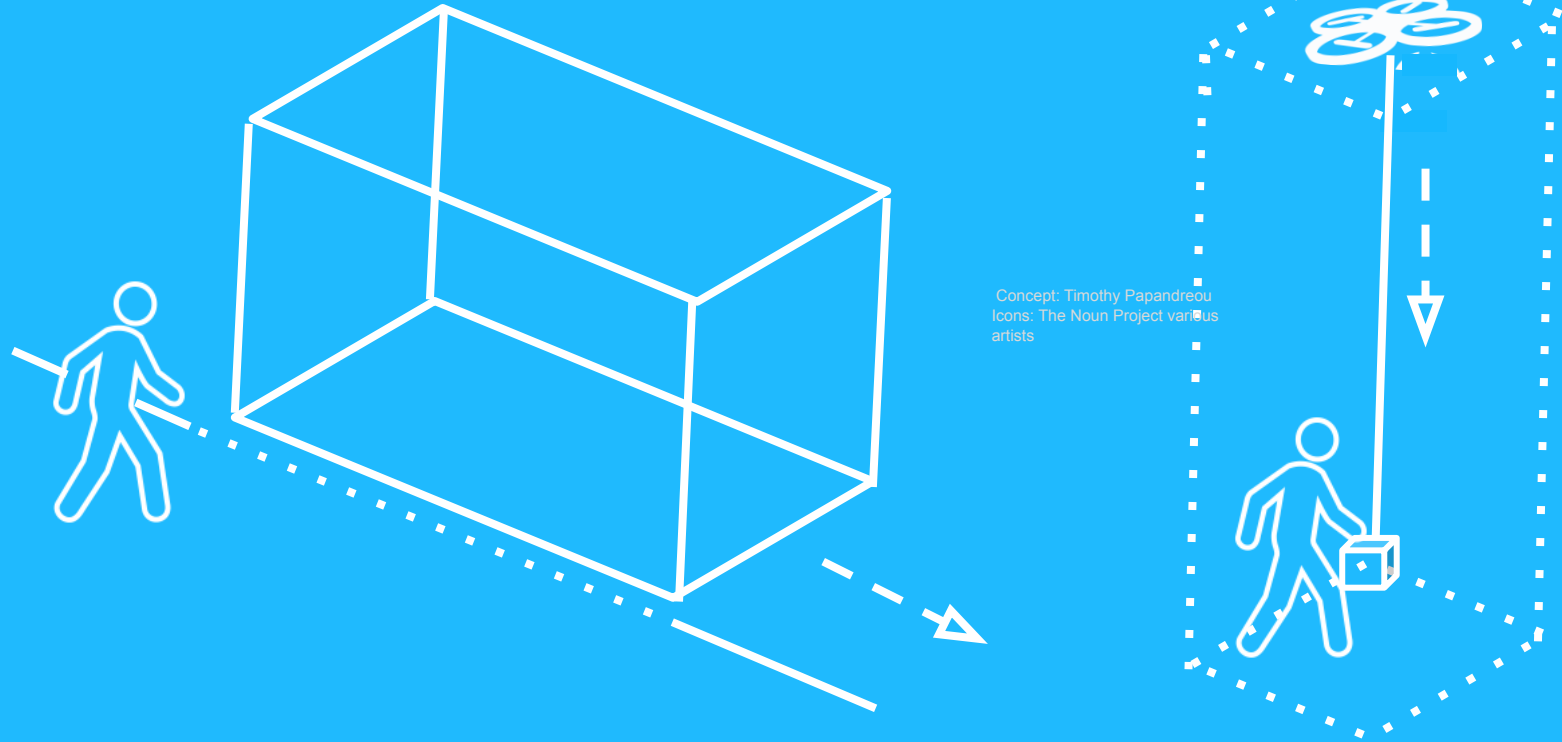
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Electric Cars,
Autonomous Cars,
Flying Cars,
Hyperloops



Too much attention on the potential rather than what we know works. We need the both for a more sustainable and resilient future.

New Pricing & Funding Model



Concept: Timothy Papandreou
Icons: The Noun Project various artists

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Government



Community

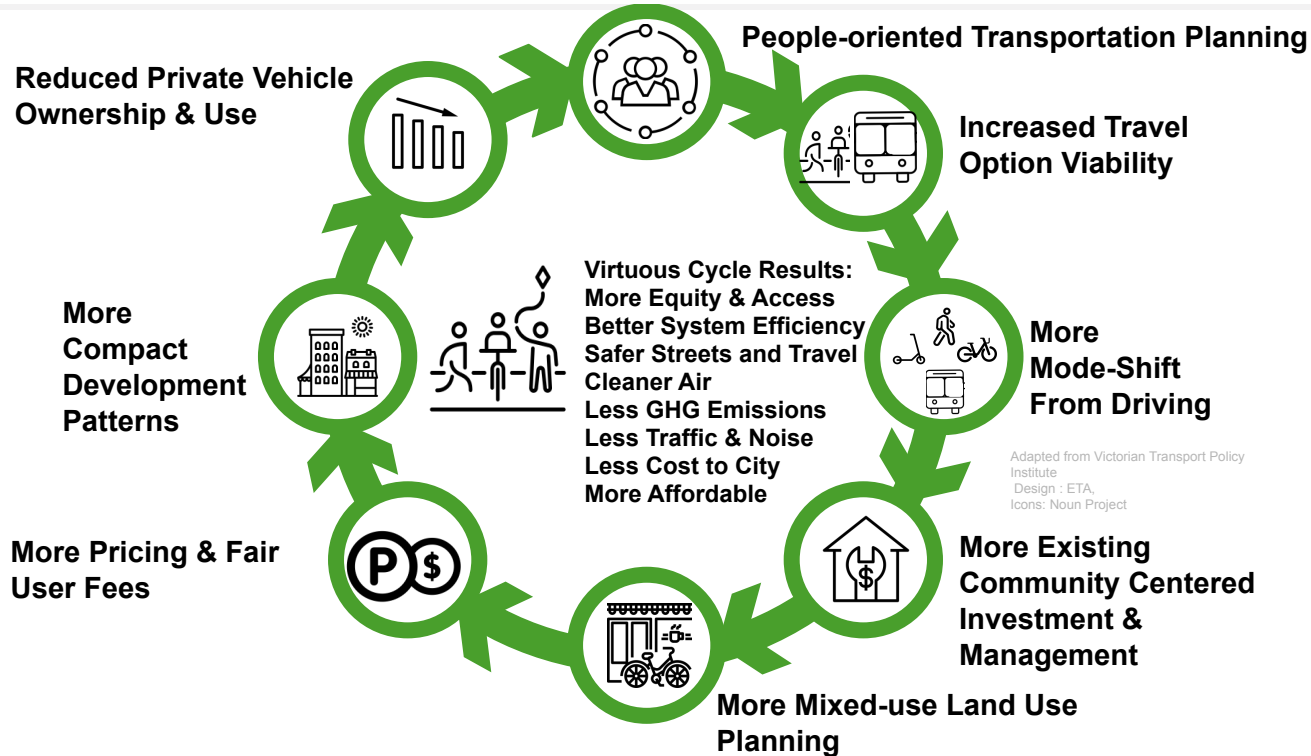


Companies



Research


Virtuous Cycle of Smart Mobility for Sejong



Yes a Smart City!



Smart Mobility Strategy creates a virtuous cycle of green quality transport

A photograph of a busy city street at night. In the foreground, a man in a black puffer jacket and glasses is riding a bicycle towards the camera, carrying a white bag. Behind him, a line of other cyclists is riding in the same direction. A red bus is visible in the background, moving away from the camera. The street is illuminated by city lights, and there are buildings and trees in the background.

Smart Mobility
Looks like This
Thank you



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