How does Asia’s transport sector respond to COVID-19 for achieving greater resilience and new opportunities?

By

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And

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Covid-19
Transport tools in a pandemic...
Avoid Overcrowding
• Flexible Timetables
• Higher Service Frequency
• Multi-Modal Network

Support Walking and Cycling
• Integrate into Network
• Prioritise over Cars

Mandated Mask Wearing
• Limit Access
• Legislation
• Penalties

Improved Hygiene
• Social Distancing
• Improved Cleaning
• Contactless Systems

Education to Public
• Preventative Measures
• Disease Threats

Helping Front-Line Staff
• Safe Procedures
• Mental Health Support

Redesign of Materials
• Anti-Microbial Spaces
• Clean Uniforms

Vaccination Passports
• Digital and Online
• Authentic and Recognised
Re-localization of cities with walking and cycling given more space
Digital travel replacing planes and ships as well as much local travel....
Resilient cities will need to manage the best transport options for a warming world...
The Covid Economic Crash.....
1,000,000 jobs lost

The Recovery now begins.....
The post-Covid rebuilding is well underway because funding now must meet Net Zero criteria.

$$70 \text{ trillion...}$$
Transitions have emerged from economic collapse in 5 big waves of innovation...

Schumpeter called the process ‘creative destruction’ in 1939.

What is the 6th wave?

‘Covid, Cities and Climate’

Urban Science
History of innovation and energy....

Next era of city building? ZERO CARBON in green economy?
History of innovation and cities....

Transport shapes urban fabric

Each era changes the city form. Cities keep the best of that era and move on.

Next era of city building ....?
The INNOVATIONS....Ready to go as a Cluster

- RENEWABLES, especially solar and wind.
- BATTERIES, Li-ion.
- ELECTRIC VEHICLES, cars, transit, micro-mobility. ‘Electric everything’.
- SMART CITY, integration.

Can buy now...
The solar transition is now. **It is cheaper than anything in history** 10x decrease in price.
ELECTRIC VEHICLES NEXT...becoming cheaper rapidly

EV’s substantially increased market share in COVID..
*Bloomberg NEF*
Micromobility grew 17% in 6 months
Sales of battery electric vehicles in China and Europe in millions (2015-2021)
Battery Electric

No steel tracks
BUT
Optically guided tracks by GPS, LIDAR and sensors following white line.
Stabilization technology.

TRANSIT AS GOOD AS RAIL BUT ON ROADS - fast mid-tier transit
THE TRACKLESS TRAM.....Electric. 70 kph. 300-500 people capacity
GUIDE and MANUAL - available

• SBEnrc.com.au
TRANSIT ACTIVATED CORRIDORS (TAC) 21st Century Boulevards
Rapid shared mobility and Local shared mobility feeding in at stations... 50 kph then 20-30 kph in station areas

Micromobility feed-in, shared and private.
Importance of ‘last mile linkage’....

Need to manage recharge point as part of overall precinct. How?
EAST VILLAGE NET ZERO – shared water bore, shared battery, blockchain-based management
Projected Energy Use (per household) 80% reduction, 20% less cost

- EV: 364 MWh/year
- Design: 138 MWh/year
- Community Battery: 102 MWh/year
- PV: 115 MWh/year

Perth Average:
- EV charging and shared common loads (increase on baseline): -194 MWh/year
- Passive design and efficiency benefits: -50 MWh/year
- Addition of PV systems to dwellings: -50 MWh/year
- Addition of shared energy storage system: 41 MWh/year

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