Transport Foresight

Reimagine the Future of Transport

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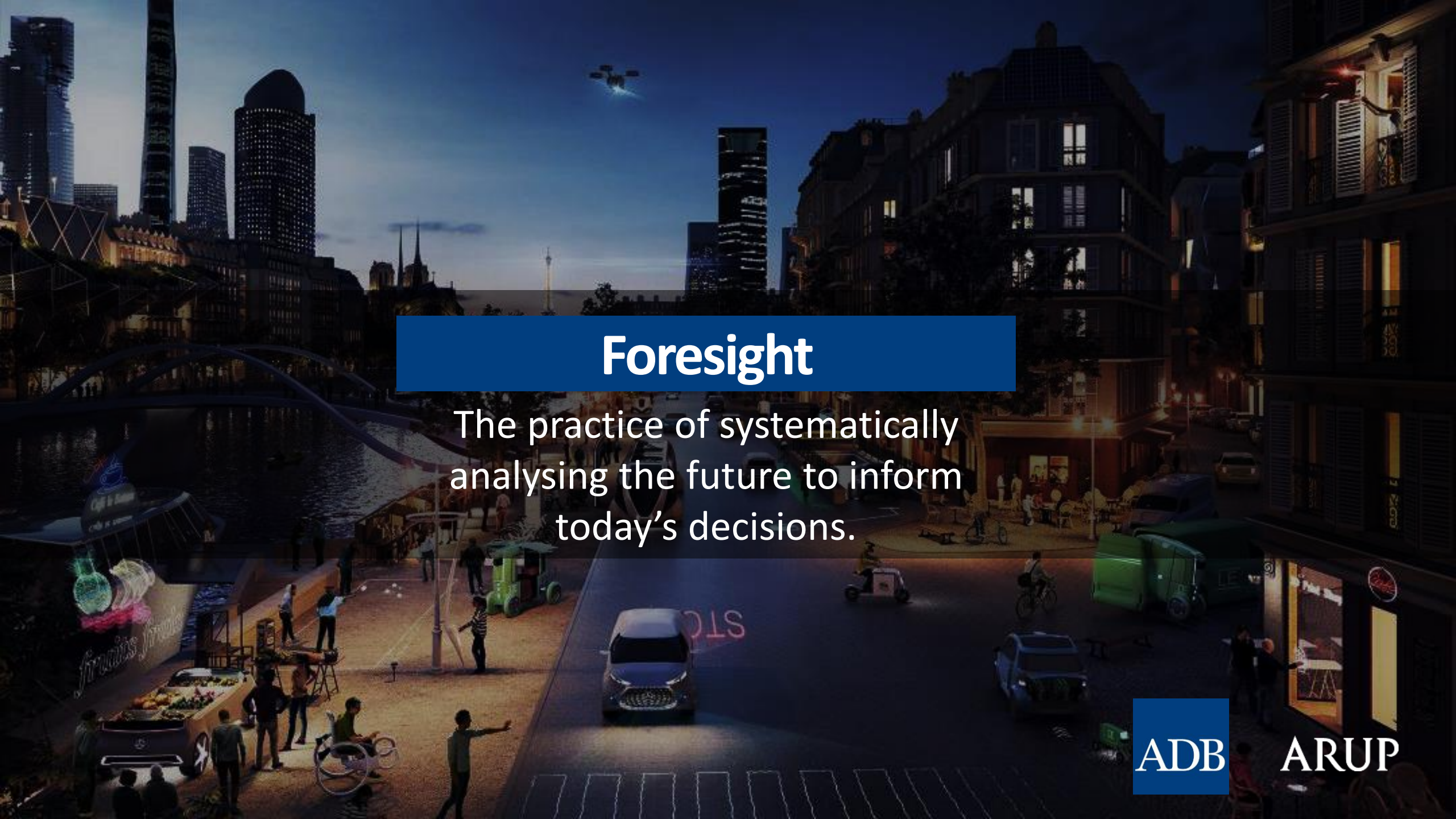

Foresight
The practice of systematically analysing the future to inform today's decisions.
ADB
ARUP

WE ARE LIVING IN A VUCA WORLD

volatile, uncertain, complex and ambiguous

(Y)OUR FORESIGHT STUDY

Our study is designed to **drive long-term thinking and support the design of a future-ready transport investment pipeline**. The project starts with trends and will **result in a set of principles and strategies for future transport policy and investments**. We are working to support your future thinking.

Trends	Implications	Visions	Principles
Identify, map and analyze trends shaping the future of transport globally, with a focus on Asia, relevance to DMCs, and a view to 2030.	Document implications of trends for DMCs, considering different modes as well as associated risks and opportunities.	Review trend implications to develop a series of future visions to consider in future transport implementation, investments and policy.	Describe a set of practical principles and strategies for each vision, in order to ensure relevance across all DMCs and stakeholders.
What is driving change?	**What will the impact be?**	**What future do we want?**	**How can we get there?**

Significant forces are altering natural eco-systems and biodiversity at a global scale …

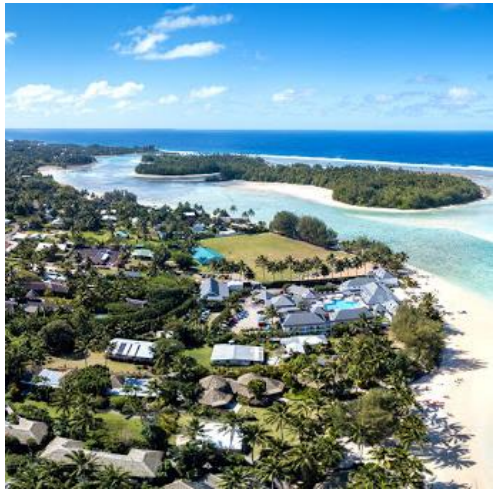
Trends

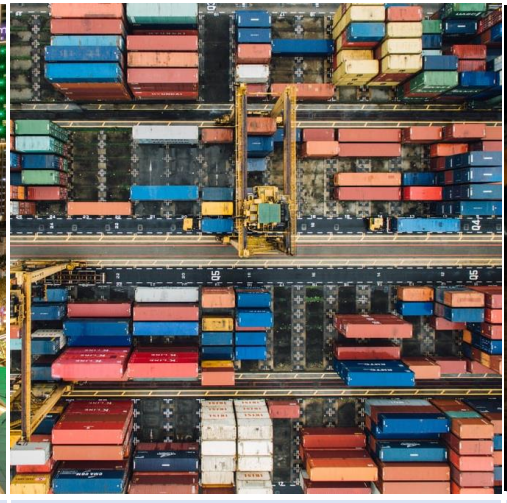
Population patterns	Behaviour patterns	Integrated transport systems	Infra growth & renewal	Climate change





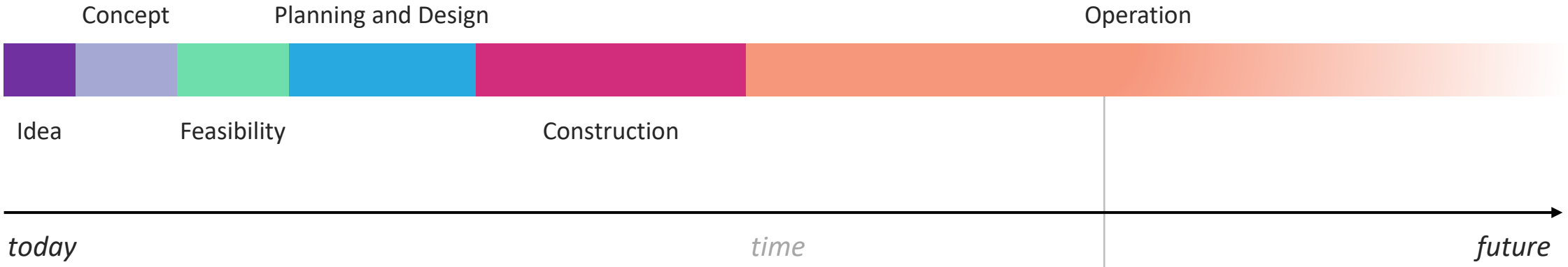
FUTURE TRANSPORT TRENDS – A COMPLEX ECOSYSTEM OF CHANGE




Environmental risks	Advanced technologies	Energy and resources	Economic and trade patterns	Geopolitics policies

Trends → **Implications**



What would we like to know?

What should we know?

What do we have to know?

… to make better decisions today

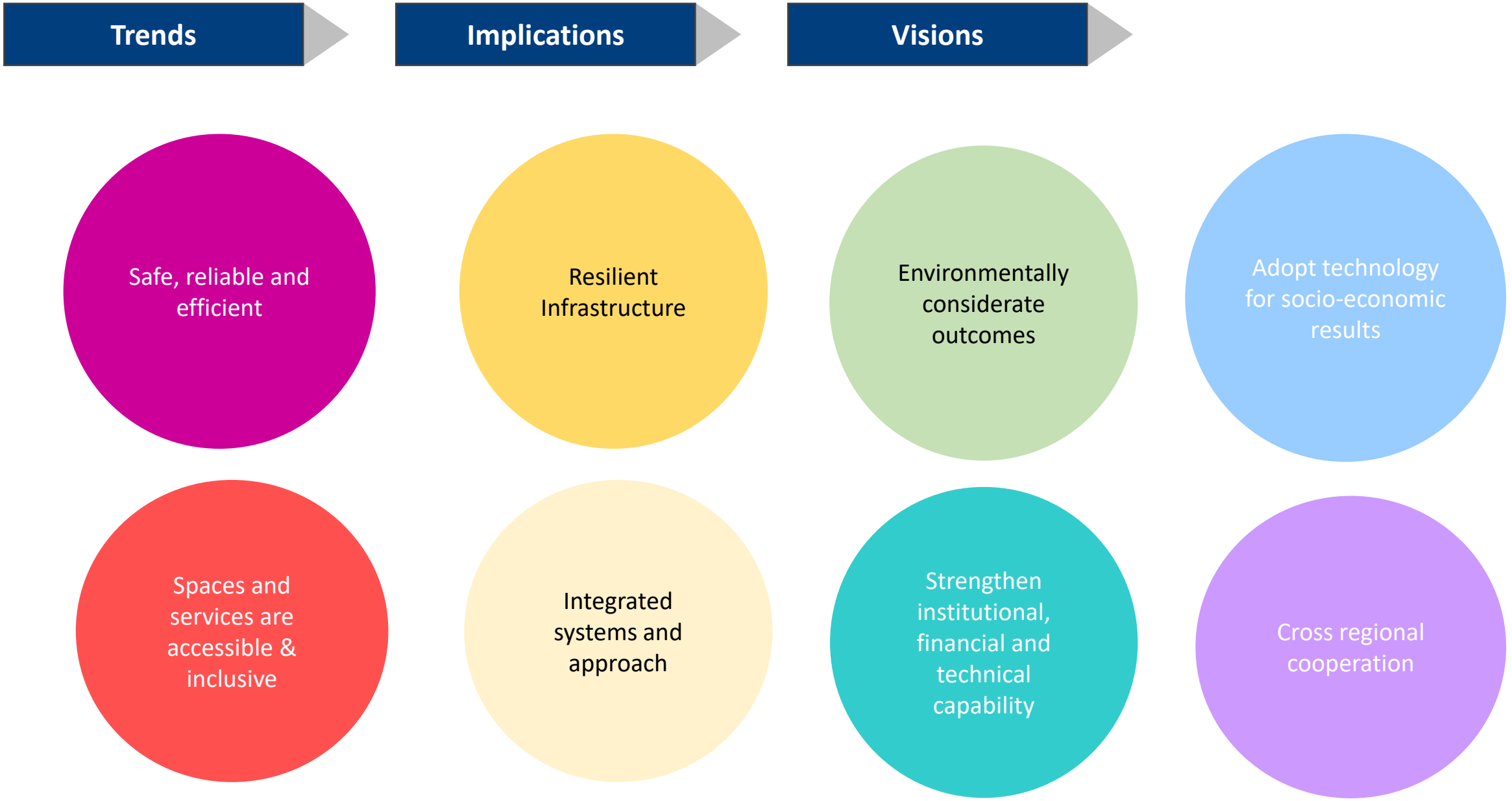
- Demographics and Lifestyles
- User Needs and Expectations
- Climatic and Environmental Conditions
- Technology and Materials
- Policy and Regulation
- …

Future Context

What is a vision?

A vision sets out goals and aspirations clearly and concisely. It is intended to inspire and motivate by providing a picture of where we are and should be heading.

Adapted from Lynne MacDonald, Chron


Trends
Implications
Visions
Safe, reliable and efficient
Resilient Infrastructure
Environmentally considerate outcomes
Adopt technology for socio-economic results
Spaces and services are accessible & inclusive
Integrated systems and approach
Strengthen institutional, financial and technical capability
Cross regional cooperation

Trends

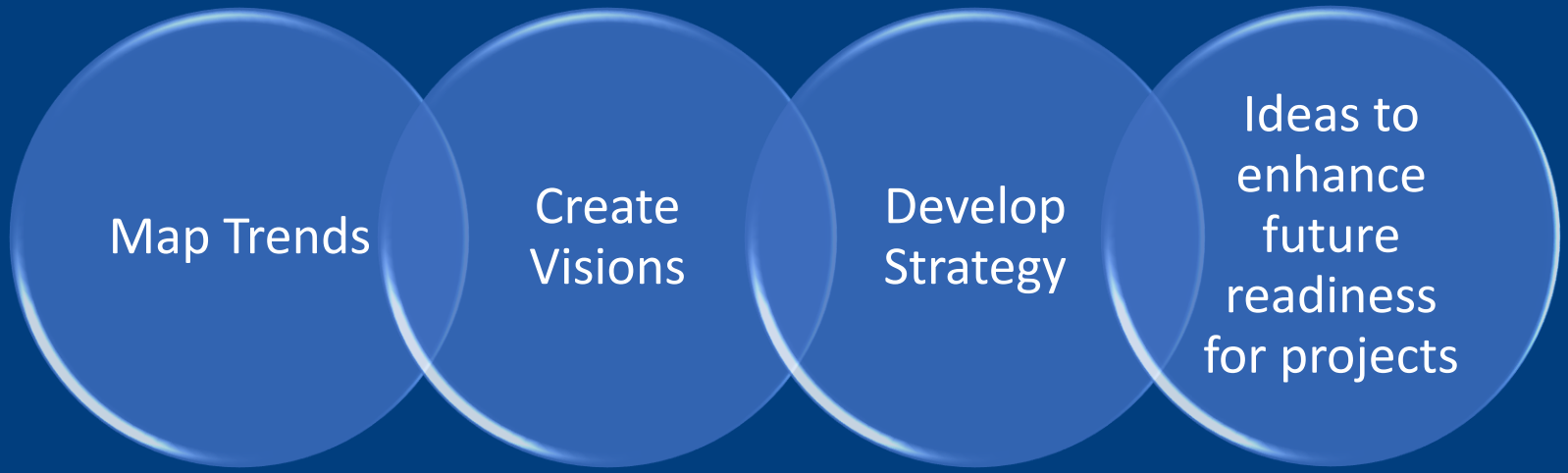
Implications

Visions

Trends → Implications → Visions → Principles

SCENARIOS	BASELINE	PROGRESSIVE	TRANSFORMATIVE
 **PRINCIPLE 1** *Accelerate low carbon development*	**LOW CARBON DEVELOPMENT** Develop transport sector plans and roadmaps to inform inclusive low carbon development programming opportunities with air quality and health co-benefits, including low-cost renewable energy and energy efficiency improvements.	**LOW CARBON SYSTEMS PLANNING** Undertake strategic systems-wide planning for investment pipelines that accelerate progress on GHG emissions reduction and provide co-benefits for air pollution, health, and inclusion s. Prioritize mode shift to active travel and public transport, electrification of road-based vehicles, and urban logistic modes, transition to zero-emission vehicles, and uptake of low carbon fuels.	**CARBON NEUTRAL INCLUSIVE TRANSPORT SYSTEMS** Implement cross-sectoral reforms to decarbonize transport systems (i.e., regulation and incentives for a fully electric or hydrogen-based transport network). Achieve net-zero GHG emissions with significant reduction in reair pollutants and related illnesses. Implement policy for self-sustained communities to reduce long-distance travel.
 **PRINCIPLE 2** *Invest in natural capital and maximize ecological gain*	**MITIGATION OF ECOLOGICAL IMPACTS** Ensure harmonized, standardized, and rigorous approaches to Ecological Impact Assessments (i.e., supplemental to IFC PS6[a] and similar), with comprehensive application of the mitigation hierarchy[b].	**NO NET LOSS OF NATURAL CAPITAL** Achieve no net loss of biodiversity and ecosystem services with new infrastructure projects, including biodiversity offsets, through implementation of the mitigation hierarchy, new projects demonstrate that overall gains in biodiversity are equal to the loss.	**NET GAIN IN NATURAL CAPITAL** Achieve net gain in biodiversity[c] and ecosystem services across projects through avoidance of ecologically sensitive areas and integration of regenerative design principles (i.e., greenways). Biodiversity and nature-based solutions are mainstreamed. Spread of invasive species and zoonotic disease controlled and watersheds maintained at healthy levels.
 **PRINCIPLE 3** *Minimize resource consumption and plan for circularity*	**MAP ENERGY AND MATERIAL USE** Catalogue energy use, and risk indices for major cities for appropriate investments, increase construction waste recycling and material reuse and ensure efficient design options are considered. Consider the utilization of reusable materials for all new projects.	**RENEWABLE MATERIAL USE** Identify towns and cities with high growth potential, for green and climate smart investments minimizing consumption. Deliver zero waste construction and build with renewable materials. Invest in high-quality active travel and public transport infrastructure to help minimize emissions from vehicular transport. Implement disincentives for highly polluting vehicles.	**CIRCULAR MATERIAL USE** Apply and deliver circular economy principles to all new projects. Require projects to evaluate end of life options.
 **PRINCIPLE 4** *Design to minimize urban heat island effect and increase natural solutions*	**GREEN SOLUTIONS IN NEW BUILD** New construction projects consider heat reducing solutions, use of green materials and nature-based solutions. (i.e., using white roofs to reflect heat and green facades, exposed earth, and vegetation to absorb heat).	**RETROFIT WITH NATURAL SOLUTIONS** Green/natural and heat reducing solutions are considered for new and retrofit transport infrastructure and systems (i.e., bioswales on linear infrastructure, increased greening in streets for active mobility shade/protection).	**GREEN CORRIDORS & HEAT REDUCTION** All new transport and infrastructure to deliver heat reducing outcomes. More than 50% of surfaces are "green". Transport corridors help deliver increased greenery and biodiversity in the urban and rural fabric.

Potential Applications



Elevate ADB's reputation among DMC counterparts as a thought-leader and future-ready institution. Leverage first-mover's advantage with new value offering.

Identify and define opportunities, inform project pipeline, develop roadmaps, suggest adjustments to projects (to augment performance and outcomes).

Build futures literacy, broaden perspectives, discover emerging tech, generate new insights from partnerships.

Available Resources & Assets