Knowledge Partnership Forum
Tokyo, 9 March 2016

Opportunities for Private Sector Collaboration with ADB on Developing Innovative Transport Projects

Tyrrell Duncan,
Technical Advisor (Transport)

ADB TRANSPORT
Sustainable solutions for Asia and the Pacific

ADB

ADB in Brief

- Founded in 1966
- Aim is an Asia Pacific free of poverty
- Owned by 67 countries – 48 regional, 19 nonreg
- $165B subscribed capital, triple-A credit rating
- Provides loans, grants, TA, equity, policy dialogue in 44 developing member countries
- HQ in Manila, 29 resident missions, 3 representative offices
- In 2015 provided $27B of assistance, which included $16B of ADB financing

ADB

ADB's Role in Infrastructure Development

- Developing the regulatory environment
- Preparing, planning and packaging projects
- Introduction of improved technologies to achieve quality infrastructure
- Support and advice during implementation
- Market-based and concessional financing of investments
- Credit enhancements & equity investments to share risks with private sector
- Development of financial markets and innovative financing modalities
- Environmental and social safeguards

ADB Financial Products – Sovereign

Financing of government projects, policy based loans/programs, financial intermediation, emergency assistance, countercyclical support, TA loans, guarantees

2015 approvals	$B
OCR loans	10,790
Concessional financing	2,872
of which grants	358
TOTAL	13,662

Ordinary capital resources (OCR)

- ADB issues bonds, lends with small interest spread
- For project loans, grace period may be ±5 years and repayment period may be ±15-20 years

Asian Development Fund (ADF)

- ADF is financed by donors, provides grants & soft loans to least developed countries
- In 2017 it will merge with OCR to expand capital, will still provide soft terms to least dev countries

ADB

ADB Financial Products – Nonsovereign

Loans for direct financing of private projects

2015 approvals	$B
OCR loans	2,626

- market based rates & fees
- floating rates at a spread over LIBOR or Euro interbank rate, also fixed

Equity investments in enterprises & private equity funds

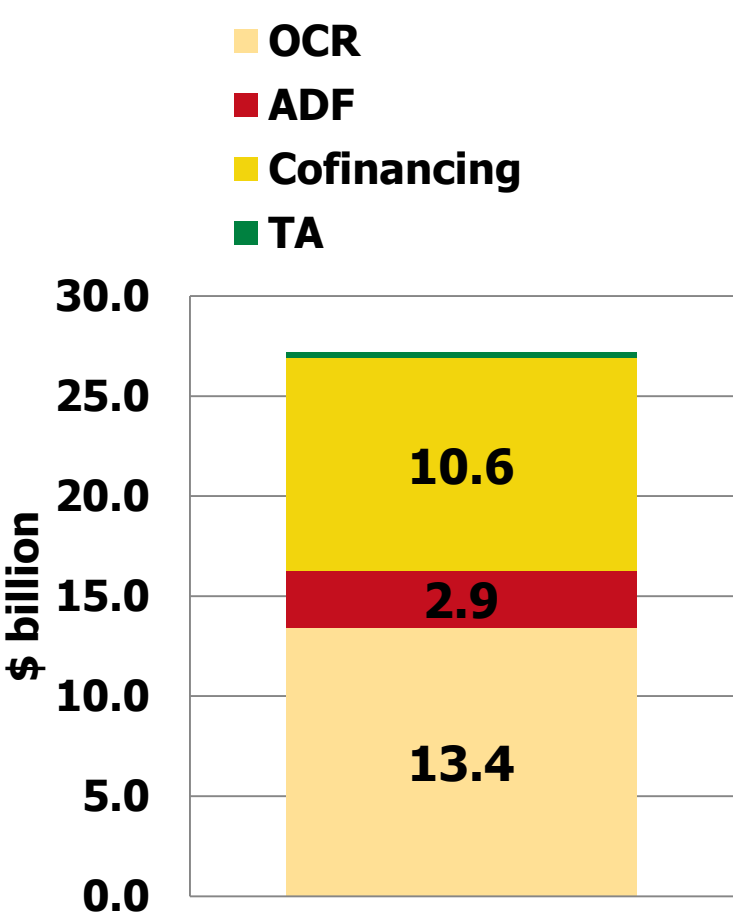
Political risk and partial credit guarantees to enhance risk profile of transaction to attract commercial lenders

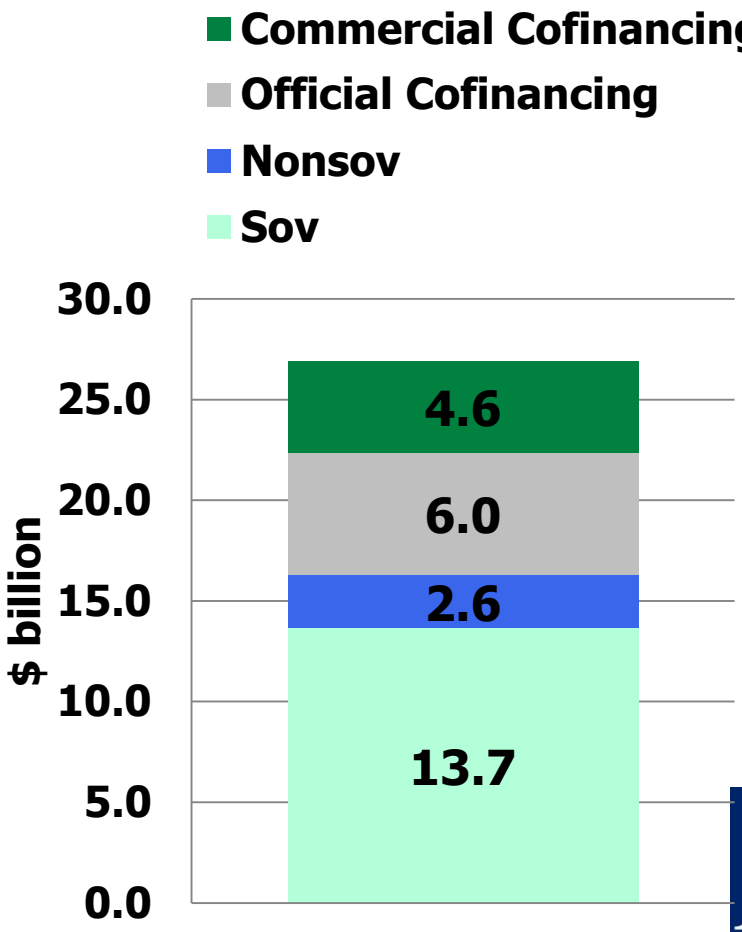
Project must have developmental impacts/ demonstration effects, not just financial return

ADB

2015 ADB Operations – OCR, ADF, Confinancing, Sovereign & Nonsov

Total financing approved in 2015 = $27B





ADB

ADB's evolving role

ADB lending – OCR-ADF merger to raise lending from $16B in 2015 to $20B in 2020

Cofinancing – from $16+11=27B in 2015 to $20+20=40B in 2020

PPPs – new PPP Office to expand PPP operations – e.g. Philippines North-South rail project

Finance++ = lending + knowledge + leverage

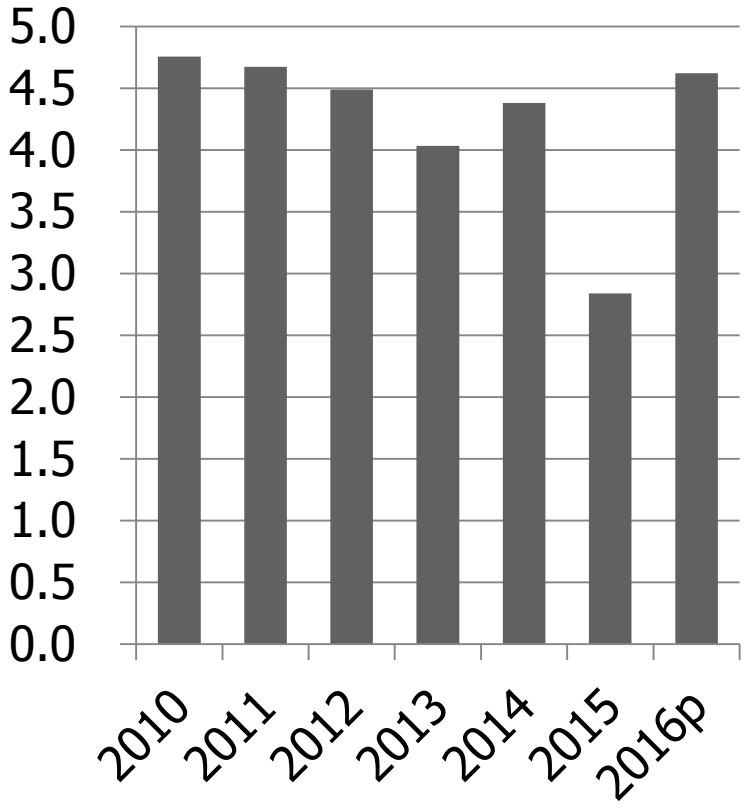
Climate change – ADB lending for mitigation and adaptation to reach $6B by 2020

ADB

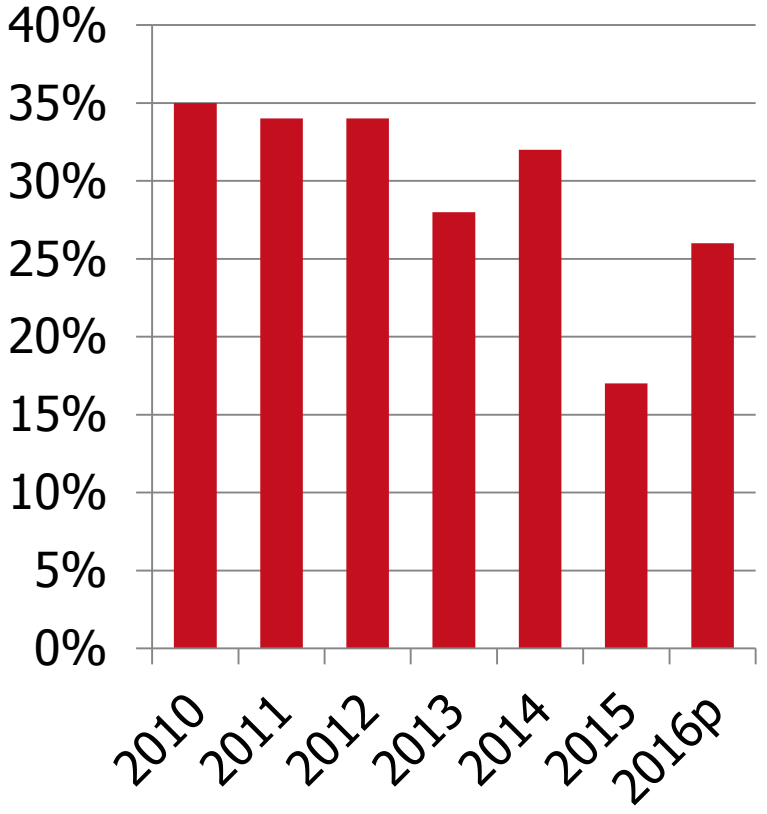
ADB transport operations

Transport is largest sector for ADB lending

Transport lending ($ B)



Share of ADB lending



ADB

2 sides of transport…

- Transport **enables** economic & social activity, provides access to opportunities, services
- **But** has **negative effects** too - congestion, emissions, environment impacts, accidents

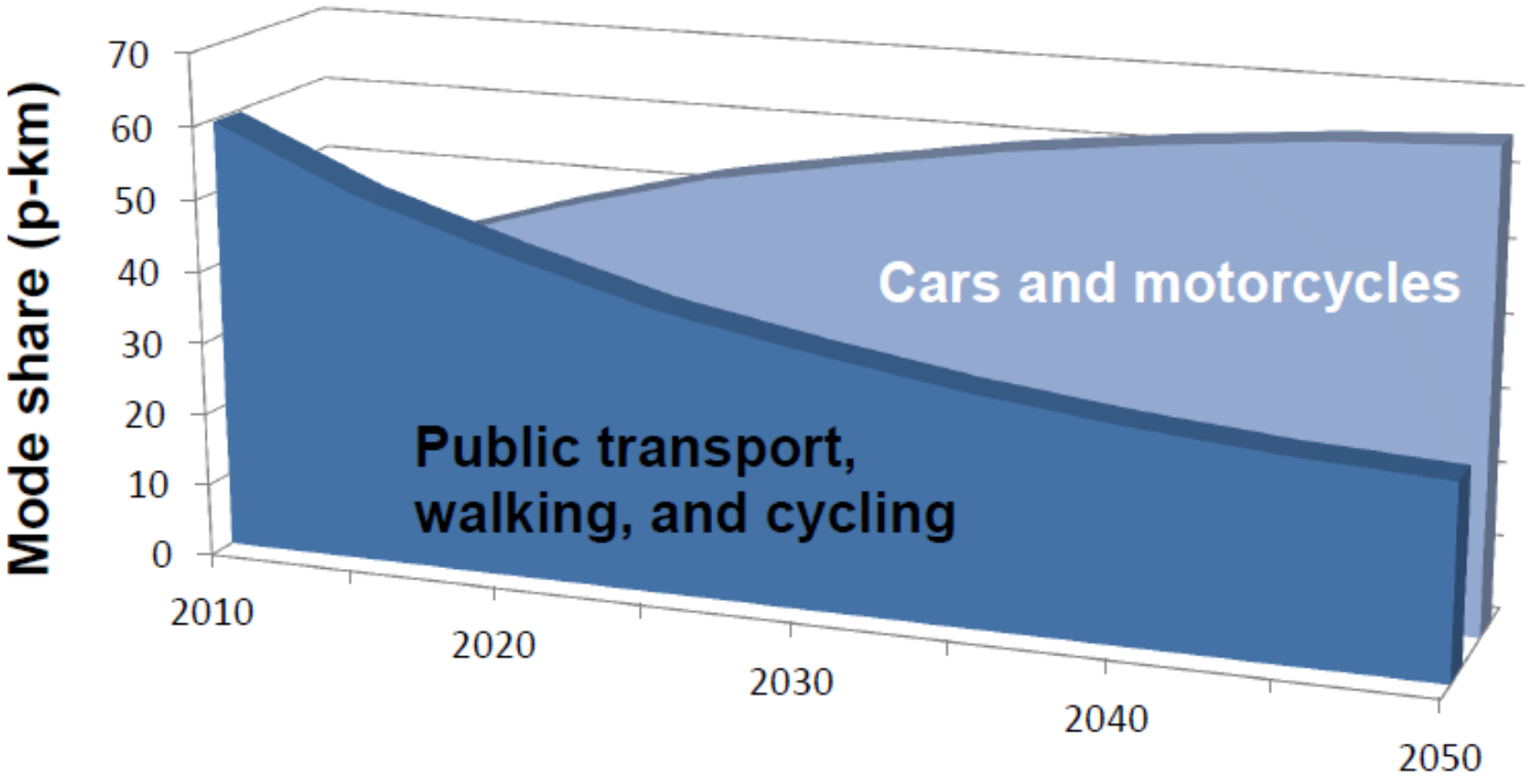
Massive investment needs

- **$2.5 trillion** for transport in developing Asia, 2010-20
- Poor countries need basic access
- Others face capacity bottlenecks
- Asia's rapidly growing cities need urban transport

Extending access, connectivity

ADB

Problem of rapid motorization



Source: ADB and IEA, 2011

ADB

Congestion

Air pollution

Rising GHG emissions

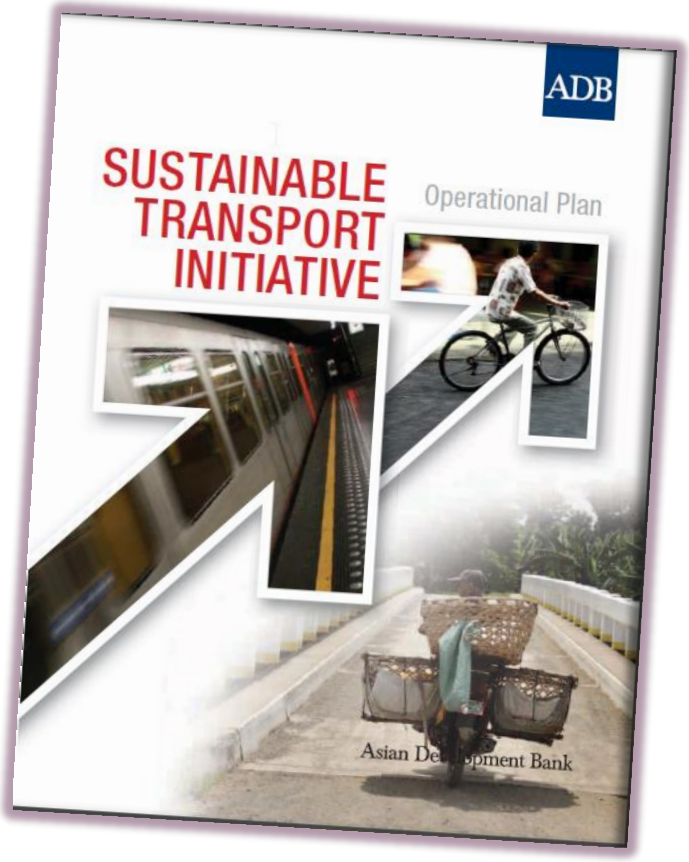
- Transport is **23%** of global energy-related GHG emissions
- Land transport is **¾** of transport GHG emissions
- Land transport GHG emissions to **double by 2050** based on current trend

Unsafe roads

- **645,000 annual road deaths** and 30 million injuries in developing Asia
- Leading cause of death for 15-44 year olds, 2nd leading for 2nd leading cause for 6-14 year olds
- Vulnerable users are 50–75% of deaths
- Costs 2-5% of GDP

ADB's Sustainable Transport Initiative

- STI approved in 2010
- Aims to transform ADB transport operations
- Covers a 10 year period, 2010-20



ADB

Sustainable transport is…

- ✓ accessible
- ✓ affordable
- ✓ environment friendly
- ✓ safe

ADB

Avoid-Shift-Improve Paradigm

Avoid
the need to travel

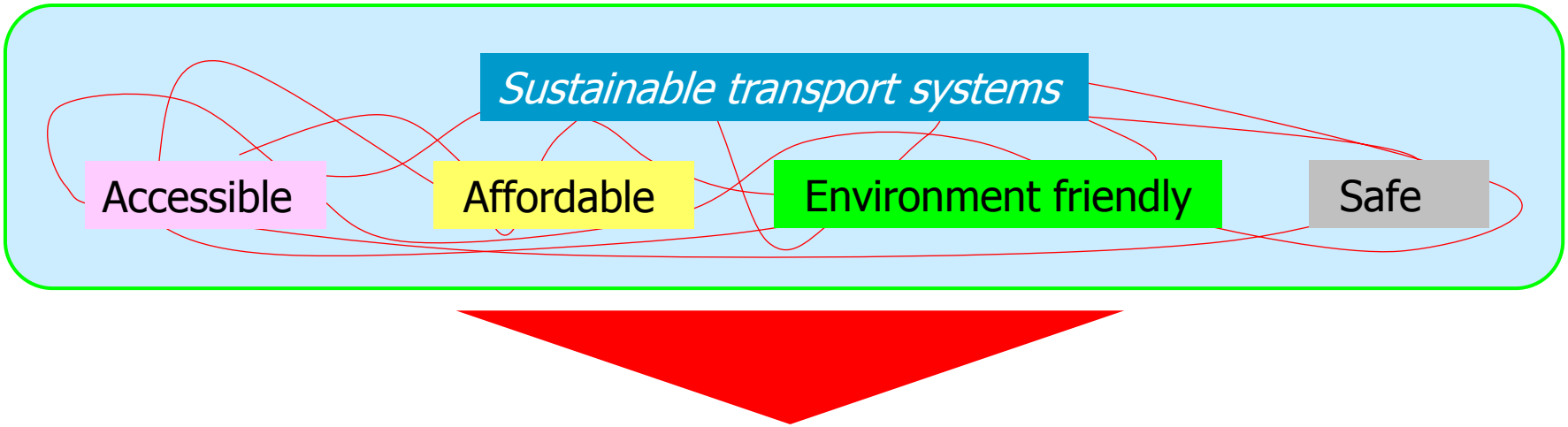
Shift
to sustainable modes

Improve
efficiency of all modes

<u>Lower</u> congestion, emissions, air pollution, road accidents, respiratory & health problems

ADB

STI priorities and targets

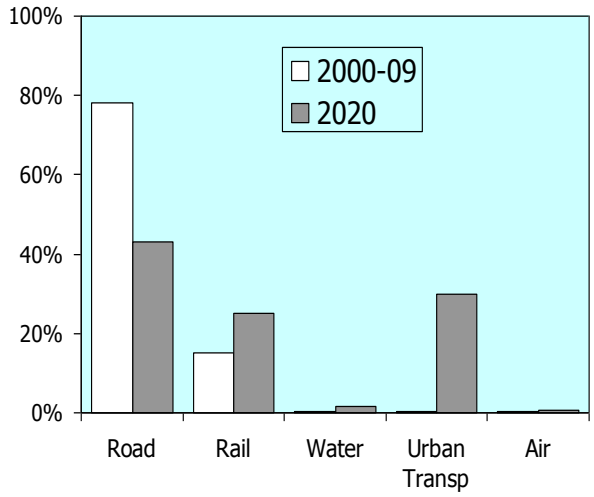


STI lending directions

- Mainstream sustainability in roads
- Scale up 4 areas

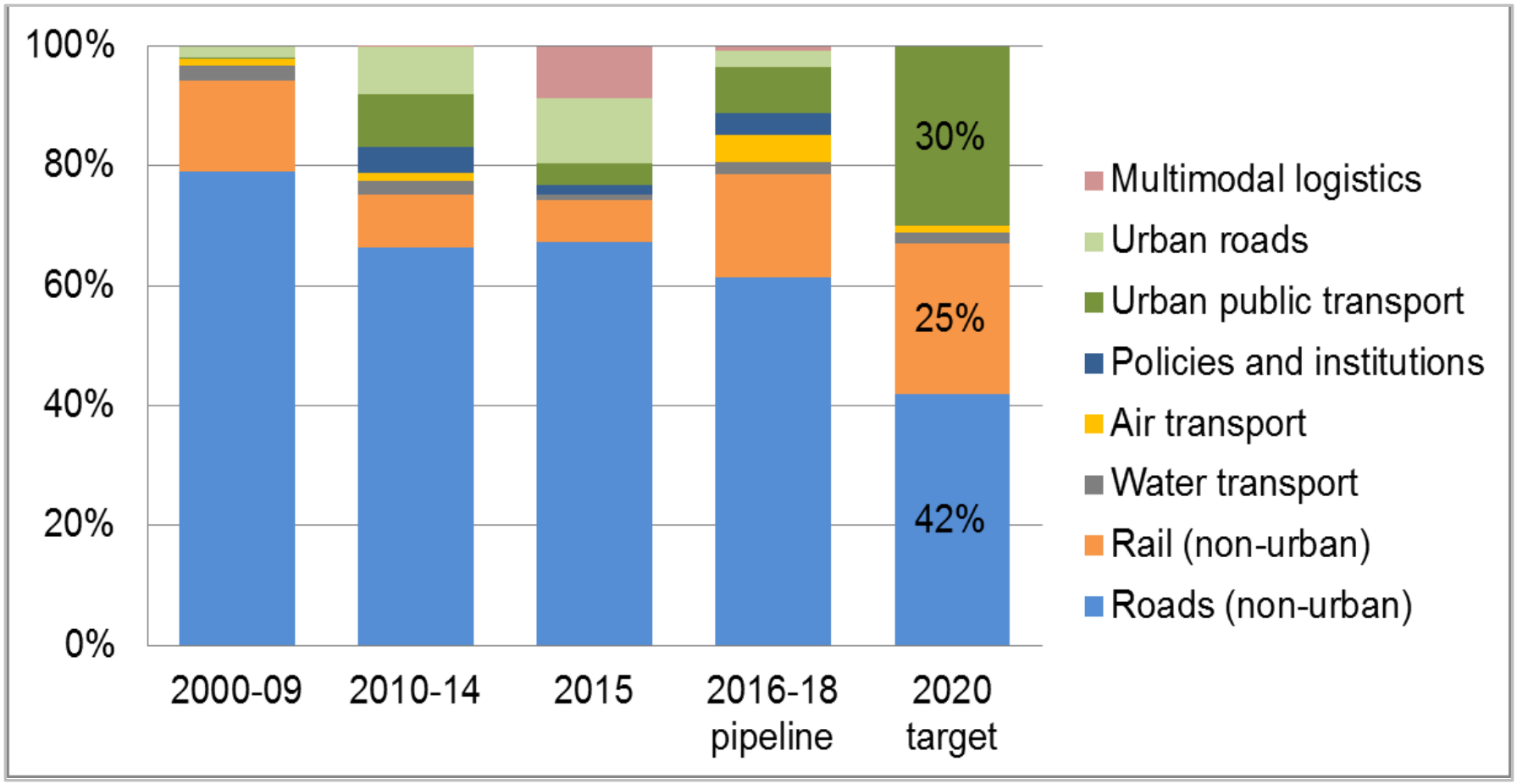
  - Urban transport
  - Addressing climate change
  - Cross-border transport & logistics
  - Road safety & social sustainability

STI subsector lending targets



ADB

Progress against STI lending targets

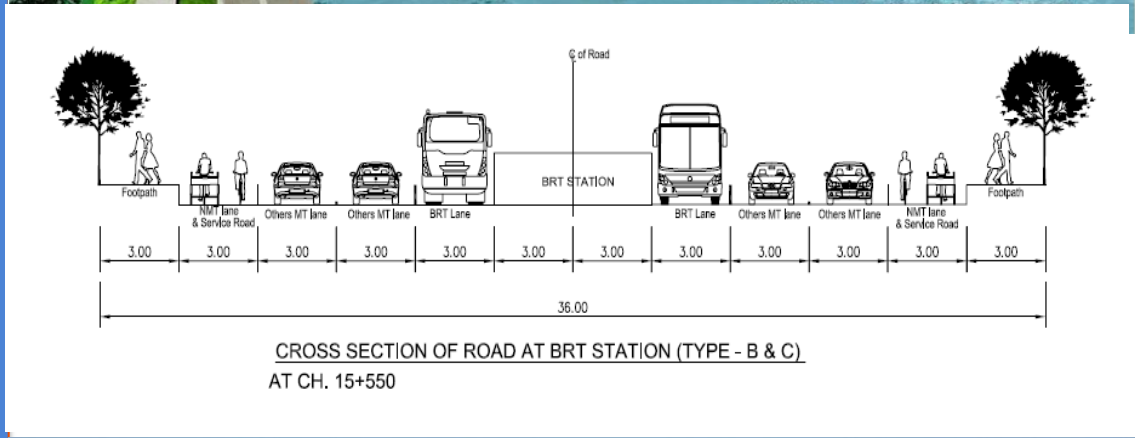


ADB transport operations: 2015 in numbers

Total of **28** loans and grants and **29** technical assistance projects approved

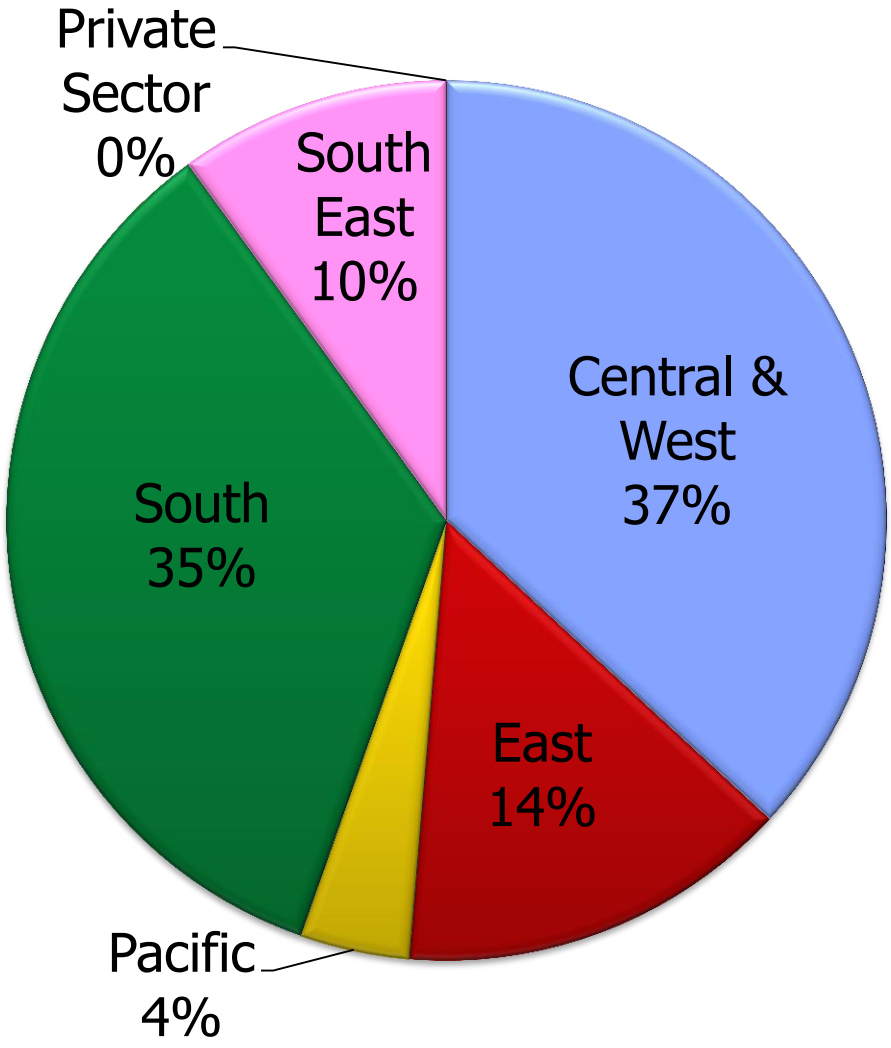
Projects represented a total of **$2.8 billion** in ADB investment, 17% of total ADB

Serving **25** countries



CROSS SECTION OF ROAD AT BRT STATION (TYPE - B & C)
AT CH. 15+550

Transport approvals by subregion, 2015



Examples of road transport approvals, 2015

India

Rural Connectivity Investment Program - Tranche 3 $273 million

Second Jharkhand State Road Project $200 million

Kiribati

Road Rehabilitation Project (Additional Financing) $2 million

Myanmar

Greater Mekong Subregion East-West Economic Corridor Eindu To Kawkareik Road Improvement $100 million

Examples of railways approvals, 2015

Bangladesh

Railway Rolling Stock Project

$200 million

Examples of urban transport approvals, 2015

Armenia

Sustainable Urban Development Investment Program - Tranch 2

$113 million

Lao PDR

Vientiane Sustainable Urban Transport Project

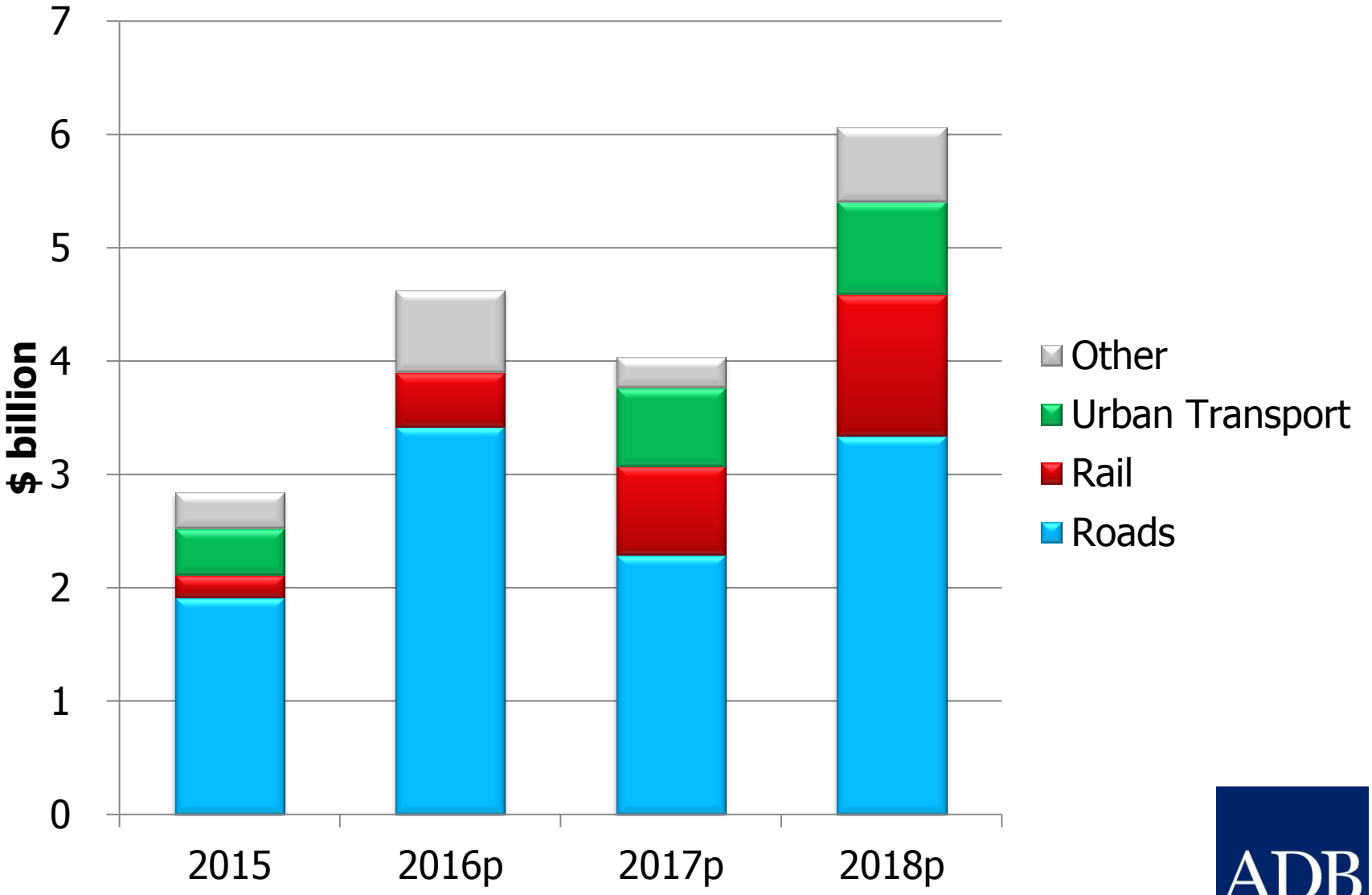
$35 million

Viet Nam

Ha Noi Metro Line System Project (Line 3: Nhon-Hanoi Station Section) (Additional Financing)

$65 million

Transport lending pipeline, 2016-18



Transport lending pipeline, 2016-18

Subsector	Projects in 2016-18 pipeline
Roads (non-urban)	Av. annual lending of $0.8–1B in each of Central & West, South, SE Asia regions; lower in East Asia, Pacific. In many DMCs, large programs in BAN, IND, VIE, KAZ, PAK, AFG
Rail (non-urban)	Expanded lending especially in South Asia in 2017, 2018. Major projects include BAN, IND, PRC, AFG, with new rail lending in UZE, AZE, SRI, MYA, MON
Water transport	Small but important support for ports and shipping, mainly in Pacific: RMI, TIM, SOL, SAM, also MLD
Air transport	Airports and related support mostly in small DMCs: BHU, PNG, MYA, RMI, NEP, also UZE airport
Urban public transport	In 2017 and 2018 more support for metro in Viet Nam, BRTs in several PAK cities, KAZ, MON, PHI, GEO mass transit
Urban roads and traffic mgt	Often as part of urban development projects. ARM, IND, MON, PRC, BAN, VAN
Multimodal logistics	PRC river-rail-road logistics hub

Future opportunities for innovative transport projects

Future opportunities in transport

- Mass transit
- Multimodal transport hubs
- Multimodal freight hubs
- Energy efficient and safer transport technologies
- Intelligent transport systems
- Electronic road pricing systems
- Electric vehicles
- Green urban corridors
- Structured financing for rail and mass transit

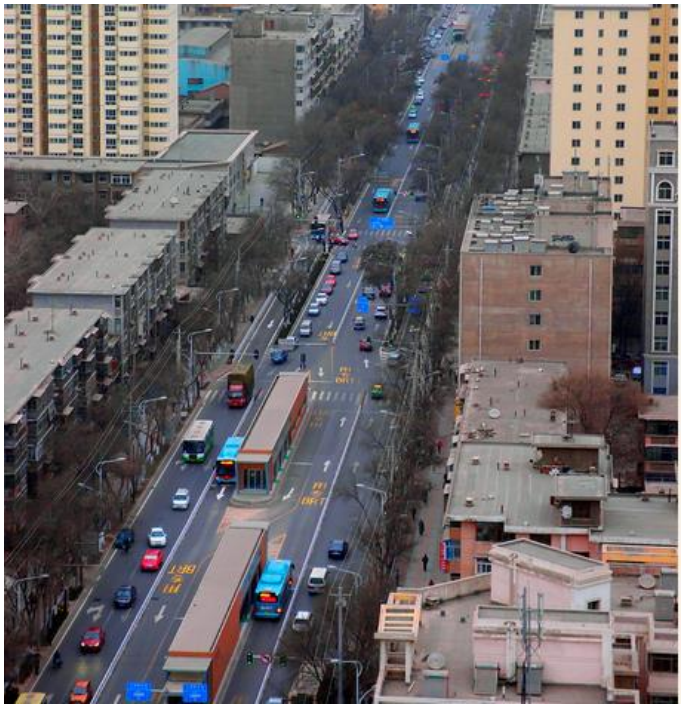
Future opportunities: mass transit/metro and light rail

Future opportunities: mass transit/metro and light rail

General rationale	High quality high volume mass transit needed for large, densely populated cities
Types of high-level technology	Overall system design Advanced tunneling Traction system Locomotives and rolling stock Signaling and train control system Telecom Electronic fare collection Train information system for users
Approved projects	Ha Noi and Ho Chi Minh metros, Viet Nam Jaipur metro, India; Tblisi metro, Georgia
Planned projects	Dhaka metro, Bangladesh; Colombo suburban light rail, Sri Lanka

ADB

Future opportunities: mass transit/bus rapid transit



- ADB's first BRT project in Lanzhou, PRC – $150m loan approved late 2009 for total project of $462m
- Opened in late 2012, serves **300,000** daily trips
- Bikeshare for **10,000** bikes along BRT corridor

ADB

Future opportunities: mass transit/bus rapid transit

General rationale	More affordable high quality mass transit needed for cities while still at low/middle income stage Cost effective mass transit option for secondary cities
Types of high-level technology	Overall system design BRT stations installation Automated traffic management system Bus management system Electronic fare collection Bus information system for users
Approved projects	Lanzhou (above), Yichang, Fuzhou and Ji'an projects, all in PRC Dhaka, Bangladesh; Ulaanbaatar, Mongolia; Vientiane, Lao PDR
Planned projects	Karachi, Lahore and Peshawar in Pakistan

ADB

IMPROVING INTERCHANGES

TOWARD BETTER MULTIMODAL RAILWAY HUBS IN THE PEOPLE'S REPUBLIC OF CHINA

ADB

Future opportunities: multimodal passenger hubs


5.103: MIDTOWN TOKYO, JAPAN. An underpass between the transport links and commercial areas. This feature is quite common in Japan.


4.52: TOKYO STATION, JAPAN. Redevelopment and conservation at the refurbished Tokyo Central Post Office site, with a long balcony providing a view over the neighborhood

General rationale	Well-designed hubs ensure ease of passenger transfer between modes, and create complementary commercial opportunities
Types of high-level technology	Advanced passenger station/hub design
Approved projects	TA on improving interchanges, PRC
Planned projects	E'mei-Miyi rail project, PRC Yuxi-Mohan rail project, PRC

ADB

Future opportunities: multimodal freight hubs

General rationale	Well-designed hubs ensure easy of passenger transfers between modes, and create complementary commercial opportunities within and near the hubs
Types of high-level technology	Advanced passenger station/hub design
Approved projects	No
Planned projects	Chongqing logistics project, PRC Inland customs depot proposals, South Asia

ADB

Future opportunities: energy efficient and safer transport technologies

General rationale	Introduce technologies by retrofitting or replacement
Types of high-level technology	Lower energy/lower emission and/or safer railway locomotives, rolling stock, buses
Approved projects	Railway energy efficiency and safety, PRC (nearing completion)
Planned projects	Locomotive energy efficiency project, India

ADB

Future opportunities: highways ITS

General rationale	Using information on traffic, road conditions and hazards improves transport efficiency and safety
Types of high-level technology	Travel information systems, road safety systems Vehicle registration systems
Approved projects	TA study of overall highway ITS architecture, PRC TA study of ITS for highway safety, PRC
Planned projects	Highway ITS in Kazakhstan, Papua New Guinea

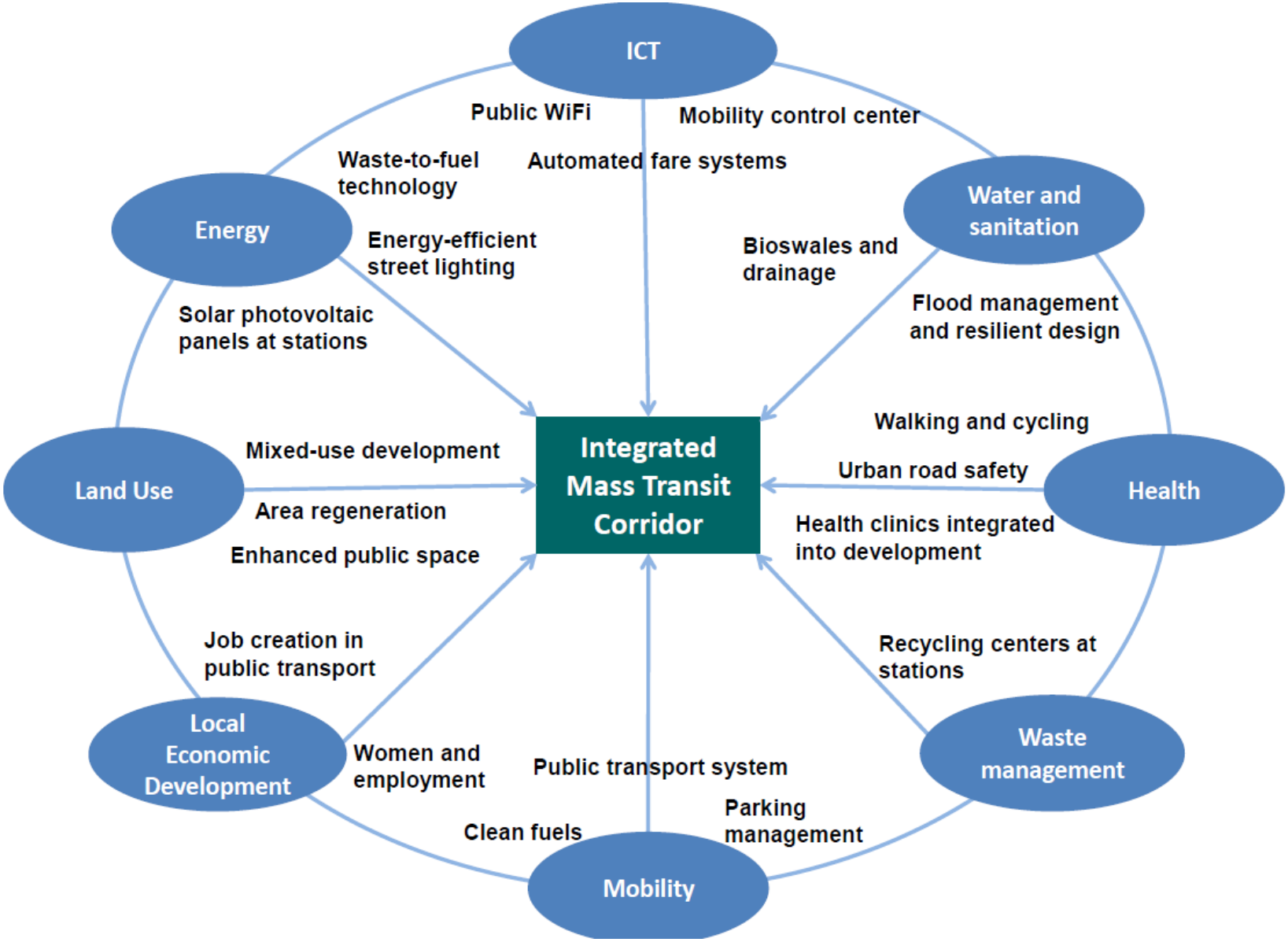
Future opportunities: electronic road pricing

General rationale	Efficient, equitable and sustainable method of charging for road use and externality costs Pricing can moderate urban congestion and generate revenue to finance public transport
Types of high-level technology	Advanced systems for tracking and charging vehicles based on distance and/or time
Approved/planned projects	No

Future opportunities: electric vehicles

General rationale	Infrastructure facilitates e-vehicle take-up
Types of high-level technology	Charging infrastructure
Approved projects	e-trikes, Philippines
Planned projects	No

Future opportunities: green urban corridors built around mass transit



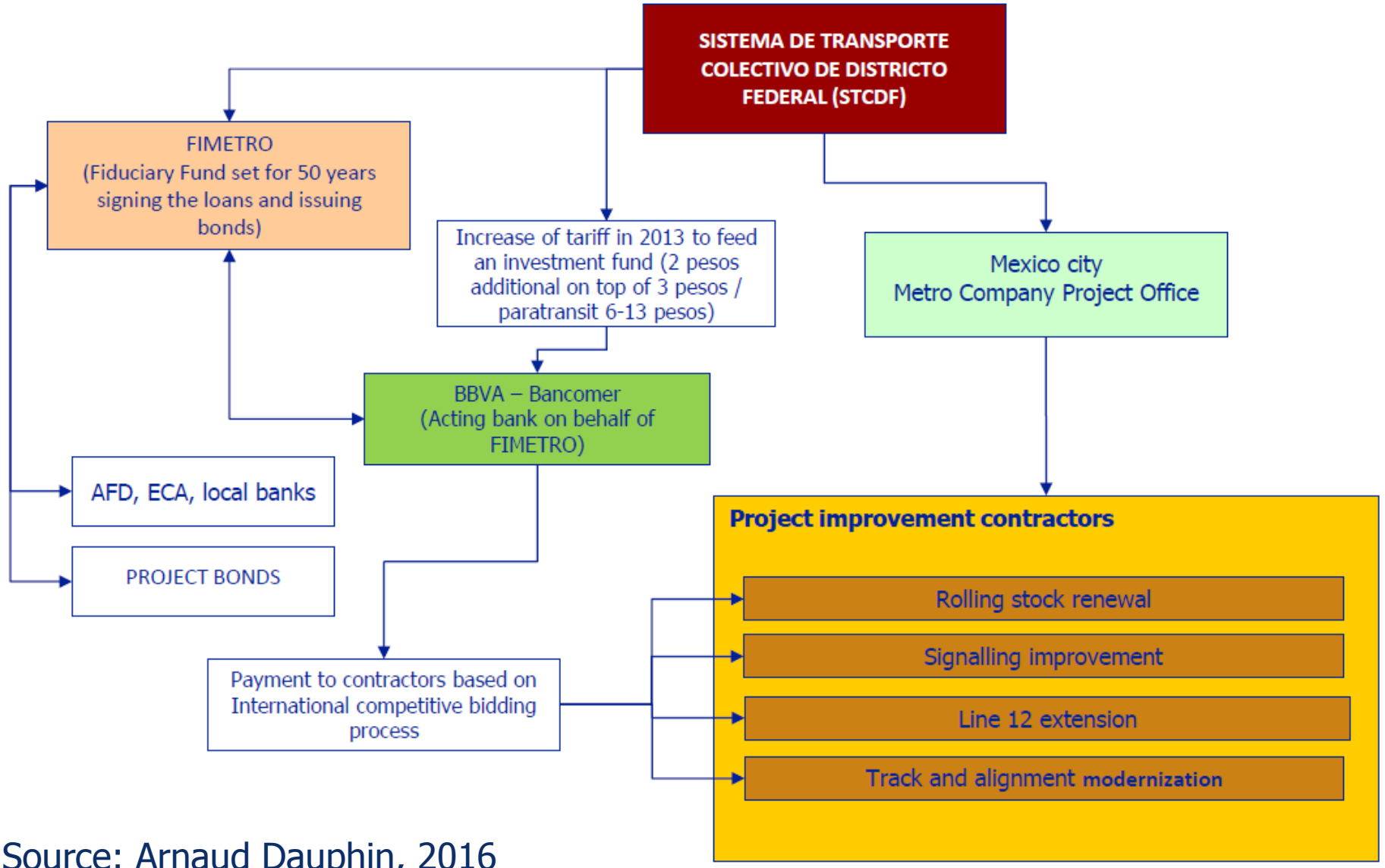
Future opportunities: green urban corridors

General rationale	Construction/renewal of strategic transport transit/pedestrian corridors creates opportunity for smart city development, with part of investment recoverable from land values and commercial activities. More green corridors can be added after initial success
Types of high-level technology	Wide-ranging – mass transit, nonmotorized transport, smart city design and implementation, commercial and residential property development
Approved projects	TA on future cities program. Urban trust funds available to support project concept development
Planned projects	No

Future opportunities: structured finance to scale up rail and mass transit investment

General rationale	Rail and mass transit projects require much larger investment capital than ADB or other financiers can alone provide, so introduction of more advanced structured financing models using mix of domestic and international financing is necessary to enable investment of scale needed Participation of banks and financial markets can be effective for ensuring commercial discipline
Types of high-level technology	Advanced financial structuring, with mix of financing sources and substantial domestic resources mobilization – domestic bonds, syndicated loans, guarantees, ADB sovereign financing
Approved projects	No
Planned projects	No

Mexico : Metro improvement - Financing structure



Source: Arnaud Dauphin, 2016

How to work with ADB

Ways of working – directly with ADB, indirectly by working for ADB clients on ADB-funded projects

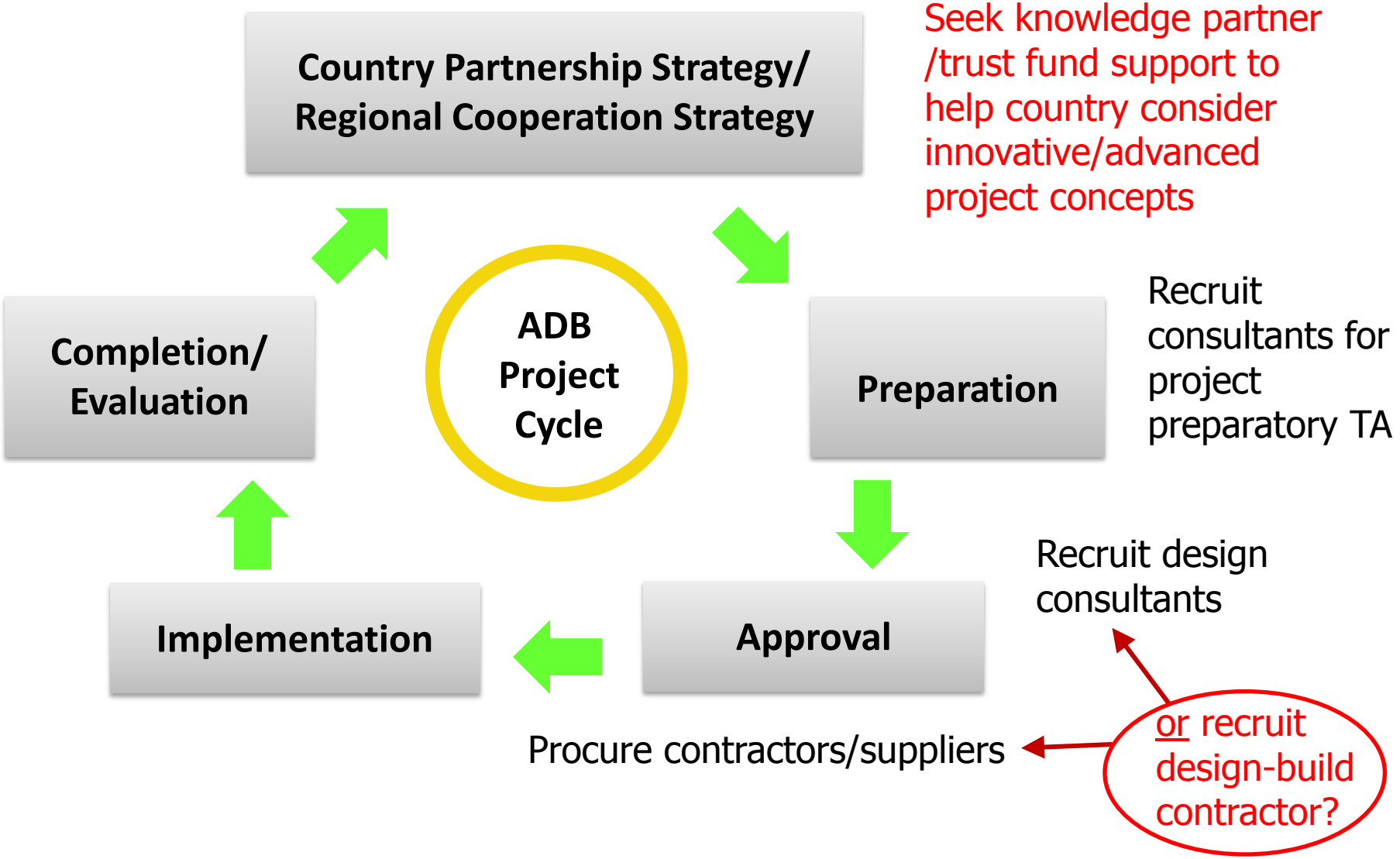
As consultants – bid for project preparatory technical assistance to prepare lending projects

As contractors – bids/subcontract for ADB-financed contracts

As investors – developers and financiers of private/PPP projects seeking ADB finance

As knowledge or trust fund partners – supporting proof-of-concept work to show merits of innovative and advanced solutions in DMCs

Scope for developing innovative solutions within ADB project cycle



ADB sovereign operations – procurement of contractors/suppliers

Procurement principles – procure from member countries, economy and efficiency, fairness, transparency

Prequalification – required for most larger civil works contracts and complex equipment supply contracts

Procedures for technical and price proposals

- Single-Stage: One-Envelope Bidding Procedure
- Single-Stage: Two-Envelope Bidding Procedure
- Two-Stage Bidding Procedure
- Two-Stage: Two-Envelope Bidding Procedure

ADB

ADB nonsovereign operations – applying for ADB assistance

ADB welcomes proposals from developers and financiers of private sector infrastructure projects and PPPs. There is no standard form of application but typically the information required may include:

- Project description
- Background on sponsors
- Implementation arrangements
- The market
- Cost estimates
- Financial model
- Permits of licenses
- Feasibility study
- Ownership structure
- Project operations
- Environmental/social aspects
- Financing plan
- Risk analysis

Conclusions

Transport is a major part of ADB operations – about 1/3 of ADB lending in most years

DMCs need more advanced solutions to fit their situation – sustainability, urbanization, affordability

ADB now focuses on sustainable transport – more urban transport and railways, less roads

ADB wishes to provide more advanced solutions – some already being brought in, others need dialogue with DMCs and proof-of-concept

ADB invites partnership to speed up transition – trust fund and knowledge partnership with donors, private sector

ADB invites private sector interest – as consultants, contractors, proposers/financiers, knowledge/trust fund partners

ADB

See you in Manila for the 5th ADB Transport Forum 13-15 September 2016

Thank you!

ADB TRANSPORT
Sustainable solutions for Asia and the Pacific

ADB