



20th Transport Sector Coordinating Committee Meeting

24–25 May 2023 • Tbilisi, Georgia

20-е заседание Координационного комитета по транспортному сектору

24–25 мая 2023 года • Тбилиси, Грузия



Monitoring Road Asset Management in the CAREC Region

Michael Anyala

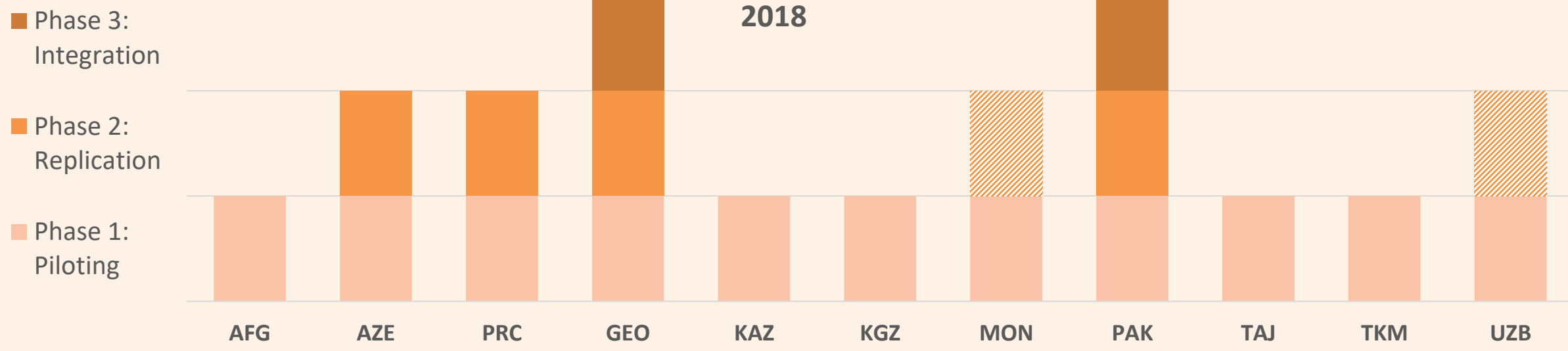
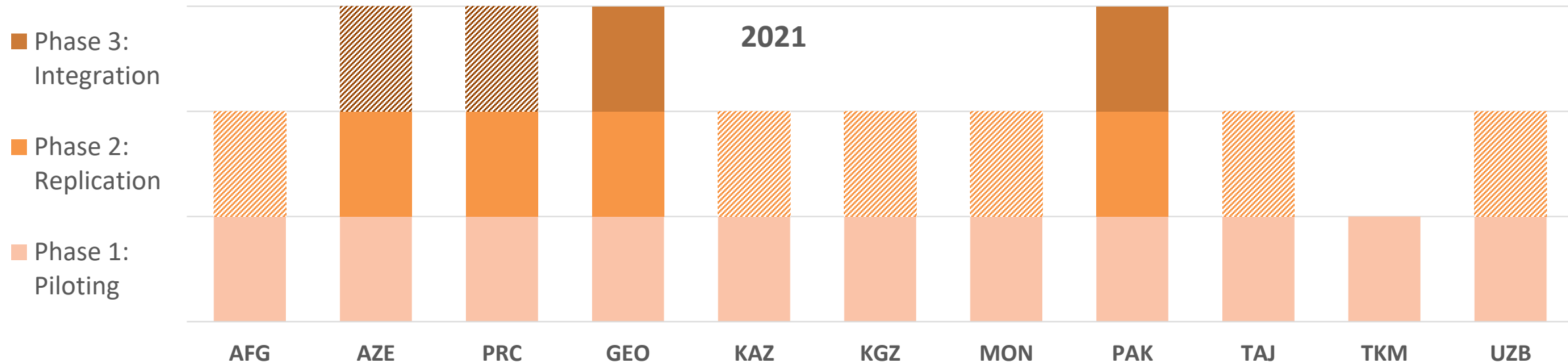
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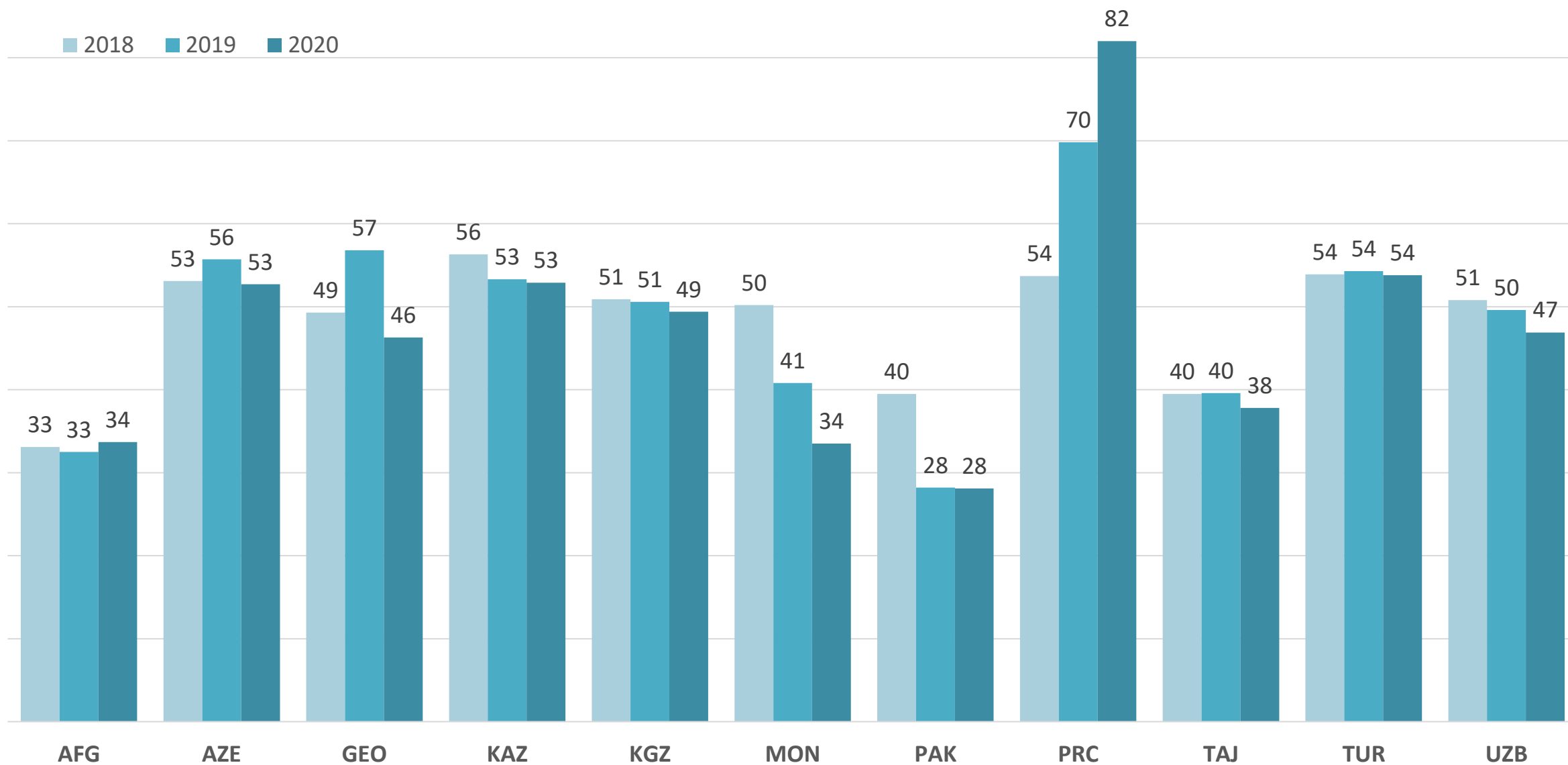
CURRENT KEY PERFORMANCE INDICATORS

CAREC Transport Strategy - RAM KPIs. Michael Anyala, ADB

Outcome KPI-1: Maturity of Road Asset Management Systems (RAMS)

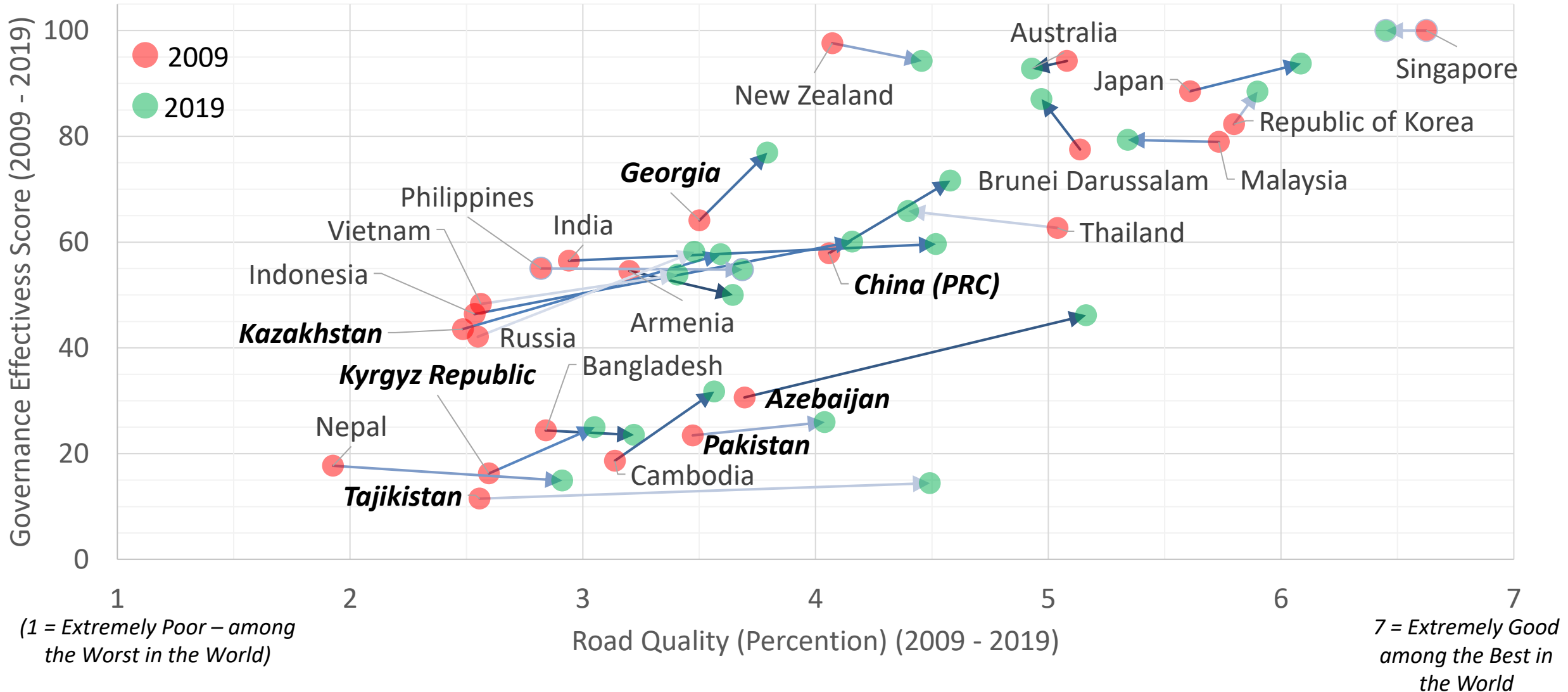


Outcome KPI-2: Average Speed of Traffic Without Delay



Outcome KPI-3: Perception of Highway Quality Improved 2009 - 2019

(World Economic Forum Global Competitiveness Index)



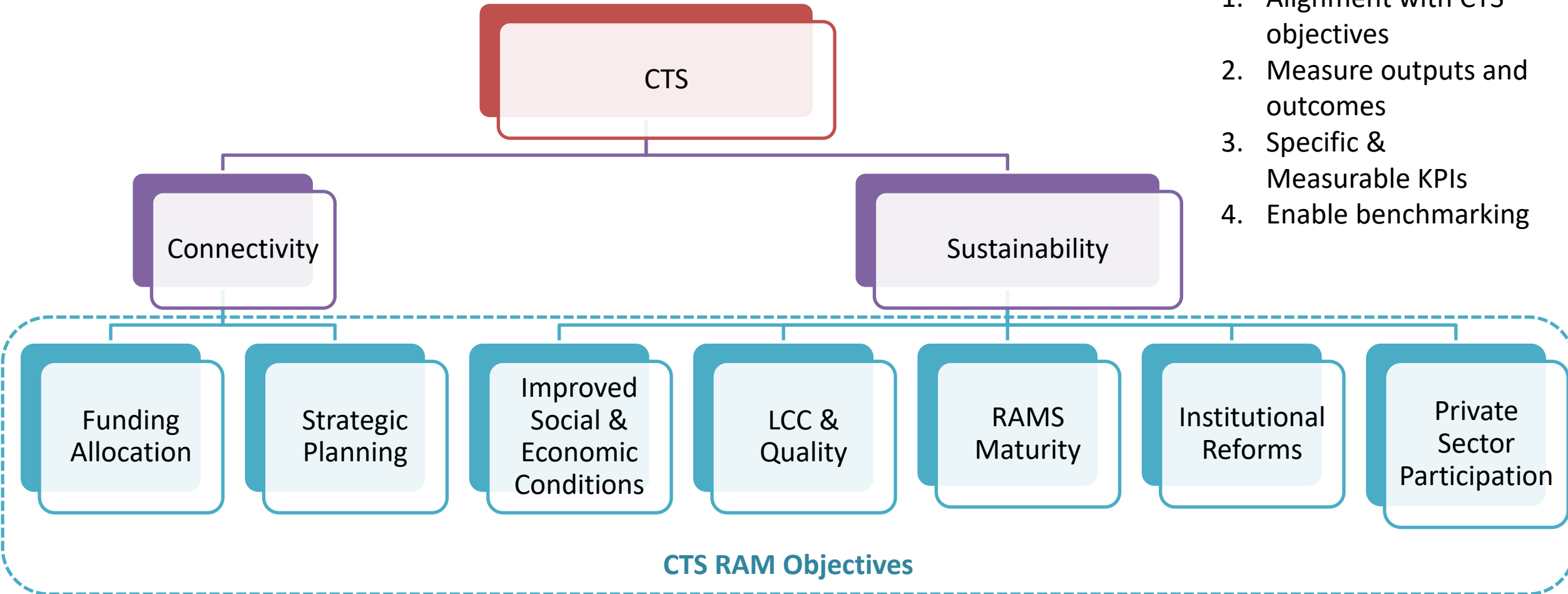
CAREC Transport Strategy - RAM KPIs. Michael Anyala, ADB

PROPOSED KEY PERFORMANCE INDICATORS (DRAFT)

CAREC Transport Strategy - RAM KPIs. Michael Anyala, ADB

Structure of Proposed KPI's

1. Alignment with CTS objectives
2. Measure outputs and outcomes
3. Specific & Measurable KPIs
4. Enable benchmarking



LCC = Lifecycle Costing

Connectivity – Sufficient Funding

| No. | Indicator | Measure | Essential or Desirable |
|-------|--|--|------------------------|
| 1.1.1 | Adequacy of budget allocation for road construction | 3-year rolling average total of annual budget allocated for construction of roads per km of road | Desirable |
| 1.1.2 | Adequacy of budget allocation for road rehabilitation | 3-year rolling average total of annual budget allocated for rehabilitation of roads per km of road | Essential |
| 1.1.3 | Adequacy of budget allocation for road maintenance | 3-year rolling average total of annual budget allocated for the maintenance of roads per km of road | Essential |
| 1.1.4 | Funds allocated for road construction as a proportion of GDP | Total annual funds allocated for road construction as a proportion of GDP | Desirable |
| 1.1.5 | Funds allocated for road rehabilitation as a proportion of GDP | 3-year rolling average total of annual budget allocated for rehabilitation as a proportion of GDP | Essential |
| 1.1.6 | Funds allocated for road maintenance as a proportion of GDP | 3-year rolling average total of annual budget allocated for the maintenance as a proportion of GDP | Essential |
| 1.1.7 | Utilization of allocated funds | Proportion of allocated funds (for previous year) for construction, rehabilitation and maintenance of national and regional expended | Essential |

Connectivity – Strategic Planning

| No. | Indicator | Measure | Essential or Desirable |
|-------|---|---|------------------------|
| 1.2.1 | Strategy for regional and national road network | Age of most recent strategy for development of regional and national road networks (if none then report as 20years) | Essential |

Sustainability – Economic & Social

| No. | Indicator | Measure | Essential or Desirable |
|--------|--|--|------------------------|
| 2.1.1 | Length of network with paved road surface | Length (km) of road network with paved roads | Essential |
| 2.1.2 | Length of network with unpaved road surface | Length (km) of road network with unpaved roads | Essential |
| 2.1.2 | Roughness of the paved road network – Good | Percent of paved network length with roughness below 4 IRI (m/km) | Essential |
| 2.1.3 | Roughness of the paved road network – Fair | Percent of paved network length with roughness below 4-6 IRI (m/km) | Essential |
| 2.1.4 | Roughness of the paved road network – Poor | Percent of paved network length with roughness below > 6 IRI (m/km) | Essential |
| 2.1.5 | Roughness of the paved road network – Unknown | Percent of paved network length with no roughness survey data | Desirable |
| 2.1.6 | Roughness of the unpaved road network – Good | Percent of unpaved network length with roughness below 6 IRI (m/km) | Desirable |
| 2.1.7 | Roughness of the unpaved road network – Fair | Percent of unpaved network length with roughness below 6-8 IRI (m/km) | Desirable |
| 2.1.8 | Roughness of the unpaved road network – Poor | Percent of unpaved network length with roughness below > 8 IRI (m/km) | Desirable |
| 2.1.9 | Roughness of the unpaved road network – Unknown | Percent of unpaved network length with no roughness survey data | Desirable |
| 2.1.10 | Percentage of travel on roads with roughness not greater than 4 IRI (m/km) | Percentage of travel on paved roads with roughness not greater than 4 IRI (m/km) | Essential |
| 2.1.11 | Average speed of traffic without delay (SWOD), by corridors (CAREC CPMM) | | Essential |
| 2.1.12 | Perception of highway quality improved (World Economic Forum Global Competitiveness Index) | | Essential |

Sustainability – Lifecycle Costing & Quality

| No. | Indicator | Measure | Essential or Desirable |
|-------|--|--|------------------------|
| 2.2.1 | Percentage of asphalt resurfacing | Percentage of the asphalt road network resurfaced within the past year | Essential |
| 2.2.2 | Percentage of concrete road replacement | Percentage of concrete roads rehabilitated within the past year | Desirable |
| 2.3.1 | Percentage of financed works program based derived from RAMS | <p>Percentage (by length) of financed resurfacing and rehabilitation program predicted via HDM-4 or similar predictive tools within the past year.</p> <p>Comparison is between the approved road resurfacing and rehabilitation sites, and that generic from HDM-4 or similar. If not use is made of a pavement prediction tool, then report as 0%.</p> | Essential |

Sustainability – Road Asset Management System

| No. | Indicator | Measure | Essential or Desirable |
|-------|--|---|------------------------|
| 2.3.2 | Maturity of Road Asset Management System | <p>Level of maturity of Road Asset Management System assessed using CAREC RAMS Maturity methodology</p> <p>[Note in this context RAMS broadly pertains to the presence of an information management system (database), data collection and a pavement prediction tool.]</p> | Essential |

Sustainability – Asset Management Reforms

| No. | Indicator | Measure | Essential or Desirable |
|-------|--|--|------------------------|
| 2.4.1 | Overall Road Asset Management Maturity | Road Asset Management Maturity assessed using ADB Road Asset Management Maturity framework. [Note: this assessment includes the full scope of RAM activities] | Essential |
| 2.4.2 | RAM Maturity Deficiency | Number of components in the maturity assessment where the current maturity is more than 1 below target maturity. | Essential |
| 2.4.3 | RAM Improvement Plan | Percentage of target improvement actions completed on time within the past year. [note if there is no improvement plan, then report as 0%] | Essential |

Sustainability - Private Sector Participation

| No. | Indicator | Measure | Essential or Desirable |
|-------|--|---|------------------------|
| 2.5.1 | Percentage of network maintained by the private sector | Percentage of road length whereby the operation and maintenance is contracted to the private sector for delivery. [Note: this excludes public-private-partnerships and similar where long term concessions are in place] | Essential |
| 2.5.2 | Percentage of overall budget going to the private sector | Includes construction, rehabilitation and maintenance activities. | Essential |
| 2.5.3 | Number of performance-based road maintenance contracts | Length of road maintained under performance based contracts by the private sector | Essential |

Summary and Next Steps

Summary

1. Transport Strategy has a lot of stated aims and objectives
2. A broad range of KPIs is appropriate to cover to measure achievement and enable benchmarking
3. Accept not every country will be able to report all measures initially

Next Steps

1. Consultation and pilot testing in selected countries
2. Finalize definition and details of KPIs
3. Prepare baseline report for the proposed KPIs

Thank You

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