

IMPROVING ROAD NETWORK RESILIENCE

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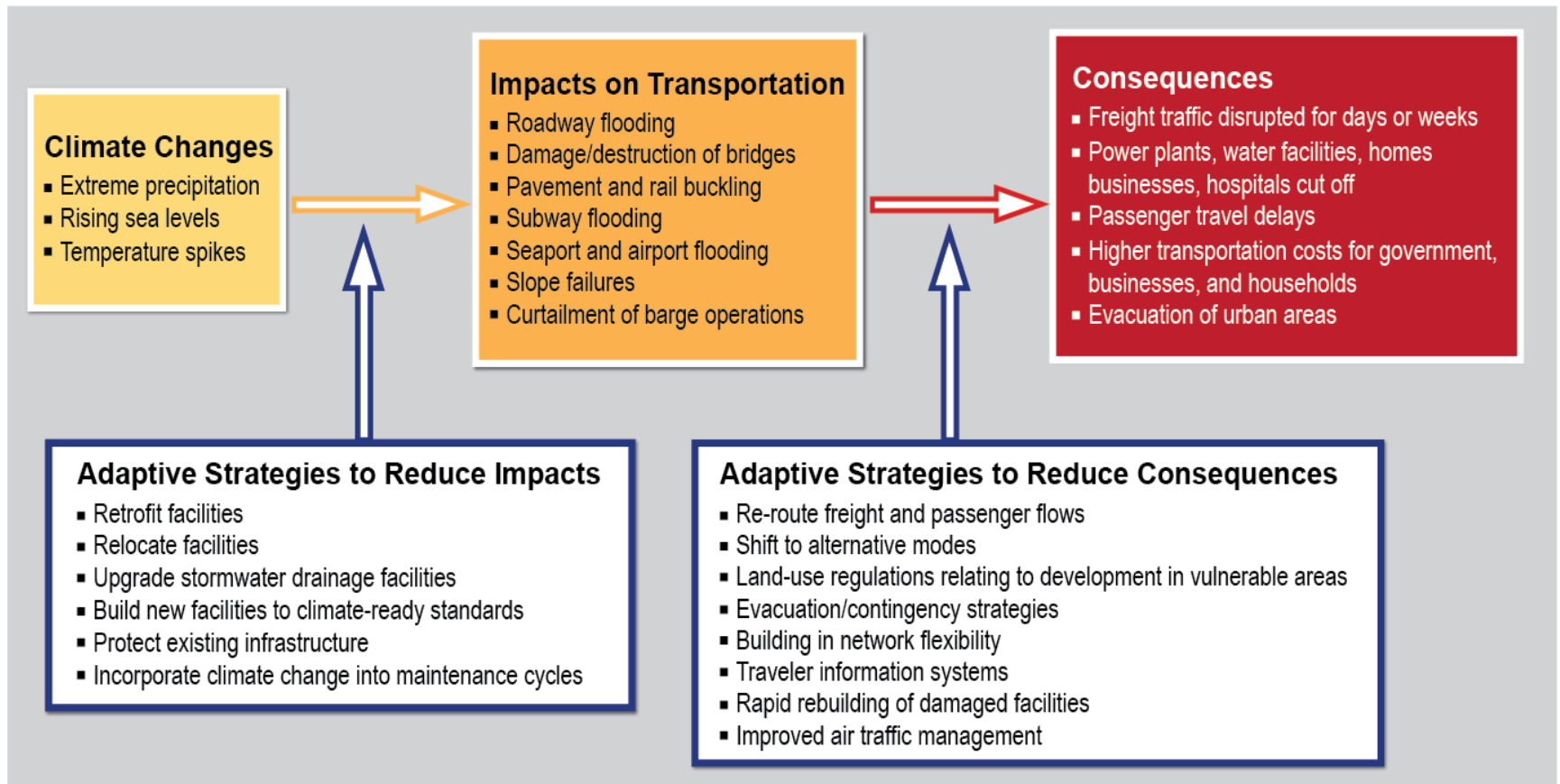
Why WB6 should act on Network Resilience?



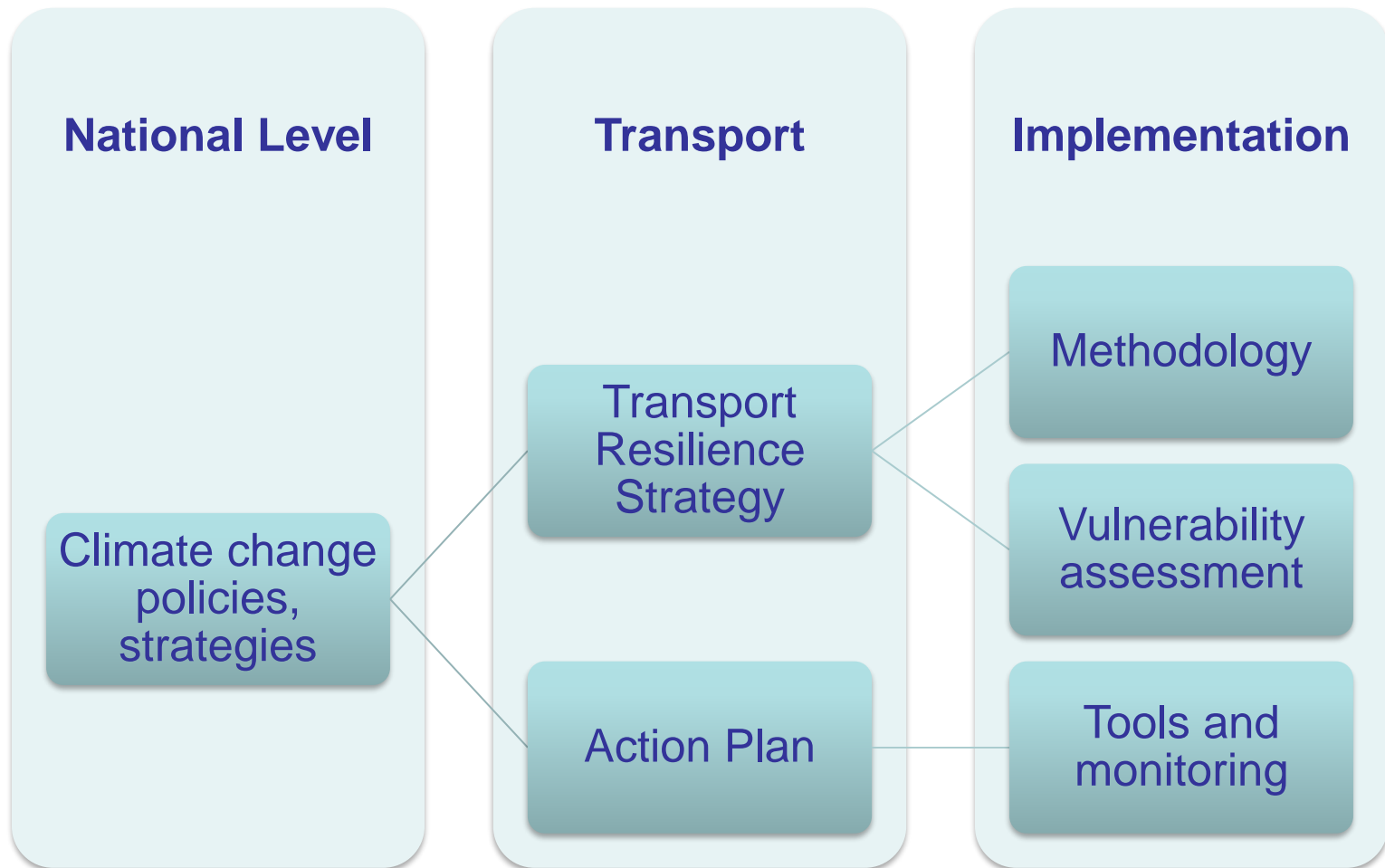
Why we should think about Network Resilience?

- Climate change is putting at risk the lives of millions of people worldwide, and millions in investments in transport infrastructure and services.
- A transport system that cannot withstand the emerging impacts of climate change will prove burdensome, impose high costs for repair, and cause significant economic losses.
- May 2014 floods, triggered 4% of GDP losses in SRB, 15% of GDP in BIH and August 2016 in MKD losses up to €22 million

Adaptation Strategies and actions



Scoping Phase Findings – Legal framework



Scoping Phase Findings – Legal framework

RP	National level	Transport Resilience strategy
ALB	UNFC on Climate change ratified CCS prepared	No Cross sectoral strategy ongoing
BIH	UNFC on Climate change ratified Yes	No Cross sectoral strategy ongoing
MKD	UNFC on Climate change ratified UN National Communications	No
MNE	UNFC on Climate change ratified UN National Communications	No
KOS	UN National Communications	No
SER	UNFC on Climate change ratified UN National Communications	No Cross sectoral strategy ongoing

Scoping Phase Findings – Risk areas

- Landslides and unstable slopes along highways, main roads and railways;
- Transport infrastructure in the vicinity of river flows which can be affected by floods;
- Rising groundwater levels;
- Floods in spring and summer and snowdrifts in winter periods;

Intervention	Weighted average cost EUR/km	Effectiveness
Bridges and crossings	127,380	51.96%
Drainage	64,078	58.16%
Erosion and stabilisation	119,420	66.69%
Flood protection	395,836	87.87%
Landscaping	204,256	25.32%
Monitoring & maintenance	18,421	30.73%
Operation incident reporting	65,090	28.30%
Planning, design & construction	85,988	35.52%
Road surface and structure	39,886	31.73%

Source: World Bank, DIVERSION project

Scoping Phase Findings - Obstacles

Main obstacles listed by the regional participants :

- Lack of knowledge
- Lack of guidelines and methodologies to assess vulnerability
- Lack of resources human, financial etc
- Lack of coordination between the ministry in charge of environment and transport ministry/institutions

Recommendations

