



Preserving Our Investment New Perspectives On Engineering Challenges

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Objectives

- Managed Assets
 - Accountability
 - What are our assets?
 - Level of Service
 - Gaps
 - Scenarios
- Beyond the Short Term
 - Long term performance
 - Worse-first
 - Physical Condition
 - Adaptation

Nation's Highways Managed Assets

Ownership: 30,000+ owners / operators

Pavements, Bridges, Tunnels, Signals,
Lights, Guardrail,

What do you own / maintain / operate?

Key component of “quality of Life”

Key component of “economic viability”

Key component of “global competitiveness”

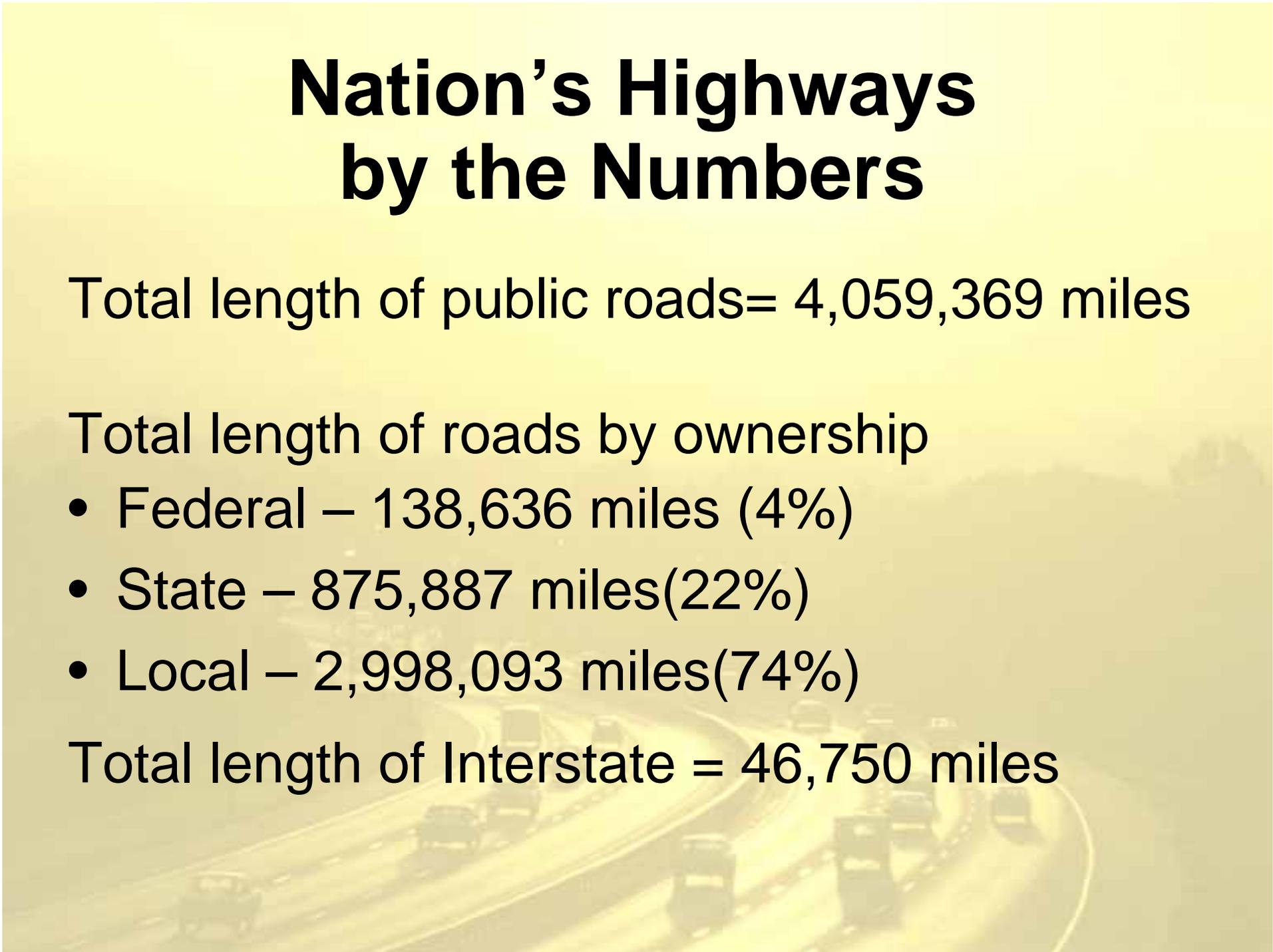
Nation's Highways by the Numbers

Total length of public roads= 4,059,369 miles

Total length of roads by ownership

- Federal – 138,636 miles (4%)
- State – 875,887 miles(22%)
- Local – 2,998,093 miles(74%)

Total length of Interstate = 46,750 miles



Nation's Highways Managed Assets

What condition are those pavements,
bridges, tunnels, signs in?

More than 300,000 databases

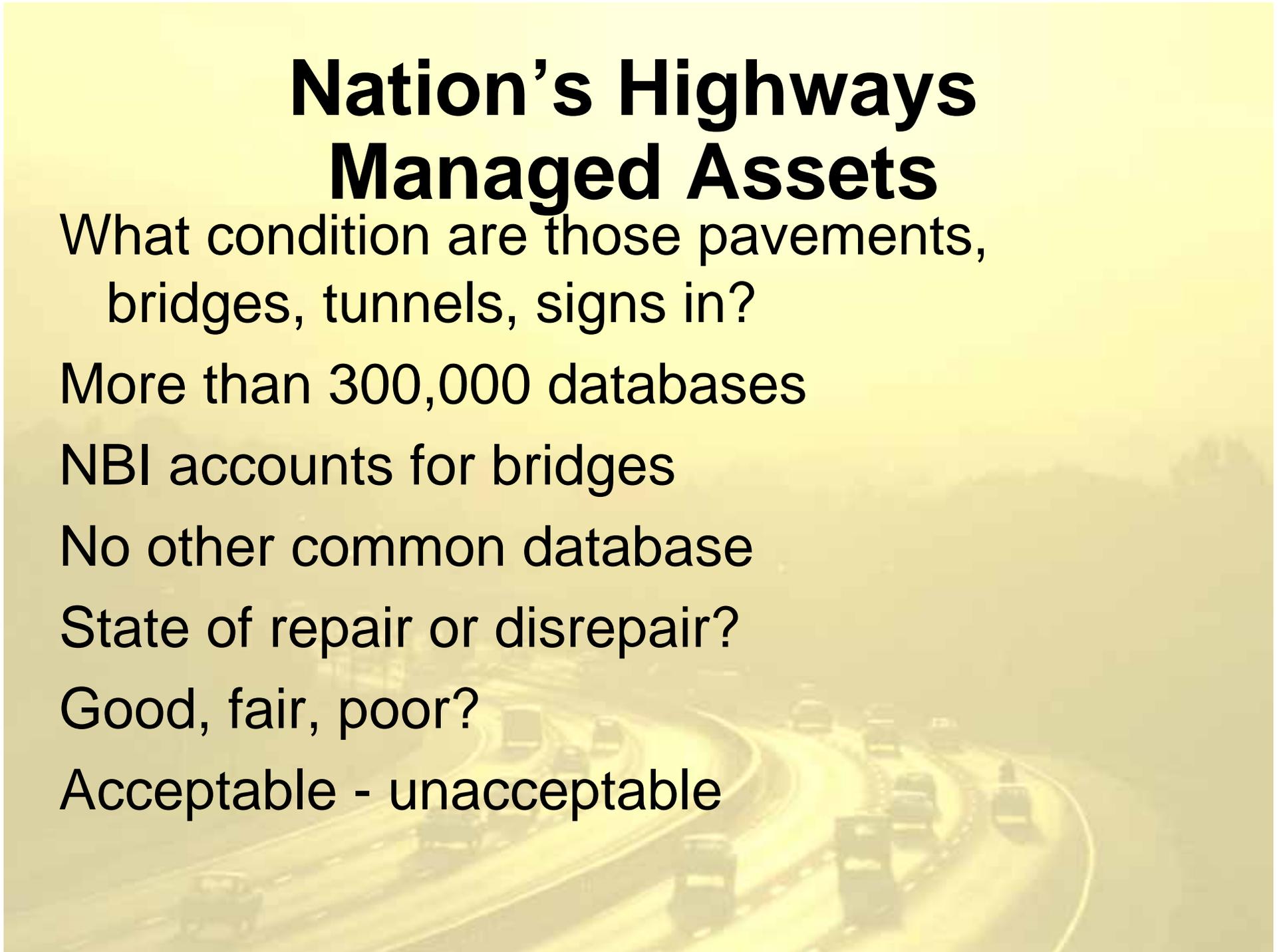
NBI accounts for bridges

No other common database

State of repair or disrepair?

Good, fair, poor?

Acceptable - unacceptable



Nation's Highways Managed Assets

Level of Service (?)

Should we treat ALL roads as equal?

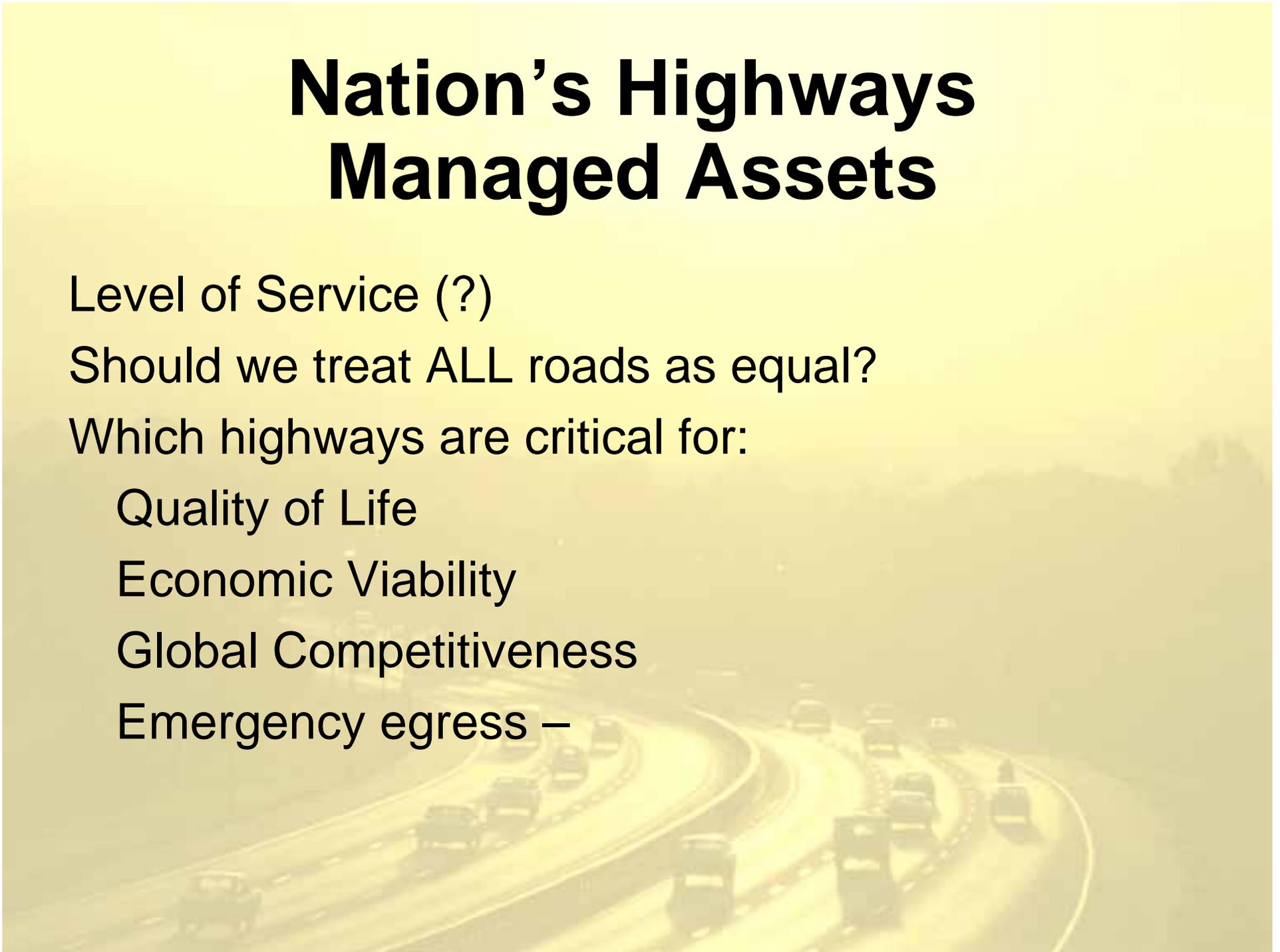
Which highways are critical for:

- Quality of Life

- Economic Viability

- Global Competitiveness

- Emergency egress –

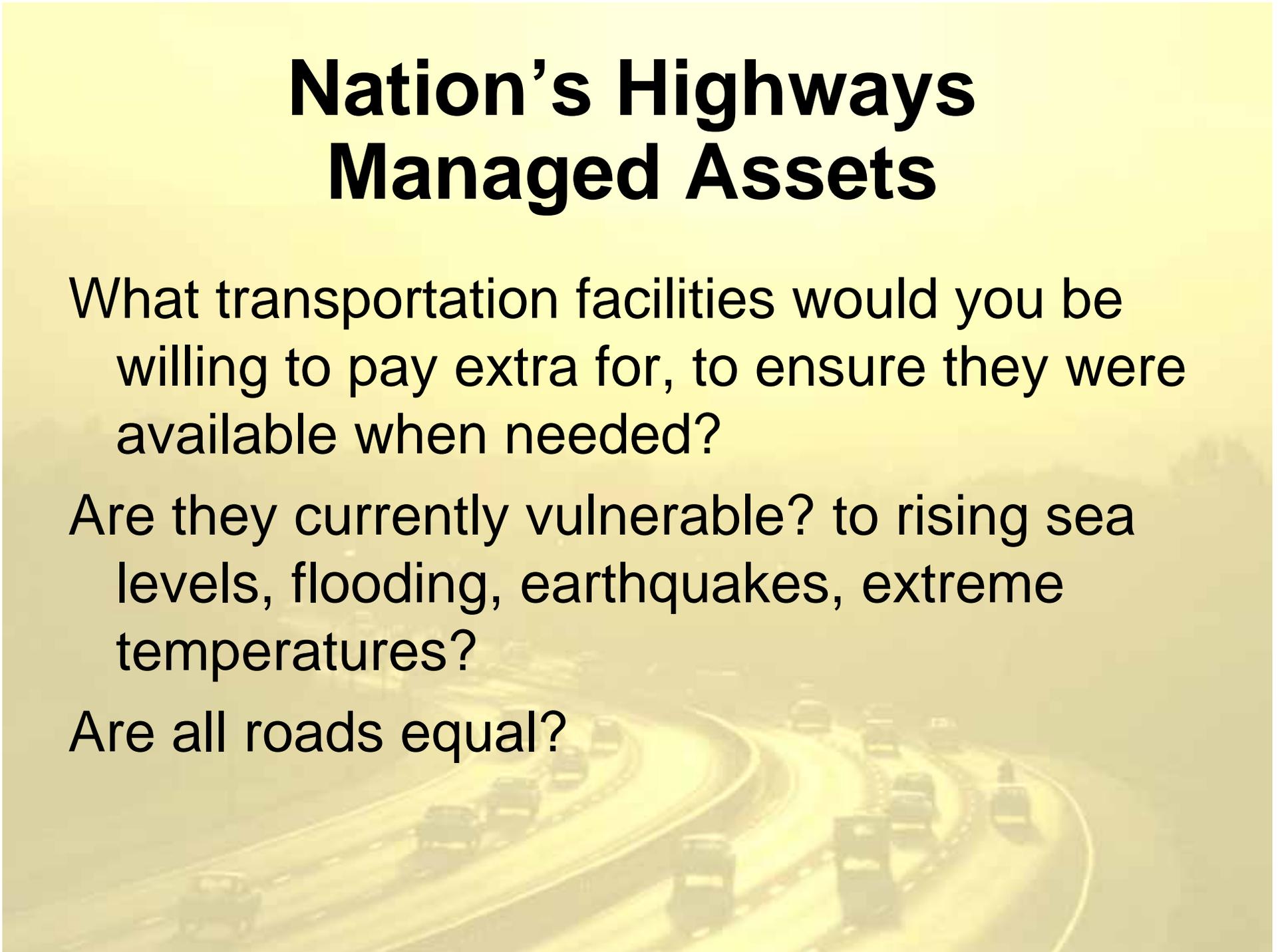


Nation's Highways Managed Assets

What transportation facilities would you be willing to pay extra for, to ensure they were available when needed?

Are they currently vulnerable? to rising sea levels, flooding, earthquakes, extreme temperatures?

Are all roads equal?



Nation's Highways Managed Assets

Options:

Identify critical assets

Identify current level of service

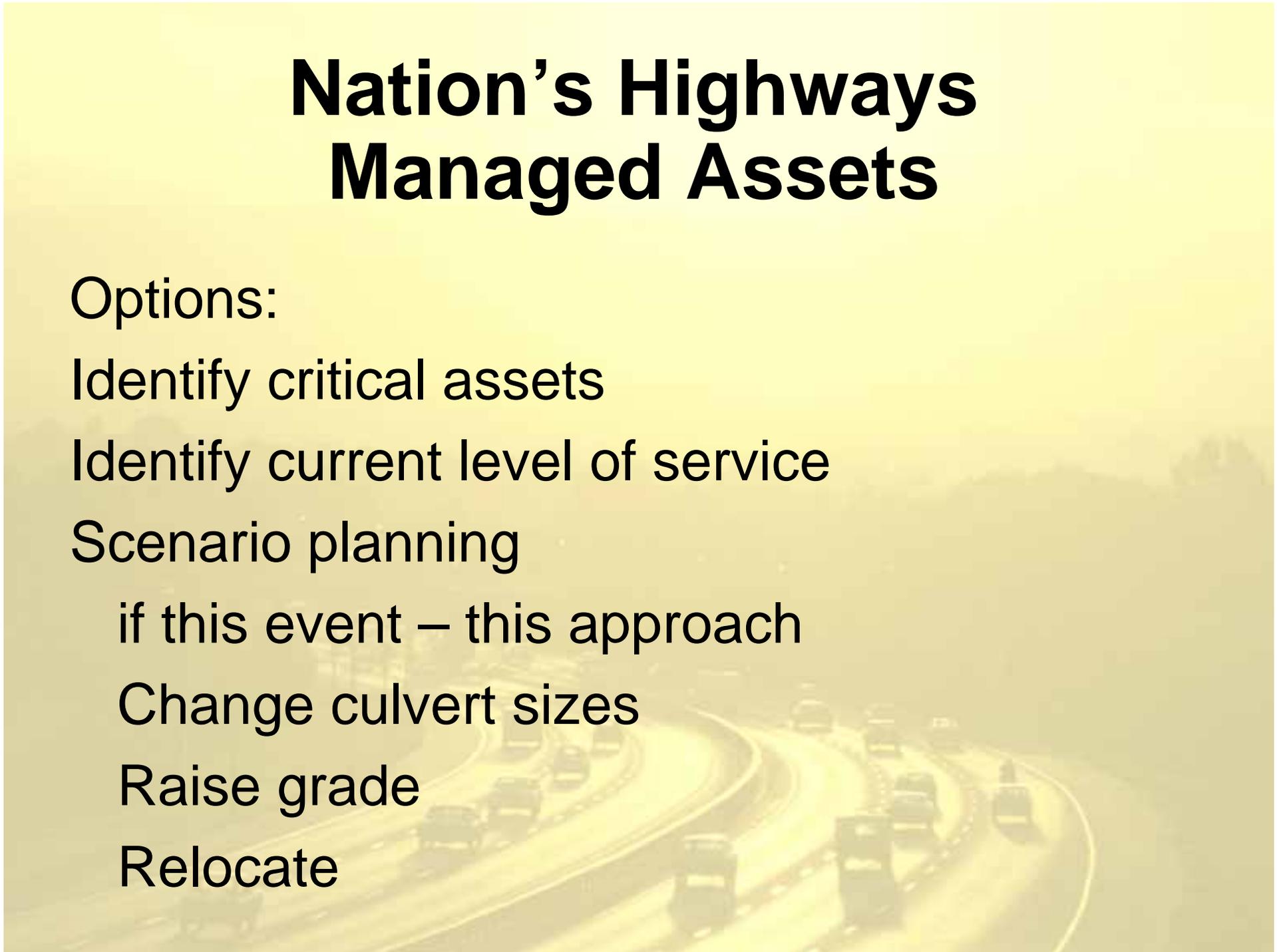
Scenario planning

if this event – this approach

Change culvert sizes

Raise grade

Relocate



Think Beyond Short Term

On average 1 in 10

Incremental approaches with long term goals

Short term repairs or long term solutions

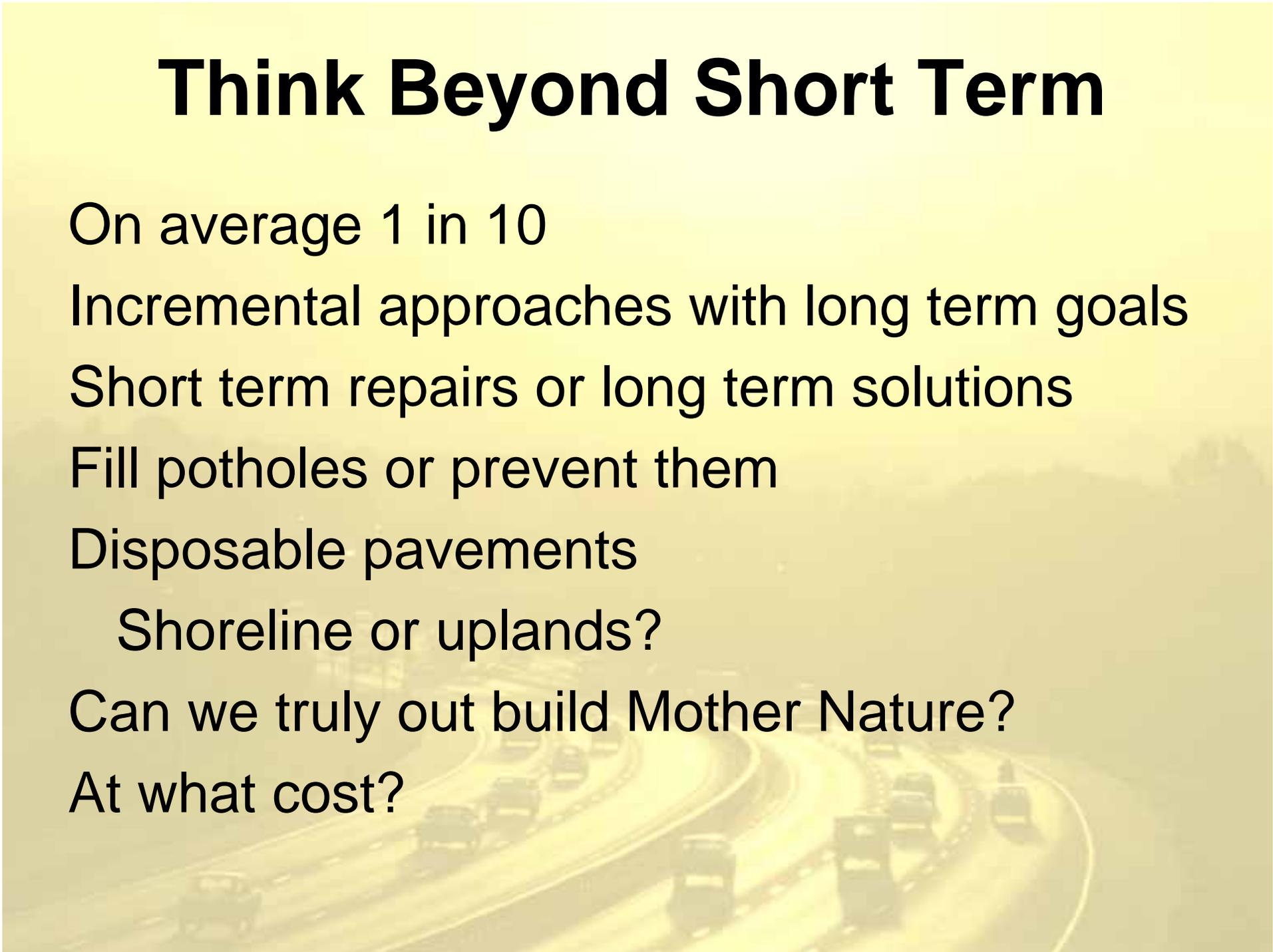
Fill potholes or prevent them

Disposable pavements

Shoreline or uplands?

Can we truly out build Mother Nature?

At what cost?



Think Beyond the Short Term

A cultural shift in our thinking and approach
Climate Change is Happening

Wet feet – web feet – dry feet

Proactive – reactive



Think Beyond the Short Term

What data do we have?

Physical – climatic

Do we have historical data?

Do we have elevations? Level of detail?

It's not just good enough to have a NOAA map

Where exactly are we vulnerable? What milepost, what bridge, what facility?

Think Beyond the Short Term

1 in 10

Incremental adjustments

Incremental changes

Incremental adaptations

Now's not the time to cry WOLF

Now's the time to start adapting!



Thank you

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