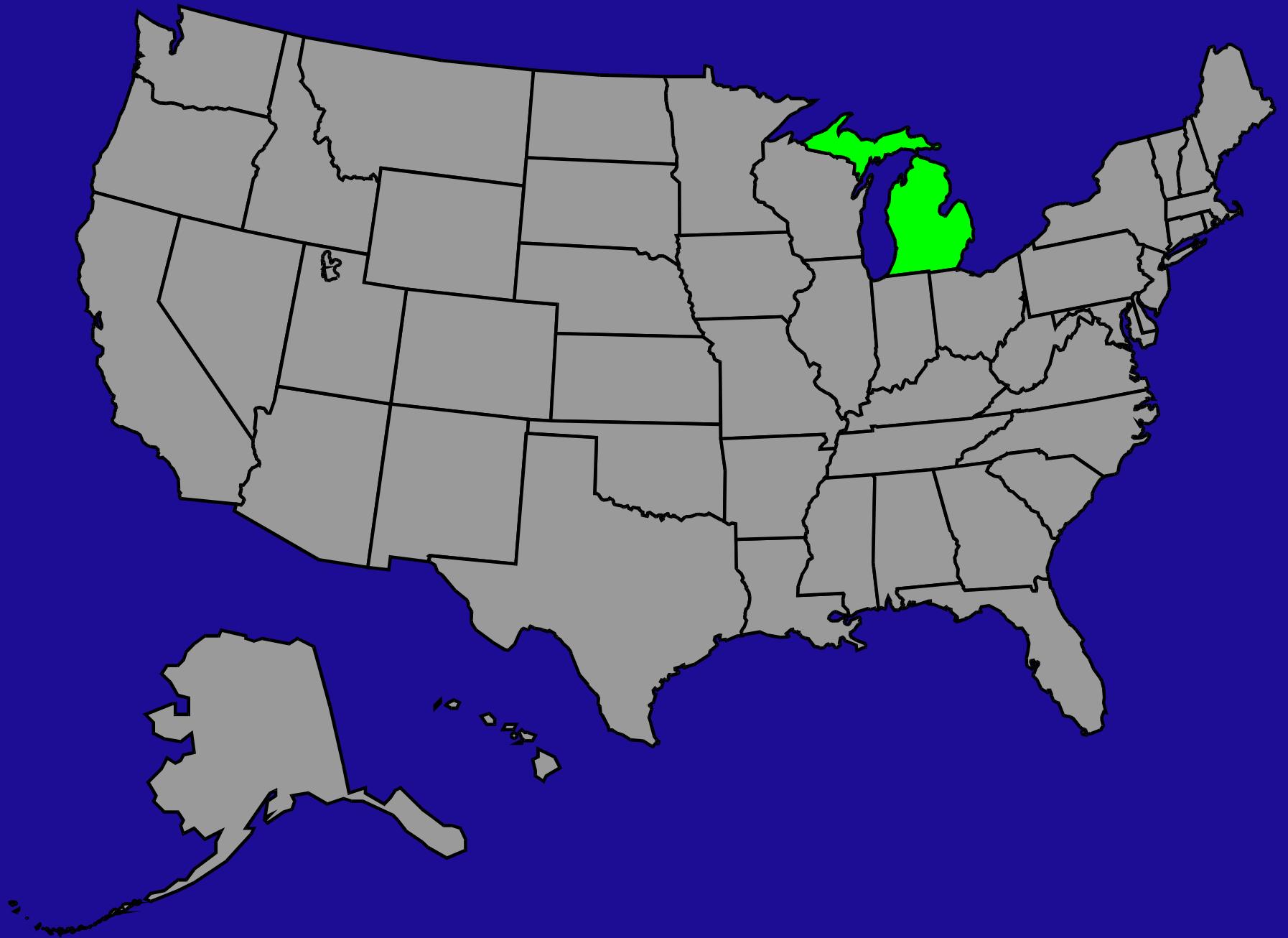


Pavement Preventive Maintenance In Michigan





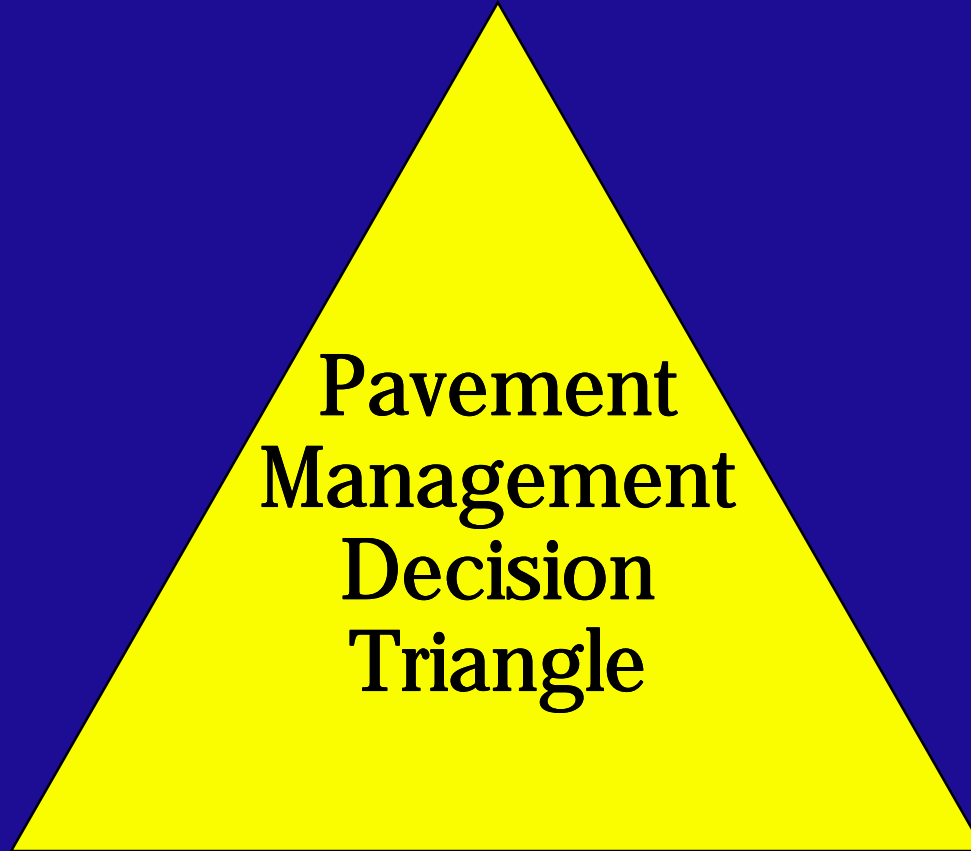


- **Population: 9,938,444**
- **Land area: 56,809 sq. mi.**



- **State network is 27,345 lane miles (44,008 lane km)**
- **Carries 55% of total traffic and 72% of commercial traffic**

Preventive Maintenance

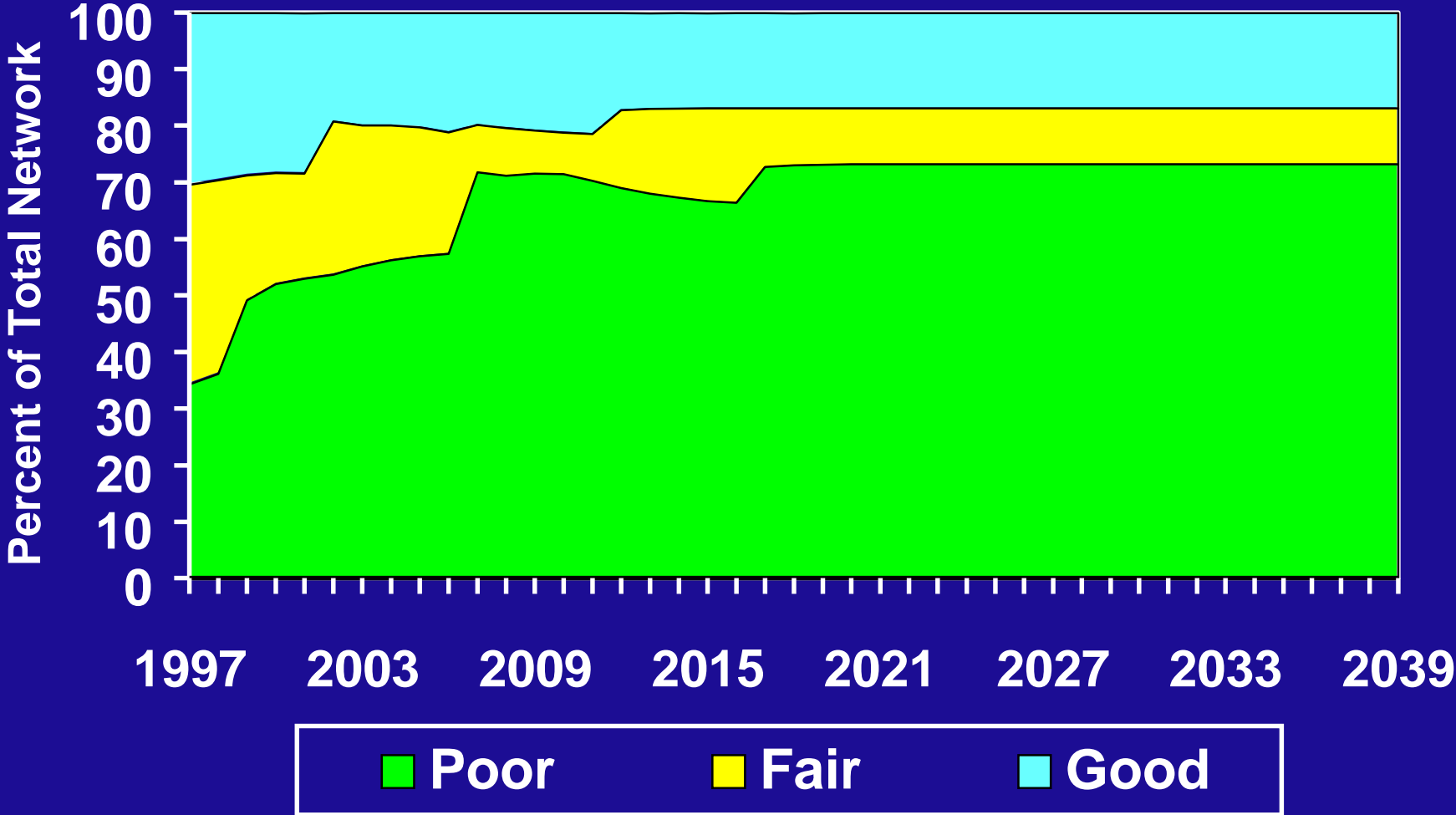


**Pavement
Management
Decision
Triangle**

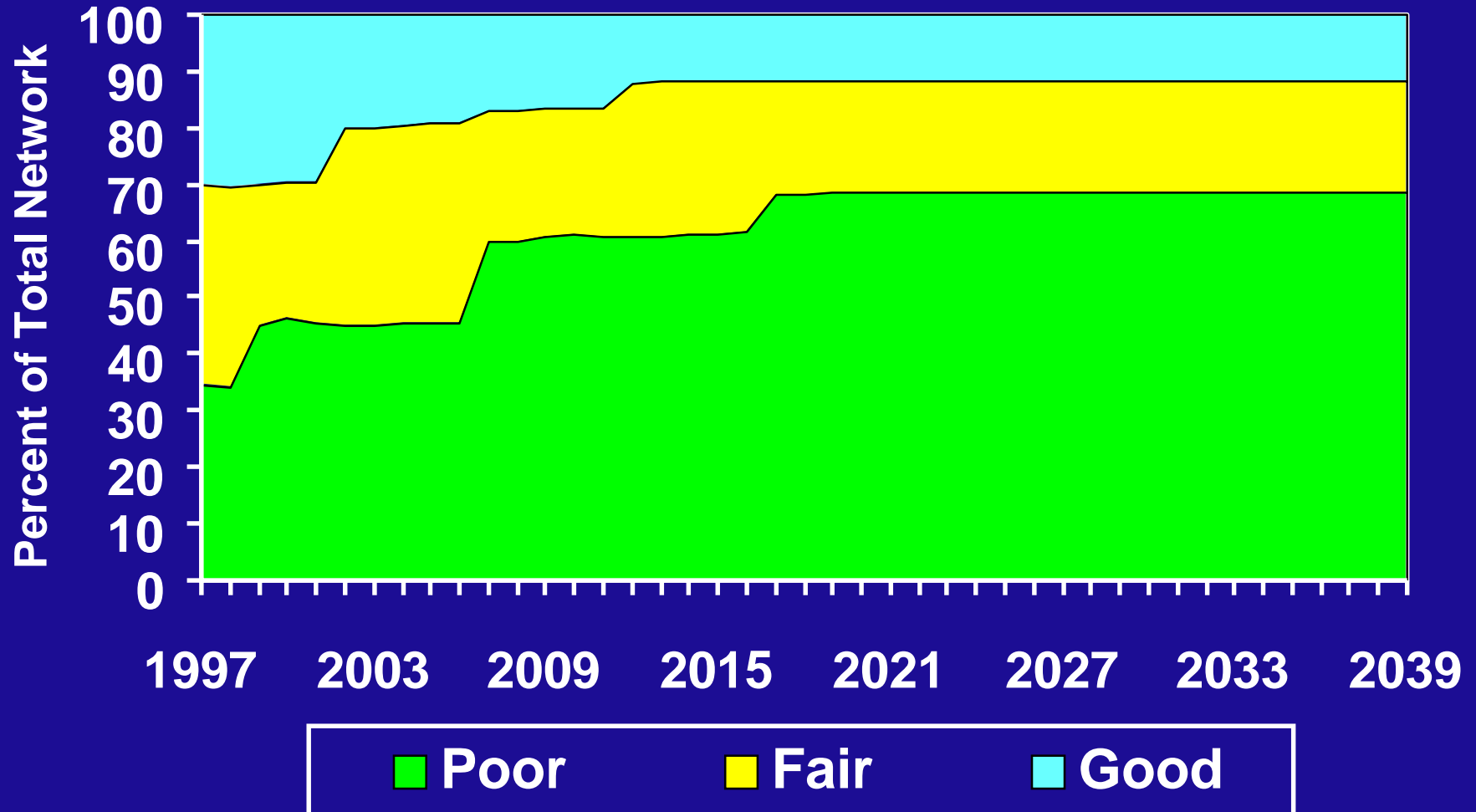
Rehabilitation

Reconstruction

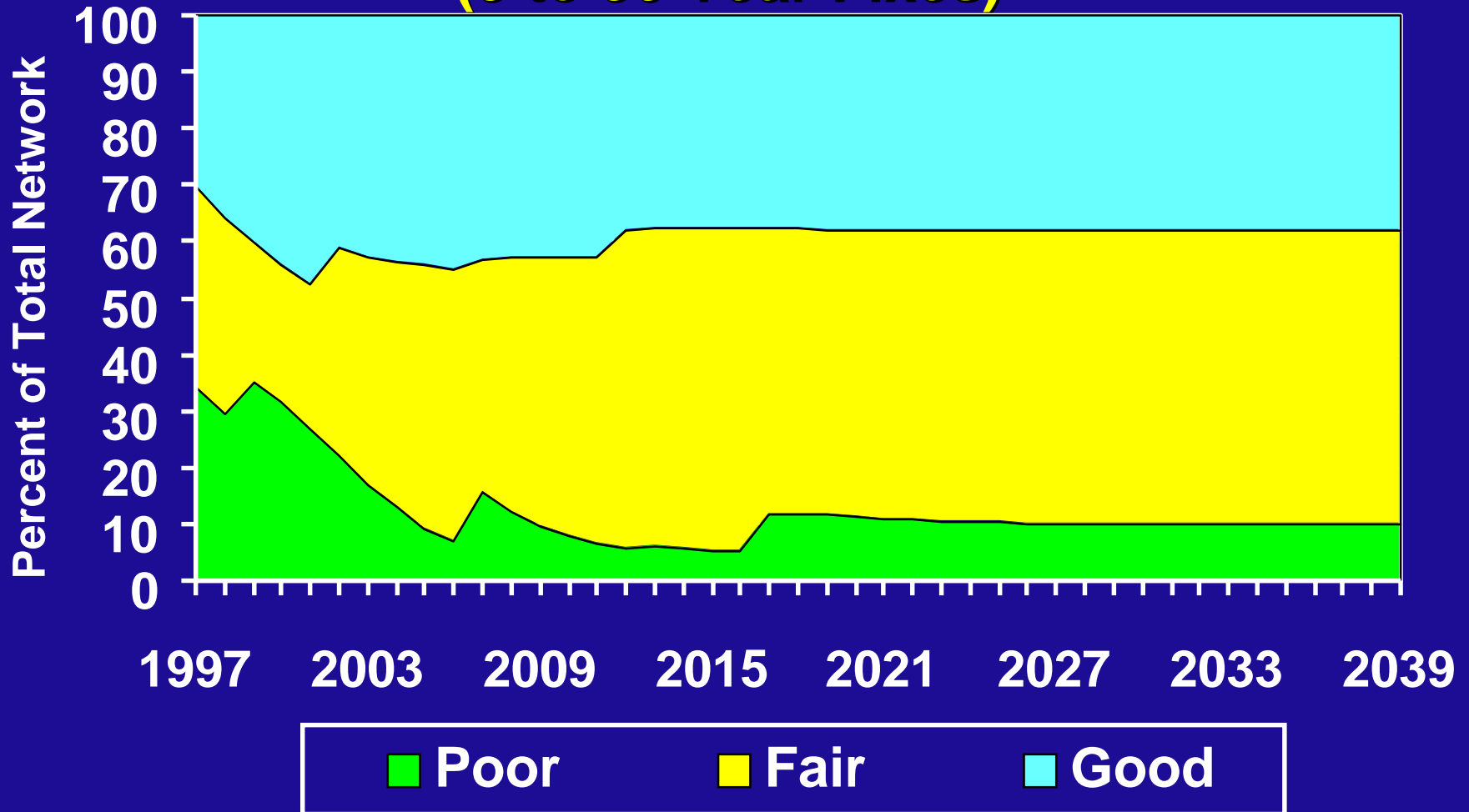
Reconstruction Strategy (20, 25, & 30 Year Fixes)



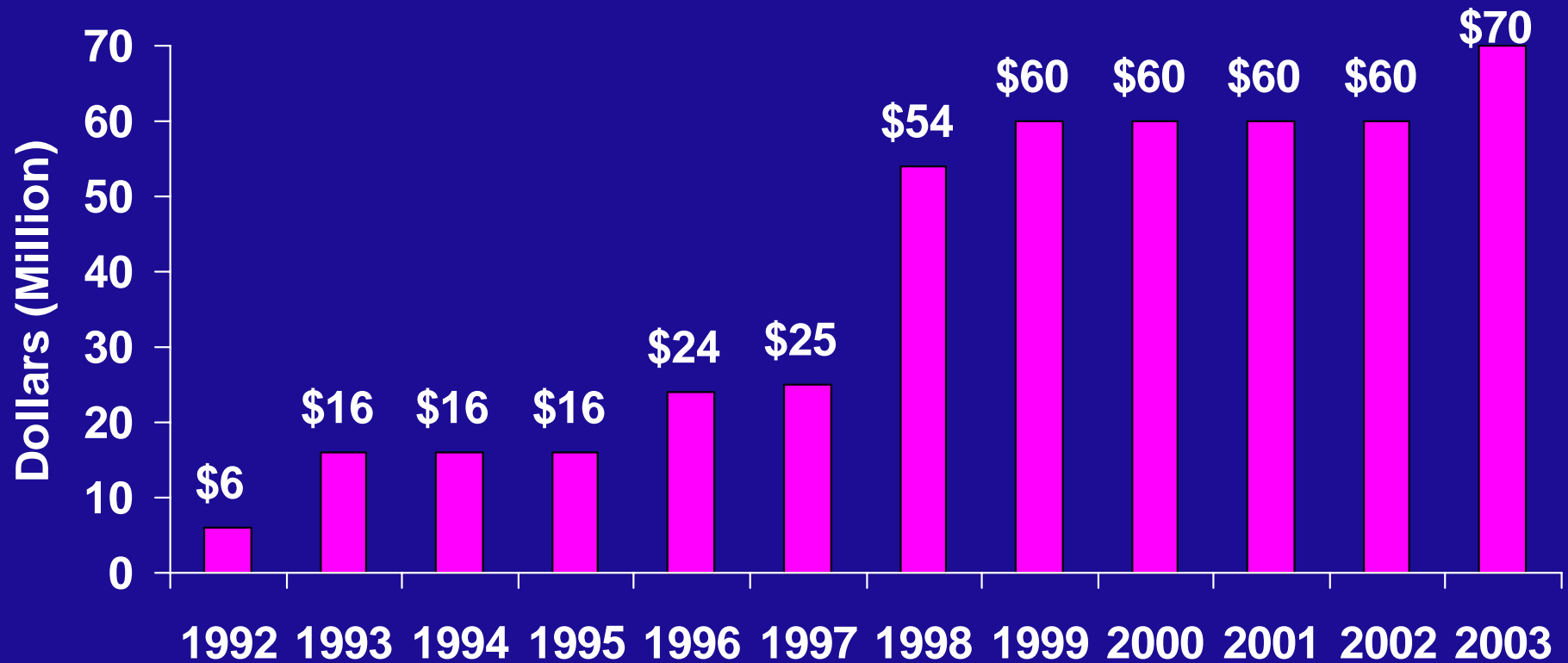
Combined Reconstruct and Rehab Strategies (10 to 30 Year Fixes)



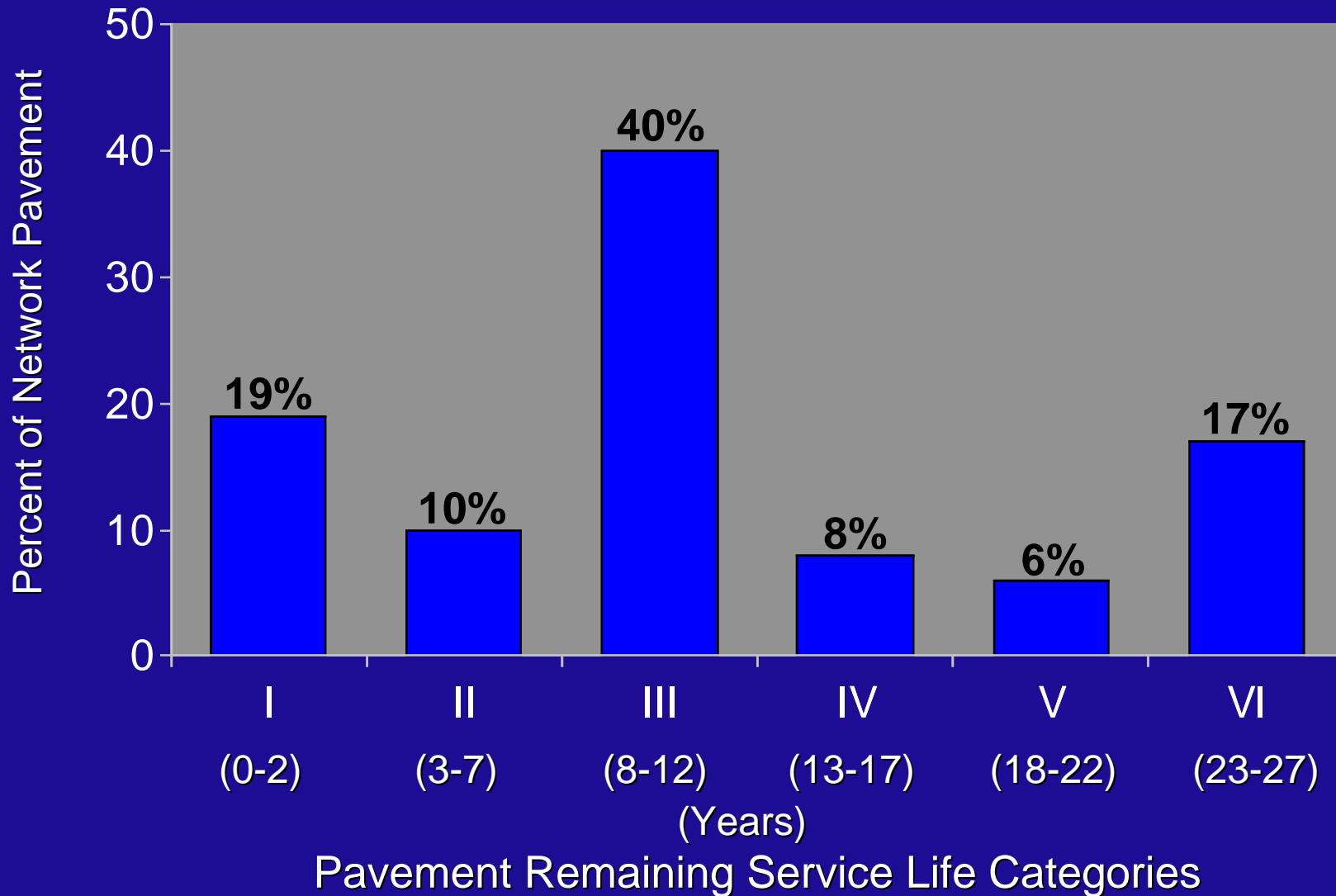
Combined Reconstruct, Rehab, and Preventive Maintenance Strategies (5 to 30 Year Fixes)



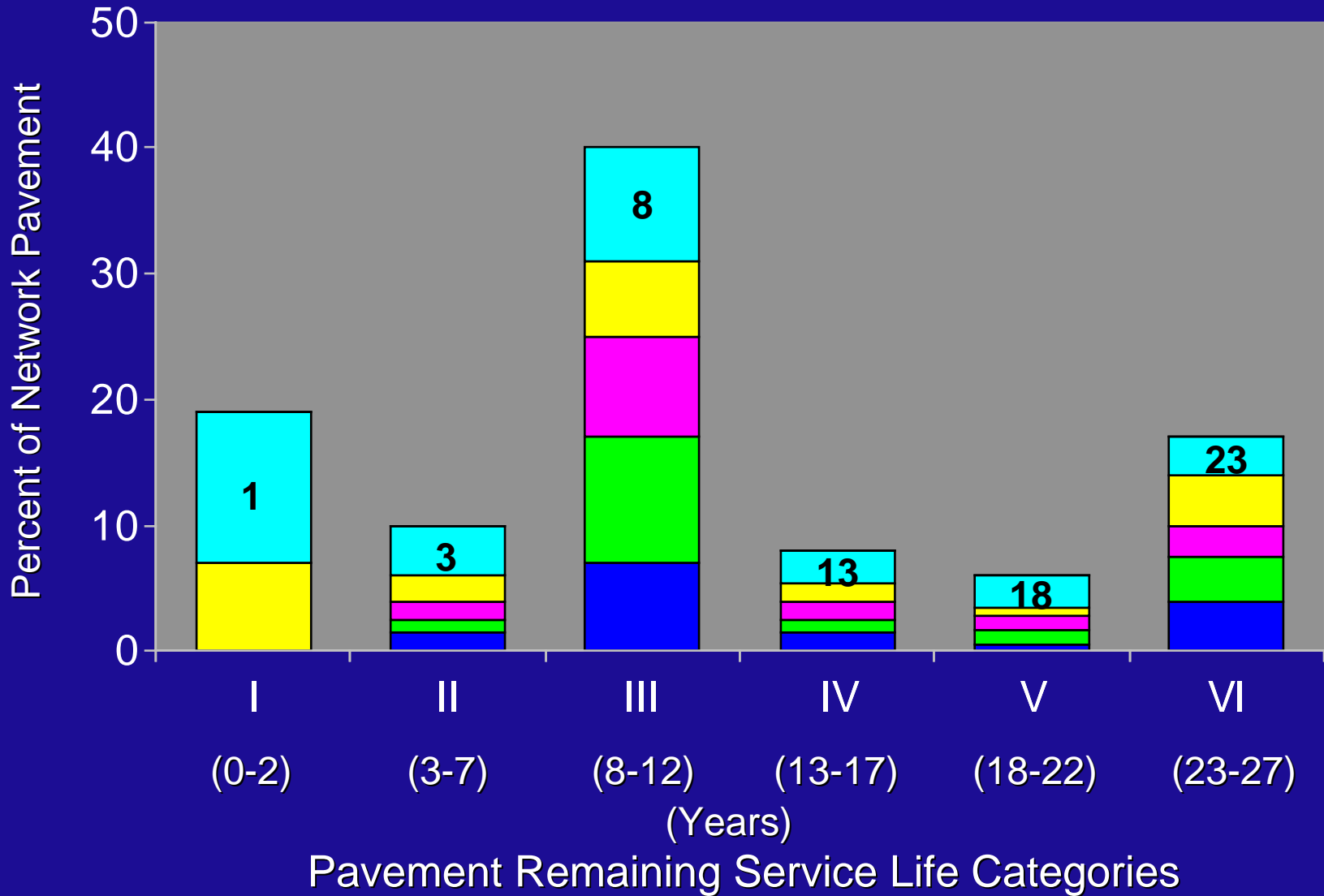
Preventive Maintenance Expenditures (\$397 Million)



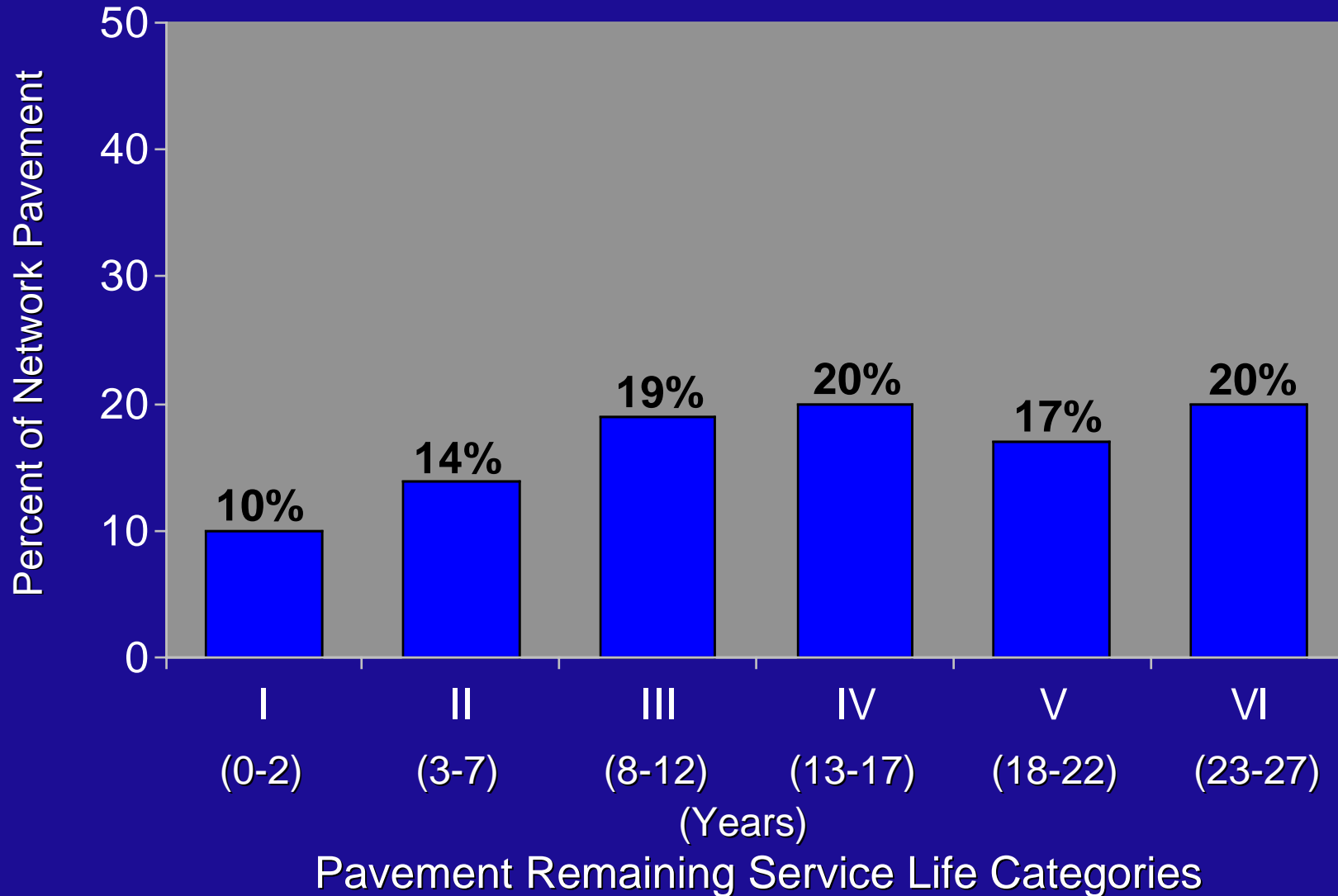
Current Condition



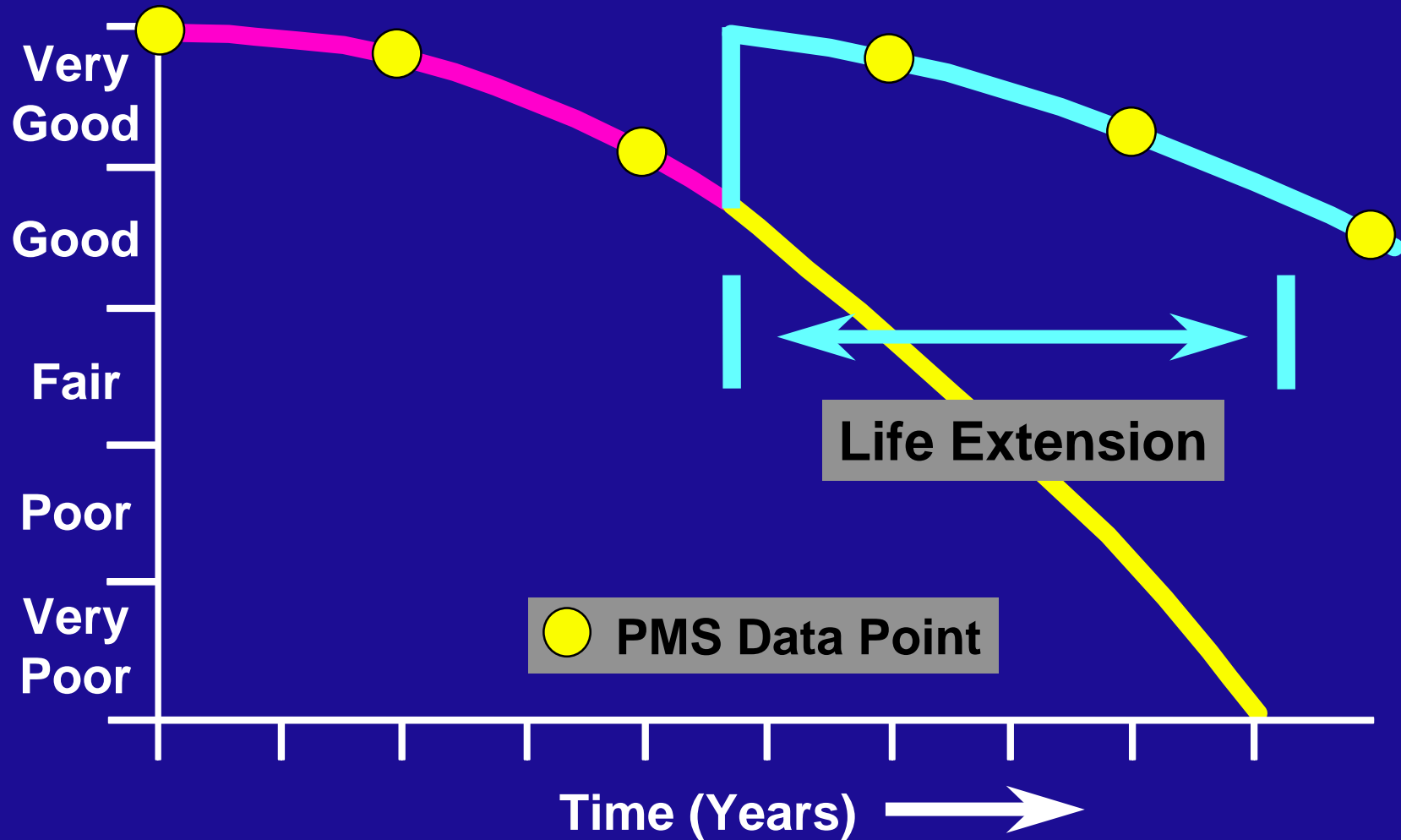
Yearly Distribution



Ideal Condition



Pavement Condition



Treatments

Rigid Pavements

- **Full depth concrete pavement repair**
- **Concrete joint resealing**
- **Concrete spall repair**
- **Diamond grinding**
- **Dowel bar retrofit**
- **Concrete pavement restoration**
- **Bituminous shoulder ribbons**
- **Open-graded underdrain outlet repair**

Dowel Bar Retrofit: Extended Service Life – 2 to 3 Years



Spall Repair: Extended Service Life – Up to 5 Years



Diamond Grinding: Extended Service Life – 3 to 5 Years



Joint Resealing: Extended Service Life – 3 to 5 Years



Treatments

Flexible and Composite Pavements

- Nonstructural HMA overlay
- Surface milling & nonstructural HMA overlay
- Chip seals
- Micro-surfacing
- Crack treatment
- Overband crack filling
- HMA shoulder ribbons
- Ultra-thin overlays

Crack Treatment: Extended Service Life – Up to 3 Years



Chip Seal: Extended Service Life – 3 to 7 Years



Micro-Surfacing: Extended Service Life – 4 to 6 Years



Asphalt Overlay: Extended Service Life – 4 to 10 Years



Emerging Technologies

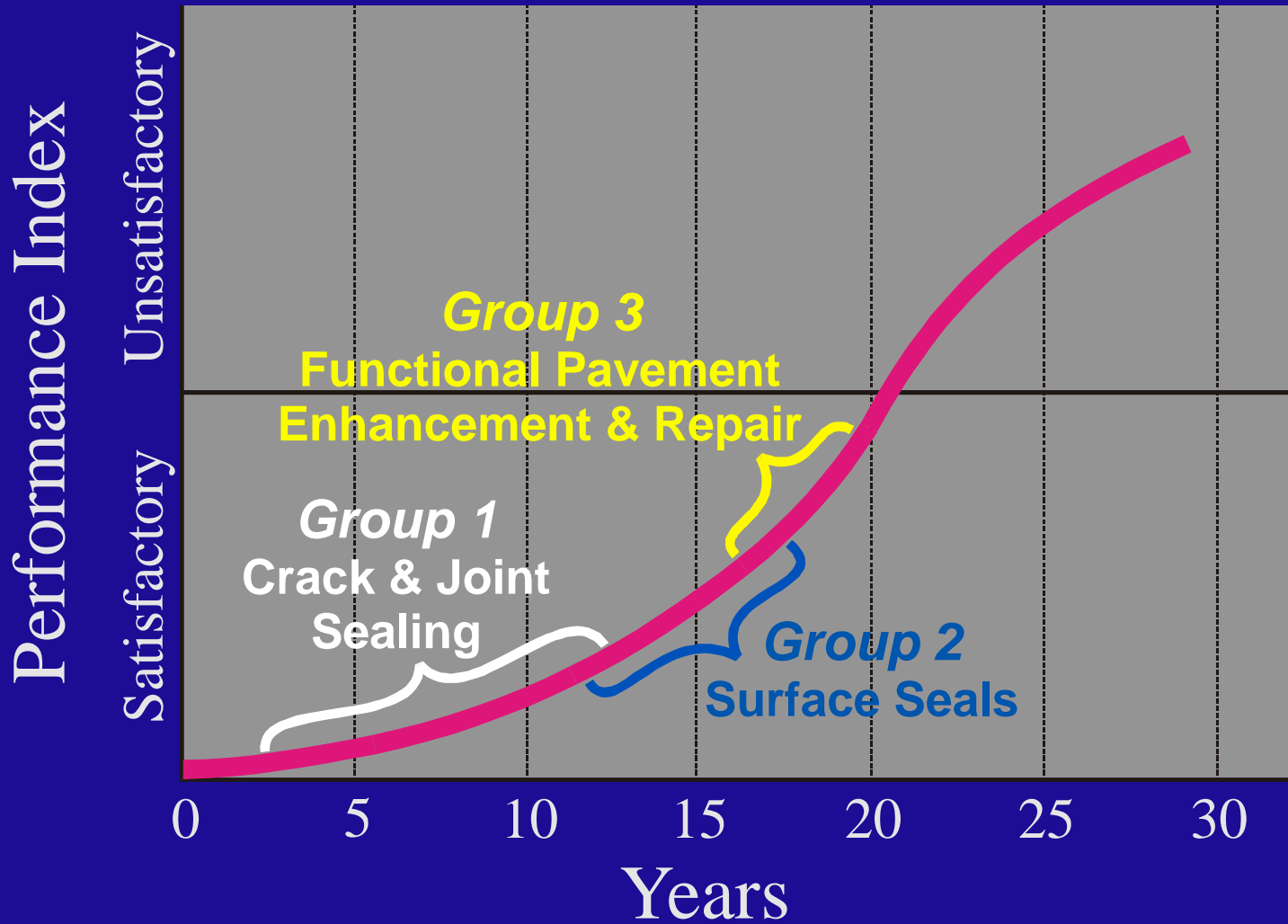
- **Paver Placed Surface Seal (Nova Chip)**
- **Compound Surface Seal (DRM)**
- **Macro-Surfacing (Road Armor)**
- **Medium and High Volume Ultra-Thin Overlays**
- **Concrete Longitudinal Joint Repair**
- **Ultra-Thin White Topping**
- **Hot In-Place HMA Recycling**







Pavement Performance





The End

Michigan
DOT 197
JAN Great Lakes 02