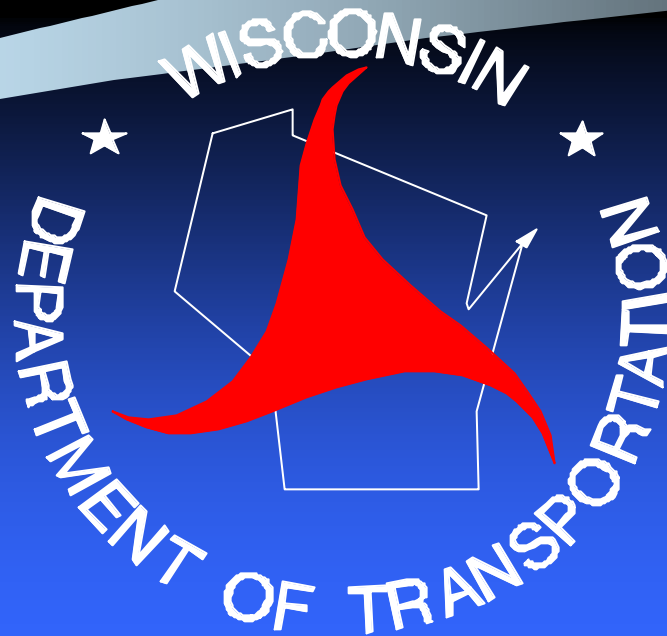


HMA Warranties

The Wisconsin Experience





HMA Warranties

- Historical Perspective – What has been done so far
- The Benefits of Warranties
- Warranties in the 21 st Century - What the future holds for warranties

HMA Warranties

Historical Perspective

- 1994 : WisDOT, FHWA and WAPA
 - Decided to pursue an innovative contracting method
 - Development of a warranty specification
- 1995 : 3 warranty projects constructed
- 1996 : 3 warranty projects constructed

HMA Warranties

Historical Perspective (cont.)

- 1997: 3 warranty projects constructed
 - Revised the original specification and included a provision for sealing all joints at the end of the third year.
 - Developed a specification for overlaying PCC pavements.
 - Constructed a PCC overlay warranty

HMA Warranties

Historical Perspective *(cont)*

- 1998 : Constructed 4 projects
 - Minor revision changed the sealing of cracks from 3rd to 4th year
- 1999 : Constructed 5 projects
 - Warranties were expanded to include ancillary pavement
- 2000 : Constructed 6 projects
 - Original 3 projects, constructed in 95, reached warranty expiration in 2000

HMA Warranties

Historical Perspective *(cont)*

- 2001 10 projects
- 2002 11 projects .

Total of 45 warranty projects for 330 lane miles

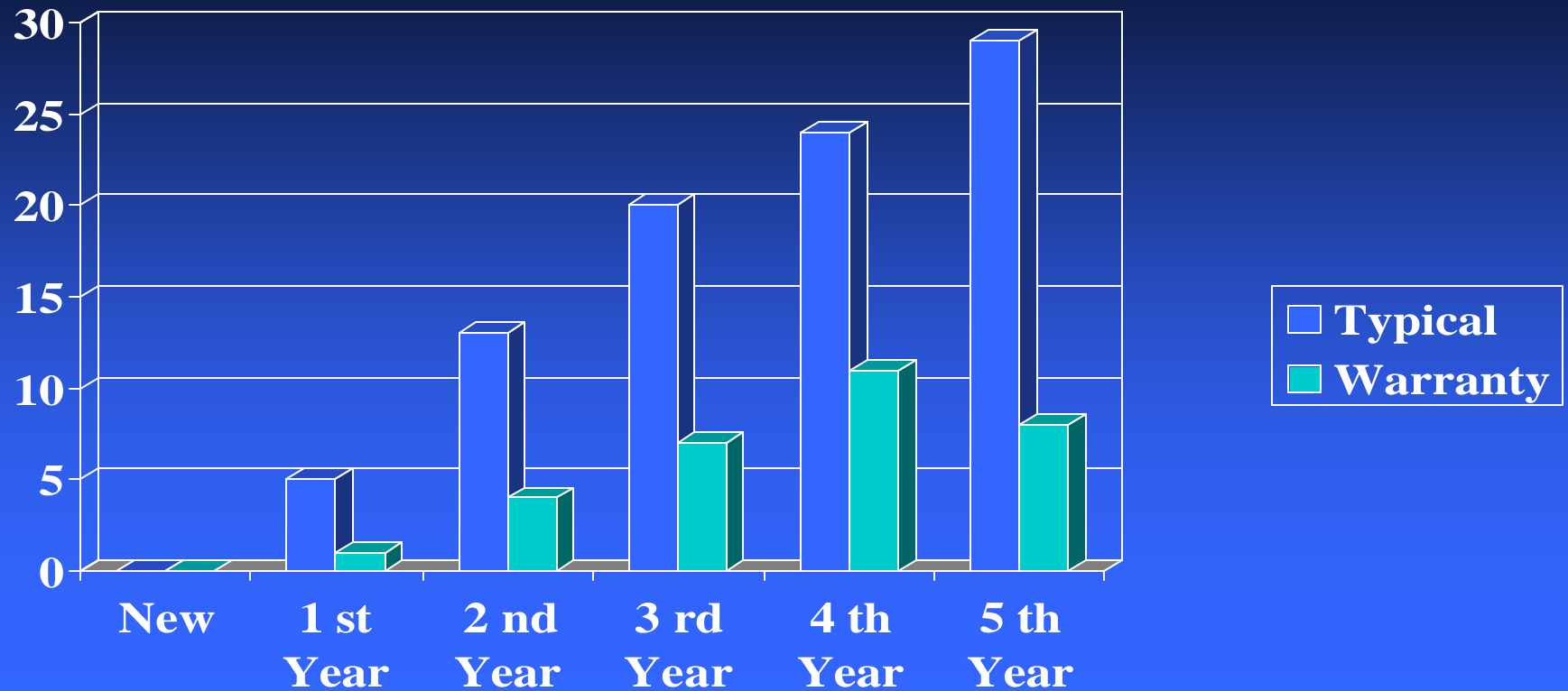
HMA Warranties

The Benefits of Warranties

- One of the major benefits of warranties is a superior performing pavement.
- We measure pavement performance through Pavement Distress Index (PDI) and International Roughness Index (IRI).
- Warranties are performing better under both indices.

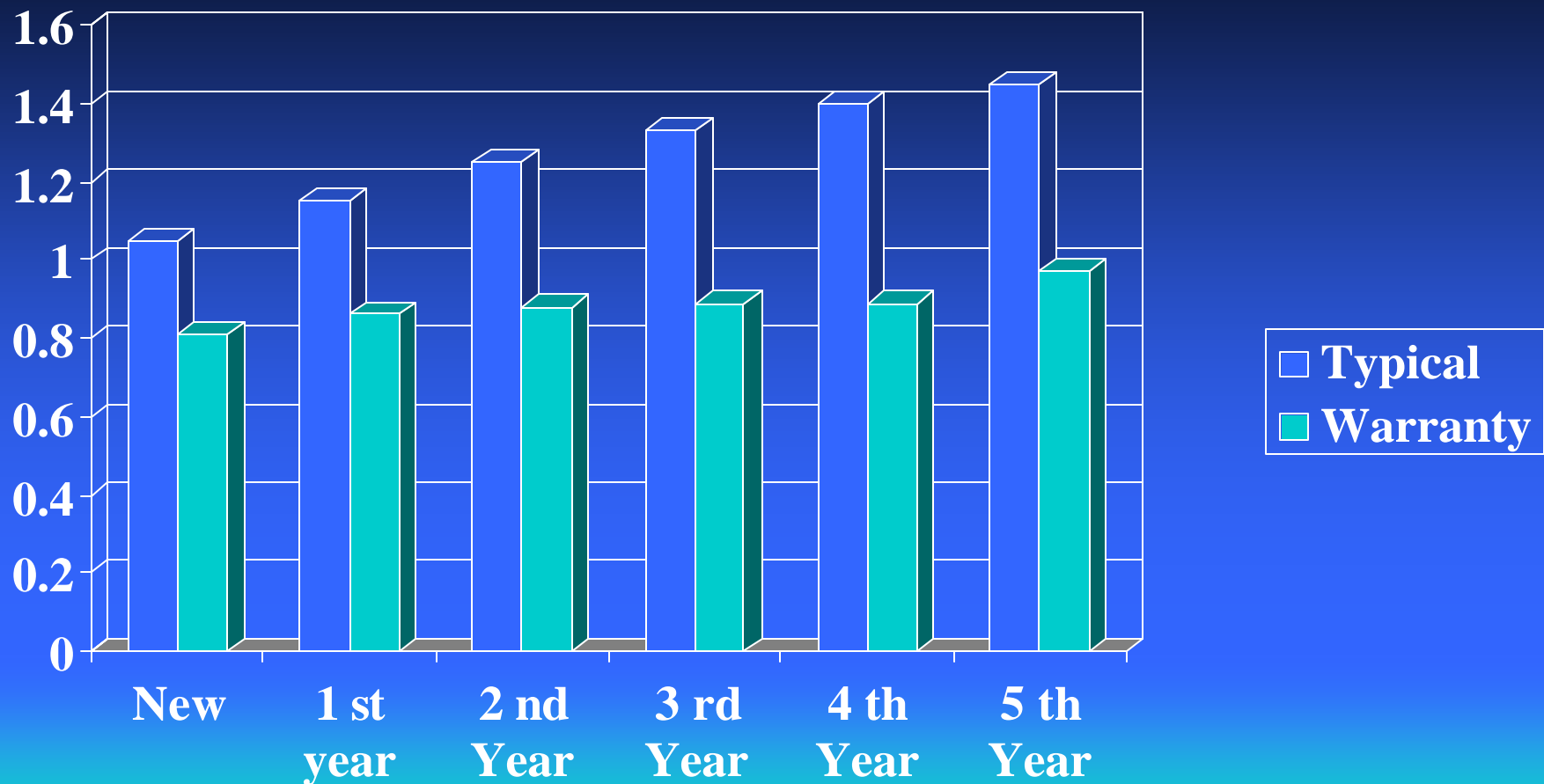
HMA Warranties

PDI Values for Typical and Warranty HMA Pavements

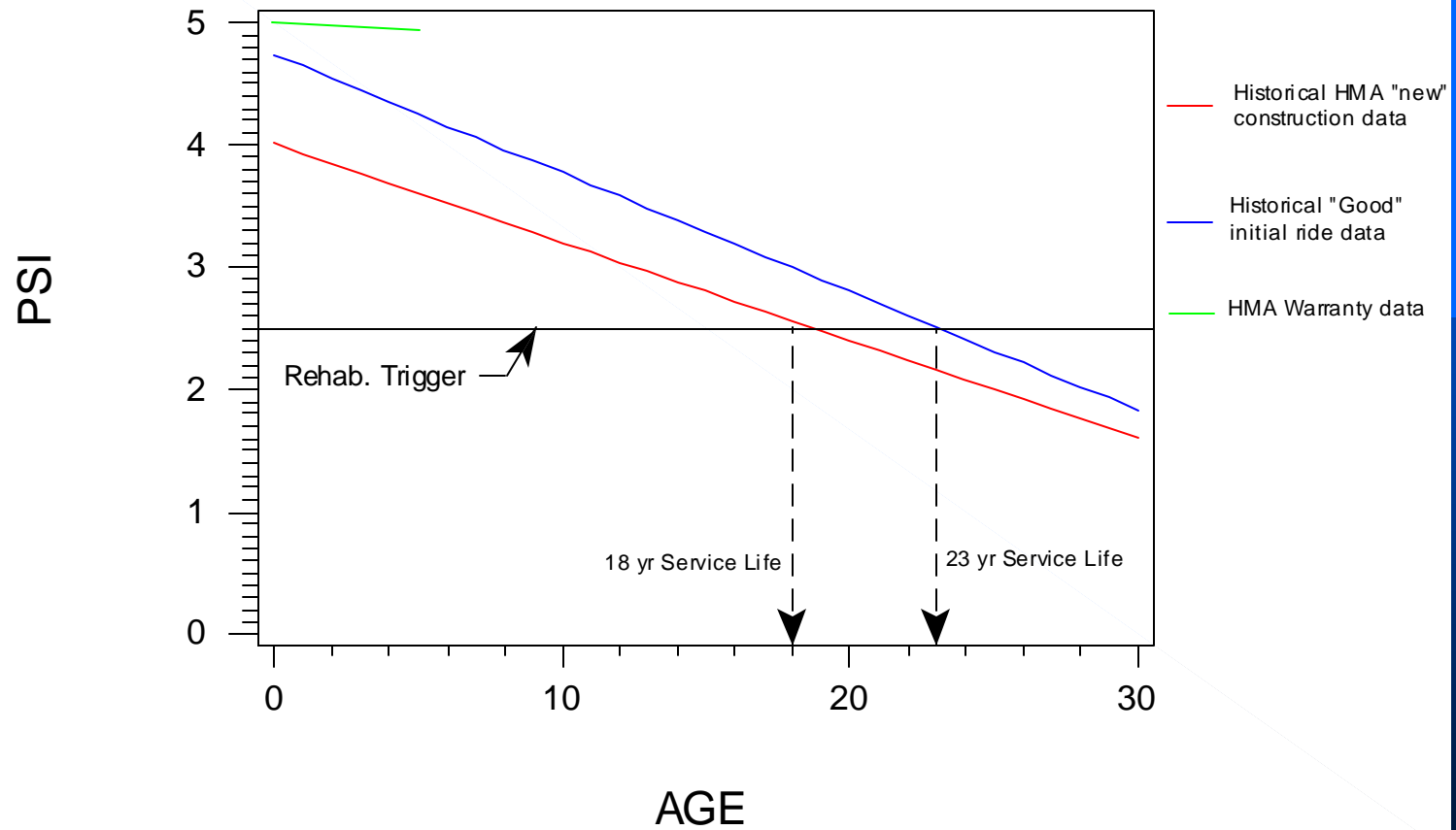



HMA Warranties

IRI Values for Typical and Warranty HMA Pavements



HMA RIDE MODELS



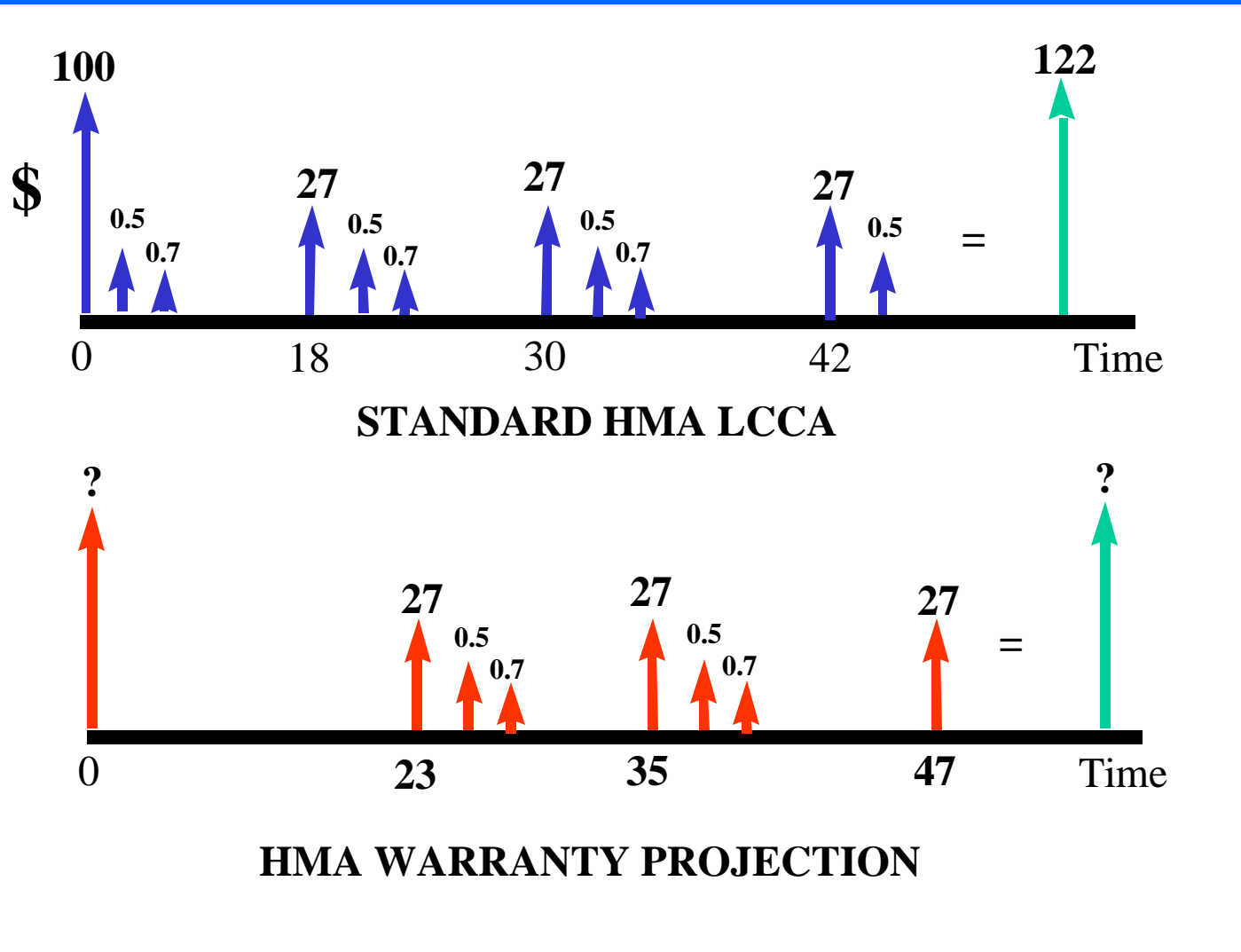


HMA Warranties

Cost Analysis

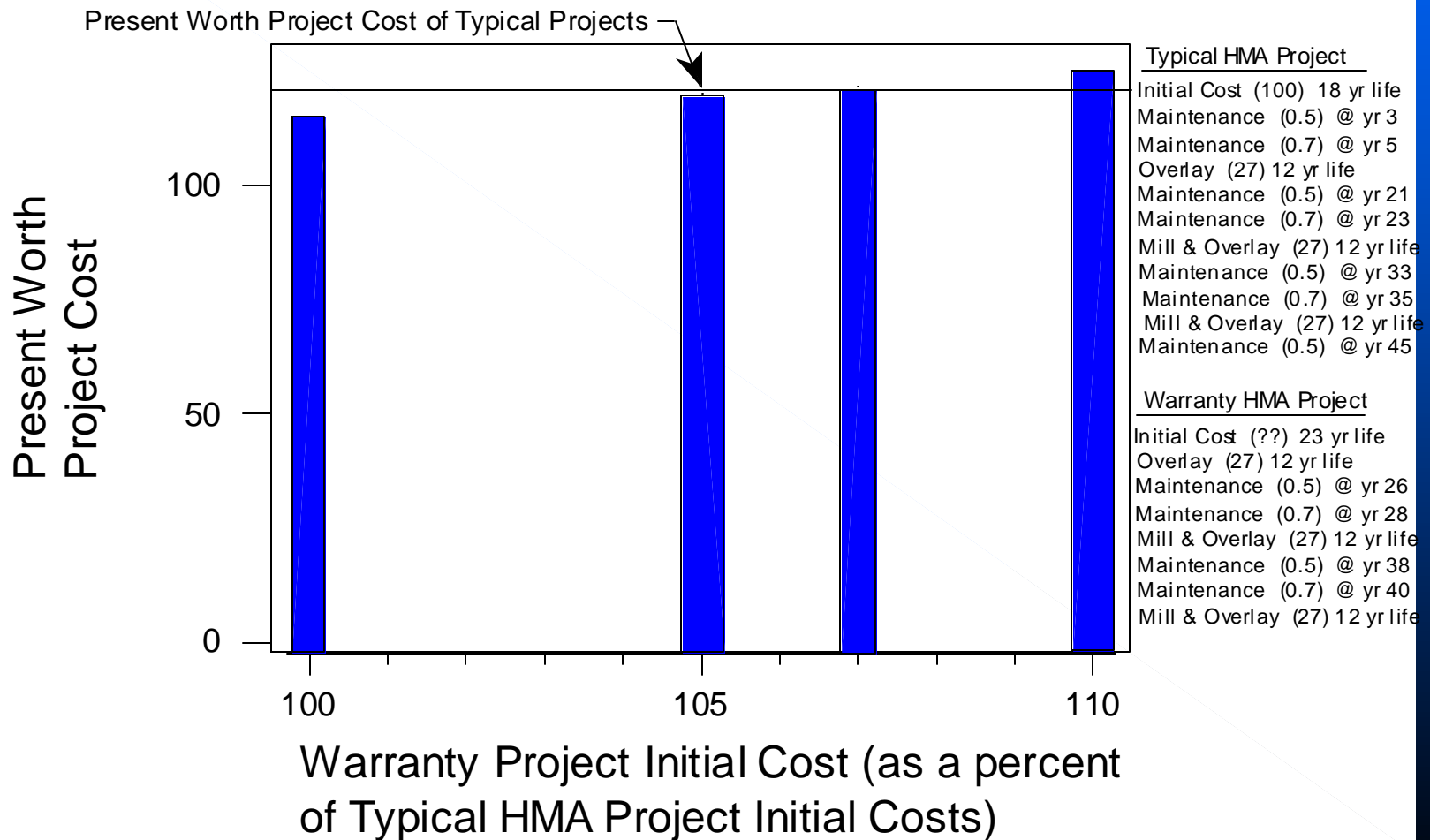
- Using performance data we can do LCCA comparison between typical and warranty pavements.
- LCCA shows an economic benefit of warranted pavements (Break even point at 7% increase in initial cost).

Life Cycle Cost Analysis



Life Cycle Cost Analysis

LCCA: TYPICAL vs. WARRANTY



HMA Warranties

Other Benefits of Warranties

- Reduced WisDOT delivery costs
- Reduced maintenance expenditures
- Allows contractor innovation in researching and applying new technology
- Warranties are a tool.
- Manufacturer is responsible for their product

HMA Warranties

What are the hurdles

- Change – Warranties are a wholesale change in the way we do business.
- There is a shift in responsibility from WisDOT to the contractor.

HMA Warranties

The 21st Century

- Improvements made to the selection process/criteria
- All Asphalt Pavement projects will be “*considered*” for warranty
- Updating Chapter 14 of the FDM to include direction on Warranties
- Subgrade improvement initiative

HMA Warranties

The 21st Century *(cont)*

- Extended Warranty Periods will be considered (ex: 7 year period) or tighter distress thresholds
- Incentive pay for exceptional performance

HMA Warranties

Conclusion

Warranties are a quality based initiative.

Warranties are cost effective.

Warranties are a tool.

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