

Asphalt vs. PCC

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March 24, 2010

My thoughts on this...

*If you ask me anything I don't know, I'm
not going to answer...Yogi Berra*

PRESENTATION OVERVIEW

- History of their use.
- History in Nevada.
- NDOT Pavement Selection Policy.
- Benefits of each.
- Other Factors.

GREAT RIVALRY CONCRETE VS AC

- Industrial Revolution – Larger Traffic
- The battle started in the late 1800's
 - NY City, 1872 AC
 - Ohio, 1891 Concrete
- 1920's
- 1950's
 - Research financed by the FHWA/TRB
- Today: AC covers 94% of roads with 60% of the Interstate being concrete.

Nevada's Highways

- 131 centerline-miles concrete, 5345 centerline-miles asphalt
 - 20 year design life
 - Concrete problems
- RTC – concrete intersections

NDOT Pavement Selection Policy (considerations)

- Design Life
 - Urban Interstate 35 year
 - All Other 20 year
- Scope and Budget
 - Existing pavements - Overlay vs. Reconstruction
- Construction Traffic Control Costs and Delays to traveling public
 - Urban vs. Rural
 - Day vs. Night
 - Frequency of Maintenance Activities

NDOT Pavement Selection Policy (continued)

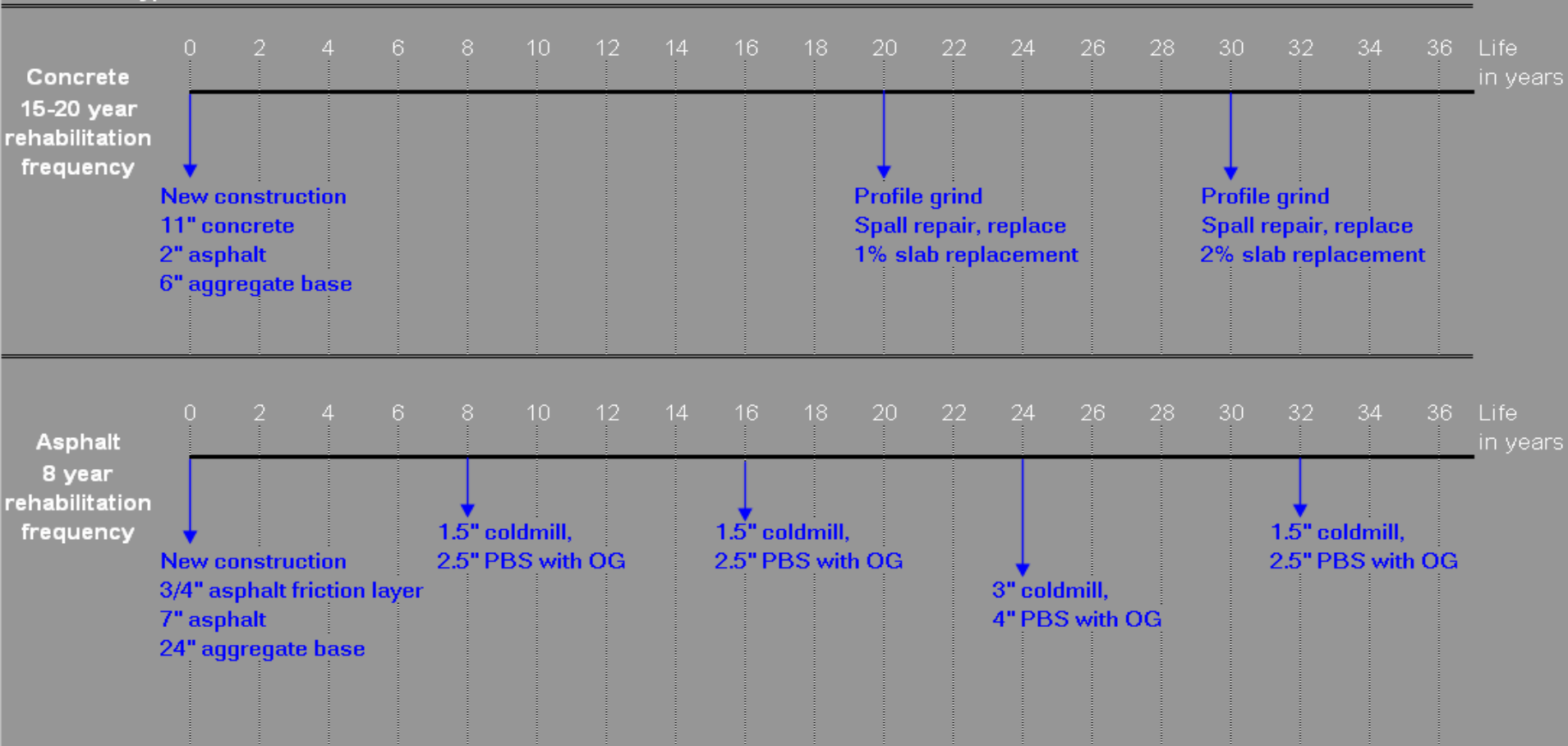
- Frequency of future traffic disruption
 - Rehabilitation strategies and cycles
 - Pavement Management System
- Life Cycle Cost Analysis (LCCA)(Realcost Software supplied by FHWA)
 - 35 year minimum
 - 4% discount rate (adjustment for the opportunity value of time)
 - discount rate = interest rate – inflation (used to increase interest to the FHWA)

(LCCA continued)

- Remaining service life after 35 years
- Agency and User costs
- Urban vs. Rural
- Present Worth

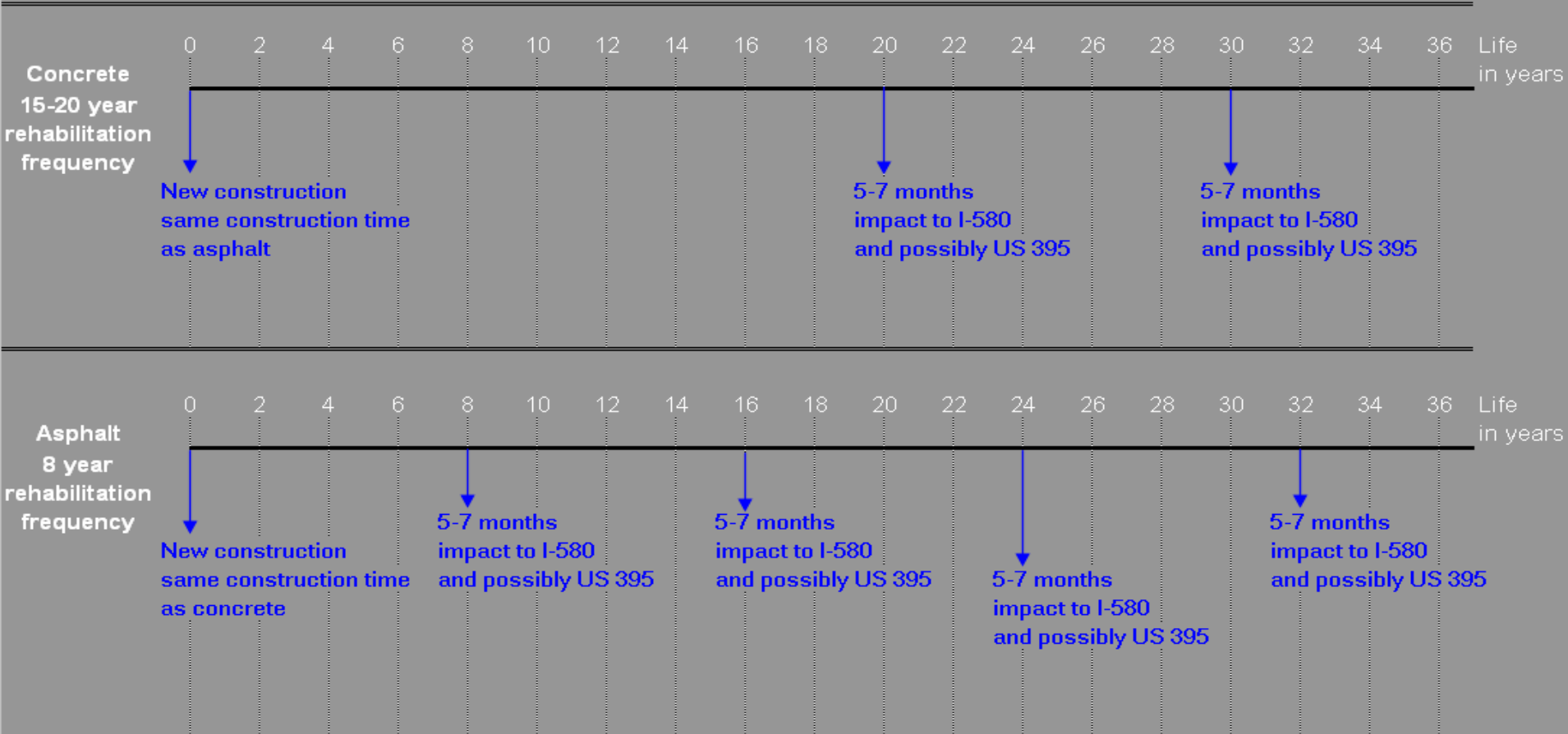
I-580 Extension Maintenance and Rehabilitation Timeline

Pavement Type



I-580 Extension Maintenance and Rehabilitation Timeline

Pavement Type



Benefits of Concrete

- Lasts longer
- Longer period of time between maintenance cycles
- Does not rut
- Will hide poor subgrades
- Better load carrying capability
- Better splash/spray for later years AC surface
- Improved fuel economy

Benefits of Asphalt

- Lower upfront costs
- Quicker to Construct
- Easier/Quicker to repair
 - Drive over after paving
- Repairable by NDOT Maintenance
- Lower salt/sand usage in the Winter
- Better splash/spray for 1 – 3 years

Politics

- Each material has lobbying efforts
- Contractors
- Stakeholders

Conclusion

- My thoughts...
- NDOT's direction
- Questions?