

Complete Streets and Pavement Preservation



**Rocky Mountain West Pavement Preservation Partnership
Annual Meeting, Phoenix, AZ, October 2014
Scott Gibson P.E.**



About Us

- RTC of Washoe County, NV
 - MPO (long range mobility)
 - Transit (mode split and trip reduction)
 - Street and Highway (Provides Opportunity)
- Member agencies are the Cities of Reno, Sparks, and Washoe County



Funding: Indexed Fuel Tax



- Passed Twice by Voter Initiative
 - CPI then PPI (Construction Inflation)
- Indexes County Fuel Tax to Inflation
- Also:
 - Indexes **State Fuel Tax** and Keeps that Increment,
 - Index **Federal Gas Tax** and Keeps that,
 - Indexes **Federal Diesel Fuel Tax** and Keeps that!

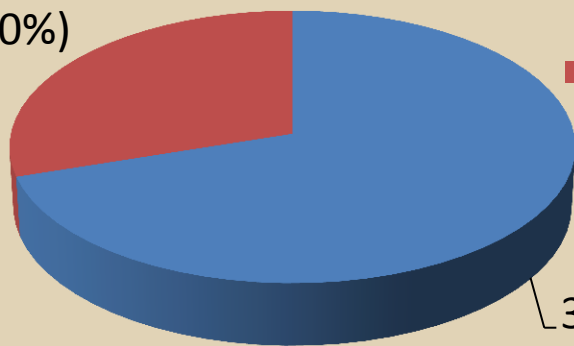


Local Regional Roads and RTP Roads



Regional and RTP Roads

1,500 Lane Miles (30%)

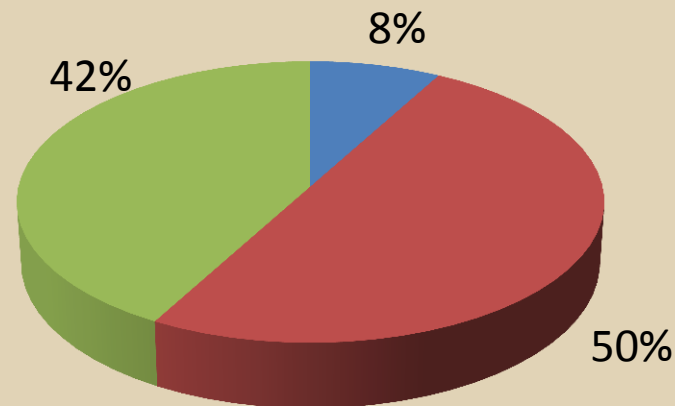


Local Regional Roads: Residential, Minor Collectors

RTP Roads: Arterials, Major Collectors, Industrial

3,500 Lane Miles (70%)

Vehicle Miles Traveled



Residential
Arterials
Interstate

Project Selection Process (Blind to Jurisdiction)



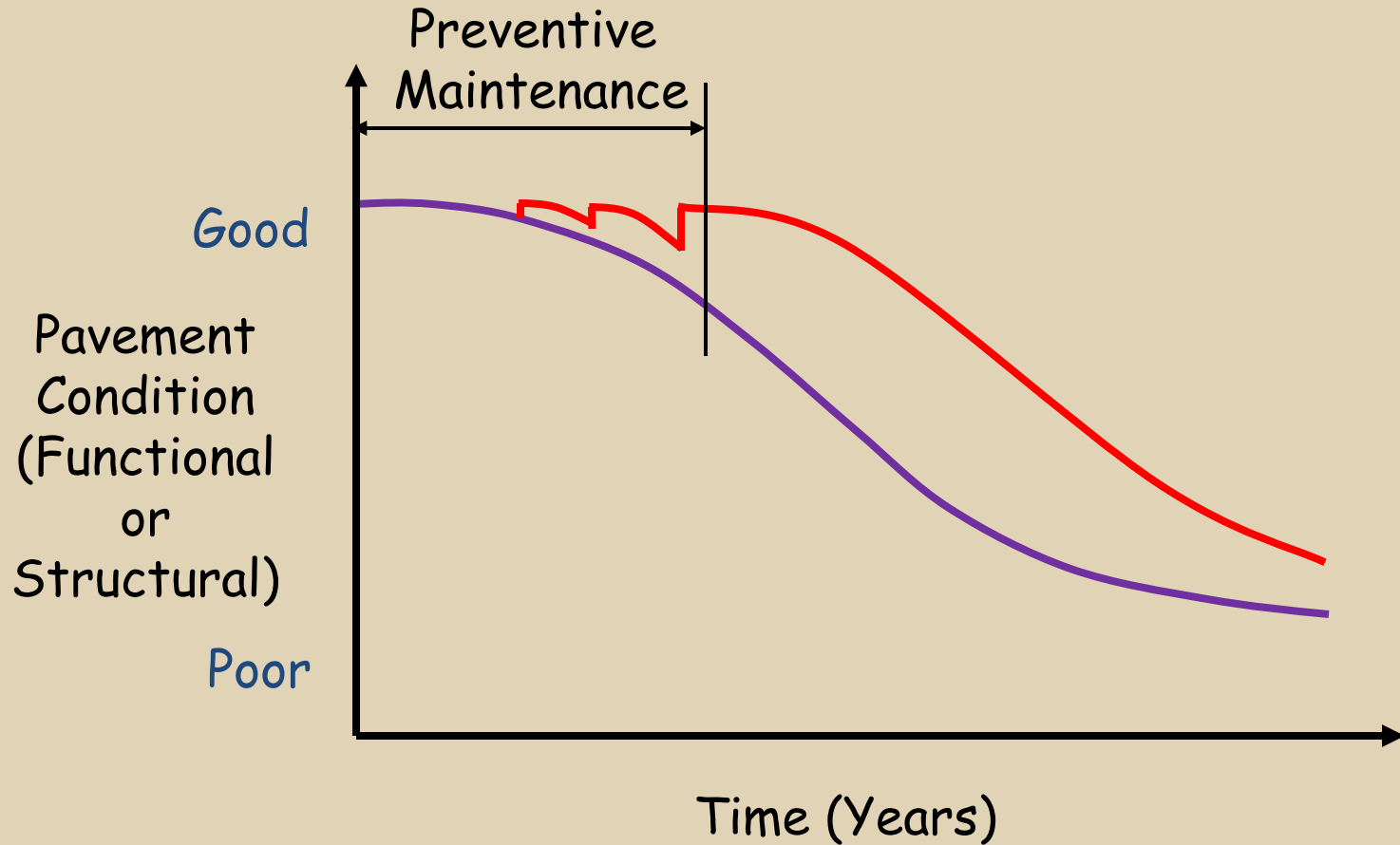
Program Elements

- **Rehabilitation / Reconstruction**
 - PCI 0-50
 - Rank by Traffic
 - PCI 40-50 Rehabilitation
 - PCI 0-40 Reconstruction
- **Preventive Maintenance**
 - PCI 50-100
 - Structural Distress less than 5%
- **Corrective Maintenance**
 - Everything Else (\approx 40-60, > 5% Patching)
 - Variety of Tools

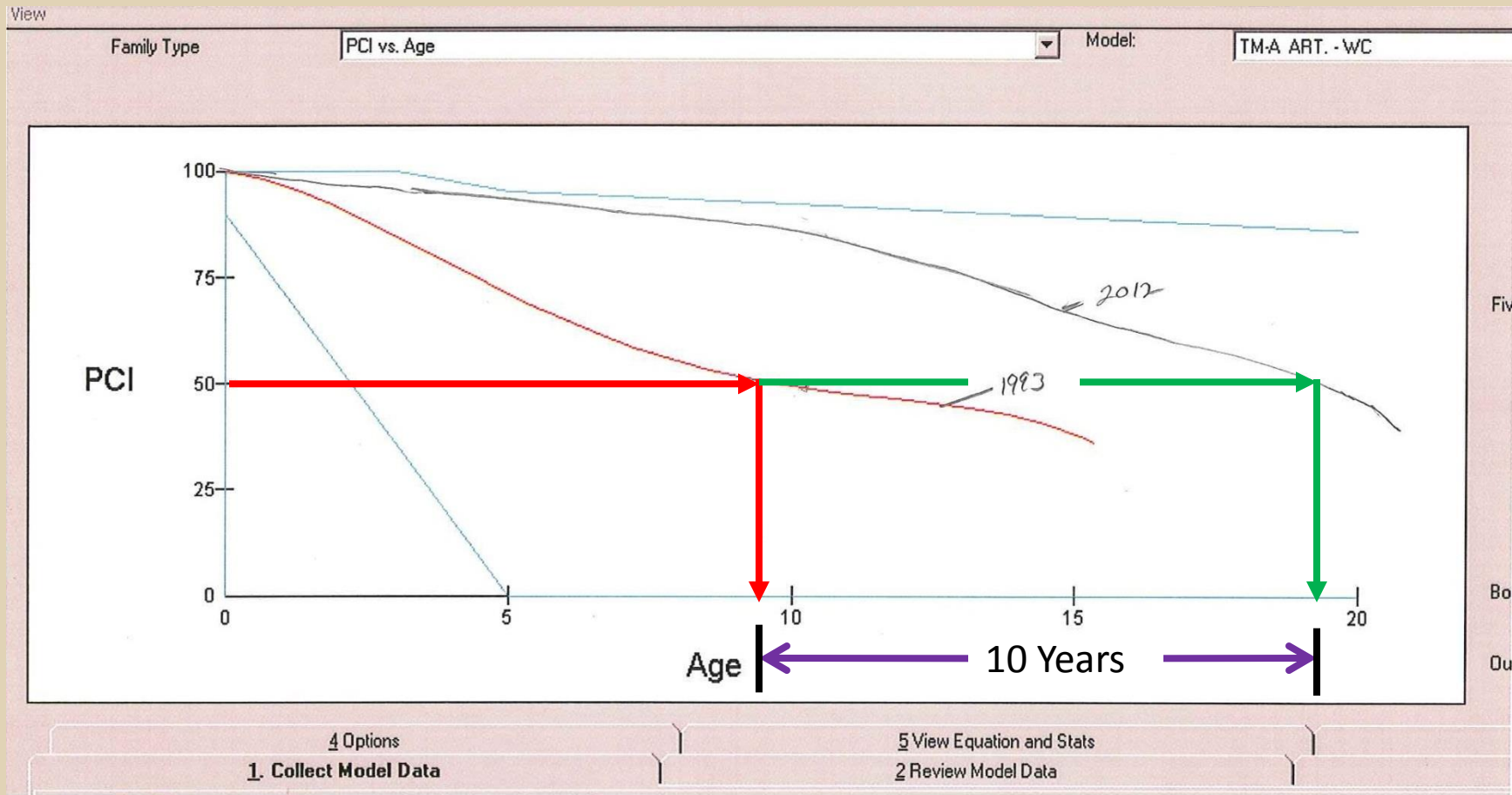
Type 3 Slurry Seal



When should preventive maintenance be applied?

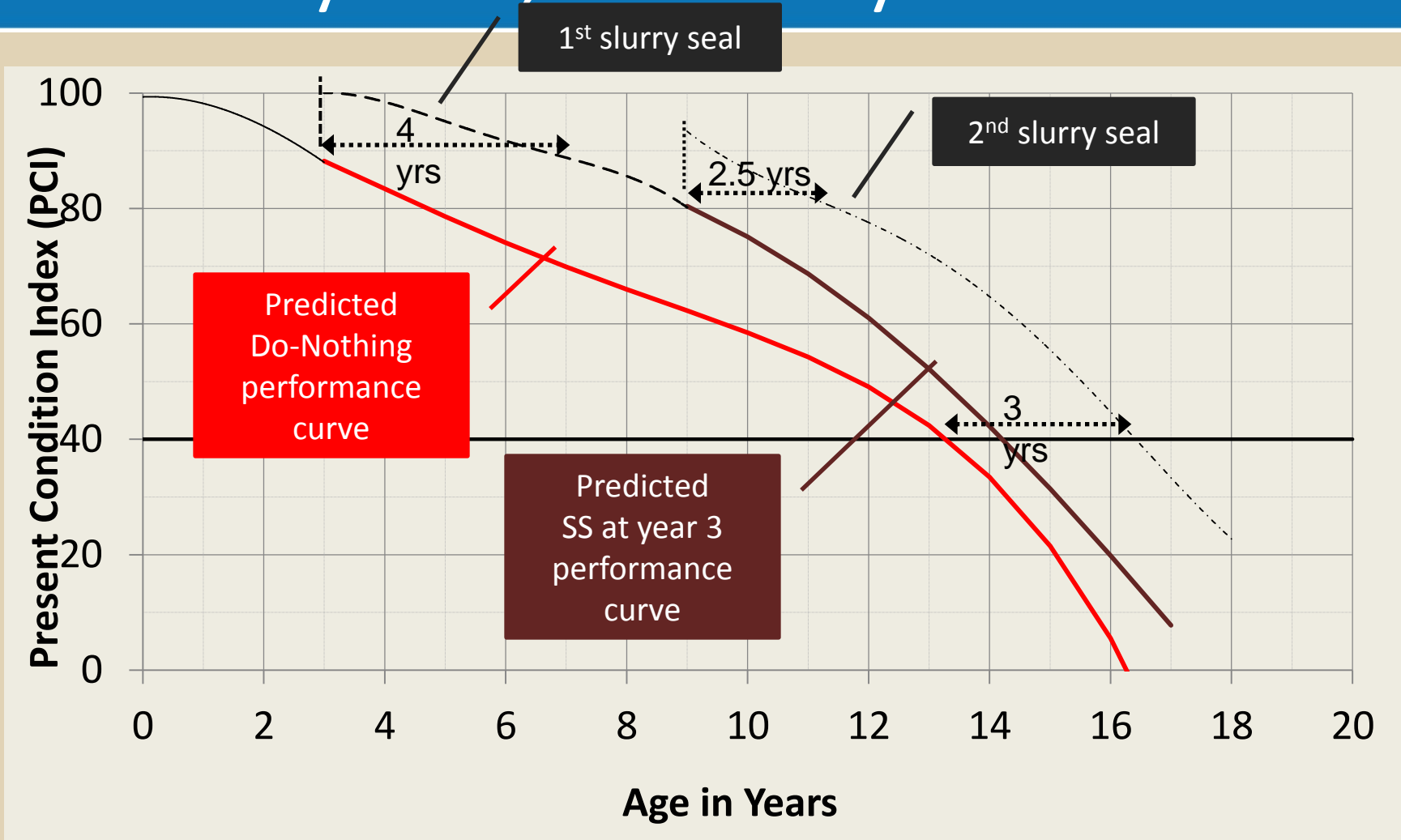


Network Performance Life after Preventive Maintenance

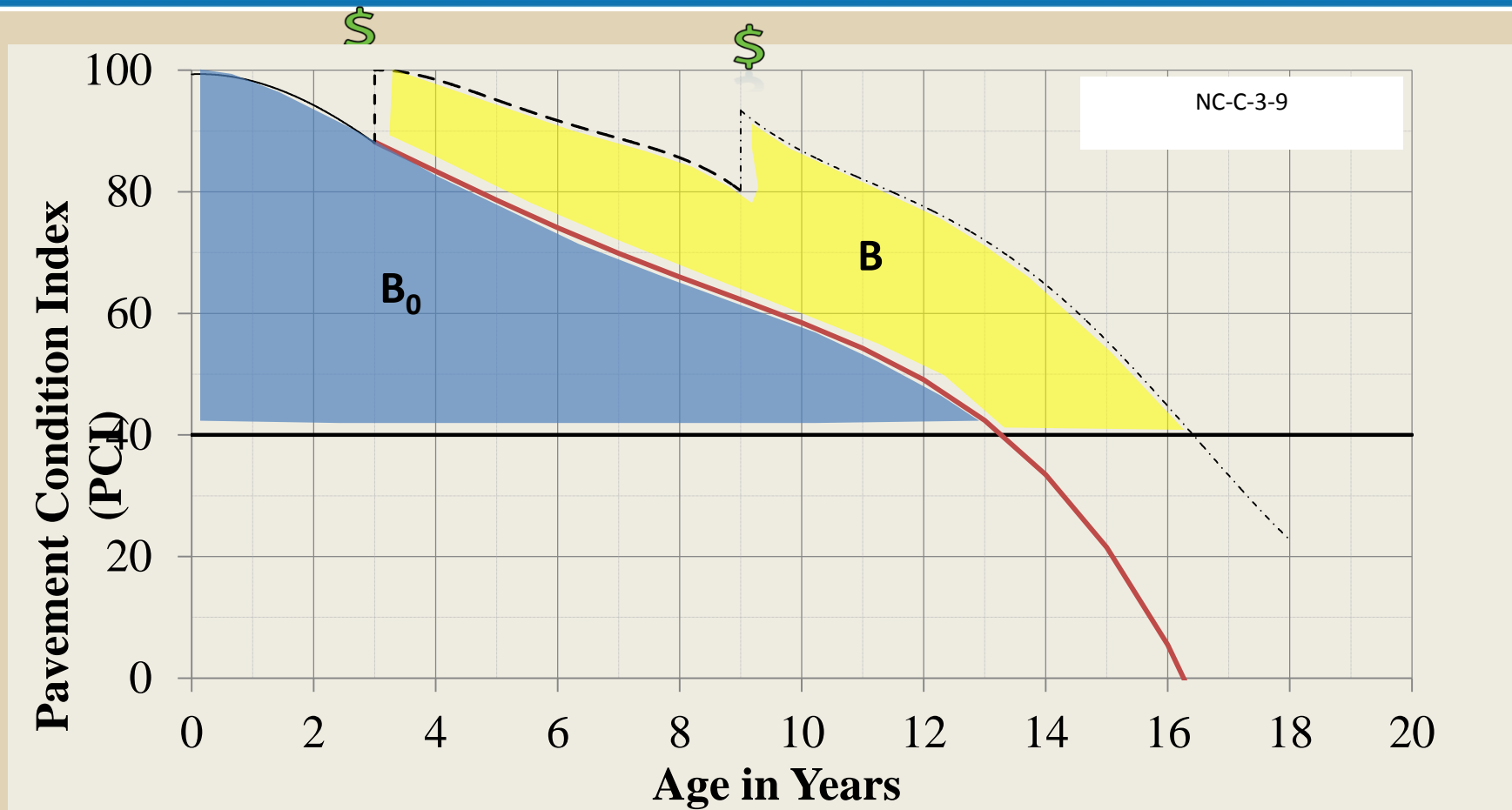


Newly Constructed Pavements:

1st SS at year 3, 2nd SS at year 9



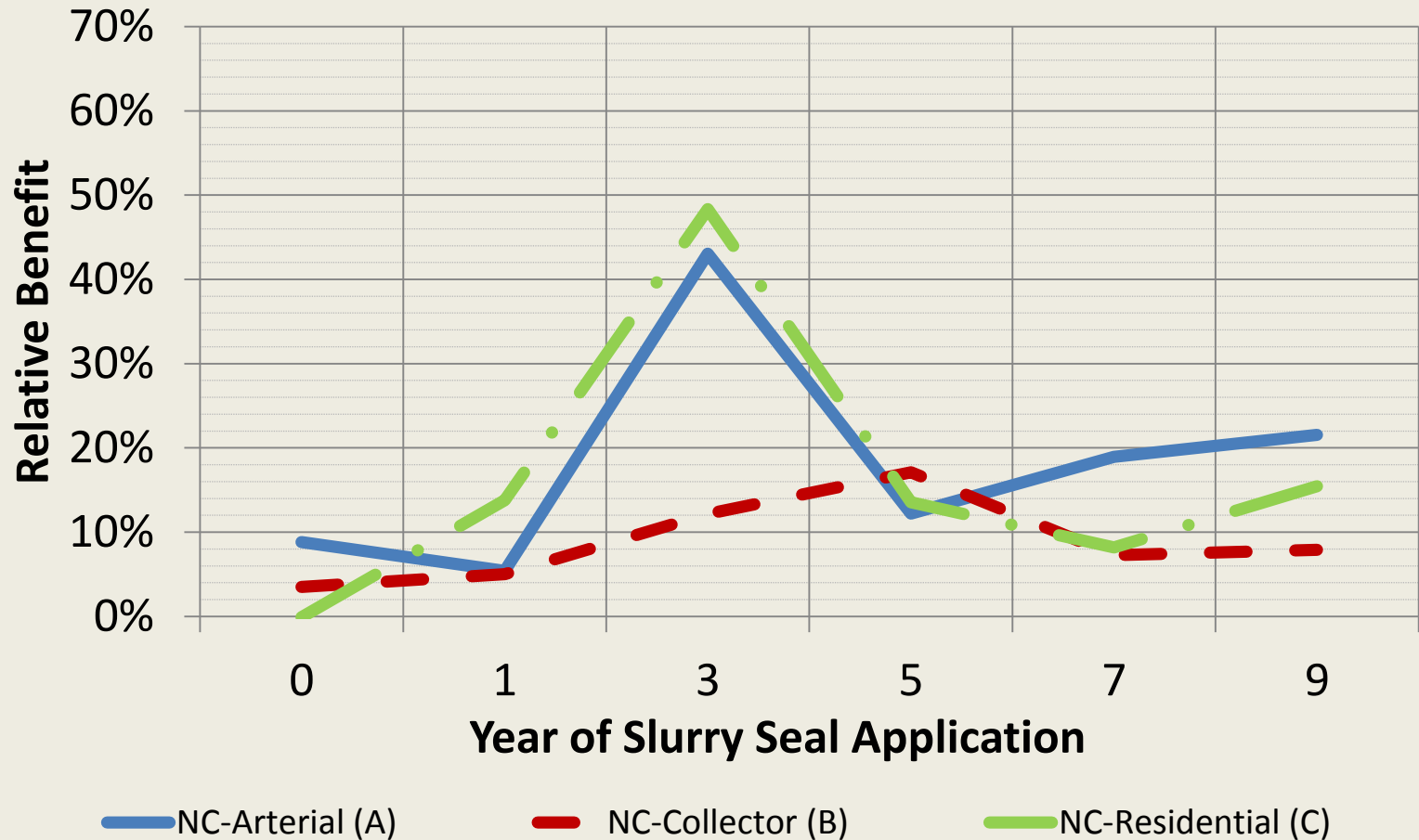
Phase II: Slurry Seal Effectiveness



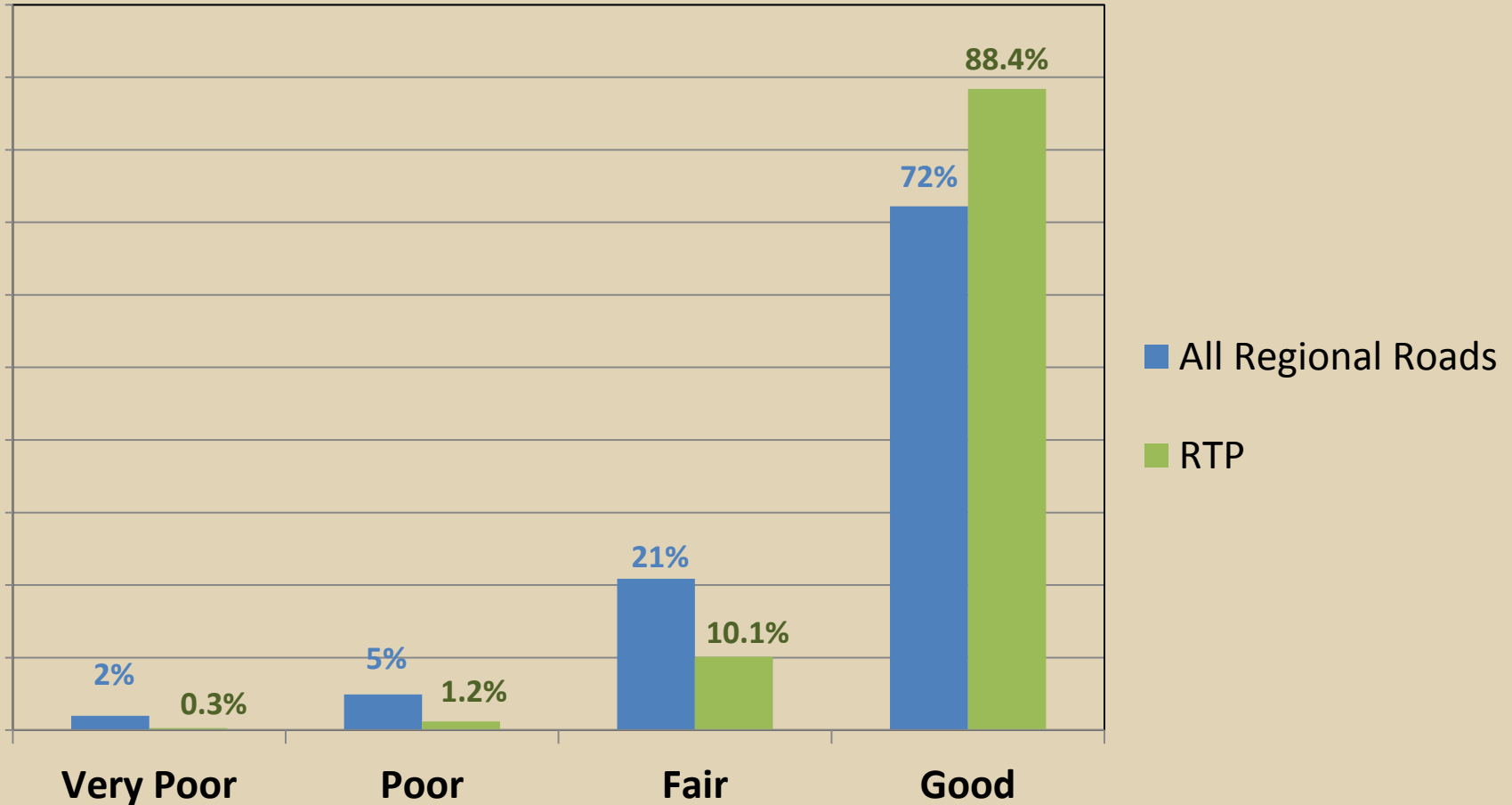
$$\text{Relative Benefit} = 100 \times B / B_0$$

$$\text{Benefit-Cost Ratio} = B / C$$

Effectiveness Analysis – New Construction

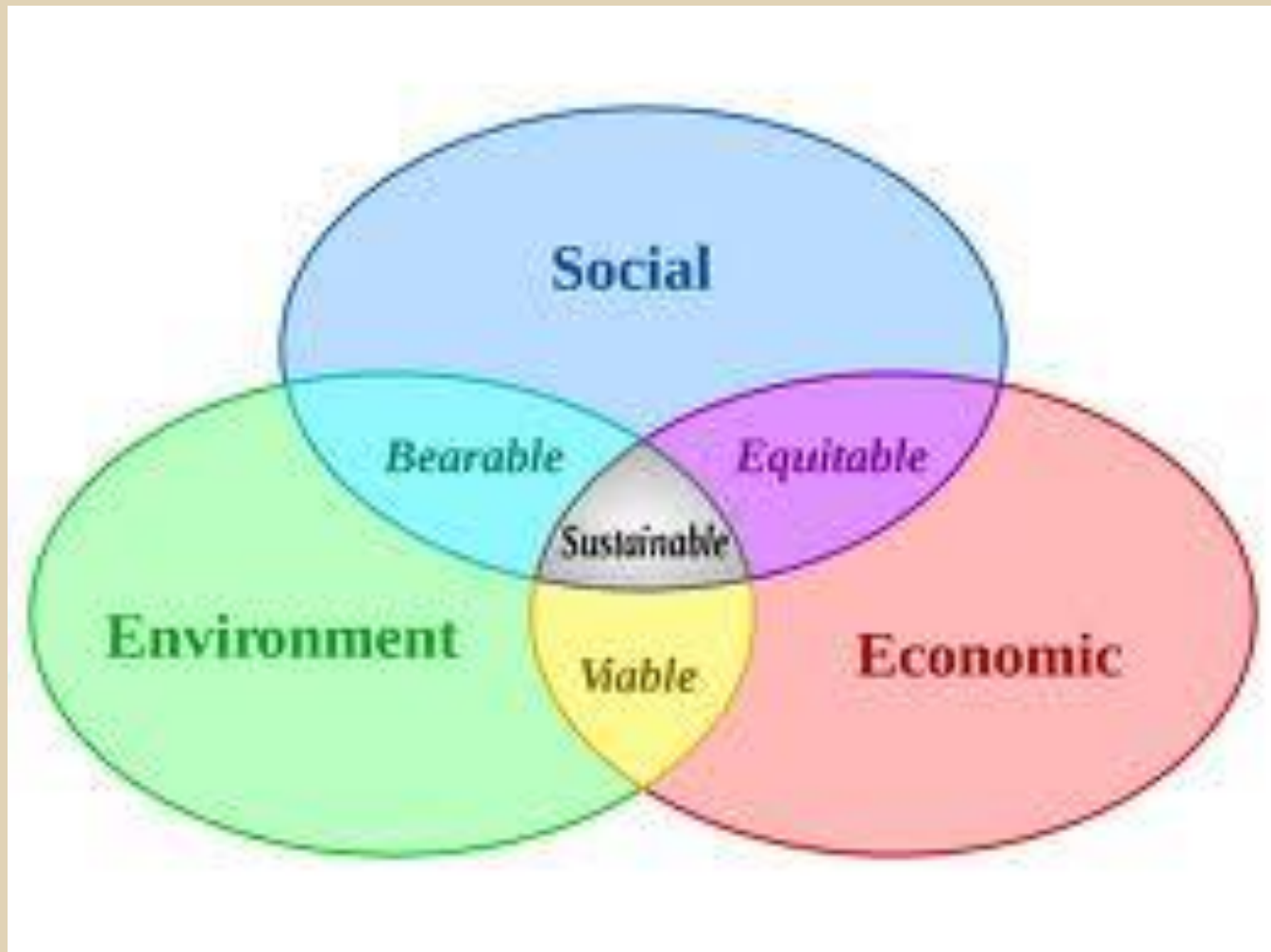


Network Condition Comparison



“My favorite subject:
watching asphalt
congeal.”

The Triple Bottom Line



Complete Street Policies

Why?

- Increase safety
- **Provide for users of all ages, modes and mobility's**
- Improve livability and quality of life
- Economic development
- Improved traffic flow
- More on-street parking
- Connectivity



Towards a Complete Street

Checklist:

- ✓ Road conversion (Road Diet)
- ✓ Wide sidewalks
- ✓ Bike lanes
- ✓ Special bus lanes
- ✓ Accessible transit stops
- ✓ Frequent crossing opportunities
- ✓ Median islands
- ✓ Accessible pedestrian signals
- ✓ Curb extensions
- ✓ Narrower lanes, 10' OK
- ✓ Tight curb radii



Striping Modifications



Complete Streets /Road Diets



Before: incomplete urban street

- ✓ 4-lane undivided
- ✓ No center turn lane
- ✓ No bike facilities
- ✓ Numerous driveways
- ✓ Pedestrian unfriendly
- ✓ Wide lanes
- ✓ No designated parking



Complete Streets /Road Diets



After: More complete urban street

- ✓ 3-lane divided
- ✓ Center turn lane
- ✓ Bike facilities
- ✓ Pedestrian Friendlier
- ✓ Narrow lanes
- ✓ More Parking
- ✓ Free!
- ✓ Neighborhood Building

Safer Streets



Recent Road Conversions Reduce – Annualized Crash Rates

Location	Before	After	% Reduction
Wells Ave			-31%
California/Mayberry	33.4	19.4	-42%
Arlington	18.6	10.0	-46%
Mill Street	7.7	4.4	-43%

Sources: UNR Center for Advanced Transportation Education and Research and Nevada Department of Transportation

Complete Street/Road Conversions



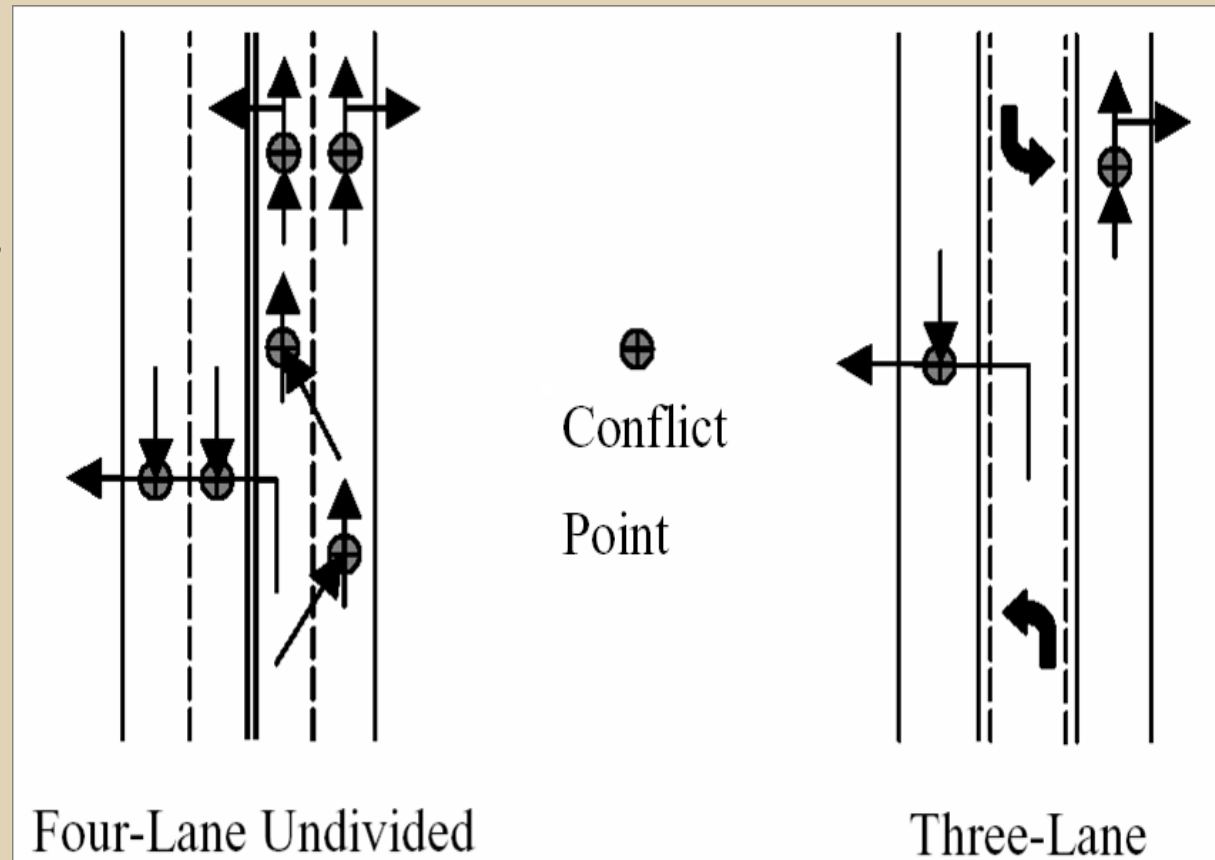
Significant safety benefits:

- **Lower** speeds,
- **Reduced** conflict points and crashes,
- **Better** sight distance,
- **Refuge** for pedestrians,
- **Space** for bicycles (and others)

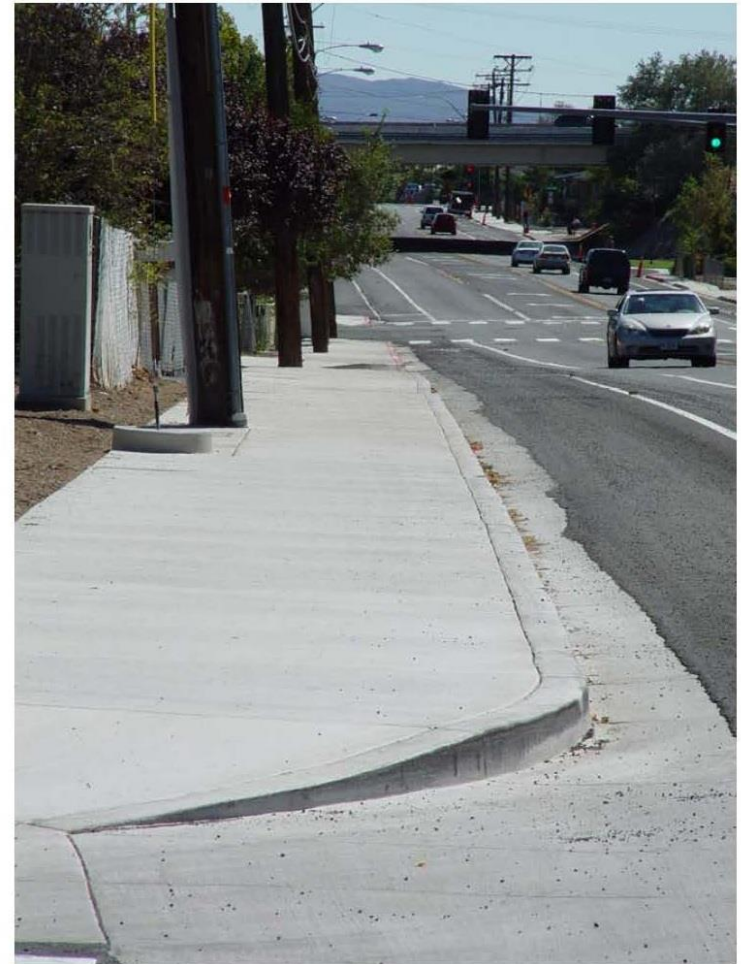
6 conflict points

Vs.

2 conflict points



Other Opportunities – TCSP Grant – Sutro Complete Street



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Making Adjustments/Costs

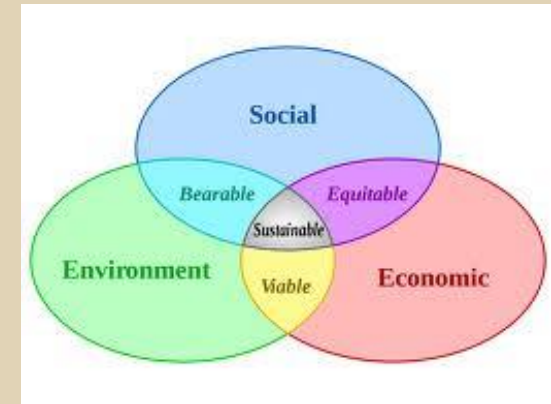


- Striping design
- Lane reconfiguration
- Signal Head placement
- Signal timing
- Loop detection
- Continued evaluation
- Added maintenance costs
- Honey Dos

Parting Thoughts



- Make your pavement program part of a bigger conversation: safety, Complete Streets, and stronger communities and neighborhoods.
- Making roads safer and more complete for more users makes the road safer for **all** users.
- Do Something! Do it early and do it often!



NV LTAP Training Courses



- **Complete Streets and Pavement Preservation:** Linking Public Works and Planning for Better Infrastructure and Better Communities
- **Slurry Seals and Microsurfacing:** Design, Construction, and Inspection.

Thank You!



Questions?

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