

**Systems Planning**

**Utah Department of Transportation  
Division of Asset Management**

*“taking care of what we have”*

Utah Department of Transportation  
State of Utah Update

**Rocky Mountain Pavement Preservation Partnership  
October 28 – 30, 2008  
Albuquerque, New Mexico**

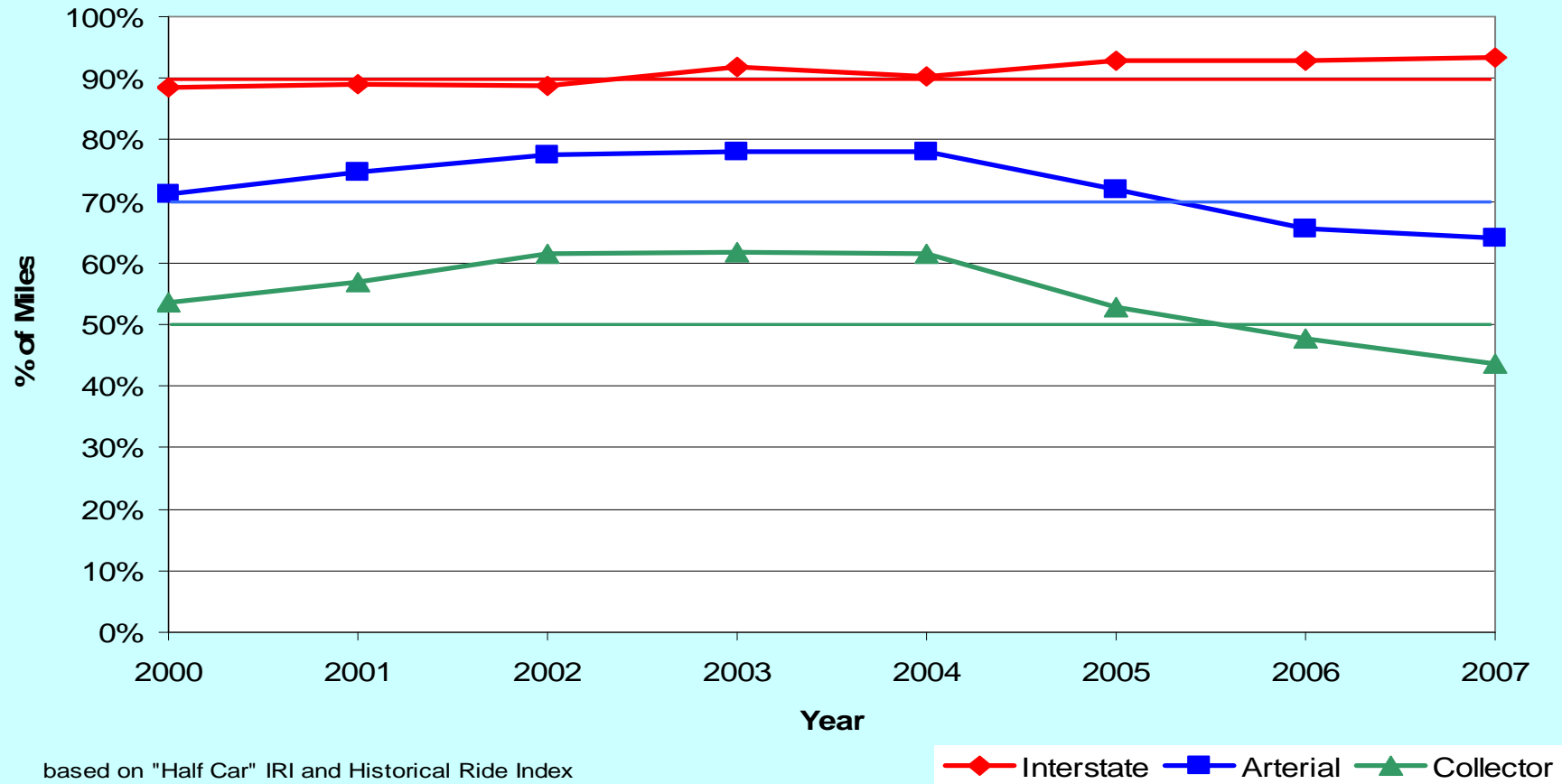
## Today's Agenda

- **Challenges Facing Utah**
- **Pavement Management QIT**
- **New Pavement Preservation/Rehabilitation Strategy**
- **Future**

## Pavement System Health

### Statewide Pavement Condition

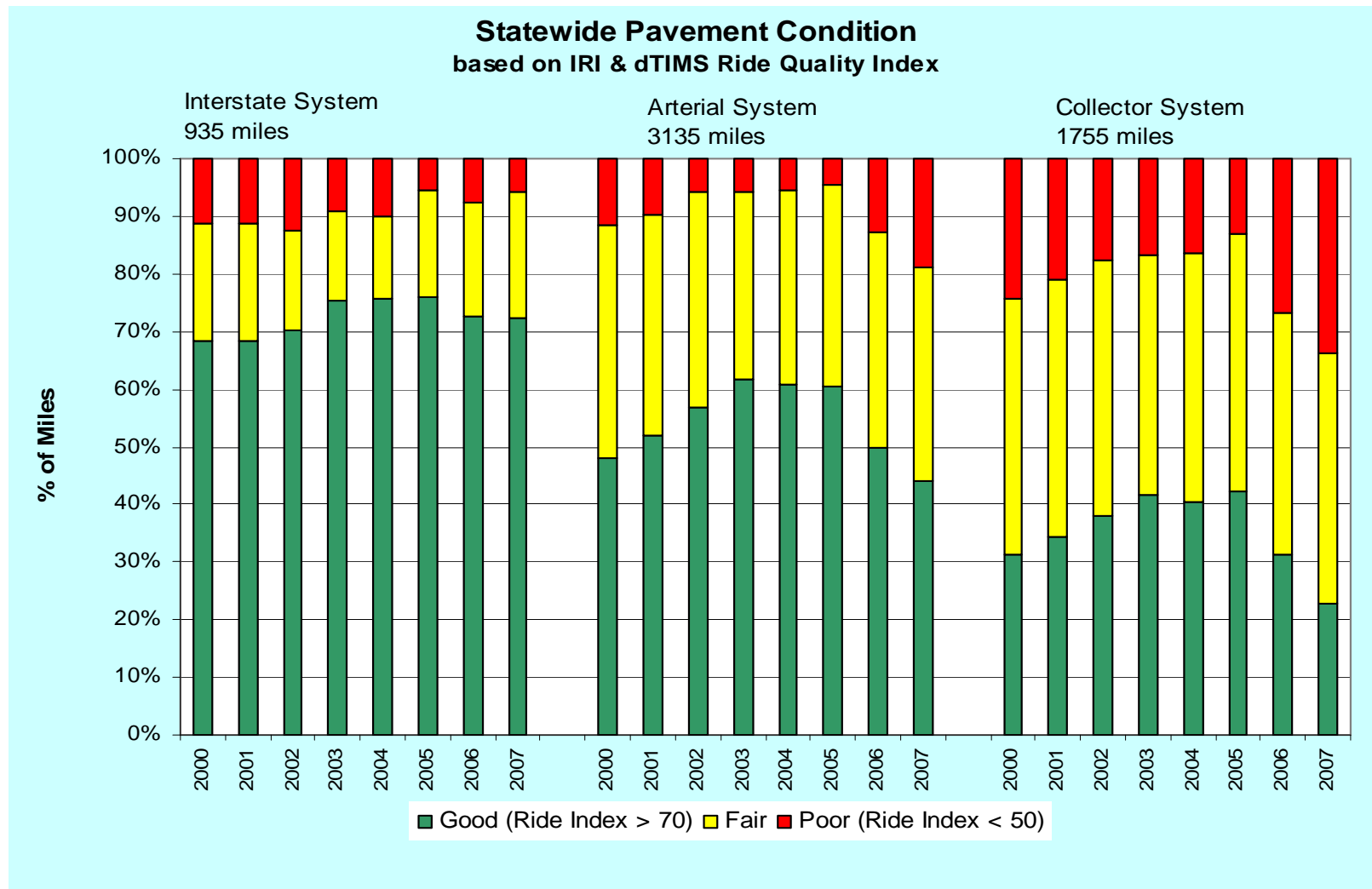
% of miles Fair or Better



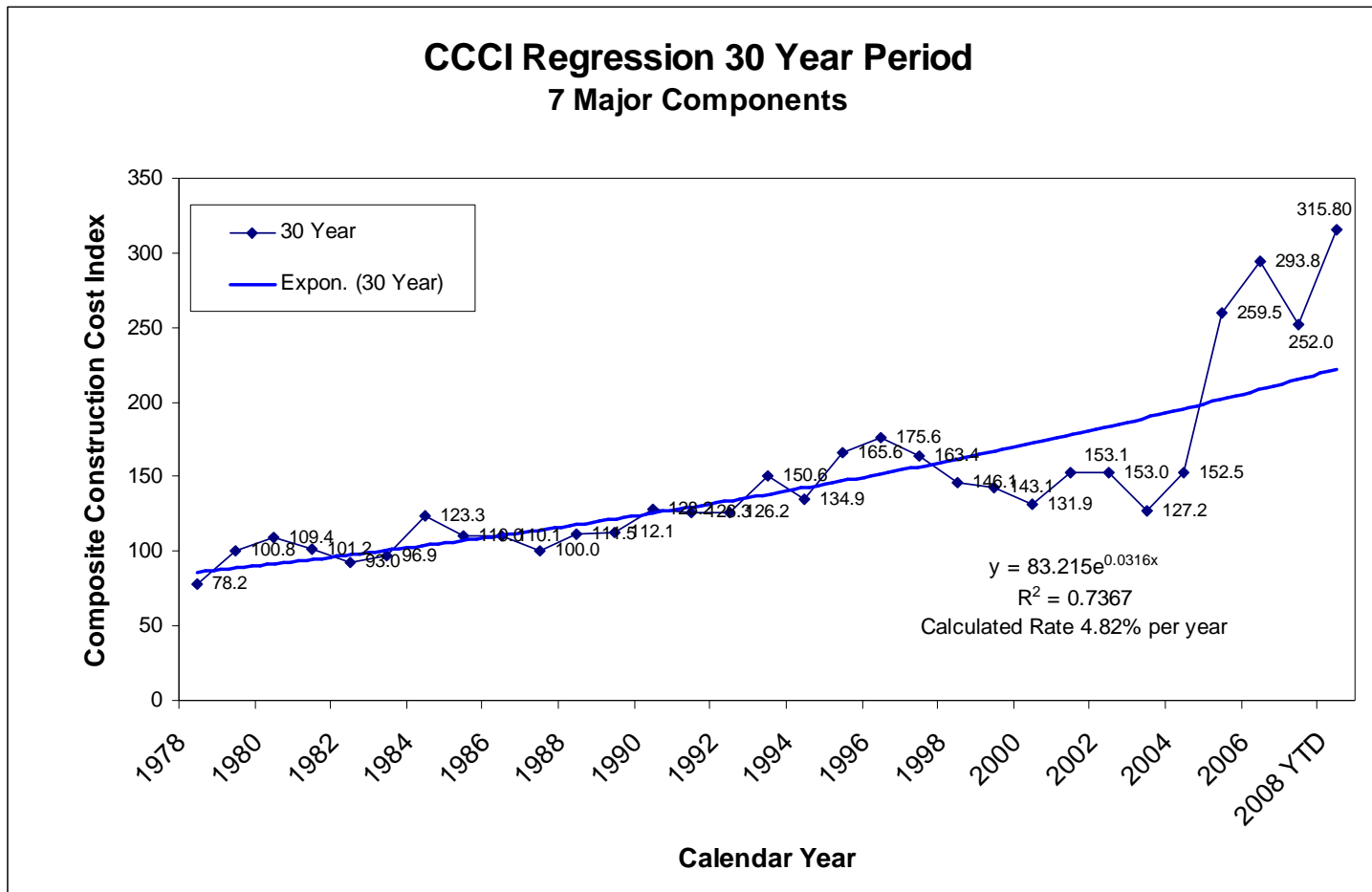
# Systems Planning & Programming



## Historic Ride



## Construction Costs



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## Effect of Inflation on Pavement Funding

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Construction Cost Increase</b>		22%	22%	22%	10%	10%	10%	10%	10%
<b>Pavement Cost (Millions)</b>	\$151.4	\$185	\$225	\$275	\$302	\$333	\$366	\$403	\$443
<b>Construction Cost Increase</b>		22%	22%	22%	4%	4%	4%	4%	4%
<b>Pavement Cost (Millions)</b>	\$151.4	\$185	\$225	\$275	\$286	\$297	\$309	\$322	\$334
<b>Construction Cost Increase</b>		22%	22%	22%	10%	9%	7%	7%	7%
<b>Pavement Cost (Millions)</b>	\$151.4	\$185	\$225	\$275	\$302	\$330	\$353	\$377	\$404
<b>Current Program</b>				\$161	\$184	\$189	\$194	\$200	?

## Pavement Management QIT

### Policy Decisions:

- Will redefine classification system for State Roads
- Will maintain highest functioning roads in near current condition
- Will redefine condition levels for remainder of system
- Will define maintenance strategies to meet condition targets

## Pavement Management QIT

### Six Teams:

- Current STIP recommendations
- Route Prioritization / Hierarchy
- Materials / Pavement Design
- Research and Innovation
- Construction / Maintenance
- Targets / Pavement Condition Index



## Pavement Management QIT

### Significant Recommendations:

- Examined 27 Projects on STIP and Revised the Scope on 7 Projects
- Scope changes included Cold In-place Recycling, as well as different surface Seal treatments.
- The remaining projects were already using the most cost effective treatments.

## Pavement Management QIT

### Significant Recommendations:

- Interstate
  - Regardless of AADT
  - Miles ~ 935, 16%
  - VMT ~ 53%
  - ESALS ~ 59%
- Level 1
  - AADT > 2,000 and or Combination Truck volumes > 500 +/-
  - Miles ~ 2,150, 37%
  - VMT ~ 42%
  - ESALS ~ 39%
- Level 2
  - AADT < 2,000
  - Miles ~ 2,750, 47%
  - VMT ~ 5%
  - ESALS ~ 2%

## Pavement Management QIT

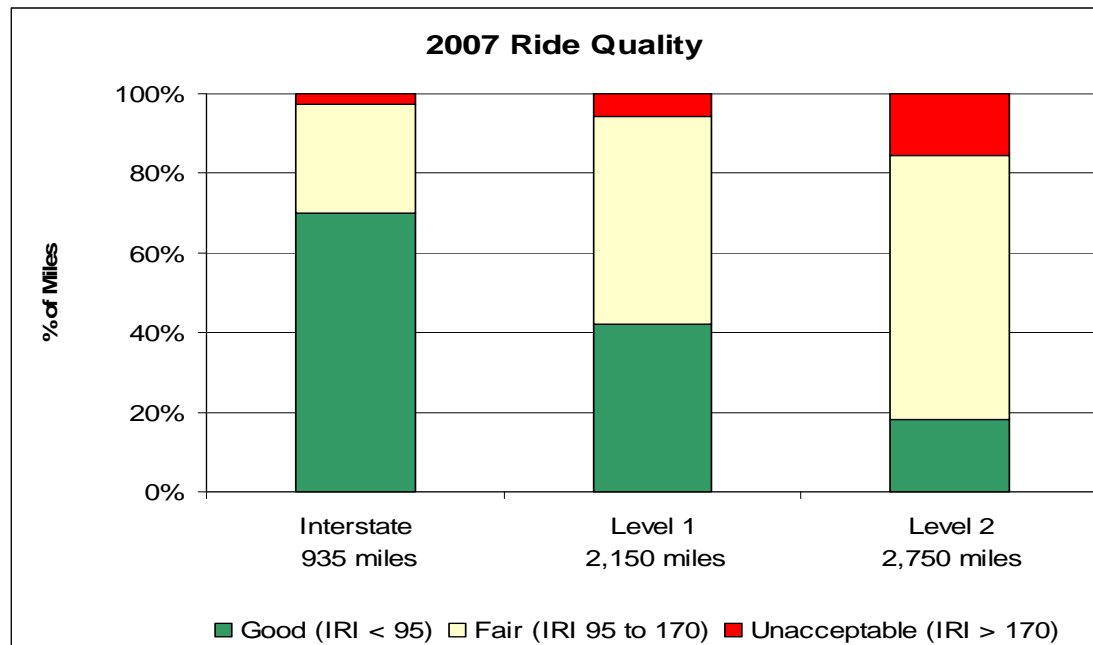
### Significant Recommendations:

- Put Together a Pavement Management Strategy Team to Write New Policy and Tie all Recommendations Together
- Recommendations from 3 Sub-QIT Teams Reviewed and discussed by the Strategy Team
- The Strategy Team will Recommend the most Promising Ideas for Implementation

## Pavement Management QIT

### Significant Recommendations:

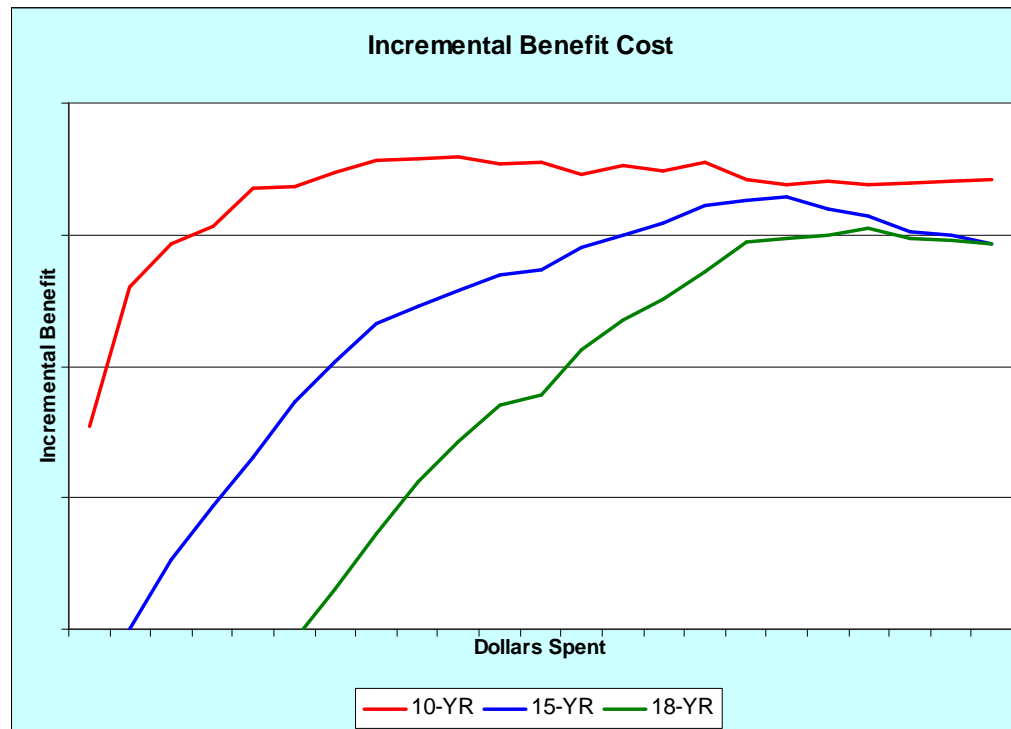
- New Targets and Goals



## Pavement Management QIT

### Significant Recommendations:

- Point of Diminishing Returns Analysis



## Future

- Complete New Pavement Management Policy
- Present Policy to Senior Leaders and Transportation Commission for Approval
- Implement, Hopefully on Short Term Basis
- Continue Selling the Need for More Pavement Preservation/Rehabilitation Money

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**Thank You!**

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Division of Asset Management**

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**Monitoring Pavement Preservation  
Treatments, Documenting Cost & Performance**



**Rocky Mountain Pavement Preservation Partnership  
October 28 – 30, 2008  
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## Today's Agenda

- **Plan for Every Section (PFES)**
- **Agile Assets Pavement Module**
- **Automated Distress Collection**
- **dTIMS CT Pavement Management Model**

## Plan for Every Section (PFES)

- Region Pavement Management Engineers Maintain Information in PFES
- Update Maintenance Sections and Route Definitions
- Construction History
- Stores “Time Based” Treatment Schedule by Maintenance Section
- Stores Pavement Condition Information by Maintenance Section

## Transitioning to Agile Assets

- PFES Needed Some Work
- UDOT Maintenance is Implementing Agile for Their OMS
- Natural Fit to use Agile PM Module to Replace PFES
- Agile PM Module will be a Storage Data Base Only, No Modeling
- Implementation by January 2009

## Automated Pavement Distress Collection

- Vendor - Mandli
- Collect Profile - IRI, Rutting & Concrete Faulting
- Collect Pavement Distress – Environmental & Wheel Path Cracking, Skin Patching, etc...
- Collect Photo Log/Road View Images
- Use Crack Detection Software to Process Images
- Fully QC'd Data Delivered Biweekly
- Internet Access Issues Still Need to be Resolved

## Automated Pavement Distress Collection

- System Wide
- Annually
- One Lane
- One Direction Except on Divided Highways
- Collect Same Lane Same Direction Every Year
- Post Processed at One or Tenth Mile Interval

## Data Uploaded to dTIMS CT For Analysis

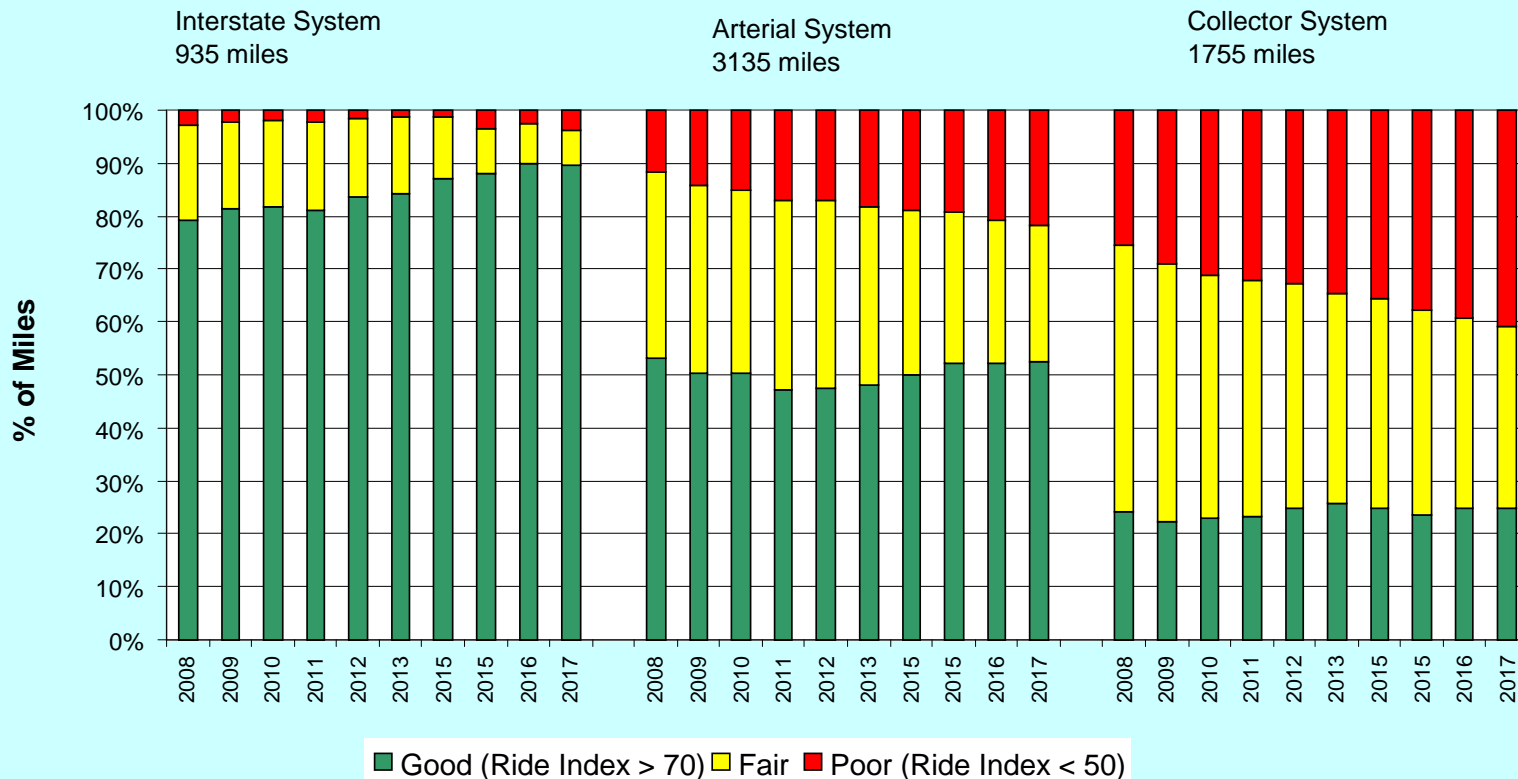
- IRI, Rutting & Concrete Faulting
- Environmental & Wheel Path Cracking and Skin Patching
- Functional Class
- AADT
- Year of Last Surface Treatment
- Safety Index

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## dTIMS CT Modeling Results

**Statewide Pavement Condition**  
 forecast with 206 Million Baseline Funding  
 98 M Int, 92M Art, 16M Col



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**Thank You!**